



# Accountable Health Communities (AHC) Model Evaluation

## Third Evaluation Report - APPENDICES

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# ACCOUNTABLE HEALTH COMMUNITIES (AHC) MODEL EVALUATION THIRD EVALUATION REPORT

## APPENDICES

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# Appendix A: AHC Evaluation Research Objectives and Questions

## Research Objectives and Questions Addressed in the Third Evaluation Report

**Research Objective 1:** Examine the context within which the AHC Model was implemented for the purpose of understanding 1) the implementation of the AHC Model, 2) the characteristics associated with its success or failure, and 3) the generalizability of model impacts across a wider population.

- **Describe the beneficiaries served under the AHC Model.**  
What were their demographic, socioeconomic, and health-related traits?  
  
What were their HRSNs and risk statuses?  
Were there key differences or similarities (for example, demographics, types of social needs identified) in the types of beneficiaries served between the two tracks, between the intervention and control groups, or across bridge organizations?
- **Describe the bridge organizations participating in the AHC Model.**  
What were the key structural and organizational characteristics of bridge organizations, clinical delivery sites (CDSs), and other key participants in the AHC Model?  
How did these vary across participants?
- **Describe the communities served under the AHC Model.**  
What were the key contextual characteristics of the communities in which bridge organizations were located (sociodemographic, health related, and social risk factors)?  
How were these characteristics similar or different across communities?
- **Describe the HRSN support system in AHC Model communities.**  
What types of community resources were available to address HRSNs in the communities within which bridge organizations were located?  
How did the availability and quality of community resources vary across bridge organizations?
  - In particular, was resource availability lower in most rural AHC Model communities?

**Research Objective 2:** Examine how the AHC Model was implemented to understand 1) how variations or similarities in implementation affect success or failure and 2) the generalizability of the AHC interventions.

- **What was usual care for addressing the core HRSNs that the AHC Model targets?**  
Did approaches to usual care vary across CDSs and bridge organizations? How did usual care evolve over the course of the AHC Model?
- **How engaged were CDSs, community service providers (CSPs), and other key stakeholders in launching the AHC Model?**  
How did the varying degree of engagement affect implementation of the AHC Model across bridge organizations and CDSs?
- **How did the types and amount of community resource availability affect AHC intervention delivery and HRSN resolution?**  
How did the availability of community resources evolve over the course of AHC Model implementation?
- **How have bridge organizations operationalized community alignment?**  
What types of structural supports were used for community alignment?  
How were bridge organizations using data to align communities and serve beneficiaries with HRSNs?  
What were the similarities and differences in bridge organizations' approach to community alignment?
- **What other types of alignment initiatives to address social determinants were underway in AHC communities?**  
How might these initiatives affect the AHC model and its impacts?
- **What types of multisector partnerships exist in AHC communities to address HRSNs?**  
How did these vary across communities?
- **Assistance Track only: Was randomization producing treatment and control groups that were balanced on observed characteristics (e.g., clinical, demographics, and others)?**  
Did evidence suggest there might be unobserved differences in the treatment and control groups?
- **What kinds of unanticipated challenges arose during model launch?**  
How did bridge organizations respond to these challenges?  
What were the similarities and differences in responses between bridge organizations that have effectively launched the model and those that struggled?
- **What types of supports must bridge organizations and CDSs receive to successfully align to the AHC Model?**  
What changes were implemented as a result of monitoring, learning and diffusion activities, and evaluation activities to improve implementation of the AHC Model?  
Should these changes be considered for part of any model replications? What were the lessons learned?

**Research Objective 3.** Relative to usual care (screening and referral for HRSNs), examine and estimate the impact of the interventions in the Assistance and Alignment Tracks.

- **Were there differences in findings for key outcomes by subpopulations based on sociodemographic characteristics, clinical characteristics, or HRSNs?**

**Research Objective 4:** Examine the factors or conditions and the variations and similarities therein that brought about the impacts and how these factors impact the generalizability of the AHC interventions.

- **What key contextual factors including organizational, structural, demographic, and other key characteristics of model participants and stakeholders, contributed to the impacts identified?**  
Under what kinds of contextual conditions were the AHC interventions most likely to succeed? To fail?
- **What were the key implementation drivers of model impact findings?**  
How did variations in model implementation across bridge organizations and CDSs affect model impact findings?
- **To what extent did alignment initiatives affect the key outcomes of the AHC Model?**  
How effective were alignment strategies in improving health outcomes and social needs and reducing health care costs and expenditures?
- **What were other key drivers of the identified impacts?**  
What factors lead to success or failure on the outcomes?  
What was the pathway through which the AHC impacts beneficiaries' and communities' health care outcomes (expenditures and utilization).  
If no favorable impacts were identified, why?

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# Appendix B: Data Sources and Methods Related to AHC Screening and Navigation Analyses


This appendix describes the data sources, methods, and analyses conducted using the Accountable Health Communities (AHC) screening, navigation, and other data. It also includes detailed results from findings reported in Chapters 2, 5, 6, and 7.

## Data Sources

### AHC Screening and Navigation Data

The primary data source was the screening and navigation data files extracted by NewWave (Centers for Medicare and Medicaid Services [CMS] Enterprise Portal contractor) and generated by Mathematica Policy Research (the AHC implementation contractor) using data submitted by bridge organizations. For this report, we included data related to screenings from May 2018 through April 30, 2023. We used the final master data files available in May 2023.

### Medicare and Medicaid Enrollment and Other Data

We used demographic data from the Medicare (2015-2022) and Medicaid (2015-2021) enrollment files, chronic conditions data from Medicare and Medicaid claims. Additional data sources included rural-urban commuting area (RUCA) codes that classify U.S. census tracts ([U.S. Department of Agriculture \[USDA\] Economic Research Service \[ERS\] - Rural-Urban Commuting Area Codes](https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/)) and the social deprivation index (<https://www.graham-center.org/maps-data-tools/social-deprivation-index.html> .

## Respondents

From the AHC screening and navigation data files, we created four categories of beneficiaries:

- **AHC screened** includes all community-dwelling beneficiaries with at least one completed screening.
- **Navigation eligible beneficiary** includes AHC-screened beneficiaries who reported one or more core health-related social needs (HRSNs) and two or more emergency department (ED) visits within the 12 months before screening. This does not include those in the Assistance Track control group with a navigation-eligible screening.
- **Accepted navigation** includes navigation-eligible beneficiaries who accepted navigation.
- **Received navigation** includes navigation-eligible beneficiaries who accepted and received navigation services.

## Measures

**Exhibit B-1** provides descriptions of the measures used for the analyses in Chapters 2, 5, 6, and 7, categorized by bridge organization characteristics, beneficiary characteristics, screening, navigation, and navigation outcomes.



## Exhibit B-1. Measures Related to AHC Screening and Navigation Data Analyses

Measure	Description
<b>Bridge Organization Characteristics</b>	
Track	Bridge organization participated in one of two tracks in the AHC Model: Assistance or Alignment Track.
Number of navigation cases	Number of navigation-eligible beneficiaries in the Alignment Track or Assistance Track intervention group who accepted and received navigation services. The number of navigation cases ranged from 703 to 9,037, with an average of 4,688, across bridge organizations.
Percentage of unique navigation-eligible beneficiaries	Percentage of screened beneficiaries who were navigation eligible and in the Alignment Track or Assistance Track intervention group. Percentages across the bridge organizations ranged from 5% to 76%, with an average of 16%.
Number of navigators	Number of navigators providing navigation services to navigation-eligible beneficiaries who accepted navigation. Bridge organizations reported between 2 and 150 navigators, with an average of about 17 navigators. These data came from the AHC bridge organization survey. For further information on the survey, see Appendix C in the <a href="#">Second Evaluation report</a> .
Social Deprivation Index <sup>3</sup>	Developed to examine relationships between levels of social disadvantage and health and health care. Includes seven measures: poverty, education, single-parent household, rented housing, overcrowding, access to a vehicle, and unemployment. The scores for bridge organizations ranged from 16.3 to 97, with an average of 48.42. For further information, see <a href="https://www.graham-center.org/maps-data-tools/social-deprivation-index.html">https://www.graham-center.org/maps-data-tools/social-deprivation-index.html</a> .
<b>Beneficiary Characteristics</b>	
Age <sup>1</sup>	Beneficiary age at screening based on difference between screening date and date of birth: 0–17, 18–64, 65+, or missing.
Sex	Beneficiary sex: female, male, or missing.
Race/ethnicity <sup>1</sup>	Beneficiary race/ethnicity: Black or African American, Hispanic or Latino, White, and other race. Other race included American Indian or Alaska Native, Asian, Hawaiian, Other Pacific Islander, those with more than one race selected, those who selected “Other,” and missing.
Education	Beneficiary highest education level: less than high school degree, high school degree or higher, or missing.
Payer type <sup>1</sup>	Beneficiary insurance type: Medicare only, Medicaid only, dually eligible for Medicare and Medicaid, or missing.
Diabetes <sup>2</sup>	Indicator of whether a beneficiary has diabetes with or without chronic complications, based on the Charlson Comorbidity index; includes all patients with diabetes treated with insulin or oral hypoglycemic, but not diet alone; gestational diabetes is excluded. These data came from the Medicare and Medicaid claims data; see Appendix D for full specifications.
Substance use disorder <sup>2</sup>	Indicator of whether a beneficiary has substance use disorder. These data came from the Medicare and Medicaid claims data; see Appendix D for full specifications.
Depressive disorder <sup>2</sup>	Indicator of whether a beneficiary has major depressive affective disorder, which is based on an algorithm available on the CCW website ( <a href="https://www2.ccwdata.org/web/quest/condition-categories-other">https://www2.ccwdata.org/web/quest/condition-categories-other</a> ). These data came from the Medicare and Medicaid claims data; see Appendix D for full specifications.
Pulmonary disease <sup>2</sup>	Indicator of whether a beneficiary has pulmonary disease, which is based on the Charlson Comorbidity index and includes asthma, chronic bronchitis, emphysema, and other chronic lung disease, and has ongoing symptoms. These data came from the Medicare and Medicaid claims data; see Appendix D for full specifications.
Comorbidities <sup>2</sup>	Number of comorbidities a beneficiary has, based on the Charlson Comorbidity Index: 0, 1, or 2 or more. These data came from the Medicare and Medicaid claims data; see Appendix D for full specifications.

(continued)

**Exhibit B-1. Measures Related to AHC Screening and Navigation Data Analyses  
(continued)**

<b>Measure</b>	<b>Description</b>
Rural-urban area	Indicator of whether a beneficiary lives in a rural or urban area based on their zip code using RUCA codes that classify U.S. census tracts ( <a href="#">USDA ERS - Rural-Urban Commuting Area Codes</a> ): 0 is urban (metro counties with urban populations of 1 million or more to fewer than 250,000) and 1 is rural (non-metro counties with urban populations of less than 2,500 to 20,000).
<b>Screening</b>	
AHC screened	Indicator of whether a community-dwelling beneficiary completed at least one screening.
Housing	Indicator of whether a screened beneficiary reported that they currently have no steady housing and/or have issues with current housing, such as mold, lead paint or pipes, or lack of heat.
Food	Indicator of whether a screened beneficiary reported that they have worried that food would run out before they got money to buy more and/or beneficiary bought food that did not last and they did not have money to get more in the past 12 months.
Transportation	Indicator of whether a screened beneficiary reported a lack of reliable transportation for medical appointments, meetings, work, or getting things needed for daily living in the past 12 months.
Utilities	Indicator of whether a screened beneficiary reported that they have been threatened by the electric, gas, oil, or water company that services will be shut off or have had services shut off in past 12 months.
Safety	Indicator of whether a screened beneficiary reported having been physically hurt, insulted, threatened with harm, and/or screamed or cursed at by someone, which can include family and friends.
Number of screened HRSNs	Number of HRSNs a screened beneficiary reported: 0 to 5,
Navigation-eligible screening	Indicator of whether a screened beneficiary met AHC Model eligibility criteria of having one or more core HRSNs and two or more ED visits in the 12 months before their screening. This includes Assistance Track control group beneficiaries.
Navigation-eligible beneficiary	Indicator of whether a screened beneficiary met AHC Model eligibility criteria of having one or more core HRSNs and two or more ED visits in the 12 months before their screening. This excludes beneficiaries in the Assistance Track control group who were not eligible for navigation services.
<b>Navigation</b>	
Accepted navigation	Indicator of whether a navigation-eligible beneficiary in the Alignment Track or the Assistance Track intervention group accepted navigation services: accepted navigation, did not accept navigation, or missing (acceptance status unknown).
Completed action plan	Indicator of whether a beneficiary who received navigation completed an action plan for addressing the beneficiary's HRSNs with a navigator.
Received navigation	Indicator of whether a navigation-eligible beneficiary in the Alignment Track or Assistance Track intervention group who accepted navigation services, received navigation services: received navigation or did not receive navigation.
Number of navigated HRSNs	Number of HRSNs for which a navigated beneficiary received navigation services: 1 to 5.
Navigated for transportation HRSN	Indicator of whether a beneficiary received navigation services for a transportation HRSN.

(continued)

## Exhibit B-1. Measures Related to AHC Screening and Navigation Data Analyses (continued)

Measure	Description
<b>Navigation Outcomes</b>	
Connected to CSP for at least one HRSN but had no HRSNs resolved	Indicator of whether a navigated beneficiary reported to the navigator that they had contact with a CSP for at least one of their HRSNs, but no HRSNs resolved. Note: Due to the structure of the AHC data system, the information on connection to CSP was lost when the navigator documented a need as resolved. As a result, it was not possible to determine whether beneficiaries who had their need resolved were first connected to a CSP or not.
At least one HRSN resolved	Indicator of whether a navigated beneficiary reported to the navigator that at least one of their HRSNs was resolved.
All HRSNs resolved	Indicator of whether a navigated beneficiary reported to the navigator that all their HRSNs were resolved.
Declined further assistance for all HRSNs	Indicator of whether a beneficiary who initially accepted navigation declined navigation for all their HRSNs when contacted by the navigator.
Unable to reach beneficiary for all HRSNs	Indicator of whether a beneficiary who accepted navigation was unable to be reached by the navigator after 3 consecutive attempts.
CSP unavailable or unable to help for all HRSNs	Indicator of whether CSPs were unavailable or unable to help address any of a navigated beneficiary's HRSNs.
Multiple unresolved reasons	Indicator of whether a navigated beneficiary had more than one reason for unresolved HRSNs (i.e., declined further assistance, unable to reach beneficiary, and/or CSP unavailable) across their HRSNs.
Unknown	Indicator of whether a beneficiary's HRSN resolution status is not known because navigators did not appropriately update the information in the AHC data system when the navigation case closed.

<sup>1</sup> Medicare and Medicaid enrollment files were the primary source, with AHC screening and navigation data as supplemental when any relevant data were missing from the enrollment files.

<sup>2</sup> Medicare and Medicaid claims data merged with the AHC screening and navigation data.

<sup>3</sup> External data merged with the AHC screening and navigation data for the evaluation.

Definitions: AHC = Accountable Health Communities; CCW = Chronic Conditions Warehouse; CSP = community service provider; ERS = economic research service; HRSN = health-related social need; RUCA = rural-urban commuting area; USDA = U.S. Department of Agriculture.

**Analyses.** We performed descriptive analyses of the beneficiary characteristics described above overall and by certain subgroups (e.g., by payer type, track, and navigation acceptance status). The findings from these analyses are included in the following exhibits:

- **Exhibit B-2** shows descriptive results for screening, navigation acceptance, and navigation outcomes by payer type.
- **Exhibits B-3 through B-5** show descriptive results for screening, navigation acceptance, and navigation outcomes by beneficiary age, race/ethnicity, and education broken out by payer type.
- **Exhibits B-6 through B-9** show descriptive results for screening, navigation acceptance, and navigation outcomes by beneficiary age, race/ethnicity, and education overall and by track.
- **Exhibits B-10 and B-11** show HRSNs, rural-urban areas, and chronic and other potentially disabling conditions by payer type, overall, and by track.
- **Exhibit B-12** shows characteristics of beneficiaries lost to follow-up and not lost to follow-up.
- **Exhibit B-13** shows the percentage of beneficiaries screened multiple times for the same HRSN.

- **Exhibit B-14** shows characteristics of navigation-eligible beneficiaries by navigation acceptance status.
- **Exhibits B-15a** through **B-15c** show regression results for the likelihood of navigation acceptance and HRSN resolution among navigation-eligible beneficiaries overall and by track.
- **Exhibits B-16a** and **B-16b** show regression results for the likelihood of resolution for each HRSN among navigation-eligible beneficiaries.

To assess the likelihood of accepting navigation services and resolving HRSNs among underserved racial and ethnic groups and payer populations in the AHC Model, we performed mixed effects logistic regression models with navigation acceptance or HRSN resolution (at least one HRSN resolved and all HRSNs resolved) serving as the dependent variables and selected beneficiary, bridge organization, and community characteristics serving as independent variables. Beneficiaries are nested within bridge organizations (i.e., the data are hierarchical in structure with bridge organization characteristics applicable to all beneficiaries screened by the bridge organization). Bridge organization characteristics include track, percentage of unique navigation-eligible beneficiaries, number of navigators, and social deprivation index. The regressions were run for the overall model and separately for each track. The Stata command used was *xtmelogit* with bridge organization ID as the random intercept. The results of these regressions, shown in **Exhibits B-15** and **B-16**, are reported as odds ratios, which represent the likelihood that an outcome (e.g., navigation acceptance, HRSN resolution) will occur if a characteristic is present compared with the likelihood of the outcome occurring if the characteristic is not present (e.g., having diabetes versus not having diabetes).

**Exhibit B-2. Screening, Navigation Acceptance, and Navigation Outcomes by Payer Type**

Model Step	Medicare Only		Medicaid Only		Dually Eligible for Medicare and Medicaid	
	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>						
AHC screened	327,566	29	673,165	60	112,659	10
Navigation-eligible screening	27,409	8	146,310	22	30,716	27
Navigation-eligible beneficiary	23,390	7	128,083	19	26,269	23
<b>Navigation acceptance</b>						
Accepted navigation <sup>1</sup>	17,654	75	101,461	79	21,076	80
<b>Navigation outcomes</b>						
Number of navigation cases <sup>2</sup>	16,996	96	98,541	97	20,415	97
At least 1 HRSN resolved	7,082	42	38,074	39	8,660	42
At least 1 HRSN connected to CSP <sup>3</sup>	1,732	10	11,494	12	2,233	11
Not connected to CSP or resolved for any HRSNs	8,182	48	48,973	50	9,522	47
Declined further assistance for all HRSNs	989	6	4,845	5	1,000	5
Unable to reach beneficiary for all HRSNs	4,990	29	30,480	31	5,758	28

(continued)

**Exhibit B-2. Screening, Navigation Acceptance, and Navigation Outcomes by Payer Type (continued)**

Model Step	Medicare Only		Medicaid Only		Dually Eligible for Medicare and Medicaid	
	Number	Percent	Number	Percent	Number	Percent
CSP unable or unavailable to help for all HRSNs	996	6	5,013	5	1,043	5
Unknown for all HRSNs	1,049	6	7,056	7	1,425	7
Multiple unresolved reasons	158	1	1,579	2	296	1
All HRSNs resolved	5,588	33	26,709	27	6,123	30

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-3. Screening, Navigation Acceptance, and Navigation Outcomes by Age and Payer Type**

Model Step	Medicare Only						Medicaid Only						Dually Eligible for Medicare and Medicaid					
	0–17		18–64		65+		0–17		18–64		65+		0–17		18–64		65+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>																		
AHC screened	243	< 1	41,886	13	285,433	87	225,660	34	428,891	64	18,599	3	127	< 1	60,157	53	52,374	46
Navigation-eligible screening	13	5	9,853	24	17,543	6	29,943	13	113,279	26	3,087	17	32	25	20,106	33	10,578	20
Navigation-eligible beneficiary	12	5	8,537	20	14,841	5	24,732	11	100,523	23	2,827	15	29	23	17,201	29	9,039	17
<b>Navigation acceptance</b>																		
Accepted navigation <sup>1</sup>	10	83	6,663	78	10,981	74	19,252	78	79,999	80	2,209	78	23	79	13,885	81	7,168	79
<b>Navigation outcomes</b>																		
Number of navigation cases <sup>2</sup>	9	90	6,376	96	10,611	97	18,545	96	77,843	97	2,152	97	21	91	13,449	97	6,945	97
At least 1 HRSN resolved	3	33	2,484	39	4,595	43	8,077	44	29,179	37	818	38	9	43	5,718	43	2,933	42
At least 1 HRSN connected to CSP <sup>3</sup>	0	0	683	11	1,049	10	2,374	13	8,848	11	272	13	2	10	1,491	11	740	11
Not connected to CSP or resolved for any HRSNs	6	67	3,209	50	4,967	47	8,094	44	39,816	51	1,062	49	10	48	6,240	46	3,272	47
Declined further assistance all HRSNs	0	0	325	5	664	6	830	4	3,909	5	106	5	1	5	626	5	373	5
Unable to reach beneficiary for all HRSNs	1	11	1,998	31	2,991	28	5,056	27	24,832	32	591	27	3	14	3,805	28	1,950	28
CSP unable or unavailable to help for all HRSNs	2	22	378	6	616	6	774	4	4,097	5	142	7	2	10	659	5	382	6
Unknown for all HRSNs	3	33	428	7	618	6	1,190	6	5,679	7	187	9	4	19	936	7	485	7
Multiple unresolved reasons	0	0	80	1	78	1	244	1	1,299	2	36	2	0	0	214	2	82	1
All HRSNs resolved	3	33	1,801	28	3,754	35	6,027	32	20,085	26	597	28	7	33	3,924	29	2,192	32

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-4a. Screening, Navigation Acceptance, and Navigation Outcomes by Race/Ethnicity for Medicare-Only Beneficiaries**

Model Step	White		Black or African American		Hispanic or Latino		Other Race	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	278,114	86	22,588	7	6,615	2	15,753	5
Navigation-eligible screening	18,434	7	5,748	25	1,544	23	1,431	9
Navigation-eligible beneficiary	15,472	6	5,051	22	1,332	20	1,315	8
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	11,120	72	4,218	84	1,083	81	1,061	81
<b>Navigation outcomes among navigated beneficiaries</b>								
Number of navigation cases <sup>2</sup>	10,763	64	4,028	24	1,021	6	1,033	6
At least 1 HRSN resolved	4,736	44	1,504	37	381	37	411	40
At least 1 HRSN connected to CSP <sup>3</sup>	1,001	9	397	10	140	14	173	17
Not connected to CSP or resolved for any HRSNs	5,026	47	2,127	53	500	49	449	43
Declined further assistance for all HRSNs	671	6	179	4	39	4	90	9
Unable to reach beneficiary for all HRSNs	3,042	28	1,289	32	335	33	267	26
CSP unable or unavailable to help for all HRSNs	626	6	265	7	54	5	45	4
Unknown for all HRSNs	594	6	348	9	63	6	38	4
Multiple unresolved reasons	93	1	46	1	9	1	9	1
All HRSNs resolved	3,864	36	1,059	26	281	28	321	31

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-4b. Screening, Navigation Acceptance, and Navigation Outcomes by Race/Ethnicity for Medicaid-Only Beneficiaries**

Model Step	White		Black or African American		Hispanic or Latino		Other Race	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	264,557	42	130,988	21	182,729	29	53,760	8
Navigation-eligible screening	51,467	19	42,715	33	35,466	19	8,520	16
Navigation-eligible beneficiary	44,325	17	37,598	29	30,925	17	7,950	15
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	33,819	76	31,561	84	24,228	78	6,039	76
<b>Navigation outcomes among navigated beneficiaries</b>								
Number of navigation cases <sup>2</sup>	33,136	36	30,624	33	23,449	25	5,874	6
At least 1 HRSN resolved	12,656	38	11,132	36	9,649	41	2,447	42
At least 1 HRSN connected to CSP <sup>3</sup>	3,528	11	3,346	11	3,275	14	698	12
Not connected to CSP or resolved for any HRSNs	16,952	51	16,146	53	10,525	45	2,729	46
Declined further assistance for all HRSNs	1,531	5	1,379	5	1,219	5	426	7
Unable to reach beneficiary for all HRSNs	11,066	33	9,866	32	6,352	27	1,500	26
CSP unable or unavailable to help for all HRSNs	1,630	5	1,557	5	1,241	5	388	7
Unknown for all HRSNs	2,347	7	2,788	9	1,261	5	328	6
Multiple unresolved reasons	378	1	556	2	452	2	87	1
All HRSNs resolved	9,293	28	7,545	25	6,640	28	1,810	31

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definitions: CSP = community service provider; HRSN = health-related social need.



**Exhibit B-4c. Screening, Navigation Acceptance, and Navigation Outcomes by Race/Ethnicity for Beneficiaries Dually Eligible for Medicare and Medicaid**

Model Step	White		Black or African American		Hispanic or Latino		Other Race	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	68,733	62	22,960	21	10,618	10	8,618	8
Navigation-eligible screening	17,030	25	8,874	39	2,786	26	1,573	18
Navigation-eligible beneficiary	14,406	21	7,578	33	2,454	23	1,434	17
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	11,185	78	6,491	86	1,914	78	1,140	79
<b>Navigation outcomes</b>								
Number of navigation cases <sup>2</sup>	10,910	54	6,226	31	1,833	9	1,120	6
At least 1 HRSN resolved	4,766	44	2,424	39	803	44	524	47
At least 1 HRSN connected to CSP <sup>3</sup>	1,124	10	651	10	248	14	163	15
Not connected to CSP or resolved for any HRSNs	5,020	46	3,151	51	782	43	433	39
Declined further assistance for all HRSNs	549	5	260	4	81	4	93	8
Unable to reach beneficiary for all HRSNs	3,182	29	1,802	29	460	25	232	21
CSP unable or unavailable to help for all HRSNs	511	5	361	6	112	6	48	4
Unknown for all HRSNs	655	6	626	10	84	5	41	4
Multiple unresolved reasons	123	1	102	2	45	2	19	2
All HRSNs resolved	3,468	32	1,679	27	521	28	362	32

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-5a. Screening, Navigation Acceptance, and Navigation Outcomes by Education for Medicare-Only and Medicaid-Only Beneficiaries**

Model Step	Medicare Only				Medicaid Only			
	Less Than High School Degree		High School Degree or Higher		Less Than High School Degree		High School Degree or Higher	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	24,885	10	216,523	90	148,890	32	323,456	68
Navigation-eligible screening	3,693	15	14,456	7	31,138	21	69,731	22
Navigation-eligible beneficiary	3,102	12	12,263	6	26,983	18	60,896	19
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	2,364	76	8,767	71	21,084	78	46,646	77
<b>Navigation outcomes among navigated beneficiaries</b>								
Number of navigation cases <sup>2</sup>	2,286	97	8,516	97	20,652	98	45,767	98
At least 1 HRSN resolved	960	42	3,705	44	8,145	39	17,552	38
At least 1 HRSN connected to CSP <sup>3</sup>	205	9	751	9	2,558	12	5,027	11
Not connected to CSP or resolved for any HRSNs	1,121	49	4,060	48	9,949	48	23,188	51
Declined further assistance for all HRSNs	110	5	535	6	1,026	5	2,325	5
Unable to reach beneficiary for all HRSNs	653	29	2,308	27	5,894	29	13,746	30
CSP unable or unavailable to help for all HRSNs	152	7	491	6	1,152	6	2,527	6
Unknown for all HRSNs	181	8	654	8	1,555	8	3,820	8
Multiple unresolved reasons	25	1	72	1	322	2	770	2
All HRSNs resolved	754	33	2,978	35	5,672	27	12,489	27

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-5b. Screening, Navigation Acceptance, and Navigation Outcomes by Education for Beneficiaries Dually Eligible for Medicare and Medicaid**

Model Step	Dually Eligible for Medicare and Medicaid			
	Less Than High School Degree		High School Degree or Higher	
	Number	Percent	Number	Percent
<b>Screening</b>				
AHC screened	23,102	29	56,783	71
Navigation-eligible screening	5,917	26	15,100	27
Navigation-eligible beneficiary	5,073	22	12,983	23
<b>Navigation acceptance</b>				
Accepted navigation <sup>1</sup>	3,955	78	10,126	78
<b>Navigation outcomes</b>				
Number of navigation cases <sup>2</sup>	3,873	98	9,895	98
At least 1 HRSN resolved	1,698	44	4,260	43
At least 1 HRSN connected to CSP <sup>3</sup>	412	11	1,026	10
Not connected to CSP or resolved for any HRSNs	1,763	46	4,609	47
Declined further assistance for all HRSNs	181	5	519	5
Unable to reach beneficiary for all HRSNs	1,019	26	2,608	26
CSP unable or unavailable to help for all HRSNs	208	5	534	5
Unknown for all HRSNs	288	7	814	8
Multiple unresolved reasons	67	2	134	1
All HRSNs resolved	1,199	31	3,029	31

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-6. Screening, Navigation Acceptance, and Navigation Outcomes for Beneficiaries Overall and for Beneficiaries in the Assistance and Alignment Tracks**

Model Step	Overall		Alignment Track		Assistance Track	
	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>						
AHC screened	1,114,099	100	586,418	53	527,681	47
Navigation-eligible screening	204,447	18	116,794	20	87,653	17
Navigation-eligible beneficiary	177,751	16	116,794	20	60,957	12
<b>Navigation acceptance</b>						
Accepted navigation <sup>1</sup>	140,196	79	97,111	83	43,085	71
<b>Navigation outcomes</b>						
Number of navigation cases <sup>2</sup>	135,957	97	95,966	99	39,991	93
At least 1 HRSN resolved	53,817	40	37,173	39	16,644	42
At least 1 HRSN connected to CSP <sup>3</sup>	15,459	11	11,917	12	3,542	9
Not connected to CSP or resolved for any HRSNs	66,681	49	46,876	49	19,805	50
Declined further assistance for all HRSNs	6,834	5	5,495	6	1,339	3
Unable to reach beneficiary for all HRSNs	41,230	30	29,841	31	11,389	28
CSP unable or unavailable to help for all HRSNs	7,052	5	4,133	4	2,919	7
Unknown for all HRSNs	9,532	7	5,711	6	3,821	10
Multiple unresolved reasons	2,033	1	1,696	2	337	1
All HRSNs resolved	38,390	28	26,072	27	12,318	31

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-7. Screening, Navigation Acceptance, and Navigation Outcomes by Age for Beneficiaries Overall and for Beneficiaries in the Assistance and Alignment Tracks**

Model Step	Overall						Alignment Track						Assistance Track					
	0–17		18–64		65+		0–17		18–64		65+		0–17		18–64		65+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>																		
AHC screened	226,036	20	531,045	48	356,998	32	110,186	19	313,659	53	162,557	28	115,850	22	217,386	41	194,441	37
Navigation-eligible screening	29,988	13	143,243	27	31,215	9	12,929	12	87,603	28	16,261	10	17,059	15	55,640	26	14,954	8
Navigation-eligible beneficiary	24,773	11	126,265	24	26,712	7	12,929	12	87,603	28	16,261	10	11,844	10	38,662	18	10,451	5
<b>Navigation acceptance</b>																		
Accepted navigation <sup>1</sup>	19,285	78	100,550	80	20,360	76	10,262	79	73,558	84	13,290	82	9,023	76	26,992	70	7,070	68
<b>Navigation outcomes</b>																		
Number of navigation cases <sup>2</sup>	18,575	96	97,671	97	19,710	97	10,213	100	72,625	99	13,127	99	8,362	93	25,046	93	6,583	93
At least 1 HRSN resolved	8,089	44	37,382	38	8,346	42	4,522	44	27,090	37	5,561	42	3,567	43	10,292	41	2,785	42
At least 1 HRSN connected to CSP <sup>3</sup>	2,376	13	11,022	11	2,061	10	1,500	15	8,854	12	1,563	12	876	10	2,168	9	498	8
Not connected to CSP or resolved for any HRSNs	8,110	44	49,267	50	9,303	47	4,191	41	36,681	51	6,003	46	3,919	47	12,586	50	3,300	50
Declined further assistance for all HRSNs	831	4	4,860	5	1,143	6	512	5	4,096	6	887	7	319	4	764	3	256	4
Unable to reach beneficiary for all HRSNs	5,060	27	30,636	31	5,533	28	2,678	26	23,450	32	3,712	28	2,382	28	7,186	29	1,821	28
CSP unable or unavailable to help for all HRSNs	778	4	5,134	5	1,140	6	335	3	3,165	4	633	5	443	5	1,969	8	507	8
Unknown for all HRSNs	1,197	6	7,044	7	1,291	7	483	5	4,617	6	611	5	714	9	2,427	10	680	10
Multiple unresolved reasons	244	1	1,593	2	196	1	183	2	1,353	2	160	1	61	1	240	1	36	1
All HRSNs resolved	6,037	33	25,810	26	6,543	33	3,346	33	18,409	25	4,317	33	2,691	32	7,401	30	2,226	34

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-8a. Screening, Navigation Acceptance, and Navigation Outcomes by Race/Ethnicity for Beneficiaries Overall**

Model Step	White		Black or African American		Hispanic or Latino		Other Race	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	611,933	57	176,563	17	199,987	19	78,174	7
Navigation-eligible screening	86,938	14	57,340	32	39,796	20	11,524	15
Navigation-eligible beneficiary	74,208	12	50,229	28	34,711	17	10,699	14
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	56,126	76	42,272	84	27,225	78	8,240	77
<b>Navigation outcomes</b>								
Number of navigation cases <sup>2</sup>	54,811	42	40,880	31	26,303	20	8,027	6
At least 1 HRSN resolved	22,158	40	15,060	37	10,833	41	3,382	42
At least 1 HRSN connected to CSP <sup>3</sup>	5,653	10	4,394	11	3,663	14	1,034	13
Not connected to CSP or resolved for any HRSNs	27,000	49	21,426	52	11,807	45	3,611	45
Declined further assistance for all HRSNs	2,751	5	1,818	4	1,339	5	609	8
Unable to reach beneficiary for all HRSNs	17,291	32	12,958	32	7,147	27	1,999	25
CSP unable or unavailable to help for all HRSNs	2,767	5	2,183	5	1,407	5	481	6
Unknown for all HRSNs	3,597	7	3,763	9	1,408	5	407	5
Multiple unresolved reasons	594	1	704	2	506	2	115	1
All HRSNs resolved	16,625	30	10,283	25	7,442	28	2,493	31

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-8b. Screening, Navigation Acceptance, and Navigation Outcomes by Race/Ethnicity for Alignment Track Beneficiaries**

Model Step	White		Black or African American		Hispanic or Latino		Other Race	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	283,374	51	92,446	17	123,051	22	55,266	10
Navigation-eligible screening	44,622	16	34,120	37	23,082	19	8,912	16
Navigation-eligible beneficiary	44,622	16	34,120	37	23,082	19	8,912	16
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	36,350	81	30,053	88	18,623	81	7,177	81
<b>Navigation outcomes</b>								
Number of navigation cases <sup>2</sup>	35,848	39	29,747	33	18,429	20	7,073	8
At least 1 HRSN resolved	14,090	39	10,585	36	7,550	41	3,033	43
At least 1 HRSN connected to CSP <sup>3</sup>	4,040	11	3,436	12	2,867	16	958	14
Not connected to CSP or resolved for any HRSNs	17,718	49	15,726	53	8,012	43	3,082	44
Declined further assistance for all HRSNs	2,138	6	1,503	5	999	5	559	8
Unable to reach beneficiary for all HRSNs	11,272	31	10,292	35	5,000	27	1,708	24
CSP unable or unavailable to help for all HRSNs	1,285	4	1,410	5	933	5	384	5
Unknown for all HRSNs	2,565	7	1,919	6	653	4	322	5
Multiple unresolved reasons	458	1	602	2	427	2	109	2
All HRSNs resolved	10,595	30	6,913	23	5,099	28	2,255	32

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-8c. Screening, Navigation Acceptance, and Navigation Outcomes by Race/Ethnicity for Assistance Track Beneficiaries**

Model Step	White		Black or African American		Hispanic or Latino		Other Race	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>								
AHC screened	328,559	64	84,117	16	76,936	15	22,908	4
Navigation-eligible screening	42,316	13	23,220	28	16,714	22	2,612	11
Navigation-eligible beneficiary	29,586	9	16,109	19	11,629	15	1,787	8
<b>Navigation acceptance</b>								
Accepted navigation <sup>1</sup>	19,776	67	12,219	76	8,602	74	1,063	59
<b>Navigation outcomes</b>								
Number of navigation cases <sup>2</sup>	18,963	49	11,133	29	7,874	20	954	2
At least 1 HRSN resolved	8,068	43	4,475	40	3,283	42	349	37
At least 1 HRSN connected to CSP <sup>3</sup>	1,613	9	958	9	796	10	76	8
Not connected to CSP or resolved for any HRSNs	9,282	49	5,700	51	3,795	48	529	55
Declined further assistance for all HRSNs	613	3	315	3	340	4	50	5
Unable to reach beneficiary for all HRSNs	6,019	32	2,666	24	2,147	27	291	31
CSP unable or unavailable to help for all HRSNs	1,482	8	773	7	474	6	97	10
Unknown for all HRSNs	1,032	5	1,844	17	755	10	85	9
Multiple unresolved reasons	136	1	102	1	79	1	6	1
All HRSNs resolved	6,030	32	3,370	30	2,343	30	238	25

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definitions: CSP = community service provider; HRSN = health-related social need.



**Exhibit B-9. Screening, Navigation Acceptance, and Navigation Outcomes by Education for Beneficiaries Overall and for Beneficiaries in the Assistance and Alignment Tracks**

Model Step	Overall				Alignment Track				Assistance Track			
	Less Than High School Degree		High School Degree or Higher		Less Than High School Degree		High School Degree or Higher		Less Than High School Degree		High School Degree or Higher	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screening</b>												
AHC screened	196,916	25	597,279	75	106,019	26	295,070	74	90,897	23	302,209	77
Navigation-eligible screening	40,749	21	99,294	17	21,685	20	54,581	18	19,064	21	44,713	15
Navigation-eligible beneficiary	35,159	18	86,146	14	21,685	20	54,581	18	13,474	15	31,565	10
<b>Navigation acceptance</b>												
Accepted navigation <sup>1</sup>	27,404	78	65,542	76	17,711	82	44,469	81	9,693	72	21,073	67
<b>Navigation outcomes</b>												
Number of navigation cases <sup>2</sup>	26,812	98	64,181	98	17,355	98	43,838	99	9,457	98	20,343	97
At least 1 HRSN resolved	10,803	40	25,517	40	6,791	39	17,270	39	4,012	42	8,247	41
At least 1 HRSN connected to CSP <sup>3</sup>	3,175	12	6,804	11	2,243	13	5,124	12	932	10	1,680	8
Not connected to CSP or resolved for any HRSNs	12,834	48	31,860	50	8,321	48	21,444	49	4,513	48	10,416	51
Declined further assistance for all HRSNs	1,317	5	3,379	5	977	6	2,658	6	340	4	721	4
Unable to reach beneficiary for all HRSNs	7,567	28	18,663	29	4,953	29	12,687	29	2,614	28	5,976	29

(continued)

**Exhibit B-9. Screening, Navigation Acceptance, and Navigation Outcomes by Education for Beneficiaries Overall and for Beneficiaries in the Assistance and Alignment Tracks (continued)**

Model Step	Overall				Alignment Track				Assistance Track			
	Less Than High School Degree		High School Degree or Higher		Less Than High School Degree		High School Degree or Higher		Less Than High School Degree		High School Degree or Higher	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
CSP unable or unavailable to help for all HRSNs	1,512	6	3,552	6	847	5	2,042	5	665	7	1,510	7
Unknown for all HRSNs	2,024	8	5,290	8	1,202	7	3,229	7	822	9	2,061	10
Multiple unresolved reasons	414	2	976	2	342	2	828	2	72	1	148	1
All HRSNs resolved	7,625	28	18,496	29	4,714	27	12,472	28	2,911	31	6,024	30

<sup>1</sup> Two bridge organizations were excluded from navigation acceptance and navigation outcomes analyses because they voluntarily terminated from the model before navigating any beneficiaries for 12 months.

<sup>2</sup> About 2% of beneficiaries who opted in for navigation did not have any navigation outcome data, so were not included in the navigation outcomes analyses.

<sup>3</sup> No HRSNs resolved.

Definitions: CSP = community service provider; HRSN = health-related social need.

**Exhibit B-10. HRSNs, Rural-Urban Area, and Chronic and Other Potentially Disabling Conditions of Screened and Navigation-Eligible Beneficiaries by Payer Type**

Characteristic	Medicare Only				Medicaid Only				Dually Eligible for Medicare and Medicaid			
	Screened		Navigation Eligible		Screened		Navigation Eligible		Screened		Navigation Eligible	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screened HRSNs</b>												
Food	29,827	9	15,280	56	196,681	29	100,455	69	36,986	33	21,123	69
Housing	27,517	8	12,426	45	143,835	21	79,719	54	25,505	23	15,369	50
Transportation	23,149	7	12,826	47	110,598	16	62,828	43	24,195	21	15,100	49
Utilities	13,823	4	7,599	28	97,934	15	55,183	38	16,265	14	10,575	34
Interpersonal violence	2,112	1	1,103	4	14,882	2	9,170	6	2,439	2	1,629	5
<b>Rural-urban area</b>												
Rural	58,427	18	4,411	16	104,163	15	15,837	11	23,581	21	5,301	17
Urban	257,831	79	21,836	80	548,373	82	123,859	85	82,400	73	23,696	77
Missing	11,308	3	1,162	4	20,629	3	6,614	4	6,678	6	1,719	6
<b>Chronic and other potentially disabling conditions</b>												
Diabetes	66,050	20	7,893	29	44,925	7	15,389	11	23,166	21	7,168	23
Pulmonary disease	55,461	17	7,479	27	75,044	11	26,438	18	21,615	19	7,672	25
Depressive disorder	14,551	4	2,794	10	89,952	13	33,101	23	10,180	9	3,855	13
Substance use disorder	5,187	2	1,425	5	70,198	10	28,665	20	5,345	5	2,295	7
0 comorbidities	52,846	16	2,245	8	420,013	62	75,533	52	15,131	13	3,093	10
1 comorbidity	45,271	14	2,712	10	93,936	14	28,089	19	13,915	12	3,414	11
2 or more comorbidities	104,839	32	45,073	7	31,115	28	104,839	32	45,073	7	31,115	28

Definition: HRSN = health-related social need.

**Exhibit B-11. HRSNs Rural-Urban Area, and Chronic and Other Potentially Disabling Conditions of Screened and Navigation-Eligible Beneficiaries Overall and by Track**

Characteristic	Overall				Alignment Track				Assistance Track			
	Screened		Navigation Eligible		Screened		Navigation Eligible		Screened		Navigation Eligible	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Screened HRSNs</b>												
Food	258,646	23	131,983	65	165,771	28	82,292	70	97,757	19	54,573	62
Housing	191,383	17	102,005	50	122,617	21	63,888	55	74,283	14	43,634	50
Transportation	152,609	14	85,402	42	94,799	16	53,421	46	63,167	12	37,388	43
Utilities	123,551	11	68,871	34	72,723	12	38,876	33	55,317	10	34,484	39
Interpersonal violence	18,054	2	10,519	5	12,475	2	7,658	7	6,963	1	4,245	5
<b>Rural-urban area</b>												
Rural	186,238	17	25,550	12	87,923	15	11,367	10	98,315	19	14,183	16
Urban	889,199	80	169,402	83	473,320	81	99,398	85	415,879	79	70,004	80
Missing	38,662	3	9,495	5	25,175	4	6,029	5	13,487	2	3,466	4
<b>Chronic and other potentially disabling conditions</b>												
Diabetes	134,152	12	30,450	15	17,936	15	17,936	15	62,408	12	12,514	14
Pulmonary disease	152,134	14	41,590	20	82,835	14	24,167	21	69,299	13	17,423	20
Substance use disorder	80,731	7	32,385	16	51,800	9	21,193	18	28,931	5	11,192	13
Depressive disorder	114,685	10	39,750	19	68,699	12	24,763	21	45,986	9	14,987	17
0 comorbidities	488,001	44	80,871	40	268,726	46	44,956	38	219,275	42	35,915	41
1 comorbidity	153,127	14	34,215	17	85,929	15	20,250	17	67,198	13	13,965	16
2 or more comorbidities	181,046	16	41,337	20	95,549	16	24,763	21	85,497	16	16,574	19

Definition: HRSN = health-related social need.

**Exhibit B-12. Characteristics Among Beneficiaries Lost to Follow-Up and Not Lost to Follow-Up**

Variable	Lost to Follow-Up (n = 41,230)		Not Lost to Follow-Up (n = 94,727)	
	Number	Percent	Number	Percent
<b>Payer type</b>				
Medicare only	5,044	12	12,515	13
Medicaid only	30,652	74	68,499	72
Dually eligible for Medicare and Medicaid	5,808	14	14,784	16
<b>Age</b>				
0–17	5,068	12	13,546	14
18–64	30,877	74	67,596	71
65+	5,560	13	14,295	15
<b>Race/ethnicity</b>				
White	17,440	44	37,822	41
Black or African American	13,001	33	28,128	31
Hispanic or Latino	7,194	18	19,263	21
Other race	2,026	5	6,103	7
<b>Education</b>				
Less than high school degree	7,655	29	19,492	30
High school degree or higher	18,817	71	45,934	70
<b>Sex</b>				
Female	25,166	61	60,829	65
Male	15,840	39	33,301	35
<b>HRSNs</b>				
Food	27,888	67	64,677	68
Housing	22,468	54	49,976	52
Transportation	18,390	44	40,330	42
Utilities	33,933	35	14,569	35
Interpersonal violence	2,416	6	5,237	6
<b>Completed action plan</b>	<b>23,663</b>	<b>57</b>	<b>71,213</b>	<b>76</b>

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected “Other.”

Definition: HRSN = health-related social need.

**Exhibit B-13. Percentage of Beneficiaries Screened More Than Once for Specific HRSNs**

Screened More Than Once For:	2+ Screenings <sup>1</sup> (n = 346,821)	2+ Navigation-Eligible Screenings (n = 26,422)	2+ Screenings and 1+ Navigation-Eligible Screening(s) <sup>1</sup> (n = 72,303)	2+ Screenings and 1+ Navigation Case(s) <sup>1</sup> (n = 48,260)
Food	12%	57%	34%	37%
Housing	8%	40%	23%	25%
Transportation	6%	33%	18%	20%
Utilities	4%	23%	13%	14%
Interpersonal violence	< 1%	3%	2%	2%

<sup>1</sup> Includes navigation-eligible screenings (1+ core HRSN and 2+ ED visits in the 12 months before screening) and non-navigation-eligible screenings. Definition: HRSN = health-related social need.

**Exhibit B-14. Characteristics of Navigation-Eligible Beneficiaries by Navigation Acceptance Status**

Characteristic	Accepted Navigation (n = 139,210)		Did Not Accept Navigation (n = 25,819)		Acceptance Status Unknown (n = 11,459)	
	Number	Percent	Number	Percent	Number	Percent
<b>Sex</b>						
Female	87,523	63	16,242	63	7,256	63
Male	49,894	36	9,333	36	3,997	35
Missing	1,793	1	244	1	206	2
<b>Age</b>						
< 18	19,246	14	3,963	15	1,523	13
18–64	99,748	72	17,258	67	8,227	72
65+	20,215	15	4,598	18	1,709	15
Missing	1	< 1	0	0	0	0
<b>Race/ethnicity</b>						
Black or African American	42,023	30	5,553	22	2,366	21
White	55,675	40	12,165	47	5,743	50
Hispanic or Latino	27,071	19	5,405	21	2,051	18
Other race	8,138	6	1,631	6	801	7
Missing	6,303	5	1,065	4	498	4
<b>Payer type</b>						
Medicare only	17,455	13	3,989	15	1,672	15
Medicaid only	100,851	72	18,290	71	8,195	72
Dually eligible for Medicare and Medicaid	20,899	15	3,538	14	1,590	14
Missing	5	< 1	2	< 1	2	< 1
<b>Education</b>						
Less than high school degree	27,069	19	5,318	21	2,344	20
High school degree or higher	64,972	47	14,197	55	6,249	55
Missing	47,169	34	6,304	24	2,866	25
<b>Chronic and other potentially disabling conditions</b>						
Pulmonary disease	28,596	21	5,302	21	2,141	19
Diabetes	21,302	15	3,593	14	1,501	13
Substance use disorder	23,180	17	3,753	15	1,828	16
Depressive disorder	27,948	20	4,802	19	2,178	19

(continued)

**Exhibit B-14. Characteristics of Navigation-Eligible Beneficiaries by Navigation Acceptance Status (continued)**

Characteristic	Accepted Navigation (n = 139,210)		Did Not Accept Navigation (n = 25,819)		Unknown Acceptance (n = 11,459)	
	Number	Percent	Number	Percent	Number	Percent
<b>Number of comorbidities</b>						
0	55,300	40	10,091	39	4,427	39
1	23,788	17	4,222	16	1,838	16
2 or more	28,802	21	5,132	20	2,040	18
<b>Rural-urban area</b>						
Rural	15,680	11	3,137	12	2,291	20
Urban	117,792	85	20,942	81	8,895	78
Missing	5,738	4	1,740	7	273	2
<b>Screened HRSNs</b>						
Housing	71,074	51	11,546	45	5,591	26
Food	91,600	66	15,990	62	7,329	34
Transportation	58,353	42	10,369	40	4,854	22
Utilities	47,754	34	7,305	28	3,161	15
Interpersonal violence	7,113	5	1,315	5	769	4
<b>Number of screened HRSNs</b>						
1	56,320	40	13,101	51	5,354	47
2 or more	82,890	60	12,718	49	6,105	53
<b>Track</b>						
Alignment	96,125	69	12,562	49	6,844	60
Assistance	43,085	31	13,257	51	4,615	40

Note: Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."

Definition: HRSN = health-related social need.



**Exhibit B-15a. Likelihood of Navigation Acceptance, at Least 1 HRSN Resolved, and All HRSNs Resolved Among Navigation-Eligible Beneficiaries Overall**

Variable	Navigation Acceptance (n = 118,543)		At Least 1 HRSN (n = 98,364)		All HRSNs Resolved (n = 98,364)	
	Odds Ratio	P-Value	Odds Ratio	P-Value	Odds Ratio	P-Value
Age 18–64	1.05	0.10	<b>0.88*</b>	< 0.01	<b>0.89*</b>	< 0.01
Age 65+	0.97	0.44	1.02	0.68	<b>1.07**</b>	0.09
Black or African American	<b>1.20*</b>	< 0.01	<b>1.04*</b>	0.04	1.01	0.67
Hispanic or Latino	<b>1.19*</b>	< 0.01	<b>1.11*</b>	< 0.01	<b>1.07*</b>	0.01
Other race	1.01	0.83	0.95	0.12	0.96	0.31
Male	0.98	0.38	<b>0.90*</b>	< 0.01	<b>0.91*</b>	< 0.01
Medicaid only	1.06	0.12	<b>1.10*</b>	< 0.01	<b>1.10*</b>	0.02
Dually eligible for Medicare and Medicaid	<b>1.07**</b>	0.09	<b>1.12*</b>	< 0.01	<b>1.06**</b>	0.09
Less than high school degree	<b>1.16*</b>	< 0.01	0.98	0.19	<b>0.95*</b>	0.01
Education missing	<b>1.17*</b>	< 0.01	1.00	0.92	0.98	0.38
Number of comorbidities	1.00	0.91	0.99	0.35	1.00	0.93
Diabetes	<b>1.11*</b>	< 0.01	<b>1.06*</b>	0.02	1.03	0.25
Pulmonary disease	0.99	0.57	1.01	0.44	0.99	0.62
Substance use disorder	0.99	0.70	<b>0.80*</b>	< 0.01	<b>0.82*</b>	< 0.01
Depressive disorder	1.03	0.23	<b>0.96*</b>	0.02	<b>0.95*</b>	0.01
Number of screened/navigated HRSNs > 2	<b>1.62*</b>	< 0.01	<b>1.35*</b>	< 0.01	<b>0.55*</b>	< 0.01
Navigated transportation HRSN	n/a	n/a	0.99	0.37	<b>0.87*</b>	< 0.01
Rural-urban area	0.94	0.11	0.98	0.53	1.02	0.49
Alignment Track	2.18	0.12	0.94	0.83	0.90	0.72
Percentage of unique navigation-eligible beneficiaries	0.75	0.85	0.52	0.45	0.48	0.40
Number of navigators	n/a	n/a	1.00	0.39	1.00	0.50
Social Deprivation Index	<b>1.02**</b>	0.05	1.00	0.78	1.00	0.74

*Notes:* Bolded odds ratios with asterisk indicate significance of  $p < 0.05$ . Bolded odds ratios with two asterisks indicate significance of  $p < 0.10$ . Reference groups for each categorical variable in the exhibit include age < 18; White; female; Medicare only; high school degree or higher; no diabetes, pulmonary disease, substance use disorder, depressive disorder; 1 screened/navigated HRSN only; no transportation HRSN; and Assistance Track. The remaining variables are continuous. Number of screened HRSNs (i.e., number of HRSNs reported in the screening) was used as a variable in the navigation acceptance regressions; number of navigated HRSNs (i.e., number of HRSNs for which the beneficiary was navigated) was used in the HRSN resolution regressions. Odds ratios are measures of association between a predictor and an outcome and can be interpreted as the likelihood of an outcome occurring. Significant values greater than 1.0 show a greater likelihood, whereas significant values less than 1.0 show a decreased likelihood. For instance, as shown in the exhibit, Black or African American beneficiaries had a 20% greater likelihood of accepting navigation than White beneficiaries (OR = 1.20,  $p < 0.01$ ). Those with a substance use disorder had a 20%

less likelihood of having at least 1 HRSN resolved than those without a substance use disorder (OR = 0.80,  $p < 0.01$ ). Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected “Other.”  
Definition: HRSN = health-related social need.

**Exhibit B-15b. Likelihood of Navigation Acceptance, at Least 1 HRSN Resolved, and All HRSNs Resolved Among Navigation-Eligible Beneficiaries in the Alignment Track**

Variable	Navigation Acceptance (n = 78,163)		At Least 1 HRSN (n = 69,458)		All HRSNs Resolved (n = 69,458)	
	Odds Ratio	P-Value	Odds Ratio	P-Value	Odds Ratio	P-Value
Age 18–64	<b>1.14*</b>	< 0.01	<b>0.89*</b>	< 0.01	<b>0.89*</b>	< 0.01
Age 65+	1.01	0.89	1.01	0.83	1.05	0.29
Black or African American	<b>1.36*</b>	< 0.01	<b>1.05**</b>	0.05	1.01	0.76
Hispanic or Latino	<b>1.16*</b>	< 0.01	<b>1.14*</b>	< 0.01	<b>1.07*</b>	0.03
Other race	0.98	0.67	0.97	0.41	0.98	0.65
Male	0.98	0.54	<b>0.88*</b>	< 0.01	<b>0.89*</b>	< 0.01
Medicaid only	<b>1.11*</b>	0.04	<b>1.13*</b>	< 0.01	<b>1.09*</b>	0.04
Dually eligible for Medicare and Medicaid	1.05	0.33	<b>1.15*</b>	< 0.01	1.07	0.10
Less than high school degree	<b>1.12*</b>	< 0.01	0.98	0.31	<b>0.93*</b>	0.01
Education missing	<b>1.26*</b>	< 0.01	<b>0.92*</b>	< 0.01	<b>0.89*</b>	< 0.01
Number of comorbidities	1.01	0.50	1.00	0.75	1.00	0.68
Diabetes	1.06	0.14	<b>1.05**</b>	0.09	1.02	0.54
Pulmonary disease	0.96	0.19	0.99	0.77	0.97	0.18
Substance use disorder	1.03	0.29	<b>0.78*</b>	< 0.01	<b>0.80*</b>	< 0.01
Depressive disorder	1.02	0.53	<b>0.97**</b>	0.08	<b>0.94*</b>	0.01
Number of screened/navigated HRSNs > 2	<b>1.81*</b>	< 0.01	<b>1.37*</b>	< 0.01	<b>0.54*</b>	< 0.01
Navigated transportation HRSN	n/a	n/a	0.99	0.42	<b>0.86*</b>	< 0.01
Rural-urban area	<b>0.81*</b>	< 0.01	<b>0.81*</b>	< 0.01	<b>0.84*</b>	< 0.01
Alignment Track	n/a	n/a	n/a	n/a	n/a	n/a
Percentage of unique navigation-eligible beneficiaries	2.00	0.61	0.29	0.24	0.33	0.33
Number of navigators	n/a	n/a	1.00	0.83	1.00	0.83
Social Deprivation Index	1.00	0.91	1.01	0.22	1.01	0.33

*Notes:* Bolded odds ratios with asterisk indicate significance of p < 0.05. Bolded odds ratios with two asterisks indicate significance of p < 0.10. Reference groups for each categorical variable in the exhibit include age < 18; White; female; Medicare only; high school degree or higher; no diabetes, pulmonary disease, substance use disorder, depressive disorder; 1 screened/navigated HRSN only; no transportation HRSN; and Assistance Track. The remaining variables are continuous. Number of screened HRSNs (i.e., number of HRSNs reported in the screening) was used as a variable in the navigation acceptance regressions; number of navigated HRSNs (i.e., number of HRSNs for which the beneficiary was navigated) was used in the HRSN resolution regressions. Odds ratios are measures of association between a predictor and an outcome and can be interpreted as the likelihood of an outcome occurring. Significant values greater than 1.0

show a greater likelihood, whereas significant values less than 1.0 show a decreased likelihood. For instance, as shown in the exhibit, Black or African American beneficiaries had a 36% greater likelihood of accepting navigation than White beneficiaries (OR = 1.36,  $p < 0.01$ ). Those with a substance use disorder had a 22% less likelihood of having at least 1 HRSN resolved than those without a substance use disorder (OR = 0.78,  $p < 0.01$ ). Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."  
Definition: HRSN = health-related social need.

**Exhibit B-15c. Likelihood of Navigation Acceptance, at Least 1 HRSN Resolved, and All HRSNs Resolved Among AHC Navigation-Eligible Beneficiaries in the Assistance Track**

Variable	Navigation Acceptance (n = 40,380)		At Least 1 HRSN (n = 28,906)		All HRSNs Resolved (n = 28,906)	
	Odds Ratio	P-Value	Odds Ratio	P-Value	Odds Ratio	P-Value
Age 18–64	0.95	0.23	<b>0.87*</b>	< 0.01	<b>0.88*</b>	< 0.01
Age 65+	0.91	0.17	1.02	0.71	<b>1.13**</b>	0.07
Black or African American	<b>1.08**</b>	0.05	1.02	0.66	1.01	0.79
Hispanic or Latino	<b>1.24*</b>	< 0.01	1.00	0.97	1.06	0.22
Other race	1.11	0.17	0.89	0.15	0.91	0.28
Male	0.98	0.47	<b>0.92*</b>	< 0.01	<b>0.95**</b>	0.06
Medicaid only	1.00	0.98	1.05	0.42	<b>1.11**</b>	0.08
Dually eligible for Medicare and Medicaid	1.09	0.12	1.05	0.40	1.03	0.59
Less than high school degree	<b>1.19*</b>	< 0.01	0.98	0.52	0.98	0.57
Education missing	1.06	0.12	<b>1.14*</b>	< 0.01	<b>1.15*</b>	< 0.01
Number of comorbidities	0.99	0.34	0.98	0.21	0.99	0.43
Diabetes	<b>1.17*</b>	< 0.01	1.07	0.10	1.05	0.26
Pulmonary disease	1.02	0.54	<b>1.06**</b>	0.09	1.03	0.35
Substance use disorder	<b>0.93**</b>	0.06	<b>0.88*</b>	< 0.01	<b>0.87*</b>	< 0.01
Depressive disorder	1.04	0.22	0.95	0.11	0.96	0.25
Number of screened/navigated HRSNs > 2	<b>1.44*</b>	< 0.01	<b>1.33*</b>	< 0.01	<b>0.57*</b>	< 0.01
Navigated transportation HRSN	n/a	n/a	0.99	0.64	<b>0.88*</b>	< 0.01
Rural-urban area	<b>1.23*</b>	< 0.01	<b>1.25*</b>	< 0.01	<b>1.33*</b>	< 0.01
Alignment Track	n/a	n/a	n/a	n/a	n/a	n/a
Percentage of unique navigation-eligible beneficiaries	0.02	0.42	6.12	0.12	1.30	0.85
Number of navigators	n/a	n/a	<b>0.99*</b>	0.03	<b>1.00**</b>	0.08
Social Deprivation Index	<b>1.06*</b>	0.01	<b>0.99*</b>	< 0.01	<b>0.99*</b>	0.03

*Notes:* Bolded odds ratios with asterisk indicate significance of p < 0.05. Bolded odds ratios with two asterisks indicate significance of p < 0.10. Reference groups for each categorical variable in the exhibit include age < 18; White; female; Medicare only; high school degree or higher; no diabetes, pulmonary disease, substance use disorder, depressive disorder; 1 screened/navigated HRSN only; no transportation HRSN; and Assistance Track. The remaining variables are continuous. Number of screened HRSNs (i.e., number of HRSNs reported in the screening) was used as a variable in the navigation acceptance regressions; number of navigated HRSNs (i.e., number of HRSNs for which the beneficiary was navigated) was used in the HRSN resolution regressions. Odds ratios are measures of association between a predictor and an outcome and can be interpreted as the likelihood of an outcome occurring. Significant values greater than 1.0

show a greater likelihood, whereas significant values less than 1.0 show a decreased likelihood. For instance, as shown in the exhibit, Black or African American beneficiaries had an 8% greater likelihood of accepting navigation than White beneficiaries (OR = 1.08,  $p < 0.05$ ). Those with a substance use disorder had a 12% less likelihood of having at least 1 HRSN resolved than those without a substance use disorder (OR = 0.88,  $p < 0.01$ ). Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."  
Definition: HRSN = health-related social need.

**Exhibit B-16a. Likelihood of Resolution of Food, Housing, and Transportation HRSNs Among Navigation-Eligible Beneficiaries**

Variable	Food HRSN Resolved (n = 66,342)		Housing HRSN Resolved (n = 51,931)		Transportation HRSN Resolved (n = 41,608)	
	Odds Ratio	P-Value	Odds Ratio	P-Value	Odds Ratio	P-Value
Age 18–64	<b>0.95**</b>	0.07	<b>0.85*</b>	< 0.01	<b>0.87*</b>	< 0.01
Age 65+	1.01	0.75	1.00	0.95	0.99	0.90
Black or African American	<b>1.06*</b>	0.02	1.05	0.11	1.04	0.24
Hispanic or Latino	<b>1.12*</b>	< 0.01	<b>1.09*</b>	0.01	<b>1.09*</b>	0.02
Other race	0.97	0.49	0.98	0.69	0.97	0.59
Male	<b>0.89*</b>	< 0.01	<b>0.88*</b>	< 0.01	<b>0.89*</b>	< 0.01
Medicaid only	<b>1.17*</b>	< 0.01	1.04	0.46	<b>1.14*</b>	0.01
Dually eligible for Medicare and Medicaid	<b>1.17*</b>	< 0.01	1.04	0.37	<b>1.13*</b>	0.01
Less than high school degree	1.00	0.89	0.97	0.30	0.98	0.43
Education missing	1.03	0.26	0.96	0.14	0.95	0.10
Number of comorbidities	0.99	0.36	1.01	0.34	1.01	0.18
Diabetes	<b>1.07*</b>	0.02	1.06	0.10	1.03	0.43
Pulmonary disease	1.04	0.13	0.96	0.11	0.99	0.66
Substance use disorder	<b>0.81*</b>	< 0.01	<b>0.78*</b>	< 0.01	<b>0.81*</b>	< 0.01
Depressive disorder	<b>0.96*</b>	0.04	<b>0.96**</b>	0.07	0.97	0.23
Number of screened/navigated HRSNs > 2	<b>0.94*</b>	0.01	<b>0.91*</b>	< 0.01	<b>0.87*</b>	< 0.01
Navigated transportation HRSN	0.93	0.78	1.06	0.86	0.96	0.89
Rural-urban area	<b>0.84*</b>	< 0.01	<b>0.82*</b>	< 0.01	n/a	n/a
Alignment Track	0.99	0.73	0.93	0.13	0.99	0.87
Percentage of unique navigation-eligible beneficiaries	0.46	0.35	0.39	0.33	0.42	0.33
Number of navigators	1.00	0.37	1.00	0.39	1.00	0.35
Social Deprivation Index	1.00	0.73	1.00	0.82	1.00	0.97

*Notes:* Bolded odds ratios with asterisk indicate significance of p < 0.05. Bolded odds ratios with two asterisks indicate significance of p < 0.10. Reference groups for each categorical variable in the exhibit include age < 18; White; female; Medicare only; high school degree or higher; no diabetes, pulmonary disease, substance use disorder, depressive disorder; 1 screened/navigated HRSN only; no transportation HRSN; and Assistance Track. The remaining variables are continuous. Number of screened HRSNs (i.e., number of HRSNs reported in the screening) was used as a variable in the navigation acceptance regressions; number of navigated HRSNs (i.e., number of HRSNs for which the beneficiary was navigated) was used in the HRSN resolution regressions. Odds ratios are measures of association between a predictor and an outcome and can be interpreted as the likelihood of an outcome occurring. Significant values greater than 1.0

show a greater likelihood, whereas significant values less than 1.0 show a decreased likelihood. For instance, as shown in the exhibit, Hispanic or Latino beneficiaries had a 12% greater likelihood of having a food need resolved than White beneficiaries (OR = 1.12,  $p < 0.01$ ). Those with a substance use disorder had a 19% less likelihood of having a food need resolved than those without a substance use disorder (OR = 0.78,  $p < 0.01$ ). Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."  
Definition: HRSN = health-related social need.



**Exhibit B-16b. Likelihood of Resolution of Utilities and Interpersonal Violence HRSNs Among Navigation-Eligible Beneficiaries**

Variable	Utilities HRSN Resolved (n = 35,466)		Interpersonal Violence HRSN Resolved (n = 5,601)	
	Odds Ratio	P-Value	Odds Ratio	P-Value
Age 18–64	0.96	0.24	1.03	0.83
Age 65+	1.08	0.24	1.22	0.38
Black or African American	1.03	0.36	0.99	0.89
Hispanic or Latino	<b>1.07**</b>	0.08	1.11	0.34
Other race	0.99	0.88	1.11	0.44
Male	0.97	0.19	<b>0.80*</b>	< 0.01
Medicaid only	1.08	0.20	1.12	0.47
Dually eligible for Medicare and Medicaid	<b>1.12**</b>	0.05	1.07	0.67
Less than high school degree	1.01	0.86	0.89	0.19
Education missing	1.05	0.13	0.93	0.38
Number of comorbidities	0.98	0.17	0.97	0.45
Diabetes	1.03	0.43	<b>1.24**</b>	0.05
Pulmonary disease	1.00	0.88	1.15	0.12
Substance use disorder	<b>0.83*</b>	< 0.0	<b>0.75*</b>	< 0.01
Depressive disorder	0.97	0.32	0.93	0.33
Number of screened/navigated HRSNs > 2	<b>0.92*</b>	0.02	0.90	0.49
Navigated transportation HRSN	0.86	0.59	0.75	0.44
Rural-urban area	<b>0.84*</b>	< 0.0	<b>0.82*</b>	0.01
Alignment Track	<b>1.11**</b>	0.05	1.01	0.97
Percentage of unique navigation-eligible beneficiaries	0.79	0.78	0.44	0.45
Number of navigators	0.99	0.13	0.99	0.20
Social Deprivation Index	1.00	0.74	0.99	0.21

Notes: Bolded odds ratios with asterisk indicate significance of  $p < 0.05$ . Bolded odds ratios with two asterisks indicate significance of  $p < 0.10$ . Reference groups for each categorical variable in the exhibit include age < 18; White; female; Medicare only; high school degree or higher; no diabetes, pulmonary disease, substance use disorder, depressive disorder; 1 screened/navigated HRSN only; no transportation HRSN; and Assistance Track. The remaining variables are continuous. Number of screened HRSNs (i.e., number of HRSNs reported in the screening) was used as a variable in the navigation acceptance regressions; number of navigated HRSNs (i.e., number of HRSNs for which the beneficiary was navigated) was used in the HRSN resolution regressions. Odds ratios are measures of association between a predictor and an outcome and can be interpreted as the likelihood of an outcome occurring. Significant values greater than 1.0 show a greater likelihood, whereas significant values less than 1.0 show a decreased likelihood. For instance, as shown in the exhibit, Hispanic or Latino

beneficiaries had a 7% greater likelihood of having a utilities need resolved than White beneficiaries (OR = 1.07,  $p < 0.10$ ). Those with a substance use disorder had a 17% less likelihood of having a utilities need resolved than those without a substance use disorder (OR = 0.80,  $p < 0.01$ ). Other race included American Indian or Alaska Native, Asian, Hawaiian or Other Pacific Islander, those with more than one race selected, and those who selected "Other."  
Definition: HRSN = health-related social need.

# Appendix C: Beneficiary Survey Methods

## Background

We surveyed Medicare and Medicaid beneficiaries who completed the Accountable Health Communities (AHC) Model screening and met the eligibility criteria to receive the AHC Model navigation services - inclusive of beneficiaries in the Alignment Track and those in the Assistance Track who were randomized to the intervention and control groups. Through the survey, we aimed to understand the impact of the AHC Model on beneficiary-reported use of community services to get help for health-related social needs (HRSNs), perceived effectiveness of community services in addressing HRSNs, improvement in HRSNs, and improvement in health and mental health statuses.

## Methods

### Instrument

We surveyed beneficiaries roughly 6 months after screening. The survey instrument (see Attachment C-1) included 30 questions in four domains:

- Four of the five core HRSNs addressed by the AHC Model: housing, utilities, food, and transportation<sup>1</sup>
- Health, stress, and quality of life
- Use of and experiences with community services
- Experiences with community services during the coronavirus disease 2019 (COVID-19) pandemic

**Cognitive testing.** After the draft instrument was developed, we conducted cognitive testing with a convenience sample of 11 volunteer Medicare and Medicaid beneficiaries. The purpose of the cognitive interviews was to assess and improve the clarity and relevance of the survey for AHC beneficiaries. Researchers recruited cognitive testing participants for in-person interviews at three AHC Model clinical delivery sites in the Chicago, IL, and Richmond, VA, metropolitan areas in July and August 2019. The cognitive testing protocol was designed to assess the following:

- Do respondents understand each survey question in the manner that it was intended?
- Are the response categories for each survey question appropriate?
- Are the meanings of particular terms unambiguous?

We revised the survey instrument based on findings from the cognitive testing.

### Survey Sample

We selected 22 survey samples (one each month on a rolling basis) roughly 6 months after beneficiaries' initial AHC screening (**Exhibit C-1**). To create the survey sample, we used screening and navigation data files extracted by NewWave (Centers for Medicare and Medicaid Services [CMS] Enterprise Portal contractor) and generated by

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<sup>1</sup> Interpersonal safety is a core HRSN, but we did not ask about safety/domestic violence in the survey because of concerns about respondent safety (World Health Organization, 2001).

Mathematica Policy Research (the AHC implementation contractor) using data submitted by bridge organizations. The survey sample included beneficiaries who met the navigation eligibility requirements.

We used different sampling strategies for the Assistance and Alignment Tracks because of the different number of beneficiaries in each track. For the Assistance Track, we selected all eligible adult beneficiaries (18 years of age or older), including those randomized to both the intervention group and the control group.<sup>2</sup> We surveyed all eligible beneficiaries in the Assistance Track because the sample size was small that sampling would have negatively impacted the statistical power of the planned analyses. In contrast, for the Alignment Track we selected a representative stratified random sample of 300 adult beneficiaries each month, selected separately for each core HRSN.<sup>3</sup> The sampling strata were the core HRSNs. We used a stratified random sample for the Alignment Track survey because the sample size was large enough that we did not need to survey all beneficiaries to still have sufficient power and representativeness for planned analyses. The stratified random sample allowed us to be more efficient with our resources.

### Exhibit C-1. Timing of 22 Monthly Survey Waves

Wave	Screening Month	Survey Administration Period
Wave 1	Apr., May, Jun. 2019	Jan-Apr 2020
Wave 2	Jul. 2019	Jan-May 2020
Wave 3	Aug. 2019	Feb-Jun 2020
Wave 4	Sep. 2019	Mar-Jul 2020
Wave 5	Oct. 2019	Apr-Aug 2020
Wave 6	Nov. 2019	May-Sep 2020
Wave 7	Dec. 2019	June-Oct 2020
Wave 8	Jan. 2020	Jul-Nov 2020
Wave 9	Feb. 2020	Aug-Dec 2020
Wave 10	Mar. 2020	Sep 2020-Feb 2021
Wave 11	Apr. 2020	Oct 2020-Mar 2021
Wave 12	May 2020	Nov 2020-Mar 2021
Wave 13	Jun. 2020	Dec 2020-Apr 2021
Wave 14	Jul. 2020	Jan-May 2021
Wave 15	Aug. 2020	Feb-Jun 2021
Wave 16	Sep. 2020	Mar-Jul 2021
Wave 17	Oct. 2020	Apr-Aug 2021
Wave 18	Nov. 2020	May-Sep 2021
Wave 19	Dec. 2020	Jun-Oct 2021
Wave 20	Jan. 2021	Jul-Nov 2021
Wave 21	Feb. 2021	Aug-Dec 2021
Wave 22	Mar. 2021	Sep 2021-Jan 2022

<sup>2</sup> We included beneficiaries in the survey sample regardless of whether they had accepted navigation by the time of the survey, which is consistent with an intent-to-treat evaluation design.

<sup>3</sup> Beneficiaries with more than one HRSN would have had multiple opportunities to be included in the sample; we adjusted for this using survey sampling weights.

## Data Collection

At screening, beneficiaries were asked to provide their address, phone number, and email address. We sent surveys by mail and followed up with nonrespondents by phone and email (**Exhibit C-2**). Survey administration for each wave lasted 16 weeks (112 days).

### Exhibit C-2. Survey Administration Protocol for Each Survey Wave

Days in Protocol	Data Collection Stage
1	Mail initial surveys
8	Mail thank you/reminder postcard
14	First email
28	First round of phone follow-up
42	Mail second round of surveys, sent using USPS Priority Mail in a 9" × 12" envelope
42	Second email
53	Remailings for the initial survey invitations
60	Remailings for the second survey invitations
70	Conduct second round of phone follow-ups
70	Third email
112	Close of wave: data collection stops

**Response rates.** We calculated adjusted response rates, excluding from the denominator beneficiaries (1) who died after AHC screening, (2) who had no valid contact information,<sup>4</sup> or (3) who were no longer eligible for the AHC Model due to revisions to the screening data after we selected the survey sample.<sup>5</sup> Beneficiaries were considered to have responded to the survey if they answered at least one survey question. The adjusted response rate was 26% for the Assistance Track intervention group and 25% for the control group (**Exhibit C-3**); this difference was not statistically significant ( $P = 0.13$ ). The adjusted response rate for the Alignment Track was 24%. Additional information is provided about response rates and factors associated with nonresponse in the exhibit that follows.

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<sup>4</sup> We considered beneficiaries to have invalid contact information when information from all possible modes of contact was either missing or invalid (e.g., returned mail, wrong phone number, emails bounced back).

<sup>5</sup> Bridge organizations revised their screening and navigation data, correcting for initial data entry errors. This led to situations where previous iterations of the screening data indicated a beneficiary was eligible for the model, but later iterations indicated that a beneficiary was not eligible. These beneficiaries were excluded from the analysis and so were excluded from the denominator of beneficiaries used to calculate response rates.

### Exhibit C-3. Survey Response Rates, Waves 1–22 Combined

Track	Sampled N <sup>1</sup>	Responded N	Adjusted Response Rate %
Assistance Track intervention group	26,470	6,817	25.8
Assistance Track control group	11,123	2,781	25.0
Alignment Track (intervention group only)	19,878	4,677	23.5

<sup>1</sup>Excludes beneficiaries (1) who had died since AHC screening, (2) who had no valid contact information, or (3) who were no longer eligible for the AHC Model according to the AHC Model screening data, due to revisions in the data after we selected the survey sample. Bridge organizations revised their screening and navigation data, correcting for initial data entry errors. This led to situations where previous iterations of the screening data indicated a beneficiary was eligible for the model, but later iterations indicated that a beneficiary was not eligible. These beneficiaries were excluded from the analysis and so were excluded from the denominator of beneficiaries used to calculate response rates.

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

### Outcome Measures

**HRSN resolution and improvement.** Because resolving HRSNs is a primary aim of the AHC Model, we assessed HRSN resolution among survey respondents who had a given HRSN identified at screening. We created the resolution measures by comparing responses to the screening tool with responses to similarly worded items in the evaluation survey that was completed 6 to 8 months later. Specifically, for each HRSN included in the survey (living situation, utilities, food, transportation), we created a binary measure where survey respondents who indicated the HRSN on the screening tool received a value of 1 if their HRSN was resolved at the time of the survey and 0 if their HRSN improved but not to the point of resolution, stayed the same, or declined. **Exhibit C-4** shows the outcome measure categories assigned to each combination of screening tool and survey responses. In addition to HRSN resolution measures, we also assessed measures of HRSN improvement as a sensitivity analysis. The HRSN improvement measures differed from the HRSN resolution measures in that any improvement between the screening and survey was considered a positive outcome, even if the HRSN was not fully resolved (e.g., a food need improved from often worrying about having enough food to sometimes worrying about having enough food). Findings for the resolution measures are presented in the main body of the report, and findings for the improvement measures are presented in this appendix below.

**Use of community services to get help for HRSNs.** We created binary measures reflecting whether respondents reported using community services in the past 6 months for any HRSN and for each HRSN.

**Exhibit C-4. HRSN Items and Response Options Mapped to Outcome Measure Categories**

Outcome Measure Categories	Screening Item and Response Options	Survey Item and Response Options	Included in Resolution and Improvement Measure Denominators?	Value in Resolution and Improvement Measure Numerators
<b>Living Situation</b>	What is your living situation today?	What is your living situation today?		
Improved and resolved	I have a place to live today but am worried about losing it in the future.	I have a steady place to live.	Yes	Improvement: 1 Resolution: 1
	I do not have a steady place to live.	I have a steady place to live.		
Improved but not resolved	I do not have a steady place to live.	I have a place to live today but am worried about losing it in the future.		Improvement: 1 Resolution: 0
Maintained lack of need	I have a steady place to live.	I have a steady place to live.	No	Not applicable
Maintained need or declined	I have a place to live today but am worried about losing it in the future.	I have a place to live today but am worried about losing it in the future.	Yes	Improvement: 0 Resolution: 0
	I have a place to live today but am worried about losing it in the future.	I do not have a steady place to live.		
	I do not have a steady place to live.	I do not have a steady place to live.	No	Not applicable
	I have a steady place to live.	I have a place to live today but am worried about losing it in the future.		
	I have a steady place to live.	I do not have a steady place to live.		
<b>Utilities</b>	In the past 12 months, has the electric, gas, oil, or water company threatened to shut off services in your home?	Lately, have you worried about the electric, gas, oil, or water company threatening to shut off services in your home?		
Improved and resolved	Yes	No	Yes	Improvement: 1 Resolution: 1
	Already shut off	No		
Improved but not resolved	Already shut off	Yes		Improvement: 1 Resolution: 0
Maintained lack of need	No	No	No	Not applicable
Maintained need or declined	Yes	Yes	Yes	Improvement: 0 Resolution: 0
	Yes	Already shut off		
	Already shut off	Already shut off	No	Not applicable
	No	Yes		
	No	Already shut off		

(continued)

**Exhibit C-4. HRSN Items and Response Options Mapped to Outcome Measure Categories (continued)**

Outcome Measure Categories	Screening Item and Response Options	Survey Item and Response Options	Included in Resolution and Improvement Measure Denominators?	Value in Resolution and Improvement Measure Numerators
<b>Food</b>	Within the past 12 months, you worried that your food would run out before you got money to buy more.	Lately, how often do you worry that your food will run out before you get money to buy more?		
Improved and resolved	Often true	Never	Yes	Improvement: 1 Resolution: 1
	Sometimes true	Never		
Improved but not resolved	Often true	Sometimes		Improvement: 1 Resolution: 0
Maintained lack of need	Never true	Never	No	Not applicable
Maintained need or declined	Sometimes true	Sometimes	Yes	Improvement: 0 Resolution: 0
	Sometimes true	Often		
	Often true	Often		
	Never true	Sometimes	No	Not applicable
	Never true	Often		
<b>Transportation</b>	In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting to things needed for daily living?	Lately, has transportation been a problem for you?		
Improved and resolved	Yes	No transportation challenges identified	Yes	Improvement: 1 Resolution: 1
Maintained lack of need	No	No transportation challenges identified	No	Not applicable
Maintained need or declined	Yes	At least one transportation challenge	Yes	Improvement: 0 Resolution: 0
	No	At least one transportation challenge	No	Not applicable

Definitions: HRSN = health-related social need.



## Beneficiary-Reported Outcomes of Health Status, Stress, and Quality of Life

**Overall health excellent or improved.** We created a binary measure indicating whether survey respondents' overall health either was excellent (the highest level possible) or had improved since completing the AHC screening. To construct this measure, we used two questions in the survey sent to beneficiaries approximately 6 months after they completed the AHC screening: a question assessing their self-rated overall health status and a question asking whether their overall health improved, stayed the same, or got worse in the past 6 months. Survey respondents received a value of 1 on the binary outcome measure if they selected either of two combinations of responses:

1. The best option ("Excellent") for self-rated overall health, and "Stayed the same" to the question about changes in the past 6 months.
2. Any response to self-rated overall health, and "Improved" to the question about changes in the past 6 months.

**Mental health excellent or improved.** As with the "Overall health improved or excellent" measure, we used two survey items to calculate this binary measure. Survey respondents received a value of 1 if they either selected "Excellent" for self-rated mental health and "Stayed the same" to the question about changes in mental health over the past 6 months, or if they selected "Improved" to the question about changes in mental health over the past 6 months.

**Quality of life excellent or improved.** As with the "Overall health improved or excellent" measure, we used two survey items to calculate this binary measure. Survey respondents received a value of 1 if they either selected "Excellent" for self-rated quality of life and "Stayed the same" to the question about changes in quality of life over the past 6 months, or if they selected "Improved" to the question about changes in quality of life over the past 6 months.

**Stress level improved or not at all stressed.** As with the "Overall health improved or excellent" measure, we used two survey items to calculate this binary measure. Survey respondents received a value of 1 if they either selected "Not at all stressed" for self-rated stress and "Stayed the same" to the question about changes in stress over the past 6 months, or if they selected "Improved" to the question about changes in stress over the past 6 months.

**Never or rarely felt lonely or disconnected.** We constructed this binary measure using a single survey item: "How often do you feel lonely or disconnected from those around you?" Survey respondents received a value of 1 if they selected either "Never" or "Rarely."

**No indication of depression in PHQ-2.** The survey included a commonly used two-item screening for depression, the Patient Health Questionnaire-2 (PHQ-2) (Kroenke et al., 2003). Responses to these two items are used to calculate a score between 0 and 6, with higher scores indicating more likely depression. Beneficiaries who scored between 0 and 2 received a value of 1 for this outcome.

## Overall Analysis

In Chapter 2, we described the health status and other characteristics of beneficiaries in the Assistance Track and Alignment Track intervention groups and the bivariate relationship between self-reported changes in income and the PHQ-2 depression screening score (described above).

In Chapters 7 and 8, we calculated percentages of respondents for each outcome measure, stratified by track and group (Assistance intervention, Assistance control, Alignment). We weighted estimates to adjust for survey sampling (for the Alignment Track) and nonresponse (for both tracks) and clustered standard errors by bridge organization.

For the Assistance Track, we used logistic regression to compare the intervention and control groups. The regression model included the following variables to adjust for potential differences between intervention and control groups:

- **Demographic characteristics:** Respondent age in 10-year bands, gender, race/ethnicity, and insurance type (Medicare, Medicaid, or dual eligible)
- **HRSNs reported in the initial screening tool:** Binary measure for each of the five core HRSNs reported in beneficiary responses to the initial screening
- **Number of core HRSNs** reported in the initial screening
- **Proxy respondent:** Whether the beneficiary received assistance completing the survey
- Contextual measures based on beneficiary ZIP codes:
  - Core-Based Statistical Area type: Metropolitan/micropolitan/rural area<sup>6</sup>
  - Average rate of new COVID-19 cases/100,000 (100K) population in the 14 days before the day each survey wave was first mailed (county COVID-19 cases obtained from USA Facts<sup>7</sup>)
  - Median household income (obtained from the American Community Survey)
- Fixed effects for bridge organization and the month we mailed the survey

For the Alignment Track analysis, we additionally included the Area Deprivation Index (ADI)<sup>8</sup> to account for additional community-level contextual factors.<sup>9</sup>

## Alignment Track Analysis Using Propensity Score Weighting

In the [Second Evaluation Report](#), we estimated the impact of the AHC Model on HRSN resolution and use of community services for the Assistance Track, leveraging the randomized control group built into the Assistance Track. We only reported descriptive statistics for the Alignment Track, which did not include a control group. New in this report, we assessed the impact of the Alignment Track by comparing to the Assistance Track control group. This analysis required controlling for secular trends such as the COVID-19 public health emergency and differences in beneficiary and community characteristics across the tracks. To control for these factors, we used regression adjustment and propensity score weights (PSWs) to assess the association of the AHC Alignment Track intervention with patient-reported outcomes, relative to the Assistance Track control group.


## Estimating and Validating the Propensity Score Weights

The propensity score is the estimated probability that an individual received navigation. We estimated a propensity score for each beneficiary by running a logistic regression that incorporated survey weights and covariates. Propensity score weights are used to make the results more representative of the survey's target population: all Medicare and Medicaid beneficiaries ([DuGoff et al., 2014](#)). We used propensity score weighting to make the observed characteristics of beneficiaries in the Alignment Track and the Assistance Track control group more comparable. The weight equaled 1 for the Alignment Track, and the formula for the Assistance Track control

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<sup>6</sup> <https://www.census.gov/data/tables/time-series/demo/popest/2010s-total-metro-and-micro-statistical-areas.html>

<sup>7</sup> <https://usafacts.org/visualizations/coronavirus-covid-19-spread-map> 

<sup>8</sup> The Area Deprivation Index includes factors for the theoretical domains of income, education, employment, and housing quality. <https://www.neighborhoodatlas.medicine.wisc.edu/> 

<sup>9</sup> The Alignment and Assistance Tracks were in different geographic areas, so the ADI served as another way to account for community-level differences. The Assistance control and intervention groups were in the same geographic areas, so this additional variable was not necessary.

group was (propensity score)/(1 - propensity score). This weighting yields an “average treatment on the treated” (TOT) estimate. We then multiplied the new PSW by the survey weight to incorporate the survey design elements in our models ([DuGoff et al., 2014](#)).

We conducted two main robustness checks to confirm that the PSW calculations were suitable for our purposes:

- We compared the characteristics of beneficiaries in the Alignment Track and Assistance Track control group before and after PSW using standardized mean differences. Because each of the outcome measures had different denominators (and therefore overlapping but distinct respondent samples), we separately assessed covariate balance for the sample corresponding to each outcome variable (including resolution of HRSNs, use of community services, and beneficiary-reported health outcomes). We used 0.25 as our gauge of whether covariates were balanced (Garrido et al., 2014). **Exhibit C-5** contains covariate balance results corresponding to the resolution of all HRSNs, which included all eligible beneficiaries who responded to the survey. The covariates were balanced across the propensity-weighted Assistance Track control group and Alignment Track, except for measure values with small cell sizes (e.g., the missing categories for some variables). Overall, the PSW approach improved covariate balance between the two groups.
- We also checked the distribution of the propensity score estimates for each outcome variable with and without the newly created PSW by comparing kernel density plots for the survey-weighted Alignment group (no PSW), the survey-weighted Assistance Track, and the Assistance Track with the PSW multiplied by the survey weight. While these charts are not shown in this report, our results showed similar distributions for the Alignment Track and the Assistance Track control group with the PSW multiplied by the survey weight for each outcome variable.

Notably, the PSW model failed to adequately balance covariates across the two groups for one of the outcomes, use of community services for housing needs, which had a relatively small sample size (including only beneficiaries who reported a housing HRSN at the baseline). For this reason, we omitted this outcome from impact analyses.

**Exhibit C-5. Standardized Mean Differences Between the Alignment Track and Propensity-Weighted Assistance Track Control Group, All Covariates Used in Model Estimating Resolution of All HRSNs**

Category	Alignment Track		Propensity-Weighted Assistance Track Control		Percent Difference	Standardized Mean Difference
	n	%	n	%		
<b>Age</b>						
26 or younger	268	12.8	134	11.9	0.9	0.08
27 to 34	393	15.7	210	15.4	0.3	0.02
35 to 44	602	17.3	332	18.1	-0.8	-0.04
45 to 54	938	19.7	445	20.9	-1.2	-0.06
55 to 64	1,115	20.0	579	20.1	-0.1	-0.00
65 to 74	592	9.5	368	8.8	0.7	0.08
75 or older	306	5.0	275	4.8	0.1	0.03

(continued)

**Exhibit C-5. Standardized Mean Differences Between the Alignment Track and Propensity-Weighted Assistance Track Control Group, All Covariates Used in Model Estimating Resolution of All HRSNs (continued)**

Category	Alignment Track		Propensity-Weighted Assistance Track Control		Percent Difference	Standardized Mean Difference
	n	%	n	%		
<b>Gender</b>						
Female	2,740	62.9	1575	61.5	1.4	0.02
Male	1,281	31.3	734	33.0	-1.7	-0.06
Missing	193	5.8	34	5.5	0.3	0.06
<b>Race/ethnicity</b>						
Asian, Hawaiian, or Pacific Islander	72	1.6	18	1.8	-0.1	-0.13
Black or African American	1,092	25.5	453	25.4	0.0	0.00
Hispanic or Latino	585	16.3	270	17.9	-1.6	-0.10
White	1,654	34.2	1,304	33.1	1.1	0.03
Other or multiple	195	5.4	42	5.4	0.0	-0.01
Missing	616	17.1	256	16.4	0.7	0.04
<b>Benefit</b>						
Medicare	846	14.6	577	13.7	0.9	0.07
Medicaid	2,800	76.2	1,302	76.9	-0.7	-0.01
Dual eligible	568	9.2	464	9.5	-0.3	-0.03
<b>Number of core HRSNs at screening</b>						
1 core HRSN	1,144	33.4	939	33.0	0.4	0.01
2 core HRSNs	1,381	33.4	712	33.6	-0.2	-0.01
3+ core HRNs	1,689	33.2	692	33.4	-0.2	-0.01
<b>Housing need at screening</b>						
Steady place to live	2,815	66.8	1,793	66.6	0.1	0.00
Worried about losing housing	904	21.3	377	21.4	-0.2	-0.01
No steady housing	452	11.0	152	11.2	-0.3	-0.02
Missing	43	1.0	21	0.7	0.3	0.94
<b>Utility need at screening</b>						
No	2,369	62.7	1,469	63.6	-0.9	-0.02
Yes	1,670	33.3	795	32.3	1.0	0.03
Already shut off	109	2.1	41	2.4	-0.2	-0.15
Missing	66	1.9	38	1.7	0.2	0.15
<b>Food need at screening</b>						
Never true	1,232	28.8	799	27.7	1.1	0.04
Sometimes true	1,869	46.9	956	47.8	-0.9	-0.02
Often true	1,092	23.9	575	24.2	-0.3	-0.01
Missing	21	0.5	13	0.4	0.1	0.21
<b>Transportation need at screening</b>						
No	2,016	52.3	1,245	51.8	0.5	0.01
Yes	2,152	46.6	1,080	47.4	-0.8	-0.02
Missing	46	1.1	18	0.8	0.3	<b>2.54<sup>1</sup></b>
<b>Interpersonal violence at screening</b>						
No	3,624	90.7	2,255	91.5	-0.8	-0.01
Yes	590	9.3	88	8.5	0.8	0.09
<b>Metropolitan status</b>						
Metropolitan	3,817	91.3	1,906	92.1	-0.8	-0.01
Micro-politan	204	4.5	198	3.9	0.6	0.15
Rural	193	4.3	239	4.0	0.2	0.06

(continued)

**Exhibit C-5. Standardized Mean Differences Between the Alignment Track and Propensity-Weighted Assistance Track Control Group, All Covariates Used in Model Estimating Resolution of All HRSNs (continued)**

Category	Alignment Track		Propensity-Weighted Assistance Track Control		Percent Difference	Standardized Mean Difference
	n	%	n	%		
<b>ADI quintiles</b>						
Quintile 1	206	4.2	98	4.7	-0.6	-0.15
Quintile 2	712	16.8	443	18.6	-1.8	-0.11
Quintile 3	1,053	25.3	504	28.4	-3.1	-0.12
Quintile 4	1,236	30.0	710	27.7	2.3	0.08
Quintile 5	963	22.9	573	19.5	3.4	0.16
Missing	44	0.8	15	1.0	-0.2	<b>-0.75<sup>1</sup></b>
<b>Beneficiary proxy status</b>						
Responded to survey	3,713	88.6	2,016	88.9	-0.3	-0.00
Had help finishing survey	460	10.5	309	10.6	0.0	-0.01
Missing	41	0.9	18	0.5	0.4	1.00
<b>COVID-19 cases per 100,000 population</b>						
0 COVID-19 cases	976	22.2	503	22.6	-0.4	-0.02
0–9 COVID-19 cases	1,357	31.9	762	32.0	-0.2	-0.01
10–29 COVID-19 cases	1,032	26.6	661	25.2	1.4	0.06
30–49 COVID-19 cases	424	10.1	166	10.0	0.1	0.01
50+ COVID-19 cases	425	9.2	251	10.1	-1.0	-0.11
<b>Median household income</b>						
\$0–29,999	515	12.5	163	13.1	-0.6	-0.05
\$30,000–49,999	1,595	38.1	1,102	34.7	3.4	0.09
\$50,000–69,999	1,293	31.3	610	32.4	-1.1	-0.04
\$70,000–99,999	708	15.8	350	17.4	-1.6	-0.10
\$100,000+	103	2.3	118	2.3	0.0	-0.02

<sup>1</sup>Absolute value of the standardized mean difference > 0.25.

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Definitions: AHC = Accountable Health Communities; HRSNs = health-related social needs.

## Approach to Propensity Score–Weighted Analyses

We estimated logistic regression models with this combined PSW and survey weight on the nine primary outcome variables reported in the beneficiary survey analyses. By multiplying the survey weight and the PSW, the weights make both groups more similar, while ensuring the sample is representative of the overall population. This allows us to draw population-level inferences from the model and reduces bias in the effect estimates (see DuGoff et al., 2014).

Additionally, we conducted the following sensitivity analyses:

- Compared results across both unadjusted (no covariates) and adjusted models to see how this particular result changed throughout: sample with no weights, sample with survey weights, and sample with PSWs.
- Trimmed the PSW values to the 95<sup>th</sup> and 99<sup>th</sup> percentiles to account for outlier weights that may have outsized impacts on our estimates.
- Used PSW models with interaction effects between some of our key covariates (e.g., race/ethnicity, insurance type, age, sex) and the baseline HRSN variables.

While impact estimates across the different models changed slightly, estimates were broadly consistent across the alternative specifications.

## Assistance Track Treatment-on-the-Treated (TOT) Analysis

Intent to treat (ITT) study designs look at average outcomes for all beneficiaries included in the intervention group, regardless of whether they received the intervention, to understand the average effect of the intervention for all eligible beneficiaries. However, not all of the beneficiaries who were offered navigation under the AHC Model accepted it (see **Exhibit 7-1**). We do not expect beneficiaries who turned down navigation to benefit from the intervention. If the navigation had nonzero impacts, the ITT will underestimate the true impact of the navigation.

We therefore conducted a treatment-on-the-treated (TOT) analysis, assessing the effect of the AHC Model specifically for Assistance Track intervention group beneficiaries who accepted navigation. However, beneficiaries who accepted navigation may have been systematically different from those who did not, in both observable and non-observable ways, and outcomes may have differed for the two groups not just because of their engagement with the AHC Model, but also because of underlying differences that were associated with the likelihood of accepting navigation. To disentangle these dynamics, we used an instrumental variables (IV) approach, using the random assignment to the intervention group in the Assistance Track as our instrument (Lousdal, 2018; Angrist, 2006).

The IV approach estimates the effect of the AHC Model navigation (the treatment) among those beneficiaries who accepted navigation (the treated subpopulation in the intervention group). In many ways, random assignment presents an ideal instrumental variable, because it meets the following assumptions (Lousdal, 2018):

- **The relevance assumption:** The instrument (random assignment to the intervention group) has a causal effect on acceptance of navigation. This is true, because control group beneficiaries were not offered navigation and thus could not accept it.
- **The exclusion restriction:** The instrument (random assignment to the intervention group) affects outcomes only through navigation under the AHC Model. This is true, by definition.
- **The exchangeability (or independence) assumption:** The instrument (random assignment to the intervention group) does not share common causes with outcomes of interest. This is true, assuming that assignment to the intervention group was truly made at random, which is supported by observed covariate balance between the two groups.

We conducted the TOT analysis as follows. We used assignment to the Assistance Track intervention group as an instrument in estimating the first-stage outcome of navigation acceptance, adjusting for all other regression adjustment factors. We then estimated AHC Model impacts for all main beneficiary survey outcome measures in the second stage. Analyses were conducted in Stata using the `-ivregress 2sls-` command.

Notably, although all beneficiary survey outcome measures were binary, we used a linear probability model for both stages of the IV regression, because the `-ivregress 2sls-` accommodated the survey nonresponse and sampling weights, unlike other readily available commands for nonlinear models, and because the ITT estimates using linear probability models were broadly consistent with estimates from logistic models.

## Limitations

Analyses of the AHC beneficiary survey responses have limitations:

- Roughly one-quarter of the sampled beneficiaries completed the survey. Response rates and beneficiary characteristics were broadly similar in the Assistance Track intervention and control groups, and weights and risk adjustment helped account for nonresponse bias. However, respondents in both groups were

older than nonrespondents and were more likely to be Medicare beneficiaries than Medicaid beneficiaries or dually eligible. While we adjusted for age and payer type in analyses, to the extent that nonrespondents differed from respondents on other unobservable factors, findings may not generalize to all AHC beneficiaries.

- To minimize respondent burden and maximize response rates, we limited the survey to 24 items. Because of this, we were limited in the number of measures included for assessing HRSN resolution, and were not able to include in the survey comparable questions for all of the items included in the screening tool. For example, the survey included a question mirroring the screening tool item, “Within the past 12 months, you worried that your food would run out before you got money to buy more,” but did not include a similar question for the item, “Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.” To the extent that beneficiary responses differed across items that were and were not incorporated into the survey, analyses may reflect a limited perspective on HRSN resolution.
- While the AHC Model started on May 1, 2017, and ended on April 30, 2022, survey data collection included only beneficiaries screened from April 2019 through March 2021, with surveys administered from January 2020 through January 2022. To the extent that beneficiaries screened and surveyed during this period differed from beneficiaries screened earlier or later during the model, our results may not generalize to the entire period covered by the model.
- As participation in the AHC Model was voluntary, these results might not be generalizable to all Medicare or Medicaid beneficiaries and their communities.
- The PSW analysis provides the opportunity to compare dissimilar groups (the Alignment Track intervention group and the Assistance Track control group), but propensity score-based methods can only improve balance for observed characteristics. To the extent that unobserved measures differed between the Alignment Track intervention group and the Assistance Track control group and were also associated with an outcome interest, our estimates could be confounded.

## Findings

### Balance Between the Assistance Track Intervention and Control Groups

To assess balance between the Assistance Track intervention and control groups, we calculated standardized mean differences between the groups for available beneficiary- and population-level measures (**Exhibit C-6**). We used a standardized mean difference of 0.25 to assess balance between the matched intervention and control groups (Garrido et al., 2014). Standardized differences for nearly all covariates were < 0.25 and typically under 0.10, except for a few categories with very small sample sizes (e.g., race/ethnicity group = Asian, Hawaiian, or Pacific Islander). The Assistance Track intervention and control respondent groups were well balanced across a broad set of beneficiary- and population-level characteristics.

**Exhibit C-6. Characteristics of Survey Respondents by Track and Randomization Group**

Category	Assistance Intervention		Assistance Control		Difference	Standardized Mean Difference	Alignment Track	
	n	%	n	%			n	%
<b>Age</b>								
26 or younger	406	12.6	155	12.2	0.4	0.03	294	12.5
27 to 34	573	15.1	238	16.0	-0.9	-0.06	451	16.4
35 to 44	892	17.3	358	17.1	0.2	0.01	650	17.0
45 to 54	1,186	16.2	503	16.6	-0.4	-0.02	1,002	18.9
55 to 64	1,662	17.7	671	17.8	-0.1	-0.01	1,231	19.8
65 to 74	1,210	12.2	480	11.6	0.7	0.06	682	9.9
75 or older	888	8.9	376	8.7	0.1	0.02	367	5.5
<b>Gender</b>								
Female	4,455	63.7	1,870	67.0	-3.3	-0.05	3,059	63.3
Male	2,270	34.6	872	31.5	3.1	0.09	1,405	31.0
Missing	92	1.6	39	1.5	0.2	0.17	213	5.7
<b>Race/ethnicity</b>								
Asian, Hawaiian, or Pacific Islander	35	0.6	22	0.8	-0.2	<b>-0.47<sup>1</sup></b>	80	1.6
Black or African American	1,383	21.5	526	20.4	1.1	0.05	1,197	25.2
Hispanic or Latino	694	12.0	288	12.0	0.0	-0.00	651	16.4
White	3,935	52.3	1,609	51.6	0.7	0.01	1,864	34.7
Other or multiple	134	2.7	52	2.6	0.1	0.05	215	5.3
Missing	636	10.9	284	12.6	-1.6	-0.15	670	16.7
<b>Benefit</b>								
Medicare	1,810	19.6	756	19.2	0.4	0.02	956	14.7
Medicaid	3,592	64.8	1,480	66.0	-1.2	-0.02	3,088	75.9
Dual eligible	1,412	15.6	543	14.7	0.9	0.06	633	9.4
Missing	3	0.0	2	0.0	0.0	-0.06	2	0.1
<b>Education</b>								
Less than high school	11,87	17.7	457	15.7	2.0	0.12	773	17.3
High school or equivalent	2,142	33.7	871	34.0	-0.3	-0.01	1,152	26.3
Some college	1,228	17.9	503	17.9	0.1	0.00	885	17.7
College graduate	431	5.2	183	5.2	0.0	0.01	301	4.8
Missing	1,829	25.4	767	27.2	-1.8	-0.07	1,566	33.8

(continued)



**Exhibit C-6. Characteristics of Survey Respondents by Track and Randomization Group (continued)**

Category	Assistance Intervention		Assistance Control		Difference	Standardized Mean Difference	Alignment Track	
	n	%	n	%			n	%
<b>Self-reported household income</b>								
Less than \$15,000	2,054	31.4	863	31.7	-0.3	-0.01	2,122	44.6
\$15,000 to \$24,999	716	10.0	283	9.8	0.1	0.02	408	8.7
\$25,000 to \$49,999	438	6.6	167	6.1	0.4	0.08	253	5.3
\$50,000 or more	174	2.3	54	1.5	0.7	<b>0.49<sup>1</sup></b>	84	1.8
Missing	3,435	49.8	1,414	50.8	-1.0	-0.02	1,810	39.6
<b>Number of core HRSNs at screening</b>								
1 core HRSN	3,419	46.3	1,289	42.2	4.2	0.09	1,463	38.0
2 core HRSNs	1,912	28.6	766	29.2	-0.7	-0.02	1,470	31.3
3+ core HRSNs	1,486	25.1	726	28.6	-3.5	-0.14	1,744	30.6
<b>Screening item: What is your living situation today?</b>								
Steady place to live	5,378	75.4	2,200	76.1	-0.7	-0.01	3,205	68.7
Worried about losing housing	990	16.7	392	15.6	1.1	0.07	936	19.8
No steady housing	396	7.2	158	7.3	-0.1	-0.02	474	10.3
Missing	53	0.7	31	1.0	-0.3	<b>-0.69<sup>1</sup></b>	62	1.2
<b>Screening item: In the past 12 months, have utilities companies threatened to shut off services?</b>								
No	4,673	65.6	1,867	64.0	1.6	0.03	2,754	65.4
Yes	1,967	31.6	822	32.4	-0.7	-0.02	1,723	30.6
Already shut off	82	1.2	43	1.8	-0.6	<b>-0.69<sup>1</sup></b>	111	1.9
Missing	95	1.5	49	1.8	-0.3	<b>-0.35<sup>1</sup></b>	89	2.2
<b>Screening item: Within the past 12 months, you worried that your food would run out before you got money to buy more.</b>								
Never true	2,945	42.1	1,189	41.5	0.7	0.02	1,582	34.2
Sometimes true	2,462	36.4	984	35.5	1.0	0.03	1,928	42.8
Often true	1361	20.8	586	22.3	-1.5	-0.07	1,121	22.0
Missing	49	0.7	22	0.8	-0.1	<b>-0.26<sup>1</sup></b>	46	1.0
<b>Screening item: In the past 12 months, has lack of reliable transportation been a barrier?</b>								
No	3,929	55.8	1,639	58.2	-2.4	-0.04	2,378	55.5
Yes	2,818	43.1	1,114	40.8	2.3	0.06	2,226	43.0
Missing	70	1.1	28	1.0	0.1	0.23	73	1.5
<b>Screening item: Any indication of safety HRSN</b>								
No safety HRSN	6,544	95.2	2,658	94.4	0.8	0.01	4,001	90.7
Indication of safety HRSN	264	4.6	118	5.4	-0.7	-0.17	661	9.0
Missing	9	0.1	5	0.2	-0.1	-0.23	15	0.3

(continued)

**Exhibit C-6. Characteristics of Survey Respondents by Track and Randomization Group (continued)**

Category	Assistance Intervention		Assistance Control		Difference	Standardized Mean Difference	Alignment Track	
	n	%	n	%			n	%
<b>Proxy respondent</b>								
Responded by self	4,549	85.7	1,837	86.0	-0.2	-0.00	3,167	87.7
Had help responding	680	12.6	293	12.8	-0.2	-0.02	391	10.8
Missing	93	1.7	30	1.2	0.4	<b>0.46<sup>1</sup></b>	55	1.5
<b>Timing of survey response</b>								
Prior to the COVID-19 pandemic (Jan. 2020 to Mar. 2020)	1,249	24.3	462	22.3	2.0	0.08	920	25.0
Early in the COVID-19 pandemic (Apr. 2020 to Jul. 2021)	5,568	81.5	2,319	83.1	-1.6	-0.02	3,757	81.8
<b>Metropolitan, micropolitan, or rural area</b>								
Metropolitan	5,461	82.0	2,217	81.9	0.1	0.00	4,215	90.8
Micropolitan	639	8.6	254	8.2	0.4	0.05	241	4.8
Rural	716	9.4	310	9.8	-0.5	-0.05	221	4.4
<b>ADI quintiles</b>								
Quintile 1	239	3.1	108	3.3	-0.2	-0.08	221	4.1
Quintile 2	1,296	18.7	501	17.5	1.3	0.07	781	16.4
Quintile 3	1,459	22.4	589	21.9	0.4	0.02	1,174	25.4
Quintile 4	2,254	32.8	873	32.3	0.5	0.01	1,375	29.9
Quintile 5	1,527	22.4	692	24.5	-2.1	-0.09	1,077	23.4
Missing	42	0.6	18	0.5	0.1	0.20	49	0.8
<b>COVID-19 cases/100K population in the last 14 days by county from the day when each survey wave was administered</b>								
No COVID-19 cases	1511	22.3	602	21.9	0.4	0.02	1099	22.5
>0 to 9 cases/100K	2,083	30.2	901	31.2	-1.0	-0.03	1,490	31.8
10 to 29 cases/100K	1,919	30.2	769	29.4	0.8	0.03	1,137	26.2
30 to 49 cases/100K	487	6.8	192	6.3	0.5	0.07	478	10.3
50+ cases/100K	816	10.5	317	11.2	-0.7	-0.07	473	9.2
<b>ZIP code-level median household income</b>								
Less than \$30,000	539	7.8	203	7.0	0.8	0.11	584	12.9
\$30,000 to \$49,999	3,259	48.4	1,340	49.2	-0.9	-0.02	1,767	38.1
\$50,000 to \$69,999	1,608	23.7	699	25.5	-1.8	-0.08	1,441	31.2
\$70,000 to \$99,999	1,128	16.3	407	14.1	2.2	0.14	772	15.6
\$100,000 or more	283	3.91	132	4.2	-0.2	-0.07	113	2.2

<sup>1</sup>Absolute value of the standardized mean difference > 0.25.

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates were weighted to adjust for survey sampling and nonresponse. Definitions: AHC = Accountable Health Communities; HRSN = health-related social needs.

## Nonresponse Analysis

**Exhibit C-7** shows differences in average beneficiary and population characteristics between survey respondents and nonrespondents, for the Assistance Track intervention and control groups. We also calculated the difference-in-differences (DID) between respondents and nonrespondents in the Assistance Track intervention and control groups to assess whether patterns of nonresponse were similar for the two groups.

In both the Assistance Track intervention and control groups, respondents were older than nonrespondents and were more likely to be Medicare beneficiaries than Medicaid beneficiaries or dually eligible. Patterns of standardized mean differences between respondents and nonrespondents were similar for the Assistance Track intervention and control groups, and the DID values were not statistically significant at the 0.05 level.

**Exhibit C-7. Assistance Track Intervention and Control Group Nonresponse Analysis**

Characteristics	Assistance Intervention				Assistance Control				DID	P-Value
	n	Respondents, %	Non-respondents, %	Standardized Difference	n	Respondents, %	Non-respondents, %	Standardized Difference		
<b>Age</b>										0.92
26 or younger	3,472	6.0	15.6	-0.315 <sup>1</sup>	1,491	5.6	16.0	<b>-0.34<sup>1</sup></b>	0.8	
27 to 34	3,988	8.4	17.4	-0.270 <sup>1</sup>	1,684	8.6	17.3	<b>-0.26<sup>1</sup></b>	-0.2	
35 to 44	4,508	13.1	18.4	-0.146	1,863	12.9	18.0	-0.14	-0.1	
45 to 54	4,399	17.4	16.3	0.028	1,896	18.1	16.7	0.04	-0.3	
55 to 64	4,605	24.4	15.0	0.238	1,953	24.1	15.4	0.22	0.6	
65 to 74	3,240	17.7	10.3	0.215	1,283	17.3	9.6	0.23	-0.2	
75 or older	2,258	13.0	7.0	0.203	953	13.5	6.9	0.22	-0.5	
<b>Gender</b>										0.66
Female	17,111	65.4	64.4	0.020	7,320	67.2	65.3	0.04	-1.0	
Male	8,946	33.3	34.0	-0.014	3,632	31.4	33.1	-0.04	1.1	
Missing	413	1.3	1.6	-0.023	171	1.4	1.6	-0.02	-0.1	
<b>Race/ethnicity</b>										0.97
Asian, Hawaiian, or Pacific Islander	149	0.5	0.6	-0.009	81	0.8	0.7	0.01	-0.2	
Black or African American	6,140	20.3	24.2	-0.094	2,447	18.9	23.0	-0.10	0.2	
Hispanic or Latino	3,046	10.2	12.0	-0.057	1,273	10.4	11.8	-0.05	-0.3	
White	13,610	57.7	49.2	0.171	5,773	57.9	49.9	0.16	0.6	
Other or multiple	755	2.0	3.2	-0.076	315	1.9	3.2	-0.08	0.1	
Missing	2,770	9.3	10.9	-0.051	1,234	10.2	11.4	-0.04	-0.4	
<b>Benefit</b>										0.52
Medicare	5,044	26.6	16.5	0.248	2,055	27.2	15.6	<b>0.29<sup>1</sup></b>	-1.5	
Medicaid	17,448	52.7	70.5	-0.373 <sup>1</sup>	7,456	53.2	71.6	<b>-0.39<sup>1</sup></b>	0.6	
Dual eligible	3,971	20.7	13.0	0.207	1,607	19.5	12.8	0.19	0.9	
Missing	7	0.0	0.0	0.013	5	0.1	0.0	0.02	0.0	
<b>Education</b>										0.76
Less than high school	4,769	17.4	18.2	-0.021	1,990	16.4	18.4	-0.05	1.1	
High school or equivalent	9,017	31.4	35.0	-0.076	3,798	31.3	35.1	-0.08	0.2	
Some college	4,868	18.0	18.5	-0.013	2,036	18.1	18.4	-0.01	-0.2	
College graduate	1,327	6.3	4.6	0.078	551	6.6	4.4	0.10	-0.4	
Missing	6,489	26.8	23.7	0.072	2,748	27.6	23.7	0.09	-0.7	

(continued)

**Exhibit C-7. Assistance Track Intervention and Control Group Nonresponse Analysis (continued)**

Characteristics	Assistance Intervention				Assistance Control				DID	P-Value
	n	Respondents, %	Non-respondents, %	Standardized Difference	n	Respondents, %	Non-respondents, %	Standardized Difference		
<b>Self-reported household income</b>										0.28
Less than \$15,000	8,350	30.1	32.0	-0.041	3,616	31.0	33.0	-0.04	0.1	
\$15,000 to \$24,999	2,782	10.5	10.5	0.000	1,178	10.2	10.7	-0.02	0.5	
\$25,000 to \$49,999	1,669	6.4	6.3	0.007	680	6.0	6.1	-0.01	0.3	
\$50,000 or more	508	2.6	1.7	0.059	204	1.9	1.8	0.01	0.7	
Missing	13,161	50.4	49.5	0.018	5,445	50.8	48.3	0.05	-1.6	
<b>Number of core HRSNs at screening</b>										0.19
1 core HRSN	12,291	50.2	45.1	0.100	4,739	46.4	41.4	0.10	0.0	
2 core HRSNs	7,580	28.0	28.8	-0.018	3,274	27.5	30.1	-0.06	1.7	
3+ core HRSNs	6,599	21.8	26.0	-0.099	3,110	26.1	28.6	-0.06	-1.7	
<b>Screening item: What is your living situation today?</b>										0.51
Steady place to live	19,476	79.4	72.3	0.166	8,141	78.8	72.1	0.16	0.4	
Worried about losing housing	4,265	14.7	16.8	-0.058	1,782	15.2	16.4	-0.03	-0.9	
No steady housing	2,534	6.0	10.9	-0.180	1,117	6.0	11.5	-0.20	0.5	
<b>Screening item: In the past 12 months, have utilities companies threatened to shut off services?</b>										0.23
No	16,899	69.4	63.5	0.126	6,939	66.9	62.3	0.10	1.4	
Yes	8,694	29.4	34.9	-0.118	3,818	31.5	36.1	-0.10	-0.9	
Already shut off	407	1.2	1.7	-0.036	175	1.6	1.6	0.00	-0.5	
<b>Screening item: Within the past 12 months, you worried that your food would run out before you got money to buy more</b>										0.81
Never true	11,213	43.7	42.3	0.028	4,474	40.9	40.3	0.01	0.8	
Sometimes true	9,480	36.2	36.0	0.005	3,991	36.5	35.9	0.01	-0.3	
Often true	5,600	20.1	21.7	-0.040	2,606	22.7	23.8	-0.03	-0.5	
<b>Screening item: In the past 12 months, has lack of reliable transportation been a barrier?</b>										0.16
No	15,136	58.1	57.5	0.012	6,117	57.2	54.8	0.05	-1.8	
Yes	11,101	41.9	42.5	-0.012	4,921	42.8	45.2	-0.05	1.8	

(continued)

**Exhibit C-7. Assistance Track Intervention and Control Group Nonresponse Analysis (continued)**

Characteristics	Assistance Intervention				Assistance Control				DID	P-Value
	n	Respondents, %	Non-respondents, %	Standardized Difference	n	Respondents, %	Non-respondents, %	Standardized Difference		
<b>Screening item: Any indication of safety HRSN</b>										
No safety HRSN	25,196	96.1	94.9	0.058	10,538	95.3	94.6	0.03	0.5	0.39
Indication of safety HRSN	1,274	3.9	5.1	-0.058	585	4.7	5.4	-0.03	-0.5	
<b>Metropolitan, micropolitan, or rural area</b>										
Metropolitan	21,875	80.1	83.5	-0.088	9,042	79.7	81.8	-0.05	-1.3	0.15
Micropolitan	2,148	9.4	7.7	0.061	995	9.1	8.9	0.01	1.4	
Rural	2,445	10.5	8.8	0.058	1,085	11.1	9.3	0.06	-0.1	
<b>ADI quintiles</b>										
Quintile 1	831	3.5	3.0	0.028	367	3.9	3.1	0.04	-0.3	0.35
Quintile 2	4,536	19.0	16.5	0.066	1,866	18.0	16.4	0.04	0.9	
Quintile 3	5,661	21.4	21.4	0.001	2,399	21.2	21.7	-0.01	0.5	
Quintile 4	9,133	33.1	35.0	-0.041	3,759	31.4	34.6	-0.07	1.3	
Quintile 5	6,181	22.4	23.7	-0.030	2,672	24.9	23.7	0.03	-2.4	
Missing	128	0.6	0.4	0.025	60	0.6	0.5	0.02	0.0	
<b>COVID-19 cases/100K population in the last 14 days by county when each survey wave was administered</b>										
No COVID-19 cases	5,586	22.2	20.7	0.035	2,212	21.6	19.3	0.06	-0.9	0.77
>0 to 9 cases/100K	7,804	30.6	29.1	0.032	3,421	32.4	30.2	0.05	-0.7	
10 to 29 cases/100K	8,177	28.2	31.8	-0.081	3,444	27.7	32.1	-0.10	0.7	
30 to 49 cases/100K	1,796	7.1	6.7	0.019	763	6.9	6.8	0.00	0.4	
50+ cases/100K	3,105	12.0	11.6	0.010	1,282	11.4	11.6	-0.01	0.5	
<b>ZIP code-level median household income</b>										
Less than \$30,000	2,306	7.9	9.0	-0.039	945	7.3	8.9	-0.06	0.5	0.09
\$30,000 to \$49,999	12,907	47.8	49.1	-0.026	5,465	48.2	49.4	-0.03	0.0	
\$50,000 to \$69,999	6,480	23.6	24.8	-0.028	2,769	25.1	24.8	0.01	-1.5	
\$70,000 to \$99,999	3,755	16.5	13.4	0.089	1,521	14.6	13.4	0.04	1.9	
\$100,000 or more	1,022	4.2	3.8	0.020	423	4.7	3.5	0.06	-0.9	

<sup>1</sup>Absolute value of the standardized mean difference > 0.25.

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022). Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening.

Definitions: ADI = Area Deprivation Index; AHC = Accountable Health Communities; HRSN = health-related social need.

## Improvement and Resolution in HRSNs

### ***Survey respondents in the Alignment Track, Assistance Track intervention group, and Assistance Track control group reported similar improvement in HRSNs 6 months after screening***

In addition to measures of HRSN resolution reported in Chapter 7, we assessed measures of HRSN improvement as a sensitivity analysis. Respondents in the Assistance Track and Alignment Track with each HRSN at the time of screening reported similar rates of improvement in their HRSNs, and we found no statistically significant differences in improvement in HRSNs between the Assistance Track intervention and control groups (**Exhibit C-8**). For example, among respondents who at the time of screening did not have a steady place to live or were worried about their living situation, more than one-half reported improvement in their housing at the time of the follow-up survey. Similarly, among respondents who at the time of screening were often or sometimes worried that food would run out before they got money to buy more, roughly one-third reported improvement in their food need at the time of the follow-up survey. **Exhibit C-9** and **Exhibit C-10** show findings for the HRSN resolution measures for the Alignment Track (ITT) and Assistance Track (TOT) analyses, respectively.

### **Exhibit C-8. Assistance Track (ITT): Resolution of or Improvement in HRSNs Among Survey Respondents Who Had Each HRSN at Screening**

Resolution of or Improvement In HRSNs	Assistance Track Intervention		Assistance Track Control		Percentage Point Difference
	n	%	n	%	
<b>Resolution of HRSNs</b>					
All HRSNs combined	5,747	30.1	2,343	31.2	-1.1
Now has a steady place to live	1,299	46.5	515	46.6	-0.1
No longer worried about utilities	1,952	48.2	830	46.3	1.9
No longer worried that food will run out	3,671	25.1	1,522	25.6	-0.5
No longer reporting transportation challenges	2,651	44.6	1,067	42.7	1.8
<b>Improvement in HRSNs</b>					
Improvement in housing need	1,299	55.5	515	57.1	-1.6
Improvement in utilities need	1,952	49.3	830	47.9	1.5
Improvement in food need	3,671	39.0	1,522	38.5	0.5
Improvement in transportation need	2,651	44.6	1,067	42.7	1.8

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates for the Assistance Track were weighted to adjust for survey nonresponse and regression-adjusted to control for any potential differences between the intervention and control groups remaining after randomization. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; ITT = intent to treat.

**Exhibit C-9. Alignment Track (ITT): Resolution of HRSNs Among Survey Respondents Who Had Each HRSN at Screening**

Resolution of HRSNs	Alignment Track		Propensity-Weighted Assistance Track Control Group		Percentage Point Difference
	n	%	n	%	
All HRSNs combined	4,214	25.9	2,343	27.3	-1.4
Now has a steady place to live	1,332	44.6	515	42.4	2.2
No longer worried about utilities	1,755	45.0	830	46.5	-1.4
No longer worried that food will run out	2,929	23.0	1,522	23.9	-0.9
No longer reporting transportation challenges	2,111	42.7	1,067	38.5	4.2

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates for the Alignment Track were weighted for survey sampling and nonresponse. Propensity score weights were used to make the observed characteristics of beneficiaries in the Alignment Track and the Assistance Track control group more comparable. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; ITT = intent to treat.

**Exhibit C-10. Assistance Track (TOT): Resolution of HRSNs Among Survey Respondents Who Had Each HRSN at Screening**

Resolution of HRSNs	Assistance Track Intervention (Accepted Navigation Only)		Assistance Track Control		Percentage Point Difference
	n	%	n	%	
All HRSNs combined	3,656	29.5	2,341	31.2	-1.7
Now has a steady place to live	817	46.6	515	46.5	0.1
No longer worried about utilities	1,290	49.2	830	46.3	2.9
No longer worried that food will run out	2,357	24.9	1,521	25.6	-0.7
No longer reporting transportation challenges	1,664	45.6	1,066	42.8	2.8

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. The Assistance Track TOT estimates the effect of the AHC Model navigation among those beneficiaries who accepted navigation, using assignment to the Assistance Track intervention group as an instrument to account for unobserved differences between beneficiaries who did and did not accept navigation. Analyses were weighted to adjust for survey nonresponse. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; TOT = treatment on the treated.



## Use and Effectiveness of Community Services

Exhibits C-11 through C-13 show beneficiary responses about use of community services by type of need. We found no statistically significant differences between the Assistance Track intervention and control groups for any measures in the three analyses.

### Exhibit C-11. Assistance Track (ITT): Survey Respondent Use of Community Services and Perceptions About Effectiveness of Community Services in Meeting Needs

Use of Community Services	Assistance Track Intervention		Assistance Track Control		Percentage Point Difference
	n	%	n	%	
For any need	6,402	50.9	2,644	51.5	-0.6
For housing needs	1,290	21.0	541	23.4	-2.4
For utilities needs	1,931	30.4	862	29.4	1.0
For food needs	3,566	39.8	1,562	43.3	-3.5
For transportation needs	2,634	23.8	1,123	21.8	1.9

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates for the Assistance Track were weighted to adjust for survey nonresponse and regression-adjusted to control for any potential differences between the intervention and control groups remaining after randomization. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; ITT = intent to treat.

### Exhibit C-12. Alignment Track (ITT): Survey Respondent Use of Community Services and Perceptions About Effectiveness of Community Services in Meeting Needs

Use of Community Services	Alignment Track		Propensity-Weighted Assistance Track Control		Percentage Point Difference
	n	%	n	%	
For any need	4,379	54.7	2,644	54.5	0.1
For housing needs*	--	--	--	--	--
For utilities needs	1,721	29.2	821	27.3	1.9
For food needs	2,858	40.1	1,499	43.3	-3.2
For transportation needs	2,075	25.9	1,059	24.5	1.4

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

\*The use of community services for housing was omitted from this analysis because of a lack of balance in the case-mix covariates between the Alignment Track respondents and the propensity-weighted Assistance Track control group respondents included in this measure.

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates for the Alignment Track were weighted for survey sampling and nonresponse. Propensity score weights were used to make the observed characteristics of beneficiaries in the Alignment Track and the Assistance Track control group more comparable. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; ITT = intent to treat.

### Exhibit C-13. Assistance Track (TOT): Survey Respondent Use of Community Services and Perceptions About Effectiveness of Community Services in Meeting Needs

Use of Community Services	Assistance Track Intervention (Accepted Navigation Only)		Assistance Track Control		Percentage Point Difference
	n	%	n	%	
For any need	4,039	50.5	2,642	51.5	-1.0
For housing needs	804	19.6	541	23.3	-3.7
For utilities needs	1,274	30.8	862	29.4	1.4
For food needs	2,292	37.7	1,561	43.4	-5.7
For transportation needs	1,656	24.9	1,122	21.8	3.1

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. The Assistance Track TOT estimates the effect of the AHC Model navigation among those beneficiaries who accepted navigation, using assignment to the Assistance Track intervention group as an instrument to account for unobserved differences between beneficiaries who did and did not accept navigation. Analyses were weighted to adjust for survey nonresponse. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; TOT = treatment on the treated.

### Beneficiary-Reported Outcomes of Health Status, Stress, and Quality of Life

Exhibits C-14 through C-16 show beneficiary outcomes related to health status, stress, and quality of life.

Survey respondents in the Assistance Track intervention group and Assistance Track control group reported similar health, quality of life, and stress outcomes, and we found no statistically significant differences in these measures between the Assistance Track intervention and control groups, for either the ITT or the TOT analyses.

In the propensity-weighted analyses (Exhibit C-15), beneficiaries in the Alignment Track were more likely to report excellent or improved health statuses, relative to comparable beneficiaries in the Assistance Track control group. Specifically, 19.0% of beneficiaries in the Alignment Track reported that their overall health status was either excellent at the time of responding to the survey or had improved over the prior 6 months, relative to 16.3% in the propensity-weighted Assistance Track control group, a difference of 2.7 percentage points ( $p < 0.10$ ). Additionally, 20.9% of beneficiaries in the Alignment Track reported that their mental health status was either excellent at the time of responding to the survey or had improved over the prior 6 months, relative to 18.5% in the propensity-weighted Assistance Track control group, a difference of 2.3 percentage points ( $p < 0.05$ ). We found no statistically significant differences between the Alignment Track and the propensity-weighted Assistance Track control group for other outcomes of self-reported health and quality of life.

**Exhibit C-14. Assistance Track (ITT): Survey Respondent Self-Reported Health, Stress, and Quality of Life**

Health, Stress, and Quality of Life	Assistance Track Intervention		Assistance Track Control		Percentage Point Difference
	n	%	n	%	
Overall health improved or excellent	6,618	15.9	2,698	16.4	-0.5
Mental health improved or excellent	6,583	17.9	2,690	17.4	0.4
Quality of life improved or excellent	6,561	18.7	2,679	17.7	0.9
Stress level improved or not at all stressed	6,535	16.6	2,674	15.8	0.8
Never or rarely felt lonely or disconnected	6,561	34.6	2,684	34.8	-0.2
No indication of depression in PH2-Q	6,390	55.2	2,630	54.5	0.7

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates for the Assistance Track were weighted to adjust for survey nonresponse and regression-adjusted to control for any potential differences between the intervention and control groups remaining after randomization. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; ITT = intent to treat.

**Exhibit C-15. Alignment Track (ITT): Survey Respondent Self-Reported Health, Stress, and Quality of Life**

Health, Stress, and Quality of Life	Alignment Track		Propensity-Weighted Assistance Track Control		Percentage Point Difference
	n	%	n	%	
Overall health improved or excellent	4,570	19.0	2,698	16.3	2.7
Mental health improved or excellent	4,536	20.9	2,690	18.5	2.3
Quality of life improved or excellent	4,517	19.7	2,679	18.3	1.4
Stress level improved or not at all stressed	4,511	17.0	2,674	15.5	1.5
Never or rarely felt lonely or disconnected	4,526	34.4	2,684	34.3	0.2
No indication of depression in PHQ-2	4,419	54.4	2,630	53.9	0.4

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. Estimates for the Alignment Track were weighted for survey sampling and nonresponse. Propensity score weights were used to make the observed characteristics of beneficiaries in the Alignment Track and the Assistance Track control group more comparable. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; ITT = intent to treat; PHQ-2 = Patient Health Questionnaire-2.

**Exhibit C-16. Assistance Track (TOT): Survey Respondent Self-Reported Health, Stress, and Quality of Life**


Health, Stress, and Quality of Life	Assistance Track Intervention (Accepted Navigation Only)		Assistance Track Control		Percentage Point Difference
	n	%	n	%	
Overall health improved or excellent	4,163	15.7	2,695	16.4	-0.7
Mental health improved or excellent	4,149	18.1	2,687	17.4	0.7
Quality of life improved or excellent	4,129	19.3	2,676	17.7	1.6
Stress level improved or not at all stressed	4,110	17.2	2,671	15.8	1.4
Never or rarely felt lonely or disconnected	4,133	34.5	2,681	34.8	-0.2
No indication of depression in PHQ-2	4,031	55.6	2,627	54.5	1.1

Source: AHC Evaluation Beneficiary Survey (January 2020–January 2022).

Other notes: Includes beneficiaries screened from April 2019–March 2021, surveyed roughly 6 months after their initial screening. The Assistance Track TOT estimates the effect of the AHC Model navigation among those beneficiaries who accepted navigation, using assignment to the Assistance Track intervention group as an instrument to account for unobserved differences between beneficiaries who did and did not accept navigation. Analyses were weighted to adjust for survey nonresponse. The analyses for each HRSN included only beneficiaries reporting each need in the initial screening (i.e., housing, utilities, food, or transportation).

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need; PHQ-2 = Patient Health Questionnaire-2; TOT = treatment on the treated.

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## Attachment C-1 Beneficiary Survey Instrument



# Survey about Community Services and Your Health



Please mark here if the person this was mailed to cannot complete it and there is no one to help him or her. Please mail back the blank survey using the enclosed postage-paid envelope.

**Instructions:**

- Please read each question carefully and mark the box next to the answer that most closely matches your opinion.
- Please mark only one box for each question.

**RIGHT**

**WRONG**

- You can use a pen, but it is better to use a PENCIL, in case you want to change your answer. Please do not use felt tip pens.
- Please erase cleanly if you make a change.



Have questions? Call toll-free 1-888-238-0963.

**All your answers will be kept private. Whether you decide to answer or not, your benefits will not be affected, now or in the future.**

ABT ASSOCIATES  
COMMUNITY SERVICES & HEALTH SURVEY  
PO BOX 5720  
HOPKINS, MN 55343-9951

Barcode

DRC ID

Abt ID

## About you and your health

### We would like to know about your health and quality of life.

1. In general, how would you rate your overall health?
  - Excellent
  - Very good
  - Good
  - Fair
  - Poor
2. Over the past six months, did your overall health improve, stay the same, or get worse?
  - Improved
  - Stayed the same
  - Got worse
3. In general, how would you rate your overall mental or emotional health?
  - Excellent
  - Very good
  - Good
  - Fair
  - Poor
4. Over the past six months, did your overall mental or emotional health improve, stay the same, or get worse?
  - Improved
  - Stayed the same
  - Got worse
5. In general, how would you rate your quality of life?
  - Excellent
  - Very good
  - Good
  - Fair
  - Poor
6. Over the past six months, did your quality of life improve, stay the same, or get worse?
  - Improved
  - Stayed the same
  - Got worse
7. Stress is when someone feels tense, nervous, anxious, or can't sleep at night because their mind is troubled. How stressed are you?
  - Not at all
  - A little bit
  - Somewhat
  - Quite a bit
  - Very much
8. Over the past six months, did your level of stress improve, stay the same, or get worse?
  - Improved
  - Stayed the same
  - Got worse
9. How often do you feel lonely or disconnected from those around you?
  - Never
  - Rarely
  - Sometimes
  - Often



10. Over the past 2 weeks, how often have you felt little interest or pleasure in doing things?

- Not at all
- Several days
- More than half the days
- Nearly every day

11. Over the past 2 weeks, how often have you felt down, depressed, or hopeless?

- Not at all
- Several days
- More than half the days
- Nearly every day

12. What is your current work situation?

- Unemployed
- Part-time or temporary work
- Full-time work
- Otherwise unemployed but not seeking work (for example, student, retired, disabled, unpaid primary care giver)

**We would also like to know about your recent experiences with housing, utilities, food, and transportation.**

### Living situation

13. What is your living situation today?

- I have a steady place to live.
- I have a place to live today, but **am worried** about losing it in the future.
- I do not have a steady place to live.

14. Over the past six months, did your living situation improve, stay the same, or get worse?

- Improved
- Stayed the same
- Got worse

### Utilities

15. Lately, have you worried about the electric, gas, oil, or water company threatening to shut off services in your home?

- Yes
- No
- Already shut off

16. Over the past six months, did your access to electricity, gas, oil and water improve, stay the same, or get worse?

- Improved
- Stayed the same
- Got worse

### Food

17. Lately, how often do you worry that your food will run out before you get money to buy more?

- Often
- Sometimes
- Never

18. Over the past six months, did your access to food improve, stay the same, or get worse?

- Improved
- Stayed the same
- Got worse

**Continue onto back cover**



**Transportation**

- 19. Lately, has transportation been a problem for you? *Please choose all that apply.*
  - Yes, it has kept me from medical appointments or from getting my medications
  - Yes, it has kept me from getting to work, getting to the store or getting other things I need
  - Yes, I have had to rearrange errands or appointments because of limited transportation
  - No
- 20. Over the past six months, did your access to transportation improve, stay the same, or get worse?
  - Improved
  - Stayed the same
  - Got worse

**Community services**

- 21. Community organizations help people with free or low-cost public services. Community organizations could be housing shelters, soup kitchens, or other organizations. Which of these community or public services did you use in the past six months? *Please choose all that apply.*
  - Help finding or keeping a steady place to live.
  - Help with your utilities (electricity, gas, oil or water).
  - Help getting enough food for you and your family to eat.
  - Help with reliable transportation to places you need to go.
  - None

DRC ID

- 22. In general, if you used any of these types of services, how effective were the community organizations in getting you the help you needed?
  - Very effective
  - Quite a bit effective
  - Somewhat effective
  - A little bit effective
  - Not at all effective
  - I wanted but could not get these services
  - I did not want these services

23. What did community organizations do to get the help you needed? What did they do that didn't help?

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**About this survey**

- 24. Did someone help you complete this survey?
  - No
  - Yes, a friend or family member
  - Yes, a health care provider
  - Yes, other

***Thank you for completing the survey and mailing it back in the enclosed envelope.***

Abt ID

## Attachment C-2: Beneficiary Survey COVID Qs

# Survey about Community Services and Your Health COVID-19 Questions



The COVID-19 pandemic has changed the lives of many people, including their jobs, household income, and need for social services. We would like to know about your experiences during the COVID-19 pandemic, and how community services may have helped to meet your needs during this difficult time.

25. Since the COVID-19 pandemic started, did any of the following **get worse** for you? *Please select all that apply.*
- Having a steady place to live
  - Having affordable utilities (electricity, gas, oil, or water)
  - Having enough food
  - Having affordable transportation
  - None of the above
26. During the COVID-19 pandemic, have services like housing rental assistance, legal services to keep your housing, or other housing-related services **improved your access to housing or the quality of your housing**? *Please select the best answer.*
- Yes
  - No
  - I did not need these services
  - I did not want these services
  - Does not apply
27. During the COVID-19 pandemic, have services like Low-Income Home Energy Assistance Program (LIHEAP), **improved your ability to pay for utilities**? *Please select the best answer.*
- Yes
  - No
  - I did not need these services
  - I did not want these services
  - Does not apply
28. During the COVID-19 pandemic, have services like soup kitchens, food drop-offs, or food pantries **improved your access to food**? *Please select the best answer.*
- Yes
  - No
  - I did not need these services
  - I did not want these services
  - Does not apply
29. During the COVID-19 pandemic, have services, such as reduced fare bus passes or taxi vouchers, **improved your access to transportation**? *Please select the best answer.*
- Yes
  - No
  - I did not need these services
  - I did not want these services
  - Does not apply
30. Has your household income changed during the COVID-19 pandemic?
- No, there have been no changes to my household income
  - My household income increased
  - My household income decreased, but we are able to meet all of our needs and pay all bills
  - My household income decreased, but we are able to meet basic needs and pay most bills
  - My household income decreased, and we are unable to meet basic needs or pay bills
  - Prefer not to answer

DRC ID

Abt ID

# Appendix D: Data Sources and Methods for the Claims Analyses Presented in Chapter 8

Chapter 8 presents impact analyses based on claims or encounter data for Medicaid, Medicare fee-for-service (FFS), and Medicare Advantage beneficiaries in the Accountable Health Communities (AHC) Model. This appendix describes the data sources used across these three payer populations, including statistics about success in linking the AHC screening and navigation data files to the claims/encounter data records. Detailed measure specifications are also provided for each outcome constructed for the three payer populations. Lastly, the analytic methods for the impact analyses are covered in this appendix.

## Study Sample and Timeframe

We conducted baseline analyses to describe expenditure and quality of care related to hospital use among AHC beneficiaries before screening, and we conducted impact analyses to measure impacts of the AHC Model after screening. Our study sample started with all beneficiaries screened from May 1, 2018 through December 31, 2022, and who were successfully linked to the Medicaid, FFS Medicare, or Medicare Advantage data. We made adjustments to the study sample based on when beneficiaries were screened for each of the payer-specific analyses. Baseline Medicaid analyses used beneficiaries screened through December 2021, and Medicaid impact analyses used beneficiaries screened through September 2021. Baseline FFS Medicare analyses used beneficiaries screened through December 2022, and FFS Medicare impact analyses used beneficiaries screened through September 2022. Combined Medicare Advantage and FFS Medicare impact analyses used beneficiaries screened through September 2020.

We further restricted the analytic samples in each year/quarter before or after screening to beneficiaries who were alive at the beginning of the year/quarter and had at least 1 month of Medicaid, Medicare Advantage, or FFS Medicare eligibility during the year/quarter.

## Data Sources

### AHC Screening and Navigation Data

We used the AHC screening and navigation data files to identify beneficiaries in the Medicaid and Medicare enrollment data files who were ever screened for the AHC Model and to identify characteristics such as whether those beneficiaries were navigation-eligible, their number and type of core health-related social needs (HRSNs), and the track with which they were affiliated. We also used the earliest screening date from these files to identify when beneficiaries entered the sample. We used Medicaid and Medicare ID variables and demographic characteristics such as name and address to link the AHC screening and navigation data to Medicaid and Medicare files, as described below.

### Medicaid Data

We used Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files (TAF) and Medicaid Analytic eXtract (MAX) files in the Chronic Conditions Data Warehouse (CCW) to derive Medicaid eligibility and enrollment information, demographic characteristics, and expenditure and quality-of-care outcomes for Medicaid beneficiaries in the AHC Model, including beneficiaries who were screened but not eligible for navigation services.

We used MAX data for a small number of states whose TAF did not extend back for a full 3-year baseline period. For this report, we used Medicaid data from April 2015 through December 2021.

## FFS Medicare Claims Data

We used FFS Medicare enrollment and claims data provided by the Centers for Medicare & Medicaid Services in the CCW to derive expenditure and quality-of-care outcomes for FFS Medicare beneficiaries in the AHC Model, including beneficiaries who were screened but not eligible for navigation. We used both Part A and B claims to create claims-based measures. For this report, we used FFS Medicare data from April 2015 through December 2022.

## Medicare Advantage Encounter Data

We used Medicare Advantage tables in the Integrated Data Repository (IDR) to derive quality-of-care outcomes for beneficiaries in the AHC Model enrolled in a Medicare Advantage plan during the study period, including beneficiaries who were screened but were not eligible for navigation. Although these data tables are structured differently from the FFS Medicare data, they provide similar information. One exception is that the Medicare Advantage data do not provide reliable expenditure data for constructing expenditure outcomes. For this report, we used Medicare Advantage data from April 2015 through December 2020.

## Data Linkage

We started by linking the AHC screening and navigation data to Medicaid and Medicare files in the CCW. Medicaid beneficiaries were identified in the TAF Demographic and Eligibility (DE) files, and FFS Medicare and Medicare Advantage beneficiaries were identified in the Master Beneficiary Summary File (MBSF), which provides a monthly record of FFS Medicare or Medicare Advantage enrollment. We downloaded a list of these beneficiaries and limited information from the screening and navigation data from the CCW, and used that information to identify encounter data records for Medicare Advantage beneficiaries in the IDR.

The AHC screening and navigation data provide three possible identifiers to link to the claims data: Health Insurance Claim Number (HICN), Medicare Beneficiary Identification (MBI), and Medicaid ID. Three issues complicate linking the screening and navigation data to Medicaid files in the CCW. First, in most states, the Medicaid ID provided for individual beneficiaries in the screening and navigation data is the same as the Medicaid Statistical Information System (MSIS) ID available on the TAF; however, in six states (Michigan, Minnesota, New Jersey, New Mexico, Rhode Island, and West Virginia), this is not the case. Second, although records in the screening and navigation files that do not have a Medicaid ID are likely Medicare beneficiaries, we have found that this is not always accurate. Moreover, some Medicaid IDs appear to be invalid. Third, the Medicaid IDs for states where the Medicaid ID is equivalent to the MSIS\_ID are unencrypted MSIS\_IDs, whereas the Research Identifiable File (RIF) version of the TAF used in these analyses contains an encrypted MSIS\_ID. To address these issues, we used the following iterative steps to link screening and navigation data to the Medicaid files in the CCW:

1. For the six states where the Medicaid ID in the screening and navigation data is not equivalent to the MSIS\_ID, we linked the Medicaid ID to the Medicaid ID field in the TAF Vital Status File by ID and state to obtain the MSIS\_ID.
2. We linked the other beneficiaries to the Vital Status File by matching their MSIS\_ID and state to the Medicaid ID and state.

3. For beneficiaries who did not link to the Vital Status File by their Medicaid ID and state or who had a blank Medicaid ID in the screening and navigation data, we then did an exact match to the Vital Status File on five variables to obtain the encrypted Medicaid ID: last name, ZIP code, state, gender, and birth date.<sup>1</sup>
4. We then linked the MSIS\_ID to a crosswalk that provides the encrypted MSIS\_ID.
5. We then linked any beneficiary who matched to the Vital Status File to the TAF DE files using their encrypted MSIS\_ID.

Medicare linkage was similar. The beneficiary identifier in the Medicare files in the CCW (BENE\_ID) is not included in the screening and navigation data, so we linked the Medicare files with screening and navigation data files in three steps:

1. We linked beneficiaries who either had an HICN or MBI in the AHC screening and navigation data to separate HICN- and MBI-to-BENE\_ID crosswalk files in the CCW.
2. We then linked beneficiaries with an HICN or MBI that was not found in the crosswalk files in Step 1 or who only had a Medicaid ID in the screening and navigation data to a file that crosswalks the beneficiary name and address with BENE\_ID. We found that some beneficiaries who only had a Medicaid ID were in fact dually eligible beneficiaries, and thus linked to the Medicare files. We required an exact match on six variables in this step: first initial of first name, last name, gender, ZIP code, state, and birth date.
3. After obtaining BENE\_ID, we linked the AHC screening and navigation data file to the Medicare enrollment, FFS Medicare claims, and Medicare Advantage encounter data files in the CCW using BENE\_ID or BENE\_SK in the IDR after linking BENE\_ID to BENE\_SK in the BENE\_ID-BENE\_SK crosswalk file.

**Exhibit D-1** summarizes linkages of the screening and navigation data to Medicaid and Medicare data files and the final linked samples identified through these processes. The overall match rate was approximately 90%. The beneficiaries who did not link to the claims data were excluded from the analysis.

**Exhibit D-1. Persons Linked From the AHC Screening and Navigation Files to Medicaid and Medicare Enrollment, Claims, and Encounter Data Files**

Sample Description	Count of Persons
Persons screened as of December 2022	1,114,382
Persons linked to Medicaid files	672,151
Medicaid analyses	
Assistance Track beneficiaries (includes control group)	43,778
Alignment Track beneficiaries	61,655
Persons linked to Medicare files	425,655
FFS Medicare analyses	
Assistance Track beneficiaries (includes control group)	14,848
Alignment Track beneficiaries	18,296
Combined Medicare Advantage and FFS Medicare analyses	
Assistance Track beneficiaries (includes control group)	18,602
Alignment Track beneficiaries	24,902

Definitions: AHC = Accountable Health Communities; FFS = fee-for-service.

<sup>1</sup> This step is analogous to Step 2 for the Medicare linkage. The linking variables differ because initial exploration of the linkage process for Medicaid showed that this list produced a better match rate than the expanded list used for Medicare linking.

## Measure Specifications

Exhibit D-2 shows the measures included in this report for each payer population. We included the same claims-based measures, when possible, across these three populations. However, expenditure measures are not available for Medicare Advantage beneficiaries because payments are not reported on encounters. Only total expenditures are reported for Medicaid beneficiaries because many are enrolled in managed care plans, and only capitated payments are provided for these beneficiaries, which do not allow us to disaggregate to service-specific payments (e.g., for inpatient services). We also only calculated the core outcomes for the combined FFS Medicare and Medicare Advantage analyses. Details on the measure specifications are provided below for FFS Medicare, along with any deviation from the FFS Medicare specification for Medicaid and Medicare Advantage beneficiaries.

**Exhibit D-2. Claims-Based Measures for Medicaid, FFS Medicare, and Combined FFS Medicare and Medicare Advantage Analyses**

Measure	Medicaid	FFS Medicare	Combined FFS Medicare and Medicare Advantage
Total expenditures	✓	✓	
Inpatient expenditures		✓	
ED expenditures		✓	
PAC expenditures		✓	
Inpatient admissions	✓	✓	✓
ACSC admissions	✓	✓	✓
Readmissions <sup>1</sup>	✓	✓	✓
ED visits	✓	✓	✓
ED visits within 30 days of discharge	✓	✓	
Avoidable ED visits	✓	✓	
PCP visits	✓	✓	✓
Follow-up visits	✓	✓	
Follow-up visits after mental health discharge	✓	✓	
Asthma medication	✓	✓	
Treatment for respiratory illness	✓	✓	
Antidepressant medication management	✓	✓	
Initiation of AOD treatment	✓	✓	

<sup>1</sup> For data quality reasons, the combined FFS Medicare and Medicare Advantage analysis used the 30-day all-cause readmission rate per 1,000 discharges. The Medicaid and FFS Medicare analyses used the 30-day unplanned readmission rate per 1,000 discharges.

Definitions: ACSC = ambulatory care sensitive condition; AOD = alcohol or other drug abuse; ED = emergency department; FFS = fee-for-service; PAC = post-acute care; PCP = primary care provider.



We calculated all measures included in the baseline descriptive analyses for each of the 3 baseline years before screening. Expenditures during each baseline year were calculated on a per-beneficiary per-month (PBPM) basis. Inpatient admissions, ambulatory care sensitive condition (ACSC) admissions, emergency department (ED) visits, avoidable ED visits, and primary care physician (PCP) visits are reported as the number of events in each baseline year per 1,000 beneficiaries. Readmissions, follow-up visits, and follow-up visits after a mental health discharge are reported as the number of events in each baseline year per 1,000 discharges. Each quality-of-care measure related to hospital or primary care use is a count of the number of events. We included events in a baseline year's total if the discharge or service end date on the claim was during that 12-month period (i.e., the year before screening includes events that occurred during the month when each beneficiary was screened or in the 11 months before that month).

For the impact analyses, we calculated quarterly totals and rates for these measures during multiple pre- and post-screening quarters. We calculated yearly totals and rates for pre- and post-screening years for follow-up visits after a mental health discharge, asthma medication, treatment for respiratory illnesses, management of antidepressant medication, and initiation of alcohol and other drug (AOD) treatment. These measures were calculated at an annual level because this measurement period was defined in the HEDIS specification (for HEDIS measures) or because the rates would have been too small to analyze (for treatment for respiratory illnesses). For the Medicaid analyses, we included up to the first 12 quarters after each beneficiary was screened under the AHC Model. For the FFS Medicare analyses, we included up to the first 16 quarters after each beneficiary was screened under the AHC Model. For the combined Medicare Advantage and FFS Medicare analyses, we included up to the first eight quarters after each beneficiary was screened under the AHC Model. Because of rolling entry at the beneficiary level, not all beneficiaries have a full eight (or 12, or 16) quarters of data observed after they were screened. In all analyses, we included 12 pre-screening quarters for the Alignment Track impact analyses. In contrast, the Assistance Track impact analyses only used post-screening quarters because of successful randomization in the intervention and control groups (see Assistance Track Impact Analysis below).

Measures only include data for beneficiaries who had at least 1 month of eligibility during each observation period (e.g., baseline year or pre- or post-screening quarter). This means that some beneficiaries were not observed continuously throughout the observation period. To account for this, we calculated eligibility fractions for each beneficiary. The eligibility fraction is defined as the total number of months the beneficiary was enrolled in each year divided by 12, or, in the case of quarterly outcomes, the total number of months the beneficiary was enrolled in each quarter divided by 3. For example, a beneficiary enrolled in Medicare for 6 months of a year has an eligibility fraction of 0.5 for that year. In weighted average calculations, the eligibility fractions down-weight observations for beneficiaries who are not eligible for the full year/quarter, so the observations exert less influence on the analyses because greater uncertainty is associated with having less than a full year or quarter of data.

We provide a detailed description of each measure below. Except for the all-cause readmission rate, all measures described below were created for FFS Medicare beneficiaries; measures denoted with an asterisk (\*) were also created for the Medicare Advantage population, and measures denoted with a pound symbol (#) were also created for the Medicaid population. When necessary, we highlight any differences in the measure specifications for Medicare Advantage and Medicaid.

- **Total expenditures#:** This measure represents overall net payment amounts from all inpatient and outpatient (facility and professional) claims (i.e., Part A and Part B); it excludes beneficiary cost sharing and pharmacy component expenditures for FFS Medicare beneficiaries (i.e., Part D). For Medicaid, this measure represents all FFS net payment amounts for all inpatient, other therapy, long-term care, and pharmacy claims and all capitated payments. We calculated expenditures on a PBPM basis. For each beneficiary, we calculated PBPM payments as annual/quarterly payments divided by the number of months enrolled during the year/quarter. We included all individuals enrolled in the period in calculating the averages, so the figures also reflect the presence of beneficiaries with zero medical costs. We did not

risk-adjust or price-standardize payments across geographic areas. We used final action claims and set negative payments on claims to zero. Pennsylvania and Indiana were excluded from the Medicaid sample for total expenditures because of data anomalies.<sup>2</sup>

- **Inpatient facility expenditures:** This measure represents the sum of net facility payments to a hospital for covered services provided during all inpatient admissions. Inpatient admissions were identified using the same methodology as described below for the number of inpatient admissions measure. As with total expenditures, we calculated inpatient facility expenditures on a PBPM basis. For each beneficiary, we calculated PBPM payments as annual/quarterly payments divided by the number of months enrolled during the year/quarter. We included all individuals enrolled in the period in calculating the averages, so the figures also reflect the presence of beneficiaries with zero medical costs. We did not risk-adjust or price-standardize payments across geographic areas. We set negative payments on claims to zero.
- **ED visit expenditures:** This measure is the overall net payment amount for ED visits that did not lead to a hospitalization and for observation stays. ED visits and observation stays were identified using the same methodology as described below for the number of ED visits measure. As with total expenditures, we calculated ED visit expenditures on a PBPM basis. For each beneficiary, we calculated PBPM payments as annual/quarterly payments divided by the number of months enrolled during the year/quarter. We included all individuals enrolled in the period in calculating the averages, so the figures also reflect the presence of beneficiaries with zero medical costs. We did not risk-adjust or price-standardize payments across geographic areas. We set negative payments on claims to zero.
- **Post-acute care visit expenditures:** This measure is the overall sum of payments from swing bed, long-term care hospital, inpatient rehabilitation, outpatient rehabilitation, home health, skilled nursing facility, and home health agency claims. As with total expenditures, we calculated post-acute care visit expenditures on a PBPM basis. For each beneficiary, we calculated PBPM payments as annual/quarterly payments divided by the number of months enrolled during the year/quarter. We included all individuals enrolled in the period in calculating the averages, so the figures also reflect the presence of beneficiaries with zero medical costs. We did not risk-adjust or price-standardize payments across geographic areas. We set negative payments on claims to zero.
- **Number of inpatient admissions\*\*:** This measure is a count of admissions to an acute care hospital reported in the inpatient file for the measurement period per beneficiary. For Medicare, we identified all hospital admissions in which the last four digits of the provider values are 0001 through 0879 (acute inpatient) or 1300 through 1399 (critical access hospital). For Medicare Advantage, we identified acute care hospital admissions as those with a claim type code = 4011. For Medicaid, we identified acute care hospital admissions by including all admissions in the MAX and TAF inpatient (IP) files with a type of service that indicated the admission was to an inpatient hospital (type of service = 01 for MAX, bill type = 111 or 112 for TAF). A large portion of admissions were missing admission or discharge dates in the TAF in a few states. Thus, we used the earliest beginning date or latest end date on IP line files for services associated with an admission when the admission or discharge date was missing. We annualized/quarterized counts of inpatient admissions by dividing the number of admissions for each beneficiary in each year/quarter by that beneficiary's eligibility fraction. We then rounded the number of admissions to the nearest integer.
- **Number of admissions for an ACSC\*\*:** This measure is limited to the population 18 years of age or older. The measure is a count variable that is equal to the number of inpatient discharges that meets the

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<sup>2</sup> The total expenditures in TAF for Indiana and Pennsylvania differed from the total Medicaid expenditures reported in CMS-64 data, and the two states were outliers in total PBPM expenditures for the AHC beneficiaries.

inclusion and exclusion rules for any of the following 11 prevention quality indicators (PQIs) that comprise the Overall Composite (PQI #90):

- PQI #01 Diabetes Short-Term Complications Admission Rate
- PQI #03 Diabetes Long-Term Complications Admission Rate
- PQI #05 Chronic Obstructive Pulmonary Disease or Asthma in Older Adults Admission Rate
- PQI #07 Hypertension Admission Rate
- PQI #08 Heart Failure Admission Rate
- PQI #10 Dehydration Admission Rate
- PQI #11 Bacterial Pneumonia Admission Rate
- PQI #12 Urinary Tract Infection Admission Rate
- PQI #14 Uncontrolled Diabetes Admission Rate
- PQI #15 Asthma in Younger Adults Admission Rate
- PQI #16 Rate of Lower-Extremity Amputation Among Patients with Diabetes

We annualized/quarterized counts of ACSC admissions by dividing the number of ACSC admissions for each beneficiary in each year/quarter by that beneficiary's eligibility fraction. We then rounded the number of ACSC admissions to the nearest integer.

- **Unplanned readmission within 30 days of hospital discharge<sup>#</sup>:** This measure was adapted from the Yale all-cause hospital-wide unplanned readmissions measure, released in March 2018 (Yale New Haven Health Services Corporation—Center for Outcomes Research and Evaluation, 2018). This indicator variable is equal to 1 if there was an unplanned readmission within 30 days to any hospital. We identified an index hospital admission as an inpatient stay with a discharge date within the given measurement period minus 30 days from the end of the period. We included index admissions if the beneficiary was enrolled in FFS Medicare or Medicaid at admission. We excluded index admissions for which the beneficiary did not have 30 days of post-discharge enrollment in Medicare Part A or Medicaid; was transferred to another short-term, acute care hospital; died during hospitalization; was discharged against medical advice; was admitted for a primary psychiatric diagnosis; was admitted for rehabilitation; or was admitted for medical treatment of cancer. We did not count planned admissions as readmissions. Planned admissions include bone marrow, kidney, or other organ transplants; maintenance chemotherapy or rehabilitation; and a list of potentially planned procedures that are not acute or complications of care.
- **All-cause readmissions within 30 days of hospital discharge\*:** This measure was used for Medicare Advantage beneficiaries only. We could not calculate unplanned readmissions for these beneficiaries because of the larger rate of missing ICD procedure codes on encounter data claims, which are a key input into the Yale unplanned readmission algorithm. This measure is an indicator that is equal to 1 if there was any readmission within 30 days to any hospital. We identified an index hospital admission as an inpatient stay with a discharge date within the given measurement period minus 30 days from the end of the period. We included an index admission if the beneficiary was enrolled in Medicare Advantage at admission. We excluded index admissions for which the beneficiary did not have 30 days of post-discharge enrollment in Medicare Advantage; was transferred to another short-term, acute care hospital; or died during hospitalization.
- **Number of ED visits\*<sup>#</sup>:** This measure is a count of the number of visits to the ED that did not result in an inpatient hospital admission and the number of observation stays per beneficiary per measurement period. For all data sources, we identified ED visits as claims and encounters with a line-item revenue

center code equal to 0450 through 0459 or 0981 (ED care). For Medicaid, because revenue codes may be incomplete in the MAX and TAF files, we also identified ED visits where the place-of-service code is equal to 23 and the procedure code is equal to 99281, 99282, 99283, 99284, or 99285. For all data sources, we excluded claims and encounters where every line item has a procedure code equal to any of the following values: 70000 through 89999. This criterion excludes claims and encounters for radiological or pathology/laboratory services only. For all data sources, we identified observation stays as claims and encounters with a line-item revenue center code equal to 0760 and a Current Procedural Terminology (CPT) code equal to G0378, and the number of times the service was performed as  $\geq 8$  or a line item revenue center code equal to 0762 (treatment or observation room). We counted multiple ED visits or observation stays on a single day once. We annualized/quarterized counts of ED visits by dividing the number of ED visits for each beneficiary in each year/quarter by that beneficiary's eligibility fraction. We then rounded the number of ED visits to the nearest integer.

- **Preventable/avoidable ED visits<sup>#</sup>:** This measure is created using the NYU algorithm (Billings et al., 2000) for identifying emergency care provided in an ED that is for a condition that could have been potentially avoided if timely and effective ambulatory care had been provided. The algorithm assigns a weight between 0 and 100 for each primary diagnosis code that could appear on an ED claim, and these weights can then be used to construct a measure of the weighted average number of ED visits that were potentially preventable or avoidable.
- **ED visit within 30 days of hospital discharge<sup>#</sup>:** The measure is a binary variable that is equal to 1 if there was an ED visit within 30 days after discharge. Discharges were included if they were billed by an acute care hospital. A given discharge was excluded if there was a subsequent admission within 30 days. ED visits (including observation stays) were identified in hospital outpatient claims as described above.
- **Number of PCP visits<sup>\*\*</sup>:** This measure is the number of in-person or telehealth primary care visits during the measurement period per beneficiary. PCP visits for FFS Medicare beneficiaries were identified using CPT codes associated with evaluation and management (E&M) visits and revenue center codes associated with ambulatory care. The codes used are those in the 2016 Healthcare Effectiveness Data and Information Set Ambulatory Visit Value Set listed below (either one of the Healthcare Common Procedure Coding System [HCPCS] codes or one of the revenue center codes):
  - HCPCS codes: 99201–99205, 99211–99215, 99241–99245, 99341–99345, 99347–99350, 99381–99387, 99391–99397, 99401–99404, 99411, 99412, 99420, 99429, G0403, G0438, G0439, T1015, 92002, 92004, 92012, 92014, 99304–99310, 99315, 99316, 99318, 99324–99328, 99334–99337, S0620, or S0621
  - Revenue center codes: 0510–0519, 0520–0529, 0982, or 0983.

Telehealth visits were identified using the following:

- HCPCS codes 99202–99215, 99341–99345, 99347–99350, G0438, G0439, 92002, 92004, 92012, 92014, 99304–99310, 99315–99316, 99324–99328, 99334–99337, 99441–99443, and HCPCS modifier 95 or GT
- HCPCS codes 99421–99423, G2061–G2063, G2012, G2010

Visits were then classified as a primary care visit if the provider's specialty was any of the following:

- 01: General practice
- 08: Family practice
- 11: Internal medicine
- 37: Pediatrics

- 38: Geriatric medicine
- 50: Nurse practitioner
- 70: Multispecialty clinic or group practice
- 84: Preventive medicine
- 89: Certified clinical nurse specialist
- 97: Physician assistant

Medicare Advantage and Medicaid data do not have a reliable provider specialty field; instead, we used taxonomy codes for the rendering provider on E&M claims and encounters. The taxonomy codes were chosen to align with the specialty types identified in FFS Medicare claims.

- **Follow-up visit within 14 days of hospital discharge<sup>#</sup>:** The measure is a binary variable that is equal to 1 if there was a post-discharge visit within 14 days. Discharges were included if they were billed by an acute care hospital. As noted above under the number of inpatient admissions description for Medicaid, missing discharge dates were recoded to the latest end date of the claim lines associated with that inpatient stay. A given discharge was excluded if there was a subsequent admission within 14 days. Post-discharge visits were included if one of the following CPT codes was listed on the outpatient claim within 14 days of the discharge:
  - 99201–99205, 99211–99215, 99217–99220, 99238–99239, 99241–99245, 99304–99310, 99315–99316, 99318, 99324–99328, 99334–99337, 99339–99340, 99341–99345, 99347–99350, 99374–99380, 99381–99387, 99391–99397, 99401–99404, 99411–99412, 99429, 99442–99443, 99495–99496, 99510, G0463, or T1015
  - Post-discharge visits also include claims with revenue center codes 0521 or 0522 to capture Federally Qualified Health Center visits.
- **Follow-up visit within 30 days of hospital discharge for mental health<sup>#</sup>:** This measure is a binary variable that equals 1 if there is a post-discharge follow-up visit with a mental health practitioner within 30 days. Discharges were included if they were billed by an acute care hospital with a primary diagnosis for mental illness. Primary diagnosis codes include:
  - F03.90, F03.91, F20.0, F20.1, F20.2, F20.3, F20.5, F20.81, F20.89, F20.9, F21, F22, F23, F24, F25.0, F25.1, F25.8, F25.9, F28, F29, F30.10, F30.11, F30.12, F30.13, F30.2, F30.3, F30.4, F30.8, F30.9, F31.0, F31.10, F31.11, F31.12, F31.13, F31.2, F31.30, F31.31, F31.32, F31.4, F31.5, F31.60, F31.61, F31.62, F31.63, F31.64, F31.70, F31.71, F31.72, F31.73, F31.74, F31.75, F31.76, F31.77, F31.78, F31.81, F31.89, F31.9, F32.0, F32.1, F32.2, F32.3, F32.4, F32.5, F32.8, F32.81, F32.89, F32.9, F33.0, F33.1, F33.2, F33.3, F33.40, F33.41, F33.42, F33.8, F33.9, F34.0, F34.1, F34.8, F34.81, F34.89, F34.9, F39, F40.00, F40.01, F40.02, F40.10, F40.11, F40.210, F40.218, F40.220, F40.228, F40.230, F40.231, F40.232, F40.233, F40.240, F40.241, F40.242, F40.243, F40.248, F40.290, F40.291, F40.298, F40.8, F40.9, F41.0, F41.1, F41.3, F41.8, F41.9, F42, F42.2, F42.3, F42.4, F42.8, F42.9, F43.0, F43.10, F43.11, F43.12, F43.20, F43.21, F43.22, F43.23, F43.24, F43.25, F43.29, F43.8, F43.9, F44.0, F44.1, F44.2, F44.4, F44.5, F44.6, F44.7, F44.81, F44.89, F44.9, F45.0, F45.1, F45.20, F45.21, F45.22, F45.29, F45.41, F45.42, F45.8, F45.9, F48.1, F48.2, F48.8, F48.9, F50.00, F50.01, F50.02, F50.2, F50.8, F50.81, F50.89, F50.9, F51.01, F51.02, F51.03, F51.04, F51.05, F51.09, F51.11, F51.12, F51.13, F51.19, F51.3, F51.4, F51.5, F51.8, F51.9, F52.0, F52.1, F52.21, F52.22, F52.31, F52.32, F52.4, F52.5, F52.6, F52.8, F52.9, F53, F59, F60.0, F60.1, F60.2, F60.3, F60.4, F60.5, F60.6, F60.7, F60.81, F60.89, F60.9, F63.0, F63.1, F63.2, F63.3, F63.81, F63.89, F63.9, F64.0, F64.1, F64.2, F64.8, F64.9, F65.0, F65.1, F65.2, F65.3, F65.4, F65.50, F65.51, F65.52, F65.81, F65.89, F65.9, F66, F68.10, F68.11, F68.12, F68.13, F68.8, F69, F80.0, F80.1, F80.2, F80.4, F80.81, F80.82, F80.89, F80.9, F81.0, F81.2, F81.81, F81.89, F81.9, F82,

F84.0, F84.2, F84.3, F84.5, F84.8, F84.9, F88, F89, F90.0, F90.1, F90.2, F90.8, F90.9, F91.0, F91.1, F91.2, F91.3, F91.8, F91.9, F93.0, F93.8, F93.9, F94.0, F94.1, F94.2, F94.8, F94.9, F95.0, F95.1, F95.2, F95.8, F95.9, F98.0, F98.1, F98.21, F98.29, F98.3, F98.4, F98.5, F98.8, F98.9, or F99

Discharges that were followed by a readmission to an acute or other facility within 30 days or where there was a direct transfer to an acute inpatient care setting were excluded from the denominator. Follow-up visits include outpatient visits, intensive outpatient encounters, and partial hospitalizations with a mental health practitioner within 30 days of discharge. For the indicator, any of the following meet the criteria for a follow-up visit:

- A visit with any of the following CPT/HCPCS codes with a mental health practitioner:
  - 90791–90792, 90832–90840, 90845, 90847, 90849, 90853, 90870, 90875, 90876, 98960–98962, 99078, 99201–99205, 99211–99215, 99217–99220, 99241–99245, 99304–99310, 99315–99316, 99318, 99324–99328, 99334–99337, 99339–99340, 99341–99345, 99347–99350, 99374–99380, 99381–99387, 99391–99397, 99401–99404, 99411–99412, 99429, 99442–99443, 99510, G0155, G0176–G0177, G0409–G0411, G0463, H0002, H0004, H0031, H0034–H0040, H2000–H2001, H2010–H2020, M0064, S0201, S9480, S9484–S9485, or T1015
- A visit with any of the following CPT codes AND any of the following place of service (POS) codes with a mental health practitioner:
  - CPT codes: 90791, 90792, 90832, 90833, 90834, 90836, 90837, 90838, 90839, 90840, 90845, 90847, 90849, 90853, 90867, 90868, 90869, 90870, 90875, or 90876
  - POS codes: 03, 05, 07, 09, 11, 12, 13, 14, 15, 20, 22, 24, 33, 49, 50, 52, 53, 71, or 72
- A visit with any of the following CPT codes AND either POS = 52 or 53 with a mental health practitioner:
  - CPT codes: 99221–99222, 99223, 99231–99233, 99238–99239, or 99251–99255.
- A visit with any of the following revenue center codes for behavioral health care facilities:
  - 0513, 0900–0905, 0907, 0911–0917, or 0919
- A visit with any of the following revenue center codes for nonbehavioral health care facilities with a mental health practitioner OR diagnosis of mental illness:
  - 0510, 0515–0523, 0526–0529, or 0982–0983
- A transitional care management service with a date of service 29 days after the patient was discharged with a principal diagnosis of mental illness:
  - CPT = 99495 (14 days for the 30-day indicator) or 99496 (7 days for the 7-day indicator)
- **Antidepressant medication management<sup>#</sup>:** These measures are binary variables that are equal to 1 if a beneficiary aged 18 years or older who was diagnosed with a new episode of major depression and treated with antidepressant medication remained on an antidepressant medication treatment for at least 12 weeks (acute phase) or 6 months (continuation phase).
  - *Effective acute phase treatment.* Newly diagnosed and treated beneficiaries who remained on an antidepressant medication for at least 84 days (12 weeks)
  - *Effective continuation phase treatment.* Newly diagnosed and treated beneficiaries who remained on an antidepressant medication for at least 180 days (6 months)

To be included in these measures, beneficiaries had to be at least 18 years old. They also needed to have a diagnosis for major depression (ICD-9 diagnosis codes 296.20–296.25, 296.30–296.35, 298.0, 311);

ICD-10 diagnoses codes F32.0-F32.4, F32.A, F32.9-F33.3, F33.41, F33.9) and meet at least one of the following criteria:

- At least one principal diagnosis of major depression in any outpatient, ED, intensive outpatient, or partial hospitalization setting
- At least two visits in an outpatient, ED, intensive outpatient, or partial hospitalization setting on different dates of service with any diagnosis of major depression
- At least one inpatient (acute or nonacute) claim/encounter with any diagnosis of major depression

To identify the date of the first diagnosis, we used the date of the first claim/encounter that met one of the above criteria. To identify the date the medication was dispensed, we used the date that an antidepressant medication was dispensed during the period 30 days before or 14 days after the date of the first diagnosis.

We then checked whether the antidepressant medication was dispensed for at least 84 days (12 weeks) and 180 days (6 months) of continuous treatment with no more than 30 or 51 gap days in treatment, respectively. Antidepressant medications were identified using the HEDIS medication list. As with the asthma medication measure (below), this list will be updated annually to include the latest National Drug Code sets that are provided as part of the HEDIS measure specification manual. Beneficiaries were excluded if they received an antidepressant medication any time 3 months before the date the antidepressant medication was dispensed or if they were not continuously enrolled for 45 days before and 245 days after their first depression diagnosis.

- **Asthma medication ratio > 50%#:** This measure is a binary variable that is equal to 1 if a beneficiary with persistent asthma was dispensed asthma controller medications for at least 50% of all asthma medications during the year. Achieving this threshold ratio of controller to total asthma medications suggests effective management of asthma. It is limited to beneficiaries aged 5 through 64 years with a diagnosis for asthma (ICD-9 diagnosis codes 493.0, 493.1, 493.8, 493.9; ICD-10 diagnosis codes J45.21, J45.22, J45.3-J45.5, J45.9, J45.991, J45.998) who met at least one of the following four criteria:
  - At least one ED visit with asthma as the principal diagnosis (CPT code = 99281–99285 or revenue code = 045x, 0981)
  - At least one acute inpatient discharge with asthma as the principal diagnosis (CPT code = 99221–99223, 99231–99233, 99238, 99239, 99251–99255, 99291 or revenue code = 010x, 0110–0114, 0119, 0120–0124, 0129, 0130–0134, 0139, 0140–0144, 0149, 0150–0154, 0159, 016x, 020x, 021x, 072x, 0987)
  - At least four outpatient visits on different dates of service, with asthma as one of the listed diagnoses and at least two asthma medication dispensing events (to identify outpatient visits, CPT code = 99201–99205, 99211–99215, 99241–99245, 99304–99310, 99318, 99324–99328, 99334–99337, 99339–99340, 99341–99345, 99347–99350, 99374–99380, 99381–99387, 99391–99397, 99401–99404, 99411–99412, 99429, 99442–99443, 99510, G0438, G0439, or T1015 and revenue code = 051x, 0520–0523, 0526–0529, 057x–059x, 0982, 0983)
  - At least four asthma medication dispensing events. If all four dispensing events are “leukotriene modifiers,” then the individual also needs a diagnosis of asthma for any kind of service

Patients diagnosed with emphysema, chronic obstructive pulmonary disease, cystic fibrosis, and acute respiratory failure in the prior year were excluded (ICD-9 diagnosis codes 492, 518.1, 518.2, 491.2, 493.2, 496, 506.4, 277.0, and 518.81; ICD-10 diagnosis codes J43, J98.2, J98.3, J44.0, J44.1, J44.9, J68.4, E84, J96.0, J96.2).

- **Treatment for respiratory episodes (other than COVID-19)#:** This measure is a binary variable that equals 1 if the beneficiary had any claims or encounter records in inpatient, outpatient, and professional

service settings with any of the following ICD-10 principal or secondary diagnosis codes: J00–J90 (diseases of the respiratory system), and without the presence of diagnosis codes used to identify COVID-19: B97.29 ICD-10 code (used to identify COVID-19 cases from January 1 through March 31, 2020) and U07.1 (used to identify COVID-19 cases beginning April 1, 2020).

- **Initiation of AOD treatment<sup>#</sup>:** This measure is a binary variable that is equal to 1 if an adolescent or adult beneficiary with a new episode of AOD dependence-initiated treatment within 14 days of the diagnosis. Beneficiaries included in the measure have to be 13 through 64 years old and have at least one of the episodes listed below during the intake period (to allow for visits within 14 days of the index event, this measure includes all but the last 15 days of each measurement year). Episodes were identified using Value Sets in the HEDIS measure Initiation and Engagement of Alcohol and Other Drug Dependence Treatment:
  - At least one outpatient visit, intensive outpatient encounter, or partial hospitalization with a diagnosis of AOD
  - At least one detoxification visit
  - At least one ED visit with a diagnosis of AOD
  - At least one acute or nonacute inpatient discharge with either a diagnosis of AOD or an AOD procedure code

The episode with the earliest start date was identified as the index episode. Beneficiaries with a claim with any diagnosis of AOD during the 60 days before the index episode were excluded from the measure. For beneficiaries who met the above new episode of AOD criteria, the variable was set to 1 if they initiated AOD treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter, or partial hospitalization within 14 days of the diagnosis. In accordance with the HEDIS standard, if the index episode and the initiation treatment event occurred on the same day, they must be with different providers for the initiation treatment event to count. If the index episode was an inpatient discharge, the inpatient stay is considered initiation of treatment. If the index episode was an outpatient, intensive outpatient, partial hospitalization, detoxification, or ED visit, the patient must have at least one of the episodes listed below within 14 days of the index episode to be counted as having initiated treatment. Episodes were identified using Value Sets in the HEDIS measure:

- At least one acute or nonacute inpatient discharge with a diagnosis of AOD
- At least one outpatient visit, intensive outpatient encounter, or partial hospitalization with a diagnosis of AOD

Patients whose initiation treatment event was an inpatient stay with a discharge date after the beginning of the last month of their measurement year were excluded from the measure.

## Statistical Methods

This section presents the statistical methods used to measure impacts of the AHC Model among Medicaid and FFS Medicare beneficiaries in the Assistance Track and Alignment Track.

### Assistance Track Impact Analyses

We started by assessing whether empirical evidence suggested that randomization was successful. Specifically, we measured whether Assistance Track intervention and control group beneficiaries had similar health care measures before screening and similar sociodemographic characteristics. As shown in **Appendix J**, the Assistance Track intervention and control groups were similar in both the health care measures observed before screening and in all observed sociodemographic characteristics. On the basis of these findings, we chose not to conduct a difference-



in-differences (DID) impact analysis, which would be less precise and theoretically unnecessary given randomization and the statistical similarity in the intervention and control groups. Instead, we compared post-screening means in health care outcomes across the intervention and control groups to determine whether the AHC Model reduced health care expenditures or quality of care.

Comparing post-screening, unadjusted outcome means across the intervention and control groups provides an unbiased impact estimate under the assumption that the only difference between the two groups is that the intervention group received navigation services while the control group did not. However, even with randomization, controlling for sociodemographic characteristics may produce more precise impact estimates (i.e., smaller standard errors and P-values) because covariate adjustment reduces the amount of unexplained variation in outcome measures (Hernandez et al., 2004; Pocock et al., 2015). Moreover, including regression controls makes the impact analysis more robust because it controls for even small differences in the intervention and control groups. Therefore, we calculated regression-adjusted differences in post-screening health care outcomes. In the Medicaid analyses, we controlled for age, race, gender, disability status, and the total number of months enrolled in Medicaid. In the FFS Medicare and the combined Medicare Advantage and FFS Medicare analyses, we controlled for age and gender. We included the control variables that optimized the precision of the impact estimates. Except for unplanned readmissions, all regression models were weighted using each beneficiary's eligibility fraction as the weight variable.

The Assistance Track impact analyses also controlled for the COVID-19 public health emergency (PHE) in two ways. First, we included a set of cohort indicators in the regression analyses to adjust for the extent to which the COVID-19 PHE disrupted underlying trends in four key outcomes for Medicaid, FFS Medicare, or Medicare Advantage beneficiaries: total expenditures (for Medicaid and FFS Medicare only), ED visits, inpatient admissions, and PCP visits. The cohort indicators were also developed to adjust for disruptions in the underlying trends in key programmatic measures: number of screened beneficiaries, number of navigation-eligible beneficiaries, and number of beneficiaries with different types of core HRSNs. Cohorts were defined as follows:

1. Beneficiaries who were screened and navigated before March 2020 (Cohort 1)
2. Beneficiaries who were screened before March 2020, but whose navigation services were delivered at least partially during or after March 2020 (Cohort 2)
3. Beneficiaries who were screened and navigated during or after March 2020 (Cohort 3)

These cohort definitions were developed after reviewing trends in claims and screening and navigation data.

Second, we included an additional control variable to capture variation over time and across regions in COVID-19 risks. Specifically, we included a COVID-19 pandemic vulnerability index (PVI) measure that was derived from a model developed by scientists at the National Institute of Environmental Health Sciences, North Carolina State University, and Texas A&M.<sup>3</sup> Their model produces a daily index score for each county based on 12 factors: (1) transmissible cases, (2) disease spread, (3) population mobility, (4) residential density, (5) social distancing measures, (6) testing, (7) population demographics, (8) air pollution, (9) age distribution, (10) prevalence of co-morbidities, (11) health disparities, and (12) number of hospital beds. We aggregated daily scores to a quarterly score by calculating the average daily score for each measurement quarter. Measurement quarters before the PHE were assigned scores of 0.

We also adopted appropriate regression functional forms for each outcome. Specifically, we used an ordinary least squares model for expenditure outcomes; a logistic regression model for the readmissions outcomes, ED visit within 30 days of hospital discharge, follow-up visit within 14 days of hospital discharge, follow-up visit within 30 days of hospital discharge for mental health, antidepressant medication management, asthma medication ratio, treatment of respiratory episodes, and initiation of AOD treatment outcomes; and a Poisson model for all

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<sup>3</sup> See <https://www.niehs.nih.gov/research/programs/coronavirus/covid19pvi/index.cfm>.

remaining outcomes. We tested a generalized linear model specification with a gamma error and log link for expenditure outcomes, but in some analyses found that this specification provided a poor fit, as evidenced by inaccurate mean predictions.

Because we do not know how much exposure to navigation services is necessary to produce changes in health care outcomes, we modeled most outcomes at a quarterly level, where the first quarter included the 3 months after each beneficiary was screened, the second quarter included the next 3 months, and so on. We rolled up these quarterly outcomes into an annual measure, which allowed us to investigate whether outcome differences are more pronounced in later years relative to earlier years and whether outcome differences start to appear after an *a priori* unknown amount of time exposed to the AHC Model intervention. We modeled some quality-of-care measures at an annual level. This ensured that these outcomes adhered to the HEDIS specifications. We also decided to model treatment for respiratory illnesses at an annual level because the rates were too small at a quarterly level. For a follow-up visit within 30 days of hospital discharge for mental health, we used one fewer year of data (i.e., the first 2 years [for Medicaid] and 3 years [for FFS Medicare]) because of the limited number of beneficiaries with both a hospital discharge for mental health and 3 years (for Medicaid) or 4 years (for FFS Medicare) of data after screening.

Lastly, to measure the overall impact over the first 2 years (for combined FFS Medicare and Medicare Advantage), 3 years (for Medicaid), or 4 years (for FFS Medicare) after each beneficiary was screened, we produced an overall impact estimate for each outcome. To calculate this overall impact estimate, we calculated the weighted average of the quarter-specific impact estimates for each outcome, using the precision of each quarter-specific impact (i.e., inverse of the standard error of the quarter-specific impact estimates) as weights. This technique is commonly used for pooling effect estimates in meta-analysis (Borenstein et al., 2009).

## Alignment Track Impact Analyses

The main difference in the impact analyses for the Alignment Track is the modeling approach used. Because the Alignment Track did not randomize beneficiaries to an intervention or control group, we reused the Assistance Track control group as a comparison group. To ensure this comparison group was valid and reliable, we used propensity score weighting to weight the Assistance Track control group to more closely resemble the Alignment Track beneficiaries in terms of sociodemographic and community-level characteristics. More detail on the propensity score analysis results is available in **Appendix J**.

In addition, we used a difference-in-differences (DID) specification for the Alignment Track impact analyses. As with the Assistance Track, we modeled some outcomes on a quarterly basis and others on a yearly basis. Quarterly outcomes had 12 post-screening quarters for Medicaid, eight post-screening quarters for combined FFS Medicare and Medicare Advantage beneficiaries, and 16 post-screening quarters for FFS Medicare beneficiaries. Analyses of quarterly outcomes for all payers used 12 baseline quarters, which provided ample baseline data to test—and, if needed, to correct for a lack of—parallel baseline trends. Parallel baseline trend testing results are also available in **Appendix J**. Models that were at an annual level had 3 baseline years, and 2 post-screening years for combined FFS Medicare and Medicare Advantage, 3 post-screening years for Medicaid, and 4 post-screening years for FFS Medicare.

The basic DID specification we used is as follows:

$$Y_{ijt} = \alpha_0 + \beta_1 I_i + \theta P_{it} + \sum_t \alpha_{2,t} Q_t + \sum_k \gamma_k (I_i * Q_k * P_{it}) + \lambda X_{ij} + \delta C_i + \pi PVI_{ijt} + \varepsilon_{ijt}, \quad (D.1)$$

where  $I_i$  ( $= 0, 1$ ) denotes an intervention group indicator,  $P_{it}$  ( $= 0, 1$ ) denotes an indicator that equals 1 if the beneficiary-year observation is a post-screening observation,  $Q_t$  ( $= 0, 1$ ) denotes a set of period-specific indicators that equal 1 in each time period during the baseline and implementation periods, and  $X_{ij}$  denotes a set of regression controls at the beneficiary (indexed by  $i$ ) and area level (indexed by  $j$ ).  $C_i$  denotes a set of cohort fixed

effects for each beneficiary (indexed by  $i$ ), and  $PVI_{ijt}$  denotes a control for pandemic vulnerability for each beneficiary, in county  $j$  at time  $t$ .

For the few outcomes where we did not find evidence to support parallel baseline trends (inpatient admissions, PCP visits and antidepressant medication management for Medicaid beneficiaries, and antidepressant medication management for FFS Medicare beneficiaries), we conducted a sensitivity analysis where we included a linear time trend and interacted it with the intervention group indicator, using the following extension to the basic DID specification:

$$Y_{ijt} = \alpha_0 + \beta_1 I_i + \beta_2 TRND_t + \beta_3 (I_i * TRND_t) + \theta P_{it} + \sum_k \{ \alpha_{2,k} Q_k + \gamma_k (I_i * Q_k * P_{it}) \} + \lambda X_{ij} + dC_i + pPVI_{ijt} + \varepsilon_{ijt}, \quad (D.2)$$

where  $TRND_t$  denotes a linear time trend (all other notation is equivalent to equation D.1). With this modification to the DID specification, the impact estimates ( $\gamma_k$ ) for these analyses are interpreted as the relative change in the outcome across the intervention and comparison groups above and beyond any differences in trends observed during the baseline.

We included different covariates by payer depending on variable availability and policy significance (e.g., managed care enrollment for Medicaid or dual eligibility status for FFS Medicare).

In the Medicaid analysis, all models controlled for the following:

- Number of HRSNs
- Chronic Illness and Disability Payment System (CDPS) risk score
- Charlson score
- Age
- Gender
- Race/ethnicity
- Medicaid eligibility because of disability
- Managed care enrollment
- Total number of months enrolled in Medicaid
- An indicator for rural residence
- An indicator for living in a county with a mental health care professional shortage
- A measure of the county-level proportion of individuals living in poverty
- PVI

In the FFS Medicare analysis, all models controlled for the following:

- Age
- Gender
- Indicators for pulmonary disease, diabetes, substance use disorder, and major depression at the baseline
- Dual eligibility status
- Original Medicare entitlement because of disability
- An indicator for rurality

- An indicator for having more than one HRSN
- Race/ethnicity
- PVI
- Pandemic cohort fixed effects

In the combined FFS Medicare and Medicare Advantage analysis, all models controlled for the following:

- Number of HRSNs
- Hierarchical condition category risk score
- The number of chronic conditions at the baseline
- Age
- Gender
- Race/ethnicity
- Original Medicare entitlement because of disability
- Total number of months enrolled in FFS Medicare/Medicare Advantage
- An indicator for rurality
- An indicator for living in a county with a mental health care professional shortage
- A measure of the county-level proportion of individuals living in poverty
- PVI

Except for models for readmissions, ED visit within 30 days of hospital discharge, follow-up visit within 14 days of hospital discharge, and follow-up visit within 30 days of hospital discharge for mental health, all models used a combination of the propensity score weight and the beneficiary’s eligibility fraction as an analytic weight. The models for unplanned readmissions, ED visit within 30 days of hospital discharge, follow-up visit within 14 days of hospital discharge, and follow-up visit within 30 days of hospital discharge for mental health (Medicaid and FFS Medicare) and all-cause readmissions (combined FFS Medicare and Medicare Advantage) only used the propensity score weight as an analytic weight.

We used the same functional forms as in the Assistance Track impact analyses, the same data periods, and the same approach to aggregate quarter-specific impact estimates up to yearly impact estimates and an overall cumulative impact estimate.

## Subpopulation Analyses

Subpopulation analyses were performed to test whether AHC Model impacts differed for several subpopulations. These analyses relied on interacted models to measure impacts separately for beneficiaries in a particular subpopulation versus beneficiaries not in a particular subpopulation. For example, impacts were measured separately for non-White and/or Hispanic beneficiaries versus non-Hispanic White beneficiaries. The subpopulations included in this report were:

- Nonwhite or Hispanic beneficiaries versus non-Hispanic White beneficiaries
- Dually eligible for Medicare and Medicaid beneficiaries (in the FFS Medicare analyses only) versus nondually eligible beneficiaries
- Beneficiaries with a disability versus beneficiaries without a disability

- Beneficiaries who live in rural regions versus beneficiaries who live in urban regions
- Beneficiaries with more than one HRSN versus beneficiaries with one HRSN
- Beneficiaries with each specific HRSN versus beneficiaries without each specific HRSN

In addition, we examined subpopulations with pulmonary disease, diabetes, substance use disorder (SUD), and major depression. Navigation may be more effective in changing expenditures and quality-of-care outcomes for beneficiaries with these conditions compared to other beneficiaries. We used the specifications for pulmonary disease and diabetes that are included in the Charlson Comorbidity index (Quan et al., 2005). We identified beneficiaries with major depression using the specifications in the Chronic Conditions Data Warehouse Other Chronic Conditions Algorithm for depressive disorders. We defined SUD using HEDIS value sets for diagnoses and medications. Detailed descriptions about how we identified these subpopulations are below.

- **Pulmonary disease:** Pulmonary disease includes beneficiaries with asthma, chronic bronchitis, emphysema, and other chronic lung disease who have ongoing symptoms. Specifically, we identified beneficiaries with having pulmonary disease if the beneficiary had any claims or encounter records in inpatient, outpatient, and professional service settings with any of the following ICD-10 diagnosis codes during the baseline year before screening: J40, J41, J42, J43, J44, J45, J46, J47, J60, J61, J62, J63, J64, J65, J66, J67, I278, I279, J684, J701, or J703. We excluded diagnosis codes from the inpatient service setting that were not present at the time of admission.
- **Diabetes:** Diabetes includes all patients with diabetes treated with insulin or oral hypoglycemic, but not diet alone. Gestational diabetes is not included. Specifically, we identified beneficiaries with having diabetes if the beneficiary had any claims or encounter records in inpatient, outpatient, and professional service settings with any of the following ICD-10 diagnosis codes during the baseline year before screening: E100, E101, E106, E108, E109, E110, E111, E116, E118, E119, E120, E121, E126, E128, E129, E130, E131, E136, E138, E139, E140, E141, E146, E148, E149, E102, E103, E104, E105, E107, E112, E113, E114, E115, E117, E122, E123, E124, E125, E127, E132, E133, E134, E135, E137, E142, E143, E144, E145, or E147. We excluded diagnosis codes from the inpatient service setting that were not present at the time of admission.
- **Substance use disorder:** We used claims or encounter records in inpatient, outpatient, professional, and skilled nursing facility service settings and prescription drug events during the 3 baseline years before screening. We identified a beneficiary with SUD if they had at least one claim or encounter record meeting any of the following three criteria:
  - Had claims or encounter records in the professional or outpatient service setting with a procedure code in the HEDIS measurement year 2021 Alcohol and Other Drugs Medication Treatment HCPCS Value Set, or equal to H0008, H0009, H0010, or H0011, with a place of service code equal to 55 (revenue center equal to 1002 in the outpatient setting), or with a diagnosis code in the HEDIS measurement year 2021 Alcohol Abuse and Dependence, Opioid Abuse and Dependence, or Other Drug Abuse and Dependence Value Sets
  - Had claims or encounter records in the inpatient or skilled nursing facility service settings with a revenue center code equal to 1002 or a diagnosis code in the HEDIS measurement year 2021 Alcohol Abuse and Dependence, Opioid Abuse and Dependence, or Other Drug Abuse and Dependence Value Sets
  - Had prescription drug events with a National Drug Code in the HEDIS measurement years 2018–2021 Alcohol Use Disorder or Opioid Use Disorder Treatment medication lists.
- **Major depression:** We identified a beneficiary with major depression if, during the 3 baseline years before screening, they had at least one claim or encounter record in the inpatient service setting or at least two

claims or encounter records in another service setting (professional, outpatient, skilled nursing facility, home health agency) with the diagnosis codes: F32.0, F32.1, F32.2, F32.3, F32.4, F32.5, F32.89, F32.9, F32.A, F33.0, F33.1, F33.2, F33.3, F33.40, F33.41, F33.42, F33.8, F33.9, or F34.1.

The Assistance Track subpopulation analyses modified the general impact analysis approach described above by testing for differences in regression-adjusted means between the intervention and control groups separately by subpopulation. To test whether the impacts differed for subpopulations, we tested whether the difference in means within each subpopulation was statistically significantly different. In addition, because of differences between the subpopulations and other beneficiaries, we used a different set of covariates in the subpopulation analyses. For Medicaid, we controlled for the number of HRSNs, race, age, number of months enrolled in Medicaid, gender, pandemic cohort fixed effects, and the PVI measure. Additionally, for the non-White and/or Hispanic subpopulation analysis, we included the controls for CDPS, number of chronic conditions, child, disability status, and managed care enrollment. For FFS Medicare, we controlled for the number of HRSNs, age, dual eligibility status, total number of months enrolled in Medicare, gender, race/ethnicity, pandemic cohort fixed effects, and the PVI measure. We removed race/ethnicity as a covariate from the non-White and/or Hispanic subpopulation analysis for both payers.

For the Alignment Track subpopulation analyses, we used a triple difference model with the subpopulation indicator interacted with the post quarters and the indicator for Alignment Track. For the Medicaid analysis, we removed the CDPS risk score for all models and race/ethnicity for the non-White and/or Hispanic subpopulation analysis. For the FFS Medicare analysis, we removed the indicators for pulmonary disease and diabetes from the pulmonary disease and diabetes subpopulation analyses and race/ethnicity from the non-White and/or Hispanic subpopulation analysis. We then abstracted marginal effects from the regression model to measure the DID estimate within each subgroup, as well as measure the difference in the DID estimates.

## **Treatment-on-the-Treated Analyses**

The impact analyses and subpopulation analyses described above estimated intent-to-treat effects. Although navigation-eligible beneficiaries were assigned to the intervention group in the Assistance Track or were in the Alignment Track, not all navigation-eligible beneficiaries who were assigned navigation received navigation. For example, some beneficiaries who were assigned navigation opted out of receiving navigation. The intent-to-treat analysis effectively averages the AHC Model's impacts among beneficiaries who received navigation with those who were assigned to navigation but did not receive navigation. Nonetheless, intent-to-treat effects are important because we would not expect that all beneficiaries who are assigned navigation receive navigation in real-world settings.

As a sensitivity analysis, we conducted treatment-on-the-treated analyses. We expect that the AHC Model's impacts would be larger if we focused on those who received navigation. We identified beneficiaries who received navigation as those who opted into navigation and who had a follow-up with a navigator. However, since beneficiaries who received navigation were different than those who were assigned navigation but did not receive navigation, simply comparing the outcomes of those who received navigation with the comparison group would lead to biased impact estimates.

To help ameliorate this bias in the impact estimates for the Assistance Track, we used a standard instrumental variables approach to estimate the relationship between navigation acceptance and our outcomes (Imbens and Angrist, 1994). In the first-stage regression, we use the random assignment of beneficiaries to the intervention group as an instrument for navigation acceptance. In the second-stage regression, navigation acceptance was related to outcomes. This approach has also been used to evaluate the CMS Innovation Center's Comprehensive Care for Joint Replacement Model (Finkelstein et al., 2018). Using the random assignment of beneficiaries to the intervention group as an instrument fulfills the two main criteria for being a valid instrument. The random assignment of beneficiaries to the intervention group: (1) was strongly related to navigation acceptance; and

(2) only impacted our outcomes through navigation acceptance. We also adopted appropriate regression functional forms for each outcome. Specifically, we used linear instrumental variables regression for expenditure outcomes, a two-stage residual inclusion logistic regression model for the readmissions outcomes, ED visit within 30 days of hospital discharge, and follow-up visit within 14 days of hospital discharge, and a two-stage residual inclusion Poisson model for all remaining outcomes (Terza, 2017).



Because the Alignment Track did not randomize beneficiaries to an intervention or control group, we continued with the same modeling approach we used for the intent-to-treat analyses. However, we used propensity score weighting to weight the Assistance Track control group to more closely resemble the beneficiaries who *received* navigation in the Alignment Track. In contrast, in the intent-to-treat analyses, we weighted the control group to more closely resemble the beneficiaries who were *assigned* navigation. We then used with the same DID specifications that we used in the intent-to-treat analyses.

## Quality Assurance

Several steps were conducted to ensure the quality of the information presented in this report:

1. All claims data processing and outcome programming were independently reviewed by a second programmer for accuracy.
2. All claims data processing and outcome programming results were reviewed by two analysts.
3. All analysis code was independently reviewed by a secondary analyst from the claims team.
4. All numbers reported were reviewed for accuracy against raw Stata output.

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# Appendix E: Community Capacity Components and Definitions

The purpose of this appendix is to provide details around community capacity components and their definitions. This supported the analyses in Chapter 3, which endeavors to describe community capacity across the Accountable Health Communities (AHC) Model communities. To operationalize the concept of community capacity, we focus on the interplay between resource availability and the community’s ability to leverage those resources to meet beneficiaries’ health-related social needs (HRSNs).

**Health-related social need (HRSN) resource availability:** Describes the services available in an AHC Model community to address beneficiaries’ HRSNs, including the availability and capacity of community service providers (CSPs).

Key Element	Definition
CSP availability	Number and types of CSPs in the AHC community Also any identified gaps in or lack of CSP availability in any HRSN category (food, housing, transportation, utilities, interpersonal violence [IPV])
Participating CSPs	Out of all CSPs in the AHC community, those CSPs that participated in the AHC Model by being connected with or referred to by AHC Bridge Organizations
CSP resources	Resources the CSPs have available to help address residents' needs, such as adequate funding, staffing, physical space, and technology
CSP accessibility	Characteristics that relate to CSP hours of operation, geographic proximity, service eligibility restrictions, language barriers, and/or stigma that may hinder residents from using services Also includes access to virtual CSP services
CSP appropriateness and quality	The extent of alignment between residents' needs, identified by screening, and the number and types of CSPs in AHC communities; specifically, alignment of residents' food, housing, transportation, utilities, and IPV needs with food, housing, transportation, utilities, and IPV CSPs/services

**Leveraging health-related social need (HRSN) resources:** Describes what communities can do with available resources; a community’s ability to leverage resources to meet beneficiaries’ HRSNs; how the community responds to beneficiaries’ HRSNs; and the extent to which beneficiaries’ HRSNs are being met.

Key Element	Definition
Coordination and networking	The extent to which and how well the Bridge Organizations work with the community service providers (CSPs) in their network; existing and/or enhanced coordination among AHC community stakeholders (between CSPs; between CSPs and Bridge Organizations); and activities to expand or identify new CSPs as partners in an AHC community
Reallocating resources	Adding resources; improving access to existing resources; AHC community mechanisms, strategies, or processes to distribute, redistribute, or generate resources to match specific needs in transportation, food, housing, utilities, and IPV assistance
Tracking navigation and HRSN resolution	AHC community mechanisms, strategies, or processes to measure and track referrals, connection to services, and navigation encounters
Continuous quality improvement	AHC community mechanisms, strategies, or processes to review data on available resources, beneficiary needs, and unmet needs, and use of those data for ongoing coordination and planning
Service awareness	The extent to which CSPs and other community stakeholders were aware of services available in AHC Model communities; building or improving awareness, for example, through development of online tools or resource directories

# Appendix F: Community Service Provider Survey Methods, Responses, and Instrument

## Survey Administration

We surveyed representatives of community service providers (CSPs) to which bridge organizations often or sometimes referred beneficiaries to address their health-related social needs (HRSNs). We surveyed CSPs at two time points during the evaluation. In the first round, which was conducted from July through November 2020, we sent surveys to representatives of 687 CSPs. The second round, conducted from January through May 2022, surveyed representatives of 903 CSPs. Bridge organizations provided names, email addresses, telephone numbers, and street addresses for contacts at each CSP. For organizations with multiple contacts, we sent the survey to all listed contacts.

The survey asked about organizational characteristics (type, funding sources, services offered), capacity and resources, perceived impact of the COVID-19 pandemic on the organization, and organizational changes made in response to the pandemic. Most of the survey questions were the same in Round 1 and Round 2; however, we added several questions to the second-round survey to better understand CSPs' perceived advantages and disadvantages of the AHC Model (survey instruments included in **Attachments F-1** and **F-2**). We cognitively tested survey questions with four potential respondents and revised the survey instrument before administration.

We conducted the CSP survey online, with mail and phone follow-up to nonrespondents. If more than one individual at a CSP responded, we used the first complete response. We received 282 total responses in Round 1 and 334 total responses in Round 2, for 41% (282/687, 41%) and 37% (334/903, 37%) response rates in Round 1 and Round 2, respectively. **Exhibit F-1** displays the number of respondents and the percentage of survey respondents in Round 1 and Round 2. Most survey respondents were the executive director, program director, or chief operating officer of the CSP.

**Exhibit F-1. Number and Percentage of CSP Respondents by Round**

Round 1		Round 2	
Number of CSP Respondents	Percentage of Total CSP Survey Respondents	Number of CSP Respondents	Percentage of Total CSP Survey Respondents
282	41	334	37

Definitions: CSP = community service provider.

## Analytic Approach

We generated descriptive statistics of survey responses, applying nonresponse weights at the bridge organization level. For this report, we analyzed data overall from the 334 Round 2 responses and conducted a sub-analysis of the 126 CSPs that responded in both survey rounds. (Results from the first-round survey were reported in the [Second Evaluation Report](#).) For the Round 2 overall results, we used chi-squared tests for categorical variables and *t*-tests for continuous variables to test for significant differences between the Assistance and Alignment Tracks. An alpha level of 0.05 was used for all significance tests. Because of small sample sizes, we were not able to test for

statistically significant differences across groups in the sub-analysis. **Exhibits F-2** through **F-7** show frequency distributions of survey responses for all exhibits presented in Chapter 3.

## Results

### Exhibit F-2. Frequency Distributions for Exhibit 3-2: Changes in CSPs' Perceived Ability to Resolve Clients' Needs at the Beginning and End of AHC Model Implementation

Would you say the following decreased, stayed the same, or increased?: Your organization's ability to resolve clients' needs.				
	Round 1 (From 2017 to 2020)		Round 2 (From 2021 to 2022)	
	n	%	n	%
<b>Decreased</b>	11	8.9	27	23.2
<b>Stayed the Same</b>	18	14.1	28	22.8
<b>Increased</b>	86	77.0	59	54.0
<b>Total</b>	115	100	114	100
Missing = 11			Missing = 12	

Note: Numbers represent unweighted frequencies and weighted percentages.

Definitions: CSP = community service provider.

### Exhibit F-3. Frequency Distributions for Exhibit 3-3: In 2022, More Alignment Track than Assistance Track CSPs Reported Increased Coordination Among Community Partners in the Past 12 Months

Would you say the following decreased, stayed the same, or increased in the past 12 months?: Coordination among community and social service organizations in your area.				
	Alignment Track		Assistance Track	
	n	%	n	%
<b>Decreased</b>	21	10.3	22	23.9
<b>Stayed the Same</b>	67	35.7	33	33.3
<b>Increased</b>	107	54.1	43	42.8
<b>Total</b>	195	100	98	100
Missing = 41				

Note: Numbers represent unweighted frequencies and weighted percentages.

Definitions: CSP = community service provider.

### Exhibit F-4. Frequency Distributions for Exhibit 3-4: Nearly All Surveyed CSPs in 2022 Made Enduring Organizational Changes in Response to the Pandemic

Has your organization made any adjustments to the way it operates in response to the COVID-19 pandemic?		
	n	%
<b>Yes</b>	287	97.2
<b>No</b>	9	2.8
<b>Total</b>	296	100
Missing = 38		

Note: Numbers represent unweighted frequencies and weighted percentages.

Definitions: CSP = community service provider.

**Exhibit F-5. Frequency Distributions for Exhibit 3-5: Perceived CSP Staffing Sufficiency Declined from 2020 to 2022**

Please indicate how often you felt your organization had the following resources in the past 12 months: My organization had sufficient staffing to effectively deliver services to our clients.				
	Round 1 (2020)		Round 2 (2022)	
	n	%	n	%
<b>Always/Usually</b>	86	75.2	72	64.0
<b>Sometimes</b>	18	14.8	27	23.3
<b>Rarely/Never</b>	12	10.0	16	12.7
<b>Total</b>	116	100	115	100
	Missing = 10		Missing = 11	

Note: Numbers represent unweighted frequencies and weighted percentages.  
Definitions: CSP = community service provider.

**Exhibit F-6. Frequency Distributions for Exhibit 3-6: Although the Majority of CSPs Reported That They Always or Usually Had Sufficient Funding, the Percentage Was Lower in 2022 than in 2020**

Please indicate how often you felt your organization had the following resources in the past 12 months: My organization had sufficient funding to cover the cost of delivering services to our clients.				
	Round 1 (2020)		Round 2 (2022)	
	n	%	n	%
<b>Always/Usually</b>	77	67.6	70	61.0
<b>Sometimes</b>	18	14.7	28	24.8
<b>Rarely/Never</b>	21	17.7	17	14.2
<b>Total</b>	116	100	115	100
	Missing = 10		Missing = 11	

Note: Numbers represent unweighted frequencies and weighted percentages.  
Definitions: CSP = community service provider.

**Exhibit F-7. Frequency Distributions for Exhibit 3-7: Fewer CSPs Reported Increased Community Capacity in 2022 than in 2020**

Would you say the following decreased, stayed the same, or increased?: Community capacity to meet residents' health-related social needs.				
	Round 1 (From 2017 to 2020)		Round 2 (From 2021 to 2022)	
	n	%	n	%
<b>Decreased</b>	18	15.5	35	30.3
<b>Stayed the Same</b>	30	23.7	41	34.7
<b>Increased</b>	67	60.8	36	35.0
<b>Total</b>	115	100	112	100
	Missing = 11		Missing = 14	

Note: Numbers represent unweighted frequencies and weighted percentages.  
Definitions: CSP = community service provider.

**Attachment F-1. Survey of Community Service Providers – Round 1**



Accountable Health Communities Model Evaluation  
Community Service Provider Survey

Please return this survey in the enclosed envelope to:

Abt Associates  
10 Fawcett Street, Suite 5  
Cambridge, MA 02138





This survey is about the Accountable Health Communities (AHC) Model, sponsored by the Centers for Medicare & Medicaid Services (CMS). The AHC Model aims to identify and address unmet needs of clients with Medicare and/or Medicaid insurance, such as assistance with housing, food, utilities, interpersonal violence, and transportation.

You are receiving this survey because <Bridge Org> told CMS that they may refer Medicare and Medicaid clients to your organization for services. This survey will help inform CMS about the characteristics of the community service providers in AHC Model communities, how community service providers meet the needs of their clients, and the experiences of community service providers with the AHC Model. **Your responses are important whether or not you are familiar with the AHC Model.**

We value your input, and greatly appreciate your participation! This survey should take about 15 minutes to complete. Participation is voluntary, but we encourage you to participate because your insights will help CMS understand the impact of the AHC Model. The information you provide will be held in confidence. We will combine your answers with those from hundreds of other organizations taking this survey. Your name will not appear in any reports or related studies.

If you have any questions about this survey, please contact us at [AHC@abtassoc.com](mailto:AHC@abtassoc.com) or at 1-8[XX -XXX-XXXX]. You may also contact the CMS Contracting Officer's Representative for the evaluation of the AHC Model, Shannon O'Connor, PhD, at [Shannon.OConnor@cms.hhs.gov](mailto:Shannon.OConnor@cms.hhs.gov).

### **Instructions:**

- Please read each question carefully and respond by marking the circle next to the response that most closely represents your answer.
- Please mark only one circle for each question, unless indicated to mark all that apply.
- For number boxes, please round your response to the nearest whole number, if necessary. (Do not include numbers with decimal places.)
- You can use a ballpoint pen, but we suggest you use a PENCIL in case you want to change your answer. **Please do NOT use a felt tip pen.**
- This survey can be completed in more than one sitting, if necessary. Please feel free to check with other staff at your organizations as you answer questions, as needed.

## Organization Characteristics and Clients

1. Which of the following best describes your organization? Please select one.
  - Public or governmental
  - Private, for profit
  - Faith-based
  - Non-profit, community-based organization (not faith-based)
  - Other, please specify \_\_\_\_\_
  
2. What types of funding does your organization receive? Please select all that apply.
  - Federal funding
  - State funding
  - Local funding, such as from the county or city
  - Foundation grants
  - Private and/or corporate donations
  - Other, please specify \_\_\_\_\_
  
3. Which types of services does your organization provide? Please select all that apply.
  - Education assistance
  - Employment assistance
  - Financial or cash assistance, such as social security or TANF
  - Food assistance
  - Housing assistance – help with *finding housing*
  - Housing assistance – help with *improving housing quality* (home improvements or needed repairs)
  - Permanent, transitional, or temporary housing
  - Shelter services or emergency housing
  - Interpersonal violence counseling/support
  - Mental health services
  - Physical activities, such as exercise or yoga classes
  - Social support, such as support groups, group activities, or one-on-one outreach
  - Substance use services
  - Transportation assistance
  - Assistance with paying for utilities, such as person in need grants
  - Other, please specify \_\_\_\_\_

4. What is the extent of your organization's service area?
- Local (city-wide, county-wide, or multiple counties within a state)
  - State-wide
  - Regional (more than 1 state)
  - National

5. How many total service sites (locations) does your organization have?

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6. Please fill in the approximate number of individual clients (unduplicated) that your organization served in the past 12 months. Best estimates are fine.

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7. Please fill in the approximate number of **new** clients your organization served in the past 12 months. By new clients, we mean individuals who had not previously received services from your organization. Best estimates are fine.

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**Staffing and Resources**

8. About how many staff currently work at your organization? Best estimates are fine.

Type	Number
Paid staff	
Unpaid, in-kind, and/or volunteer staff	

Please indicate how often you felt your organization had the following resources in the past 12 months. Please do your best to think about the year as a whole even though COVID-19 may have caused unusual impacts in the last few months.

Survey Question	Always	Usually	Sometimes	Rarely	Never
9. My organization had <i>sufficient staffing</i> to effectively deliver services to our clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. My organization had <i>sufficient funding</i> to cover the cost of delivering services to our clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. My organization had the necessary <i>partnerships with other organizations</i> to effectively deliver services to our clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Does your organization have a data system to track the services or assistance your organization provides to clients?

- Yes
- No

13. Does your organization have a data system to track the services or assistance your clients receive *from outside your organization*, such as from partner organizations in the community?

- Yes, for all clients and services
- Yes, but only for some clients or services
- No

Please choose the best option for each of the following questions. Would you say the following decreased, stayed the same, or increased *since May 2017*?

Survey Question	Decreased a lot since 2017	Decreased a little since 2017	Stayed the same since 2017	Increased a little since 2017	Increased a lot since 2017
14. Your organization's ability to collaborate with health care organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Your organization's ability to resolve clients' needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Coordination among community and social service organizations in your area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Community capacity to meet residents' health-related social needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. How much has COVID-19 impacted your organization? Please consider both negative and positive impacts on client volume, staffing, funding, and services since the pandemic started in March.

- Severely impacted
- Moderately impacted
- Slightly impacted
- Almost no impact
- Don't know

18a. (Optional) Please briefly describe how COVID-19 impacted your organization:

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**Your Organization's Relationship with <Bridge Org>**

The next set of questions are about your organization's relationship with <Bridge Org>.

19. How would you describe the collaborative nature of your organization's and <Bridge Org's> relationship over the past 12 months?

- History of working together often
- History of working together sometimes
- History of working together rarely
- No history of working together in the past 12 months → SKIP TO #21

20. How would you rate your organization's and <Bridge Org's> ability to work together over the past 12 months?

- Work together very well
- Work together fine
- Work together poorly

21. Has your organization received financial support (such as a grant or subcontract) from <Bridge Org> in the past 12 months?

- Yes
- No

22. Did <Bridge Org> refer any clients to your organization in the past 12 months?

- Yes
- No → SKIP TO #27
- Don't know → SKIP TO #27

23. Please fill in the approximate number of clients that <Bridge Org> referred to your organization in the past 12 months. Your best estimate is fine.

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24. Does your organization have a *standardized referral process* (such as a protocol, required form, or standard operating procedure) for <Bridge Org> to use when making referrals?

- Yes
- No

25. Do your organization and <Bridge Org> use an *electronic data system* to share client referral information between the two organizations?

- Yes
- No

26. Please choose the option that best describes how your organization usually receives referrals from <Bridge Org>.

- <Bridge Org> tells their clients about your services and leaves it up to the client to make an appointment.
- <Bridge Org> completes a standard referral form or application that is submitted to your organization by electronic data system (not by email).
- <Bridge Org> completes a standard referral form or application that is sent to your organization by mail, fax, or email.
- <Bridge Org> calls your organization to make an appointment for the client.
- <Bridge Org> physically escorts the client to your organization to set up an appointment or receive services.
- Other, please specify \_\_\_\_\_

### Your Familiarity and Participation with the Accountable Health Communities Model

27. Prior to responding to this survey, how familiar were you with the Accountable Health Communities (AHC) Model sponsored by the Centers for Medicare & Medicaid Services (CMS)? That is, you heard or read about AHC or otherwise know about it, and are aware of what it's trying to accomplish.

- Very familiar with the AHC Model
- Somewhat familiar with the AHC Model
- A little familiar with the AHC Model
- Not at all familiar with the AHC Model → SKIP TO #30

28. During the past 12 months, have you participated in any of the following AHC activities? Please select all that apply.

- Attended meetings or training sessions to learn about the AHC Model
- Participated in AHC planning prior to the AHC Model launch in May 2017
- Participated in ongoing AHC planning or implementation meetings since the AHC Model launch in May 2017
- Served on the AHC Model advisory board
- Worked with AHC Model navigators
- Did not participate in any of these activities → SKIP TO #30
- I don't know → SKIP TO #30

29. Please rate your overall level of satisfaction with the AHC Model.

- Very satisfied
- Somewhat satisfied
- Neither satisfied or dissatisfied
- Somewhat dissatisfied
- Very dissatisfied
- Don't know



30. The AHC Model brings together health care providers and community and social service organizations to identify and address health-related social needs of clients with Medicare and/or Medicaid insurance. Key components of the AHC Model are routinely screening clients for health-related social needs in health care settings, navigating clients to relevant services in the community to address those needs, and bringing together community stakeholders and health care organizations to improve service coordination. Based on this description of the AHC Model, is your organization *currently participating* in any other similar initiative(s) or effort(s) to bring together health care providers and community and social service organizations?

- Yes → Please name the initiative(s) or effort(s). \_\_\_\_\_  
\_\_\_\_\_
- No
- Don't know

**THANK YOU for taking the time to complete this survey! We greatly value your input.**

**Attachment F-2. Survey of Community Service Providers – Round 2**



Accountable Health Communities Model Evaluation  
Community Service Provider Survey

Please return this survey in the enclosed envelope to:

Abt Associates  
13710 Dunnings Hwy  
P.O. Box 350  
Claysburg, PA 16625



This survey is about the Accountable Health Communities (AHC) Model, sponsored by the Centers for Medicare & Medicaid Services (CMS). The AHC Model aims to identify and address unmet needs of clients with Medicare and/or Medicaid insurance, such as assistance with housing, food, utilities, interpersonal violence, and transportation. **Your responses are important whether or not you are familiar with the AHC Model.**

You are receiving this survey because <Bridge Org> told CMS that they may refer Medicare and Medicaid clients to your organization for services. This survey will help inform CMS about the characteristics of the community service providers in AHC Model communities, how community service providers meet the needs of their clients, and the experiences of community service providers with the AHC Model.

We value your input, and greatly appreciate your participation! This survey should take about 10 minutes to complete. Participation is voluntary, but we encourage you to participate because your insights will help CMS understand the impact of the AHC Model. The information you provide will be held in confidence. We will combine your answers with those from hundreds of other organizations taking this survey. Your name will not appear in any reports or related studies.

If you have any questions about this survey, please contact us at CMS\_Community\_Services\_Survey@abtassoc.com or at 1-888-238-0963. You may also contact the CMS Contracting Officer's Representative for the evaluation of the AHC Model, Shannon O'Connor, PhD, at [Shannon.OConnor@cms.hhs.gov](mailto:Shannon.OConnor@cms.hhs.gov).

### **Instructions:**

- Please read each question carefully and respond by marking the circle next to the response that most closely represents your answer.
- Please mark only one circle for each question, unless indicated to mark all that apply.
- For number boxes, please round your response to the nearest whole number, if necessary. (Do not include numbers with decimal places.)
- You can use a ballpoint pen, but we suggest you use a PENCIL in case you want to change your answer. **Please do NOT use a felt tip pen.**
- This survey can be completed in more than one sitting, if necessary. Please feel free to check with other staff at your organization as you answer questions, as needed.

## Organization Characteristics and Clients

1. Which of the following best describes your organization? Please select one.
  - Public or governmental
  - Private, for profit
  - Faith-based
  - Non-profit, community-based organization (not faith-based)
  - Other, please specify \_\_\_\_\_
  
2. What types of funding does your organization receive? Please select all that apply.
  - Federal funding
  - State funding
  - Local funding, such as from the county or city
  - Foundation grants
  - Private and/or corporate donations
  - Other, please specify \_\_\_\_\_
  
3. Which types of services does your organization provide? Please select all that apply.
  - Education assistance
  - Employment assistance
  - Financial or cash assistance, such as social security or TANF
  - Food assistance
  - Housing assistance – help with *finding housing*
  - Housing assistance – help with *improving housing quality* (home improvements or needed repairs)
  - Permanent, transitional, or temporary housing
  - Shelter services or emergency housing
  - Interpersonal violence counseling/support
  - Mental health services
  - Physical activities, such as exercise or yoga classes
  - Social support, such as support groups, group activities, or one-on-one outreach
  - Substance use services
  - Transportation assistance

- Assistance with paying for utilities, such as person in need grants
- Other, please specify \_\_\_\_\_

*[\*\*\*Web survey programming note: Q3 and Q4 will be formatted for the web survey so that the list for Q4 will be prepopulated with the services the respondent checked in Q3. If the respondent checked any housing services (5<sup>th</sup>-8<sup>th</sup> options for Q3) those should appear as a single response option “housing assistance” in Q4. Web respondents will be able to check up to 2 services for Q4.]*

4. Thinking about the services you selected in the previous question, please indicate the **1-2 core services** your organization provides. Core services are the services that are most important for your organization’s mission. You may select up to 2 core services.

- Education assistance
- Employment assistance
- Financial or cash assistance, such as social security or TANF
- Food assistance
- Housing assistance – help with finding housing; improving housing quality; permanent, transitional or temporary housing; or shelter services or emergency housing
- Interpersonal violence counseling/support
- Mental health services
- Physical activities, such as exercise or yoga classes
- Social support, such as support groups, group activities, or one-on-one outreach
- Substance use services
- Transportation assistance
- Assistance with paying for utilities, such as person in need grants
- Other, please specify \_\_\_\_\_

5. What is the extent of your organization’s service area?

- Local (city-wide, county-wide, or multiple counties within a state)
- State-wide
- Regional (more than 1 state)
- National

6. How many total service sites (locations) does your organization have?

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7. Please fill in the approximate number of individual clients (unduplicated) that your organization served in the past 12 months. Best estimates are fine.

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8. Please fill in the approximate number of **new** clients your organization served in the past 12 months. By new clients, we mean individuals who had not previously received services from your organization. Best estimates are fine.

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**Staffing and Resources**

9. About how many staff currently work at your organization? Best estimates are fine.

Type	Number
Paid staff	
Unpaid, in-kind, and/or volunteer staff	

Please indicate how often you felt your organization had the following resources in the past 12 months. Please do your best to think about the year as a whole.

	Always	Usually	Sometimes	Rarely	Never
10. My organization had <i>sufficient staffing</i> to effectively deliver services to our clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. My organization had <i>sufficient funding</i> to cover the cost of delivering services to our clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. My organization had the necessary <i>partnerships with other organizations</i> to effectively deliver services to our clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Does your organization have a data system to track the services or assistance your organization provides to clients?

- Yes
- No

14. Does your organization have a data system to track the services or assistance your clients receive *from outside your organization*, such as from partner organizations in the community?

- Yes, for all clients and services
- Yes, but only for some clients or services
- No

Please choose the best option for each of the following questions. Would you say the following decreased, stayed the same, or increased in the past 12 months?

	Decreased a lot	Decreased a little	Stayed the same	Increased a little	Increased a lot
15. Your organization's ability to collaborate with health care organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Your organization's ability to resolve clients' needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Coordination among community and social service organizations in your area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Community capacity to meet residents' health-related social needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Has your organization made any adjustments to the way it operates in response to the COVID-19 pandemic? Please consider adjustments to policies, protocols, mode of service delivery, type of services offered, and staffing.

- Yes
- No → SKIP TO #20

19a. (If 19 = yes) Please describe any adjustments your organization made in response to the COVID-19 pandemic that it plans to continue.

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**Your Organization's Relationship with <Bridge Org>**

The next set of questions are about your organization's relationship with <Bridge Org>.

20. How would you describe the collaborative nature of your organization's and <Bridge Org's> relationship over the past 12 months?

- History of working together often
- History of working together sometimes
- History of working together rarely
- No history of working together in the past 12 months → SKIP TO #22

21. How would you rate your organization's and <Bridge Org's> ability to work together over the past 12 months?

- Work together very well
- Work together fine
- Work together poorly

22. Has your organization received financial support (such as a grant or subcontract) from <Bridge Org> in the past 12 months?

- Yes
- No

23. Did <Bridge Org> refer any clients to your organization in the past 12 months?

- Yes
- No → SKIP TO #28
- Don't know → SKIP TO #28

24. Please fill in the approximate number of clients that <Bridge Org> referred to your organization in the past 12 months. Your best estimate is fine.

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25. Does your organization have a *standardized referral process* (such as a protocol, required form, or standard operating procedure) for <Bridge Org> to use when making referrals?

- Yes
- No

26. Do your organization and <Bridge Org> use an *electronic data system* to share client referral information between the two organizations?

- Yes
- No

27. Please choose the option that best describes how your organization usually receives referrals from <Bridge Org>.

- <Bridge Org> tells their clients about your services and leaves it up to the client to make an appointment.
- <Bridge Org> completes a standard referral form or application that is submitted to your organization by electronic data system (not by email).
- <Bridge Org> completes a standard referral form or application that is sent to your organization by mail, fax, or email.
- <Bridge Org> calls your organization to make an appointment for the client.
- <Bridge Org> physically escorts the client to your organization to set up an appointment or receive services.
- Other, please specify \_\_\_\_\_

### Your Familiarity and Participation with the Accountable Health Communities Model

28. Prior to responding to this survey, how familiar were you with the Accountable Health Communities (AHC) Model sponsored by the Centers for Medicare & Medicaid Services (CMS)? That is, you heard or read about AHC or otherwise know about it, and are aware of what it's trying to accomplish.

- Very familiar with the AHC Model
- Somewhat familiar with the AHC Model
- A little familiar with the AHC Model
- Not at all familiar with the AHC Model → SKIP TO #34

29. During the past 12 months, have you participated in any of the following AHC activities? Please select all that apply.

- Attended meetings or training sessions to learn about the AHC Model
- Participated in ongoing AHC planning or implementation meetings
- Served on the AHC Model advisory board
- Worked with AHC Model navigators
- Did not participate in any of these activities
- I don't know

30. How has your participation in AHC Model activities changed over time since the AHC Model began in May 2017?

- My participation now is greater than my participation when the AHC Model began in 2017
- My participation now is similar to my participation when the AHC Model began in 2017
- My participation now is less than my participation when the AHC Model began in 2017
- I don't know

31. Please rate your overall level of satisfaction with the AHC Model.

- Very satisfied
- Somewhat satisfied
- Neither satisfied or dissatisfied
- Somewhat dissatisfied
- Very dissatisfied
- Don't know

32. Has your organization experienced any benefits or advantages from participating in the AHC Model?

- Yes
- No → SKIP TO #33
- Don't know → SKIP TO #33

32a. (If yes) Please briefly describe the benefits or advantages to your organization from participating in the AHC Model.

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33. Has your organization experienced any challenges or disadvantages from participating in the AHC Model?

- Yes
- No → SKIP TO #34
- Don't know → SKIP TO #34

33a. (If yes) Please briefly describe the challenges or disadvantages to your organization from participating in the AHC Model.

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34. The AHC Model brings together health care providers and community and social service organizations to identify and address health-related social needs of clients with Medicare and/or Medicaid insurance. Key components of the AHC Model are routinely screening clients for health-related social needs in health care settings, navigating clients to relevant services in the community to address those needs, and bringing together community stakeholders and health care organizations to improve service coordination. Based on this description of the AHC Model, is your organization *currently participating* in any other similar initiative(s) or effort(s) to bring together health care providers and community and social service organizations?







- Yes → Please name the initiative(s) or effort(s). \_\_\_\_\_  
\_\_\_\_\_
- No
- Don't know

**THANK YOU for taking the time to complete this survey! We greatly value your input.**

# Appendix G: Sample Data Used by Bridge Organizations in Gap Analyses and Quality Improvement Plans

This appendix provides an overview of the data source types that Alignment Track bridge organizations cited in their gap analyses and quality improvement plans. The intent of the gap analysis was to provide an annual assessment of gaps in community service capacity to measure the difference between actual and desired model performances and use of the complementary quality improvement plans to plan and monitor progress.

**Exhibit G-1. Gap Analysis and Quality Improvement Plan Sample Data Sources**

HRSN	Examples of Data Used in Gap Analyses and Quality Improvement Plans
 <p>Food</p>	<ul style="list-style-type: none"> <li>• U.S. Department of Agriculture (e.g., food access and distribution reports, Supplemental Nutrition Assistance Program [SNAP] Retailer Locator, Food Distribution Program on Indian Reservations, Household Food Security in the United States)</li> <li>• Food Research &amp; Action Center SNAP County Map</li> <li>• Behavioral Risk Factor Surveillance System (BRFSS)+</li> <li>• National Center for Chronic Disease Prevention and Health Promotion Report+</li> <li>• Feeding America Map the Meal Gap Report</li> <li>• Community Health Needs Assessments (e.g., Naugatuck Valley Community Health Plan, 2015 Tulsa County Health Profile)+</li> </ul>
 <p>Housing</p>	<ul style="list-style-type: none"> <li>• U.S. Department of Housing and Urban Development Continuum of Care Homeless Assistance Programs, Homeless Populations, and Subpopulations Moving to Opportunity for Fair Housing</li> <li>• National Low Income Housing Coalition</li> <li>• Local surveillance reports (e.g., Point-in-Time county counts of homeless populations)</li> <li>• Local development plans (e.g., Housing and Community Development Consolidated Plan for County of Berks and City of Reading)</li> </ul>
 <p>Transportation</p>	<ul style="list-style-type: none"> <li>• Local development plans (e.g., South Central Transit Authority Transit Development Plan)</li> </ul>
 <p>Utilities</p>	<ul style="list-style-type: none"> <li>• U.S. Energy Information Administration reports</li> <li>• Administration for Children and Families energy assistance report</li> <li>• State public utility commission reports</li> <li>• Cold Weather Survey</li> <li>• Local surveillance reports (e.g., Pennsylvania Public Utility Commission Annual Report)</li> </ul>
 <p>Safety</p>	<ul style="list-style-type: none"> <li>• Local surveillance reports (e.g., New York City Domestic Violence Fatality Review Committee 2018 Annual Report)</li> <li>• National Network to End Domestic Violence Census of Domestic Violence</li> </ul>
 <p>Sample Data Sources</p>	<ul style="list-style-type: none"> <li>• U.S. Census Bureau+</li> <li>• U.S. Bureau of Labor Statistics</li> <li>• United Way 211 reports+</li> <li>• Healthy People 2030+</li> <li>• Robert Wood Johnson Foundation County Health Rankings+</li> <li>• Local health disparities reports (e.g., Connecticut Health Disparities Report)+</li> </ul>

+ Data source is used for more than one HRSN.  
 Definitions: HRSN = health-related social need.

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# Appendix H: Advisory Board Survey Background, Methods, and Instrument

## Background and Methods

Advisory board members were invited to complete a subset of 22 questions from the original organizational structural survey. These questions were designed to address research questions including whether the advisory board developed and followed joint goals and plans, how the advisory board used data to assess progress and guide decisions, whether the advisory board had systems and processes in place to support regular communications, and the extent to which beneficiaries play a role in the board's activities. There was also a question about how the COVID-19 public health emergency affected board operations.

Leaders from 18 Alignment Track and 4 Assistance Track Bridge Organizations provided contact information for members of their advisory boards, collaboratives, or councils. We defined "advisory board" broadly for the survey, and it was not restricted to formal boards that were part of the Alignment Track. After receiving updated lists of board members from bridge organization leaders, we excluded clinical delivery site leaders who had already been invited to complete the full organizational structural survey. We also excluded 34 people who were in the sample for the community service provider survey, which was being administered at the same time. On July 24, 2020, we notified a total of 506 advisory board members from across 22 bridge organizations that the survey was forthcoming. We emailed invitations on July 28, and followed with three reminder emails, before closing the survey on September 15, 2020. We removed 101 people because the person on our list or the bridge organization leader told us they were no longer part of an advisory board. We received 235 completed surveys (11 from Assistance Track bridge organizations and 214 from Alignment Track bridge organizations), for a response rate of 58% of the eligible respondents.



**Attachment H-1. Advisory Board Survey**

## Organizational Survey for Advisory Board Members

1. Which best describes your role within your organization?
  - a. President/Executive Director/Chief Operating Officer
  - b. Human Resources Director or Specialist
  - c. Program Administrator
  - d. Clinician/health care provider
  - e. Social Worker/Counselor
  - f. Technical Assistance Provider
  - g. Attorney/paralegal/legal assistant
  - h. Community member
  - i. Other, please specify \_\_\_\_\_
  
2. How many months have you been serving on the AHC Model advisory board, collaborative, or council?
  - a. Less than 3 months
  - b. More than 3 months, less than 6 months
  - c. 6 to 12 months
  - d. Longer than 12 months
  - e. I am not currently on the advisory board, collaborative, or council. *[end of survey]*
  
3. Approximately how often does the advisory board, collaborative, or council meet?
  - a. 1-2 times per week
  - b. 1-2 times per month
  - c. 1-2 times every couple of months
  - d. 1-2 times per year

Please rate the extent to which you agree that each of the following statements describes your AHC Model’s advisory board, informal board, collaborative, or council (“the board”).

Goals	Completely Agree	Mostly Agree	Somewhat Agree	Slightly Agree	Do Not Agree at All	Not Applicable/Don’t Know
4. Our board has a written description of our shared goals. Shared goals can be defined as a description of what is to be accomplished over a defined timeframe and a clear mission statement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Our shared goals were developed by a group with diverse perspectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Mutually Reinforcing Activities</b>	<b>Completely Agree</b>	<b>Mostly Agree</b>	<b>Somewhat Agree</b>	<b>Slightly Agree</b>	<b>Do Not Agree at All</b>	<b>Not Applicable/Don't Know</b>
6. We have an action plan (e.g., quality improvement development plan) that specifies the activities that each board members' organization will do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Board members understand the roles of our working groups and how these roles support our shared goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Board members' organizational activities change as needed to better align with the action plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Leadership</b>	<b>Completely Agree</b>	<b>Mostly Agree</b>	<b>Somewhat Agree</b>	<b>Slightly Agree</b>	<b>Do Not Agree at All</b>	<b>Not Applicable/Don't Know</b>
9. Board leadership creates an environment where things can be accomplished.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Our board has a clear leader(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Continuous Communication</b>	<b>Completely Agree</b>	<b>Mostly Agree</b>	<b>Somewhat Agree</b>	<b>Slightly Agree</b>	<b>Do Not Agree at All</b>	<b>Not Applicable/Don't Know</b>
11. Members of the board attend all or most board meetings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Members of the board participate actively in board meetings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. The board works to compromise and reach agreement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Continuous Learning	Completely Agree	Mostly Agree	Somewhat Agree	Slightly Agree	Do Not Agree at All	Not Applicable/Don't Know
14. Our board regularly reviews progress on our goals and action plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Our board adjusts our plans and activities in response to feedback and data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Our board openly discusses mistakes in order to learn from them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Engagement	Completely Agree	Mostly Agree	Somewhat Agree	Slightly Agree	Do Not Agree at All	Not Applicable/Don't Know
17. Our board solicits feedback from beneficiaries in our community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Beneficiaries from our community serve in leadership positions within our advisory board.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying and Addressing Gaps	Completely Agree	Mostly Agree	Somewhat Agree	Slightly Agree	Do Not Agree at All	Not Applicable/Don't Know
19. Our board has identified gaps in services to address health-related social needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Our board has reduced gaps in services to address health-related social needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Next, thinking about your AHC Model activities, we are interested in learning about how you have *worked with or engaged* with **each of the following organization types**.

Under each type of organization’s name, check all that apply.

Activities	Bridge Organization	Clinical Delivery Sites (CDSs)	Community Service Providers (CSPs)	State Medicaid Agency	Behavioral Health Provider
Established MOU, MOA, cooperative agreement, or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participate in quality improvement activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refer beneficiary for services and resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide/receive technical assistance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide/receive space for screening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide/receive equipment/supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide/receive advertising/promotion of organization, services, events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other activities, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None of the above	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. How has COVID-19 affected the way this board operates? Please select all that apply.

- a. We now meet by conference call or videoconference, rather than in person
- b. We meet more frequently than we did before COVID-19
- c. We meet less frequently than we did before COVID-19
- d. Attendance at board meetings seems higher than before COVID-19
- e. Attendance at board meetings seems lower than before COVID-19
- f. The board has identified additional gaps in services to address health-related social needs
- g. New board members have been added because of newly identified needs
- h. Other, please specify \_\_\_\_\_

# Appendix I: Fidelity Assessment

This appendix provides detailed information on the fidelity assessment referenced in Chapters 4, 5, 6, and 9.

Fidelity is an implementation outcome reflecting the extent to which those who implement an intervention do so as intended by the intervention’s creators (Dusenbury et al., 2003; Rabin et al., 2008). It is important to measure fidelity for the Accountable Health Communities (AHC) evaluation because we hypothesize that high fidelity may be a prerequisite condition for model impacts on health outcomes, utilization, and spending to be assessed in future evaluation reports. High fidelity to model requirements could also imply that the AHC Model is feasible to implement by a variety of organizations and across different kinds of communities, which could support efforts to sustain and scale the model.

## Development of the Fidelity Assessment

In December 2020, the AHC evaluation team developed an initial list of criteria to assess fidelity to AHC Model requirements using the funding opportunity announcement that bridge organizations responded to when applying to participate in the AHC Model. The criteria collectively addressed several elements of fidelity identified by Carroll et al. (2007): the *content, frequency, duration, and coverage* of activities associated with the AHC Model. We subsequently refined the criteria based on feedback from the CMS Innovation Center, availability of data to evaluate the criteria across bridge organizations, and changes in AHC Model requirements associated with the COVID-19 public health emergency. Exhibit I-1 lists the final 10 criteria assessed: six pertaining to bridge organizations in both tracks (n = 28) and four pertaining to Alignment Track bridge organizations only (n = 18). Exhibit I-1 also indicates the data source(s) used to evaluate the criterion.

The remaining sections of this appendix provide more detailed information on criterion-level scoring and limitations of the fidelity assessment.

### Exhibit I-1. AHC Model Fidelity Criteria by Track

Track	Criterion	Data Source(s)
Assistance and Alignment	Bridge organizations developed a health resource equity statement (HRES) documenting their strategy for addressing health equity in model implementation and outcomes.	Program documents
	Bridge organizations and their partners used a comprehensive community resource inventory (CRI) with information on community service providers (CSPs) that may be able to help address beneficiaries’ health-related social needs (HRSNs).	Interviews with AHC Model leaders, program documents
	All beneficiaries received community referral summaries (CRSs) tailored to focus on their individual HRSNs.	Interviews with clinical delivery site partners, program documents
	Navigators worked with all beneficiaries to develop patient-centered action plans to resolve unmet HRSNs.	Program data
	Bridge organizations and their partners established processes for exchanging screening and navigation data on AHC beneficiaries.	Bridge organization structural survey
	The state Medicaid agency was involved in AHC Model implementation.	Interviews with AHC leaders and state Medicaid agency representatives

Track	Criterion	Data Source(s)
Alignment Only	Bridge organizations formed an advisory board that included representatives from the state Medicaid agency, local government(s), clinical delivery sites (CDSs), CSPs, local payers and providers, and beneficiaries/their caregivers.	Advisory board membership lists, interviews with AHC Model leaders and advisory board members
	Advisory boards met at least quarterly.	Bridge organization structural survey
	Advisory boards assessed and prioritized beneficiary and community needs.	Bridge organization structural survey; advisory board member survey; interviews with AHC Model leaders, advisory board members, and quality improvement specialists
	Bridge organizations and their partners used a robust quality improvement plan to incorporate best practices to address gaps in community resources.	Program documents

## Fidelity Criteria Assessed for Both Tracks

### Developed an HRES

For the first criterion, the evaluation team assessed whether *bridge organizations developed a health resource equity statement (HRES) documenting their strategy for addressing health equity in model implementation and outcomes*. Bridge organizations were evaluated as having met or not met the criterion based on the evaluation team’s review of their applications for funding. For this criterion and all others, we also created a “cannot determine” category for any bridge organizations that we could not assess based on available data. The application review revealed that all bridge organizations had prepared an HRES, fulfilling this AHC Model requirement (Exhibit I-2). Pages 70-72 of the [Second Evaluation Report](#) address how bridge organizations ultimately used the HRES during model implementation.

### Exhibit I-2. Fidelity Criterion: Developed an HRES

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with data	n	% of Those with Data
1 – Developed an HRES	28	100	10	100	18	100
0 – Did not develop an HRES	0	0	0	0	0	0
9 – Cannot determine	0	-	0	-	0	-

Definitions: HRES = health resource equity statement.

## Used a Comprehensive CRI

Referring beneficiaries to community service providers (CSPs) is a core component of the AHC Model, and the second fidelity assessment criterion addressed whether *bridge organizations and their partners used a comprehensive community resource inventory (CRI) with information on CSPs that may be able to help address beneficiaries' health-related social needs (HRSNs)*. The evaluation team scored this criterion using data from key informant interviews, focusing especially on responses to the following interview questions:

- **Wave 2 interviews with AHC Model leaders:** How did you populate your CRI?
- **Wave 4 interviews with AHC Model leaders:** Thinking about referrals and navigation, is there a central source of resources that you use to issue referrals to community service providers?
  - [if yes] How complete is it?
  - [if no] How do navigators know where to refer beneficiaries? Do navigators or other staff maintain their own lists?

Bridge organizations were assessed as having a comprehensive and current CRI, as having an incomplete or outdated CRI, or as missing sufficient data to make a determination. All bridge organizations with data met this criterion, and one bridge organization in the Assistance Track could not be assessed (Exhibit I-3). Chapter 5 of this report provides more information on bridge organizations' resources for issuing referrals to AHC Model beneficiaries.

### Exhibit I-3. Fidelity Criterion: Used a Comprehensive CRI

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with Data	n	% of Those with Data
1 – Bridge organizations used a comprehensive and current CRI to issue CRS	27	100	9	100	18	100
0 – Bridge organizations used a CRI that was incomplete or outdated; AHC staff cannot rely on it exclusively	0	0	0	0	0	0
9 – Cannot determine	1	-	1	-	0	-

Definitions: CRI = community resource inventory; CRS = community referral summary.

## Distributed Tailored CRS

The third fidelity assessment criterion was *all beneficiaries received community referral summaries (CRSs) tailored to focus on their individual HRSNs*. The evaluation team scored this criterion using qualitative data from key informant interviews and standard operating procedures for AHC screening and referrals prepared by bridge



organization staff. When reviewing interview data, the evaluation team focused especially on responses to the following interview questions:

- **Wave 2 interviews with CDS staff:** Please describe the referral process to CSPs once a patient has been screened.
  - How, if at all, do you adapt the referral process based on the need addressed?
  - What aspects of the referral process have you standardized?

Bridge organizations were assessed as giving a tailored CRS to all beneficiaries, giving nontailored CRSs to all beneficiaries, or as not distributing CRSs. Evaluation data indicate that 96% of the bridge organizations that could be scored met this model requirement, with slightly higher percentages within the Alignment Track compared to the Assistance Track (Exhibit I-4). We could not assess the extent to which the CRSs were tailored for three bridge organizations. Chapter 5 of this report provides more information on bridge organizations' CRSs.

#### Exhibit I-4. Fidelity Criterion: Distributed Tailored CRS

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with Data	n	% of Those with Data
3 – Yes, a tailored CRS is given to all beneficiaries	24	96	8	89	16	100
2 – A CRS is given to each beneficiary, but it is not tailored to individual needs	1	4	1	11	0	0
1 – The bridge organization does not distribute CRSs	0	0	0	0	0	0
9 – Cannot determine	3	-	1	-	2	-

Definitions: CRS = community referral summary.

#### Developed Patient-Centered Action Plan

The next fidelity assessment criterion relates to the extent to which *navigators worked with all beneficiaries to develop patient-centered action plans to resolve unmet HRSNs*. The evaluation team assessed each bridge organization for this criterion using beneficiary-level AHC program data submitted by the bridge organizations. Because completion of the patient-centered action plans was monitored as an AHC Model milestone only among beneficiaries who opted into navigation after April 30, 2020, we restricted the program data to focus on this period. The evaluation team scored the bridge organizations on an ordinal scale based on the percentage of beneficiaries for whom bridge organizations documented that an action plan had been completed. Overall, 48% of bridge organizations documented completion of an action plan for 90% or more of eligible beneficiaries who opted into navigation, and an additional 17% documented completion for 70% or more of beneficiaries (Exhibit I-5). Fourteen percent of the bridge organizations documented completion of an action plan for less than 40% of their beneficiaries. Chapter 6 of this report provides more information on how patient navigators tailored navigation services to meet AHC beneficiaries' needs.

## Exhibit I-5. Fidelity Criterion: Developed Patient-Centered Action Plan

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with Data	n	% of Those with Data
4 – 90% or greater beneficiaries' action plans completed	14	48	6	55	8	44
3 – 70% or greater beneficiaries' action plans completed	5	17	3	27	2	11
2 – 40% or greater beneficiaries' action plans completed	6	21	1	9	5	28
1 – 0% or greater beneficiaries' action plans completed	4	14	1	9	3	17
9 – Cannot determine	0	-	0	-	0	-

### Established Processes for Exchanging Data

The fifth fidelity assessment criterion was *bridge organizations and their partners established processes for exchanging screening and navigation data on AHC beneficiaries*. The evaluation team scored this criterion using bridge organization responses to the organizational structural survey. The survey included separate questions about sharing screening and navigation data, each structured as follows:

- With whom do you share AHC [screening/navigation] data? Please select all that apply.
  - CDSs
  - CSPs
  - The state Medicaid agency
  - The AHC advisory board
  - Clinical providers
  - We do not share [screening/navigation] data with other organizations

Bridge organizations were assessed as having met this criterion if they responded that they shared either screening or navigation data with at least one of the listed groups of AHC Model stakeholders. Bridge organizations were assessed as not having met this criterion if they reported that they did not share screening or navigation data with any of the listed groups. Ninety-six percent of all bridge organizations met this model requirement, with slightly higher percentages in the Alignment Track than the Assistance Track (Exhibit I-6). Chapter 5 of this report provides more information on how bridge organizations and their partners exchanged data during AHC Model implementation.

## Exhibit I-6. Fidelity Criterion: Established Processes for Exchanging Data

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with Data	n	% of Those with Data
1 – Yes	27	96	9	90	18	100
0 – No	1	4	1	10	0	0
9 – Cannot determine	0	-	0	-	0	-

## Involved State Medicaid Agency

The final fidelity criterion evaluated across tracks was the state Medicaid agency was involved in AHC Model implementation. The evaluation team used data from key informant interviews to score each bridge organization for this criterion, focusing especially on responses to the following interview questions:

- **Wave 4 interviews with state Medicaid agency staff:** Can you briefly tell us your title and your main responsibilities related to the AHC Model?
- **Wave 4 interviews with state Medicaid agency staff:** If others in the state Medicaid agency are also involved in AHC, how so?

Bridge organizations were assessed as having state Medicaid agencies that were highly involved, somewhat involved, mostly aware but not involved, and mostly unaware and not involved in the AHC Model. Equal percentages (26%) of bridge organizations with state Medicaid agencies were somewhat or highly involved in implementation, but a larger proportion (37%) with state Medicaid agencies were mostly aware but uninvolved (Exhibit I-7). For this criterion, we identified differences in state Medicaid agency involvement by track, with Alignment Track bridge organizations having more involvement of their state Medicaid agencies than Assistance Track bridge organizations. Chapter 9 of this report provides more information on state Medicaid agency involvement in AHC Model implementation and implications of their involvement for sustaining the model.

## Exhibit I-7. Fidelity Criterion: Involved State Medicaid Agency

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with Data	n	% of Those with Data
4 – State Medicaid agency is highly involved in AHC implementation	7	26	1	10	6	35
3 – State Medicaid agency is somewhat involved in AHC implementation	7	26	3	30	4	24

Criterion Values	All Bridge Organizations (n = 28)		Assistance Track (n = 10)		Alignment Track (n = 18)	
	n	% of Those with Data	n	% of Those with Data	n	% of Those with Data
2 – State Medicaid agency is mostly aware of the AHC Model but not involved in implementation	10	37	4	40	6	35
1 – State Medicaid agency is mostly unaware of the AHC Model and not involved in implementation	3	11	2	20	1	6
9 – Cannot determine	1	-	0	-	1	-

## Fidelity Criteria Assessed for the Alignment Track Only

### Formed Advisory Board with Required Members

The funding opportunity announcement for the AHC Model listed various stakeholder types that should be engaged in all Alignment Track bridge organizations' advisory boards. The first fidelity assessment criterion relating to the Alignment Track thus evaluated whether *bridge organizations formed an advisory board that included representatives from the state Medicaid agency, local government(s), CDSs, CSPs, local payers and providers, and beneficiaries/their caregivers*. Alignment Track bridge organizations were scored according to the number of categories of stakeholder types that participated in their advisory boards. To score each bridge organization, the evaluation team combined data from advisory board member lists prepared by the bridge organizations in the first year of the evaluation with responses to interview questions focusing on advisory board member types. These questions are listed as follows:

- **Wave 2 interviews with AHC Model leaders:** How are beneficiaries involved in the advisory board?
- **Wave 4 interviews with AHC Model leaders:** How does the advisory board engage beneficiaries in continuous quality improvement?
- **Wave 7 interviews with AHC Model leaders:** We are interested in better understanding members who sit on the AHC advisory boards. It's our understanding that your board members include... [identify types of advisory board members]. Does that sound accurate to you?
  - [if no] Who are we missing? When did this change?

Evaluation data reflect that just 17% of the 18 Alignment Track bridge organizations developed advisory boards that included all the required stakeholder types (Exhibit I-8). None of the Alignment Track bridge organizations developed advisory boards with fewer than three of the required groups. Chapter 4 of this report provides more detailed information about the challenges that bridge organizations faced when forming and sustaining advisory boards with diverse members.

## Exhibit I-8. Fidelity Criterion: Formed Advisory Board with Required Members

Criterion Values	Alignment Track (n = 18)	
	n	% of Those with Data
6 – All six categories of stakeholders were represented on the advisory board	3	17
5 – Five categories of stakeholders were represented on the advisory board	4	22
4 – Four categories of stakeholders were represented on the advisory board	6	33
3 – Three categories of stakeholders were represented on the advisory board	5	28
2 – Two categories of stakeholders were represented on the advisory board	0	0
1 – One category of stakeholders were represented on the advisory board	0	0
0 – None of the required categories were represented on the advisory board	0	0
9 – Cannot determine	0	-

## Convened Advisory Board Quarterly

The eighth fidelity assessment criterion focused on whether *advisory boards met at least quarterly*. The evaluation team evaluated this criterion using bridge organization responses to the organizational structural survey.

Representatives from Alignment Track bridge organizations who said they participated in an AHC Model advisory board or council were asked:

- Approximately how often does the advisory board, collaborative, or council meet?
  - 1-2 times per week
  - 1-2 times per month
  - 1-2 times every couple of months
  - 1-2 times per year

The funding opportunity announcement specified that AHC Model advisory boards should convene at least quarterly, and so responses to the survey question were grouped as shown in Exhibit I-9. The survey results reflect that all bridge organizations with data for the survey question met this criterion. Chapter 4 provides more information regarding when and how bridge organizations convened their advisory boards.

## Exhibit I-9. Fidelity Criterion: Convened Advisory Board Quarterly

Criterion Values	Alignment Track (n = 18)	
	n	% of Those with Data
1 – The advisory board met 1-2 times every couple of months or more often	14	100
0 – The advisory board met 1-2 times per year	0	0
9 – Cannot determine (i.e., no survey response)	4	-

## Advisory Board Assessed and Prioritized Needs

The ninth fidelity assessment criterion examined whether advisory boards achieved their purpose and *assessed and prioritized beneficiary and community needs*. The evaluation team scored bridge organizations for this criterion using a combination of survey and qualitative data.

From the survey data, we reviewed responses from bridge organization staff and advisory board members to the following two questions:

- Our board solicits feedback from beneficiaries in our community.
- Beneficiaries from our community serve in leadership positions in our advisory board.

For both questions, respondents picked a single response associated with the same set of options:

- 4 = completely agree
- 3 = mostly agree
- 2 = somewhat agree
- 1 = slightly agree
- 0 = do not at all agree

We combined all responses to the survey questions for each bridge organization and calculated a single average response value. We interpreted average response values of 3 or more as suggesting that the bridge organization's advisory board did in fact assess and prioritize beneficiary and community needs.

From the qualitative data, we focused on interview participants' responses to the following questions:

- **Wave 2 interviews with AHC Model leaders:** How does the Board determine which stakeholder and community needs should be prioritized?
- **Wave 2 interviews with advisory board members:** How, if at all, do the goals of the advisory board fit into the broader goals of the community?

Looking across the responses to these interview questions, we made a summary determination of whether the qualitative evidence supported the notion that the advisory board had assessed and prioritized beneficiary and community needs.

To make a final determination for this criterion, we looked across our summary assessments of the survey and qualitative data as reflected in Exhibit I-10. Overall, we determined that 39% of the Alignment Track bridge organizations assessed and prioritized beneficiary and community needs. Evidence was mixed for half of the Alignment Track bridge organizations. Chapter 4 identifies challenges that bridge organizations and their partners faced with respect to identifying and prioritizing needs within their communities.

## Exhibit I-10. Fidelity Criterion: Advisory Board Assessed and Prioritized Needs

Criterion Values	Alignment Track (n = 18)	
	n	% of Those with Data
2 – All available survey and qualitative evidence suggests that the advisory board assessed and prioritized beneficiary and community needs	7	39
1 – Evidence from the survey and qualitative data are mixed regarding whether the advisory board assessed and prioritized beneficiary and community needs	9	50
0 – All available survey and qualitative evidence suggests that the advisory board did not assess and prioritize beneficiary and community needs	2	11
9 – Cannot determine	0	-

### Developed Robust QI Plan

The final criterion in the fidelity assessment was *bridge organizations and their partners used a robust quality improvement (QI) plan to incorporate best practices to address gaps in community resources*. The evaluation team assigned bridge organizations a value for this criterion using scores that the evaluation team developed and assigned to the bridge organizations' year 4 quality improvement plans. As reported in the [Second Evaluation Report](#), AHC QI plans had five required components: (1) goals over a defined time frame; (2) methods for managing and monitoring all plan activities; (3) standard quality tools and techniques in use; (4) methods for communicating QI progress to advisory boards; and (5) evaluation processes, measures, and outcomes to ensure quality and effectiveness of the QI plan implementation. To assess the quality of Alignment Track bridge organizations' QI plans, QI subject matter experts systematically analyzed the Year 4 QI plans submitted and assigned the plans a score between 0 and 5 (in 0.5 increments) to each of the five required QI plan components. A score of 0 meant the QI plan did not include any information on the required element. A score of 1 meant weak inclusion. A score of 5, the strongest level of inclusion, meant that the plan fully met all AHC Model specifications. Scores were then summed across the five elements for a total possible score of 25. For the purposes of the fidelity assessment, bridge organizations were categorized based on these overall scores as reflected in Exhibit I-11. The exhibit shows that 44% of the Alignment Track bridge organizations received the highest score possible, reflecting that they did in fact develop a robust QI plan consistent with AHC Model requirements. Just one bridge organization received a score in the lowest category. Chapter 4 of this report provides more information about bridge organizations' QI activities.

## Exhibit I-11. Fidelity Criterion: Developed Robust QI Plan

Criterion Values	Alignment Track (n = 18)	
	n	% of Those with Data
3 – The bridge organization’s Year 4 QI plan received a score of 20-25 in the AHC Quality Improvement Plan analysis	8	44
2 – The bridge organization’s Year 4 QI plan received a score of 19-15 in the AHC Quality Improvement Plan analysis	6	33
1 – The bridge organization’s Year 4 QI plan received a score of 14-10 in the AHC Quality Improvement Plan analysis	3	17
0 – The bridge organization’s Year 4 QI plan received a score of less than 10 in the AHC Quality Improvement Plan analysis	1	6
9 – Cannot determine	0	-

Definitions: QI = quality improvement.

## Limitations of the Fidelity Assessment

The fidelity assessment provides critical information regarding the likelihood of model impacts and the feasibility of model implementation, but it is not without limitations:

- Limited or inconsistent data with which to assess fidelity:** The AHC evaluation team did not always have high-quality or consistent data from which we could assess bridge organizations’ adherence to all AHC Model requirements. Gaps in data led us to drop fidelity assessment criteria associated with key model activities, such as universal screening of Medicare and Medicaid beneficiaries, use of a standard screening tool, and the timing and frequency of navigator follow-up with eligible beneficiaries. We also have missing data for select bridge organizations for select criteria, reflecting item-level missingness in survey responses and interview discussions from which we could not draw firm conclusions.
- Reliance on cross-sectional data:** The evaluation team used the best available data source(s) to assign bridge organizations scores for each fidelity assessment criterion. Because we reviewed data from multiple sources collected at different times, this assessment does not reflect a single point in time and cannot easily be used to investigate changes in fidelity during the implementation period.
- Variable scoring strategies:** The evaluation team created custom scoring strategies for each criterion based on the data source(s) used to assess the criterion. To create consistency across criteria with respect to how we reported the fidelity assessment results, we identified the number of bridge organizations receiving the highest fidelity score possible. When reviewing the data, we determined that criteria evaluated dichotomously consistently reflected higher levels of fidelity than criteria evaluated using three or more substantive categories. This could suggest that our scoring rules affected the fidelity observed, rather than bridge organizations’ actions to meet model requirements.
- Variability in the number of bridge organizations scored:** The total number of bridge organizations assigned scores for each criterion varies based on track and missing data. We have addressed this limitation in the body of the report by focusing on the number of bridge organizations that received the highest score possible for each criterion (vs. the percentage) and by listing Ns in title figures and footnotes.



Despite these limitations of the fidelity assessment, it provides a structured and consistent approach for assessing the extent to which bridge organizations met AHC Model requirements.

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# Appendix J: Qualitative Comparative Analysis (QCA) Methods

## QCA Background

Qualitative comparative analysis (QCA) is a set-theoretic method that examines which conditions, individually or in combination, are necessary or sufficient for producing an outcome (Oana, Schneider, & Thomann, 2021). QCA employs both quantitative and qualitative methods to facilitate systematic comparisons while also capturing the unique features of cases. The case-based approach uses formal logic and Boolean algebra to examine which conditions (similar to variables)—individually or in combination—are necessary or sufficient for producing a given outcome. A condition (or combination of conditions) is **necessary** if whenever the outcome is present, the condition (or combination) is also present (but does not guarantee that the outcome will occur). A condition (or combination of conditions) is **sufficient** if whenever the condition (or combination) is present, the outcome is also present. QCA relies on three main assumptions:

1. **Conjunctural causation:** A given condition may lead to an outcome only when in combination with other conditions.
2. **Equifinality:** An outcome may be explained by multiple conditions or combinations of conditions.
3. **Asymmetric causation:** The presence of an outcome may have a different explanation than the absence of the outcome.

The study team developed four QCA models to predict effective implementation of the AHC Model and support the Centers for Medicare & Medicaid Services in understanding the facilitators and challenges associated with implementation effectiveness that could inform the subsequent expansion and replication of the AHC Model. The four QCA models are discussed in detail within chapters 5 (Population Reach QCA models for clinical and nonclinical bridge organizations), 7 (CSP Connection/HRSN Resolution QCA model), and 9 (Sustainability QCA model) of the Evaluation Report. This technical appendix provides additional details on the research design and analysis procedures associated with the four QCA models.

## Research Design

The study team selected the outcome for each QCA model to align with the explanatory conditions predicting AHC Model implementation effectiveness. Potential outcome measures were identified and the selected outcome measures were confirmed to have sufficient variation for making meaningful distinctions between bridge organizations. A key step in the QCA process is determining an appropriate number of conditions. A general rule is that there should be three to four cases for every condition included; a second rule is that including too many conditions can result in limited diversity, in which there are more possible combinations of conditions than cases, thereby limiting the analysis's ability to examine all possible combinations (Kahwati & Kane, 2020; Ragin, 2008). An additional consideration is that including too many conditions can render interpretation overly complex. Conditions for each QCA model were selected based on findings from the published literature and data collected during this evaluation. Each QCA model included five to eight conditions. In the following sections, we discuss the rationale for selecting the QCA model outcomes and conditions.

### Population Reach (Chapter 5)

The study team developed two Population Reach QCA models to identify which factors, alone or in combination, contributed to high numbers of unique beneficiaries screened for health-related social needs (HRSNs). Clinical bridge organizations (n = 13) and nonclinical bridge organizations (n = 15) were included in separate models

because of their differing characteristics. The outcome in both models was a high number of unique beneficiaries screened for HRSNs. The study team included the same five conditions in the two models based on the following proportions about how these factors affect population reach:

1. **High proportion of metropolitan counties.** Bridge organizations that serve a relatively high proportion of urban or suburban counties are more likely to screen a higher number of unique beneficiaries because of their ability to focus on a relatively small geographic target area to identify and screen eligible beneficiaries while bridge organizations serving a lower proportion of metropolitan counties may need to focus on a considerably larger geographic target area to identify and screen a sufficiently large number of beneficiaries.
2. **High proportion of emergency departments (EDs) relative to other clinical delivery site (CDS) types.** Bridge organizations with a relatively high proportion of EDs relative to other CDS types are more likely to reach a larger patient population and subsequently screen a higher number of unique beneficiaries than bridge organizations with a relatively low proportion of EDs relative to other CDS types.
3. **Large number of screeners.** Bridge organizations with a relatively high number of individuals conducting screenings will be able to reach a larger patient population and subsequently screen a higher number of unique beneficiaries than bridge organizations with a relatively low number of individuals conducting screenings.
4. **Large number of physical locations.** Bridge organizations with a relatively high number of physical locations per CDS will be able to reach a larger patient population and subsequently screen a higher number of unique beneficiaries compared to bridge organizations with a relatively low number of physical locations per CDS.
5. **Large number of beneficiaries.** Bridge organizations with a relatively high number of Medicare and Medicaid beneficiaries are expected to have a sufficiently large pool of eligible beneficiaries to screen, while bridge organizations serving a higher proportion of privately insured or uninsured patients are expected to have a greater challenge in meeting screening requirements.

Exhibit J-1 provides additional information about the conditions, including the definitions, data sources, and calibration methods and cut points. Calibration involves the process of converting case data into numeric set membership values that represent the degree to which a case belongs to a set (i.e., a group of cases that share a similar characteristic), ranging from “fully out” to “fully in” a given set. Note that the calibration cut points were different for the Clinical and Nonclinical Population Reach models. The calibration process is further explained in the “Analysis” section of this appendix.

**Exhibit J-1. Conditions, Definitions, Data Sources, and Calibration Decisions for the Clinical Population Reach Models\***

Condition	Definition	Data Source(s)	Calibration Method	Calibration Cut Points (CLINICAL BRIDGE ORGANIZATIONS)	Calibration Cut Points (NONCLINICAL BRIDGE ORGANIZATIONS)
<b>OUTCOME:</b> High number of unique beneficiaries screened for HRSNs	The extent to which bridge organizations were effective in identifying and screening beneficiaries with HRSNs	HRSN program data (through December 31, 2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was <20,000.	The threshold for full exclusion from the set was <12,000.
				The crossover point was 45,000.	The crossover point was 25,000.
				The threshold for full inclusion in the set was >60,000.	The threshold for full inclusion in the set was >42,000.
High proportion of metropolitan counties	The percentage of counties served by a bridge organization that were urban or suburban versus rural	AHC Program Data; bridge organization survey data	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was 23.40%.	The threshold for full exclusion from the set was 23.40%.
				The crossover point was 51.00%.	The crossover point was 51.00%.
				The threshold for full inclusion in the set was 100.00%.	The threshold for full inclusion in the set was 100.00%.
High proportion of EDs relative to other CDS types	The proportion of EDs relative to other CDS types within a bridge organization	Bridge organization survey data (through June 30, 2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was 0.20.	The threshold for full exclusion from the set was 0.20.
				The crossover point was 0.49.	The crossover point was 0.49.
				The threshold for full inclusion in the set was 0.80.	The threshold for full inclusion in the set was 0.80.
Large number of screeners	The number of individuals conducting screenings within a bridge organization	Bridge organization survey data (2021 and 2022)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was 9.	The threshold for full exclusion from the set was 15.
				The crossover point was 19.	The crossover point was 29.
				The threshold for full inclusion in the set was 75.	The threshold for full inclusion in the set was 50.
Large number of physical locations	The number of CDS physical locations within a bridge organization	CDS survey data (through June 30, 2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was ≤5.	The threshold for full exclusion from the set was ≤5.
				The crossover point was 8.	The crossover point was 14.
				The threshold for full inclusion in the set was >30.	The threshold for full inclusion in the set was >45.
Large number of beneficiaries	Total number of Medicare and Medicaid beneficiaries by clinical bridge organization Geographical Target Areas (GTA)	AHC Claims data (through December 31, 2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was 300,000.	The threshold for full exclusion from the set was 700,000.
				The crossover point was 500,000.	The crossover point was 1,100,000.
				The threshold for full inclusion in the set was 1,000,000.	The threshold for full inclusion in the set was 1,500,000.

\*Note that clinical bridge organizations (n = 13) and nonclinical bridge organizations (n = 15) were separated into different models for QCA. The outcome and conditions were the same for both models. However, the calibration varied between the Clinical and Nonclinical Population Reach models.

## Connection to CSP/HRSN Resolution (Chapter 7)

The study team developed the Connection to CSP/HRSN Resolution QCA model to examine which factors, alone or in combination, contributed to higher levels of connection to community service providers (CSPs) or the resolution of HRSNs. The model outcome was percentage of beneficiaries with a closed navigation case that were connected to a CSP for at least one HRSN or at least one HRSN was resolved. Six conditions were included based on the following propositions about how various factors affect connection to CSP or HRSN resolution:

1. **Alignment track.** Bridge organizations that delivered the alignment intervention (i.e., assistance plus community-level continuous quality improvement [CQI], an advisory board, and a gap analysis) are more likely to have a higher percentage of beneficiaries connected to a CSP or have HRSN resolution because their engagement with AHC partners provides a forum to improve referrals and address gaps and barriers to services.
2. **High completed navigation.** Bridge organizations with a relatively high percentage of beneficiaries who completed up to 12 months of navigation<sup>1</sup> are more likely to have a higher percentage of beneficiaries connected to a CSP and/or have HRSN resolution compared to bridge organizations with relatively lower percentages of beneficiaries who completed up to 12 months of navigation.
3. **Low housing need.** Bridge organizations with a relatively low percentage of beneficiaries with a housing need (i.e., worried they will lose housing or have no steady housing) who accepted navigation and received up to 12 months of navigation are more likely to have a higher percentage of beneficiaries connected to a CSP or have HRSN resolution because beneficiaries with housing needs are typically more challenging to stay in contact with.
4. **Low transportation need.** Bridge organizations with a relatively low percentage of beneficiaries with a transportation need are more likely to have a higher percentage of beneficiaries connected to a CSP or have HRSN resolution because transportation needs are a key barrier to obtaining services.
5. **Strong CSP relationships.** Bridge organizations with a history of working with CSPs in the past 12 months are more likely to have a higher percentage of beneficiaries connected to a CSP or have HRSN resolution because strong relationships with CSPs provide a means to address barriers to services.
6. **High community resource availability versus need.** Bridge organizations with high levels of community resource availability relative to community need are more likely to have a higher percentage of high-risk beneficiaries connected to a CSP or have HRSN resolution compared to bridge organizations with low levels of community resource availability relative to community need.

See Exhibit J-2 for additional information about condition data sources and calibration decisions.

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<sup>1</sup> 90.0% of navigated beneficiaries were navigated for 12 months while 92.0% were navigated for 11 to 12 months.

**Exhibit J-2. Conditions, Definitions, Data Sources, and Calibration Decisions for the Connection to CSP/HRSN Resolution Model**

Condition	Definition	Data Source(s)	Calibration Method	Calibration Cut Points
<b>OUTCOME:</b> High percentage of beneficiaries connected to a CSP or had HRSN resolution	Percentage of beneficiaries with a closed navigation case connected to a CSP for at least one HRSN or at least one HRSN resolved	AHC Program Data (through 4/30/2023)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was <36%.
				The crossover point was 51%.
				The threshold for full inclusion in the set was >63%.
Alignment track	Bridge organizations delivering the alignment intervention versus the assistance-only intervention	Bridge Organization Survey (through 6/30/2021)	Crisp set	Bridge organizations on the assistance-only track were scored as 0, fully out of the set. Bridge organizations on the alignment track were scored as 1, fully in the set.
High completed navigation	Percentage of beneficiaries who completed up to 12 months of navigation	AHC Program Data (through 4/30/2023)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was <60%.
				The crossover point was 75%.
				The threshold for full inclusion in the set was ≥90%.
Low housing need	Percentage of navigation-eligible beneficiaries with a housing need (i.e., worried they would lose housing or had no steady housing) who accepted navigation and received up to 12 months of navigation (i.e., their navigation case is closed)	AHC Program Data (through 12/31/2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was ≥41.8%.
				The crossover point was 31.1%.
				The threshold for full inclusion in the set was ≤19.9%.
Low transportation need	Percentage of navigation-eligible beneficiaries with a transportation need who accepted navigation and received up to 12 months of navigation (i.e., their navigation case is closed)	AHC Program Data (through 12/31/2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was ≥50.30%.
				The crossover point was 42.00%.
				The threshold for full inclusion in the set was ≤35.35%.

Condition	Definition	Data Source(s)	Calibration Method	Calibration Cut Points
Strong CSP relationships	History of working with CSPs over the past 12 months	CSP Survey Waves 1 and 2 (July 2020 and July 2021)	Fuzzy set (based on 4-point Likert scale)	The threshold for full exclusion from the set was 0.99 (i.e., “Rarely”).
				The crossover point was 1.9 (i.e., “Sometimes”).
				The threshold for full inclusion in the set was 2.5 (i.e., midway between “Sometimes” and “Often”).
High community resource availability vs. need	A community-specific measure of resource availability related to need, measured via a four-point continuum ranging from “low availability, high need” to “high availability, low need”	2017 North American Industry Classification System 2015 county-level data	Fuzzy set (based on 4-point Likert scale)	Bridge organizations with low availability, high resource need scored as 0, fully out of the set.
				Bridge organizations with low availability, low resource need scored as 0.33, more out of the set than in it.
				Bridge organizations with high availability, high resource need scored as 0.66, more in the set than out of it.
				Bridge organizations with high availability, low resource need scored as 1, fully in the set.

## Sustainability (Chapter 9)

The study team developed the Sustainability QCA model to examine which factors, alone or in combination, predict a high likelihood of sustaining the AHC Model. A higher likelihood of sustainability was measured using sustainability scores that were calculated for the 28 participating bridge organizations. The model outcome was a high sustainability score, which was made up of five drivers: data collection and use; systems capacity; strategic partnerships; health system transformation and financing; and communications and advocacy. The study team included eight conditions based on the following propositions about how these factors affect the likelihood of sustainability:

1. **Alignment track.** Bridge organizations that delivered the alignment intervention (i.e., assistance plus community-level CQI, an advisory board, and a gap analysis) are more likely to have a higher percentage of beneficiaries connected to a CSP or have HRSN resolution because their engagement with AHC partners provides a forum to improve referrals and address gaps and barriers to services.
2. **Clinical bridge organization.** Clinical bridge organizations with direct access to patients will be more likely to have higher sustainability scores than nonclinical bridge organizations operating in non-health care settings that do not have direct access to patients and must partner with either a large health care organization or multiple organizations to meet screening requirements.
3. **Participation in other value-based initiatives (VBIs).** Bridge organizations with CDS partners that participate in other VBIs will be more likely to have higher sustainability scores because CDSs participating in other VBIs are more likely to be familiar with the components of the AHC Model.
4. **Many unpaid screeners.** Bridge organizations with a relatively high percentage of unpaid screeners will be more likely to have higher sustainability scores because a greater reliance on unpaid screeners may require fewer fiscal resources to sustain the AHC Model.
5. **High unique screened.** Bridge organizations that screen a relatively high number of unique beneficiaries will be more likely to have higher sustainability scores because these bridge organizations have experienced success with the screening component of the AHC Model.
6. **High CSP connection/HRSN resolution.** Bridge organizations with a relatively high percentage of beneficiaries connected to CSP or that had HRSN resolution will be more likely to have higher sustainability scores because these bridge organizations have experienced success with the navigation component of the AHC Model.
7. **Less staff turnover.** Bridge organizations that reported fewer challenges related to staff turnover will be more likely to have higher sustainability than bridge organizations that reported more challenges related to staff turnover.
8. **Large number of patients served.** Bridge organizations that serve a relatively high number of patients annually will be more likely to have higher sustainability than bridge organizations that serve a relatively low number of patients annually.

See Exhibit J-3 for additional information about condition data sources and calibration decisions.



**Exhibit J-3. Conditions, Definitions, Data Sources, and Calibration Decisions for the Sustainability Model**

Condition	Definition	Data Source(s)	Calibration Method	Calibration Cut Points
<b>OUTCOME:</b> High sustainability score	Combined sustainability score made up of five drivers (data collection and use; systems capacity; strategic partnerships; health systems transformation and financing; communications and advocacy)	Review and coding of AHC sustainability plans and AHC QPRs	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was 3.84.
				The crossover point was 6.1.
				The threshold for full inclusion in the set was 8.5.
Alignment track	Bridge organizations delivering the alignment intervention versus the assistance-only intervention	Bridge Organization Survey (through 6/30/2021)	Crisp set	Bridge organizations on the assistance-only track, scored as 0, were fully out of the set.
				Bridge organizations on the alignment track were scored as 1, fully in the set.
Clinical bridge organization	Whether bridge organization is a hospital, health system, or integrated delivery system that provides clinical services	Bridge Organization Survey (through 6/30/2021)	Crisp set	Nonclinical bridge organizations scored as 0, were fully out of the set.
				Clinical bridge organizations scored as 1, were fully in the set.
Participation in other value-based initiatives	Whether bridge organization participates in other VBIs	Bridge Organization Survey; CDS Survey (through 6/30/2021)	Fuzzy set (direct calibration)	The threshold for full exclusion from the set was 0.1.
				The crossover point was 0.59.
				The threshold for full inclusion in the set was 0.9.
Many unpaid screeners	Percentage of people who conduct screenings (“screeners”) who are in unpaid roles (e.g., students, interns, volunteers)	Bridge organization survey (through 6/30/2021)	Fuzzy set (based on 5-point Likert scale)	Bridge organizations with 0% of screening staff in unpaid roles scored as 0, fully out of the set.
				Bridge organizations with 1% to 24% of screening staff in unpaid roles scored as 0.33, more out of the set than in it.
				Bridge organizations with 25% to 49% of screening staff in unpaid roles scored as 0.67, more in the set than out of it.
				Bridge organizations with ≥50% of screening staff in unpaid roles scored as 1, fully in the set.

Condition	Definition	Data Source(s)	Calibration Method	Calibration Cut Points
High unique screened	The extent to which a bridge organization was effective in identifying and screening beneficiaries with HRSNs	AHC Program Data (through 12/31/2021)	Fuzzy set (direct calibration)	<p>The threshold for full exclusion from the set was &lt;15,000.</p> <p>The crossover point was 31,000.</p> <p>The threshold for full inclusion in the set was ≥56,000.</p>
High CSP connection/HRSN resolution	Percentage of beneficiaries with a closed navigation case connected to a CSP for at least one HRSN or at least one HRSN resolved	AHC Program Data (through 4/30/2023)	Fuzzy set (direct calibration)	<p>The threshold for full exclusion from the set was &lt;36%.</p> <p>The crossover point was 51%.</p> <p>The threshold for full inclusion in the set was &gt;63%.</p>
Less staff turnover	The extent to which staff turnover affected a bridge organization's ability to fully staff the AHC project	Bridge organization survey (through 6/30/2021)	Fuzzy set (based on 4-point Likert scale)	<p>Bridge organizations that responded "not at all challenging" were scored as 0, fully out of the set.</p> <p>Bridge organizations that responded "somewhat challenging" were scored as 0.33, more out of the set than in it.</p> <p>Bridge organizations that responded "challenging" were scored as 0.67, more in the set than out of it.</p> <p>Bridge organizations that responded "extremely challenging" were scored as 1, fully in the set.</p>
Larger number of patients served	The approximate total number of patients served by a bridge organization annually	Bridge organization survey (through 6/30/2021)	Fuzzy set (based on 4-point Likert scale)	<p>Nonclinical bridge organizations scored as 0 were fully out of the set.</p> <p>Bridge organizations that served 20,000 to 100,000 patients annually were scored as 0.33, more out of the set than in it.</p> <p>Bridge organizations that served 101,000 to 400,000 patients annually were scored as 0.67, more out of the set than in it.</p> <p>Bridge organizations that served 401,000 to 650,000 patients annually were scored as 1, fully in the set.</p>

## Analysis

In this section, we discuss the analysis methods for each of the four QCA models. We first provide an overview of the preparations for the analysis, the development of truth tables, and the processes for conducting the necessity and sufficiency analyses. In the following sections, we provide the analysis procedures, including the truth tables, the associated solution, the negation of the outcome, and the robustness checks, for each QCA model.

### Analysis Overview

To prepare for the analyses, the data described in the preceding sections were incorporated into separate datasets for each of the QCA models. These datasets were analyzed using the *QCA* (Duşa, 2018) and *SetMethods* (Oana & Schneider, 2018) packages in R software.

Datasets were transformed into truth tables, a core analytical device within QCA. Transforming the datasets into truth tables involved three steps (Kahwati & Kane, 2020). The first step consisted of constructing a truth table shell to display all possible combinations of conditions, with the columns from left to right representing each of the conditions, the number of cases associated with a configuration of conditions, and the outcome. The truth table rows correspond to the number of logically possible configurations in the analysis, which is equal to  $2^k$  where  $k$  is the number of conditions. The second step involved assigning cases from the dataset to the corresponding rows in the truth table based on calibration values.

Calibration involves the process of converting case data into numeric set membership values that represent the degree to which a case belongs to a set (i.e., a group of cases that share a similar characteristic), ranging from “fully out” to “fully in” a given set. Cases that were calibrated using crisp set calibration (consisting of dichotomous values for full membership or full nonmembership) were assigned to the appropriate row in the truth table that matched the combination of the set membership values. In contrast, cases that were calibrated using fuzzy set values (where cases take on set membership values between 0 and 1 to represent differences in the degree of set membership) had partial set membership and could partially belong to multiple rows.

Boolean algebra was used to determine a case’s set membership value for each row. A case would have a set membership value of greater than 0.5 in only one row of a table, with the case being assigned to that row. The final step involved using the outcome set membership values for each row to assign an outcome value to each truth table row. The outcome values for each row were determined by calculating row consistency, which consists of the portion of the cases in the configuration that were also in the outcome set. Row consistency values range between 0 and 1.0, with values of 0.8 to 1 demonstrating a strong sufficiency relationship, while values between 0.6 and 0.8 represent a modest sufficiency relationship, and values below 0.6 representing a weak relationship. Each of the four QCA models used a row consistency value of 0.8 or higher to prioritize strong sufficiency relationships. Truth tables for each of the QCA models are included in subsequent sections.

### Key QCA Terminology

- **Necessity:** A condition (or combination of conditions) is necessary if whenever the outcome is present, the condition (or combination) is also present (but does not guarantee that the outcome will occur).
- **Sufficiency:** A condition (or combination of conditions) is sufficient if whenever the condition (or combination) is present, the outcome is also present.
- **Calibration:** The process of converting case data into numeric set membership values that represent the degree to which a case belongs to a set (i.e., a group of cases that share a similar characteristic), ranging from “fully out” to “fully in” a given set.
- **Consistency:** The proportion of cases within a given pathway that also exhibit the outcome, with high consistency scores indicating that a pathway works all (or most) of the time (i.e., that it is sufficient to produce the outcome).
- **Coverage:** Assesses the “empirical relevance” between the solution and the outcome, by measuring the extent that cases in the outcome set are accounted for by all of the solutions terms.

Using the truth tables and R software, the study team assessed individual condition sets for necessity and sufficiency, examined the necessary and sufficient combinations of conditions (hereafter, combinations), and calculated measures of consistency and coverage (i.e., parameters of fit within QCA). The analysis of necessity was conducted to identify necessary conditions and combinations. A condition (or combination of conditions) is *necessary* if whenever the outcome is present, the condition (or combination) is also present (but does not guarantee that the outcome will occur). The study team utilized a consistency threshold of 0.90 (Schneider, 2019) to ensure that conditions or combinations of conditions were truly necessary in that whenever the outcome was present the condition was also present. The analysis of sufficiency was conducted to identify *sufficient* conditions where whenever a given condition was present, the outcome was also present. Sufficiency was determined using consistency and coverage parameters. Consistency indicates the proportion of cases within a given combination that also exhibit the outcome. Consistency is calculated using a 0 to 1.0 score and can be interpreted as a percentage, with high consistency scores indicating that a combination works all (or most) of the time (i.e., that it is sufficient to produce the outcome). Coverage assesses the “empirical relevance” between the solution and the outcome. Coverage is calculated using a 0 to 1.0 score and can be interpreted as a percentage, with high coverage scores indicating that the combinations had a high degree of empirical relevance. The study team utilized a high consistency threshold of 0.80 or higher to ensure that combinations of conditions were truly sufficient in that whenever the combination of conditions was present, the outcome was also present.

The next stage of the analysis consisted of applying logical minimization where Boolean algebra is applied to reduce the truth table rows into a set of solution terms involving a smaller number of conditions. Three types of solutions, consisting of conservative, parsimonious, and intermediate, were used to identify the combinations of conditions that resulted in the outcomes (Kahwati & Kane, 2020). A key distinction between these solutions is how they handle logical remainders, or rows of the truth table that have no associated cases. Conservative solutions ignore all logical remainder rows. The truth table is minimized using only those rows with cases that have outcome values equal to 1 and have been deemed sufficient based on consistency values at or above the stated threshold. Parsimonious solutions utilize logical remainders as simplifying assumptions to achieve the fewest terms in a solution. The assumptions pertain to how using a row without any cases requires an assumption about whether hypothetical cases that would belong to the row would have membership in the outcome set. This can entail assuming that membership in the outcome set or assuming nonmembership in an outcome set to produce simpler solutions. Meanwhile, the intermediate solution uses theory to guide the management of logical remainders during the minimization process. This solution uses directional expectations to indicate whether a condition theoretically should or should not contribute to a case having membership within an outcome set. Critically, these three solutions will result in somewhat different solution terms, but none will contradict the empirical case information because they are all generated from the same truth table (Kahwati & Kane, 2020). As such, the three solutions share a logically consistent relationship, with the conservative solution being a subset of the intermediate solution, which is a subset of the parsimonious solution.

Asymmetrical causation is a key assumption underlying QCA. The assumption is that although the presence of a condition produces an outcome, one cannot assume that the absence of the condition produces the nonoccurrence of the outcome. In accordance with QCA best practices, QCAs were conducted on the negations of the outcomes for each of the QCA models (e.g., NOT<sup>2</sup> achieving a high likelihood of sustainability, NOT achieving high levels of CSP connection and HRSN resolution). The processes for conducting the negation of the outcome models involved conducting the necessity and sufficiency analyses and exploring the associated solutions. The associated solutions were then compared against the four QCA models to ensure that no contradictory findings

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<sup>2</sup> QCA uses Boolean operators, including “NOT”, to represent the presence or absence of an outcome or individual conditions that combine to form solution pathways. Within the context above, NOT refers to the negation, or the nonoccurrence of a given outcome, such as NOT achieving a high likelihood of sustainability.

arose (i.e., one cannot find that condition X is sufficient for outcome Y, and also for outcome not-Y because sufficiency implies that where condition X is present outcome Y is also present).

After completing the negation of the outcome analyses and confirming that the solutions for the four QCA models were robust, the solutions were then subjected to a series of robustness tests (Oana, Schneider & Thomann, 2022) to examine the sensitivity of the findings and whether the solutions were robust against various changes in analytic decisions. In the first step, sensitivity ranges were evaluated to determine the ranges within which changes in calibration anchors, raw consistency thresholds, or frequency cut-offs could be made without modifying the Boolean expression of the solution. In the second step, fit-oriented robustness was assessed by evaluating the robustness of the findings against multiple, simultaneous changes in the form of alternative raw consistency thresholds and case frequency cut-offs. In the final step, case-oriented robustness was assessed to identify different types of cases (e.g., robust, shaky, and possible cases) that were associated with various alternative solutions. Robust cases were those cases that were consistent across multiple solutions, while shaky cases were those that could change when alternative analytical decisions are made, and possible cases were those that were “newly” covered by alternative solutions (Oana, Schneider, & Thomann, 2021).

### Population Reach: Clinical Bridge Organizations (Chapter 5)

The five conditions comprising the model were used to construct a truth table consisting of 32 rows representing all logically possible configurations in the analysis (which is equal to 2<sup>k</sup> where k is the number of conditions). Exhibit J-4 provides a modified truth table reporting rows with one or more cases (logical remainder rows, or rows of the truth table that had no associated cases were excluded). The conservative, parsimonious, and intermediate solutions were then examined. The conservative solution, which conducted logical minimization using only those rows with cases that had outcome values equal to 1 and had been deemed sufficient based on consistency values at or above the stated threshold of 0.80 was identified as the optimal solution for the model based on consistency and coverage scores, interpretability, and a lack of model ambiguity. The intermediate solution had a higher degree of model ambiguity and lower consistency and coverage scores than the conservative solution, while the parsimonious solution had notable overlap with the conservative solution, but lower consistency scores.

**Exhibit J-4. Modified Truth Table for the Population Reach: Clinical Bridge Organizations QCA Model**






High Proportion of Metro Counties	High Proportion of Emergency Departments	Large Number of Screeners	Large Number of Physical Locations	Large Number of Beneficiaries	Outcome: High Number of Beneficiaries Screened for HRSNs	Number of Bridge Organizations in the Combination	Consistency
0	0	1	1	0	1	1	0.977
1	0	0	1	1	0	2	0.475
1	0	1	0	0	0	2	0.630
1	0	1	0	1	1	1	0.967
1	0	1	1	1	1	2	0.827
1	1	0	0	0	0	2	0.706
1	1	0	0	1	0	1	0.551
1	1	0	1	1	0	1	0.756
1	1	1	0	0	1	1	0.971

Note: This modified truth table only report rows with one or more cases.

The analysis of the nonoccurrence of the outcome (i.e., NOT achieving high numbers of beneficiaries screened for HRSNs) served as the first robustness check. The necessity and sufficiency analyses for the nonoccurrence of the outcome yielded no contradictory results. The sensitivity ranges for the crossover points used in the qualitative calibration anchors for the high proportion of metro counties, the proportion of EDs, the number of screeners, and physical locations demonstrated notable levels of sensitivity, while the exclusion and inclusion cut points demonstrated considerable robustness. The sensitivity range for the raw consistency also demonstrated notable levels of sensitivity related to the 0.80 consistency threshold. The subsequent fit-oriented robustness tests suggested that although the sensitivity ranges for the raw consistency threshold and frequency cut-offs were rather narrow, the conservative solution was significantly robust (although not perfectly so) in terms of fit measures when tested against a series of plausible analytic changes. Finally, the case-oriented robustness tests showed that the ratio of typical cases which were robust was 0.60 (or 60.0%), indicating a moderate level of robustness.

Exhibit J-5 details the combinations, the individual consistency and coverage values, and the total solution consistency and coverage for the conservative solution associated with achieving high levels of population reach among clinical bridge organizations. Additional details on the solution and the associated combinations are included in Chapter 5 of the report.

**Exhibit J-5. Sufficient Combinations for High Levels of Population Reach Among Clinical Bridge Organizations**

Pathways for High Levels of Population Reach Among Clinical Bridge Organizations								
Pathways	Conditions					Coverage		
	 Large Number of Screeners	 High Proportion of Metro Counties	 High Proportion of EDs	 Large Number of Beneficiaries	 Large Number of Physical Locations	Raw	Unique	Consistency
1	✓	✓	✗	✓		0.305	0.215	0.864
2	✓	✓	✓	✗	✗	0.207	0.157	0.971
3	✓	✗	✗	✗	✓	0.155	0.071	0.977

Overall Solution Coverage: 0.535. Coverage is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Overall Solution Consistency: 0.907. Consistency is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Green checkmarks [✓] indicate the presence of a condition, and red x marks [✗] indicate its absence. Blank cells indicate that the condition was not associated with a given pathway.

## Population Reach: Nonclinical Bridge Organizations (Chapter 5)

The five conditions comprising the model were used to construct a truth table consisting of 32 rows representing all logically possible configurations in the analysis. Exhibit J-6 provides a modified truth table reporting rows with one or more cases while logical remainder rows were excluded. The conservative, parsimonious, and intermediate solutions were then examined. The conservative solution, which minimized using only those rows with cases that have outcome values equal to 1 and have been deemed sufficient based on consistency values at or above the stated threshold of 0.80 was identified as the optimal solution for the model based on consistency and coverage scores, interpretability, and a lack of model ambiguity. The intermediate solution had identical consistency and coverage scores as the conservative solution, but a higher degree of model ambiguity while the parsimonious solution had notable overlap with the conservative solution, but lower consistency and coverage scores.

**Exhibit J-6. Modified Truth Table for the Population Reach: Nonclinical Bridge Organizations QCA Model**






High Proportion of Metro Counties	High Proportion of Emergency Departments	Large Number of Screeners	Large Number of Physical Locations	Large Number of Beneficiaries	Outcome: High Number of Beneficiaries Screened for HRSNs	Number of Bridge Organizations in the Combination	Consistency
0	0	0	1	1	1	2	0.987
0	0	1	1	0	1	1	0.987
0	0	1	1	1	1	1	0.894
1	0	0	0	0	0	2	0.634
1	0	0	0	1	0	1	0.706
1	0	1	1	0	0	3	0.662
1	0	1	1	1	1	1	0.819
1	1	0	0	1	0	3	0.405
1	1	1	0	0	0	1	0.376

The analysis of the nonoccurrence of the outcome (i.e., NOT achieving high numbers of beneficiaries screened for HRSNs) served as the first robustness check. The necessity and sufficiency analyses for the nonoccurrence of the outcome yielded no contradictory results. The sensitivity ranges for the crossover points used in the qualitative calibration anchors for the high proportion of metro counties, proportion of EDs, number of screeners, and physical locations demonstrated notable levels of sensitivity, while the exclusion and inclusion cut points demonstrated considerable robustness. The sensitivity range for the raw consistency also demonstrated notable levels of sensitivity related to the 0.80 consistency threshold. The subsequent fit-oriented robustness tests suggested that although the sensitivity ranges for the raw consistency threshold and frequency cut-offs were rather narrow, the conservative solution was significantly robust (although not perfectly so) in terms of fit measures when tested against a series of plausible analytic changes. Finally, the case-oriented robustness tests showed that the ratio of typical cases that were robust was 0.75 (or 75%), indicating a high level of robustness.

Exhibit J-7 details the combinations, the individual consistency and coverage values, and the total solution consistency and coverage for the conservative solution associated with achieving high levels of population reach among nonclinical bridge organizations. Additional details on the solution and the associated combinations are included in Chapter 5 of the report.



**Exhibit J-7. Sufficient Combinations for High Levels of Population Reach Among Nonclinical Bridge Organizations**

Combinations for High Levels of Population Reach Among Nonclinical Bridge Organizations								
Combinations	Conditions					Coverage		
	 Large Number of Physical Locations	 Large Number of Beneficiaries	 Large Number of Screeners	 High Proportion of Metro Counties	 High Proportion of EDs	Raw	Unique	Consistency
1	✓		✓	✗	✗	0.351	0.140	0.934
2	✓	✓		✗	✗	0.367	0.156	0.936
3	✓	✓	✓		✗	0.293	0.083	0.748

Overall Solution Coverage: 0.589. Coverage is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Overall Solution Consistency: 0.856. Consistency is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Green checkmarks [✓] indicate the presence of a condition, and red x marks [✗] indicate its absence. Blank cells indicate that the condition was not associated with a given pathway.

## Connection to CSP/HRSN Resolution (Chapter 7)

The six conditions comprising the connection to CSP/HRSN resolution model were used to construct a truth table consisting of 64 rows representing all logically possible configurations in the analysis. Exhibit J-8 provides a modified truth table reporting rows with one or more cases. The conservative, parsimonious, and intermediate solutions were then examined. The conservative solution, which conducted logical minimization using only those rows with cases that had outcome values equal to 1 and had been deemed sufficient based on consistency values at or above the stated threshold of 0.80 was identified as the optimal solution for the model based on consistency and coverage scores, interpretability, and a lack of model ambiguity. The intermediate solution had identical consistency and coverage scores as the conservative solution, but a higher degree of model ambiguity while the parsimonious solution had greater model ambiguity and lower consistency and coverage scores.

**Exhibit J-8. Modified Truth Table for the Connection to CSP/HRSN Resolution QCA Model**







Alignment Track	High Completed Navigation	Low Housing Need	Low Transportation Need	Strong CSP Relationships	High Community Resource Availability vs. Need	Outcome: High Levels of CSP Connection/HRSN Resolution	Number of Bridge Organizations in the Combination	Consistency
0	0	0	1	1	1	1	1	0.925
0	0	1	0	0	1	0	2	0.678
0	0	1	1	0	0	0	3	0.671
0	0	1	1	1	1	0	1	0.670
0	1	0	1	1	1	1	1	1.000
0	1	1	0	0	1	0	1	0.767
0	1	1	1	0	0	0	1	0.658
1	0	1	1	0	0	0	1	0.652
1	0	1	1	1	1	1	1	0.969
1	1	0	0	0	0	0	3	0.607
1	1	0	0	0	1	0	3	0.525
1	1	0	0	1	0	0	2	0.509
1	1	0	0	1	1	0	2	0.700
1	1	0	1	0	0	1	1	0.886
1	1	0	1	0	1	1	1	0.867
1	1	0	1	1	0	0	1	0.603
1	1	1	0	1	0	0	1	0.607
1	1	1	1	0	0	1	1	0.925
1	1	1	1	1	1	0	1	0.783

The analysis of the nonoccurrence of the outcome (i.e., NOT achieving high levels of CSP connection or HRSN resolution) was then conducted. The necessity and sufficiency analyses for the nonoccurrence of the outcome yielded no contradictory results. The sensitivity ranges tests showed that the completed navigation and housing conditions were robust across multiple calibration values while transportation need was sensitive to the calibration anchors for crossover, but not exclusion or inclusion. The sensitivity range for the raw consistency also

demonstrated notable levels of sensitivity. The subsequent fit-oriented robustness tests suggested that although the sensitivity ranges for the raw consistency threshold and frequency cut-offs were rather narrow, the conservative solution was significantly robust in terms of fit measures when tested against a series of plausible analytic changes. Finally, the case-oriented robustness tests showed that the ratio of typical cases which were robust was 0.75 (or 75%) and that there were no shaky cases, thereby indicating a high level of robustness.

Exhibit J-9 details the combinations, the individual consistency and coverage values, and the total solution consistency and coverage for the conservative solution associated with achieving high levels of CSP connection and HRSN resolution. Additional details on the solution and the associated combinations are included in Chapter 7 of the report.

**Exhibit J-9. Sufficient Combinations for High Levels of CSP Connection/HRSN Resolution**

Pathways for High Levels of CSP Connection/HRSN Resolution									
Pathways	Conditions						Coverage		
	 Low Transportation Need	 Alignment Track	 High Completed Navigation	 Low Housing Need	 Strong CSP Relationships	 High Community Resource Availability vs. Need	Raw	Unique	Consistency
1	✓	✓	✓	✗	✗		0.165	0.062	0.849
2	✓	✓	✓		✗	✗	0.145	0.050	0.893
3	✓	✗		✗	✓	✓	0.120	0.120	0.949
4	✓	✓	✗	✓	✓	✓	0.078	0.040	0.969

Overall Solution Coverage: 0.375. Coverage is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Overall Solution Consistency: 0.900. Consistency is calculated using a 0 to 1.0 score that can be interpreted as a percentage.

Green checkmarks [✓] indicate the presence of a condition, and red x marks [✗] indicate its absence. Blank cells indicate that the condition was not associated with a given pathway.

## **Sustainability (Chapter 9)**

The eight conditions comprising the model were used to construct a truth table consisting of 256 rows representing all logically possible configurations in the analysis. Exhibit J-10 provides a modified truth table reporting rows with one or more cases. The conservative, parsimonious, and intermediate solutions were then examined. The intermediate solution, which uses theory and directional expectations during logical minimization to determine whether a condition theoretically should or should not contribute to a case having membership within an outcome set was identified as the optimal solution for the model based on consistency and coverage scores, interpretability, and a lack of model ambiguity. The parsimonious solution overlapped with the findings of the intermediate solution but had lower consistency scores, while the conservative solution had notably higher levels of model ambiguity.









**Exhibit J-10. Modified Truth Table for the Sustainability QCA Model**

Alignment Track	Clinical Bridge Organization	Participation in Other VBIs	High Unpaid Screeners	High Unique Screened	High CSP Connection	Fewer Staff Turnover Challenges	Large Number of Patients Served	Outcome: High Sustainability Score	Number of Bridge Organizations in the Combination	Consistency
0	0	1	0	0	1	0	0	0	1	0.002
0	0	1	1	0	0	1	0	0	1	0.194
0	1	0	0	0	1	0	0	0	1	0.261
0	1	0	1	0	1	1	0	0	1	0.369
0	1	1	0	1	0	1	1	1	3	0.976
0	1	1	0	1	1	1	1	1	1	0.912
0	1	1	1	1	0	1	1	1	1	0.866
0	1	1	1	1	1	1	0	0	1	0.316
1	0	0	0	0	0	1	0	0	1	0.490
1	0	0	1	0	0	1	0	0	1	0.609
1	0	1	0	0	0	0	0	0	2	0.693
1	0	1	0	0	0	1	0	1	1	0.920
1	0	1	0	1	1	0	0	1	1	0.805
1	0	1	0	1	1	1	0	1	2	0.885
1	0	1	1	0	0	0	0	0	1	0.747
1	0	1	1	0	0	1	0	1	1	0.994
1	0	1	1	0	1	1	0	0	1	0.734
1	0	1	1	1	0	1	0	1	1	0.991
1	0	1	1	1	1	0	0	0	1	0.304
1	1	0	0	0	0	1	1	1	1	1
1	1	0	1	1	1	1	1	1	1	1
1	1	1	0	0	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1
1	1	1	1	1	1	0	1	0	1	0.780

The analysis of the nonoccurrence of the outcome (i.e., NOT achieving high sustainability scores) was then conducted. The necessity and sufficiency analyses for the nonoccurrence of the outcome yielded no contradictory results. The sensitivity ranges tests showed that the high unique screened and high CSP connection conditions were robust across multiple calibration values. Meanwhile, the participation in other VBIs condition was sensitive to the calibration anchors for exclusion, crossover, and inclusion. The sensitivity range for the raw consistency also demonstrated notable levels of sensitivity related to the 0.80 consistency threshold. The subsequent fit-oriented robustness tests suggested that although the sensitivity ranges for the raw consistency threshold and frequency cut-offs were rather narrow, the intermediate solution was significantly robust in terms of fit measures when tested against a series of plausible analytic changes. Finally, the case-oriented robustness tests showed that the ratio of typical cases which were robust was 0.92 (or 92%), indicating a high level of robustness.

Exhibit J-11 details the combinations, the individual consistency and coverage values, and the total solution consistency and coverage for the intermediate solution associated with achieving high sustainability scores. Additional details on the solution and the associated combinations are included in Chapter 9 of the report.

**Exhibit J-11. Sufficient Pathways for a High Likelihood of Sustainability**

Pathways for High Sustainability Scores											
Pathways	Conditions								Coverage		
	 Alignment Track	 Less Staff Turnover	 Participation in Other Value-Based Initiatives	 Clinical Bridge Organization	 High Unique Screened	 Large Number of Patients Served	 High CSP Connection/ HRSN Resolution	 Many Unpaid Screeners	Raw	Unique	Consistency
1	✓	✓		✓		✓			0.205	0.077	1.000
2	✓	✓	✓				✗		0.306	0.173	0.975
3	✓		✓		✓		✓	✗	0.161	0.101	0.834
4		✓	✓	✓	✓	✓			0.338	0.251	0.908

Overall Solution Coverage: 0.765. Coverage is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Overall Solution Consistency: 0.912. Consistency is calculated using a 0 to 1.0 score that can be interpreted as a percentage.  
 Green checkmarks [✓] indicate the presence of a condition, and red x marks [✗] indicate its absence. Blank cells indicate that the condition was not associated with a given pathway.



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# Appendix K: Many Beneficiaries Experienced Worsening HRSNs During the COVID-19 Pandemic

When the COVID-19 public health emergency began, we added six questions to the beneficiary survey to learn about beneficiaries' experiences during the COVID-19 pandemic and how community services may have helped meet their needs during that time. These questions were included with surveys mailed to beneficiaries who completed their first AHC screening between May 2020 and March 2021. Surveys were mailed to beneficiaries beginning 6 months after their screening.

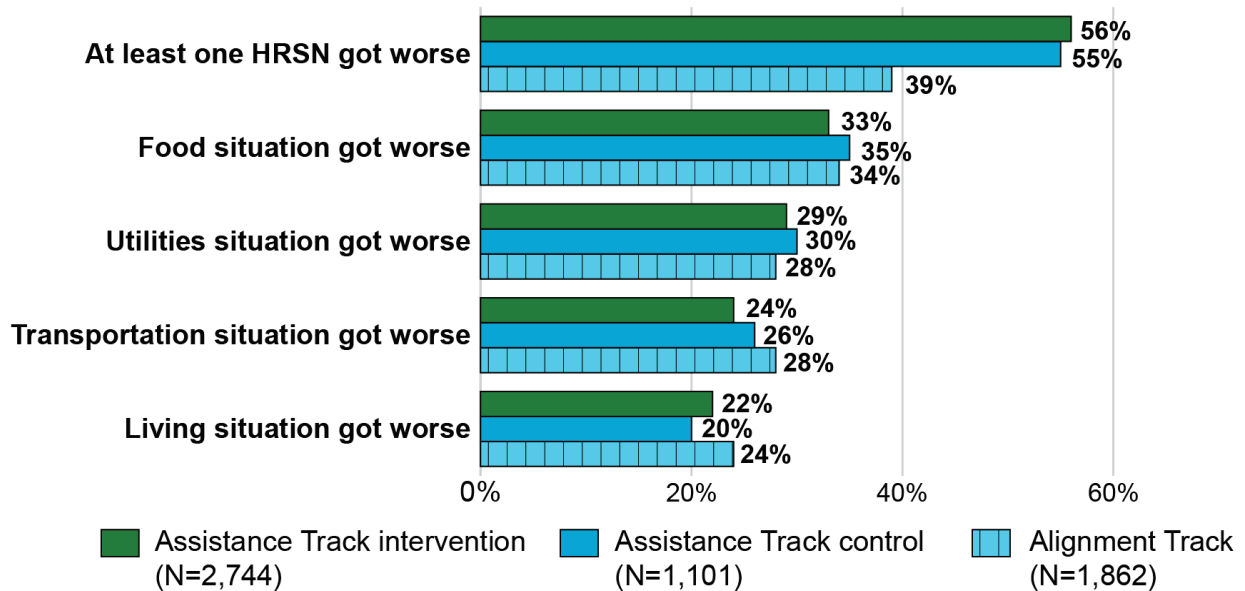
Over half of beneficiaries in the Assistance Track and nearly 40% of beneficiaries in the Alignment Track reported that at least one HRSN had gotten worse during the pandemic (see Exhibit K-1). Of the health-related social needs (HRSNs), beneficiaries were most likely to report that their food situation had gotten worse during the pandemic.

Since the COVID-19 pandemic started, did any of the following **get worse** for you? *Please select all that apply.*

- Having a steady place to live
- Having affordable utilities (electricity, gas, oil, or water)
- Having enough food
- Having affordable transportation
- None of the above

## Exhibit K-1. HRSNs During the COVID-19 Pandemic

Beneficiaries reported worsening HRSNs during the COVID-19 pandemic.



Source: AHC Evaluation Beneficiary Survey, waves 12–22 (completed between November 2020 and January 2022)

Notes: Includes beneficiaries screened from May 2020–March 2021, surveyed roughly 6 months after their initial screening. Estimates were weighted for survey sampling and nonresponse.

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need.

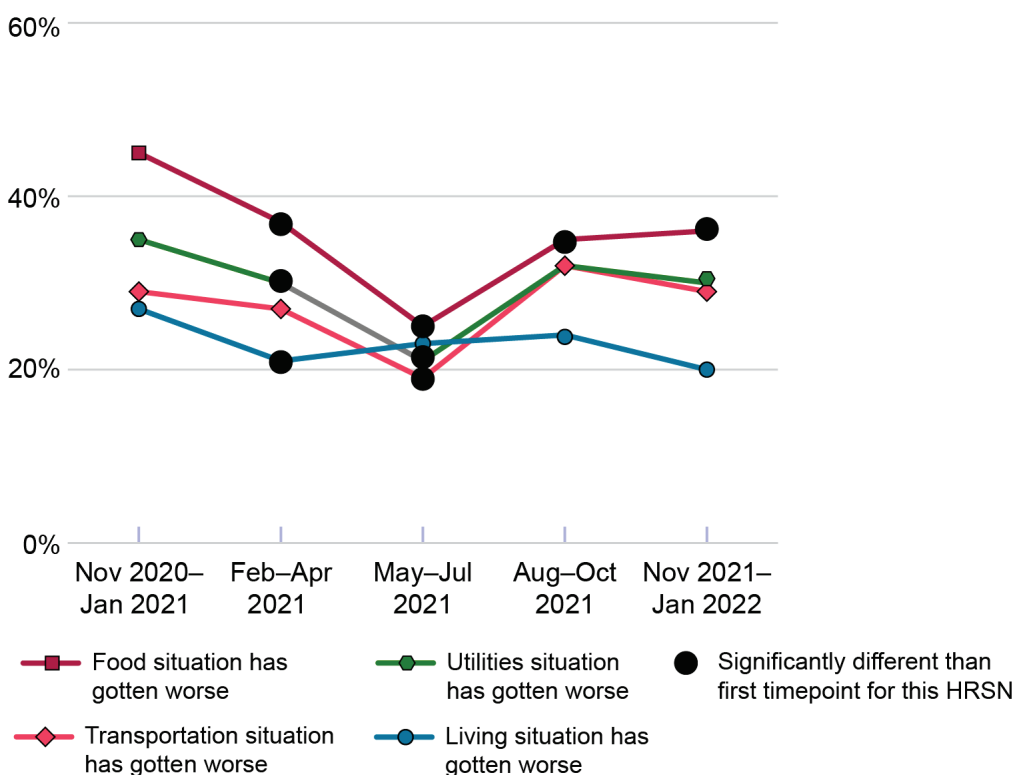
Beneficiaries who returned surveys earlier in the pandemic (November 2020–January 2021) were more likely to report that their HRSNs had worsened since the start of the pandemic than those who returned surveys from February 2021 through July 2021 (see **Exhibit K-2**). Beneficiaries’ responses about whether HRSNs had worsened since the beginning of the pandemic appear to align with the state of the pandemic in the United States, with beneficiaries reporting less worsening of HRSNs when deaths from COVID-19 decreased (February through July 2021), then more worsening of HRSNs when deaths from COVID-19 rose again due to Delta and Omicron variants (August 2021 through January 2022).

Beneficiaries’ experiences with HRSNs during the pandemic may also reflect pandemic waves and federal, local, and state pandemic responses. For example:

- 45% of beneficiaries surveyed said food need got worse early in the pandemic (November 2020–January 2021), possibly corresponding to a time before local responses were active and predating the April 2021 federal Supplemental Nutrition Assistance Program (SNAP) benefit increase.
- 20% of beneficiaries surveyed reported that their transportation need got worse during a pandemic lull (May–July 2021), when they may have returned to work.

### Exhibit K-2. Proportion of Beneficiaries Reporting HRSNs Throughout the Pandemic

Beneficiaries’ experience with HRSNs shifted throughout the pandemic.



Source: AHC Evaluation Beneficiary Survey, waves 12–22 (completed between November 2020 and January 2022)  
 Notes: Includes beneficiaries screened from May 2020–March 2021, surveyed roughly 6 months after their initial screening. We calculated percentages of respondents who responded that each HRSN had worsened since the beginning of the pandemic, stratified by when the beneficiary responded to survey (4-month periods between November 2020 and January 2022). We conducted bivariate t-tests to assess differences between the first period and following periods. Estimates were weighted for survey sampling and nonresponse.  
 Definitions: AHC = Accountable Health Communities; HRSN = health-related social need.

# Appendix L: COVID-19 Affected Beneficiaries' Access to Services

As reported in the [Second Evaluation Report](#), community service providers (CSPs) changed policies, procedures, and staffing because of the COVID-19 public health emergency. Most CSPs experienced changes in services available, service delivery, or workforce because of COVID-19. Several CSPs reported receiving increased financial resources or the ability to serve more people because of COVID-19-related government funding.

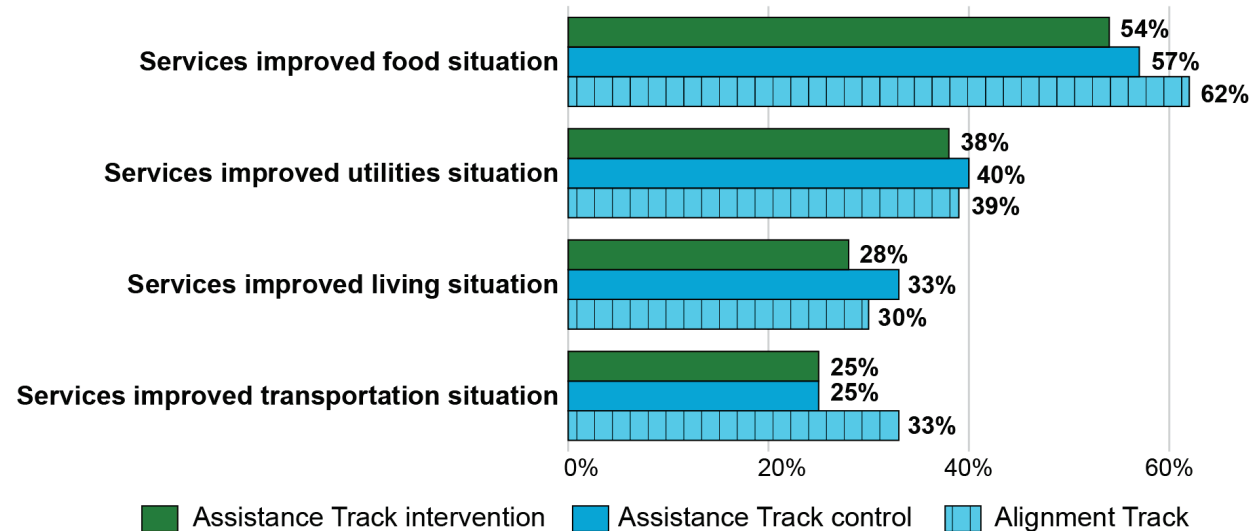
Beneficiaries found it easier to access services at CSPs during the COVID-19 public health emergency (Exhibit L-1). For each of the four health-related social needs (HRSNs) included in the survey, about 25% to 60% of beneficiaries reported that services had improved their access to services that mitigated HRSNs during the pandemic. Beneficiaries were most likely to report that services improved their food situation during the pandemic, relative to other HRSNs.

During the COVID-19 pandemic, have services like soup kitchens, food drop-offs, or food pantries **improved your access to food**? Please select the best answer.

- Yes
- No
- I did not need these services
- I did not want these services
- Does not apply

## Exhibit L-1. Beneficiaries' Experience of Service Availability During the COVID-19 Pandemic

Beneficiaries' access to services that helped mitigate their HRSNs increased during the COVID-19 pandemic.



Source: AHC Evaluation Beneficiary Survey, waves 12–22 (completed between November 2020 and January 2022)

Notes: Includes beneficiaries screened from May 2020–March 2021, surveyed roughly 6 months after their initial screening. Estimates were weighted for survey sampling and nonresponse. Beneficiaries are included in the counts for this graph if they selected “Yes” in response to each question. The denominator for these graphs includes beneficiaries who selected either “Yes” or “No” in response to each question.

Definitions: AHC = Accountable Health Communities; HRSN = health-related social need.

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# Appendix M: Additional Results and More-Detailed Tables to Support Chapter 8

This appendix contains detailed tables of data and additional results that support Chapter 8. For Medicaid, fee-for-service (FFS) Medicare beneficiaries, and the combined Medicare Advantage and FFS population, we present a set of tables showing descriptive trends in key expenditure and quality-of-care outcomes during a 3-year baseline period. These analyses provided additional insight into the beneficiaries identified by the AHC Model and helped refine the statistical design for impact analyses. For both Medicaid and FFS Medicare beneficiaries, we then provide more-detailed results tables for the impact analyses and subpopulation analyses for each track. We also report treatment-on-the-treated analyses for both Medicaid and FFS Medicare beneficiaries in the Assistance and Alignment Tracks. In the concluding section of this appendix, we include a more-detailed results table for the impact analysis of the combined Medicare Advantage and FFS Medicare beneficiaries.

# Medicaid

**Exhibit M-1. Baseline Expenditures and Quality of Care for Navigation-Eligible Medicaid Beneficiaries**

Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
<b>Total expenditures (PBPM)</b>												
3 years before AHC screening	9,751	\$1,024	\$1,828	Reference	23,007	\$1,028	\$1,966	0.86	53,508	\$1,217	\$1,944	< 0.01
2 years before AHC screening	10,998	\$1,137	\$2,128	Reference	25,912	\$1,146	\$2,716	0.75	58,908	\$1,356	\$2,066	< 0.01
1 year before AHC screening	13,134	\$1,401	\$2,600	Reference	30,851	\$1,372	\$2,280	0.27	69,625	\$1,648	\$2,531	< 0.01
All 3 baseline years	33,883	\$1,205	\$2,250	Reference	79,770	\$1,198	\$2,354	0.62	182,041	\$1,425	\$2,228	< 0.01
<b>Admissions per 1,000 beneficiaries</b>												
3 years before AHC screening	11,344	299	992	Reference	27,014	306	1,017	0.55	55,646	364	1,114	< 0.01
2 years before AHC screening	12,746	330	1,082	Reference	30,357	339	1,086	0.43	61,254	409	1,195	< 0.01
1 year before AHC screening	15,059	492	1,295	Reference	35,745	483	1,278	0.49	72,403	630	1,437	< 0.01
All 3 baseline years	39,149	382	1,147	Reference	93,116	384	1,146	0.84	189,303	479	1,276	< 0.01
<b>ACSC admissions per 1,000 beneficiaries</b>												
3 years before AHC screening	11,344	29	289	Reference	27,014	33	337	0.15	55,646	41	376	< 0.01
2 years before AHC screening	12,746	35	372	Reference	30,357	35	321	0.88	61,254	49	430	< 0.01
1 year before AHC screening	15,059	52	459	Reference	35,745	51	404	0.79	72,403	69	516	< 0.01
All 3 baseline years	39,149	40	387	Reference	93,116	41	359	0.73	189,303	54	451	< 0.01
<b>Unplanned readmissions per 1,000 discharges</b>												
3 years before AHC screening	1,904	203	402	Reference	4,597	196	397	0.56	12,810	196	397	0.47
2 years before AHC screening	2,335	200	400	Reference	5,670	199	400	0.98	15,488	210	407	0.26
1 year before AHC screening	4,077	216	411	Reference	9,460	222	415	0.42	27,820	216	411	1.00
All 3 baseline years	8,316	208	406	Reference	19,727	209	407	0.81	56,118	209	407	0.80

Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
<b>ED visits per 1,000 beneficiaries</b>												
3 years before AHC screening	11,344	2,387	4,459	Reference	27,014	2,321	4,557	0.19	55,646	2,916	5,854	< 0.01
2 years before AHC screening	12,746	2,417	4,829	Reference	30,357	2,374	4,536	0.39	61,254	3,021	6,115	< 0.01
1 year before AHC screening	15,059	3,548	5,128	Reference	35,745	3,513	4,869	0.48	72,403	4,193	6,424	< 0.01
All 3 baseline years	39,149	2,836	4,873	Reference	93,116	2,788	4,704	0.10	189,303	3,434	6,188	< 0.01
<b>PCP visits per 1,000 beneficiaries</b>												
3 years before AHC screening	11,344	4,309	5,641	Reference	27,014	4,320	5,556	0.85	55,646	4,831	6,177	< 0.01
2 years before AHC screening	12,746	4,433	5,692	Reference	30,357	4,433	5,535	1.00	61,254	5,170	6,420	< 0.01
1 year before AHC screening	15,059	5,072	6,196	Reference	35,745	5,114	5,968	0.49	72,403	6,452	7,082	< 0.01
All 3 baseline years	39,149	4,639	5,883	Reference	93,116	4,657	5,719	0.61	189,303	5,555	6,649	< 0.01

P-values were calculated using the Assistance Track control group as the reference comparator.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable.



## Exhibit M-2. Baseline Expenditures and Quality of Care by AHC Eligibility Criteria for Medicaid Beneficiaries

Description	Self-Reported < 2 ED Visits and No HRSNs				Self-Reported ≥ 2 ED Visits and No HRSNs				Self-Reported < 2 ED Visits and ≥ 1 HRSNs				Navigation-Eligible Beneficiaries			
													Self-Reported ≥ 2 ED Visits and ≥ 1 HRSNs			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>Unique beneficiaries</b>	162,578	180,080	217,760	220,873	73,851	83,605	99,265	100,778	88,518	97,490	117,440	119,048	94,495	104,908	123,799	125,518
<b>Total expenditures PBPM</b>	\$637	\$680	\$786	\$707	\$908	\$988	\$1,228	\$1,056	\$733	\$790	\$881	\$807	\$1,153	\$1,283	\$1,554	\$1,348
Std dev	\$1,329	\$1,405	\$1,457	\$1,404	\$1,917	\$1,987	\$2,622	\$2,237	\$1,303	\$1,438	\$1,528	\$1,436	\$1,956	\$2,282	\$2,492	\$2,283
P-value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Reference	Reference	Reference	Reference
<b>Admissions per 1,000 beneficiaries</b>	119	122	194	148	242	273	425	322	131	132	182	150	343	383	575	444
Std dev	529	549	725	617	864	960	1,147	1,013	528	539	661	585	1,083	1,163	1,386	1,235
P-value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Reference	Reference	Reference	Reference
<b>ACSC admissions per 1,000 beneficiaries</b>	5	5	7	6	20	22	34	26	7	7	8	7	38	44	63	49
Std dev	95	96	130	110	253	265	322	285	113	128	128	124	358	397	483	422
P-value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Reference	Reference	Reference	Reference
<b>Unplanned readmissions/ 1,000 discharges</b>	10,180	11,089	18,821	40,090	9,740	11,734	22,904	44,378	6,645	7,115	9,718	23,478	19,600	23,861	41,790	85,251
Mean	81	81	81	81	161	184	183	178	72	73	75	74	198	208	218	210
Std dev	274	273	273	273	367	387	386	383	259	260	263	261	398	406	413	408
P-value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Reference	Reference	Reference	Reference
<b>ED visits per 1,000 beneficiaries</b>	777	706	886	795	1,871	1,896	3,057	2,329	922	818	871	869	2,694	2,772	3,934	3,188
Std dev	1,821	1,665	1,930	1,816	3,772	3,871	4,257	4,035	1,997	1,839	1,855	1,894	5,381	5,572	5,900	5,674
P-value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Reference	Reference	Reference	Reference

Description	Self-Reported < 2 ED Visits and No HRSNs				Self-Reported ≥ 2 ED Visits and No HRSNs				Self-Reported < 2 ED Visits and ≥ 1 HRSNs				Navigation-Eligible Beneficiaries			
													Self-Reported ≥ 2 ED Visits and ≥ 1 HRSNs			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>PCP visits per 1,000 beneficiaries</b>	3,444	3,477	4,256	3,760	4,412	4,585	5,637	4,934	3,734	3,798	4,495	4,041	4,625	4,870	5,905	5,189
Std dev	4,687	4,742	5,222	4,927	5,564	5,711	6,424	5,976	5,032	5,089	5,308	5,167	5,948	6,099	6,710	6,320
P-value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Reference	Reference	Reference	Reference

P-values were calculated using the navigation-eligible group as the reference comparator.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; HRSN = health-related social need; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable.

### Exhibit M-3. Baseline Expenditures and Quality of Care by Number of Core HRSNs for Navigation-Eligible Medicaid Beneficiaries

Description	1 Core HRSN Reported				2 Core HRSNs Reported				3 or More Core HRSNs Reported			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>Unique beneficiaries</b>	37,602	42,114	50,126	50,892	28,692	31,834	37,623	38,110	28,200	30,959	36,049	36,515
<b>Total expenditures PBPM</b>	\$1,082	\$1,201	\$1,451	\$1,263	\$1,156	\$1,282	\$1,572	\$1,355	\$1,239	\$1,388	\$1,672	\$1,450
Std dev	\$1,991	\$2,326	\$2,472	\$2,298	\$1,959	\$1,988	\$2,675	\$2,272	\$1,905	\$2,482	\$2,318	\$2,268
P-value	Reference	Reference	Reference	Reference	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<b>Admissions per 1,000 beneficiaries</b>	306	341	517	398	337	374	556	432	398	450	673	518
Std dev	1,016	1,087	1,278	1,148	1,056	1,095	1,330	1,183	1,189	1,316	1,565	1,386
P-value	Reference	Reference	Reference	Reference	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Description	1 Core HRSN Reported				2 Core HRSNs Reported				3 or More Core HRSNs Reported			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>ACSC admissions per 1,000 beneficiaries</b>	32	36	52	41	40	42	60	48	45	57	81	62
Std dev	317	344	415	366	359	330	445	386	406	511	592	516
P-value	Reference	Reference	Reference	Reference	< 0.01	0.01	0.01	< 0.01	0.12	< 0.01	< 0.01	< 0.01
<b>Unplanned readmissions per 1,000 discharges</b>	6,806	8,217	15,002	30,025	5,966	7,250	12,488	25,704	6,828	8,394	14,300	29,522
Mean	192	201	204	201	198	193	208	201	203	226	241	228
Std dev	394	401	403	401	399	394	406	401	402	418	428	419
P-value	Reference	Reference	Reference	Reference	0.05	< 0.01	0.17	0.79	0.19	< 0.01	< 0.01	< 0.01
<b>ED visits per 1,000 beneficiaries</b>	2,373	2,433	3,545	2,839	2,664	2,721	3,843	3,128	3,149	3,280	4,560	3,720
Std dev	4,772	4,760	5,129	4,938	5,180	5,527	5,628	5,495	6,239	6,514	7,006	6,655
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
<b>PCP visits per 1,000 beneficiaries</b>	4,656	4,873	6,004	5,240	4,699	4,941	5,973	5,260	4,508	4,794	5,699	5,047
Std dev	5,935	6,004	6,658	6,271	6,030	6,033	6,724	6,327	5,880	6,286	6,760	6,374
P-value	Reference	Reference	Reference	Reference	0.36	0.13	0.50	0.65	< 0.01	< 0.01	< 0.01	< 0.01

P-values were calculated by comparing beneficiaries with two reported core HRSNs to beneficiaries with one reported core HRSN and by comparing beneficiaries with three or more reported core HRSNs to beneficiaries with two reported core HRSNs. No P-value was calculated for one reported core HRSN.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; HRSN = health-related social need; Reference = not available; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-4. Regression-Adjusted Comparison of Post-Screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries, Main Outcomes**

<b>Outcome</b>	<b>(1) Intervention Group Adjusted Mean</b>	<b>(2) Control Group Adjusted Mean</b>	<b>Difference Between (2) and (1)</b>	<b>% Difference Between (2) and (1)</b>	<b>P-Value for Difference</b>
<b>Total expenditures PBPM</b>					
Unique number of beneficiaries	26,919	11,495			
Over 3-year baseline	\$1,203	\$1,207	-\$4	0%	0.91
1 to 12 months after screening	\$1,519	\$1,563	-\$43	-3%	0.08
13 to 24 months after screening	\$1,545	\$1,604	-\$58	-4%	0.06
25 to 36 months after screening	\$1,633	\$1,713	-\$80	-5%	0.08
Overall	\$1,546	\$1,600	-\$54	-3%	0.02
<b>ED visits per 1,000 beneficiaries</b>					
Unique Number of Beneficiaries	30,452	12,884			
Over 3-year baseline	718	726	-9	-1%	0.36
1 to 12 months after screening	677	690	-12	-2%	0.07
13 to 24 months after screening	571	572	-1	0%	0.87
25 to 36 months after screening	567	533	36	7%	0.02
Overall	620	621	0	0%	0.93
<b>Avoidable ED visits per 1,000 beneficiaries</b>					
Over 3-year baseline	333	337	-5	-1%	0.51
1 to 12 months after screening	311	314	-3	-1%	0.43
13 to 24 months after screening	265	263	2	1%	0.66
25 to 36 months after screening	260	240	20	8%	0.03
Overall	285	283	3	1%	0.27

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
<b><i>Inpatient admissions per 1,000 beneficiaries</i></b>					
Over 3-year baseline	100	101	-1	-1%	0.86
1 to 12 months after screening	98	102	-3	-3%	0.14
13 to 24 months after screening	76	79	-3	-4%	0.22
25 to 36 months after screening	72	77	-6	-7%	0.15
Overall	86	89	-4	-4%	0.05
<b><i>ACSC admissions per 1,000 beneficiaries</i></b>					
Over 3-year baseline	10	10	0	0%	0.99
1 to 12 months after screening	12	12	0	3%	0.63
13 to 24 months after screening	10	10	-0.1	-1%	0.85
25 to 36 months after screening	9	10	-1	-11%	0.36
Overall	11	11	0	-1%	0.87
<b><i>PCP visits per 1,000 beneficiaries</i></b>					
Over 3-year baseline	1226	1221	5	0%	0.70
1 to 12 months after screening	1,274	1,270	4	0%	0.56
13 to 24 months after screening	1,183	1,176	8	1%	0.38
25 to 36 months after screening	1,184	1,157	30	3%	0.08
Overall	1,229	1,221	9	1%	0.13
<b><i>Unplanned readmissions per 1,000 discharges</i></b>					
Number of discharges	13,242	5,827			
Over 3-year baseline	218	219	-1	0%	0.96
1 to 12 months after screening	226	235	-9	-4%	0.40

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
13 to 24 months after screening	219	233	-15	-6%	0.30
25 to 36 months after screening	210	226	-17	-8%	0.42
Overall	222	233	-12	-5%	0.18
<b>Follow-up visits within 14 days of discharge per 1,000 discharges</b>					
Number of discharges	13,203	5,791			
Over 3-year baseline	471	490	-18	-4%	0.43
1 to 12 months after screening	460	460	-1	0%	0.93
13 to 24 months after screening	457	449	8	2%	0.62
25 to 36 months after screening	451	430	22	5%	0.37
Overall	458	453	5	1%	0.58
<b>ED visits within 30 days of discharge per 1,000 discharges</b>					
Number of discharges	13,203	5,791			
Over 3-year baseline	396	403	-7	-2%	0.76
1 to 12 months after screening	380	377	4	1%	0.73
13 to 24 months after screening	380	397	-17	-4%	0.31
25 to 36 months after screening	364	379	-16	-4%	0.50
Overall	378	383	-5	-1%	0.55

P-values compare the intervention group means with the control group mean.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2018–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, follow-up visits within 14 days of discharge, and ED visits within 30 days of discharge, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission, ACSC admission, ED visit, avoidable ED visit, and PCP visit outcomes were estimated using a Poisson specification. The unplanned readmission and follow-up visit within 14 days of discharge outcomes were estimated using a logistic specification.

**Exhibit M-5. Regression-Adjusted Comparison of Post-Screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries, Quality Outcomes**

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
<b><i>Asthma medication ratio &gt; 50%</i></b>					
Unique number of beneficiaries	2,875	1,264			
Over 3-year baseline	426	421	4	1%	0.83
1 to 12 months after screening	458	442	16	4%	0.41
13 to 24 months after screening	458	452	6	1%	0.80
25 to 36 months after screening	469	417	53	13%	0.23
Overall	459	443	16	4%	0.33
<b><i>Treatment for respiratory illnesses</i></b>					
Unique number of beneficiaries	30,452	12,884			
Over 3-year baseline	501	512	-11	-2%	0.05
1 to 12 months after screening	498	504	-6	-1%	0.27
13 to 24 months after screening	423	425	-1	0%	0.81
25 to 36 months after screening	362	358	4	1%	0.59
Overall	445	447	-2	0%	0.57
<b><i>Antidepressant medication management, 12 weeks</i></b>					
Unique number of beneficiaries	1,599	620			
Over 3-year baseline	585	576	3	1%	0.90
1 to 12 months after screening	509	524	-15	-3%	0.60
13 to 24 months after screening	500	551	-51	-9%	0.20
25 to 36 months after screening	477	506	-29	-6%	0.71
Overall	503	531	-28	-5%	0.30
<b><i>Antidepressant medication management, 6 months</i></b>					
Unique number of beneficiaries	1,599	620			
Over 3-year baseline	455	448	2	0%	0.94

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
1 to 12 months after screening	340	331	9	3%	0.75
13 to 24 months after screening	317	380	-65	-17%	0.09
25 to 36 months after screening	318	272	50	18%	0.51
Overall	331	341	-11	-3%	0.66
<b>Initiation of AOD treatment</b>					
Unique number of beneficiaries	3,066	1,313			
Over 3-year baseline	618	619	-1	0%	0.97
1 to 12 months after screening	616	593	23	4%	0.25
13 to 24 months after screening	616	600	16	3%	0.52
25 to 36 months after screening	602	688	-83	-12%	0.03
Overall	614	609	6	1%	0.71
<b>Follow-up visits within 30 days of a MH discharge per 1,000 discharges</b>					
Number of discharges	1,374	583			
Over 3-year baseline	425	429	-5	-1%	0.89
1 to 12 months after screening	413	458	-45	-10%	0.13
13 to 24 months after screening	410	423	-12	-3%	0.77
Overall	412	447	-35	-7.8%	0.25

P-values compare the intervention group means with the control group mean.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2018–December 2021.

Definitions: AOD = alcohol or other drug; MH = mental health.

Other Notes. All outcomes were estimated using a logistic specification.



**Exhibit M-6. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries, Main Outcomes**

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b>Total expenditures PBPM</b>							
Unique number of beneficiaries	59,158	11,549	59,005	11,495			
1 to 12 months after screening	\$1,408	\$1,317	\$1,758	\$1,707	(\$44)	-3%	0.42
13 to 24 months after screening	\$1,408	\$1,317	\$1,731	\$1,781	(\$146)	-10%	0.15
25 to 36 months after screening	\$1,408	\$1,317	\$1,932	\$1,879	(\$42)	-3%	0.73
Overall	\$1,408	\$1,317	\$1,771	\$1,745	(\$69)	-5%	0.16
<b>ED visits per 1,000 beneficiaries</b>							
Unique number of beneficiaries	61,815	12,954	61,655	12,884			
1 to 12 months after screening	871	798	828	772	-17	-2%	0.38
13 to 24 months after screening	871	798	661	653	-53	-6%	0.07
25 to 36 months after screening	871	798	616	595	-36	-4%	0.23
Overall	871	798	724	693	-34	-4%	0.06
<b>Avoidable ED visits per 1,000 beneficiaries</b>							
1 to 12 months after screening	370	355	346	339	-8	-2%	0.35
13 to 24 months after screening	370	355	284	298	-25	-7%	0.07
25 to 36 months after screening	370	355	268	268	-12	-3%	0.32
Overall	370	355	309	310	-14	-4%	0.07
<b>Inpatient admissions per 1,000 beneficiaries</b>							
1 to 12 months after screening	122	126	130	132	1	1%	0.79
13 to 24 months after screening	122	126	94	106	-10	-8%	0.11
25 to 36 months after screening	122	126	76	93	-17	-14%	0.06
Overall	122	126	102	112	-7	-6%	0.07

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b>ACSC admissions per 1,000 beneficiaries</b>							
1 to 12 months after screening	13	14	16	17	0	-2%	0.80
13 to 24 months after screening	13	14	16	16	0	2%	0.79
25 to 36 months after screening	13	14	12	14	-1	-11%	0.43
Overall	13	14	15	17	0	-2%	0.74
<b>PCP visits per 1,000 beneficiaries</b>							
1 to 12 months after screening	1,414	1,250	1,573	1,359	33	2%	0.42
13 to 24 months after screening	1,414	1,250	1,439	1,333	-72	-5%	0.24
25 to 36 months after screening	1,414	1,250	1,523	1,320	29	2%	0.68
Overall	1,414	1,250	1,525	1,345	2	0%	0.96
<b>Unplanned readmissions per 1,000 discharges</b>							
Number of discharges	47,705	8,252	31,007	6,273			
1 to 12 months after screening	200	210	239	255	-3	0.0	0.72
13 to 24 months after screening	200	210	259	289	-17	-8%	0.34
25 to 36 months after screening	200	210	240	287	-32	-16%	0.36
Overall	200	210	244	265	-8	-4%	0.33
<b>Follow-up visits within 14 days of discharge per 1,000 discharges</b>							
Number of discharges	47,480	7,230	30,586	5,751			
1 to 12 months after screening	481	476	479	473	1	0%	
13 to 24 months after screening	481	476	481	461	15	3%	0.95
25 to 36 months after screening	481	476	507	448	56	12%	0.41
Overall	481	476	484	465	14	3%	0.07

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b>ED visits within 30 days of discharge per 1,000 discharges</b>							0.19
Number of discharges	47,480	7,230	30,586	5,751			
1 to 12 months after screening	402	400	404	397	5	1%	
13 to 24 months after screening	402	400	405	428	-25	-6%	0.64
25 to 36 months after screening	402	400	383	397	-16	-4%	0.26
Overall	402	400	402	404	-3	-1%	0.59

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions and follow-up visits within 14 days of discharge, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission, ACSC admission, ED visit, avoidable ED visit, and PCP visit outcomes were estimated using a Poisson specification. The unplanned readmission and follow-up visit within 14 days of discharge outcomes were estimated using a logistic specification.

**Exhibit M-7. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries, Quality Outcomes**

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b><i>Asthma medication ratio &gt; 50%</i></b>							
Unique number of beneficiaries	7,668	1,614	5,457	1,264			
1 to 12 months after screening	391	397	411	432	-15	-4%	0.50
13 to 24 months after screening	391	397	402	416	-8	-2%	0.85
25 to 36 months after screening	391	397	443	429	21	5%	0.66
Overall	391	397	414	428	-8	-2%	0.68
<b><i>Treatment for respiratory illnesses</i></b>							
Unique number of beneficiaries	61,815	12,954	61,655	12,884			
1 to 12 months after screening	435	451	464	466	14	3%	0.06
13 to 24 months after screening	435	451	437	454	-2	0%	0.87
25 to 36 months after screening	435	451	455	464	5	1%	0.70
Overall	435	451	457	463	9	2%	0.22
<b><i>Antidepressant medication management, 12 weeks</i></b>							
Unique number of beneficiaries	7,331	1,115	3,626	620			
1 to 12 months after screening	562	559	513	532	-23	-4%	0.60
13 to 24 months after screening	562	559	548	544	1	0%	0.99
25 to 36 months after screening	562	559	550	500	46	8%	0.57
Overall	562	559	534	533	-4	-1%	0.91
<b><i>Antidepressant medication management, 6 months</i></b>							
Unique number of beneficiaries	7,331	1,115	3,626	620			
1 to 12 months after screening	414	426	339	330	19	4%	0.66
13 to 24 months after screening	414	426	375	373	13	3%	0.76

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
25 to 36 months after screening	414	426	326	289	48	11%	0.54
Overall	414	426	352	343	20	5%	0.52
<b>Initiation of AOD treatment</b>							
Unique number of beneficiaries	10,478	1,498	7,626	1,313			
1 to 12 months after screening	632	617	627	620	-8	-1%	0.75
13 to 24 months after screening	632	617	642	652	-24	-4%	0.43
25 to 36 months after screening	632	617	619	726	-121	-19%	< 0.01
Overall	632	617	630	650	-34	-5%	0.15
<b>Follow-up visits within 30 days of a MH discharge per 1,000 discharges</b>							
Number of discharges	2,084	337	1,234	180			
1 to 12 months after screening	378	431	448	421	78.26	21%	0.30
13 to 24 months after screening	378	431	494	382	157.65	42%	0.38
Overall	378	431	455	415	90.38	24%	0.29

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: AOD = alcohol or other drug; MH = mental health.

Other Notes: All outcomes were estimated using a weighted logistic specification with the propensity score as the weight.

**Exhibit M-8. Number and Percentage of Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation**

Subpopulation	Assistance Track Intervention Group (N = 30,452)	Assistance Track Control Group (N = 12,884)
Diabetes	3,303 (10.8%)	1,385 (10.7%)
Pulmonary disease	6,351 (20.9%)	2,742 (21.3%)
SUD	5,839 (19.2%)	2,517 (19.5%)
Major depression	7,486 (24.6%)	3,106 (24.1%)
Multiple HRSNs	17081 (56.1%)	7694 (59.7%)
Disabled	5540 (18.2%)	2345 (18.2%)
Rural	4929 (16.2%)	2126 (16.5%)

Definitions: HRSN = health-related social need; SUD = substance use disorder.

**Exhibit M-9. Regression-Adjusted Comparison of Post-Screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Race/Ethnicity**

Outcome	Baseline	Baseline	Baseline	Overall	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing
<b>Beneficiary-level outcomes</b>						
Assistance Track intervention, N	10,974	12,977	3,143	10,915	12,773	3,105
Assistance Track control, N	4,705	5,415	1,429	4,676	5,351	1,409
<b>Total expenditures PBPM</b>						
Assistance Track intervention, mean	\$1,109	\$1,264	\$1,276	\$1,569	\$1,536	\$1,579
Assistance Track control, mean	\$1,110	\$1,233	\$1,390	\$1,615	\$1,484	\$1,915
Difference-in-differences				(\$47)	\$53	(\$336)
P-value (for D-in-D)				0.01	< 0.01	< 0.01
Interaction					(\$100)	\$288
P-value (for interaction)					< 0.01	< 0.01
<b>ED visits per 1,000 beneficiaries</b>						
Assistance Track intervention, mean	690	750	724	620	628	609
Assistance Track control, mean	681	762	738	614	617	605
Difference-in-differences				6	10	3
P-value (for D-in-D)				0.23	0.02	0.74
Interaction					-4	3
P-value (for interaction)					0.51	0.77
<b>Inpatient admissions per 1,000 beneficiaries</b>						
Assistance Track intervention, mean	90	102	103	90	91	90
Assistance Track control, mean	91	101	99	92	95	87
Difference-in-differences			0	-2	-4	3

Outcome	Baseline	Baseline	Baseline	Overall	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing
P-value (for D-in-D)			< 0.01	0.21	0.02	0.34
Interaction					2	-6
P-value (for interaction)					0.55	0.15
Avoidable ED visits per 1,000 beneficiaries						
Assistance Track intervention, mean	324	361	348	273	275	276
Assistance Track control, mean	320	367	360	274	264	275
Difference-in-differences			0	0	11	0
P-value (for D-in-D)			< 0.01	0.91	< 0.01	0.98
Interaction					-11	0.000
P-value (for interaction)					0.01	0.98
ACSC admissions per 1,000 beneficiaries						
Assistance Track intervention, mean	9	11	10	11	11	10
Assistance Track control, mean	11	10	11	11	11	12
Difference-in-differences			0	0	0	-2
P-value (for D-in-D)			< 0.01	0.55	0.61	0.11
Interaction					-1	2
P-value (for interaction)					0.43	0.24
PCP visits						
Assistance Track intervention, mean	1.19	1.17	1.24	1.41	1.18	1.25
Assistance Track control, mean	1.19	1.16	1.25	1.41	1.14	1.26
Difference-in-differences			0.00	0.00	0.04	-0.01
P-value (for D-in-D)			< 0.01	0.97	< 0.01	0.54



Outcome	Baseline	Baseline	Baseline	Overall	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing
Interaction					-39	0.01
P-value (for interaction)					< 0.01	0.58
<b>Discharge-level outcomes</b>						
Assistance Track intervention, discharges	3,240	3,304	1,141	1,246	1,159	435
Assistance Track control, discharges	1,372	1,355	499	532	495	207
Unplanned readmissions per 1,000 discharges						
Assistance Track intervention, mean	208	214	212	299	296	277
Assistance Track control, mean	208	214	236	300	312	343
Difference-in-differences			0.0	-1.3	-16.8	-62.7
P-value (for D-in-D)			< 0.01	0.92	0.24	< 0.01
Interaction					15	61
P-value (for interaction)					0.42	0.02

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2018–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-10. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Rural**

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	22,217	4,877	22,043	4,876
Assistance Track control, N	9,445	2,104	9,390	2,105
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,230	\$1,060	\$1,551	\$1,531
Assistance Track control, mean	\$1,230	\$1,108	\$1,591	\$1,636
Difference-in-differences			(\$40)	(\$110)
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				\$70
P-value (for interaction)				0.02
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	727	698	617	635
Assistance Track control, mean	739	672	618	622
Difference-in-differences			-2	14
P-value (for D-in-D)			0.65	0.07
Interaction				-15
P-value (for interaction)				0.06
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	102	72	95	72
Assistance Track control, mean	103	69	99	74
Difference-in-differences			-4	-1
P-value (for D-in-D)			< 0.01	0.64
Interaction				-3

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
P-value (for interaction)				0.30
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	342	362	265	309
Assistance Track control, mean	349	345	264	299
Difference-in-differences			1	11
P-value (for D-in-D)			0.68	0.04
Interaction				-0.010
P-value (for interaction)				0.08
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	11	9	11	10
Assistance Track control, mean	10	9	11	9
Difference-in-differences			0	1
P-value (for D-in-D)			0.59	0.21
Interaction				-1
P-value (for interaction)				0.18
PCP visits				
Assistance Track intervention, mean	1.21	1.08	1.28	1.25
Assistance Track control, mean	1.21	1.04	1.28	1.26
Difference-in-differences			0.01	-0.01
P-value (for D-in-D)			0.11	0.49
Interaction				0.02
P-value (for interaction)				0.19
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	6,673	1,013	5,113	885
Assistance Track control, discharges	2,774	452	2,190	384

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	216	186	232	206
Assistance Track control, mean	215	198	247	219
Difference-in-differences			-14.5	-8.7
P-value (for D-in-D)			0.04	0.61
Interaction				-6
P-value (for interaction)				0.75

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-11. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Disability**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	22,067	5,027	21,926	4,993
Assistance Track control, N	9,400	2,149	9,372	2,123
Total expenditures PBPM				
Assistance Track intervention, mean	\$818	\$2,581	\$1,027	\$3,585
Assistance Track control, mean	\$805	\$2,645	\$1,039	\$3,798
Difference-in-differences			(\$12)	(\$215)
P-value (for D-in-D)			0.37	< 0.01
Interaction				\$203
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	659	929	542	901
Assistance Track control, mean	674	899	562	823
Difference-in-differences			-20	85
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				-105
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	79	154	69	162
Assistance Track control, mean	78	159	70	172
Difference-in-differences			-1	-12
P-value (for D-in-D)			0.20	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
Interaction				10
P-value (for interaction)				0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	317	437	242	390
Assistance Track control, mean	322	432	247	356
Difference-in-differences			-6	36
P-value (for D-in-D)			0.01	< 0.01
Interaction				-0.04
P-value (for interaction)				< 0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	6	17	7	18
Assistance Track control, mean	6	17	8	17
Difference-in-differences			0	1
P-value (for D-in-D)			0.27	0.37
Interaction				-2
P-value (for interaction)				0.26
PCP visits				
Assistance Track intervention, mean	1.12	1.39	1.18	1.62
Assistance Track control, mean	1.12	1.39	1.16	1.66
Difference-in-differences			0.02	-0.05
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				0.07
P-value (for interaction)				< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	5,576	2,110	4,303	1,695
Assistance Track control, discharges	2,334	892	1,834	740
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	179	261	201	270
Assistance Track control, mean	176	261	212	288
Difference-in-differences			-10.5	-20.5
P-value (for D-in-D)			0.19	0.07
Interaction				10
P-value (for interaction)				0.47

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-12. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Major Depression**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Depression	People with Depression	People Without Depression	People with Depression
<b><i>Beneficiary-level outcomes</i></b>				
Assistance Track intervention, N	20,262	6,832	20,127	6,792
Assistance Track control, N	8,688	2,861	8,657	2,838
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,054	\$1,581	\$1,317	\$2,183
Assistance Track control, mean	\$1,090	\$1,522	\$1,416	\$2,129
Difference-in-differences			(\$98)	\$53
P-value (for D-in-D)			< 0.01	0.03
Interaction				(\$151)
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	612	978	507	898
Assistance Track control, mean	623	979	505	908
Difference-in-differences			2	-12
P-value (for D-in-D)			0.63	0.13
Interaction				13
P-value (for interaction)				0.12
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	68	162	55	169
Assistance Track control, mean	68	165	55	182
Difference-in-differences			0	-17
P-value (for D-in-D)			0.94	< 0.01



Outcome	Baseline	Baseline	Overall	Overall
	People Without Depression	People with Depression	People Without Depression	People with Depression
Interaction				17
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	310	423	238	362
Assistance Track control, mean	317	420	232	370
Difference-in-differences			5	-10
P-value (for D-in-D)			0.01	0.05
Interaction				0.015
P-value (for interaction)				0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	6	18	7	19
Assistance Track control, mean	6	17	7	18
Difference-in-differences			0	0
P-value (for D-in-D)			0.55	0.72
Interaction				-1
P-value (for interaction)				0.61
PCP visits				
Assistance Track intervention, mean	1.08	1.42	1.14	1.63
Assistance Track control, mean	1.09	1.40	1.13	1.63
Difference-in-differences			0.00	0.00
P-value (for D-in-D)			0.37	0.77
Interaction				0.01
P-value (for interaction)				0.52

Outcome	Baseline	Baseline	Overall	Overall
	People Without Depression	People with Depression	People Without Depression	People with Depression
<b><i>Discharge-level outcomes</i></b>				
Assistance Track intervention, discharges	4,295	3,391	3,272	2,726
Assistance Track control, discharges	1,834	1,392	1,397	1,177
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	137	268	152	285
Assistance Track control, mean	154	259	146	309
Difference-in-differences			4.1	-25.8
P-value (for D-in-D)			0.63	0.01
Interaction				30
P-value (for interaction)				0.02

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-13. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Substance Use Disorder (SUD)**

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b><i>Beneficiary-level outcomes</i></b>				
Assistance Track intervention, N	21,713	5,381	21,578	5,341
Assistance Track control, N	9,210	2,339	9,177	2,318
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,133	\$1,446	\$1,430	\$2,025
Assistance Track control, mean	\$1,152	\$1,410	\$1,516	\$1,944
Difference-in-differences			(\$87)	\$82
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				(\$168)
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	627	1,023	533	927
Assistance Track control, mean	629	1,039	531	928
Difference-in-differences			2	-1
P-value (for D-in-D)			0.56	0.88
Interaction				3
P-value (for interaction)				0.74
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	75	154	68	154
Assistance Track control, mean	78	148	70	161
Difference-in-differences			-2	-10
P-value (for D-in-D)			0.08	0.02

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
Interaction				8
P-value (for interaction)				0.06
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	319	428	250	360
Assistance Track control, mean	322	431	247	358
Difference-in-differences			3	2
P-value (for D-in-D)			0.19	0.74
Interaction				0.001
P-value (for interaction)				0.87
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	9	14	9	15
Assistance Track control, mean	9	13	10	14
Difference-in-differences			0	1
P-value (for D-in-D)			0.39	0.27
Interaction				-2
P-value (for interaction)				0.19
PCP visits				
Assistance Track intervention, mean	1.17	1.22	1.22	1.50
Assistance Track control, mean	1.17	1.23	1.22	1.47
Difference-in-differences			0.00	0.04
P-value (for D-in-D)			0.75	<0.01
Interaction				-0.04
P-value (for interaction)				<0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	4,911	2,775	3,968	2,030
Assistance Track control, discharges	2,037	1,189	1,667	907
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	164	264	182	286
Assistance Track control, mean	188	240	200	293
Difference-in-differences			-17.6	-7.5
P-value (for D-in-D)			0.03	0.49
Interaction				-10
P-value (for interaction)				0.45

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-14. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Pulmonary Disease**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	21,256	5,838	21,112	5,807
Assistance Track control, N	8,969	2,580	8,931	2,564
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,067	\$1,617	\$1,388	\$2,088
Assistance Track control, mean	\$1,072	\$1,614	\$1,434	\$2,145
Difference-in-differences			(\$46)	(\$58)
P-value (for D-in-D)			< 0.01	0.02
Interaction				\$13
P-value (for interaction)				0.66
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	633	995	551	851
Assistance Track control, mean	663	923	561	809
Difference-in-differences			-10	44
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				-54
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	79	154	76	137
Assistance Track control, mean	82	144	79	141
Difference-in-differences			-3	-4

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
P-value (for D-in-D)			0.01	0.22
Interaction				1
P-value (for interaction)				0.82
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	295	497	239	390
Assistance Track control, mean	309	468	238	380
Difference-in-differences			1	10
P-value (for D-in-D)			0.69	0.04
Interaction				-0.010
P-value (for interaction)				0.09
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	5	22	6	23
Assistance Track control, mean	6	21	7	22
Difference-in-differences			0	1
P-value (for D-in-D)			0.77	0.59
Interaction				-1
P-value (for interaction)				0.55
PCP visits				
Assistance Track intervention, mean	1.08	1.51	1.18	1.60
Assistance Track control, mean	1.08	1.49	1.17	1.61
Difference-in-differences			0.01	-0.01
P-value (for D-in-D)			0.01	0.42
Interaction				0.02

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
P-value (for interaction)				0.09
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	5,864	1,822	5,036	962
Assistance Track control, discharges	2,482	744	2,186	388
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	172	285	197	316
Assistance Track control, mean	180	281	212	335
Difference-in-differences			-15.5	-19.4
P-value (for D-in-D)			0.03	0.19
Interaction				4
P-value (for interaction)				0.81

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.



**Exhibit M-15. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Diabetes**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	24,048	3,046	23,897	3,022
Assistance Track control, N	10,270	1,279	10,221	1,274
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,113	\$1,838	\$1,413	\$2,610
Assistance Track control, mean	\$1,134	\$1,730	\$1,474	\$2,563
Difference-in-differences			(\$62)	\$47
P-value (for D-in-D)			< 0.01	0.20
Interaction				(\$108)
P-value (for interaction)				0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	687	945	577	916
Assistance Track control, mean	700	898	585	836
Difference-in-differences	-13	47	-8	92
P-value (for D-in-D)			0.01	< 0.01
Interaction				-101
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	83	175	74	187
Assistance Track control, mean	83	179	80	173
Difference-in-differences	0	-4	-5	18
P-value (for D-in-D)			< 0.01	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
Interaction				-23
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	323	490	252	433
Assistance Track control, mean	329	473	252	403
Difference-in-differences			0	33
P-value (for D-in-D)			0.98	< 0.01
Interaction				-0.033
P-value (for interaction)				< 0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	5	29	5	33
Assistance Track control, mean	4	31	6	29
Difference-in-differences	1	-1	-1	7
P-value (for D-in-D)			0.07	0.01
Interaction				-7
P-value (for interaction)				0.01
PCP visits				
Assistance Track intervention, mean	1.12	1.58	1.20	1.82
Assistance Track control, mean	1.13	1.52	1.20	1.76
Difference-in-differences			0.00	0.07
P-value (for D-in-D)			0.78	< 0.01
Interaction				-0.07
P-value (for interaction)				< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	6,352	1,334	5,214	784
Assistance Track control, discharges	2,656	570	2,240	334
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	173	301	192	346
Assistance Track control, mean	177	289	218	325
Difference-in-differences	-4.1	12.1	-25.7	22.3
P-value (for D-in-D)			< 0.01	0.16
Interaction				-48
P-value (for interaction)				0.01

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-16. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries by Subpopulation: Multiple HRSNs**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
<b><i>Beneficiary-level outcomes</i></b>				
Assistance Track intervention, N	11,803	15,291	11,727	15,192
Assistance Track control, N	4,587	6,962	4,564	6,931
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,229	\$1,180	\$1,498	\$1,586
Assistance Track control, mean	\$1,248	\$1,183	\$1,553	\$1,633
Difference-in-differences	(\$19)	(\$3)	(\$55)	(\$46)
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				(\$9)
P-value (for interaction)				0.72
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	742	710	630	614
Assistance Track control, mean	736	722	600	628
Difference-in-differences	6	-12	27	-15
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				41
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	103	94	94	89
Assistance Track control, mean	104	94	90	95
Difference-in-differences			3	-8
P-value (for D-in-D)			0.08	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
Interaction				11
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	352	340	278	270
Assistance Track control, mean	346	349	261	276
Difference-in-differences			16	-6
P-value (for D-in-D)			< 0.01	0.03
Interaction				0.022
P-value (for interaction)				< 0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	11	10	12	11
Assistance Track control, mean	10	10	11	11
Difference-in-differences			0	0
P-value (for D-in-D)			0.57	0.73
Interaction				1
P-value (for interaction)				0.52
PCP visits				
Assistance Track intervention, mean	1.20	1.18	1.26	1.29
Assistance Track control, mean	1.19	1.18	1.21	1.31
Difference-in-differences			0.05	-0.02
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				0.07
P-value (for interaction)				< 0.01
<b>Discharge-level outcomes</b>				

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
Assistance Track intervention, discharges	3,100	4,586	2,424	3,574
Assistance Track control, discharges	1,140	2,086	891	1,683
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	215	211	224	232
Assistance Track control, mean	212	213	256	236
Difference-in-differences	3.4	-2.4	-30.4	-5.0
P-value (for D-in-D)			0.01	0.54
Interaction				-25
P-value (for interaction)				0.07

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-17. Number and Percentage of Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation**

<b>Subpopulation</b>	<b>Alignment Track Intervention Group (N = 61,655)</b>	<b>Assistance Track Control Group (N = 12,884)</b>
Pulmonary disease	8,166 (13.2%)	1,385 (10.7%)
Diabetes	13,947 (22.6%)	2,742 (21.3%)
SUD	16,438 (26.7%)	2,517 (19.5%)
Major depression	18,256 (29.6%)	3,106 (24.1%)
Multiple HRSNs	37,931 (61.5%)	7,694 (59.7%)
Disabled	13,171 (21.4%)	2,345 (18.2%)
Rural	7,113 (11.5%)	2,126 (16.5%)

Definitions: HRSN = health-related social need; SUD = substance use disorder.

**Exhibit M-18. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Race/Ethnicity**

Outcome	Baseline	Baseline	Overall	Overall	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing
<b>Beneficiary-level outcomes</b>						
Alignment Track intervention, N	18,581	31,672	8,905	18,505	31,589	8,911
Assistance Track control, N	4,705	5,415	1,429	4,695	5,387	1,413
Total expenditures PBPM						
Alignment Track intervention, Mean	\$1,462	\$1,389	\$1,422	\$1,845	\$1,760	\$1,777
Assistance Track control, mean	\$1,282	\$1,321	\$1,445	\$1,665	\$1,692	\$1,800
Difference-in-Differences				(\$195)	\$16	(\$133)
P-value (for D-in-D)				0.19	0.90	0.38
Interaction					(\$210)	(\$62)
P-value (for interaction)					0.11	0.66
ED visits per 1,000 beneficiaries						
Alignment Track intervention, mean	914	873	795	803	741	684
Assistance Track control, mean	760	817	832	667	694	715
Difference-in-Differences				-80	-3	-31
P-value (for D-in-D)				0.04	0.93	0.25
Interaction					-77	-49
P-value (for interaction)					0.03	0.25
Inpatient admissions per 1,000 beneficiaries						
Alignment Track intervention, mean	127	116	114	124	113	108
Assistance Track control, mean	125	119	131	122	116	124
Difference-in-Differences				-14	-3	10
P-value (for D-in-D)				0.15	0.70	0.24



Outcome	Baseline	Baseline	Overall	Overall	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing
Interaction					-11	-24
P-value (for interaction)					0.26	0.05
Avoidable ED visits per 1,000 beneficiaries						
Alignment Track intervention, mean	389	391	355	320	298	280
Assistance Track control, mean	336	384	389	276	292	307
Difference-in-Differences				-43	5.4	-23
P-value (for D-in-D)				0.01	0.74	0.08
Interaction					-48	-0.020
P-value (for interaction)					0.01	0.23
PCP visits						
Alignment Track intervention, mean	1.60	1.26	1.48	1.84	1.32	1.63
Assistance Track control, mean	1.29	1.19	1.32	1.49	1.25	1.45
Difference-in-Differences				-0.12	0.04	0.06
P-value (for D-in-D)				0.20	0.60	0.48
Interaction					-0.16	-0.18
P-value (for interaction)					0.06	0.05
<b>Discharge-level outcomes</b>						
Alignment Track intervention, discharges	6,829	10,953	3,078	4,782	7,659	2,252
Assistance Track control, discharges	1,442	1,567	457	1,160	1,243	327
Unplanned readmissions per 1,000 discharges						
Alignment Track intervention, mean	224	204	196	241	228	223
Assistance Track control, mean	216	225	213	234	250	241
Difference-in-Differences				-18.0	-1.9	-15.1

Outcome	Baseline	Baseline	Overall	Overall	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing	Non-Hispanic White	Hispanic and/or Non-White	Race/Ethnicity Missing
P-value (for D-in-D)				0.42	0.93	0.45
Interaction					-16	-3
P-value (for interaction)					0.61	0.91

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

### Exhibit M-19. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Rural

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	52,016	7,142	51,911	7,094
Assistance Track control, N	9,445	2,104	9,390	2,105
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,442	\$1,214	\$1,810	\$1,625
Assistance Track control, mean	\$1,390	\$945	\$1,757	\$1,355
Difference-in-differences			(\$46)	(\$209)
P-value (for D-in-D)			0.70	0.20
Interaction				\$164
P-value (for interaction)				0.37

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	892	760	764	673
Assistance Track control, mean	812	720	696	638
Difference-in-differences			-20	-94
P-value (for D-in-D)			0.49	0.05
Interaction				74
P-value (for interaction)				0.12
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	122	97	119	96
Assistance Track control, mean	125	104	121	103
Difference-in-differences			-3	-9
P-value (for D-in-D)			0.69	0.47
Interaction				6
P-value (for interaction)				0.68
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	394	324	307	268
Assistance Track control, mean	373	334	291	276
Difference-in-differences			-7	-55
P-value (for D-in-D)			0.61	0.01
Interaction				0.048
P-value (for interaction)				0.01
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	14	9	15	8
Assistance Track control, mean	15	11	16	11
Difference-in-differences			0	-1

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
P-value (for D-in-D)			0.92	0.53
Interaction				1
P-value (for interaction)				0.71
<b>PCP visits</b>				
Alignment Track intervention, mean	1.38	1.53	1.49	1.77
Assistance Track control, mean	1.29	0.98	1.39	1.14
Difference-in-differences			0.01	-0.05
P-value (for D-in-D)			0.92	0.67
Interaction				0.06
P-value (for interaction)				0.61
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	18,829	2,031	13,291	1,402
Assistance Track control, discharges	3,004	462	2,336	394
<b>Unplanned readmissions per 1,000 discharges</b>				
Alignment Track intervention, mean	212	184	234	216
Assistance Track control, mean	224	190	246	223
Difference-in-differences			-5.4	-47.3
P-value (for D-in-D)			0.75	0.06
Interaction				42
P-value (for interaction)				0.16

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-20. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Disability**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	46,663	12,495	46,463	12,542
Assistance Track control, N	9,400	2,149	9,372	2,123
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,091	\$2,442	\$1,305	\$3,364
Assistance Track control, mean	\$1,016	\$2,320	\$1,230	\$3,242
Difference-in-differences			(\$35)	(\$156)
P-value (for D-in-D)			0.61	0.58
Interaction				\$121
P-value (for interaction)				0.63
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	796	1,078	661	1,004
Assistance Track control, mean	769	876	639	817
Difference-in-differences			-39	2
P-value (for D-in-D)			0.19	0.97
Interaction				-41
P-value (for interaction)				0.33
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	103	155	95	161

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
Assistance Track control, mean	108	153	100	159
Difference-in-differences			-1	-14
P-value (for D-in-D)			0.93	0.33
Interaction				14
P-value (for interaction)				0.41
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	352	471	267	399
Assistance Track control, mean	354	405	268	343
Difference-in-differences			-19	6
P-value (for D-in-D)			0.14	0.77
Interaction				-0.025
P-value (for interaction)				0.14
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	10	17	11	18
Assistance Track control, mean	13	16	13	17
Difference-in-differences			0	-1
P-value (for D-in-D)			0.97	0.73
Interaction				1
P-value (for interaction)				0.74
PCP visits				
Alignment Track intervention, mean	1.35	1.52	1.43	1.80
Assistance Track control, mean	1.21	1.32	1.28	1.56
Difference-in-differences			0.03	-0.06
P-value (for D-in-D)			0.74	0.59

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
Interaction				0.09
P-value (for interaction)				0.40
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	15,139	5,721	10,423	4,270
Assistance Track control, discharges	2,431	1,035	1,893	837
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	175	250	198	274
Assistance Track control, mean	199	246	224	270
Difference-in-differences			-8.2	-8.9
P-value (for D-in-D)			0.73	0.73
Interaction				1
P-value (for interaction)				0.99

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-21. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Major Depression**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Depression	People with Depression	People Without Depression	People with Depression
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	41,648	17,510	41,581	17,424
Assistance Track control, N	8,688	2,861	8,657	2,838
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,298	\$1,638	\$1,583	\$2,227
Assistance Track control, mean	\$1,226	\$1,538	\$1,511	\$2,127
Difference-in-differences			(\$42)	(\$108)
P-value (for D-in-D)			0.67	0.53
Interaction				\$66
P-value (for interaction)				0.57
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	732	1,119	605	1,026
Assistance Track control, mean	678	1,017	560	932
Difference-in-differences			-24	-46
P-value (for D-in-D)			0.25	0.43
Interaction				23
P-value (for interaction)				0.63
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	88	168	78	176
Assistance Track control, mean	83	186	74	195
Difference-in-differences			0	-12
P-value (for D-in-D)			0.99	0.42



Outcome	Baseline	Baseline	Overall	Overall
	People Without Depression	People with Depression	People Without Depression	People with Depression
Interaction				12
P-value (for interaction)				0.43
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	346	451	258	383
Assistance Track control, mean	337	422	252	359
Difference-in-differences			-8	-26
P-value (for D-in-D)			0.46	0.31
Interaction				0.019
P-value (for interaction)				0.32
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	10	18	11	18
Assistance Track control, mean	10	20	11	20
Difference-in-differences			0	0
P-value (for D-in-D)			0.63	1.00
Interaction				0
P-value (for interaction)				0.90
PCP visits				
Alignment Track intervention, mean	1.28	1.61	1.38	1.82
Assistance Track control, mean	1.13	1.43	1.22	1.62
Difference-in-differences			0.02	-0.02
P-value (for D-in-D)			0.86	0.79
Interaction				0.04
P-value (for interaction)				0.64

Outcome	Baseline	Baseline	Overall	Overall
	People Without Depression	People with Depression	People Without Depression	People with Depression
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	11,910	8,950	8,201	6,492
Assistance Track control, discharges	2,074	1,392	1,553	1,177
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	157	249	162	283
Assistance Track control, mean	182	258	188	292
Difference-in-differences			12.9	-24.7
P-value (for D-in-D)			0.20	0.30
Interaction				38
P-value (for interaction)				0.11

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-22. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Substance Use Disorder (SUD)**

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	43,045	16,113	42,999	16,006
Assistance Track control, N	9,210	2,339	9,177	2,318
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,333	\$1,588	\$1,655	\$2,130
Assistance Track control, mean	\$1,239	\$1,557	\$1,561	\$2,099
Difference-in-differences			(\$107)	\$11
P-value (for D-in-D)			0.32	0.94
Interaction				(\$118)
P-value (for interaction)				0.29
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	725	1,178	616	1,066
Assistance Track control, mean	664	1,125	564	1,017
Difference-in-differences			-45	-1
P-value (for D-in-D)			0.06	0.99
Interaction				-45
P-value (for interaction)				0.44
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	91	170	87	173
Assistance Track control, mean	91	194	87	197
Difference-in-differences			-4	-7
P-value (for D-in-D)			0.57	0.65

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
Interaction				3
P-value (for interaction)				0.85
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	355	449	272	374
Assistance Track control, mean	333	456	255	380
Difference-in-differences			-19	0
P-value (for D-in-D)			0.10	0.98
Interaction				-0.019
P-value (for interaction)				0.35
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	11	17	13	16
Assistance Track control, mean	11	21	13	20
Difference-in-differences			-1	4
P-value (for D-in-D)			0.31	0.32
Interaction				-5
P-value (for interaction)				0.22
PCP visits				
Alignment Track intervention, mean	1.41	1.38	1.51	1.59
Assistance Track control, mean	1.21	1.32	1.29	1.53
Difference-in-differences			-0.04	0.10
P-value (for D-in-D)			0.64	0.36
Interaction				-0.14
P-value (for interaction)				0.17

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	12,564	8,296	9,084	5,609
Assistance Track control, discharges	2,277	1,189	1,823	907
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	171	242	193	271
Assistance Track control, mean	193	261	217	292
Difference-in-differences			-0.1	-20.4
P-value (for D-in-D)			1.00	0.41
Interaction				20
P-value (for interaction)				0.49

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-23. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Pulmonary Disease**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	45,856	13,302	45,773	13,232
Assistance Track control, N	8,969	2,580	8,931	2,564
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,494	\$1,176	\$1,820	\$1,681
Assistance Track control, mean	\$1,400	\$1,135	\$1,726	\$1,640
Difference-in-differences			(\$51)	(\$112)
P-value (for D-in-D)			0.61	0.45
Interaction				\$60
P-value (for interaction)				0.34
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	804	1,033	691	899
Assistance Track control, mean	777	853	667	742
Difference-in-differences			-15	-71
P-value (for D-in-D)			0.55	0.15
Interaction				55
P-value (for interaction)				0.14
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	120	119	118	112
Assistance Track control, mean	121	125	120	117
Difference-in-differences			-2	-11

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
P-value (for D-in-D)			0.81	0.30
Interaction				9
P-value (for interaction)				0.34
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	338	491	263	397
Assistance Track control, mean	348	415	271	335
Difference-in-differences			-3	-45
P-value (for D-in-D)			0.76	0.10
Interaction				0.042
P-value (for interaction)				0.04
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	11	17	11	17
Assistance Track control, mean	12	17	13	18
Difference-in-differences			1	-4
P-value (for D-in-D)			0.50	0.43
Interaction				5
P-value (for interaction)				0.37
PCP visits				
Alignment Track intervention, mean	1.36	1.50	1.49	1.63
Assistance Track control, mean	1.20	1.32	1.32	1.44
Difference-in-differences			0.016	-0.03
P-value (for D-in-D)			0.83	0.69
Interaction				0.05

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
P-value (for interaction)				0.35
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	16,169	4,691	12,407	2,286
Assistance Track control, discharges	2,648	818	2,294	436
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	202	222	225	246
Assistance Track control, mean	215	230	240	254
Difference-in-differences			-9.2	-5.6
P-value (for D-in-D)			0.59	0.84
Interaction				-4
P-value (for interaction)				0.91

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.



**Exhibit M-24. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Diabetes**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b><i>Beneficiary-level outcomes</i></b>				
Alignment Track intervention, N	51,316	7,842	51,222	7,783
Assistance Track control, N	10,270	1,279	10,221	1,274
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,501	\$907	\$1,788	\$1,748
Assistance Track control, mean	\$1,434	\$800	\$1,721	\$1,640
Difference-in-differences			(\$39)	(\$149)
P-value (for D-in-D)			0.69	0.49
Interaction				\$110
P-value (for interaction)				0.48
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	902	785	761	725
Assistance Track control, mean	840	678	708	626
Difference-in-differences			-27	-36
P-value (for D-in-D)			0.36	0.49
Interaction				9
P-value (for interaction)				0.85
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	128	101	124	101
Assistance Track control, mean	126	116	121	115
Difference-in-differences			-8	20
P-value (for D-in-D)			0.26	0.24

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
Interaction				-28
P-value (for interaction)				0.08
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	382	396	293	336
Assistance Track control, mean	373	354	286	300
Difference-in-differences			-13	-9
P-value (for D-in-D)			0.38	0.73
Interaction				-0.005
P-value (for interaction)				0.86
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	8	20	11	19
Assistance Track control, mean	8	23	10	22
Difference-in-differences			-2	9
P-value (for D-in-D)			0.07	0.11
Interaction				-11
P-value (for interaction)				0.05
PCP visits				
Alignment Track intervention, mean	1.40	1.42	1.50	1.66
Assistance Track control, mean	1.24	1.25	1.33	1.46
Difference-in-differences			0.00	0.07
P-value (for D-in-D)			0.97	0.51
Interaction				-0.07
P-value (for interaction)				0.43

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	17,399	3,461	12,811	1,882
Assistance Track control, discharges	2,844	622	2,363	367
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	212	205	243	209
Assistance Track control, mean	219	222	251	227
Difference-in-differences			-24.5	40.4
P-value (for D-in-D)			0.21	0.32
Interaction				-65
P-value (for interaction)				0.21

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-25. Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries and Assistance Track Control Group Medicaid Beneficiaries by Subpopulation: Multiple HRSNs**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
<b><i>Beneficiary-level outcomes</i></b>				
Alignment Track intervention, N	22,488	36,670	22,406	36,599
Assistance Track control, N	4,587	6,962	4,564	6,931
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,451	\$1,388	\$1,753	\$1,807
Assistance Track control, mean	\$1,327	\$1,331	\$1,630	\$1,750
Difference-in-differences			(\$50)	(\$81)
P-value (for D-in-D)			0.51	0.56
Interaction				\$31
P-value (for interaction)				0.72
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	889	869	734	763
Assistance Track control, mean	817	792	675	695
Difference-in-differences			-33	-28
P-value (for D-in-D)			0.28	0.35
Interaction				-5
P-value (for interaction)				0.82
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	123	117	113	118
Assistance Track control, mean	126	121	115	121
Difference-in-differences			-1	-6
P-value (for D-in-D)			0.92	0.40
Interaction				5

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
P-value (for interaction)				0.51
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	388	384	295	306
Assistance Track control, mean	364	371	277	296
Difference-in-differences			-16	-11
P-value (for D-in-D)			0.26	0.45
Interaction				-0.005
P-value (for interaction)				0.60
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	14	14	14	14
Assistance Track control, mean	15	14	15	15
Difference-in-differences			1	-1
P-value (for D-in-D)			0.74	0.56
Interaction				2
P-value (for interaction)				0.52
PCP visits				
Alignment Track intervention, mean	1.41	1.40	1.49	1.56
Assistance Track control, mean	1.22	1.25	1.29	1.40
Difference-in-differences			0.03	-0.01
P-value (for D-in-D)			0.72	0.91
Interaction				0.04
P-value (for interaction)				0.40
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	7,455	13,405	5,199	9,494
Assistance Track control, discharges	1,220	2,246	938	1,792

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	216	207	241	228
Assistance Track control, mean	235	212	262	234
Difference-in-differences			-23.9	-1.3
P-value (for D-in-D)			0.46	0.92
Interaction				-23
P-value (for interaction)				0.49

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; HRSN = health-related social need; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

**Exhibit M-26. Treatment on the Treated Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible Medicaid Beneficiaries**

Description	Overall Post-screening
<b>Number of beneficiaries</b>	
Unique treatment group beneficiaries	16,804
Unique control group beneficiaries	21,610
<b>Total expenditures PBPM</b>	
Treatment group adjusted mean	\$1,509
Control group adjusted mean	\$1,609
Difference	-102
% difference	-6.3
P-value	0.02
<b>ED visits per 1,000 beneficiaries</b>	
Unique treatment group beneficiaries	19,724
Unique control group beneficiaries	23,612
Treatment group adjusted mean	617
Control group adjusted mean	621
Difference	-4.4
% difference	-0.7
P-value	0.67
<b>Avoidable ED visits per 1,000 beneficiaries</b>	
Treatment group adjusted mean	274
Control group adjusted mean	271
Difference	2.6
% difference	0.9
P-value	0.61
<b>Admissions per 1,000 beneficiaries</b>	
Treatment group adjusted mean	88
Control group adjusted mean	94
Difference	-6.4
% difference	-6.8
P-value	0.08
<b>ACSC admissions per 1,000 beneficiaries</b>	
Treatment group adjusted mean	11
Control group adjusted mean	11
Difference	-0.2

Description	Overall Post-screening
% difference	-1.4
P-value	0.86
<b>PCP visits per 1,000 beneficiaries</b>	
Treatment group adjusted mean	1284
Control group adjusted mean	1271
Difference	11.4
% difference	0.9
P-value	0.41
<b>Unplanned readmissions per 1,000 discharges</b>	
Treatment group discharges	8,320
Control group discharges	10,749
Treatment group adjusted mean	221
Control group adjusted mean	242
Difference	-20.6
% difference	-8.5
P-value	0.14

P-values (for difference) compare the intervention group means with the control group.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.



**Exhibit M-27. Treatment on the Treated Difference-in-Differences Results for Alignment Track Navigation-Eligible Medicaid Beneficiaries**

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Comparison Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Comparison Group Adjusted Mean	Difference-in-Differences	% Change	P-value for Difference-in-Differences
<b>Unique number of beneficiaries</b>	46,198	24,509	46,012	24,488			
<b>Total expenditures PBPM</b>	\$1,394	\$1,402	\$1,793	\$1,851	-\$51	-4%	0.02
<b>Unique number of beneficiaries</b>	48,625	26,144	48,439	26,100			
<b>ED visits per 1,000 beneficiaries</b>	868	846	746	728	-2	0%	0.83
<b>Avoidable ED visits per 1,000 beneficiaries</b>	368	362	318	309	3	1%	0.32
<b>Inpatient admissions per 1,000 beneficiaries</b>	122	130	109	122	-5	-4%	0.04
<b>ACSC admissions per 1,000 beneficiaries</b>	12	15	15	18	1	5%	0.29
<b>PCP visits per 1,000 beneficiaries</b>	1,372	1,354	1,518	1,477	21	1%	0.07
<b>Unplanned readmissions per 1,000 discharges</b>							
Number of discharges	36,634	18,326	24,056	12,771			
Overall	189	210	240	267	-2	-1%	0.76

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair. Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files, May 2015–December 2021.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable. The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

## FFS Medicare

**Exhibit M-28. Baseline Expenditures and Quality of Care for Navigation-Eligible FFS Medicare Beneficiaries**

Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
<b>Total expenditures PBPM</b>												
3 years before AHC screening	4,197	\$1,554	\$2,885	Reference	10,297	\$1,460	\$2,539	0.07	16,307	\$1,711	\$2,971	< 0.01
2 years before AHC screening	4,281	\$1,797	\$3,063	Reference	10,398	\$1,731	\$2,954	0.23	17,065	\$2,048	\$4,078	< 0.01
1 year before AHC screening	4,338	\$2,961	\$4,404	Reference	10,495	\$2,793	\$4,187	0.03	17,708	\$3,120	\$4,732	0.04
All 3 baseline years	12,816	\$2,103	\$3,567	Reference	31,190	\$1,990	\$3,345	< 0.01	51,080	\$2,306	\$4,055	< 0.01
<b>ED expenditures PBPM</b>												
3 years before AHC screening	4,197	\$97	\$236	Reference	10,297	\$94	\$245	0.60	16,307	\$123	\$370	< 0.01
2 years before AHC screening	4,281	\$104	\$243	Reference	10,398	\$103	\$256	0.88	17,065	\$136	\$349	< 0.01
1 year before AHC screening	4,338	\$161	\$331	Reference	10,495	\$155	\$323	0.32	17,708	\$197	\$421	< 0.01
All 3 baseline years	12,816	\$120	\$275	Reference	31,190	\$117	\$278	0.29	51,080	\$152	\$383	< 0.01
<b>Inpatient expenditures PBPM</b>												
3 years before AHC screening	4,197	\$624	\$1,979	Reference	10,297	\$558	\$1,577	0.06	16,307	\$708	\$1,903	0.01
2 years before AHC screening	4,281	\$707	\$1,922	Reference	10,398	\$692	\$1,915	0.66	17,065	\$900	\$2,811	< 0.01
1 year before AHC screening	4,338	\$1,405	\$2,941	Reference	10,495	\$1,299	\$2,855	0.04	17,708	\$1,562	\$3,291	< 0.01
All 3 baseline years	12,816	\$911	\$2,352	Reference	31,190	\$847	\$2,202	0.01	51,080	\$1,065	\$2,767	< 0.01
<b>PAC expenditures PBPM</b>												
3 years before AHC screening	4,197	\$189	\$702	Reference	10,297	\$187	\$669	0.84	16,307	\$189	\$749	1.00
2 years before AHC screening	4,281	\$238	\$775	Reference	10,398	\$236	\$788	0.88	17,065	\$222	\$831	0.24
1 year before AHC screening	4,338	\$431	\$1,203	Reference	10,495	\$410	\$1,117	0.33	17,708	\$365	\$1,087	< 0.01
All 3 baseline years	12,816	\$286	\$925	Reference	31,190	\$277	\$882	0.34	51,080	\$261	\$907	0.01

Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
<b>Admissions per 1,000 beneficiaries</b>												
3 years before AHC screening	4,197	613	1,654	Reference	10,297	550	1,317	0.03	16,307	606	1,425	0.79
2 years before AHC screening	4,281	656	1,475	Reference	10,398	639	1,432	0.52	17,065	705	1,575	0.06
1 year before AHC screening	4,338	1,113	1,865	Reference	10,495	1,079	1,849	0.32	17,708	1,113	1,855	1.00
All 3 baseline years	12,816	793	1,686	Reference	31,190	754	1,565	0.02	51,080	813	1,647	0.25
<b>ACSC admissions per 1,000 beneficiaries</b>												
3 years before AHC screening	4,197	143	804	Reference	10,297	119	579	0.09	16,307	131	601	0.36
2 years before AHC screening	4,281	136	562	Reference	10,398	150	603	0.18	17,065	161	655	0.01
1 year before AHC screening	4,338	256	830	Reference	10,495	251	843	0.74	17,708	248	788	0.54
All 3 baseline years	12,816	178	743	Reference	31,190	173	687	0.50	51,080	181	689	0.71
<b>Unplanned readmissions per 1,000 discharges</b>												
3 years before AHC screening	2,053	232	422	Reference	4,637	207	406	0.03	7,977	216	412	0.13
2 years before AHC screening	2,270	224	417	Reference	5,327	222	415	0.81	9,521	234	423	0.31
1 year before AHC screening	3,781	272	445	Reference	8,838	258	437	0.11	15,266	257	437	0.07
All 3 baseline years	8,104	248	432	Reference	18,802	235	424	0.02	32,764	241	427	0.15
<b>ED visits per 1,000 beneficiaries</b>												
3 years before AHC screening	4,197	1,932	4,317	Reference	10,297	1,936	4,654	0.96	16,307	2,341	5,494	< 0.01
2 years before AHC screening	4,281	1,979	4,278	Reference	10,398	1,978	4,687	0.99	17,065	2,426	5,635	< 0.01
1 year before AHC screening	4,338	2,858	5,560	Reference	10,495	2,722	5,758	0.18	17,708	3,327	6,298	< 0.01
All 3 baseline years	12,816	2,255	4,773	Reference	31,190	2,209	5,067	0.36	51,080	2,707	5,844	< 0.01
<b>PCP visits per 1,000 beneficiaries</b>												
3 years before AHC screening	4,197	6,005	6,475	Reference	10,297	5,977	6,562	0.81	16,307	5,765	6,282	0.03

Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
2 years before AHC screening	4,281	6,342	6,681	Reference	10,398	6,271	6,919	0.56	17,065	6,009	6,685	< 0.01
1 year before AHC screening	4,338	7,328	7,508	Reference	10,495	7,275	7,741	0.69	17,708	6,990	7,509	0.01
All 3 baseline years	12,816	6,558	6,924	Reference	31,190	6,503	7,108	0.45	51,080	6,266	6,877	< 0.01
<b>UCC visits per 1,000 beneficiaries</b>												
3 years before AHC screening	4,197	105	587	Reference	10,297	95	512	0.33	16,307	106	544	0.98
2 years before AHC screening	4,281	116	595	Reference	10,398	106	586	0.35	17,065	110	582	0.54
1 year before AHC screening	4,338	167	721	Reference	10,495	146	723	0.12	17,708	125	732	< 0.01
All 3 baseline years	12,816	129	638	Reference	31,190	116	613	0.04	51,080	114	626	0.01

P-values were calculated using the Assistance Track control group as the reference comparator.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; FFS = fee for service; PAC = post-acute care; PBPM = per beneficiary per month; PCP = primary care provider; UCC = uncompensated care.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-29. Baseline Expenditures and Quality of Care by AHC Eligibility Criteria for FFS Medicare Beneficiaries**

Measure	Self-reported < 2 ED Visits and No HRSNs				Self-reported ≥ 2 ED Visits and No HRSNs				Self-reported < 2 ED Visits and ≥ 1 HRSNs				Navigation-Eligible Beneficiaries			
													(Self-reported ≥ 2 ED Visits, and ≥ 1 HRSNs)			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>Unique beneficiaries</b>	120,451	128,306	137,930	151,050	54,477	55,745	57,098	63,100	26,388	27,575	28,621	33,565	31,061	32,003	32,810	38,579
<b>Total expenditures (PBPM)</b>	\$683	\$736	\$969	\$802	\$1,205	\$1,436	\$2,584	\$1,748	\$790	\$834	\$984	\$871	\$1,618	\$1,928	\$3,018	\$2,193
Std dev	\$1,479	\$1,636	\$1,994	\$1,731	\$2,224	\$2,567	\$3,622	\$2,937	\$1,841	\$1,976	\$2,201	\$2,016	\$2,846	\$3,640	\$4,567	\$3,805
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>ED expenditures (PBPM)</b>	\$22	\$22	\$31	\$25	\$52	\$59	\$113	\$75	\$32	\$30	\$34	\$32	\$110	\$121	\$179	\$137
Std dev	\$89	\$89	\$106	\$95	\$161	\$189	\$235	\$200	\$110	\$112	\$140	\$122	\$319	\$310	\$382	\$340
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>Inpatient expenditures (PBPM)</b>	\$204	\$218	\$332	\$254	\$426	\$517	\$1,166	\$707	\$252	\$262	\$327	\$281	\$652	\$815	\$1,471	\$982
Std dev	\$843	\$939	\$1,140	\$990	\$1,305	\$1,505	\$2,313	\$1,798	\$995	\$1,097	\$1,235	\$1,116	\$1,828	\$2,456	\$3,149	\$2,565
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>PAC expenditures (PBPM)</b>	\$74	\$83	\$109	\$89	\$160	\$204	\$391	\$253	\$84	\$96	\$107	\$96	\$191	\$232	\$393	\$272
Std dev	\$415	\$466	\$542	\$480	\$626	\$739	\$1,058	\$836	\$442	\$529	\$541	\$506	\$722	\$816	\$1,120	\$908
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>Admissions per 1,000 beneficiaries</b>	176	179	263	208	389	449	959	602	213	207	238	220	592	682	1,108	796
Std dev	566	579	699	621	978	1,055	1,439	1,205	669	652	671	664	1,429	1,523	1,862	1,633
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>ACSC admissions per 1,000 beneficiaries</b>	28	29	44	34	81	99	203	128	37	37	44	40	130	156	252	180
Std dev	212	217	273	237	403	454	630	509	256	261	278	265	629	633	815	700
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>Unplanned readmissions per 1,000 discharges</b>	18,739	20,043	30,784	69,566	18,993	22,297	47,731	89,021	4,657	4,619	5,368	14,644	14,880	17,387	28,250	60,517

Measure	Self-reported < 2 ED Visits and No HRSNs				Self-reported ≥ 2 ED Visits and No HRSNs				Self-reported < 2 ED Visits and ≥ 1 HRSNs				Navigation-Eligible Beneficiaries			
													(Self-reported ≥ 2 ED Visits, and ≥ 1 HRSNs)			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
Mean	95	98	122	108	160	168	215	192	117	108	113	113	216	230	260	241
Std dev	294	298	328	311	367	374	411	394	322	310	317	317	412	421	439	427
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>ED visits per 1,000 beneficiaries</b>	371	351	446	391	937	999	1,745	1,231	621	552	579	583	2,159	2,228	3,080	2,492
Std dev	1,093	1,029	1,113	1,080	2,475	2,595	2,946	2,707	1,550	1,480	1,741	1,596	5,130	5,190	6,063	5,497
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>PCP visits per 1,000 beneficiaries</b>	4,119	4,136	4,558	4,280	5,408	5,670	6,998	6,033	4,414	4,431	4,746	4,533	5,870	6,146	7,137	6,389
Std dev	4,267	4,377	4,709	4,469	5,480	5,759	6,715	6,055	4,853	4,881	5,099	4,950	6,402	6,764	7,592	6,963
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>UCC visits per 1,000 beneficiaries</b>	54	61	81	66	79	87	121	96	65	67	81	71	102	109	137	116
Std dev	338	349	402	366	440	453	523	474	370	374	414	387	541	584	725	623
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference

P-values were calculated using the navigation-eligible group as the reference comparator.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; FFS = fee for service; HRSN = health-related social need; PAC = post-acute care; PBPM = per beneficiary per month; PCP = primary care provider; UCC = uncompensated care.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-30. Baseline Expenditures and Quality of Care by Number of Core HRSNs for Navigation-Eligible FFS Medicare Beneficiaries**

Measure	1 Core HRSN Reported				2 Core HRSNs Reported				3 or More Core HRSNs Reported			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>Unique beneficiaries</b>	15,220	15,595	15,911	18,543	8,726	9,057	9,288	10,985	7,115	7,351	7,611	9,051
<b>Total expenditures PBPM</b>	\$1,500	\$1,794	\$2,895	\$2,067	\$1,706	\$2,034	\$3,094	\$2,284	\$1,767	\$2,090	\$3,190	\$2,357
Std dev	\$2,645	\$3,142	\$4,194	\$3,446	\$2,995	\$4,482	\$4,990	\$4,291	\$3,064	\$3,479	\$4,786	\$3,904
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	0.21	0.37	0.20	0.21
<b>ED expenditures PBPM</b>	\$88	\$99	\$151	\$113	\$123	\$131	\$191	\$149	\$141	\$158	\$228	\$176
Std dev	\$253	\$272	\$313	\$282	\$406	\$334	\$416	\$388	\$322	\$350	\$462	\$385
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
<b>Inpatient expenditures PBPM</b>	\$584	\$728	\$1,375	\$897	\$695	\$886	\$1,531	\$1,040	\$750	\$922	\$1,606	\$1,097
Std dev	\$1,668	\$2,043	\$2,874	\$2,281	\$1,911	\$3,127	\$3,394	\$2,913	\$2,043	\$2,330	\$3,393	\$2,686
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	0.08	0.40	0.15	0.15
<b>PAC expenditures PBPM</b>	\$189	\$238	\$418	\$282	\$199	\$230	\$379	\$270	\$186	\$221	\$354	\$254
Std dev	\$710	\$851	\$1,168	\$936	\$742	\$807	\$1,073	\$890	\$724	\$746	\$1,067	\$865
P-value	Reference	Reference	Reference	Reference	0.29	0.44	0.01	0.25	0.26	0.49	0.13	0.22
<b>Admissions per 1,000 beneficiaries</b>	527	609	1,054	731	636	710	1,118	823	683	806	1,212	903
Std dev	1,254	1,370	1,714	1,478	1,509	1,546	1,857	1,660	1,663	1,785	2,151	1,894
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	0.01	< 0.01	0.06	< 0.01	< 0.01	< 0.01
<b>ACSC admissions per 1,000 beneficiaries</b>	115	136	242	165	140	173	259	191	152	179	264	199
Std dev	561	569	763	641	675	670	869	746	707	713	855	763
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	0.11	< 0.01	0.28	0.58	0.73	0.47
<b>Unplanned readmissions/ 1,000 discharges</b>	6,694	7,894	13,629	28,217	4,451	5,027	7,919	17,397	3,735	4,466	6,702	14,903
Mean	192	204	237	217	221	240	263	246	255	265	302	279
Std dev	394	403	425	412	415	427	440	430	436	441	459	449
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Measure	1 Core HRSN Reported				2 Core HRSNs Reported				3 or More Core HRSNs Reported			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>ED visits per 1,000 beneficiaries</b>	1,703	1,781	2,525	2,005	2,336	2,397	3,229	2,658	2,945	3,003	4,102	3,357
Std dev	4,390	4,451	4,733	4,543	5,395	5,457	6,224	5,722	6,110	6,169	7,992	6,844
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
<b>PCP visits per 1,000 beneficiaries</b>	5,861	6,179	7,294	6,449	5,837	6,175	7,147	6,392	5,931	6,036	6,781	6,254
Std dev	6,215	6,587	7,453	6,802	6,362	6,850	7,685	7,014	6,844	7,035	7,765	7,240
P-value	Reference	Reference	Reference	Reference	0.77	0.96	0.14	0.49	0.37	0.20	< 0.01	0.17
<b>UCC visits per 1,000 beneficiaries</b>	97	108	140	115	102	114	135	117	113	106	131	117
Std dev	523	576	739	620	540	630	711	632	582	539	713	617
P-value	Reference	Reference	Reference	Reference	0.45	0.47	0.58	0.79	0.24	0.40	0.73	0.97

P-values were calculated by comparing beneficiaries with two reported core HRSNs to beneficiaries with one reported core HRSN and by comparing beneficiaries with three or more reported core HRSNs to beneficiaries with two reported core HRSNs. No P-value was calculated for one reported core HRSN.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; FFS = fee for service; HRSN = health-related social need; Reference = not available; PAC = post-acute care; PBPM = per beneficiary per month; PCP = primary care provider; UCC = uncompensated care.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.



**Exhibit M-31. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries, Main Outcomes**

<b>Outcome</b>	<b>(1) Intervention Group Adjusted Mean</b>	<b>(2) Control Group Adjusted Mean</b>	<b>Difference Between (2) and (1)</b>	<b>% Difference Between (2) and (1)</b>	<b>P-Value for Difference</b>
<b><i>Unique number of beneficiaries</i></b>	10,517	4,331			
<b><i>Total expenditures PBPM</i></b>					
Over 3-year baseline	\$2,137	\$2,251	-\$110	-5%	0.30
1 to 12 months after screening	\$3,232	\$3,347	-\$115	-3%	0.14
13 to 24 months after screening	\$2,624	\$2,630	-\$6	0%	0.94
25 to 36 months after screening	\$2,484	\$2,686	-\$202	-8%	0.10
37 to 48 months after screening	\$2,412	\$2,727	-\$316	-12%	0.09
Overall	\$2,828	\$2,944	-\$116	-4%	0.05
<b><i>ED expenditures PBPM</i></b>					
Over 3-year baseline	\$115	\$118	-\$3	-2%	0.72
1 to 12 months after screening	\$137	\$144	-\$7	-5%	0.19
13 to 24 months after screening	\$125	\$122	\$3	3%	0.53
25 to 36 months after screening	\$127	\$129	-\$2.7	-2.1%	0.67
37 to 48 months after screening	\$117	\$124	-\$7	-5%	0.50
Overall	\$129	\$132	-\$2.9	-2.2%	0.34
<b><i>Inpatient expenditures PBPM</i></b>					
Over 3-year baseline	\$944	\$1,008	-\$62	-6%	0.44
1 to 12 months after screening	\$1,451	\$1,520	-\$68	-5%	0.21
13 to 24 months after screening	\$1,072	\$1,015	\$57	6%	0.34
25 to 36 months after screening	\$944	\$1,096	-\$152	-14%	0.10
37 to 48 months after screening	\$922	\$1,090	-\$168	-15%	0.17
Overall	\$1,190	\$1,245	-\$55	-4%	0.14

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
<b><i>PAC expenditures PBPM</i></b>					
Over 3-year baseline	\$313	\$325	-\$11	-3%	0.74
1 to 12 months after screening	\$590	\$608	-\$18	-3%	0.38
13 to 24 months after screening	\$440	\$410	\$31	8%	0.23
25 to 36 months after screening	\$414	\$414	\$0	0%	1.00
37 to 48 months after screening	\$405	\$509	-\$104	-20%	0.07
Overall	\$494	\$501	-\$7	-1%	0.58
<b><i>ED visits per 1,000 beneficiaries</i></b>					
Over 3-year baseline	538	549	-11	-2%	0.45
1 to 12 months after screening	591	619	-28	-4%	0.04
13 to 24 months after screening	512	533	-20	-4%	0.09
25 to 36 months after screening	484	530	-45	-8%	0.02
37 to 48 months after screening	470	470	0	0%	0.99
Overall	531	558	-26	-5%	0.01
<b><i>Avoidable ED visits per 1,000 beneficiaries</i></b>					
Over 3-year baseline	264	267	-2.8	-1.1%	0.77
1 to 12 months after screening	281	299	-17	-6%	0.05
13 to 24 months after screening	240	254	-13	-5%	0.11
25 to 36 months after screening	219	252	-31	-12%	0.02
37 to 48 months after screening	205	215	-10	-4%	0.42
Overall	247	265	-18	-7%	0.01
<b><i>Inpatient admissions per 1,000 beneficiaries</i></b>					
Over 3-year baseline	191	201	-10	-5%	0.22
1 to 12 months after screening	262	263	-1	0%	0.84

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
13 to 24 months after screening	211	215	-4.2	-1.9%	0.51
25 to 36 months after screening	194	198	-5	-3%	0.52
37 to 48 months after screening	195	217	-24	-11%	0.11
Overall	225	229	-5	-2.2%	0.21
<b>ACSC admissions per 1,000 beneficiaries</b>					
Over 3-year baseline	43	44	-2	-4%	0.67
1 to 12 months after screening	58	59	-1.0	-1.7%	0.72
13 to 24 months after screening	48	51	-2	-4%	0.46
25 to 36 months after screening	42	46	-4	-8%	0.32
37 to 48 months after screening	39	60	-23	-38%	0.02
Overall	50	53	-4	-7%	0.09
<b>PCP visits per 1,000 beneficiaries</b>					
Over 3-year baseline	1,638	1,655	-15	-1%	0.52
1 to 12 months after screening	2,084	2,107	-23	-1%	0.22
13 to 24 months after screening	2,027	2,093	-67	-3%	0.03
25 to 36 months after screening	2,053	2,147	-97	-5%	0.02
37 to 48 months after screening	2,027	2,295	-281	-12%	< 0.01
Overall	2,056	2,125	-71	-3%	0.01
<b>Unplanned readmissions per 1,000 discharges</b>					
Number of discharges	16,066	6,693			
Over 3-year baseline	240	252	-12	-5%	0.52
1 to 12 months after screening	274	286	-11	-4%	0.32
13 to 24 months after screening	251	272	-22	-8%	0.17
25 to 36 months after screening	249	243	6	2%	0.72

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
37 to 48 months after screening	221	255	-35	-14%	0.21
Overall	259	272	-13	-5%	0.13
<b>Follow-up visits within 14 days of discharge per 1,000 discharges</b>					
Number of discharges	15,852	6,596			
Over 3-year baseline	604	607	-2	0%	0.92
1 to 12 months after screening	606	618	-12	-2%	0.33
13 to 24 months after screening	613	624	-11	-2%	0.45
25 to 36 months after screening	598	642	-43	-7%	0.08
37 to 48 months after screening	608	600	8	1%	0.76
Overall	607	622	-16	-3%	0.11
<b>ED visits within 30 days of discharge per 1,000 discharges</b>					
Number of discharges	15,852	6,596			
Over 3-year baseline	258	255	3	1%	0.87
1 to 12 months after screening	254	268	-14	-5%	0.23
13 to 24 months after screening	256	260	-4	-1%	0.77
25 to 36 months after screening	269	238	29	12%	0.14
37 to 48 months after screening	258	253	4	2%	0.87
Overall	258	259	-2	-0.6%	0.81

P-values compare the intervention group means with the control group mean.

The total expenditure and expenditure category outcomes were estimated using a weighted ordinary least squares model. The inpatient admission, ACSC admission, ED visit, avoidable ED visit, and PCP visit outcomes were estimated using a Poisson specification. The unplanned readmission and follow-up visit within 14 days of discharge outcomes were estimated using a logistic specification.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; FFS = fee for service; PAC = post-acute care; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions and follow-up visits within 14 days of discharge, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-32. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries, Quality Outcomes**

<b>Outcome</b>	<b>(1) Intervention Group Adjusted Mean</b>	<b>(2) Control Group Adjusted Mean</b>	<b>Difference Between (2) and (1)</b>	<b>% Difference Between (2) and (1)</b>	<b>P-Value for Difference</b>
<b><i>Asthma medication ratio &gt; 50%</i></b>					
Unique number of beneficiaries	801	338			
Over 3-year baseline	\$667	\$653	\$15	2%	0.61
1 to 12 months after screening	\$662	\$620	\$41	7%	0.24
13 to 24 months after screening	\$660	\$606	\$50	8%	0.23
25 to 36 months after screening	\$683	\$638	\$41.1	6.4%	0.44
37 to 48 months after screening	\$602	\$648	-\$44	-7%	0.68
Overall	\$663	\$621	\$39.9	6.4%	0.19
<b><i>Treatment for respiratory illnesses</i></b>					
Unique number of beneficiaries	10,517	4,331			
Over 3-year baseline	\$676	\$677	\$0	0%	0.96
1 to 12 months after screening	\$707	\$705	\$2	0%	0.82
13 to 24 months after screening	\$668	\$661	\$6	1%	0.54
25 to 36 months after screening	\$637	\$647	-\$10	-2%	0.44
37 to 48 months after screening	\$612	\$610	\$3	0%	0.89
Overall	\$675	\$674	\$1	0%	0.86
<b><i>Antidepressant medication management, 12 weeks</i></b>					
Unique number of beneficiaries	1,230	548			
Over 3-year baseline	\$700	\$656	\$44	7%	0.10
1 to 12 months after screening	\$604	\$580	\$24	4%	0.51
13 to 24 months after screening	\$626	\$619	\$7	1%	0.87
25 to 36 months after screening	\$583	\$666	-\$78	-12%	0.13
37 to 48 months after screening	\$619	\$691	-\$68	-10%	0.38
Overall	\$608	\$619	-\$10	-2%	0.70
<b><i>Antidepressant medication management, 6 months</i></b>					
Unique number of beneficiaries	1,230	548			
Over 3-year baseline	508	488	18	4%	0.51
1 to 12 months after screening	385	359	27	7%	0.46
13 to 24 months after screening	368	355	13	4%	0.76
25 to 36 months after screening	336	309	29	9%	0.60
37 to 48 months after screening	261	338	-82	-24%	0.30
Overall	360	347	14	4%	0.60

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
<b>Initiation of AOD treatment</b>					
Unique number of beneficiaries	1,124	433			
Over 3-year baseline	474	491	-17.9	-3.6%	0.63
1 to 12 months after screening	597	594	3	1%	0.94
13 to 24 months after screening	553	598	-45	-7%	0.30
25 to 36 months after screening	506	574	-67	-12%	0.28
37 to 48 months after screening	448	451	-2	-1%	0.98
Overall	556	581	-25	-4%	0.40
<b>Follow-up visits within 30 days of a MH discharge per 1,000 discharges</b>					
Number of discharges	820	346			
Over 3-year baseline	458	473	-16	-3%	0.72
1 to 12 months after screening	422	429	-7	-2%	0.88
13 to 24 months after screening	369	365	4	1%	0.95
25 to 36 months after screening	367	355	12	3%	0.87
Overall	396	396	0	0%	0.99

P-values compare the intervention group means with the control group mean.

All outcomes were estimated using a logistic specification.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: AOD = alcohol or other drug; FFS = fee for service; MH = mental health.

Other Notes: Except for follow-up visits within 30 days of a mental health discharge, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable. 37-48 months after screening were excluded for follow-up visits within 30 days of a MH discharge due to only 76 observations during this time period.

**Exhibit M-33. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries, Main Outcomes**

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
Unique number of beneficiaries							
<b>Total expenditures PBPM</b>	\$20,608	\$5,112	\$18,296	\$4,331			
1 to 12 months after screening	\$2,407	\$2,339	\$3,118	\$3,263	-\$199	-8%	0.22
13 to 24 months after screening	\$2,407	\$2,339	\$2,914	\$2,938	-\$77	-3%	0.49
25 to 36 months after screening	\$2,407	\$2,339	\$2,920	\$3,120	-\$253	-11%	0.23
37 to 48 months after screening	\$2,407	\$2,339	\$2,892	\$3,006	-\$168	-7%	0.44
Overall	\$2,407	\$2,339	\$2,966	\$3,060	-\$147	-6%	0.11
<b>ED expenditures PBPM</b>							
1 to 12 months after screening	\$150	\$124	\$171	\$144	\$2	1%	0.68
13 to 24 months after screening	\$150	\$124	\$157	\$128	\$4	2%	0.49
25 to 36 months after screening	\$150	\$124	\$151	\$136	-\$10	-7%	0.29
37 to 48 months after screening	\$150	\$124	\$144	\$141	-\$23	-15%	0.22
Overall	\$150	\$124	\$161	\$136	\$0	0%	0.99
<b>Inpatient expenditures PBPM</b>							
1 to 12 months after screening	\$1,135	\$1,067	\$1,447	\$1,469	-\$83	-7%	0.45
13 to 24 months after screening	\$1,135	\$1,067	\$1,271	\$1,180	\$31	3%	0.61
25 to 36 months after screening	\$1,135	\$1,067	\$1,230	\$1,302	-\$132	-12%	0.28
37 to 48 months after screening	\$1,135	\$1,067	\$1,257	\$1,180	\$16	1%	0.90
Overall	\$1,135	\$1,067	\$1,295	\$1,252	-\$17	-2%	0.70
<b>PAC expenditures PBPM</b>							
1 to 12 months after screening	\$285	\$322	\$429	\$542	-\$74	-26%	0.14
13 to 24 months after screening	\$285	\$322	\$417	\$455	\$0	0%	1.00

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
25 to 36 months after screening	\$285	\$322	\$427	\$487	-\$21	-7%	0.67
37 to 48 months after screening	\$285	\$322	\$455	\$531	-\$37	-13%	0.60
Overall	\$285	\$322	\$427	\$498	-\$32	-11%	0.23
<b>ED visits per 1,000 beneficiaries</b>							
1 to 12 months after screening	653	564	733	647	-13	-2%	0.55
13 to 24 months after screening	653	564	660	580	-8	-1%	0.76
25 to 36 months after screening	653	564	631	577	-31	-5%	0.43
37 to 48 months after screening	653	564	600	553	-34	-5%	0.54
Overall	653	564	684	608	-15	-2%	0.32
<b>Avoidable ED visits per 1,000 beneficiaries</b>							
1 to 12 months after screening	307	273	333	313	-16	-5%	0.20
13 to 24 months after screening	307	273	299	275	-8	-2%	0.51
25 to 36 months after screening	307	273	290	276	-16	-5%	0.38
37 to 48 months after screening	307	273	266	255	-17	-5%	0.52
Overall	307	273	309	289	-13	-4%	0.13
<b>Inpatient admissions per 1,000 beneficiaries</b>							
1 to 12 months after screening	200	206	253	262	1	0%	0.94
13 to 24 months after screening	200	206	222	235	-4	-2%	0.66
25 to 36 months after screening	200	206	217	230	-5	-2%	0.75
37 to 48 months after screening	200	206	209	244	-26	-13%	0.15
Overall	200	206	230	245	-6	-3%	0.34
<b>ACSC admissions per 1,000 beneficiaries</b>							
1 to 12 months after screening	44	46	57	59	1	3%	0.70
13 to 24 months after screening	44	46	51	55	-1	-2%	0.78
25 to 36 months after screening	44	46	54	49	7	15%	0.22



Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
37 to 48 months after screening	44	46	49	63	-11	-24%	0.23
Overall	44	46	54	56	1	2%	0.73
<b>PCP visits per 1,000 beneficiaries</b>							
1 to 12 months after screening	1,592	1,614	1,902	1,979	-46	-3%	0.36
13 to 24 months after screening	1,592	1,614	1,936	2,032	-65	-4%	0.32
25 to 36 months after screening	1,592	1,614	1,999	2,097	-67	-4%	0.32
37 to 48 months after screening	1,592	1,614	1,998	2,290	-267	-17%	0.08
Overall	1,592	1,614	1,941	2,044	-73	-5%	0.08
<b>Unplanned readmissions per 1,000 discharges</b>							
Number of discharges	32,763	8,104	25,847	6,693			
1 to 12 months after screening	240	252	281	290	4	2%	0.73
13 to 24 months after screening	240	252	263	280	-4	-2%	0.76
25 to 36 months after screening	240	252	258	269	1	0%	0.97
37 to 48 months after screening	240	252	240	240	10	4%	0.72
Overall	240	252	268	279	1	1%	0.86
<b>Follow-up visits within 14 days of discharge per 1,000 discharges</b>							
Number of discharges	32,440	8,026	25,469	6,596			
1 to 12 months after screening	627	596	623	606	-14	-2%	0.30
13 to 24 months after screening	627	596	618	630	-42	-7%	0.05
25 to 36 months after screening	627	596	640	613	-3	0%	0.88
37 to 48 months after screening	627	596	612	593	-11	-2%	0.69
Overall	627	596	624	613	-20	-3%	0.07

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b>ED visits within 30 days of discharge per 1,000 discharges</b>							
Number of discharges	32,440	8,026	25,469	6,596			
1 to 12 months after screening	270	263	272	280	-16	-6%	0.20
13 to 24 months after screening	270	263	269	273	-12	-4%	0.42
25 to 36 months after screening	270	263	262	260	-6	-2%	0.78
37 to 48 months after screening	270	263	256	242	6	2%	0.84
Overall	270	263	269	273	-12	-4%	0.18

P-values compare the intervention group means with the control group mean.

The total expenditure and other expenditure category outcomes were estimated using a weighted ordinary least squares model. The inpatient admission, ACSC admission, ED visit, avoidable ED visit, and PCP visit outcomes were estimated using a Poisson specification. The unplanned readmission and follow-up visit within 14 days of discharge outcomes were estimated using a logistic specification.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; FFS = fee for service; PAC = post-acute care; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions and follow-up visits within 14 days of discharge, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-34. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries, Quality Outcomes**

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b><i>Asthma medication ratio &gt; 50%</i></b>							
Unique number of beneficiaries	2,193	564	1,392	338			
1 to 12 months after screening	626	636	589	601	-3	0%	0.94
13 to 24 months after screening	626	636	574	604	-21	-3%	0.76
25 to 36 months after screening	626	636	596	614	-9	-1%	0.84
37 to 48 months after screening	626	636	558	649	-77	-12%	0.45
Overall	626	636	588	608	-10	-2%	0.68
<b><i>Treatment for respiratory illnesses</i></b>							
Unique number of beneficiaries	20,608	5,112	18,296	4,331			
1 to 12 months after screening	664	665	680	688	-6	-1%	0.59
13 to 24 months after screening	664	665	646	645	3	0%	0.74
25 to 36 months after screening	664	665	637	648	-11	-2%	0.39
37 to 48 months after screening	664	665	613	632	-19	-3%	0.38
Overall	664	665	650	654	-4	-1%	0.56
<b><i>Antidepressant medication management, 12 weeks</i></b>							
Unique number of beneficiaries	4,032	1,053	2,164	548			
1 to 12 months after screening	650	652	589	578	9	1%	0.77
13 to 24 months after screening	650	652	547	660	-111	-17%	0.02
25 to 36 months after screening	650	652	645	697	-51	-8%	0.30
37 to 48 months after screening	650	652	628	695	-64	-10%	0.44
Overall	650	652	595	626	-31	-5%	0.25
<b><i>Antidepressant medication management, 6 months</i></b>							
Unique number of beneficiaries	4,032	1,053	2,164	548			

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
1 to 12 months after screening	473	468	379	350	18	4%	0.46
13 to 24 months after screening	473	468	332	379	-61	-13%	0.44
25 to 36 months after screening	473	468	314	311	-8	-2%	0.86
37 to 48 months after screening	473	468	275	313	-54	-12%	0.44
Overall	473	468	356	342	3	1%	0.90
<b>Initiation of AOD treatment</b>							
Unique number of beneficiaries	2,996	542	2,343	433			
1 to 12 months after screening	458	469	559	610	-39	-9%	0.40
13 to 24 months after screening	458	469	547	651	-94	-21%	0.02
25 to 36 months after screening	458	469	550	596	-34	-7%	0.57
37 to 48 months after screening	458	469	577	484	108	24%	0.29
Overall	458	469	553	617	-53	-12%	0.13
<b>Follow-up visits within 30 days of a MH discharge per 1,000 discharges</b>							
Number of discharges	2,452	579	1,511	346			
1 to 12 months after screening	378	447	330	392	3	1%	0.96
13 to 24 months after screening	378	447	343	390	18	5%	0.76
25 to 36 months after screening	378	447	359	312	103	27%	0.14
Overall	378	447	342	370	35	9%	0.40

P-values compare the intervention group means with the control group mean.

All outcomes were estimated using a logistic specification.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: AOD = alcohol and other drug; FFS = fee for service; MH = mental health.

Other Notes: Except for follow-up visits within 30 days of a mental health discharge, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight. 37-48 months after screening were excluded for follow-up visits within 30 days of a MH discharge due to only 104 observations during this time period.

**Exhibit M-35. Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation**

Subpopulation	Assistance Track Intervention Group (N = 10,517)	Assistance Track Control Group (N = 4,331)
Pulmonary disease	4,299 (40.9%)	1,754 (40.5%)
Diabetes	4,112 (39.1%)	1,747 (40.3%)
Substance use disorder	0,663 (6.3%)	271 (6.3%)
Major depression	1,657 (15.8%)	748 (17.3%)
Non-white and/or Hispanic	2,998 (28.5%)	1,265 (29.2%)
Dually enrolled in Medicaid	6,710 (63.8%)	2,858 (66.0%)
Eligible for Medicare because of disability	6,430 (61.1%)	2,656 (61.3%)
Rural	2,497 (23.7%)	1,006 (23.2%)
Greater than 1 HRSN	5,043 (48.0%)	2,252 (52.0%)

Definitions: FFS = fee for service; HRSN = health-related social need.

**Exhibit M-36. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—Race/Ethnicity**

Outcome	Baseline	Baseline	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Non-Hispanic White	Hispanic and/or Non-White
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	8,783	3,746	7,519	2,998
Assistance Track control, N	3,559	1,553	3,066	1,265
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,825	\$2,427	\$2,843	\$3,598
Assistance Track control, mean	\$1,848	\$2,743	\$2,855	\$3,973
Controlled difference			-\$14	-\$374
P-value (for D-in-D)			0.75	< 0.01
Interaction				\$360
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	547	552	533	503
Assistance Track control, mean	542	580	517	605
Controlled difference			15	-115
P-value (for D-in-D)			0.01	< 0.01
Interaction				130
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	272	281	241	231
Assistance Track control, mean	268	288	237	286
Controlled difference			3	-63

Outcome	Baseline	Baseline	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Non-Hispanic White	Hispanic and/or Non-White
P-value (for D-in-D)			0.34	< 0.01
Interaction				66
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	179	201	231	254
Assistance Track control, mean	177	240	226	282
Controlled difference			4	-29
P-value (for D-in-D)			0.22	< 0.01
Interaction				34
P-value (for interaction)				< 0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	41	47	50	54
Assistance Track control, mean	39	56	51	66
Controlled difference			-1	-12
P-value (for D-in-D)			0.55	< 0.01
Interaction				11
P-value (for interaction)				< 0.01
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,688	1,453	2,169	1,876
Assistance Track control, mean	1,700	1,465	2,244	1,899
Controlled difference			-76	-15
P-value (for D-in-D)			< 0.01	0.39
Interaction				-61

Outcome	Baseline	Baseline	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Non-Hispanic White	Hispanic and/or Non-White
P-value (for interaction)				< 0.01
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	4,473	1,804	3,664	1,351
Assistance Track control, discharges	1,812	766	1,465	577
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	232	243	266	265
Assistance Track control, mean	232	272	262	311
Controlled difference			4	-48
P-value (for D-in-D)			0.59	< 0.01
Interaction				52
P-value (for interaction)				< 0.01

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; p-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.



**Exhibit M-37. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—Rural**

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	9,567	2,962	8,020	2,497
Assistance Track control, N	3,915	1,197	3,325	1,006
Total expenditures PBPM				
Assistance Track intervention, mean	\$2,175	\$1,423	\$3,302	\$2,233
Assistance Track control, mean	\$2,301	\$1,488	\$3,453	\$2,196
Controlled difference			-\$152	\$27
P-value (for D-in-D)			< 0.01	0.72
Interaction				-\$179
P-value (for interaction)				0.04
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	549	549	512	561
Assistance Track control, mean	568	510	550	522
Controlled difference			-38	37
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				-75
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	273	280	230	262
Assistance Track control, mean	280	257	252	250
Controlled difference			-22	11
P-value (for D-in-D)			< 0.01	0.11

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
Interaction				-33
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	203	131	257	177
Assistance Track control, mean	213	143	262	180
Controlled difference			-5	-4
P-value (for D-in-D)			0.22	0.43
Interaction				0
P-value (for interaction)				0.97
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	47	29	56	37
Assistance Track control, mean	48	31	60	40
Controlled difference			-4	-4
P-value (for D-in-D)			0.02	0.18
Interaction				-1
P-value (for interaction)				0.80
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,668	1,486	2,199	1,778
Assistance Track control, mean	1,679	1,503	2,224	1,946
Controlled difference			-24	-179
P-value (for D-in-D)			0.03	< 0.01
Interaction				155
P-value (for interaction)				< 0.01
<b>Discharge-level outcomes</b>				

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
Assistance Track intervention, discharges	5,044	1,233	3,979	1,036
Assistance Track control, discharges	2,077	501	1,626	416
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	244	195	274	228
Assistance Track control, mean	258	194	286	240
Controlled difference			-13	-11
P-value (for D-in-D)			0.07	0.46
Interaction				-2
P-value (for interaction)				0.90

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; p-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-38. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—Disability**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	4,611	7,918	4,087	6,430
Assistance Track control, N	1,896	3,216	1,675	2,656
Total expenditures PBPM				
Assistance Track intervention, mean	\$2,433	\$1,725	\$3,639	\$2,655
Assistance Track control, mean	\$2,490	\$1,845	\$3,886	\$2,663
Controlled difference			-\$245	-\$9
P-value (for D-in-D)			< 0.01	0.85
Interaction				-\$236
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	492	569	535	520
Assistance Track control, mean	500	573	494	564
Controlled difference			29	-52
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				81
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	232	290	237	238
Assistance Track control, mean	241	287	213	268
Controlled difference			17	-35
P-value (for D-in-D)			< 0.01	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
Interaction				52
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	205	175	276	216
Assistance Track control, mean	220	181	292	213
Controlled difference			-14	2
P-value (for D-in-D)			0.01	0.56
Interaction				-16
P-value (for interaction)				0.02
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	43	42	55	49
Assistance Track control, mean	41	46	62	51
Controlled difference			-7	-2
P-value (for D-in-D)			0.01	0.24
Interaction				-5
P-value (for interaction)				0.11
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,433	1,752	1,968	2,186
Assistance Track control, mean	1,415	1,791	1,992	2,283
Controlled difference			-25	-92
P-value (for D-in-D)			0.11	< 0.01
Interaction				67
P-value (for interaction)				< 0.01
<b>Discharge-level outcomes</b>				

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
Assistance Track intervention, discharges	2,572	3,705	2,210	2,805
Assistance Track control, discharges	1,098	1,480	902	1,140
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	253	225	280	257
Assistance Track control, mean	260	237	308	255
Controlled difference			-27	1
P-value (for D-in-D)			< 0.01	0.88
Interaction				-28
P-value (for interaction)				0.03

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-39. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—People Dually Enrolled in Medicare and Medicaid**

Outcome	Baseline	Baseline	Overall	Overall
	People Not Dually Enrolled	Dual Enrollees	People Not Dually Enrolled	Dual Enrollees
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	4,510	8,019	3,807	6,710
Assistance Track control, N	1,772	3,340	1,473	2,858
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,779	\$2,113	\$2,796	\$3,191
Assistance Track control, mean	\$1,843	\$2,243	\$2,934	\$3,282
Controlled difference			-\$140	-\$92
P-value (for D-in-D)			0.02	0.05
Interaction				-\$49
P-value (for interaction)				0.52
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	379	624	412	575
Assistance Track control, mean	387	626	382	618
Controlled difference			25	-47
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				72
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	176	318	180	264
Assistance Track control, mean	178	316	156	296
Controlled difference			20	-35
P-value (for D-in-D)			< 0.01	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Not Dually Enrolled	Dual Enrollees	People Not Dually Enrolled	Dual Enrollees
Interaction				55
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	150	206	200	260
Assistance Track control, mean	155	218	205	264
Controlled difference			-5	-4
P-value (for D-in-D)			0.28	0.31
Interaction				-1
P-value (for interaction)				0.90
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	30	50	42	58
Assistance Track control, mean	30	53	42	65
Controlled difference			0	-7
P-value (for D-in-D)			0.94	< 0.01
Interaction				7
P-value (for interaction)				0.02
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,387	1,778	1,779	2,319
Assistance Track control, mean	1,374	1,806	1,787	2,419
Controlled difference			-9	-93
P-value (for D-in-D)			0.54	< 0.01
Interaction				84
P-value (for interaction)				< 0.01
<b>Discharge-level outcomes</b>				



Outcome	Baseline	Baseline	Overall	Overall
	People Not Dually Enrolled	Dual Enrollees	People Not Dually Enrolled	Dual Enrollees
Assistance Track intervention, discharges	2,436	3,841	2,001	3,014
Assistance Track control, discharges	964	1,614	765	1,277
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	202	251	236	279
Assistance Track control, mean	213	259	254	288
Controlled difference			-17	-9
P-value (for D-in-D)			0.11	0.25
Interaction				-8
P-value (for interaction)				0.57

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-40. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—People with Major Depression**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Major Depression	People with Major Depression	People Without Major Depression	People with Major Depression
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	10,466	2,063	8,860	1,657
Assistance Track control, N	4,198	914	3,583	748
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,844	\$2,620	\$2,951	\$3,449
Assistance Track control, mean	\$1,955	\$2,661	\$3,101	\$3,354
Controlled difference			-\$151	\$94
P-value (for D-in-D)			< 0.01	0.26
Interaction				-\$245
P-value (for interaction)				0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	490	765	475	723
Assistance Track control, mean	496	741	501	692
Controlled difference			-25	36
P-value (for D-in-D)			< 0.01	0.01
Interaction				-61
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	248	371	218	318
Assistance Track control, mean	254	339	234	311
Controlled difference			-16	8
P-value (for D-in-D)			< 0.01	0.39

Outcome	Baseline	Baseline	Overall	Overall
	People Without Major Depression	People with Major Depression	People Without Major Depression	People with Major Depression
Interaction				-24
P-value (for interaction)				0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	172	245	228	280
Assistance Track control, mean	183	242	236	267
Controlled difference			-8	12
P-value (for D-in-D)			0.03	0.12
Interaction				-20
P-value (for interaction)				0.02
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	40	53	50	56
Assistance Track control, mean	44	45	55	56
Controlled difference			-5	0
P-value (for D-in-D)			< 0.01	0.96
Interaction				-5
P-value (for interaction)				0.20
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,479	2,249	1,989	2,584
Assistance Track control, mean	1,488	2,225	2,019	2,728
Controlled difference			-30	-139
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				110
P-value (for interaction)				< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Major Depression	People with Major Depression	People Without Major Depression	People with Major Depression
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	5,102	1,175	4,154	861
Assistance Track control, discharges	2,080	498	1,673	369
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	224	277	259	294
Assistance Track control, mean	237	277	271	306
Controlled difference			-12	-11
P-value (for D-in-D)			0.10	0.47
Interaction				-1
P-value (for interaction)				0.95

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-41. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—People with Substance Use Disorder (SUD)**

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b><i>Beneficiary-level outcomes</i></b>				
Assistance Track intervention, N	11,232	1,297	9,854	663
Assistance Track control, N	4,604	508	4,060	271
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,962	\$2,247	\$3,089	\$2,068
Assistance Track control, mean	\$2,078	\$2,269	\$3,235	\$1,488
Controlled difference			-\$147	\$613
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				-\$760
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	520	745	523	525
Assistance Track control, mean	535	686	555	384
Controlled difference			-31	187
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				-218
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	262	359	238	224
Assistance Track control, mean	267	322	258	166
Controlled difference			-19	80
P-value (for D-in-D)			< 0.01	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
Interaction				-99
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	178	248	241	176
Assistance Track control, mean	189	247	248	128
Controlled difference			-8	52
P-value (for D-in-D)			0.02	< 0.01
Interaction				-60
P-value (for interaction)				< 0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	41	53	53	22
Assistance Track control, mean	44	45	57	21
Controlled difference			-5	4
P-value (for D-in-D)			< 0.01	0.36
Interaction				-9
P-value (for interaction)				0.06
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,595	1,874	2,094	2,063
Assistance Track control, mean	1,616	1,811	2,160	2,047
Controlled difference			-67	7
P-value (for D-in-D)			< 0.01	0.86
Interaction				-74
P-value (for interaction)				0.08

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	5,526	751	4,819	196
Assistance Track control, discharges	2,282	296	1,976	66
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	232	259	266	268
Assistance Track control, mean	249	226	281	181
Controlled difference			-15	94
P-value (for D-in-D)			0.02	0.01
Interaction				-109
P-value (for interaction)				< 0.01

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider; SUD = substance use disorder.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable.

**Exhibit M-42. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—Diabetes**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b><i>Beneficiary-level outcomes</i></b>				
Assistance Track intervention, N	7,850	4,679	6,405	4,112
Assistance Track control, N	3,106	2,006	2,584	1,747
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,509	\$2,611	\$2,399	\$3,947
Assistance Track control, mean	\$1,564	\$2,748	\$2,379	\$4,168
Controlled difference			\$18	-\$221
P-value (for D-in-D)			0.70	< 0.01
Interaction				\$239
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	517	596	495	571
Assistance Track control, mean	530	582	478	642
Controlled difference			18	-66
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				83
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	254	305	218	269
Assistance Track control, mean	260	293	214	309
Controlled difference			5	-37
P-value (for D-in-D)			0.25	< 0.01



Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
Interaction				41
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	143	242	191	303
Assistance Track control, mean	148	253	182	322
Controlled difference			9	-18
P-value (for D-in-D)			0.01	< 0.01
Interaction				27
P-value (for interaction)				< 0.01
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	26	62	34	74
Assistance Track control, mean	26	64	33	84
Controlled difference			1	-10
P-value (for D-in-D)			0.40	< 0.01
Interaction				11
P-value (for interaction)				< 0.01
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,421	1,881	1,882	2,384
Assistance Track control, mean	1,424	1,892	1,945	2,425
Controlled difference			-65	-38
P-value (for D-in-D)			< 0.01	0.02
Interaction				-27
P-value (for interaction)				0.17

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	3,192	3,085	2,585	2,430
Assistance Track control, discharges	1,266	1,312	1,011	1,031
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	209	255	255	276
Assistance Track control, mean	216	267	240	306
Controlled difference			14	-30
P-value (for D-in-D)			0.13	< 0.01
Interaction				44
P-value (for interaction)				< 0.01

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-43. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—Pulmonary Disease**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	7,680	4,849	6,218	4,299
Assistance Track control, N	3,124	1,988	2,577	1,754
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,604	\$2,446	\$2,709	\$3,462
Assistance Track control, mean	\$1,755	\$2,504	\$2,707	\$3,719
Controlled difference			\$2	-\$255
P-value (for D-in-D)			0.96	< 0.01
Interaction				\$258
P-value (for interaction)				< 0.01
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	446	670	439	634
Assistance Track control, mean	466	657	425	703
Controlled difference			14	-67
P-value (for D-in-D)			0.02	< 0.01
Interaction				81
P-value (for interaction)				< 0.01
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	212	347	187	302
Assistance Track control, mean	217	341	187	337
Controlled difference			0	-35
P-value (for D-in-D)			0.98	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
Interaction				35
P-value (for interaction)				< 0.01
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	136	245	194	293
Assistance Track control, mean	155	243	196	302
Controlled difference			-1	-9
P-value (for D-in-D)			0.75	0.11
Interaction				7
P-value (for interaction)				0.27
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	23	65	35	72
Assistance Track control, mean	27	63	35	80
Controlled difference			-1	-8
P-value (for D-in-D)			0.74	< 0.01
Interaction				8
P-value (for interaction)				0.02
PCP visits Per 1,000 Beneficiaries				
Assistance Track intervention, mean	1,404	1,870	1,932	2,294
Assistance Track control, mean	1,444	1,852	1,977	2,370
Controlled difference			-47	-77
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				30
P-value (for interaction)				0.12

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	3,061	3,216	2,587	2,428
Assistance Track control, discharges	1,271	1,307	1,032	1,010
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	203	257	235	291
Assistance Track control, mean	225	262	240	309
Controlled difference			-4	-16
P-value (for D-in-D)			0.68	0.07
Interaction				12
P-value (for interaction)				0.34

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-44. Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation—Multiple Health-Related Social Needs (HRSNs)**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
<b>Beneficiary-level outcomes</b>				
Assistance Track intervention, N	6,479	6,050	5,474	5,043
Assistance Track control, N	2,490	2,622	2,079	2,252
Total expenditures PBPM				
Assistance Track intervention, mean	\$1,945	\$2,044	\$2,998	\$3,085
Assistance Track control, mean	\$2,082	\$2,117	\$3,188	\$3,109
Controlled difference			-\$192	-\$24
P-value (for D-in-D)			< 0.01	0.65
Interaction				-\$167
P-value (for interaction)				0.02
ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	570	533	540	512
Assistance Track control, mean	553	552	562	531
Controlled difference			-17	-23
P-value (for D-in-D)			0.01	< 0.01
Interaction				5
P-value (for interaction)				0.58
Avoidable ED visits per 1,000 beneficiaries				
Assistance Track intervention, mean	287	266	246	232
Assistance Track control, mean	278	271	257	248
Controlled difference			-9	-20
P-value (for D-in-D)			0.04	< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
Interaction				11
P-value (for interaction)				0.09
Inpatient admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	183	189	239	236
Assistance Track control, mean	195	196	249	236
Controlled difference			-10	0
P-value (for D-in-D)			0.03	0.98
Interaction				-10
P-value (for interaction)				0.13
ACSC admissions per 1,000 beneficiaries				
Assistance Track intervention, mean	40	45	51	52
Assistance Track control, mean	44	44	55	56
Controlled difference			-4	-4
P-value (for D-in-D)			0.06	0.05
Interaction				0
P-value (for interaction)				0.93
PCP visits per 1,000 beneficiaries				
Assistance Track intervention, mean	1,600	1,646	2,021	2,177
Assistance Track control, mean	1,576	1,697	2,099	2,219
Controlled difference			-80	-41
P-value (for D-in-D)			< 0.01	< 0.01
Interaction				-40
P-value (for interaction)				0.04

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
<b>Discharge-level outcomes</b>				
Assistance Track intervention, discharges	3,331	2,946	2,721	2,294
Assistance Track control, discharges	1,293	1,285	1,049	993
Unplanned readmissions per 1,000 discharges				
Assistance Track intervention, mean	229	242	269	262
Assistance Track control, mean	252	240	281	274
Controlled difference			-12	-12
P-value (for D-in-D)			0.18	0.19
Interaction				0
P-value (for interaction)				0.98

P-values (for difference) compare the intervention group means with the control group mean within each subpopulation; P-values (for interaction) compare the difference in means across each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; HRSN = health-related social need; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.



**Exhibit M-45. Alignment Track Navigation-Eligible FFS Medicare Beneficiaries by Subpopulation**

<b>Subpopulation</b>	<b>Alignment Track Intervention Group (N = 18,296)</b>	<b>Assistance Track Control Group (N = 4,331)</b>
Pulmonary disease	7,052 (38.5%)	1,754 (40.5%)
Diabetes	7,025 (38.4%)	1,747 (40.3%)
Substance use disorder	1,367 (7.5%)	271 (6.3%)
Major depression	3,054 (16.7%)	748 (17.3%)
Non-white and/or Hispanic	7,708 (42.1%)	1,265 (29.2%)
Dually enrolled in Medicaid	13,157 (71.9%)	2,858 (66.0%)
Eligible for Medicare due to disability	11,464 (62.7%)	2,656 (61.3%)
Rural	3,026 (16.5%)	1,006 (23.2%)
Greater than 1 HRSN	10,039 (54.9%)	2,252 (52.0%)

Definitions: FFS = fee-for-service; HRSN = health-related social need.

**Exhibit M-46. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—Race/Ethnicity**

Outcome	Baseline	Baseline	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Non-Hispanic White	Hispanic and/or Non-White
<b><i>Beneficiary-level outcomes</i></b>				
Alignment Track intervention, N	11,699	8,909	10,588	7,708
Assistance Track control, N	3,559	1,553	3,066	1,265
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,162	\$2,549	\$3,090	\$3,659
Assistance Track control, mean	\$2,050	\$2,588	\$2,977	\$3,698
Difference-in-differences			-\$203	-\$213
P-value (for D-in-D)			0.42	0.45
Interaction				\$10
P-value (for interaction)				0.97
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	642	716	603	747
Assistance Track control, mean	569	604	534	630
Difference-in-differences			0	-51
P-value (for D-in-D)			0.99	0.50
Interaction				51
P-value (for interaction)				0.50
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	300	352	259	346
Assistance Track control, mean	281	297	242	292
Difference-in-differences			0	-36
P-value (for D-in-D)			0.98	0.34
Interaction				36
P-value (for interaction)				0.35

Outcome	Baseline	Baseline	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Non-Hispanic White	Hispanic and/or Non-White
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	194	210	239	245
Assistance Track control, mean	190	231	234	270
Difference-in-differences			-10	1
P-value (for D-in-D)			0.55	0.97
Interaction				-11
P-value (for interaction)				0.58
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	41	51	52	57
Assistance Track control, mean	42	53	53	60
Difference-in-differences			-3	3
P-value (for D-in-D)			0.57	0.81
Interaction				-5
P-value (for interaction)				0.66
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,666	1,439	2,128	1,873
Assistance Track control, mean	1,702	1,440	2,174	1,874
Difference-in-differences			-173	65
P-value (for D-in-D)			0.17	0.42
Interaction				-238
P-value (for interaction)				0.06
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	6,137	4,379	4,904	3,399
Assistance Track control, discharges	1,812	766	1,465	577

Outcome	Baseline	Baseline	Overall	Overall
	Non-Hispanic White	Hispanic and/or Non-White	Non-Hispanic White	Hispanic and/or Non-White
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	231	250	264	282
Assistance Track control, mean	237	266	271	299
Difference-in-differences			12	-21
P-value (for D-in-D)			0.38	0.36
Interaction				34
P-value (for interaction)				0.20

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-47. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—Rural**

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
<i>Beneficiary-level outcomes</i>				
Alignment Track intervention, N	17,460	3,148	15,270	3,026
Assistance Track control, N	3,915	1,197	3,325	1,006
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,418	\$1,777	\$3,477	\$2,446
Assistance Track control, mean	\$2,395	\$1,653	\$3,453	\$2,322
Difference-in-differences			-\$239	\$13
P-value (for D-in-D)			0.35	0.93
Interaction				-\$252
P-value (for interaction)				0.35
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	688	591	677	577
Assistance Track control, mean	588	576	578	562
Difference-in-differences			-12	-55
P-value (for D-in-D)			0.80	0.27
Interaction				43
P-value (for interaction)				0.56
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	329	286	302	254
Assistance Track control, mean	288	295	264	263
Difference-in-differences			-8	-33
P-value (for D-in-D)			0.69	0.15

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
Interaction				25
P-value (for interaction)				0.46
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	209	155	252	180
Assistance Track control, mean	218	157	264	183
Difference-in-differences			-4	-9
P-value (for D-in-D)			0.81	0.61
Interaction				5
P-value (for interaction)				0.75
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	46	36	56	43
Assistance Track control, mean	49	34	60	41
Difference-in-differences			1	-6
P-value (for D-in-D)			0.93	0.52
Interaction				6
P-value (for interaction)				0.49
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,634	1,265	2,131	1,522
Assistance Track control, mean	1,620	1,506	2,112	1,812
Difference-in-differences			-44	-255
P-value (for D-in-D)			0.62	0.01
Interaction				211
P-value (for interaction)				< 0.01

Outcome	Baseline	Baseline	Overall	Overall
	Non-rural	Rural	Non-rural	Rural
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	9,026	1,490	7,153	1,150
Assistance Track control, discharges	2,077	501	1,626	416
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	243	212	274	249
Assistance Track control, mean	257	203	290	239
Difference-in-differences			2	-26
P-value (for D-in-D)			0.88	0.32
Interaction				29
P-value (for interaction)				0.28

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-48. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—Disability**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
<b><i>Beneficiary-level outcomes</i></b>				
Alignment Track intervention, N	7,451	13,157	6,832	11,464
Assistance Track control, N	1,896	3,216	1,675	2,656
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,788	\$2,034	\$4,118	\$2,812
Assistance Track control, mean	\$2,863	\$1,919	\$4,193	\$2,697
Difference-in-differences			-\$449	-\$34
P-value (for D-in-D)			0.09	0.85
Interaction				-\$415
P-value (for interaction)				0.01
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	632	684	658	661
Assistance Track control, mean	563	592	586	572
Difference-in-differences			56	-64
P-value (for D-in-D)			0.01	0.27
Interaction				120
P-value (for interaction)				0.04
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	303	327	285	297
Assistance Track control, mean	263	298	247	270
Difference-in-differences			29	-37
P-value (for D-in-D)			0.01	0.16



Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
Interaction				66
P-value (for interaction)				0.02
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	227	187	301	210
Assistance Track control, mean	248	189	330	212
Difference-in-differences			-6	-2
P-value (for D-in-D)			0.77	0.89
Interaction				-4
P-value (for interaction)				0.84
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	44	44	63	48
Assistance Track control, mean	47	47	66	51
Difference-in-differences			-7	3
P-value (for D-in-D)			0.41	0.46
Interaction				-10
P-value (for interaction)				0.19
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,466	1,635	2,001	2,040
Assistance Track control, mean	1,442	1,701	1,969	2,122
Difference-in-differences			-130	-57
P-value (for D-in-D)			0.29	0.52
Interaction				-73
P-value (for interaction)				0.51

Outcome	Baseline	Baseline	Overall	Overall
	People Without Disabilities	People with Disabilities	People Without Disabilities	People with Disabilities
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	4,178	6,338	3,477	4,826
Assistance Track control, discharges	1,098	1,480	902	1,140
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	243	237	291	257
Assistance Track control, mean	265	243	316	263
Difference-in-differences			-4	4
P-value (for D-in-D)			0.89	0.70
Interaction				-9
P-value (for interaction)				0.80

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-49. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—People Dually Enrolled in Medicare and Medicaid**

Outcome	Baseline	Baseline	Overall	Overall
	People Not Dually Enrolled	Dual Enrollees	People Not Dually Enrolled	Dual Enrollees
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	6,151	14,457	5,139	13,157
Assistance Track control, N	1,772	3,340	1,473	2,858
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,087	\$2,416	\$3,067	\$3,409
Assistance Track control, mean	\$2,142	\$2,331	\$3,121	\$3,324
Difference-in-differences			-\$381	-\$125
P-value (for D-in-D)			0.20	0.58
Interaction				-\$256
P-value (for interaction)				0.10
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	492	730	477	716
Assistance Track control, mean	447	631	433	618
Difference-in-differences			30	-40
P-value (for D-in-D)			0.31	0.37
Interaction				71
P-value (for interaction)				0.06
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	229	351	202	321
Assistance Track control, mean	199	318	176	290
Difference-in-differences			17	-24

Outcome	Baseline	Baseline	Overall	Overall
	People Not Dually Enrolled	Dual Enrollees	People Not Dually Enrolled	Dual Enrollees
P-value (for D-in-D)			0.19	0.23
Interaction				41
P-value (for interaction)				0.02
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	174	211	216	250
Assistance Track control, mean	181	219	225	260
Difference-in-differences			-12	-2
P-value (for D-in-D)			0.52	0.91
Interaction				-10
P-value (for interaction)				0.50
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	36	48	45	57
Assistance Track control, mean	36	52	46	61
Difference-in-differences			-2	0
P-value (for D-in-D)			0.78	0.98
Interaction				-1
P-value (for interaction)				0.86
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,490	1,609	1,838	2,108
Assistance Track control, mean	1,368	1,715	1,688	2,247
Difference-in-differences			-191	-27
P-value (for D-in-D)			0.04	0.79
Interaction				-164
P-value (for interaction)				0.09

Outcome	Baseline	Baseline	Overall	Overall
	People Not Dually Enrolled	Dual Enrollees	People Not Dually Enrolled	Dual Enrollees
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	3,499	7,017	2,596	5,707
Assistance Track control, discharges	964	1,614	765	1,277
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	216	247	256	276
Assistance Track control, mean	242	252	286	282
Difference-in-differences			12	-7
P-value (for D-in-D)			0.54	0.70
Interaction				19
P-value (for interaction)				0.48

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-50. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—People with Major Depression**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Major Depression	People with Major Depression	People Without Major Depression	People with Major Depression
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	16,906	3,702	15,242	3,054
Assistance Track control, N	4,198	914	3583	748
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,136	\$2,992	\$3,267	\$3,462
Assistance Track control, mean	\$2,138	\$2,786	\$3,269	\$3,257
Difference-in-differences			-\$240	-\$53
P-value (for D-in-D)			0.30	0.85
Interaction				-\$187
P-value (for interaction)				0.32
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	595	918	612	822
Assistance Track control, mean	529	767	545	686
Difference-in-differences			-21	-9
P-value (for D-in-D)			0.60	0.92
Interaction				-11
P-value (for interaction)				0.91
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	297	399	280	340
Assistance Track control, mean	271	345	255	294
Difference-in-differences			-7	-37

Outcome	Baseline	Baseline	Overall	Overall
	People Without Major Depression	People with Major Depression	People Without Major Depression	People with Major Depression
P-value (for D-in-D)			0.72	0.35
Interaction				30
P-value (for interaction)				0.48
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	184	258	236	254
Assistance Track control, mean	196	254	251	249
Difference-in-differences			-3	-7
P-value (for D-in-D)			0.83	0.81
Interaction				4
P-value (for interaction)				0.89
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	43	50	54	49
Assistance Track control, mean	47	48	59	48
Difference-in-differences			1	-7
P-value (for D-in-D)			0.83	0.42
Interaction				8
P-value (for interaction)				0.42
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,450	2,033	1,942	2,366
Assistance Track control, mean	1,450	2,178	1,943	2,535
Difference-in-differences			-113	18
P-value (for D-in-D)			0.17	0.92
Interaction				-130
P-value (for interaction)				0.36

Outcome	Baseline	Baseline	Overall	Overall
	People Without Major Depression	People with Major Depression	People Without Major Depression	People with Major Depression
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	8,317	2,199	6,754	1,549
Assistance Track control, discharges	2,080	498	1,673	369
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	220	293	262	299
Assistance Track control, mean	239	285	283	291
Difference-in-differences			5	-17
P-value (for D-in-D)			0.70	0.71
Interaction				23
P-value (for interaction)				0.65

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.



**Exhibit M-51. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—People with SUD**

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b><i>Beneficiary-level outcomes</i></b>				
Alignment Track intervention, N	18,180	2,428	16,929	1,367
Assistance Track control, N	4,604	508	4060	271
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,233	\$2,920	\$3,346	\$2,213
Assistance Track control, mean	\$2,243	\$2,557	\$3,355	\$1,850
Difference-in-differences			-\$186	\$513
P-value (for D-in-D)			0.43	0.02
Interaction				-\$699
P-value (for interaction)				0.07
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	638	884	662	562
Assistance Track control, mean	564	737	585	469
Difference-in-differences			-18	196
P-value (for D-in-D)			0.61	0.06
Interaction				-214
P-value (for interaction)				0.06
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	311	388	298	219
Assistance Track control, mean	280	352	269	199
Difference-in-differences			-13	44
P-value (for D-in-D)			0.45	0.29

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
Interaction				-57
P-value (for interaction)				0.23
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	187	302	240	174
Assistance Track control, mean	201	273	258	157
Difference-in-differences			2	60
P-value (for D-in-D)			0.91	0.04
Interaction				-58
P-value (for interaction)				0.07
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	43	56	54	29
Assistance Track control, mean	46	55	58	28
Difference-in-differences			0	18
P-value (for D-in-D)			0.99	0.01
Interaction				-18
P-value (for interaction)				0.01
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,547	1,752	2,028	1,886
Assistance Track control, mean	1,579	1,786	2,070	1,922
Difference-in-differences			-70	-124
P-value (for D-in-D)			0.42	0.48
Interaction				54
P-value (for interaction)				0.71

Outcome	Baseline	Baseline	Overall	Overall
	People Without SUD	People with SUD	People Without SUD	People with SUD
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	8,974	1,542	7,887	416
Assistance Track control, discharges	2,282	296	1,976	66
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	235	267	269	306
Assistance Track control, mean	250	245	285	221
Difference-in-differences			-16	92
P-value (for D-in-D)			0.02	0.04
Interaction				-108
P-value (for interaction)				0.02

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider; SUD = substance use disorder.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight. Unplanned readmissions was run using an overall post-intervention dummy rather than quarter dummies since the SUD subpopulation did not have any readmissions for some quarters in the control group.

**Exhibit M-52. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—Diabetes**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b><i>Beneficiary-level outcomes</i></b>				
Alignment Track intervention, N	12,704	7,904	11,271	7,025
Assistance Track control, N	3,106	2,006	2,584	1,747
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,798	\$2,934	\$2,639	\$4,223
Assistance Track control, mean	\$1,655	\$3,015	\$2,496	\$4,304
Difference-in-differences			-\$66	-\$401
P-value (for D-in-D)			0.77	0.12
Interaction				\$336
P-value (for interaction)				0.03
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	626	736	606	743
Assistance Track control, mean	554	626	536	632
Difference-in-differences			18	-75
P-value (for D-in-D)			0.72	0.11
Interaction				93
P-value (for interaction)				0.14
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	288	367	256	352
Assistance Track control, mean	275	307	244	294
Difference-in-differences			8	-46
P-value (for D-in-D)			0.71	0.05

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
Interaction				54
P-value (for interaction)				0.10
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	155	256	191	308
Assistance Track control, mean	154	275	190	331
Difference-in-differences			5	-23
P-value (for D-in-D)			0.74	0.20
Interaction				28
P-value (for interaction)				0.02
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	25	67	32	80
Assistance Track control, mean	28	69	36	83
Difference-in-differences			6	-10
P-value (for D-in-D)			0.21	0.20
Interaction				16
P-value (for interaction)				0.02
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,368	1,814	1,819	2,298
Assistance Track control, mean	1,389	1,850	1,846	2,343
Difference-in-differences			-129	-37
P-value (for D-in-D)			0.27	0.70
Interaction				-92
P-value (for interaction)				0.31

Outcome	Baseline	Baseline	Overall	Overall
	People Without Diabetes	People with Diabetes	People Without Diabetes	People with Diabetes
<b>Discharge-level outcomes</b>				
Alignment Track intervention, discharges	5,357	5,159	4,329	3,974
Assistance Track control, discharges	1,266	1,312	1,011	1,031
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	211	259	249	290
Assistance Track control, mean	217	272	255	304
Difference-in-differences			22	-26
P-value (for D-in-D)			0.16	0.15
Interaction				48
P-value (for interaction)				0.03

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-53. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—Pulmonary Disease**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
<b>Beneficiary-level outcomes</b>				
Alignment Track intervention, N	12,720	7,888	11,244	7,052
Assistance Track control, N	3,124	1,988	2,577	1,754
Total expenditures PBPM				
Alignment Track intervention, mean	\$1,923	\$2,761	\$2,873	\$3,861
Assistance Track control, mean	\$1,936	\$2,710	\$2,885	\$3,810
Difference-in-differences			-\$105	-\$340
P-value (for D-in-D)			0.67	0.18
Interaction				\$235
P-value (for interaction)				0.11
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	576	790	563	794
Assistance Track control, mean	481	716	470	720
Difference-in-differences			29	-88
P-value (for D-in-D)			0.45	0.17
Interaction				116
P-value (for interaction)				0.10
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	262	393	240	367
Assistance Track control, mean	222	371	203	347
Difference-in-differences			3	-37

Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
P-value (for D-in-D)			0.86	0.18
Interaction				40
P-value (for interaction)				0.21
Inpatient admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	152	257	193	302
Assistance Track control, mean	169	259	214	305
Difference-in-differences			9	-23
P-value (for D-in-D)			0.60	0.21
Interaction				32
P-value (for interaction)				0.03
ACSC admissions per 1,000 beneficiaries				
Alignment Track intervention, mean	26	66	33	79
Assistance Track control, mean	32	67	41	79
Difference-in-differences			5	-8
P-value (for D-in-D)			0.37	0.25
Interaction				13
P-value (for interaction)				0.04
PCP visits per 1,000 beneficiaries				
Alignment Track intervention, mean	1,388	1,774	1,870	2,207
Assistance Track control, mean	1,407	1,835	1,896	2,282
Difference-in-differences			-111	-52
P-value (for D-in-D)			0.24	0.67
Interaction				-59



Outcome	Baseline	Baseline	Overall	Overall
	People Without Pulmonary Disease	People with Pulmonary Disease	People Without Pulmonary Disease	People with Pulmonary Disease
P-value (for interaction)				0.56
<b>Discharge-level outcomes</b>				
Alignment track intervention, discharges	5,251	5,265	4,440	3,863
Assistance track control, discharges	1,271	1,307	1,032	1,010
Unplanned readmissions per 1,000 discharges				
Alignment Track intervention, mean	203	265	231	307
Assistance Track control, mean	232	265	262	306
Difference-in-differences			23	-26
P-value (for D-in-D)			0.32	0.07
Interaction				50
P-value (for interaction)				0.07

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-54. Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries and Assistance Track Control Group FFS Medicare Beneficiaries by Subpopulation—Multiple HRSNs**

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
<i>Beneficiary-level outcomes</i>				
Alignment Track intervention, N	9,445	11,163	8,257	10,039
Assistance Track control, N	2,490	2,622	2,079	2,252
Total expenditures PBPM				
Alignment Track intervention, mean	\$2,264	\$2,357	\$3,289	\$3,316
Assistance Track control, mean	\$2,322	\$2,225	\$3,347	\$3,185
Difference-in-differences			-\$304	-\$102
P-value (for D-in-D)			0.23	0.67
Interaction				-\$202
P-value (for interaction)				0.13
ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	598	726	616	692
Assistance Track control, mean	528	629	543	599
Difference-in-differences			-51	11
P-value (for D-in-D)			0.30	0.79
Interaction				-61
P-value (for interaction)				0.22
Avoidable ED visits per 1,000 beneficiaries				
Alignment Track intervention, mean	286	348	271	310
Assistance Track control, mean	264	307	250	274
Difference-in-differences			-14	-11
P-value (for D-in-D)			0.52	0.53

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
Interaction				-3
P-value (for interaction)				0.89
Inpatient admissions per 1,000 beneficiaries				
Alignment track intervention, mean	191	208	235	245
Assistance track control, mean	211	206	260	242
Difference-in-differences			-4	-5
P-value (for D-in-D)			0.82	0.79
Interaction				1
P-value (for interaction)				0.94
ACSC admissions per 1,000 beneficiaries				
Alignment track intervention, mean	40	48	50	57
Assistance track control, mean	50	44	62	52
Difference-in-differences			3	-4
P-value (for D-in-D)			0.59	0.43
Interaction				7
P-value (for interaction)				0.11
PCP visits per 1,000 beneficiaries				
Alignment track intervention, mean	1,592	1,549	2,045	2,002
Assistance track control, mean	1,578	1,618	2,028	2,092
Difference-in-differences			-132	-36
P-value (for D-in-D)			0.30	0.66
Interaction				-95
P-value (for interaction)				0.36

Outcome	Baseline	Baseline	Overall	Overall
	People Without Multiple HRSNs	People with Multiple HRSNs	People Without Multiple HRSNs	People with Multiple HRSNs
<b>Discharge-level outcomes</b>				
Alignment track intervention, discharges	4,939	5,577	3,890	4,413
Assistance track control, discharges	1,293	1,285	1,049	993
Unplanned readmissions per 1,000 discharges				
Alignment track intervention, mean	223	251	260	280
Assistance track control, mean	256	246	296	274
Difference-in-differences			17	-17
P-value (for D-in-D)			0.23	0.44
Interaction				34
P-value (for interaction)				0.17

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups within each subpopulation; P-values (for interaction) compare the difference in the D-in-D estimates between each subpopulation pair.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; D-in-D = difference-in-differences; ED = emergency department; FFS = fee-for-service; HRSN = health-related social need; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

**Exhibit M-55. Treatment on the Treated Regression-Adjusted Comparison of Post-screening Means for Assistance Track Navigation-Eligible FFS Medicare Beneficiaries**

Description	Post-screening
<b>Number of beneficiaries</b>	
Unique treatment group beneficiaries	6,718
Unique control group beneficiaries	8,130
<b>Total expenditures PBPM</b>	
Treatment group adjusted mean	\$2,973
Control group adjusted mean	\$3,153
Difference	-\$205
% difference	-6.5
P-value	0.07
<b>ED visits per 1,000 beneficiaries</b>	
Treatment group adjusted mean	506
Control group adjusted mean	542
Difference	-36
% difference	-6.7
P-value	0.03
<b>Avoidable ED visits per 1,000 beneficiaries</b>	
Treatment group adjusted mean	227
Control group adjusted mean	254
Difference	-27
% difference	-10.7
P-value	0.02
<b>Admissions per 1,000 beneficiaries</b>	
Treatment group adjusted mean	230
Control group adjusted mean	242
Difference	-12
% difference	-135.5
P-value	0.11
<b>ACSC admissions per 1,000 beneficiaries</b>	
Treatment group adjusted mean	49
Control group adjusted mean	56

Description	Post-screening
Difference	-7
% difference	-92.7
P-value	0.07
<b>PCP visits per 1,000 beneficiaries</b>	
Treatment group adjusted mean	2050
Control group adjusted mean	2149
Difference	-99
% difference	-4.6
P-value	0.01
<b>Unplanned readmissions per 1,000 discharges</b>	
Treatment group discharges	10,440
Control group discharges	12,319
Treatment group adjusted mean	256
Control group adjusted mean	280
Difference	-24
% difference	-8.6
P-value	0.09

P-values compare the intervention group means with the control group mean.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-56. Treatment on the Treated Difference-in-Differences Results for Alignment Track Navigation-Eligible FFS Medicare Beneficiaries**

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<i>Unique number of beneficiaries</i>	17,094	5,112	15,187	4,331			
<i>Total expenditures PBPM</i>	\$2,407	\$2,372	\$3,069	\$3,129	-\$80	-3%	0.33
<i>ED visits per 1,000 beneficiaries</i>	669	573	701	619	-17	-3%	0.30
<i>Avoidable ED visits per 1,000 Beneficiaries</i>	315	277	318	295	-15	-5%	0.10
<i>Inpatient admissions per 1,000 beneficiaries</i>	200	209	238	249	2	1%	0.77
<i>ACSC admissions per 1,000 beneficiaries</i>	43	46	57	58	3	8%	0.19
<i>PCP visits per 1,000 beneficiaries</i>	1,593	1,616	1,990	2,048	-26	-2%	0.43
<b><i>Unplanned readmissions per 1,000 discharges</i></b>							
Number of discharges	27,051	8,104	21,917	6,693			
Impact	239	254	270	280	5	2%	0.52

P-values (for D-in-D) test for differences in changes in outcomes between the intervention and comparison groups.

The total expenditure PBPM (\$) impact was estimated using a weighted ordinary least squares model. The inpatient admission and ED visit outcomes were estimated using a Poisson specification. The unplanned readmission outcome was estimated using a logistic specification.

Sample sizes represent the total number of unique beneficiaries observed during the post-screening period or total number of discharges during the post-screening period.

Source: RTI analysis of Chronic Conditions Data Warehouse Medicare claims data, May 2015–December 2022.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; FFS = fee-for-service; PBPM = per beneficiary per month; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable times a propensity score weight.

## Combined Medicare Advantage and FFS Medicare

**Exhibit M-57. Baseline Quality of Care for Combined Analysis of Medicare Advantage and FFS Medicare Beneficiaries**

Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
<b>Admissions per 1,000 beneficiaries</b>												
3 years before AHC screening	6,242	564	1,505	Reference	15,236	539	1,285	0.26	22,704	574	1,383	0.63
2 years before AHC screening	6,578	633	1,566	Reference	16,043	611	1,386	0.32	24,442	649	1,485	0.47
1 year before AHC screening	6,505	1,012	1,858	Reference	15,927	998	1,780	0.60	24,839	972	1,780	0.11
All 3 baseline years	19,325	733	1,659	Reference	47,206	713	1,509	0.15	71,985	729	1,566	0.78
<b>ACSC admissions per 1,000 beneficiaries</b>												
3 years before AHC screening	6,242	130	683	Reference	15,236	120	544	0.28	22,704	122	565	0.42
2 years before AHC screening	6,578	141	674	Reference	16,043	138	551	0.76	24,442	145	608	0.67
1 year before AHC screening	6,505	239	785	Reference	15,927	233	792	0.58	24,839	219	741	0.07
All 3 baseline years	19,325	169	716	Reference	47,206	163	639	0.28	71,985	162	643	0.20
<b>All-cause readmissions per 1,000 discharges</b>												
3 years before AHC screening	3,789	262	440	Reference	8,874	238	426	0.01	14,742	255	436	0.45
2 years before AHC screening	4,395	263	441	Reference	10,294	246	431	0.02	17,148	266	442	0.75
1 year before AHC screening	6,351	291	454	Reference	15,468	282	450	0.15	23,278	282	450	0.14
All 3 baseline years	14,535	275	447	Reference	34,636	260	439	< 0.01	55,168	270	444	0.20
<b>ED visits per 1,000 beneficiaries</b>												
3 years before AHC screening	6,242	1,903	4,181	Reference	15,236	1,904	4,524	0.99	22,704	2,429	5,828	< 0.01
2 years before AHC screening	6,578	2,016	4,770	Reference	16,043	1,970	4,382	0.50	24,442	2,501	5,785	< 0.01
1 year before AHC screening	6,505	2,875	5,688	Reference	15,927	2,738	5,282	0.10	24,839	3,377	6,654	< 0.01
All 3 baseline years	19,325	2,257	4,929	Reference	47,206	2,199	4,754	0.16	71,985	2,762	6,110	< 0.01



Measure/Year	Assistance Track Control Group				Assistance Track Intervention Group				Alignment Track Intervention Group			
	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value	N	Mean	Std Dev	P-Value
<b>PCP visits per 1,000 beneficiaries</b>												
3 years before AHC screening	6,242	5,284	6,102	Reference	15,236	5,283	6,123	0.99	22,704	4,794	5,965	< 0.01
2 years before AHC screening	6,578	5,422	6,267	Reference	16,043	5,418	6,286	0.96	24,442	4,762	6,120	< 0.01
1 year before AHC screening	6,505	6,134	6,565	Reference	15,927	6,133	6,784	0.99	24,839	5,172	6,574	< 0.01
All 3 baseline years	19,325	5,607	6,322	Reference	47,206	5,606	6,411	0.98	71,985	4,906	6,225	< 0.01

P-values were calculated using the Assistance Track control group as the reference comparator.

Source: RTI analysis of Integrated Data Repository Medicare Advantage encounter data and FFS Medicare claims data, May 2015–December 2020.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; FFS = fee-for-service; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-58. Baseline Quality of Care by AHC Eligibility Criteria for Combined Analysis of Medicare Advantage and FFS Medicare Beneficiaries**

Description	Self-Reported < 2 ED Visits and No HRSNs				Self-Reported ≥ 2 ED Visits and No HRSNs				Self-Reported < 2 ED Visits and ≥ 1 HRSNs				Navigation-Eligible Beneficiaries			
													(Self-Reported ≥ 2 ED Visits, and ≥ 1 HRSNs)			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>Unique beneficiaries</b>	198,420	210,656	201,932	217,136	82,269	85,355	81,009	87,415	43,382	46,414	45,650	48,390	47,415	50,313	49,570	52,476
<b>Admissions per 1,000 beneficiaries</b>	165	167	222	184	379	435	879	556	203	193	206	201	564	639	994	730
Std dev	542	552	640	579	963	1,043	1,413	1,170	630	625	614	623	1,372	1,472	1,806	1,570
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>ACSC admissions per 1,000 beneficiaries</b>	25	26	36	29	78	94	188	118	34	33	36	34	124	143	229	165
Std dev	192	197	242	211	387	432	603	482	230	246	239	239	580	604	769	657
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>All-cause readmissions per 1,000 discharges</b>	31,935	33,607	39,555	105,097	31,234	36,245	64,507	131,986	8,924	8,915	8,807	26,646	27,817	32,385	45,856	106,058
Mean	119	120	130	124	182	194	233	210	145	136	133	138	252	260	284	268
Std dev	324	325	337	329	386	395	422	407	352	342	339	345	434	439	451	443
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference
<b>ED visits per 1,000 beneficiaries</b>	367	349	415	376	962	1,041	1,748	1,238	613	549	552	571	2,184	2,267	3,106	2,513
Std dev	1,074	1,009	1,086	1,056	2,455	2,621	2,888	2,678	1,522	1,468	1,730	1,576	5,256	5,280	6,160	5,590
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference

Description	Self-Reported < 2 ED Visits and No HRSNs				Self-Reported ≥ 2 ED Visits and No HRSNs				Self-Reported < 2 ED Visits and ≥ 1 HRSNs				Navigation-Eligible Beneficiaries (Self-Reported ≥ 2 ED Visits, and ≥ 1 HRSNs)			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
	<b>PCP visits per 1,000 beneficiaries</b>	3,349	3,350	3,601	3,431	4,891	5,039	5,979	5,286	3,641	3,582	3,722	3,648	5,030	5,078	5,636
Std dev	4,102	4,134	4,341	4,193	5,539	5,676	6,477	5,916	4,523	4,487	4,560	4,523	6,042	6,200	6,659	6,309
P-value	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.25	< 0.01	0.21	< 0.01	< 0.01	< 0.01	< 0.01	Reference	Reference	Reference	Reference

P-values were calculated using the Assistance Track control group as the reference comparator.

Source: RTI analysis of Integrated Data Repository Medicare Advantage encounter data and FFS Medicare claims data, May 2015–December 2020.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; FFS = fee-for-service; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary’s eligibility fraction as a weight variable.

**Exhibit M-59. Baseline Expenditures and Quality of Care by Number of Core HRSNs for Combined Analysis of Medicare Advantage and FFS Medicare Beneficiaries**

Description	1 Core HRSN Reported				2 Core HRSNs Reported				3 or More Core HRSNs Reported			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>Unique beneficiaries</b>	23,630	24,880	24,292	25,804	13,253	14,152	14,014	14,819	10,532	11,281	11,264	11,853
<b>Admissions per 1,000 beneficiaries</b>	511	581	953	677	591	662	998	749	649	743	1,077	823
Std dev	1,227	1,341	1,689	1,441	1,432	1,489	1,773	1,581	1,587	1,708	2,069	1,809
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
<b>ACSC admissions per 1,000 beneficiaries</b>	113	130	222	154	131	153	228	171	140	160	244	181
Std dev	528	569	736	617	631	625	797	689	622	653	803	698
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	0.48	0.02	0.29	0.37	0.13	0.21
<b>All-cause readmissions per 1,000 discharges</b>	12,386	14,327	21,105	47,818	8,035	9,362	12,963	30,360	7,396	8,696	11,788	27,880
Mean	230	238	265	248	252	264	279	267	290	293	324	305
Std dev	421	426	441	432	434	441	448	442	454	455	468	461
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
<b>ED visits per 1,000 beneficiaries</b>	1,732	1,829	2,546	2,027	2,367	2,399	3,244	2,666	2,984	3,084	4,145	3,403
Std dev	4,333	4,615	4,849	4,615	5,527	5,204	6,034	5,607	6,555	6,521	8,324	7,197
P-value	Reference	Reference	Reference	Reference	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Description	1 Core HRSN Reported				2 Core HRSNs Reported				3 or More Core HRSNs Reported			
	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years	3 Years Before AHC Screening	2 Years Before AHC Screening	1 Year Before AHC Screening	All Baseline Years
<b>PCP visits per 1,000 beneficiaries</b>	5,154	5,225	5,885	5,413	4,965	5,058	5,587	5,201	4,830	4,775	5,157	4,920
Std dev	5,978	6,154	6,672	6,277	6,032	6,249	6,780	6,366	6,191	6,231	6,445	6,292
P-value	Reference	Reference	Reference	Reference	< 0.01	0.01	< 0.01	< 0.01	0.09	< 0.01	< 0.01	< 0.01

P-values were calculated using the Assistance Track control group as the reference comparator.

Source: RTI analysis of Integrated Data Repository Medicare Advantage encounter data and FFS Medicare claims data, May 2015–December 2020.

Definitions: ACSC = ambulatory care sensitive condition; AHC = Accountable Health Communities; ED = emergency department; FFS = fee-for-service; HRSN = health-related social need; PCP = primary care provider.

Other Notes: Except for unplanned readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

### Exhibit M-60. Regression-Adjusted Comparison of Post-screening Means for Combined Analysis of Medicare Advantage and FFS Medicare Beneficiaries in the Assistance Track

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
<b>ED visits per 1,000 beneficiaries</b>					
Unique Number of Beneficiaries	13,265	5,337			
Over 3-year baseline	539	562	-28	-5%	0.10
1 to 12 months after screening	615	637	-22	-4%	0.05
13 to 24 months after screening	604	620	-16	-3%	0.19
Overall	611	631	-20	-3%	0.04
<b>Inpatient admissions per 1,000 beneficiaries</b>					
Over 3-year baseline	194	202	-9	-4%	0.36
1 to 12 months after screening	224	227	-3	-1%	0.52
13 to 24 months after screening	192	204	-12.1	-6.0%	0.12

Outcome	(1) Intervention Group Adjusted Mean	(2) Control Group Adjusted Mean	Difference Between (2) and (1)	% Difference Between (2) and (1)	P-Value for Difference
Overall	212	219	-6	-2.9%	0.16
<b>ACSC admissions per 1,000 beneficiaries</b>					
Over 3-year baseline	43	49	-6	-12%	0.21
1 to 12 months after screening	48	50	-1.8	-3.6%	0.44
13 to 24 months after screening	43	46	-3	-7%	0.33
Overall	46	48	-2	-5%	0.25
<b>PCP visits per 1,000 beneficiaries</b>					
Over 3-year baseline	1,408	1,407	-2	0%	0.95
1 to 12 months after screening	1,531	1,564	-34	-2%	0.06
13 to 24 months after screening	1,320	1,319	2	0%	0.92
Overall	1,454	1,474	-21	-1%	0.10
<b>All-cause readmissions per 1,000 discharges</b>					
Number of discharges	14,652	6,006			
Over 3-year baseline	256	283	-29	-10%	0.17
1 to 12 months after screening	274	292	-18	-6%	0.11
13 to 24 months after screening	253	288	-35	-12%	0.07
Overall	268	291	-23	-8%	0.04

P-values compare the intervention group means with the control group mean.

The inpatient admission, ACSC admission, ED visit, and PCP visit outcomes were estimated using a Poisson specification. The all-cause readmission outcome was estimated using a logistic specification.

Source: RTI analysis of Integrated Data Repository Medicare Advantage encounter data and FFS Medicare claims data, May 2015–December 2020.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; FFS = fee-for-service; PCP = primary care provider.

Other Notes: Except for all-cause readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.

**Exhibit M-61. Difference-in-Differences Results for Combined Analysis of Navigation-Eligible Medicare Advantage and FFS Medicare Beneficiaries in the Alignment Track and Assistance Track Control Group Beneficiaries**

<b>Outcome</b>	<b>Baseline Intervention Group Adjusted Mean</b>	<b>Baseline Control Group Adjusted Mean</b>	<b>Post Period Intervention Group Adjusted Mean</b>	<b>Post Period Control Group Adjusted Mean</b>	<b>Difference-in-Differences</b>	<b>% Change</b>	<b>P-Value for Difference-in-Differences</b>
<b><i>ED visits per 1,000 beneficiaries</i></b>							
Unique number of beneficiaries	19,778	5,124	18,086	5,123			
1 to 12 months after screening	732	649	735	660	-29	-4%	0.26
13 to 24 months after screening	732	649	655	631	-71	-10%	0.09
Overall	732	649	707	650	-44	-6%	0.08
<b><i>Inpatient admissions per 1,000 beneficiaries</i></b>							
1 to 12 months after screening	212	225	215	232	-10	-5%	0.21
13 to 24 months after screening	212	225	189	197	-2	-1%	0.80
Overall	212	225	205	219	-7	-3%	0.24
<b><i>ACSC admissions per 1,000 beneficiaries</i></b>							
1 to 12 months after screening	51	55	48	47	4	7%	0.25
13 to 24 months after screening	51	55	41	42	1	1%	0.88
Overall	51	55	45	45	3	5%	0.30
<b><i>PCP visits per 1,000 beneficiaries</i></b>							
1 to 12 months after screening	1,323	1,401	1,304	1,490	-111	-8%	0.02
13 to 24 months after screening	1,323	1,401	1,124	1,240	-56	-4%	0.18
Overall	1,323	1,401	1,240	1,401	-92	-7%	0.02

Outcome	Baseline Intervention Group Adjusted Mean	Baseline Control Group Adjusted Mean	Post Period Intervention Group Adjusted Mean	Post Period Control Group Adjusted Mean	Difference-in-Differences	% Change	P-Value for Difference-in-Differences
<b>All-cause readmissions per 1,000 discharges</b>							
Number of discharges	22,511	5,377	19,697	5,892			
1 to 12 months after screening	271	301	297	303	21	8%	0.11
13 to 24 months after screening	271	301	281	281	27	10%	0.15
Overall	271	301	292	296	23	8%	0.06

P-values compare the intervention group means with the control group mean.

The inpatient admission, ACSC admission, ED visit, and PCP visit outcomes were estimated using a Poisson specification. The all-cause readmission outcome was estimated using a logistic specification.

Source: RTI analysis of Integrated Data Repository Medicare Advantage encounter data and FFS Medicare claims data, May 2015–December 2020.

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; FFS = fee-for-service; PCP = primary care provider.

Other Notes: Except for all-cause readmissions, all averages were weighted, using each beneficiary's eligibility fraction as a weight variable.



# Appendix N: Covariate Balance and Baseline Trends for Chapter 8

This appendix provides additional detail to support the analytic approach used to estimate intervention impacts in the Assistance and Alignment Tracks.

For the Assistance Track, we present baseline covariate balance statistics that show that beneficiaries randomized to the intervention group are nearly identical to beneficiaries randomized to the control group in terms of sociodemographic and community-level characteristics. This finding is expected and supports comparing post-screening outcomes across the Intervention and Control groups to measure Accountable Health Communities (AHC) Model impacts for the Assistance Track.

Because the Alignment Track does not have a randomized control group, we reused the Assistance Track control group as a comparison group in a difference-in-differences (D-in-D) design for impact analyses. This appendix describes baseline trends for study outcomes for Medicaid and fee-for-service (FFS) Medicare beneficiaries participating in the Alignment Track intervention and for beneficiaries in the Assistance Track control group. The D-in-D specification requires parallel trends for the intervention and comparison groups during the prescreening baseline period.

This appendix also describes results of propensity score analyses used to balance the Alignment Track intervention group with the Assistance Track control group for the Medicaid, FFS Medicare, and combined FFS Medicare and Medicare Advantage (MA) populations. Although reusing the Assistance Track control group ensures that the comparison group meets the same AHC Model eligibility criteria as the Alignment Track intervention group, it does not guarantee that sociodemographic and community characteristics are similar. The propensity score analysis addresses these differences and improves our confidence in the reliability of the impact estimates produced in this report.

## Comparison of Baseline Sociodemographic and Community Characteristics in the Assistance Track

### Baseline Sociodemographic and Community Characteristics Among Medicaid Beneficiaries and FFS Medicare Beneficiaries

Exhibit N-1 shows that Medicaid beneficiaries in the Assistance Track intervention group were nearly indistinguishable from Medicaid beneficiaries in the Assistance Track control group for all sociodemographic and county- or community-level characteristics observed.

Similar to the Medicaid population, Exhibit N-2 shows that FFS Medicare beneficiaries in the Assistance Track intervention group were nearly indistinguishable from FFS Medicare beneficiaries in the Assistance Track control group for all sociodemographic and county- or community-level characteristics observed.

**Exhibit N-1. Baseline Descriptive Statistics for Medicaid Beneficiaries in the Assistance Track Intervention and Control Groups, Year Before Screening**

<b>Variable</b>	<b>Intervention Group (n = 30,396)</b>	<b>Control Group (n = 13,382)</b>
<b>Sociodemographic characteristics</b>		
Female (%)	63.10	63.88
Number of HRSNs	1.92	2.02
Chronic Illness and Disability Payment System risk score	0.92	0.94
Number of chronic conditions	0.59	0.62
Age (mean)	28.45	28.47
Child (<19 years) (%)	28.50	28.77
White (%)	38.48	37.97
Missing race (%)	11.49	12.34
Enrolled because of disability (%)	15.76	17.02
Enrolled in managed care (%)	84.39	84.96
Enrolled in the Children's Health Insurance Program (%)	3.26	3.29
Number of months enrolled in Medicaid	10.51	10.55
<b>County- or community-level characteristics</b>		
Percentage of people residing in a rural area	14.89	14.97
Percentage of people residing in a mental health professional shortage area	31.49	30.94
Hospital beds per 1,000 population	3.48	3.44
Percentage of people (under 65 years) without health insurance	10.92	11.36
Psychiatrists per 1,000 population	0.14	0.14
Community mental health centers per 100,000 population	0.01	0.01
Percentage of people 16 years and older who are unemployed	4.56	4.60
Percentage of adults in fair/poor health	17.75	17.76
Primary care physician-to-population ratio	7.60	7.52
Median income (\$)	57,828.27	58,094.44
Percentage of people in poverty	15.20	15.20
Social Deprivation Index score	59.46	60.03
Social service provider density	130.12	127.99
Food environment index	7.80	7.78
Severe housing index	16.82	16.96
COVID-19 pandemic vulnerability index	0.17	0.17

Definitions: COVID-19 = coronavirus disease 2019; HRSN = health-related social need.

**Exhibit N-2. Baseline Descriptive Statistics for FFS Medicare Beneficiaries in the Assistance Track Intervention and Control Groups, Year Before Screening**

Variable	Intervention Group (n = 10,492)	Control Group (n = 4,338)
<b>Sociodemographic characteristics</b>		
Female (%)	60.88	62.40
Number of HRSNs	1.76	1.84
Hierarchical condition category (HCC) risk score	1.93	1.97
Number of chronic conditions	5.27	5.38
Age (mean)	62.47	62.13
Child (<19 years) (%)	0.03	0.02
Age <65 years (%)	49.84	50.88
Dually enrolled in Medicaid (%)	57.00	58.64
Enrolled because of disability (%)	61.50	61.57
Enrolled because of end-stage renal disease (%)	2.73	2.63
Number of months enrolled in Medicare	10.37	10.44
Black (%)	20.40	21.23
Other race (other+Asian) (%)	2.22	2.81
Hispanic (%)	5.69	5.56
<b>County- or community-level characteristics</b>		
Percentage of people residing in a rural area	22.22	21.51
Hospital beds per 1,000 population	3.40	3.45
Percentage of people (under 65 years) without health insurance	10.30	10.27
Percentage of people residing in a mental health professional shortage area	35.84	35.62
Psychiatrists per 1,000 population	12.03	12.42
Community mental health centers per 100,000 population	0.01	0.01
Percentage of people 16 years and older who are unemployed	4.71	4.68
Percentage of adults in fair/poor health	17.23	17.19
Primary care physician-to-population ratio	7.52	7.70
Median income (\$)	59,748.99	60,170.17
Percentage of people in poverty	15.01	14.88
Social Deprivation Index score	53.71	53.35
Social service provider density	129.38	131.58
Food environment index	7.98	7.99
Severe housing index	16.48	16.54
COVID-19 pandemic vulnerability index	0.13	0.14

Definitions: COVID-19 = coronavirus disease 2019; HRSN = health-related social need.

# Assessment of Parallel Baseline Trends for the Alignment Track Impact Analysis

D-in-D models were used to measure impacts for the Alignment Track. D-in-D models assume that the outcomes for the intervention and comparison groups follow a similar growth trend during the baseline period. We investigated whether trends in the baseline period, which is defined at the beneficiary level as the 3 years before screening, satisfy this trend assumption.

To test the assumption that the Alignment Track intervention group and the comparison group had parallel baseline trends, we estimated a model with a linear trend during the baseline period (see equation N.1) and tested whether this trend differed for Alignment Track beneficiaries relative to comparison group beneficiaries.

$$Y_{ijt} = \alpha_0 + \beta_1 I_i + \alpha_1 t + \beta_2 I_i * t + \lambda X_{ij} + \epsilon_{ijt}, \tag{N.1}$$

where

- $Y_{ijt}$  = a performance measure (e.g., total per beneficiary per month [PBPM] cost per quarter) for the  $i$ -th beneficiary in the  $j$ -th group (Alignment Track or comparison), in quarter  $t$
- $I$  = a 0,1 indicator (0 = comparison group, 1 = Alignment Track)
- $X$  = a vector of beneficiary and county characteristics
- $t$  = a linear time trend ranging from 1 to 12
- $\epsilon_{ijt}$  = error term

In equation N.1, the linear time trend in the comparison group is  $\alpha_1 t$ , whereas for Alignment Track beneficiaries ( $I=1$ ), it is  $(\alpha_1 + \beta_2) * t$ . Hence,  $\beta_2$  measures the difference in linear trends, and the  $t$ -statistic for this coefficient can be used to test the null hypothesis of equal baseline trends ( $\beta_2 = 0$ ). In other words, rejecting the null hypothesis would suggest that the assumption of equal trends underlying our D-in-D outcome models is not met.

## Baseline Trend Results for Medicaid and FFS Medicare

We estimated baseline trends for the following outcomes: total expenditures (plus emergency department [ED], inpatient, and post-acute care (PAC) PBPM expenditures for FFS Medicare beneficiaries), count of inpatient admissions, count of ED visits, count of ambulatory care sensitive condition (ACSC) inpatient admissions, probability of an unplanned readmission within 30 days after an inpatient discharge, count of visits to a primary care provider (PCP), follow-up visits within 14 days of discharge, follow-up visits within 30 days after a mental health (MH) discharge, ED visits within 30 days of discharge, avoidable ED visits, Asthma Medication Ratio > 50%, treatment for respiratory illnesses, antidepressant medication management (12 weeks and 6 months), and initiation of alcohol or other drug (AOD) treatment.

Among most core outcomes (i.e., total expenditures, ED visits, and readmissions), we found no statistically significant differences at the P-value < .05 or P-value < .10 level in baseline trends. However, baseline trends for inpatient admissions for Medicaid beneficiaries were significantly different. Baseline trends for PCP visits among Medicaid beneficiaries and antidepressant medication management among both Medicaid and FFS Medicare beneficiaries were also significantly different (Exhibit N-3). Because there were relatively few outcomes with differences in baseline trends, we modeled all outcomes assuming parallel trends. Sensitivity analyses, which included a baseline linear time trend interacted with the intervention indicator to account for nonparallel trends, also suggest that despite evidence of nonparallel trends, results are similar regardless of whether we assume parallel trends or estimate a model that does not assume parallel trends.

**Exhibit N-3. Baseline Trend Differences Between the Alignment Track Intervention and Comparison Groups for Medicaid and FFS Medicare Beneficiaries**

Outcome	Medicaid		FFS Medicare	
	Alignment Track—CG Trend Difference (SE)	P-Value of Trend Differences	Alignment Track—CG Trend Difference (SE)	P-Value of Trend Differences
Total expenditures (PBPM)	-0.02 (10.94)	1.00	-17.52 (44.81)	0.70
ED expenditures (PBPM)	N/A	N/A	0.35 (3.06)	0.91
Inpatient expenditures (PBPM)	N/A	N/A	-2.51 (31.49)	0.94
PAC expenditures (PBPM)	N/A	N/A	-8.91 (6.56)	0.17
Inpatient admissions/1,000 beneficiaries	0.003 (0.001)	< 0.01	-0.001 (0.004)	0.83
ACSC admissions/1,000 beneficiaries	0.00001 (0.0002)	0.95	-0.0003 (0.001)	0.77
Unplanned readmission within 30 days of discharge/1,000 discharges	0.001 (0.001)	0.62	-0.002 (0.003)	0.40
Follow-up visit within 14 days of discharge/1,000 discharges	0.00004 (0.002)	0.99	-0.002 (0.002)	0.34
Follow-up visit within 30 days after a MH discharge/1,000 discharges	-0.01 (0.03)	0.83	0.005 (0.01)	0.39
ED visit within 30 days of discharge/1,000 discharges	-0.003 (0.002)	0.12	-0.003 (0.002)	0.17
ED visits/ 1,000 beneficiaries	0.002 (0.005)	0.73	-0.003 (0.01)	0.73
Avoidable ED visits/1,000 beneficiaries	0.002 (0.002)	0.46	-0.002 (0.003)	0.65
PCP visits/1,000 beneficiaries	0.02 (0.01)	0.01	-0.002 (0.01)	0.80
Asthma Medication Ratio > 50%	0.03 (0.02)	0.11	0.02 (0.02)	0.42
Treatment for respiratory illnesses	0.004 (0.01)	0.62	-0.003 (0.01)	0.81
Antidepressant medication management, 12 weeks	0.06 (0.01)	< 0.01	0.03 (0.02)	0.05
Antidepressant medication management, 6 months	0.04 (0.02)	0.06	0.05 (0.02)	0.01
Initiation of AOD treatment	-0.001 (0.01)	0.90	0.03 (0.03)	0.37

Definitions: ACSC = ambulatory care sensitive condition; AOD = alcohol or other drug; CG = comparison group; ED = emergency department; MH = mental health; N/A = not available; PAC = post-acute care; PBPM = per beneficiary per month; PCP = primary care provider; SE = standard error.

## Propensity Score Analysis for the Alignment Track

There is no randomized control group for the Alignment Track. Instead, we took advantage of the availability of a randomized control group for the Assistance Track and reused it as the comparison group for the Alignment Track. Like the Alignment Track intervention group, the Assistance Track control group had to meet the AHC Model's ED utilization and health-related social need (HRSN) navigation eligibility criteria, meaning that the two groups are already similar on these dimensions. We used propensity score weighting to ensure even more similarity between the two groups. When the intervention and comparison groups are similar on a set of characteristics like sociodemographic and geographic characteristics, health care utilization, and need for social services, we have more confidence that comparisons of evaluation outcomes between the two groups are the result of the AHC intervention and not confounding characteristics.

In a propensity score model, a logistic regression is used to model the probability (or propensity) that an individual is in the intervention group given a set of sociodemographic and other characteristics. The model is refined by removing or adding characteristics to improve model performance in terms of its ability to balance covariates. Models were created at the person-year level and at the inpatient-discharge level for the readmissions, follow-up visits within 14 days of discharge, and ED visits within 30 days of discharge. Discharge-level measures were only defined among beneficiaries with an inpatient discharge, so a separate propensity score model was created for that subsample. We also estimated a separate model for the follow-up visits within 30 days of a MH discharge, because this population was distinct from the other discharge-level measures, which explicitly excluded psychiatric admissions from the denominator. Exhibit N-4 shows the covariates considered for inclusion in the propensity score analysis across Medicaid and FFS Medicare beneficiaries. Covariates considered for inclusion in the FFS Medicare propensity score analysis were also considered for inclusion in the propensity score model for the combined FFS Medicare and MA sample.

#### Exhibit N-4. Propensity Score Characteristics

Variable Level	Source	Variables
Beneficiary	Medicaid and FFS Medicare enrollment data	Age Age <65 years <sup>1</sup> Child (<19 years) <sup>2</sup> Sex Number of HRSNs at AHC Model screening Race/Ethnicity Enrolled because of disability for at least 1 month in the year Enrolled in Medicaid managed care for at least 1 month in the year <sup>2</sup> Enrolled in the Children's Health Insurance Program for at least 1 month in the year <sup>2</sup> Months enrolled in the year Dually enrolled in Medicaid for at least 1 month in the year <sup>1</sup> HCC risk score <sup>1</sup> Chronic Illness and Disability Payment System risk score <sup>2</sup> Number of chronic conditions in the year
Area-level	Area Health Resource File Data	Hospital beds per 1,000 population, 2017 Percentage of people (under 65 years) without health insurance, 2017 Percentage of people residing in a county designated as a mental health professional shortage area, 2017 Psychiatrists per 1,000 population, 2017 Percentage of people 16 years and older who are unemployed, 2017 Percentage of people residing in a county designated as a predominantly rural area
Area-level	AHC Community Profile Data	Percentage of adults who rate their health "fair" or "poor" Primary care physician-to-population ratio Median income Poverty rate Social Deprivation Index (composite measure encompassing poverty, education, single-parent households, rental housing, overcrowded housing, no car, and unemployment) Social service provider density Food environment index (limited access to health foods and food insecurity) Severe housing index
Area-level	COVID-19 Vulnerability	COVID-19 PVI

<sup>1</sup> Medicare covariate only.

<sup>2</sup> Medicaid covariate only.

HCC scores were calculated during the calendar year in which each beneficiary was screened.

Definitions: AHC = Accountable Health Communities; COVID-19 = coronavirus disease 2019; FFS = fee-for-service; HCC = hierarchical condition category; HRSN = health-related social need; PVI = Pandemic Vulnerability Index.

Using these characteristics, we iterated through several propensity score models and describe the final model below for the full study sample (the final models for the inpatient -discharge-level sample and for the mental health discharge-level sample are not shown). Adequacy of propensity score models was assessed using overlay plots and review of the prevalence of characteristics for the sample before and after weighting the comparison group by the resulting propensity score. Overlay plots show the distribution of the resulting propensity scores across the intervention group and the comparison group. When distributions of scores are very similar between groups, the propensity score model is considered to have created good balance between groups. Covariate balance tables before and after propensity score weighting demonstrate whether the samples are similar on the covariates included in the propensity score. The weighted standardized difference is a metric that helps assess how different covariate estimates are; if the standardized difference is  $< 0.10$ , balance is considered good. It is important to note that the standardized difference may be large for area-level covariates even though the group prevalence estimates are similar, so the standardized difference must be considered in conjunction with a qualitative assessment of the similarity of estimates to judge model fit. For example, we applied a criterion that if the difference in prevalence or mean between groups was less than a value of 2, we considered the estimates similar, even if the standardized difference is  $> 0.10$ . Assessments of propensity score fit are shown for the year before screening.

## Medicaid Propensity Score Results

The final propensity score model includes sociodemographic characteristics along with rural residence, percentage of the county in poverty, and whether the county was a mental health professional shortage area. Area-level and community characteristics have relatively little variation across the study sample, and this lack of variation often results in propensity scores that do not balance the intervention and comparison group well. Given this, we minimized the number of area-level covariates included in the model. Adding several, but not all, area-level covariates addressed some regional variation while keeping the model parsimonious enough to avoid poor propensity score weighted balance between study groups. Given the disparity between groups in residence in a rural region and a region that is a designated mental health professional shortage area, we chose those covariates for the model. We chose poverty rate as a community characteristic to include in the model given its correlation with other community characteristics like the social deprivation, food environment, and severe housing problem indices. We also include the COVID-19 Pandemic Vulnerability Index (PVI) in the final propensity score model.

Prior to propensity score weighting, there were differences between the intervention and comparison groups for several sociodemographic and county-/community-level covariates, and standardized differences were greater than 0.10 for those characteristics (Exhibit N-5). After propensity score weighting, standardized differences were below the 0.10 threshold for most covariates, indicating an acceptable level of covariate balance. Even though some characteristics (e.g., percent enrolled in managed care, severe housing index) were still not balanced after propensity score weighting the comparison group, the two groups were more similar on those characteristics than without weighting. The percentage of the population enrolled in Medicaid managed care was included in the outcome regression models, so impact estimates controlled for this imbalance. Several other county-/community-level covariates were well balanced after propensity score weighting, but the weighted standardized differences remained greater than 0.10 (e.g., psychiatrists per 1,000 population, PCP-to-population ratio). Moreover, as shown in Exhibit N-6, the overlay plot shows that the distribution of propensity scores for the comparison group was similar to the distribution for the intervention group (shown by the close overlay of the red dotted line and the black solid line). The balance and overlay plots for the first 2 years of the baseline period and 1 year after AHC enrollment also looked similar to the balance and plots for the year shown here.



**Exhibit N-5. Covariate Balance Between Alignment Track Intervention and Comparison Groups in the Last Baseline Year, Medicaid Beneficiaries**

Variable	Unweighted Mean or Percentage, Intervention Group (n = 61,335)	Unweighted Mean or Percentage, Comparison Group (n = 13,382)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 59,556)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Female	65.30	63.88	0.03	65.54	0.01
Number of HRSNs	2.03	2.02	0.01	2.03	0.005
Chronic Illness and Disability Payment System risk score	1.03	0.94	0.14	1.03	0.003
Number of chronic conditions	0.74	0.62	0.11	0.78	0.03
Age	33.14	28.47	0.26	34.13	0.06
Child (<19 years)	15.72	28.77	0.32	13.22	0.07
White	31.22	37.97	0.14	32.11	0.02
Race missing	14.53	12.34	0.06	14.21	0.01
Enrolled because of disability	18.09	17.02	0.03	19.00	0.02
Enrolled in managed care	73.64	84.96	0.28	79.44	0.14
Enrolled in the Children's Health Insurance Program	3.61	3.29	0.02	2.83	0.04
Number of months enrolled in Medicaid	10.65	10.55	0.03	10.58	0.02

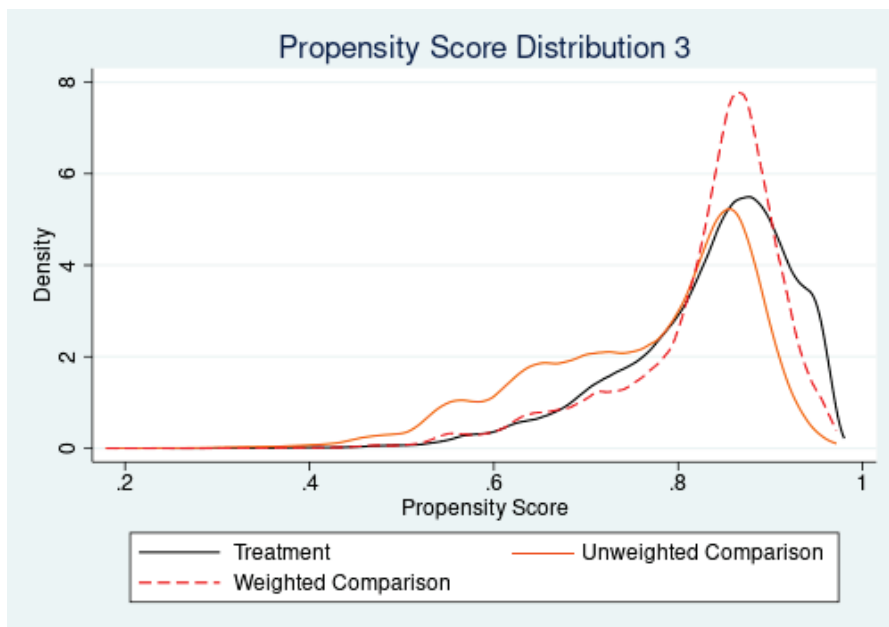
Variable	Unweighted Mean or Percentage, Intervention Group (n = 61,335)	Unweighted Mean or Percentage, Comparison Group (n = 13,382)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 59,556)	Weighted Standardized Difference
<b>County- or community-level characteristics</b>					
Percentage of people residing in a rural area	10.23	14.97	0.14	9.78	0.01
Percentage of people residing in a mental health professional shortage area	19.30	30.94	0.27	22.57	0.08
Hospital beds per 1,000 population <sup>1</sup>	3.71	3.44	0.10	3.50	0.09
Percentage of people (under 65 years) without health insurance	10.37	11.36	0.19	10.42	0.01
Psychiatrists per 1,000 population <sup>1</sup>	0.17	0.14	0.28	0.15	0.17
Community mental health centers per 100,000 population <sup>1</sup>	0.01	0.01	0.09	0.01	0.11
Percentage of people 16 years and older who are unemployed	4.42	4.60	0.15	4.50	0.07
Percentage of adults in fair/poor health	16.96	17.76	0.21	16.85	0.03
Primary care physician-to-population ratio <sup>1</sup>	8.84	7.52	0.51	8.04	0.31
Median income <sup>1</sup>	61,541.34	58,094.44	0.23	60,242.01	0.09
Percentage of people in poverty	14.70	15.20	0.09	14.62	0.02
Social deprivation index score <sup>1</sup>	59.89	60.03	0.01	59.07	0.03
Social service provider density <sup>1</sup>	157.27	127.99	0.44	141.76	0.23

Variable	Unweighted Mean or Percentage, Intervention Group (n = 61,335)	Unweighted Mean or Percentage, Comparison Group (n = 13,382)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 59,556)	Weighted Standardized Difference
Food environment index <sup>1</sup>	7.60	7.78	0.25	7.79	0.26
Severe housing index <sup>1</sup>	19.41	16.96	0.52	17.23	0.47
COVID-19 PVI	0.21	0.17	0.18	0.20	0.07

<sup>1</sup>Not included in the propensity score model, but covariate balance between groups was examined.

Definitions: COVID-19 = coronavirus disease 2019; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

## Exhibit N-6. Overlay Plot for the Propensity Score in the Last Baseline Year, Medicaid Beneficiaries



Source: RTI analysis of Chronic Conditions Warehouse Transformed Medicaid Statistical Information System Analytic Files (T-MSIS).

### FFS Medicare Propensity Score Results

The final FFS Medicare propensity score model was very similar to the Medicaid model; it included sociodemographic characteristics along with rural residence, percentage of the county in poverty, and whether the county was a mental health professional shortage area. We tested the FFS Medicare propensity score model including and excluding the PVI. Unlike in our Medicaid analysis, inclusion of the PVI in the FFS Medicare propensity score model worsened the overlay plot (i.e., the distribution of propensity scores differed between the intervention and weighted comparison groups), and the inclusion of the PVI did not greatly improve covariate balance. Therefore, we included the PVI as a covariate in the FFS Medicare outcome models, but not in the FFS Medicare propensity score model. Prior to propensity score weighting, several covariates differed between the intervention and comparison groups, and standardized differences were greater than 0.10 for some individual- and county-level characteristics (Exhibit N-7). After propensity score weighting, standardized differences were below the 0.10 threshold for most covariates, indicating an acceptable level of covariate balance. Even though five characteristics (psychiatrists per 1,000 population, social service provider density, food environment index, severe housing index, COVID-19 PVI) were still not balanced after propensity score weighting the comparison group, the two groups were more similar on those characteristics with weighting than they were without. Moreover, the overlay plot in Exhibit N-8 shows that the propensity score distribution of the comparison group was similar to the intervention group (i.e., the red dotted line is close to the black solid line). The balance and overlay plots for the first 2 years of the baseline period and the year after AHC enrollment also looked similar to the balance and plots for the year shown here.

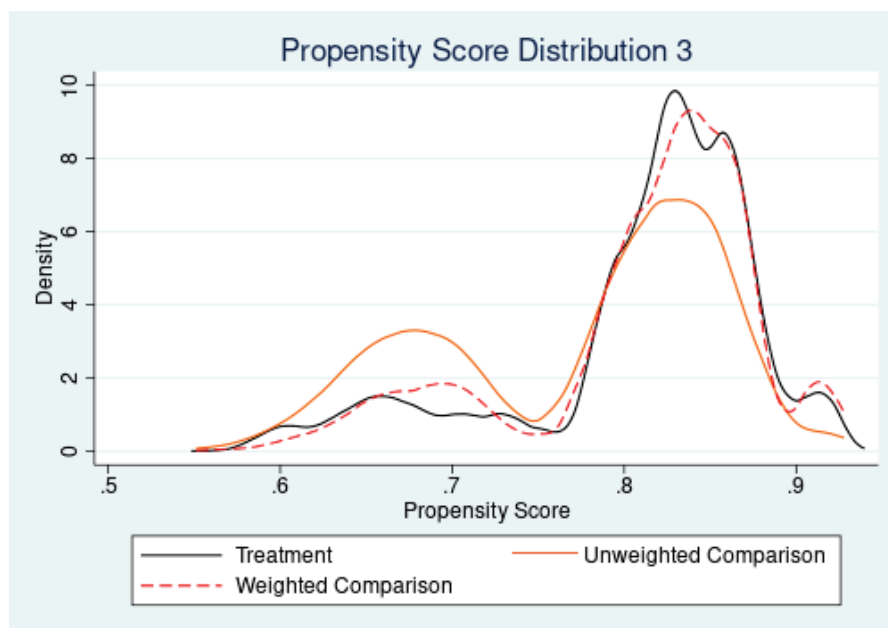
**Exhibit N-7. Covariate Balance Between Alignment Track Intervention and Comparison Groups in the Last Baseline Year, FFS Medicare Beneficiaries**

Variable	Unweighted Mean or Percentage, Intervention Group (n = 17,707)	Unweighted Mean or Percentage, Comparison Group (n = 4,338)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 17,648)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Number of HRSNs	1.86	1.84	0.02	1.87	0.01
HCC risk score	2.00	1.97	0.01	2.01	0.006
Number of chronic conditions	5.40	5.38	0.004	5.44	0.009
Age	61.30	62.13	0.05	61.40	0.006
Dually enrolled in Medicaid	63.02	58.65	0.09	63.98	0.02
Enrolled because of disability	62.82	61.57	0.03	62.21	0.01
Enrolled because of end-stage renal disease	2.94	2.63	0.02	2.77	0.01
Age <65 years	52.97	50.88	0.04	52.34	0.01
Number of months enrolled in Medicare	10.43	10.44	0.001	10.44	0.003
Female	60.30	62.40	0.04	61.12	0.02
Black	28.91	21.23	0.18	27.09	0.04
Other race (other+Asian)	6.23	2.81	0.17	6.66	0.02
Hispanic	6.92	5.56	0.06	7.23	0.01
<b>County- or community-level characteristics</b>					
Percentage of people residing in a rural area	14.11	21.51	0.19	13.02	0.03
Hospital beds per 1,000 population <sup>1</sup>	3.65	3.45	0.07	3.54	0.04
Percentage of people (under 65 years) without health insurance <sup>1</sup>	10.82	10.27	0.11	10.54	0.05
Percentage of people residing in a mental health professional shortage area	18.42	35.62	0.39	18.52	0.002
Psychiatrists per 1,000 population <sup>1</sup>	0.15	0.12	0.24	0.13	0.19
Percentage of people 16 years and older who are unemployed <sup>1</sup>	4.58	4.68	0.08	4.52	0.05

Variable	Unweighted Mean or Percentage, Intervention Group (n = 17,707)	Unweighted Mean or Percentage, Comparison Group (n = 4,338)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 17,648)	Weighted Standardized Difference
Percentage of adults in fair/poor health <sup>1</sup>	17.14	17.19	0.01	17.18	0.01
Primary care physician-to-population ratio <sup>1</sup>	8.29	7.70	0.21	8.10	0.07
Median income <sup>1</sup>	62,317.36	60,170.17	0.12	62,624.42	0.02
Percentage of people in poverty	14.59	14.88	0.05	14.35	0.04
Social Deprivation Index score <sup>1</sup>	56.35	53.35	0.11	55.85	0.02
Social service provider density <sup>1</sup>	148.73	131.58	0.29	135.36	0.23
Food environment index <sup>1</sup>	7.57	7.99	0.50	7.95	0.44
Severe housing index <sup>1</sup>	18.59	16.54	0.46	17.29	0.29
COVID-19 PVI <sup>1</sup>	0.18	0.14	0.18	0.15	0.12

<sup>1</sup>Not included in the propensity score model, but covariate balance between groups was examined. Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-8. Overlay Plot for the Propensity Score in the Last Baseline Year, FFS Medicare Beneficiaries**



Source: RTI analysis of Chronic Conditions Warehouse Medicare claims.

## Combined FFS Medicare and MA Propensity Score Results

The final combined FFS Medicare and MA propensity score model was similar to the FFS Medicare propensity score model; it included sociodemographic characteristics along with rural residence, percentage of the county in poverty, and whether the county was a mental health professional shortage area. However, the final combined FFS Medicare and MA propensity score model did not include end-stage renal disease. Prior to propensity score weighting, several covariates differed between the intervention and comparison groups, and standardized differences were greater than 0.10 for some county-level characteristics (Exhibit N-9). After propensity score weighting, standardized differences were below the 0.10 threshold for most covariates, indicating an acceptable level of covariate balance. Even though six characteristics (psychiatrists per 1,000 population, PCP-to-population ratio, social service provider density, food environment index, severe housing index, COVID-19 PVI) were still not balanced after propensity score weighting the comparison group, the two groups were more similar on those characteristics with weighting than they were without. Moreover, the overlay plot in Exhibit N-10 shows that the propensity score distribution of the comparison group was similar to the intervention group (i.e., the red dotted line is close to the black solid line). The balance and overlay plots for the first 2 years of the baseline period and the year after AHC enrollment also looked similar to the balance and plots for the year shown here.

### Exhibit N-9. Covariate Balance Between Alignment Track Intervention and Comparison Groups in the Last Baseline Year, Combined FFS Medicare and MA Beneficiaries

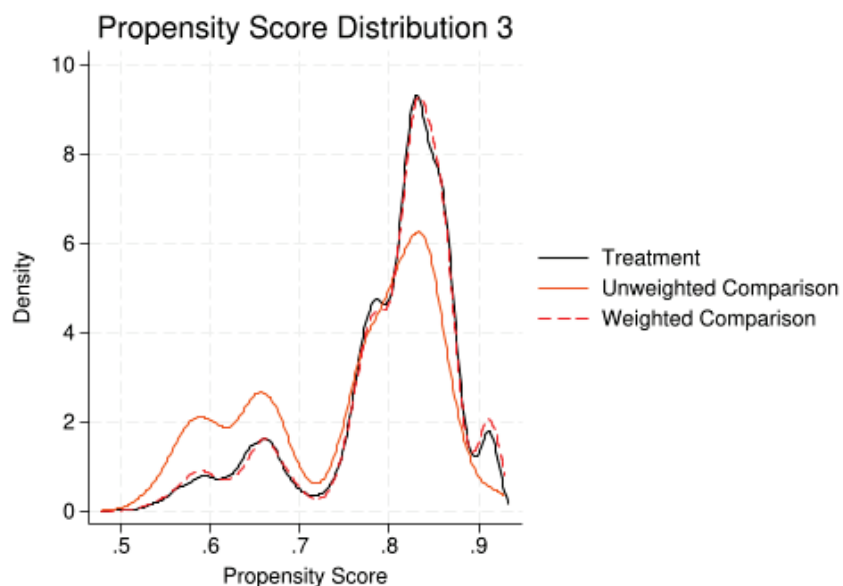
Variable	Unweighted Mean or Percentage, Intervention Group (n = 25,919)	Unweighted Mean or Percentage, Comparison Group (n = 6,719)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 26,111)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Number of HRSNs	1.85	1.82	0.04	1.87	0.01
HCC risk score	1.82	1.87	0.03	1.82	0.001
Number of chronic conditions	2.85	3.03	0.08	2.86	0.01
Age	62.16	63.39	0.09	62.17	0.001
Dually enrolled in Medicaid	63.95	56.41	0.15	64.85	0.02
Enrolled because of disability	62.38	61.41	0.02	61.11	0.03
Enrolled because of end-stage renal disease <sup>1</sup>	3.21	2.65	0.03	3.12	0.005
Age <65 years	50.88	47.51	0.07	50.36	0.01
Number of months enrolled in Medicare	10.06	10.48	0.12	9.93	0.04
Female	61.97	62.90	0.02	62.59	0.01
Black	28.15	21.93	0.14	26.91	0.03
Other race (other+Asian)	7.88	3.66	0.18	8.55	0.02
Hispanic	8.57	5.95	0.10	8.81	0.01

Variable	Unweighted Mean or Percentage, Intervention Group (n = 25,919)	Unweighted Mean or Percentage, Comparison Group (n = 6,719)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 26,111)	Weighted Standardized Difference
<b>County- or community-level characteristics</b>					
Percentage of people residing in a rural area	11.01	21.39	0.28	9.90	0.04
Hospital beds per 1,000 population <sup>1</sup>	3.57	3.34	0.08	3.42	0.06
Percentage of people (under 65 years) without health insurance <sup>1</sup>	10.46	10.55	0.02	10.69	0.04
Percentage of people residing in a mental health professional shortage area	16.81	35.56	0.44	16.25	0.01
Psychiatrists per 1,000 population <sup>1</sup>	0.16	0.12	0.31	0.13	0.23
Percentage of people 16 years and older who are unemployed <sup>1</sup>	4.56	4.72	0.13	4.51	0.04
Percentage of adults in fair/poor health <sup>1</sup>	17.08	17.23	0.04	17.05	0.01
Primary care physician-to-population ratio <sup>1</sup>	8.42	7.42	0.36	7.91	0.19
Median income <sup>1</sup>	62,437.03	58,834.46	0.21	62,309.53	0.01
Percentage of people in poverty	14.43	15.20	0.13	14.32	0.02
Social Deprivation Index score <sup>1</sup>	56.83	54.61	0.08	56.41	0.02
Social service provider density <sup>1</sup>	149.63	128.84	0.33	133.85	0.25
Food environment index <sup>1</sup>	7.61	7.95	0.41	7.93	0.39
Severe housing index <sup>1</sup>	18.69	16.50	0.49	17.41	0.28
COVID-19 PVI <sup>1</sup>	0.16	0.08	0.47	0.09	0.40

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.



## Exhibit N-10. Overlay Plot for the Propensity Score in the Last Baseline Year, FFS Medicare and MA Beneficiaries



Source: RTI analysis of Medicare claims and encounter data from the integrated data repository.

## Covariate Balance Between Intervention Group and Comparison Group in the Last Baseline Year Among Subpopulations With Select Chronic Conditions

Similar to the overall propensity score models, we assessed baseline descriptives across sociodemographic and county-/community-level characteristics for the subpopulation analysis of FFS Medicare and Medicaid beneficiaries. We examined within- and between-group differences for all subpopulations. In general, we did not find large within-group differences for any of the subpopulations selected among FFS Medicare and Medicaid beneficiaries (i.e., there were minimal differences in means between the Intervention and Control groups for beneficiaries in the selected subpopulations). However, there were several between-group differences (i.e., there were several differences between beneficiaries in the subpopulation and other beneficiaries). Exhibits N-11 through Exhibit N-17 show the descriptives for subpopulations where we found consistent differences between groups (the results for these subpopulations are presented in Chapter 8). These include FFS Medicare beneficiaries who are nonwhite or Hispanic, beneficiaries with pulmonary disease, and beneficiaries with diabetes in the Assistance Track and FFS Medicare beneficiaries with pulmonary disease and diabetes in the Alignment Track. Among Medicaid beneficiaries in the Assistance Track, within- and between-group differences are presented for beneficiaries with multiple HRSNs and beneficiaries with major depressive disorder. In Exhibits N-18 through N-27, we include additional descriptives for FFS Medicare beneficiaries with and without pulmonary disease/diabetes. These include baseline descriptives across sociodemographic and county-/community-level characteristics for the Assistance Track intervention and control and the Alignment Track intervention groups, baseline trend differences between the Alignment Track intervention and comparison groups, and baseline descriptives between the Alignment Track intervention and comparison groups with and without propensity score weighting. In Exhibits N-28 through N-31, we include additional descriptives for Medicaid beneficiaries in the Assistance Track with and without major depression and with and without substance use disorder. These include baseline descriptives across sociodemographic and county-/community-level characteristics and baseline descriptives for outcomes for the Assistance Track intervention and control groups.

**Exhibit N-11. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Assistance Track in the Last Baseline Year, FFS Medicare Beneficiaries with Pulmonary Disease**

Variable	Intervention Group (n = 4,849)	Control Group (n = 1,988)	Beneficiaries with Pulmonary Disease (n = 6,837)	Beneficiaries Without Pulmonary Disease (n = 7,993)
<b>Sociodemographic characteristics</b>				
Female (%)	64	66	64	58
Number of HRSNs	1.78	1.85	1.80	1.74
Hierarchical condition category (HCC) risk score	2.42	2.42	2.42	1.59
Number of chronic conditions	6.37	6.44	6.39	4.79
Age (mean)	63.3	63.5	63.36	62.60
Age <65 years (%)	50	49	49	48
Dually enrolled in Medicaid (%)	61	63	61	52
Enrolled because of disability (%)	65	64	65	57
Enrolled because of end-stage renal disease (%)	2	2	2	3
Number of months enrolled in Medicare	11.53	11.54	11.54	11.28
Black (%)	19	19	19	21
Other race (other+Asian) (%)	2	2	2	3
Hispanic (%)	4	4	4	6
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	24	24	24	21
Hospital beds per 1,000 population	3.35	3.52	3.40	3.45
Percentage of people (under 65 years) without health insurance	10.14	10.13	10.13	10.33
Percentage of people residing in a mental health professional shortage area	38	38	38	34
Percentage of people 16 years and older who are unemployed	4.78	4.76	4.77	4.65
Percentage of adults in fair/poor health	17.32	17.46	17.36	17.11
Primary care physician-to-population ratio	7.36	7.66	7.44	7.73
Median income (\$)	58672.76	58645.14	58664.73	61068.97

Variable	Intervention Group (n = 4,849)	Control Group (n = 1,988)	Beneficiaries with Pulmonary Disease (n = 6,837)	Beneficiaries Without Pulmonary Disease (n = 7,993)
Percentage of people in poverty	15.26	15.36	15.29	14.67
Social Deprivation Index score	53.77	54.52	53.99	52.74
Social service provider density	127.58	130.86	128.53	131.52
Food environment index	7.98	7.95	7.97	8.02
Severe housing index	16.28	16.45	16.33	16.65
COVID-19 PVI	0.11	0.12	0.12	0.14

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-12. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Assistance Track in the Last Baseline Year, FFS Medicare Beneficiaries with Diabetes**

Variable	Intervention Group (n = 4,679)	Control Group (n = 2,006)	Beneficiaries with Diabetes (n = 6,685)	Beneficiaries Without Diabetes (n = 8,145)
<b>Sociodemographic characteristics</b>				
Female (%)	60	60	60	62
Number of HRSNs	1.72	1.8	1.75	1.79
Hierarchical condition category (HCC) risk score	2.48	2.56	2.51	1.55
Number of chronic conditions	6.7	6.68	6.69	4.59
Age (mean)	65.1	65.0	65.1	61.2
Age <65 years (%)	45	43	44	53
Dually enrolled in Medicaid (%)	55	58	56	57
Enrolled because of disability (%)	58	58	58	63
Enrolled because of end-stage renal disease (%)	4	4	4	1
Number of months enrolled in Medicare	11.5	11.47	11.49	11.32
Black (%)	22	23	22	18
Other race (other+Asian) (%)	3	3	3	2
Hispanic (%)	7	7	7	4

Variable	Intervention Group (n = 4,679)	Control Group (n = 2,006)	Beneficiaries with Diabetes (n = 6,685)	Beneficiaries Without Diabetes (n = 8,145)
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	21	20	21	24
Hospital beds per 1,000 population	3.40	3.50	3.43	3.42
Percentage of people (under 65 years) without health insurance	10.77	10.79	10.78	9.77
Percentage of people residing in a mental health professional shortage area	35	33	34	38
Percentage of people 16 years and older who are unemployed	4.75	4.70	4.74	4.68
Percentage of adults in fair/poor health	17.52	17.52	17.52	16.97
Primary care physician-to-population ratio	7.40	7.72	7.50	7.67
Median income (\$)	59999.31	60704.38	60209.51	59640.77
Percentage of people in poverty	15.02	14.87	14.97	14.97
Social Deprivation Index score	55.12	54.63	54.97	51.93
Social service provider density	124.90	127.73	125.74	133.82
Food environment index	7.98	7.98	7.98	8.01
Severe housing index	16.83	16.89	16.85	16.19
COVID-19 PVI	0.12	0.14	0.13	0.13

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-13. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Assistance Track in the Last Baseline Year, FFS Medicare Beneficiaries Who Are Nonwhite**

Variable	Intervention Group (n = 2,970)	Control Group (n = 1,284)	Non-White and/or Hispanic Beneficiaries (n = 4,254)	Non-Hispanic White Beneficiaries (n = 10,576)
<b>Sociodemographic characteristics</b>				
Female (%)	60	63	61	61
Number of HRSNs	1.92	2.01	1.95	1.70
Hierarchical condition category (HCC) risk score	2.17	2.22	2.19	1.92
Number of chronic conditions	5.42	5.69	5.50	5.59
Age (mean)	59.48	59.19	59.39	64.33
Age <65 years (%)	59	59	59	45
Dually enrolled in Medicaid (%)	72	73	72	50
Enrolled because of disability (%)	64	65	64	60
Enrolled because of end-stage renal disease (%)	6	5	6	1
Number of months enrolled in Medicare	11.25	11.24	11.25	11.46
Black (%)	72	72	72	0
Other race (other+Asian) (%)	8	10	9	0
Hispanic (%)	20	18	19	0
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	6	6	6	29
Hospital beds per 1,000 population	3.51	3.50	3.51	3.39
Percentage of people (under 65 years) without health insurance	11.76	11.84	11.78	9.65
Percentage of people residing in a mental health professional shortage area	19	20	19	43
Percentage of people 16 years and older who are unemployed	4.43	4.40	4.42	4.82
Percentage of adults in fair/poor health	17.26	17.11	17.22	17.23
Primary care physician-to-population ratio	8.03	8.12	8.06	7.41
Median income (\$)	63940.51	64835.50	64210.15	58259.94
Percentage of people in poverty	14.06	13.90	14.01	15.34

Variable	Intervention Group (n = 2,970)	Control Group (n = 1,284)	Non-White and/or Hispanic Beneficiaries (n = 4,254)	Non-Hispanic White Beneficiaries (n = 10,576)
Social Deprivation Index score	63.59	62.80	63.35	49.52
Social service provider density	134.69	135.29	134.87	128.24
Food environment index	7.75	7.79	7.76	8.09
Severe housing index	18.82	18.92	18.85	15.59
COVID-19 PVI	0.13	0.15	0.14	0.13

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-14. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Alignment Track in the Last Baseline Year, FFS Medicare Beneficiaries with Pulmonary Disease**

Variable	Alignment Track (n = 7,888)	Comparison Group (n = 1,988)	Beneficiaries with Pulmonary Disease (n = 9,876)	Beneficiaries Without Pulmonary Disease (n = 12,168)
<b>Sociodemographic characteristics</b>				
Female (%)	65	66	65	57
Number of HRSNs	1.89	1.85	1.88	1.80
Hierarchical condition category (HCC) risk score	2.47	2.42	2.46	1.69
Number of chronic conditions	6.58	6.44	6.55	4.86
Age (mean)	62.36	63.50	62.59	61.42
Age <65 years (%)	51	49	51	52
Dually enrolled in Medicaid (%)	65	63	65	58
Enrolled because of disability (%)	66	64	66	59
Enrolled because of end-stage renal disease (%)	2	2	2	4
Number of months enrolled in Medicare	11.53	11.54	11.53	11.29
Black (%)	29	19	27	27
Other race (other+Asian) (%)	5	2	4	6
Hispanic (%)	4	4	4	8
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	18	24	19	14
Hospital beds per 1,000 population	3.78	3.52	3.73	3.51
Percentage of people (under 65 years) without health insurance	10.51	10.13	10.44	10.87
Percentage of people residing in a mental health professional shortage area	22	38	25	20
Percentage of people 16 years and older who are unemployed	4.74	4.76	4.75	4.51
Percentage of adults in fair/poor health	17.48	17.46	17.48	16.87
Primary care physician-to-population ratio	8.17	7.66	8.07	8.23
Median income (\$)	60920.67	58645.14	60463.29	63218.64

Variable	Alignment Track (n = 7,888)	Comparison Group (n = 1,988)	Beneficiaries with Pulmonary Disease (n = 9,876)	Beneficiaries Without Pulmonary Disease (n = 12,168)
Percentage of people in poverty	15.25	15.36	15.27	14.16
Social Deprivation Index score	56.10	54.52	55.79	55.10
Social service provider density	146.82	130.86	143.61	146.75
Food environment index	7.54	7.95	7.62	7.70
Severe housing index	18.20	16.45	17.84	18.40
COVID-19 PVI	0.17	0.12	0.16	0.18

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-15. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Alignment Track in the Last Baseline Year, FFS Medicare Beneficiaries with Diabetes**

Variable	Alignment Track (n = 7,904)	Comparison Group (n = 2,006)	Beneficiaries with Diabetes (n = 9,910)	Beneficiaries Without Diabetes (n = 12,134)
<b>Sociodemographic characteristics</b>				
Female (%)	59	60	59	62
Number of HRSNs	1.81	1.80	1.81	1.86
Hierarchical condition category (HCC) risk score	2.58	2.56	2.58	1.60
Number of chronic conditions	6.95	6.68	6.89	4.60
Age (mean)	63.63	64.98	63.90	60.32
Age <65 years (%)	49	43	48	55
Dually enrolled in Medicaid (%)	62	58	61	61
Enrolled because of disability (%)	60	58	60	64
Enrolled because of end-stage renal disease (%)	5	4	5	1
Number of months enrolled in Medicare	11.47	11.47	11.47	11.35
Black (%)	33	23	31	23
Other race (other+Asian) (%)	7	3	6	5
Hispanic (%)	7	7	7	5



Variable	Alignment Track (n = 7,904)	Comparison Group (n = 2,006)	Beneficiaries with Diabetes (n = 9,910)	Beneficiaries Without Diabetes (n = 12,134)
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	14	20	15	17
Hospital beds per 1,000 population	3.77	3.50	3.72	3.52
Percentage of people (under 65 years) without health insurance	11.15	10.79	11.08	10.32
Percentage of people residing in a mental health professional shortage area	18	33	21	24
Percentage of people 16 years and older who are unemployed	4.63	4.70	4.65	4.60
Percentage of adults in fair/poor health	17.43	17.52	17.45	16.91
Primary care physician-to-population ratio	8.23	7.72	8.12	8.18
Median income (\$)	61815.74	60704.38	61592.25	62210.50
Percentage of people in poverty	14.96	14.87	14.94	14.46
Social Deprivation Index score	58.59	54.63	57.79	53.40
Social service provider density	146.92	127.73	143.06	147.18
Food environment index	7.52	7.98	7.61	7.71
Severe housing index	18.77	16.89	18.39	17.93
COVID-19 PVI	0.18	0.14	0.17	0.17

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-16. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Assistance Track in the Last Baseline Year, Medicaid Beneficiaries with Multiple HRSNs**

Variable	Intervention Group (n = 16,866)	Control Group (n = 7,585)	Beneficiaries with Multiple HRSNs (n = 24,451)	Beneficiaries with 1 HRSN (n = 18,350)
<b>Sociodemographic characteristics</b>				
Female	63%	64%	64%	63%
Number of HRSNs	2.64	2.70	2.66	1.00
Chronic Illness and Disability Payment System risk score	0.95	0.96	0.95	0.89

Variable	Intervention Group (n = 16,866)	Control Group (n = 7,585)	Beneficiaries with Multiple HRSNs (n = 24,451)	Beneficiaries with 1 HRSN (n = 18,350)
Number of chronic conditions	0.63	0.65	0.64	0.53
Age	29.99	30.04	30.01	26.35
Child (<19 years)	26%	26%	26%	33%
White	38%	40%	38%	39%
Enrolled because of disability	17%	17%	17%	14%
Enrolled in managed care	83%	84%	83%	86%
Enrolled in the Children's Health Insurance Program	3%	3%	3%	4%
Number of months enrolled in Medicaid	10.6	10.6	10.6	10.6
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	13%	15%	14%	17%
Percentage of people residing in a mental health professional shortage area	31%	33%	32%	32%
Hospital beds per 1,000 population	3.5	3.4	3.5	3.5
Percentage of people (under 65 years) without health insurance	10.9	11.0	10.9	11.0
Psychiatrists per 1,000 population	0.1	0.1	0.1	0.1
Community mental health centers per 100,000 population	0.1	0.1	0.1	0.1
Percentage of people 16 years and older who are unemployed	4.6	4.6	4.6	4.5
Percentage of adults in fair/poor health	17.7	17.7	17.7	17.8
Primary care physician-to-population ratio	7.7	7.6	7.7	7.5
Median income	58304.5	58148.7	58256.2	57255.3
Percentage of people in poverty	15.1	15.2	15.1	15.4
Social deprivation index score	59.2	59.1	59.2	59.7
Social service provider density	131.5	130.0	131.0	128.3
Food environment index	7.8	7.8	7.8	7.8
Severe housing index	16.9	16.9	16.9	16.7
COVID-19 PVI	0.2	0.2	0.2	0.2

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-17. Within-Subpopulation and Between-Subpopulation Covariate Balance in the Assistance Track in the Last Baseline Year, Medicaid Beneficiaries with Major Depressive Disorder**

Variable	Intervention Group (n = 7,413)	Control Group (n = 3,078)	Beneficiaries with Major Depression (n = 10,491)	Beneficiaries Without Major Depression (n = 32,310)
<b>Sociodemographic characteristics</b>				
Female	71%	73%	72%	61%
Number of HRSNs	2.10	2.21	2.13	1.89
Chronic Illness and Disability Payment System risk score	1.20	1.22	1.21	0.83
Number of chronic conditions	0.99	0.98	0.99	0.46
Age	37.28	37.50	37.35	25.55
Child (<19 years)	10%	11%	11%	34%
White	52%	50%	51%	35%
Enrolled because of disability	25%	24%	25%	13%
Enrolled in managed care	82%	82%	82%	85%
Enrolled in the Children's Health Insurance Program	2%	2%	2%	4%
Number of months enrolled in Medicaid	11.1	11.1	11.1	10.4
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	15%	16%	15%	15%
Percentage of people residing in a mental health professional shortage area	35%	36%	35%	31%
Hospital beds per 1,000 population <sup>1</sup>	3.4	3.4	3.4	3.5
Percentage of people (under 65 years) without health insurance	9.2	9.3	9.2	11.5
Psychiatrists per 1,000 population	0.1	0.1	0.1	0.1
Percentage of people 16 years and older who are unemployed	4.6	4.6	4.6	4.5
Percentage of adults in fair/poor health	16.7	16.7	16.7	18.1
Primary care physician-to-population ratio	7.9	7.8	7.9	7.5
Median income	59,474.2	59,534.7	59,492.0	57,286.5
Percentage of people in poverty	14.5	14.5	14.5	15.4
Social deprivation index score	53.0	53.1	53.0	61.5

Variable	Intervention Group (n = 7,413)	Control Group (n = 3,078)	Beneficiaries with Major Depression (n = 10,491)	Beneficiaries Without Major Depression (n = 32,310)
Social service provider density	140.9	139.9	140.6	126.4
Food environment index	7.9	7.9	7.9	7.8
Severe housing index	16.2	16.2	16.2	17.0
COVID-19 PVI	0.1	0.1	0.1	0.2

Definitions: COVID-19 = coronavirus disease 2019; HCC = hierarchical condition category; HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-18. Covariate Balance by Intervention Group in the Last Baseline Year, FFS Medicare Beneficiaries with and Without Pulmonary Disease**

Variable	Beneficiaries with Pulmonary Disease			Beneficiaries Without Pulmonary Disease		
	Assistance-Track Intervention Group (n = 4,849)	Assistance-Track Control Group (n = 1,988)	Alignment-Track Intervention Group (n = 7,888)	Assistance-Track Intervention Group (n = 5,643)	Assistance-Track Control Group (n = 2,350)	Alignment-Track Intervention Group (n = 9,818)
<b>Sociodemographic characteristics</b>						
Female (%)	64	66	65	58	59	56
Number of Health-Related Social Needs	1.78	1.85	1.89	1.71	1.80	1.80
Screened positive for housing instability (%)	44	42	44	43	45	43
Screened positive for food insecurity (%)	54	58	65	51	55	62
Hierarchical condition category risk score	2.42	2.42	2.47	1.56	1.64	1.70
Number of chronic conditions	6.37	6.44	6.58	4.75	4.89	4.85
Diabetes (%)	50	50	48	42	44	44
Major depression (%)	21	21	23	17	20	18
Substance use disorder (%)	10	9	12	8	8	10
Age (mean)	63.3	63.5	62.4	62.9	62.0	61.3
Age <65 years (%)	50	49	51	48	50	53
Dually enrolled in Medicaid (%)	61	63	65	51	53	59
Enrolled because of disability (%)	65	64	66	57	58	60

Variable	Beneficiaries with Pulmonary Disease			Beneficiaries Without Pulmonary Disease		
	Assistance-Track Intervention Group (n = 4,849)	Assistance-Track Control Group (n = 1,988)	Alignment-Track Intervention Group (n = 7,888)	Assistance-Track Intervention Group (n = 5,643)	Assistance-Track Control Group (n = 2,350)	Alignment-Track Intervention Group (n = 9,818)
Enrolled because of end-stage renal disease (%)	2	2	2	3	3	4
Number of months enrolled in Medicare	11.53	11.54	11.53	11.27	11.29	11.29
Black (%)	19	19	29	20	21	28
Other race (other+Asian) (%)	2	2	5	1	2	4
Hispanic (%)	4	4	4	6	6	9
<b>County-level characteristics</b>						
Percentage of people residing in a rural area	24	24	18	21	20	12
Percentage of people (under 65 years) without health insurance	10.14	10.13	10.51	10.35	10.29	11.01
Percentage of people residing in a mental health professional shortage area	38	38	22	34	34	16
Percentage of people in poverty	15.26	15.36	15.25	14.75	14.48	14.08

**Exhibit N-19. Covariate Balance by Intervention Group in the Last Baseline Year, FFS Medicare Beneficiaries with and Without Diabetes**

Variable	Beneficiaries with Diabetes			Beneficiaries Without Diabetes		
	Assistance-Track Intervention Group	Assistance-Track Control Group	Alignment-Track Intervention Group	Assistance-Track Intervention Group	Assistance-Track Control Group	Alignment-Track Intervention Group
	(n = 4,679)	(n = 2,006)	(n = 7,904)	(n = 5,813)	(n = 2,332)	(n = 9,802)
<b>Sociodemographic characteristics</b>						
Female (%)	60	60	59	62	64	61
Number of Health-Related Social Needs	1.72	1.8	1.81	1.77	1.84	1.87
Screened positive for housing instability (%)	40	42	40	46	44	46
Screened positive for food insecurity (%)	53	55	63	52	57	63
Hierarchical condition category risk score	2.48	2.56	2.58	1.55	1.53	1.61
Number of chronic conditions	6.7	6.68	6.95	4.54	4.70	4.57
Pulmonary disease (%)	53	51	49	45	45	44
Major depression (%)	17	18	19	20	22	21
Substance use disorder (%)	6	6	8	11	11	12
Age (mean)	65.1	65.0	63.6	61.4	60.7	60.2
Age <65 years (%)	45	43	49	52	55	55
Dually enrolled in Medicaid (%)	55	58	62	56	58	62
Enrolled because of disability (%)	58	58	60	64	63	65

Variable	Beneficiaries with Diabetes			Beneficiaries Without Diabetes		
	Assistance-Track Intervention Group	Assistance-Track Control Group	Alignment-Track Intervention Group	Assistance-Track Intervention Group	Assistance-Track Control Group	Alignment-Track Intervention Group
	(n = 4,679)	(n = 2,006)	(n = 7,904)	(n = 5,813)	(n = 2,332)	(n = 9,802)
Enrolled because of end-stage renal disease (%)	4	4	5	1	1	1
Number of months enrolled in Medicare	11.5	11.47	11.47	11.31	11.36	11.35
Black (%)	22	23	33	18	18	25
Other race (other+Asian) (%)	3	3	7	1	1	3
Hispanic (%)	7	7	7	4	4	6
<b>County-level characteristics</b>						
Percentage of people residing in a rural area	21	20	14	24	23	16
Percentage of people (under 65 years) without health insurance	10.77	10.79	11.15	9.80	9.71	10.46
Percentage of people residing in a mental health professional shortage area	35	33	18	38	38	20
Percentage of people in poverty	15.02	14.87	14.96	14.99	14.93	14.35



**Exhibit N-20. Expenditure and Quality-of-Care Descriptive Statistics in the Three-Year Baseline Period, FFS Medicare Beneficiaries with and Without Pulmonary Disease**

Outcome	Beneficiaries with Pulmonary Disease			Beneficiaries Without Pulmonary Disease		
	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)	Alignment-Track Intervention Group Mean (SD)	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)	Alignment-Track Intervention Group Mean (SD)
Total Expenditures Per Beneficiary Per Month	\$2,429 (\$3,611)	\$2,495 (\$3,719)	\$2,735 (\$4,091)	\$1,625 (\$3,060)	\$1,779 (\$3,404)	\$1,961 (\$3,993)
ED Visits Per 1,000 Beneficiaries	2,718 (6,193)	2,681 (5,450)	3,195 (6,555)	1,786 (3,841)	1,904 (4,098)	2,314 (5,168)
Avoidable ED Visits Per 1,000 Beneficiaries	1,409 (3,637)	1,393 (2,948)	1,584 (3,566)	833 (1,886)	869 (2,173)	1,034 (2,475)
Inpatient Admissions Per 1,000 Beneficiaries	997 (1,820)	988 (1,851)	1,047 (1,895)	553 (1,281)	633 (1,519)	624 (1,388)
ACSC Admissions Per 1,000 Beneficiaries	268 (871)	262 (812)	275 (844)	94 (468)	109 (674)	105 (520)
PCP visits Per 1,000 Beneficiaries	7,678 (7,681)	7,646 (7,536)	7,284 (7,358)	5,528 (6,434)	5,659 (6,234)	5,444 (6,345)
Unplanned Readmissions Per 1,000 Discharges	256 (436)	262 (440)	265 (441)	204 (403)	230 (421)	206 (405)

Definitions: SD = standard deviation; ED = emergency department; ACSC = ambulatory care sensitive condition; PCP = primary care provider.

**Exhibit N-21. Expenditure and Quality-of-Care Descriptive Statistics in the Three-Year Baseline Period, FFS Medicare Beneficiaries with and Without Diabetes**

Outcome	Beneficiaries with Diabetes			Beneficiaries Without Diabetes		
	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)	Alignment-Track Intervention Group Mean (SD)	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)	Alignment-Track Intervention Group Mean (SD)
Total Expenditures Per Beneficiary Per Month	\$2,664 (\$4,034)	\$2,818 (\$4,312)	\$3,025 (\$4,435)	\$1,482 (\$2,599)	\$1,537 (\$2,713)	\$1,755 (\$3,643)
ED Visits Per 1,000 Beneficiaries	2,279 (4,630)	2,261 (4,828)	2,849 (6,199)	2,156 (5,373)	2,250 (4,729)	2,598 (5,554)
Avoidable ED Visits Per 1,000 Beneficiaries	1,156 (2,597)	1,123 (2,564)	1,412 (3,386)	1,049 (3,000)	1,092 (2,567)	1,178 (2,709)
Inpatient Admissions Per 1,000 Beneficiaries	987 (1,828)	1,039 (1,938)	1,052 (1,877)	578 (1,305)	600 (1,427)	629 (1,420)
ACSC Admissions Per 1,000 Beneficiaries	264 (881)	272 (856)	285 (870)	105 (481)	104 (630)	101 (494)
PCP visits Per 1,000 Beneficiaries	7,636 (8,139)	7,682 (7,487)	7,333 (7,466)	5,648 (6,081)	5,669 (6,304)	5,448 (6,266)
Unplanned Readmissions Per 1,000 Discharges	255 (436)	269 (444)	261 (439)	208 (406)	217 (413)	213 (409)

Definitions: SD = standard deviation; ED = emergency department; ACSC = ambulatory care sensitive condition; PCP = primary care provider.

**Exhibit N-22. Baseline Trend Differences Between the Alignment Track Intervention and Comparison Groups for FFS Medicare Beneficiaries with and Without Pulmonary Disease**

Outcome	Beneficiaries with Pulmonary Disease		Beneficiaries Without Pulmonary Disease	
	Alignment Track—CG Trend Difference (SE)	P-Value of Trend Differences	Alignment Track—CG Trend Difference (SE)	P-Value of Trend Differences
Total expenditures (PBPM)	-69.933 (183.090)	0.70	-65.044 (150.799)	0.67
ED visits/ 1,000 beneficiaries	-0.220 (0.159)	0.17	0.093 (0.085)	0.27
Avoidable ED visits/1,000 beneficiaries	-0.088 (0.078)	0.26	0.028 (0.047)	0.55
Inpatient admissions/1,000 beneficiaries	-0.016 (0.080)	0.84	-0.007 (0.036)	0.85
ACSC admissions/1,000 beneficiaries	-0.020 (0.023)	0.38	0.013 (0.010)	0.20
PCP visits/1,000 beneficiaries	0.183 (0.111)	0.10	-0.156 (0.130)	0.23
Unplanned readmission within 30 days of discharge/1,000 discharges	-0.009 (0.015)	0.55	-0.016 (0.010)	0.11

Definitions: ACSC = ambulatory care sensitive condition; CG = comparison group; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider; SE = standard error.

**Exhibit N-23. Baseline Trend Differences Between the Alignment Track Intervention and Comparison Groups for FFS Medicare Beneficiaries with and Without Diabetes**

Outcome	Beneficiaries with Diabetes		Beneficiaries Without Diabetes	
	Alignment Track—CG Trend Difference (SE)	P-Value of Trend Differences	Alignment Track—CG Trend Difference (SE)	P-Value of Trend Differences
Total expenditures (PBPM)	-142.1 (187.2)	0.45	30.0 (114.3)	0.79
ED visits/ 1,000 beneficiaries	-0.2 (0.1)	0.08	0.1 (0.1)	0.51
Avoidable ED visits/1,000 beneficiaries	-0.08 (0.06)	0.18	0.01 (0.05)	0.90
Inpatient admissions/1,000 beneficiaries	-0.05 (0.08)	0.51	0.03 (0.03)	0.44
ACSC admissions/1,000 beneficiaries	-0.02 (0.02)	0.47	0.01 (0.01)	0.19
PCP visits/1,000 beneficiaries	0.1 (0.12)	0.35	-0.1 (0.1)	0.52
Unplanned readmission within 30 days of discharge/1,000 discharges	-0.019 (0.014)	0.17	0.001 (0.014)	0.97

Definitions: ACSC = ambulatory care sensitive condition; CG = comparison group; ED = emergency department; PBPM = per beneficiary per month; PCP = primary care provider; SE = standard error.

**Exhibit N-24. Covariate Balance for Alignment Track, Before and After Weighting for FFS Medicare Beneficiaries with Pulmonary Disease, 1 Year Before Screening**

Variable	Unweighted Mean or Percentage, Intervention Group (n = 7,888)	Unweighted Mean or Percentage, Comparison Group (n = 1,988)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 7,213)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Female	65	66	-0.02	66	-0.01
Number of Health-Related Social Needs	1.89	1.85	0.04	1.88	0.01
Screened positive for housing instability (%)	44	42	0.05	41	0.05
Screened positive for food insecurity (%)	65	58	0.15	59	0.11
Hierarchical condition category risk score	2.47	2.42	0.02	2.47	0.00
Number of chronic conditions	6.58	6.44	0.03	6.61	-0.01
Diabetes (%)	48	50	-0.04	52	-0.07
Major depression (%)	23	21	0.05	21	0.04
Substance use disorder (%)	12	9	0.08	9	0.10
Age (mean)	62.4	63.5	-0.08	62.8	-0.03
Age <65 years (%)	51	49	0.05	51	0.02
Dually enrolled in Medicaid (%)	65	63	0.05	68	-0.06
Enrolled because of disability (%)	66	64	0.04	65	0.02
Enrolled because of end-stage renal disease (%)	2	2	-0.00	2	-0.01
Number of months enrolled in Medicare	11.53	11.54	-0.01	11.54	-0.01

Variable	Unweighted Mean or Percentage, Intervention Group (n = 7,888)	Unweighted Mean or Percentage, Comparison Group (n = 1,988)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 7,213)	Weighted Standardized Difference
Black (%)	29	19	0.22	25	0.07
Other race (other+Asian) (%)	3	1	0.13	4	-0.01
Hispanic (%)	4	4	-0.01	6	-0.08
<b>County-level characteristics</b>					
Percentage of people residing in a rural area	18	24	-0.15	15	0.08
Percentage of people (under 65 years) without health insurance	10.51	10.13	0.08	10.28	0.05
Percentage of people residing in a mental health professional shortage area	22	38	-0.36	20	0.04
Percentage of people in poverty	15.25	15.36	-0.02	14.79	0.07

**Exhibit N-25. Covariate Balance for Alignment Track, Before and After Weighting for FFS Medicare Beneficiaries without Pulmonary Disease, 1 Year Before Screening**

Variable	Unweighted Mean or Percentage, Intervention Group (n = 9,818)	Unweighted Mean or Percentage, Comparison Group (n = 2,350)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 8,147)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Female	56	59	-0.05	57	-0.01
Number of Health-Related Social Needs	1.80	1.80	-0.00	1.83	-0.03

Variable	Unweighted Mean or Percentage, Intervention Group (n = 9,818)	Unweighted Mean or Percentage, Comparison Group (n = 2,350)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 8,147)	Weighted Standardized Difference
Screened positive for housing instability (%)	43	45	-0.04	44	-0.03
Screened positive for food insecurity (%)	62	55	0.14	56	0.11
Hierarchical condition category risk score	1.70	1.64	0.03	1.71	-0.01
Number of chronic conditions	4.85	4.89	-0.01	4.90	-0.01
Diabetes (%)	44	44	-0.01	46	-0.04
Major depression (%)	18	20	-0.05	20	-0.05
Substance use disorder (%)	10	8	0.05	8	0.07
Age (mean)	61.3	62.0	-0.04	61.2	0.01
Age <65 years (%)	53	50	0.06	51	0.03
Dually enrolled in Medicaid (%)	59	53	0.12	59	0.00
Enrolled because of disability (%)	60	58	0.04	59	0.02
Enrolled because of end-stage renal disease (%)	4	3	0.04	3	0.03
Number of months enrolled in Medicare	11.29	11.29	-0.00	11.28	0.00
Black (%)	28	21	0.16	27	0.02
Other race (other+Asian) (%)	4	2	0.13	4	-0.02
Hispanic (%)	9	6	0.10	8	0.03

Variable	Unweighted Mean or Percentage, Intervention Group (n = 9,818)	Unweighted Mean or Percentage, Comparison Group (n = 2,350)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 8,147)	Weighted Standardized Difference
<b>County-level characteristics</b>					
Percentage of people residing in a rural area	12	20	-0.21	12	0.02
Percentage of people (under 65 years) without health insurance	11.01	10.29	0.13	10.60	0.07
Percentage of people residing in a mental health professional shortage area	16	34	-0.42	17	-0.03
Percentage of people in poverty	14.08	14.48	-0.07	13.97	0.02

**Exhibit N-26. Covariate Balance for Alignment Track, Before and After Weighting for FFS Medicare Beneficiaries with Diabetes, 1 Year Before Screening**

Variable	Unweighted Mean or Percentage, Intervention Group (n = 7,904)	Unweighted Mean or Percentage, Comparison Group (n = 2,006)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 7,467)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Female	59	60	-0.02	59	-0.00
Number of Health-Related Social Needs	1.81	1.80	0.01	1.83	-0.02
Screened positive for housing instability (%)	40	42	-0.04	42	-0.04
Screened positive for food insecurity (%)	63	55	0.16	57	0.13
Hierarchical condition category risk score	2.58	2.56	0.01	2.62	-0.02
Number of chronic conditions	6.95	6.68	0.06	6.82	0.03
Pulmonary disease (%)	49	51	-0.04	50	-0.02



Variable	Unweighted Mean or Percentage, Intervention Group (n = 7,904)	Unweighted Mean or Percentage, Comparison Group (n = 2,006)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 7,467)	Weighted Standardized Difference
Major depression (%)	19	18	0.03	18	0.03
Substance use disorder (%)	8	6	0.11	5	0.12
Age (mean)	63.6	65	-0.10	64.68	-0.08
Age <65 years (%)	49	43	0.11	43	0.11
Dually enrolled in Medicaid (%)	62	58	0.08	64	-0.05
Enrolled because of disability (%)	60	58	0.04	58	0.04
Enrolled because of end-stage renal disease (%)	5	4	0.04	4	0.04
Number of months enrolled in Medicare	11.47	11.47	-0.01	11.47	0.00
Black (%)	33	23	0.22	28	0.10
Other race (other+Asian) (%)	4	2	0.15	4	0.00
<b>County-level characteristics</b>					
Hispanic (%)	7	7	0.03	9	-0.06
Percentage of people residing in a rural area	14	20	-0.17	12	0.05
Percentage of people (under 65 years) without health insurance	11.15	10.79	0.07	11.14	0.00
Percentage of people residing in a mental health professional shortage area	18	33	-0.37	17	0.02
Percentage of people in poverty	14.96	14.87	0.01	14.34	0.10

**Exhibit N-27. Covariate Balance for Alignment Track, Before and After Weighting for FFS Medicare Beneficiaries without Diabetes, 1 Year Before Screening**

Variable	Unweighted Mean or Percentage, Intervention Group (n = 9,802)	Unweighted Mean or Percentage, Comparison Group (n = 2,332)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 7,893)	Weighted Standardized Difference
<b>Sociodemographic characteristics</b>					
Female	61	64	-0.05	63	-0.02
Number of Health-Related Social Needs	1.87	1.84	0.03	1.87	-0.01
Screened positive for housing instability (%)	46	44	0.03	43	0.05
Screened positive for food insecurity (%)	63	57	0.12	59	0.09
Hierarchical condition category risk score	1.61	1.53	0.06	1.54	0.05
Number of chronic conditions	4.57	4.70	-0.04	4.65	-0.02
Diabetes (%)	44	45	-0.01	44	0.01
Major depression (%)	21	22	-0.04	23	-0.05
Substance use disorder (%)	12	11	0.04	11	0.05
Age (mean)	60.24	60.65	-0.03	59.31	0.06
Age <65 years (%)	55	55	0.00	58	-0.06
Dually enrolled in Medicaid (%)	62	58	0.09	63	-0.01
Enrolled because of disability (%)	65	63	0.04	65	-0.00
Enrolled because of end-stage renal disease (%)	1	1	0.00	1	-0.01
Number of months enrolled in Medicare	11.35	11.36	-0.01	11.35	-0.00
Black (%)	25	18	0.16	25	-0.00
Other race (other+Asian) (%)	3	1	0.11	4	-0.03
<b>County-level characteristics</b>					

Variable	Unweighted Mean or Percentage, Intervention Group (n = 9,802)	Unweighted Mean or Percentage, Comparison Group (n = 2,332)	Unweighted Standardized Difference	Weighted Mean or Percentage, Comparison Group (n = 7,893)	Weighted Standardized Difference
Hispanic (%)	6	4	0.08	5	0.04
Percentage of people residing in a rural area	16	23	-0.19	15	0.04
Percentage of people (under 65 years) without health insurance	10.46	9.71	0.16	9.79	0.14
Percentage of people residing in a mental health professional shortage area	20	38	-0.41	21	-0.01
Percentage of people in poverty	14.35	14.93	-0.09	14.37	-0.00

**Exhibit N-28. Covariate Balance by Intervention Group in the Last Baseline Year, Medicaid Beneficiaries with and Without Major Depression**

Variable	Beneficiaries with Major Depression		Beneficiaries Without Major Depression	
	Assistance Track Intervention Group (n = 7,413)	Assistance Track Control Group (n = 3,078)	Assistance Track Intervention Group (n = 22,681)	Assistance Track Control Group (n = 9,629)
<b>Sociodemographic characteristics</b>				
Female	71%	73%	60%	61%
Number of HRSNs	2.10	2.21	1.86	1.95
Chronic Illness and Disability Payment System risk score	1.20	1.22	0.83	0.84
Number of chronic conditions	0.99	0.98	0.46	0.47

Variable	Beneficiaries with Major Depression		Beneficiaries Without Major Depression	
	Assistance Track Intervention Group  (n = 7,413)	Assistance Track Control Group  (n = 3,078)	Assistance Track Intervention Group  (n = 22,681)	Assistance Track Control Group  (n = 9,629)
Age	37.28	37.50	25.57	25.50
Child (<19 years)	10%	11%	34%	34%
White	52%	50%	34%	36%
Enrolled because of disability	25%	24%	13%	13%
Enrolled in managed care	82%	82%	85%	85%
Enrolled in the Children's Health Insurance Program	2%	2%	4%	4%
Number of months enrolled in Medicaid	11.1	11.1	10.4	10.4
Percentage of beneficiaries with substance use disorder	41%	43%	12%	12%
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	15%	16%	15%	15%
Percentage of people residing in a mental health professional shortage area	35%	36%	31%	31%
Hospital beds per 1,000 population	3.4	3.4	3.5	3.5
Percentage of people (under 65 years) without health insurance	9.2	9.3	11.5	11.5
Psychiatrists per 1,000 population	0.1	0.1	0.1	0.1
Community mental health centers per 100,000 population <sup>1</sup>	0.0	0.0	0.1	0.1
Percentage of people 16 years and older who are unemployed <sup>1</sup>	4.6	4.6	4.5	4.6

Variable	Beneficiaries with Major Depression		Beneficiaries Without Major Depression	
	Assistance Track Intervention Group  (n = 7,413)	Assistance Track Control Group  (n = 3,078)	Assistance Track Intervention Group  (n = 22,681)	Assistance Track Control Group  (n = 9,629)
Percentage of adults in fair/poor health	16.7	16.7	18.1	18.1
Primary care physician-to-population ratio	7.9	7.8	7.5	7.5
Median income	59474.2	59534.7	57246.8	57380.1
Percentage of people in poverty	14.5	14.5	15.4	15.4
Social deprivation index score	53.0	53.1	61.5	61.4
Social service provider density	140.9	139.9	126.6	126.0
Food environment index	7.9	7.9	7.8	7.8
Severe housing index	16.2	16.2	17.0	17.0
COVID-19 PVI	0.1	0.1	0.2	0.2

Definitions: HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-29. Covariate Balance by Intervention Group in the Last Baseline Year, Medicaid Beneficiaries with and Without Substance Use Disorder (SUD)**

Variable	Beneficiaries with Substance Use Disorder		Beneficiaries Without Substance Use Disorder	
	Assistance Track Intervention Group  (n = 5,824)	Assistance Track Control Group  (n = 2,511)	Assistance Track Intervention Group  (n = 24,270)	Assistance Track Control Group  (n = 10,196)
<b>Sociodemographic characteristics</b>				
Female	56%	57%	65%	66%
Number of HRSNs	2.19	2.32	1.85	1.94
Chronic Illness and Disability Payment System risk score	1.22	1.24	0.85	0.86
Number of chronic conditions	0.91	0.87	0.51	0.53
Age	39.42	39.11	25.82	25.77
Child (<19 years)	3%	4%	35%	35%
White	53%	52%	35%	36%
Enrolled because of disability	23%	21%	14%	15%
Enrolled in managed care	79%	79%	86%	86%
Enrolled in the Children’s Health Insurance Program	0%	1%	4%	4%
Number of months enrolled in Medicaid	11.1	11.1	10.4	10.5
Percentage of beneficiaries with major depression	52%	53%	18%	17%
<b>County- or community-level characteristics</b>				
Percentage of people residing in a rural area	16%	16%	15%	15%
Percentage of people residing in a mental health professional shortage area	39%	40%	30%	30%

Variable	Beneficiaries with Substance Use Disorder		Beneficiaries Without Substance Use Disorder	
	Assistance Track Intervention Group (n = 5,824)	Assistance Track Control Group (n = 2,511)	Assistance Track Intervention Group (n = 24,270)	Assistance Track Control Group (n = 10,196)
Hospital beds per 1,000 population	3.4	3.3	3.5	3.5
Percentage of people (under 65 years) without health insurance	8.8	8.8	11.4	11.5
Psychiatrists per 1,000 population	0.2	0.2	0.1	0.1
Community mental health centers per 100,000 population	0.0	0.0	0.1	0.1
Percentage of people 16 years and older who are unemployed	4.7	4.7	4.5	4.5
Percentage of adults in fair/poor health	16.5	16.5	18.0	18.0
Primary care physician-to-population ratio	7.9	7.9	7.5	7.5
Median income	59148.3	59286.1	57470.8	57561.1
Percentage of people in poverty	14.6	14.5	15.4	15.4
Social deprivation index score	52.7	52.6	61.0	61.1
Social service provider density	143.7	143.3	126.8	126.0
Food environment index	7.9	7.9	7.8	7.8
Severe housing index	16.3	16.3	16.9	17.0
COVID-19 PVI	0.2	0.2	0.2	0.2

Definitions: HRSN = health-related social need; PVI = COVID-19 Pandemic Vulnerability Index.

**Exhibit N-30. Expenditure and Quality-of-Care Descriptive Statistics in the Three-Year Baseline Period, Medicaid Beneficiaries with and Without Major Depression**

Outcome	Beneficiaries with Major Depression		Beneficiaries Without Major Depression	
	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)
Total Expenditures Per Beneficiary Per Month	\$1,730 (\$2,757)	\$1,690 (\$2,548)	\$993 (\$2,427)	\$1,025 (\$2,534)
ED Visits Per 1,000 Beneficiaries	1,055 (2,110)	1,057 (2,200)	596 (1,208)	605 (1,178)
Avoidable ED Visits Per 1,000 Beneficiaries	458 (1,039)	455 (1,012)	302 (713)	308 (686)
Inpatient Admissions Per 1,000 Beneficiaries	182 (572)	184 (468)	65 (309)	64 (314)
ACSC Admissions Per 1,000 Beneficiaries	24 (201)	24 (218)	5 (86)	5 (83)
PCP visits Per 1,000 Beneficiaries	1,558 (2,206)	1,530 (2,336)	1,047 (1,602)	1,052 (1,599)
Unplanned Readmissions Per 1,000 Discharges	271 (445)	259 (438)	220 (414)	233 (423)

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; PCP = primary care provider; SD = standard deviation



**Exhibit N-31. Expenditure and Quality-of-Care Descriptive Statistics in the Three-Year Baseline Period, Medicaid Beneficiaries with and Without Substance Use Disorder**

Outcome	Beneficiaries with Substance Use Disorder		Beneficiaries Without Substance Use Disorder	
	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)	Assistance-Track Intervention Group Mean (SD)	Assistance-Track Control Group Mean (SD)
Total Expenditures Per Beneficiary Per Month	\$1,676 (\$2,588)	\$1,653 (\$2,632)	\$1,063 (\$2,523)	\$1,083 (\$2,519)
ED Visits Per 1,000 Beneficiaries	1,145 (2,268)	1,161 (2,433)	608 (1,225)	609 (1,151)
Avoidable ED Visits Per 1,000 Beneficiaries	467 (1,079)	469 (1,079)	311 (729)	314 (687)
Inpatient Admissions Per 1,000 Beneficiaries	197 (598)	188 (572)	70 (325)	72 (337)
ACSC Admissions Per 1,000 Beneficiaries	21 (190)	20 (193)	7 (106)	7 (112)
PCP visits Per 1,000 Beneficiaries	1,354 (2,209)	1,359 (2,373)	1,142 (1,674)	1,134 (1,663)
Unplanned Readmissions Per 1,000 Discharges	277 (448)	250 (433)	157 (363)	205 (403)

Definitions: ACSC = ambulatory care sensitive condition; ED = emergency department; PCP = primary care provider; SD = standard deviation

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# Appendix O: Qualitative Data and Methods

The qualitative data referenced in Chapters 3 through 9 explore the underlying context for and implementation of Accountable Health Communities (AHC) activities. This appendix describes the methods used to collect and analyze these qualitative data. The evaluation team collected qualitative data from seven waves of in-depth interviews with key informants, summarized in **Exhibit O-1** and explained in detail in subsequent sections of this appendix. The successive waves of data collection were iterative by design, with later waves of data building on the findings from prior waves. This report draws primarily from the fifth, sixth, and seventh waves of interview data. The team also reviewed data from program documents detailing bridge organizations’ implementation strategies and progress to distill the findings in this report.

**Exhibit O-1. AHC Model Evaluation Interview Activities by Wave**

Wave	Timing	Participants	Mode
1	June–August 2019	AHC Model leaders (e.g., bridge organization project directors, managers, and principal investigators)	Virtual
2	January–March 2020	AHC Model leaders, clinical delivery site (CDS) staff, patient navigators, advisory board members, and community service providers (CSPs)	Virtual, in person
3	July–September 2020	AHC Model beneficiaries	Virtual
4	January–March 2021	AHC Model leaders, State Medicaid staff, quality improvement specialists for the Alignment Track only, and data specialists for the Assistance Track only	Virtual
5	October 2021–January 2022	CSPs	Virtual
6	January–February 2022	AHC Model beneficiaries	Virtual
7	January–April 2022	AHC Model leaders, screeners, patient navigators, CDS leaders, and clinicians	Virtual

## Wave 1: Virtual Key Informant Interviews

### Purpose and Overview

Between June and August 2019, the evaluation team conducted semi-structured telephone interviews with AHC leaders from all 30 bridge organizations active at the time of data collection. The evaluation team piloted the interview protocol in June 2019 with AHC leaders from a subset of bridge organizations from each track, as recommended by the model team. Seven bridge organizations participated at this stage. After the pilot interviews,

the evaluation team revised the interview protocol before conducting the remaining 23 interviews in July and August 2019.

The interviews addressed the following:

- Each community’s approach to the AHC Model and how it differs from usual care, or the clinical care that a community-dwelling beneficiary would receive for the prevention or treatment of disease or injury regardless of whether the beneficiary is eligible for and receives an intervention under the model
- How communities prepared for implementation
- Partnerships associated with the AHC Model, including with clinical delivery sites (CDSs), community service providers (CSPs), and advisory board members
- Beneficiary needs in AHC communities
- Early lessons learned and unanticipated challenges

## Administration and Design

Call participants included AHC leaders responsible for overseeing implementation of the AHC Model—often, staff in project director, project manager, or principal investigator roles. These AHC leaders self-identified during an earlier set of kickoff phone calls, during which the evaluation team introduced themselves and the overall evaluation approach. Other AHC staff involved in model planning and implementation participated in the interviews if AHC leaders felt that the knowledge and expertise of these supporting staff would create a richer discussion. Two qualitative evaluation staff assigned to each bridge organization conducted the interviews. All interviews lasted approximately 60 minutes and were conducted by phone.

## Wave 2: Case Study and Virtual Key Informant Interviews

### Purpose and Overview

Between January and March 2020, the evaluation team conducted case study and virtual key informant interviews with participants associated with the 29 bridge organizations active at the time of data collection. One bridge organization terminated the model after the Wave 1 interviews and before the case study and virtual key informant interviews. Ten bridge organizations and their partners received case study interviews (**Exhibit O-1**) to help inform future analyses focusing on the contextual and implementation factors that account for bridge organization performance (see the section below for more details about the case study selection criteria). The remaining 19 bridge organizations and their partners received a smaller number of virtual key informant interviews.

All Wave 2 interviews addressed the following:

- Implementation of screening, referral, and navigation processes
- Relationship of AHC screening, referral, and navigation to usual care
- Implementation of alignment activities
- Partners’ involvement in the AHC Model
- Community needs and resources
- Early lessons learned and unanticipated challenges

Interviews with representatives from CSPs focused on the following topics:

- Referral processes
- Clients and client relationships
- CSP infrastructure for the AHC Model and relationships with bridge organizations
- Relevant community characteristics

## Administration and Design

The evaluation team used a case study design to guide qualitative data collection in 2020. The 10 bridge organizations included in the case study were four Assistance Track bridge organizations and six Alignment Track bridge organizations. These were selected because of evidence of having high or low implementation effectiveness at the time of selection. We used AHC program data to identify Assistance Track bridge organizations that have been effective and ineffective at screening and navigation. We asked qualitative evaluation staff to provide a holistic assessment of Alignment Track bridge organization effectiveness with respect to three measures: advisory board development, multisector engagement, and continuous quality improvement. To ensure heterogeneity in the case study sample and mitigate the burden of data collection, the evaluation team also considered rural/urban location, the size of the AHC Model service area, other data collection activities the bridge organization experienced, and whether the Innovation Center had placed the bridge organization on a performance plan.<sup>1</sup> Bridge organizations not selected for the case study participated in the key informant interviews by phone. Bridge organizations included for the case study are listed in **Exhibit O-2**.

### Exhibit O-2. AHC Bridge Organizations Selected for 2020 Case Study

Track	Bridge Organization Name
Assistance	CHRISTUS Santa Rosa Healthcare Corporation
	St. Joseph's Hospital Health Center
	Hackensack University Medical Center
	Partners in Health Network, Inc.
Alignment	Denver Regional Council of Governments
	Reading Hospital
	Danbury Hospital
	MyHealth Access Network Inc.
	Parkland Center for Clinical Innovation
	Presbyterian Healthcare Services

Definitions: AHC = Accountable Health Communities.

The number and type of stakeholders targeted for interviews varied for the case study bridge organizations and key informant interview bridge organizations. For each case study bridge organization, the evaluation team conducted approximately 10 interviews total: five in-person individual or group interviews with a mix of bridge organization leaders, AHC project directors or managers, CDS staff, patient navigators, and advisory board members (if applicable) and five virtual interviews with CSP staff. For bridge organizations not chosen for the case

<sup>1</sup> The Innovation Center monitors the performance of bridge organizations and puts bridge organizations on a performance plan if they are not meeting expectations.

study, the evaluation team conducted three to four individual or group interviews in total with bridge organization leaders, AHC project directors or managers, CDS staff, CSP partners, and advisory board members (for the Alignment Track only). Regardless of case study selection, evaluation team members were encouraged to select interview candidates who had been highly engaged in the AHC Model, represented a variety of CDS types, and addressed a variety of health-related social needs (HRSNs).

Because of the COVID-19 pandemic, the evaluation team conducted fewer interviews than originally planned, particularly with representatives from CSPs. Interviews with non-CSP participants were mostly completed by the time the World Health Organization declared a pandemic in mid-March, but CSP interviews were still ongoing, and some of the remaining interviews were still being scheduled. Because many interview candidates became difficult to reach or were consumed with more-pressing responsibilities resulting from the pandemic, evaluation leaders decided that it was in the best interest of the evaluation and model participants to discontinue recruitment after mid-April 2020. When recruitment was discontinued, the evaluation team had completed 35 CSP interviews with 19 of 29 bridge organizations.

One- to two-person teams of qualitative evaluation staff conducted all interviews. Staff conducted the in-person case study interviews in 2020 at a location of the participant’s choosing, typically at their place of business or at a partner’s place of business. The remaining interviews were conducted by phone in 2020. Interviews typically lasted 60 minutes each.

**Exhibit O-3** lists the number of interviews by stakeholder type within each track and overall. CDS and CSP interview counts are shown by CDS type and HRSN addressed, respectively.

### Exhibit O-3. Wave 2 Interviews by Stakeholder Type and Track

Stakeholder Type	Assistance Track	Alignment Track	Total
AHC Model leader	18	20	38
Advisory board member	NA	12	12
Screener/other CDS staff	5	14	19
Hospital: emergency department	0	2	2
Hospital: inpatient psychiatric	1	1	2
Hospital: labor and delivery	0	0	0
Behavioral care provider	0	1	1
Primary care provider	1	1	2
Multiple sites	2	9	11
Other	1	0	1
Patient navigator	9	4	13
CSP staff	8	27	35
Food security	2	9	11
Housing	1	4	5
Interpersonal violence/safety	0	1	1
Transportation	1	0	1

Stakeholder Type	Assistance Track	Alignment Track	Total
Utilities	0	2	2
Other	4	11	15

Notes: The “other” participant within the screeners and CDS category was a manager responsible for staff oversight. The “other” participants under the CSP staff category came from multiservice organizations or organizations that address HRSNs other than those central to the AHC Model, such as mental health, family, legal, education, and career services.

Definitions: AHC = Accountable Health Communities; CDS = clinical delivery site; CSP = community service provider; HRSN = health-related social need; NA = not available.

## Wave 3: Virtual Beneficiary Interviews

### Purpose and Overview

Between July and September 2020, the evaluation team conducted a first set of virtual semi-structured interviews with 58 AHC Model beneficiaries representing 25 bridge organizations. The interviews focused on:

- Beneficiary experience of screening
- Beneficiary experience of navigation
- Beneficiary use of community services and unmet needs
- Beneficiary perceptions of community capacity
- Impact of the COVID-19 pandemic on beneficiaries’ needs, experiences with the AHC Model, and experiences with CSPs

### Administration and Design

Interview candidates were selected from a sample of the eligible respondents who completed beneficiary surveys in Wave 3. The evaluation team segmented eligible respondents into three pools stratified by model track: (1) Alignment, (2) Assistance Track intervention group, and (3) Assistance Track control group. We adjusted sampling within each track to ensure representation across as many bridge organizations as possible and a mix of HRSNs at screening, whether needs were met (as identified in the beneficiary survey), age, gender, and enrollment in Medicaid and/or Medicare. Candidates from the pools were then randomly sorted and assigned to interviewers, who called candidates in the order listed until they reached the evaluation team’s goal. Two-person teams of qualitative evaluation staff conducted each Wave 3 interview. Interviews were conducted by phone in 2020 and typically lasted 30 minutes each.

Interviews included 26 beneficiaries from the Assistance Track intervention group, 10 beneficiaries from the Assistance Track control group, and 22 beneficiaries from the Alignment Track. **Exhibit O-4** lists the number of interviews by HRSN indicated at screening within each track.

#### Exhibit O-4. Wave 3 Beneficiary Interviews by HRSN at Screening and Track

HRSN	Assistance Track	Alignment Track	Total
Food	25	13	38
Housing	12	10	22
Transportation	18	7	25
Utilities	13	10	23

Notes: Participants often reported multiple needs, so counts in the table are not mutually exclusive. The evaluation team chose not to interview beneficiaries who reported safety needs in case participation in the interviews might expose them to additional risk.

Definitions: HRSN = health-related social need.

## Wave 4: Virtual Key Informant Interviews

### Purpose and Overview

Between January and April 2021, the evaluation team conducted virtual key informant interviews with participants from 28 bridge organizations active at the time of data collection. One bridge organization terminated the model after the 2020 interviews and before these interviews.

All 2021 key informant interviews addressed the following:

- Ongoing model implementation and the effects of the COVID-19 pandemic on AHC activities
- Community needs and resources to address HRSNs and progress with HRSN resolution
- Partners' involvement in the AHC Model
- The relationship between AHC and other integrated health care strategies
- Interim impacts of the AHC Model

### Administration and Design

In 2021, we conducted key informant interviews with all bridge organizations. The evaluation team piloted the interview protocols with five bridge organizations selected by the model team with input from the Innovation Center. After the pilot interviews, the evaluation team revised the interview protocols before conducting interviews with the remaining 23 bridge organizations. The evaluation team conducted approximately three individual or group interviews for each bridge organization by phone. AHC project directors or managers and a liaison with the State Medicaid Agency were interviewed for both the Assistance and Alignment bridge organizations. The third interview differed by track. A program data specialist was interviewed for the Assistance Track, and a quality improvement specialist was interviewed for the Alignment Track. Several states with multiple bridge organizations had a combined interview with the Medicaid State liaison to efficiently discuss the Medicaid Agency's interactions and work with each organization.

Two-person teams of qualitative evaluation staff conducted all interviews. All interviews were conducted by phone in 2021. Interviews typically lasted 60 minutes each.

**Exhibit O-5** lists the number of interviews by stakeholder type within each track and overall.



## Exhibit O-5. Wave 4 Interviews by Stakeholder and Track

Stakeholder Type	Assistance Track	Alignment Track	Total
AHC Model leader	10	18	28
Liaison to the State Medicaid Agency	8	15	23
Program data specialist	10	NA	10
Quality improvement specialist	NA	18	18
AHC policy specialist (not Medicaid agency)	2	0	2

Notes: State Medicaid Agency interviews were combined for three bridge organizations in Texas, two bridge organizations in Colorado, two bridge organizations in Ohio, and two bridge organizations in Connecticut. For two bridge organizations in each track, we interviewed an AHC policy specialist rather than a liaison with the State Medicaid Agency. We were unable to complete an interview with a liaison to the State Medicaid Agency or AHC Policy Specialist for one bridge organization.

Definitions: AHC = Accountable Health Communities; NA = not available.

## Wave 5: Virtual CSP Interviews

### Purpose and Overview

The evaluation team conducted a second set of virtual interviews with CSPs from October 2021 to January 2022. The interviews targeted respondents who were familiar with the AHC Model and, like the first set of CSP interviews conducted as part of Wave 2, focused on the following:

- Referral processes
- Clients and client relationships
- CSP infrastructure for the AHC Model and relationships with bridge organizations
- Relevant community characteristics

### Administration and Design

The evaluation team selected candidates for the second set of CSP interviews on the basis of three criteria: (1) lack of participation in the first set of interviews, (2) responses to the CSP survey that indicated familiarity with the AHC Model, or (3) bridge organization staff having identified the CSP as engaged in the AHC Model. Interviews were conducted with CSP leaders or frontline CSP service delivery staff.

Two-person teams of qualitative evaluation staff conducted all interviews. All interviews were conducted by phone from 2021 to 2022. Interviews typically lasted 60 minutes each.

**Exhibit O-6** lists the number of interviews by HRSN within each track and overall.

## Exhibit O-6. Wave 5 CSP Interviews by Need Addressed

HRSN Addressed	Assistance Track	Alignment Track	Total
Food	9	20	29
Housing	6	25	31
Transportation	3	6	9
Utilities	4	14	18
Interpersonal violence	1	9	10

Notes: CSPs often provided services relevant to multiple needs, so counts in the table are not mutually exclusive. Definitions: CSP = community service provider; HRSN = health-related social need.

## Wave 6: Virtual Beneficiary Interviews

### Purpose and Overview

In January and February 2022, the evaluation team conducted a second set of virtual interviews with 56 AHC Model beneficiaries representing 28 bridge organizations still active in the AHC Model. As in Wave 3, the interviews focused on beneficiaries' experience with screening, navigation, and use of community services, whether through the AHC Model or otherwise. The Wave 6 interviews also asked one question about how COVID-19 may have changed the way beneficiaries access or receive community services.

### Administration and Design

The second set of interviews with AHC beneficiaries focused more heavily on navigation services than did the first. Therefore, the evaluation team included only beneficiaries in the Assistance Track intervention group and the Alignment Track, all of whom were eligible for navigation. To reduce the amount of time between screening and navigation and the interviews, interview candidates were identified using AHC Model screening and navigation data rather than beneficiary survey data, which was used in Wave 3.

One or two experienced qualitative evaluation staff conducted all interviews. All interviews were conducted by phone in 2022. Interviews typically lasted 30 minutes each.

**Exhibit O-7** lists the number of interviews by HRSN reported at screening.

## Exhibit O-7. Wave 6 Beneficiary Interviews by HRSN at Screening and Track

HRSN	Assistance Track	Alignment Track	Total
Food	13	24	37
Housing	11	19	30
Transportation	9	11	20
Utilities	9	17	26

Notes: Participants often reported multiple needs, so counts in the table are not mutually exclusive. The evaluation team chose not to interview beneficiaries who reported safety needs in case participation in the interviews might expose them to additional risk.

Definitions: HRSN = health-related social need.

# Wave 7: Case Study and Virtual Key Informant Interviews

## Purpose and Overview

The final wave of evaluation interviews occurred from January to April 2022 and included representatives from all 28 bridge organizations active at the time of data collection. Similar to Wave 2, Wave 7 data collection aligned with a case study design; 10 bridge organizations received case study interviews (**Exhibit O-8**) to help inform future analyses focusing on the contextual and implementation factors that account for bridge organization performance (see the section below for more details about the case study selection criteria). The remaining 18 bridge organizations received a smaller number of virtual key informant interviews.

All 2022 interviews addressed the following:

- Implementation of screening, referral, and navigation processes
- Relationship of AHC screening, referral, and navigation to usual care
- Implementation of alignment activities
- Partners' involvement in the AHC Model
- Community needs and resources
- Final lessons learned and overarching conclusions regarding the AHC Model
- Likelihood of impacts
- Sustainability

## Administration and Design

The evaluation team used a case study design to guide qualitative data collection in 2022. Four Assistance Track bridge organizations and six Alignment Track bridge organizations were included in the case study; they were selected because of evidence of having high or low implementation effectiveness at the time of selection. We chose Assistance Track bridge organizations based on HRSN resolution and implementation feasibility, assessed using AHC program data and bridge organization structural survey data, respectively. We chose Alignment Track bridge organizations using the same metrics used for the Assistance Track plus indicators of community capacity from the CSP survey. To ensure heterogeneity in the case study sample and mitigate the burden of data collection, bridge organizations selected for the first set of case study interviews conducted during Wave 2 were not eligible for case study selection in Wave 7. Bridge organizations not selected for the case study participated in the key informant interviews by phone. Bridge organizations chosen for the case study in 2022 are listed in **Exhibit O-8**.

## Exhibit O-8. AHC Bridge Organizations Selected for 2022 Case Study

Track	Bridge Organization Name
Assistance	AMITA Health
	Children's Health Network Foundation
	University of Texas Health Sciences Center
	Yale New Haven Hospital
Alignment	Baltimore City Health Department
	Health Net of West Michigan
	Health Quality Innovators
	New York Presbyterian Hospital
	United Healthcare
	University of Kentucky Research Foundation

Definitions: AHC = Accountable Health Communities.

The number and type of stakeholders targeted for interviews varied for the case study bridge organizations and key informant interview bridge organizations. For each case study bridge organization, the evaluation team conducted approximately five virtual individual or small group interviews with AHC leaders, screeners, patient navigators, CDS leaders, and clinicians. For bridge organizations not chosen for the case study, the evaluation team conducted approximately three interviews with AHC leaders, screeners, and patient navigators. Evaluation team members worked with AHC leaders from each bridge organization to identify interview candidates who had been highly engaged in the AHC Model.

One- to two-person teams of qualitative evaluation staff conducted all interviews by phone. Interviews typically lasted 60 minutes each.

**Exhibit O-9** lists the number of interviews by stakeholder type within each track and overall.

## Exhibit O-9. Wave 7 Interviews by Stakeholder Type and Track

Stakeholder Type	Assistance Track	Alignment Track	Total
AHC Model leader	10	18	28
Screener	6	17	23
Patient navigator	10	17	27
CDS leader	4	5	9
Clinician	3	4	7

Notes: Categories are not mutually exclusive because some participants functioned as both screeners and navigators.

Definitions: AHC = Accountable Health Communities; CDS = clinical delivery site.

## Interview Protocols

Across waves, all interviews used standard interview protocols prepared by qualitative and subject matter experts on the evaluation team. The team identified protocol topics using the evaluation research questions, the AHC Model evaluation framework, and discussions with the Innovation Center. Interviewers tailored participant protocols using information from bridge organizations' program documents (e.g., applications submitted for AHC funding, quarterly progress reports submitted to the Innovation Center, standard operating procedures, gap analyses, quality improvement plans) (see Program Document Review below) and from interviews that occurred in prior waves. Topics for key informant interview protocols also included findings from surveys of AHC stakeholders and AHC program data.

## Interview Data Analysis

All interviews were audio-recorded using handheld digital recorders or audio-conferencing software and then professionally transcribed before analysis using NVivo qualitative analysis software. We used a qualitative codebook aligned to the AHC Model evaluation research questions, AHC evaluation framework, and the interview protocols to analyze data across all interviews. Experienced qualitative analysts trained a staff team to use the codebook and then led pilot exercises that required all analysts to code the same interview and meet to discuss and compare their work. The team then updated the codebook to address ambiguities.

After the pilot exercise, coders received interview assignments and applied codes individually to the remaining interview data. Throughout the coding process, coders met to discuss select interview passages that were confusing or were difficult to code and recommend refinements to the codebook and code definitions. After coders finished their initial assignments, each coder reviewed another coder's work, focusing on the codes applied most and least frequently. Analysts finalized their coding after considering feedback from their code reviewer. Once the coding process was complete, coders exported code reports that mapped to report sections.

Subject matter experts divided responsibility for reviewing the coded data and drafting qualitative findings. Analysts received code reports corresponding to their assigned sections of the report. The analysts reviewed data over several months, using structured analysis templates to capture themes in the code report data, bridge organizations and participants supporting each theme, variation in themes by track or bridge or community characteristics, supporting quotes for each theme, and any contradictory evidence associated with the themes. Analysts subsequently met with one another and other evaluation team members to compare and contrast findings across the code reports, triangulate the themes with data from other sources, and decide how to address overlapping conclusions. The analysts refined and finalized their themes following these discussions and meetings with the CMS Innovation Center. They then prepared sections of this report that topically aligned with the data they reviewed.

The report identifies themes by the number of bridge organizations with an interviewee who reported about the experience: a few (less than 10%, or two or three), several (between 10% and less than 25%, or four to seven), many (between 25% and 50%, or eight to 15), or most (more than 50%, or more than 15).

## Program Document Review

Evaluation staff gleaned additional insights about bridge organizations' approaches to the AHC Model, implementation plans and progress, and community context from program documents shared by the Innovation Center (see **Exhibit O-10**). Bridge organization staff prepared all the documents shown with the exception of site visit reports, which were prepared by program officers responsible for monitoring each bridge organization's progress with respect to AHC Model implementation. The evaluation team primarily used program documents to tailor interview protocols to each bridge organization before each wave of data collection. Information from select

program documents was also abstracted to understand bridge organizations' approaches to implementing AHC Model activities and progress toward sustaining the model.

### Exhibit O-10. Program Documents Used in the Evaluation

Document Type	Content	Frequency of Production	Track
Application for AHC funding	Implementation plans, community context, key partners, assessment of program duplication	Once	Assistance, Alignment
Progress reports	Implementation progress, lessons learned	Quarterly	Assistance, Alignment
Standard operating procedures	Detailed plans for executing specific model components, such as screening, referral, and navigation activities	Annually	Assistance, Alignment
Assessment of program duplication	Detailed assessment to address how bridge organizations will leverage the existing provision of services and how duplicate payment for services will be avoided	Annually	Assistance, Alignment
Implementation plans	Detailed implementation plan of organizational structure, flow of funds, intervention framework with key milestones and tasks, workplan and timeline, and risk mitigation strategy	Annually	Assistance, Alignment
Sustainability plans	Action plan to sustain efforts to address HRSNs within communities beyond the AHC Model	Once	Assistance, Alignment
Site visit reports	Implementation progress, partners' involvement, community needs and resources, effects of COVID-19 pandemic on AHC activities, lessons learned, and early impacts of the model	Once in person Once virtually	Assistance, Alignment
QI plans	Processes and measures used to assess quality; strategies for modifying implementation based on QI process findings	Annually	Alignment
Gap analyses	Processes used to identify gaps in community resources; gaps that bridge organizations and their partners identified	Annually	Alignment

Definition: AHC = Accountable Health Communities; HRSN = health-related social need; QI = quality improvement.

# Appendix P: Alternative Text for Figures

## Alternative Text for Exhibit ES-2, Assistance Track Impacts on Expenditures and Hospital Use

Exhibit ES-2 is a figure displaying the Assistance Track impacts on expenditures and hospital use. For total Medicaid/Medicare expenditures, there was a 4% reduction for FFS Medicare and a 3% reduction for Medicaid. For inpatient admissions, there was a 4% reduction for Medicaid. For ED visits, there was a 5% reduction for FFS Medicare. For avoidable ED visits, there was a 7% reduction for FFS Medicare.

## Alternative Text for Exhibit ES-3, Alignment Track Impacts on Hospital Use

Exhibit ES-3 is a figure displaying the Alignment Track impacts on hospital use. For inpatient admissions, there was a 6% reduction for Medicaid. For ED visits, there was a 4% reduction for Medicaid. For avoidable ED visits, there was a 4% reduction for Medicaid.

## Data for Exhibit ES-6, Payer Type Among Navigation-Eligible Beneficiaries

Medicare Only	Dual Eligible	Medicaid Only
13%	15%	72%

## Data for Exhibit ES-7, Navigation-Eligible Beneficiaries' Navigation Acceptance and Navigation Outcomes

Beneficiary Status	Percentage of Navigation-Eligible Beneficiaries (n=176,488)
Unknown	6%
Did not accept navigation	15%
Accepted navigation	79%

Navigation Status	Percentage of Beneficiaries Who Opted in for Navigation (n=139,210)
Did not receive navigation	2%
Received navigation	98%

Navigation Outcomes	Percentage of Beneficiaries Who Received Navigation (n=135,957)
At least 1 HRSN resolved	40%
No HRSNs resolved, but connected to CSP <sup>1</sup>	11%
Declined further assistance	5%
Unable to reach beneficiary	30%
CSP unavailable	5%
Multiple unresolved reasons	2%
Unknown	7%

<sup>1</sup>Connected to CSP for at least 1 HRSN.

Note: Of those who received navigation, 28% had all HRSNs resolved.

## Alternative Text for Exhibit ES-8, Most Bridge Organizations Implemented the AHC Model Requirements with High Fidelity

Exhibit ES-8 is a table with two columns depicting the Assistance Track’s and Alignment Track’s fidelity assessment findings. The first column lists the fidelity criteria: developed an HRES, used a comprehensive CRI, distributed tailored CRS, exchanged screening and navigation data, developed patient-centered action plans, and involved state Medicaid agency. The second column represents the number of bridge organizations with the highest fidelity score for each fidelity criterion. Twenty-four or more bridge organizations had the highest fidelity score in the first four criteria (listed in order above). Fourteen bridge organizations had the highest fidelity score for developing patient-centered action plans. Seven bridge organizations had the highest fidelity score for being involved in a state Medicare agency, and of them, six were in the Alignment Track and one was in the Assistance Track.

## Alternative Text for Exhibit 1-2, AHC Model Geographic Target Areas

Exhibit 1-2 is a map of the United States of America with color coded regions in various states denoting the AHC Model geographic target areas. Counties with partial coverage are in parts of Hawaii, Colorado, Texas, Indiana, Kentucky, Connecticut, and Illinois. Counties with full coverage are in Oregon, Arizona, Colorado, New Mexico, Oklahoma, Texas, Minnesota, Michigan, Ohio, Kentucky, West Virginia, Virginia, Maryland, Pennsylvania, New Jersey, and New York. There is city-level coverage in Maryland and New York. The most densely targeted states are Oklahoma, West Virginia, and Connecticut. All counties in Oklahoma and West Virginia are fully covered, and most counties in Connecticut are partially covered.

## Alternative Text for Exhibit 2-1, Characteristics of Navigation-Eligible Beneficiaries

Exhibit 2-1 is a bar chart. Of the navigation-eligible beneficiaries, 72% were enrolled in Medicaid; 70% were age 18–64; 56% were Black or African American, Hispanic, or other; 29% obtained less than a high school education; 26% had 2 or more chronic conditions; 56% were in poor or fair overall health; 46% had poor or fair quality of life; and 58% had two or more HRSNS.



## Data for Exhibit 2-3, Age at Screening Among Navigation-Eligible Beneficiaries by Payer Type

Age	Medicaid Navigation Eligible	Medicare Navigation Eligible
0–17	21%	0%
18–64	77%	36%
65+	2%	64%

## Data for Exhibit 2-4, Race and Ethnicity Among Navigation-Eligible Beneficiaries by Track

Race/Ethnicity	Medicaid Navigation Eligible	Medicare Navigation Eligible
White	37%	63%
Black or African American	31%	21%
Hispanic or Latino	26%	9%
Other	6%	7%

## Data for Exhibit 2-6, Self-Reported Overall Health, Mental/Emotional Health, and Quality of Life

Self-Reported Category	Poor/Fair	Good/Very Good/Excellent
Overall Health	56%	44%
Mental/Emotional Health	51%	49%
Quality of Life	46%	54%

## Data for Exhibit 2-7, HRSN Range Across Bridge Organizations of Core Needs Among Navigation-Eligible Beneficiaries

% Navigation Eligible	Food	Housing	Transportation	Utilities	IPV
Lowest Percentage	45	34	29	15	1
Median Percentage	69	53	44	35	6

(continued)

**Data for Exhibit 2-7, HRSN Range Across Bridge Organizations of Core Needs Among Navigation-Eligible Beneficiaries (continued)**

<b>% Navigation Eligible</b>	<b>Food</b>	<b>Housing</b>	<b>Transportation</b>	<b>Utilities</b>	<b>IPV</b>
Highest Percentage	77	70	61	53	13

**Data for Exhibit 2-8, Overlap Among Core Needs for Navigation-Eligible Beneficiaries**

<b>HRSNs - Eligible</b>	<b>Percentage by Need</b>	<b>Percentage by Number of Needs</b>
One Need		42
Food	16	
Housing	11	
Transportation	8	
Utilities	6	
IPV	< 1	
Two Needs		30
Housing & food	9	
Food & transportation	7	
Food & utilities	6	
Housing & transportation	3	
Housing & utilities	3	
Transportation & utilities	2	
Three Needs		19
Housing, food, & transportation	8	
Housing, food, & utilities	5	
Food, transportation, & utilities	4	
Housing, transportation, & utilities	1	
Housing, food, & IPV	< 1	
Four Needs		8
Housing, food, transportation, & IPV	6	

(continued)

**Data for Exhibit 2-8, Overlap Among Core Needs for Navigation-Eligible Beneficiaries  
(continued)**

HRSNs - Eligible	Percentage by Need	Percentage by Number of Needs
Housing, food, transportation, & utilities	2	
Five Needs		1
Housing, food, transportation, utilities, & IPV	1	
		100

**Alternative Text for Exhibit 3-1, AHC Community Capacity Framework**

Exhibit 3-1 is a pinwheel figure separated into top and bottom halves depicting the AHC community capacity framework. The middle of the top half of the semi-circle is labeled HRSN resource availability. Five surrounding notches are labeled, from left to right, participating CSPs, CSP availability, CSP resources, CSP accessibility, and CSP appropriateness and quality. The middle of the bottom half of the semi-circle is labeled leveraging HRSN resources. Five surrounding notches are labeled, from left to right, coordination and networking, reallocating resources, tracking navigation and HRSN resolution, continuous quality improvement, and service awareness.

**Data for Exhibit 3-2, Changes in CSPs’ Perceived Ability to Resolve Clients’ Needs at the Beginning and End of AHC Model Implementation**

Track	Ability to Resolve Needs Decreased	Ability to Resolve Needs Stayed the Same	Ability to Resolve Needs Increased
From 2021 to 2022	23%	23%	54%
From 2017 to 2020	9%	14%	77%

**Data for Exhibit 3-3, Perceived Coordination Among Community Partners by Track**

Track	Coordination decreased	Coordination stayed the same	Coordination increased
Assistance Track	24%	33%	43%
Alignment Track	10%	36%	54%

## Data for Exhibit 3-5, Perceived CSP Staffing Sufficiency

My organization had sufficient staffing to effectively deliver services to our clients.	2020	2022
Always/Usually	75%	64%
Sometimes	15%	23%
Rarely/Never	10%	13%

## Data for Exhibit 3-6, Perceived CSP Funding Sufficiency

My organization had sufficient funding to cover the cost of delivering services to our clients.	2020	2022
Always/Usually	68%	61%
Sometimes	15%	25%
Rarely/Never	18%	14%

## Data for Exhibit 3-7, Changes in CSPs' Perception of Community Capacity at the Beginning and End of AHC Model Implementation

Track	Community Capacity Decreased	Community Capacity Stayed the Same	Community Capacity Increased
From 2021 to 2022	30%	35%	35%
From 2017 to 2020	15%	24%	61%

## Alternate Text for Exhibit 4-1, Alignment Track Fidelity Assessment Findings (N=18)

Exhibit 4-1 displays the tracked fidelity assessment findings in four boxes on a continuum (from left to right). These boxes highlight different Alignment Track activities, arranged from low to high fidelity criteria. The activity with the lowest fidelity was engagement of required representatives; three bridge organizations formed advisory boards with representatives from all required categories. Next was assessment and prioritization of needs. Seven bridge organizations had advisory boards that assessed and prioritized beneficiary and community needs. Next was development of robust QI plans. Eight bridge organizations developed robust quality improvement plans to address gaps in community services. On the far right of the four boxes, the activity with the highest fidelity was meeting regularity. Fourteen bridge organizations reported that their advisory board met 1 to 2 times every couple of months.

## Data for Exhibit 5-1, Navigation Eligibility of Screened Beneficiaries

Beneficiary Characteristic	Number	Percentage
AHC-screened	1,114,099	n/a
1+ core HRSNs	410,629	37%
Navigation-eligible	204,447	18%
Offered Navigation (percentages are of Navigation-Eligible)		
Assistance Track IG	60,957	30%
Alignment Track	116,794	57%

## Data for Exhibit 5-2, Number Screened and Number and Percentage Navigation-Eligible

Bridge ID	Number Screened	Number Navigation Eligible	Percentage Navigation Eligible	Track
AL02	12,420	9,437	76	Alignment
AL26	8,728	6,142	70	Alignment
AL05	9,302	4,353	47	Alignment
AL23	19,775	7,847	40	Alignment
AL16	20,065	7,907	39	Alignment
AL20	25,518	7,762	30	Alignment
AS14	15,570	4,728	30	Assistance
AL29	20,396	5,457	27	Alignment
AL28	20,129	4,875	24	Alignment
AL30	22,332	5,257	24	Alignment
AS27	33,794	7,656	23	Assistance
AL22	17,880	3,968	22	Alignment
AS04	25,813	5,118	20	Assistance
AS08	66,548	10,182	15	Assistance
AL18	57,135	8,057	14	Alignment
AL11	44,137	6,204	14	Alignment
AL17	83,241	11,409	14	Alignment
AS07	43,358	5,818	13	Assistance

(continued)

**Data for Exhibit 5-2, Number Screened and Number and Percentage Navigation-Eligible  
(continued)**

Bridge ID	Number Screened	Number Navigation Eligible	Percentage Navigation Eligible	Track
AL10	38,223	4,919	13	Alignment
AS01	37,262	4,763	13	Assistance
AL24	50,780	6,457	13	Alignment
AL12	55,036	6,851	12	Alignment
AL32	41,434	4,727	11	Alignment
AL19	35,665	3,902	11	Alignment
AS03	61,093	6,484	11	Assistance
AS31	41,864	4,369	10	Assistance
AS06	69,480	4,827	7	Assistance
AS13	17,328	1,139	7	Assistance
AS25	115,571	5,873	5	Assistance

**Alternative Text for Exhibit 5-4, Fidelity Analysis of Bridge Organizations Community Referral Summaries**

Exhibit 5-4 displays bridge organizations’ fidelity to community referral summary requirements, represented by three consecutive boxes: tailored CRSs, Comprehensive CRI, and Data Exchange. At the bottom of the boxes is an arrow that denotes the range of fidelity; bridge organizations exhibited high fidelity for all three criteria. Twenty-four bridge organizations distributed tailored CRSs, 27 bridge organizations used a comprehensive CRI, and 27 bridge organizations exchanged screening and navigation data.

**Data for Exhibit 6-1, Navigation-Eligible Beneficiaries’ Opt-in Status**

Beneficiary Status	Percentage of Navigation-Eligible Beneficiaries (n=176,488)
Unknown	6%
Did not accept navigation	15%
Accepted navigation	79%

## Alternative Text for Exhibit 6-3, Patient-Centered Action Plan Completion (N=28)

Exhibit 6-3 displays bridge organizations' fidelity to patient-centered action plan completion, represented by four boxes on a continuum (from left to right). At the bottom of the boxes is an arrow that denotes the range of fidelity, from low-fidelity bridge organizations on the far left to high-fidelity bridge organizations on the far right. With low fidelity, 4 bridge organizations completed action plans for 0% to 39% of beneficiaries. Next, 5 bridge organizations completed action plans for 40% to 69% of beneficiaries. Next, 5 bridge organizations completed action plans for 79% to 89% of beneficiaries. Finally, 14 bridge organizations exhibited high fidelity by completing action plans for 90% to 100% of beneficiaries.

## Data for Exhibit 7-1, Survey Respondents' Use of Community Services After Screening

Use of Community Services	Assistance Track	Assistance Track: Control group	Alignment Track	Alignment Track Comparison Group (Propensity-weighted Assistance Track Control group)
For any need	51%	52%	55%	55%
For housing needs	21%	23%	22%	
For transportation needs	24%	22%	26%	25%
For utilities needs	30%	29%	29%	27%
For food needs	40%	43%	40%	43%

## Data for Exhibit 7-2, Navigation Outcomes Among Beneficiaries Who Accepted Navigation

Status	Percentage of Beneficiaries Who Opted in for Navigation (n=139,210)
Did not receive navigation	2%
Received navigation	98%

Navigation Outcomes	Percentage of Beneficiaries Who Received Navigation (n=135,957)
At least 1 HRSN resolved	40%
No HRSNs resolved, but connected to CSP <sup>1</sup>	11%
Declined further assistance	5%

(continued)

### Data for Exhibit 7-2, Navigation Outcomes Among Beneficiaries Who Accepted Navigation (continued)

Navigation Outcomes	Percentage of Beneficiaries Who Received Navigation (n=135,957)
Unable to reach beneficiary	30%
CSP unavailable	5%
Multiple unresolved reasons	2%
Unknown	7%

<sup>1</sup>Connected to CSP for at least 1 HRSN.

Note: Of those who received navigation, 28% had all HRSNs resolved.

### Data for Exhibit 7-4, HRSN Resolution Among Assistance Track and Alignment Track Beneficiaries

Resolution of HRSNs	Assistance Track	Assistance Track: Control Group	Alignment Track	Alignment Track Comparison Group (Propensity-weighted Assistance Track Control group)
All needs resolved	30%	31%	26%	27%
No longer worried that food will run out	25%	26%	23%	24%
Now has a steady place to live	47%	47%	45%	42%
No longer worried about utilities	48%	46%	45%	47%
No longer reporting transportation challenges	45%	43%	43%	39%

### Data for Exhibit 7-7, Proportion of AHC-Eligible Beneficiaries with New Needs Roughly 6 Months After Being Initially Screened

Need	Percentage of Respondents in Assistance and Alignment Tracks
Any need	46%
Food	19%
Transportation	17%
Living situation	17%
Utilities	15%



## Data for Exhibit 8-5, Self-Reported Health Status, Quality of Life, and Stress

Experiences	Alignment Track	Assistance Track: Control Group
Overall health improved or excellent	19*	16
Mental health improved or excellent	21**	19
Quality of life improved or excellent	20	18
Stress level improved or not at all stressed	17	16
Never or rarely feel lonely or disconnected	34	34
No indication of depression in PHQ-2	54	54

\* p < 0.10, \*\* p < 0.05

## Alternative Text for Exhibit 9-2, Assistance and Alignment Track Fidelity Assessment Findings (N=28)

Exhibit 9-2 is a table with two columns depicting the Assistance Track’s and Alignment Track’s fidelity assessment findings. The first column lists the fidelity criteria: developed an HRES, used a comprehensive CRI, distributed tailored CRS, exchanged screening and navigation data, developed patient-centered action plans, and involved state Medicaid agency. The second column represents the number of bridge organizations with the highest fidelity score for each fidelity criterion. Twenty-four or more bridge organizations had the highest fidelity score in the first four criteria (listed in order above). Fourteen bridge organizations had the highest fidelity score for developing patient-centered action plans. Seven bridge organizations had the highest fidelity score for being involved in a state Medicare agency, and of them, six were in the Alignment Track and one was in the Assistance Track.

## Data for Exhibit K-1, HRSNs During the COVID-19 Pandemic

Experiences	Alignment Track (N=1,862)	Assistance Track Control (N=1,101)	Assistance Track Intervention (N=2,744)
At least one HRSN got worse	39%	55%	56%
Living situation got worse	24%	20%	22%
Utilities situation got worse	28%	30%	29%
Food situation got worse	34%	35%	33%
Transportation situation got worse	28%	26%	24%

## Data for Exhibit K-2, Proportion of Beneficiaries Reporting HRSNs Throughout the Pandemic

Dates	Living situation has gotten worse	Significant?	Utilities situation has gotten worse	Significant?	Food situation has gotten worse	Significant?	Transportation situation has gotten worse	Significant?
Nov 2020–Jan 2021	27%	---	35%	---	45%	---	29%	---
Feb–Apr 2021	21%	Yes	30%	Yes	37%	Yes	27%	No
May–Jul 2021	23%	No	21%	Yes	25%	Yes	19%	Yes
Aug–Oct 2021	24%	No	32%	No	35%	Yes	32%	No
Nov 2021–Jan 2022	20%	No	30%	No	36%	Yes	29%	No

Note: Significance is measured from the first time point for each HRSN.

## Data for Exhibit L-1, Beneficiaries' Experience of Service Availability During the COVID-19 Pandemic

Experiences	Alignment Track	Assistance Track Control	Assistance Track Intervention
Services improved living situation	30%	33%	28%
Services improved utilities situation	39%	40%	38%
Services improved food situation	62%	57%	54%
Services improved transportation situation	33%	25%	25%