

Data Highlight





Access to Care among Medicare Beneficiaries Aged 65 and Over Living with High-Impact Chronic Pain

Jared Sawyer, Laura Stoff, Carrie Goetsch, Meredith Passero, Shawn Linman, Nicholas Schluterman

Chronic pain is a common condition affecting approximately 20% (50 million) of Americans overall and 30% (13.6 million) of Americans aged 65 and over.ⁱ Some people who live with chronic pain experience high-impact chronic pain, which not only limits their daily life and/or work activities but may lead to other health concerns that include cognitive impairment and increased financial stress.^{ii,jii}

Older adults are at significantly greater risk of experiencing high-impact chronic pain than the general adult population^{iv} and need accessible and comprehensive pain management care. Studies also suggest high-impact chronic pain may affect individuals differently depending on characteristics such as sex, race/ethnicity, and income.^{v,vi,vii}

This report studies the association between access to care and high-impact chronic pain¹ among Medicare beneficiaries aged 65 and over living in the community (i.e., not living in long-term care facilities) using multiple years of data from the Medicare Current Beneficiary Survey (MCBS). Specifically, this analysis:

- Estimates the prevalence of high-impact chronic pain among Medicare beneficiaries aged 65 and over, both overall and by demographic and socioeconomic characteristics.
- Examines access to care among Medicare beneficiaries aged 65 and over living with highimpact chronic pain, both overall and by beneficiary characteristics such as sex, race/ethnicity, and income.

KEY FINDINGS

Among Medicare Beneficiaries Aged 65 and Over Living in the Community between 2018 and 2020

 More than one out of ten beneficiaries were living with high-impact chronic pain.



- Beneficiaries with four or more chronic conditions, with household incomes less than \$25,000, and dually eligible for Medicaid were most likely to be living with high-impact chronic pain.
- 12% of beneficiaries living with high-impact chronic pain had trouble getting the health care they needed.



- 13% of beneficiaries living with highimpact chronic pain delayed seeking medical care because of cost.
- Beneficiaries living with high-impact chronic pain in non-metropolitan areas were more likely to delay seeking medical care

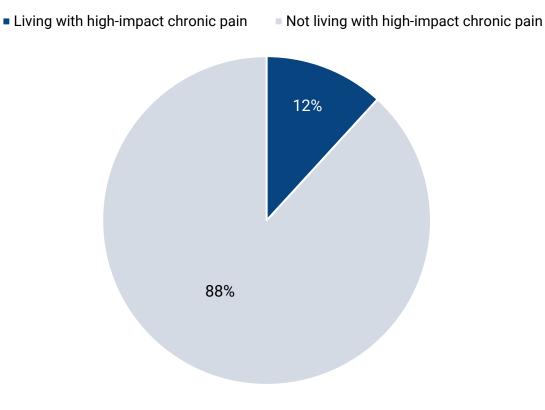


than those in metropolitan areas.

¹ For definitions of high-impact chronic pain and other key terms, see Appendix B: Definitions.

Approximately one out of ten Medicare beneficiaries aged 65 and over living in the community were living with high-impact chronic pain between 2018 and 2020.

Figure 1. Prevalence of high-impact chronic pain among Medicare beneficiaries aged 65 and over living in the community, 2018–2020



SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix A for complete point estimates and standard errors. See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy.

Medicare beneficiaries who were dually eligible for Medicaid were more than twice as likely as those who were not dually eligible to be living with high-impact chronic pain.

Figure 2. High-impact chronic pain among Medicare beneficiaries aged 65 and over living in the community, by demographic and socioeconomic characteristics, 2018–2020

	■ Living with high-impact cl	nronic pain	Not living with high-impact chronic pain
Race/Ethnicity	White non-Hispanic	11%	89%
	Black non-Hispanic	13%	87%
	Hispanic	15%	85%
	Other Race/Ethnicity	11%	89%
Age	65-74 years	11%	89%
	75-84 years	12%	88%
	85+ years	13%	87%
Sex	Male	10%	90%
	Female	13%	87%
Ð	<\$25,000	19%	81%
Income	\$25,000-\$49,999	12%	88%
-	\$50,000+	8%	92%
Metro Area Resident	Metro Area	11%	89%
Me Ar Resi	Non-metro area	14%	86%
c of ons	0-1 conditions	6%	94%
Number of Chronic Conditions	2-3 conditions	9%	91%
	4 or more conditions	20%	80%
Medicare Coverage	Fee-for-Service	12%	88%
	Medicare Advantage	12%	88%
Dual Eligibility I Status (Full-/partial-benefit dually eligible	24%	76%
	Not dually eligible	10%	90%

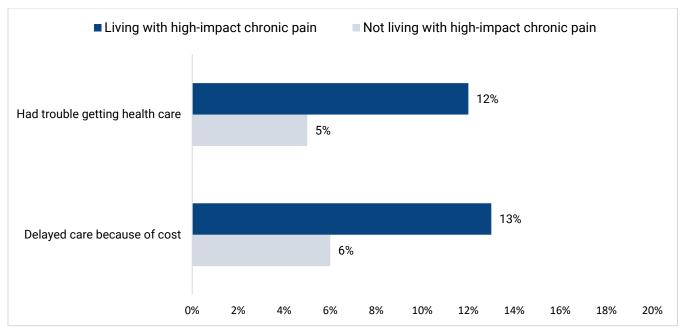
SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix A for complete point estimates and standard errors. See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy. The "Other Race/Ethnicity" category includes other single races not of Hispanic origin or Two or More Races for the measure "Race/Ethnicity."

- 19% of beneficiaries with household incomes below \$25,000 were living with high-impact chronic pain compared to 8% of beneficiaries with household incomes of \$50,000 and higher.
- 20% of beneficiaries with four or more chronic conditions were living with high-impact chronic pain
 compared to 6% of beneficiaries with a single chronic condition or no chronic conditions.

Medicare beneficiaries living with high-impact chronic pain were more than twice as likely as those living without high-impact chronic pain to have trouble getting needed health care or to delay seeking medical care because they were worried about the cost.

Figure 3. Access to care among Medicare beneficiaries aged 65 and over living in the community with high-impact chronic pain and without high-impact chronic pain, 2018–2020

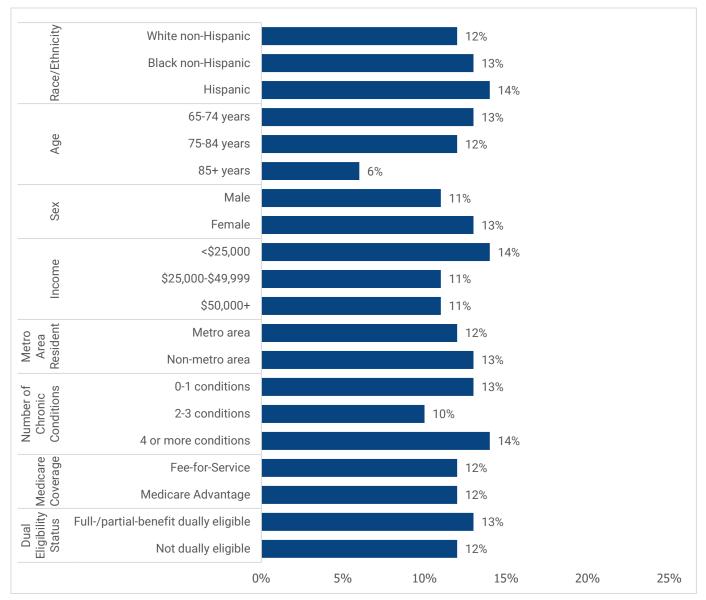


SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix A for complete point estimates and standard errors. See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy.

 Among beneficiaries not living with high-impact chronic pain, 5% had trouble getting needed health care, and 6% delayed seeking medical care because they were worried about the cost. Medicare beneficiaries aged 84 and below living with high-impact chronic pain were more likely to have trouble getting needed health care than beneficiaries aged 85 and over living with high-impact chronic pain.

Figure 4. Trouble getting needed health care among Medicare beneficiaries aged 65 and over living in the community with high-impact chronic pain by selected beneficiary characteristics, 2018–2020

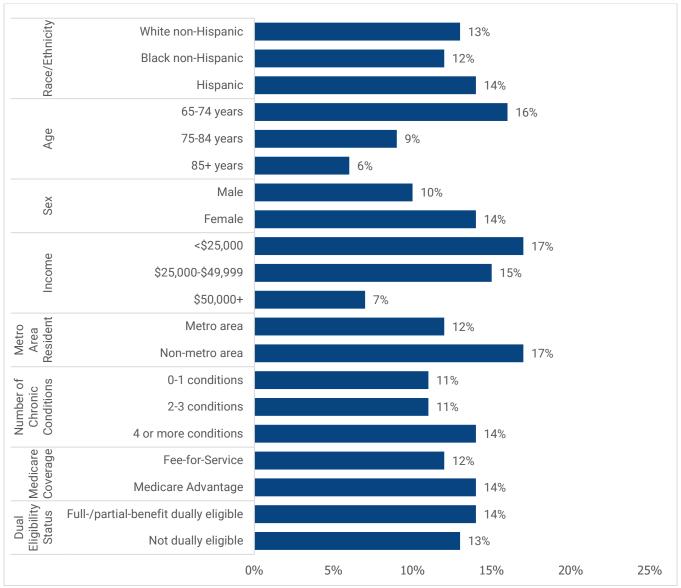


SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix A for complete point estimates and standard errors. See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy. Estimates for the category "Other Race/Ethnicity" (which included other single races not of Hispanic origin or Two or More Races for the measure "Race/Ethnicity") are not presented due to suppression.

 Among beneficiaries living with high-impact chronic pain, the only beneficiary characteristic for which the likelihood of getting needed care differed significantly by socio-demographic characteristics was age. Among Medicare beneficiaries living with high-impact chronic pain, those living in non-metropolitan areas were more likely to delay seeking medical care because of cost than those living in metropolitan areas.

Figure 5. Delays in seeking medical care because of cost among Medicare beneficiaries aged 65 and over living in the community with high-impact chronic pain by selected beneficiary characteristics, 2018–2020



SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix A for complete point estimates and standard errors. See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy. Estimates for the category "Other Race/Ethnicity" (which included other single races not of Hispanic origin or Two or More Races for the measure "Race/Ethnicity") are not presented due to suppression.

- Among beneficiaries living with high-impact chronic pain, those aged 65 to 74 were more likely to delay seeking medical care because of cost than those aged 85 and over.
- Beneficiaries living with high-impact chronic pain were more likely to delay seeking medical care because of cost if they had annual household incomes less than \$50,000.

APPENDICES

APPENDIX A: DETAILED TABLES

Table 1. Prevalence of high-impact chronic pain among Medicare beneficiaries aged 65 and over living in the community, 2018–2020

Measure	Estimate - % (SE)
Living with high-impact chronic pain	11.8 (0.3)
Not living with high-impact chronic pain	88.2 (0.3)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018-2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy.

		Living with high-impact chronic pain	Not living with high-impact chronic pain
Measure	Measure Category	Estimate - % (SE)	Estimate - % (SE)
Race/Ethnicity	White non-Hispanic	11.4 (0.4)	88.6 (0.4)
	Black non-Hispanic	12.9 (1.1)	87.1 (1.1)
	Hispanic	15.1 (1.3)	84.9 (1.3)
	Other Race/Ethnicity	11.5 (1.5)	88.5 (1.5)
Age	65-74 years	11.4 (0.5)	88.6 (0.5)
	75-84 years	12.3 (0.5)	87.7 (0.5)
	85+ years	13.4 (0.8)	86.6 (0.8)
Sex	Male	9.6 (0.4)	90.4 (0.4)
	Female	13.5 (0.4)	86.5 (0.4)
Income	<\$25,000	18.5 (0.7)	81.5 (0.7)
	\$25,000-\$49,999	12.4 (0.6)	87.6 (0.6)
	\$50,000+	8.1 (0.4)	91.9 (0.4)
Metro Area	Metro area	11.3 (0.3)	88.7 (0.3)
Resident	Non-metro area	14.1 (0.9)	85.9 (0.9)
Number of	0-1 conditions	5.5 (0.4)	94.5 (0.4)
Chronic Conditions	2-3 conditions	9.4 (0.5)	90.6 (0.5)
Conditions	4 or more conditions	19.8 (0.7)	80.2 (0.7)
Medicare	Fee-for-Service	11.6 (0.5)	88.4 (0.5)
Coverage	Medicare Advantage	12.1 (0.4)	87.9 (0.4)
Dual Eligibility	Full-/partial-benefit dually eligible	23.9 (1.3)	76.1 (1.3)
Status	Not dually eligible	10.5 (0.3)	89.5 (0.3)

Table 2. High-impact chronic pain among Medicare beneficiaries aged 65 and over living in the community, by demographic and socioeconomic characteristics, 2018–2020

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018-2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy. The "Other Race/Ethnicity" category includes other single races not of Hispanic origin or Two or More Races for the measure "Race/Ethnicity."

Table 3. Access to care among Medicare beneficiaries aged 65 and over living in the community with high-impact chronic pain and without high-impact chronic pain, 2018–2020

Access Measure	Category	Estimate - % (SE)
Had trouble getting health	Living with high-impact chronic pain	12.2 (0.8)
care	Not living with high-impact chronic pain	5.2 (0.3)
Delayed seeking medical	ical Living with high-impact chronic pain 12	12.8 (0.9)
care because of cost	Not living with high-impact chronic pain	6.0 (0.3)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018-2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy.

Table 4. Trouble getting needed health care among Medicare beneficiaries aged 65 and over living in the community with high-impact chronic pain and those not living with high-impact chronic pain by selected beneficiary characteristics, 2018–2020

		Living with high- impact chronic pain	Not living with high- impact chronic pain
Measure	Measure Category	Estimate - % (SE)	Estimate - % (SE)
Race/Ethnicity	White non-Hispanic	12.1 (0.9)	5.0 (0.3)
	Black non-Hispanic	12.5 (3.2)	4.5 (0.7)
Race/Ethincity	Hispanic	13.6 (3.3)	7.0 (1.1)
	Other Race/Ethnicity	*	*
	65-74 years	13.2 (1.2)	5.8 (0.4)
Age	75-84 years	12.2 (1.2)	4.4 (0.3)
	85+ years	5.7 (1.2)	3.4 (0.4)
Sex	Male	10.9 (1.1)	4.5 (0.3)
Jex	Female	12.9 (1.0)	5.7 (0.4)
	<\$25,000 14.2 (1.3)	5.8 (0.5)	
Income	\$25,000-\$49,999	10.7 (1.6)	5.3 (0.5)
	\$50,000+	11.2 (1.5)	4.8 (0.3)
Metro Area	Metro area	12.0 (0.9)	5.2 (0.3)
Resident	Non-metro area	12.9 (1.4)	5.1 (0.6)
	0-1 conditions	12.7 (2.2)	4.4 (0.5)
Number of Chronic Conditions	2-3 conditions 9.7 (1.4)	4.8 (0.3)	
	4 or more conditions	13.9 (1.3)	6.4 (0.5)
Medicare Coverage	Fee-for-Service	12.3 (1.0)	4.5 (0.3)
weutcare coverage	Medicare Advantage	12.1 (1.4)	6.3 (0.4)
Dual Eligibility	Full-/partial-benefit dually eligible	13.5 (2.1)	7.2 (0.9)
Status	Not dually eligible	11.9 (1.0)	5.0 (0.3)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy. Estimates for the category "Other Race/Ethnicity" (which included other single races not of Hispanic origin or Two or More Races for the measure "Race/Ethnicity") are not presented due to suppression and are represented by an asterisk (*) in the table.

Table 5. Delays in seeking medical care because of cost among Medicare beneficiaries aged 65 and over living in the community with high-impact chronic pain and those not living with high-impact chronic pain by selected beneficiary characteristics, 2018–2020

		Living with high- impact chronic pain	Not living with high- impact chronic pain
Measure	Measure Category	Estimate - % (SE)	Estimate - % (SE)
	White non-Hispanic	12.7 (1.0)	5.5 (0.3)
Race/Ethnicity	Black non-Hispanic	12.2 (3.2)	7.6 (1.1)
Race/Elimitity	Hispanic	14.1 (3.0)	8.3 (1.1)
	Other Race/Ethnicity	*	*
	65-74 years	15.9 (1.3)	7.3 (0.4)
Age	75-84 years	8.9 (1.0)	4.2 (0.3)
	85+ years	6.0 (1.3)	3.1 (0.4)
Carr	Male	10.1 (1.5)	5.1 (0.3)
Sex	Female	14.2 (1.0)	6.7 (0.4)
	<\$25,000	16.9 (1.6)	11.2 (0.8)
ncome	\$25,000-\$49,999	14.5 (1.8)	7.4 (0.7)
	\$50,000+	6.6 (1.3)	3.0 (0.2)
Metro Area	Metro area	11.7 (0.9)	5.8 (0.3)
Resident	Non-metro area	16.7 (2.4)	7.1 (0.6)
	0-1 conditions	11.1 (2.1)	5.3 (0.6)
Number of Chronic Conditions	2-3 conditions	10.9 (1.3)	5.4 (0.4)
	4 or more conditions	14.5 (1.4)	7.6 (0.5)
Madiaara Cavaraza	Fee-for-Service	11.6 (1.0)	5.5 (0.3)
Medicare Coverage	Medicare Advantage	14.5 (1.4)	6.9 (0.5)
Dual Eligibility	Full-/partial-benefit dually eligible	13.9 (2.0)	8.7 (1.2)
Status	Not dually eligible	12.5 (1.0)	5.8 (0.3)

SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File Limited Data Sets, 2018–2020.

NOTES: Estimates for 2018–2020 were based on Medicare beneficiaries aged 65 and over living in the community who reported sufficient information to determine if they were living with or without high-impact chronic pain (unweighted N=12,614, weighted N=96,285,755). See Appendix B for definitions of key terms and information on the construction of measures. See Appendix C for data sources and methods. Beneficiaries answered questions themselves or by proxy. for the category "Other Race/Ethnicity" (which included other single races not of Hispanic origin or Two or More Races for the measure "Race/Ethnicity") are not presented due to suppression and are represented by an asterisk (*) in the table.

APPENDIX B: DEFINITIONS

Access to Care. The analysis used the HCTROUBL and HCDELAY variables from the Access to Care (ACCESSCR) segment of the 2018, 2019, and 2020 Survey File Limited Data Sets (LDS) to define access to care. The HCTROUBL question asks whether beneficiaries had any trouble getting the health care they wanted or needed in the last month, with response options "yes," "no," "don't know," and "refused." The HCDELAY question asks whether beneficiaries delayed seeking medical care because they were worried about the cost in the last month, with response options "yes," "no," "don't know," and "refused." "Don't know" and "refused" were treated as missing values. Because these questions were asked only of Medicare beneficiaries living in the community, the analysis excluded beneficiaries living in long-term care facilities.

Chronic Conditions. Chronic conditions comprises a group of 13 health conditions: heart disease, cancer (other than skin cancer), Alzheimer's disease, dementia other than Alzheimer's disease, depression, mental condition, hypertension, diabetes, osteoporosis/broken hip, pulmonary disease, stroke, high cholesterol, and Parkinson's disease. It is possible for a beneficiary to have "ever" been diagnosed with both Alzheimer's disease and dementia (other than Alzheimer's disease), as previous survey responses are carried forward into subsequent data years. For the purposes of the number of chronic conditions measure, Alzheimer's disease and dementia (other than Alzheimer's disease) are counted as one chronic condition for beneficiaries diagnosed with both conditions. Depression and mental condition are counted as one chronic condition for beneficiaries diagnosed with both conditions.

Demographic and Socioeconomic Characteristics. The analysis examined the following demographic and socioeconomic characteristics: race/ethnicity, age, sex, income, metropolitan area residence (all from the Demographic [DEMO] segment), number of chronic conditions (from the Chronic Conditions [CHRNCOND] segment), and type of Medicare coverage and dual eligibility status (both from the Health Insurance Summary [HISUMRY] segments). All variables were extracted from the 2018, 2019, and 2020 Survey File LDS. Demographic and socioeconomic characteristics reflect the population of Medicare beneficiaries aged 65 and over living in the community in 2018, 2019, and 2020.

Dual Eligibility Status. The analysis used the H_OPMDCD variable from the Health Insurance Summary (HISUMRY) segment of the Survey File LDS to identify each beneficiary's dual eligibility status during 2018, 2019, and 2020. Annual Medicare–Medicaid dual eligibility is based on state Medicare Modernization Act (MMA) files. Beneficiaries are considered "dually eligible" and assigned a dual eligibility status for the year if they were enrolled in Medicare Beneficiary (QMB) – is determined by the beneficiary's status in the last month of the year in which he or she qualified as dually eligible. This information is obtained from administrative data sources. A beneficiary may be categorized as "fully eligible for Medicaid benefits – QMB only," or "not dually eligible for Medicaid benefits." Full and partial eligibility were grouped into "dually eligible."

High-Impact Chronic Pain. The analysis used the PAINOFTN and PAINLIMT variables from the Chronic Pain (CHRNPAIN) segment of the 2018, 2019, and 2020 Survey File LDS to estimate the prevalence of high-impact chronic pain among Medicare beneficiaries. The PAINOFTN question asks how often beneficiaries experienced pain within the last three months, with response options "never," "some days," "most days," "every day," "don't know," and "refused." PAINLIMT asks how often their pain limited their life or work activities, with response options "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," and "never," "some days," "most days," "every day," "don't know," ang "never," "some days," "most days," "most days," "don't know," ang "never," "some days," "most days," "most days," "don't know," ang "never," "some days," "most days," "most days," "don't know," ang "never," "some days," "most days," "don't know," ang "never," "most days," "most days," "don't know,"

know," "refused." "Don't know" and "refused" were treated as missing values. A beneficiary that indicated "most days" or "every day" to PAINOFTN and "most days" or "every day" to PAINLIMT was categorized as living with high-impact chronic pain. A beneficiary that indicated "never" or "some days" to PAINOFTN or PAINLIMT was categorized as living without high-impact chronic pain. Because these questions were asked only of Medicare beneficiaries living in the community, the analysis excluded beneficiaries living in long-term care facilities.

Medicare Advantage: Medicare Advantage Plans, sometimes called "Part C" or "MA Plans," are offered by private companies under contracts with Medicare. In addition, other managed care plans are offered by private companies under contracts with Medicare under different parts of the Medicare statute. These Medicare managed care plans generally cover Medicare Part A and/or Part B benefits and are paid on either a risk-based capitated basis (MA plans) or on a reasonable cost basis (cost plans and healthcare prepayment plans). This analysis used administrative data in the H_MAFF variable from the health insurance summary (HUSUMRY) segment of the Survey File LDS to identify beneficiaries that had coverage in one of these Medicare managed care plans for at least one month out of the calendar year.

Race/Ethnicity. Hispanic origin and race are two separate and distinct categories. Persons of Hispanic origin may be of any race or combination of races. Hispanic origin includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or Spanish origin. For the MCBS, responses to beneficiary race and ethnicity questions are reported by the respondent. More than one race may be reported. For conciseness, the text, tables, and figures in this document use shorter versions of the terms for race and Hispanic or Latino origin specified in the Office of Management and Budget 1997 Standards for Data on Race and Ethnicity. Beneficiaries reported as White and not of Hispanic origin were coded as White non-Hispanic; beneficiaries reported as Black/African-American and not of Hispanic origin, regardless of their race, were coded as Hispanic. The "Other Race/Ethnicity" category includes other single races not of Hispanic origin (including American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander), or Two or More Races.

APPENDIX C: DATA SOURCES AND METHODS

Data Sources: Data were analyzed from the 2018, 2019, and 2020 MCBS Survey File Limited Data Sets. The MCBS is a continuous, multi-purpose longitudinal survey sponsored by the Centers for Medicare & Medicaid Services (CMS) and directed by the Office of Enterprise and Data Analytics (OEDA). It represents the population of Medicare beneficiaries aged 65 and over and beneficiaries aged below 65 with certain disabling conditions living in the United States. In its rotating panel design, each beneficiary is statistically sampled and is interviewed up to three times per year over a four-year period. The MCBS has conducted continuous data collection since 1991 and collects comprehensive data on beneficiary health insurance coverage, health care utilization and costs, access to care, and satisfaction with care. It is the most comprehensive and complete survey available on the Medicare population and is essential in capturing data not otherwise collected through operations and administration of the Medicare program.

Analysis Method: The analysis used replicate cross-sectional weights included in the 2018, 2019, and 2020 CHRNPAIN topical segment to account for overall selection probability of each sampled person among continuously enrolled Medicare beneficiaries living in the community. These weights also adjust for potential nonresponse bias. Variance was estimated using the balanced repeated replication (BRR) method (Fay's method) with a series of these replicate cross-sectional weights. Where applicable,

suppression was used to protect the confidentiality of Medicare beneficiaries. Estimates with a denominator of less than 50 sample persons or with a numerator of zero sample persons are suppressed in this analysis. SAS 9.4 was used to construct analytic datasets and conduct the analyses.

Study Population: The population of inference for this analysis included all beneficiaries living in the community in 2018, 2019, and 2020 who reported sufficient information to determine if they were living with or without high-impact chronic pain. The final analytic 3-year sample included 12,614 Medicare beneficiaries aged 65 and over living in the community representing a weighted N=96,285,755 beneficiaries over the three years.

Limitations: Chronic pain and access to care are based on self-reported data. The analysis only examined bivariate associations between living with high-impact chronic pain, access to care, and beneficiary characteristics. Confounding factors may exist in this analysis.

ABOUT THE AUTHORS

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^v Zelaya, "Chronic Pain and High-Impact Chronic Pain Among U.S. Adults, 2019."

^{vi} Dahlhamer et al., "Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016."

^{vii} Weissman, Russell, and Taylor, "The Relationship Between Financial Stressors, Chronic Pain, and High-Impact Chronic Pain."

ⁱ Dahlhamer et al., "Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016."

[&]quot; Pitcher et al., "Prevalence and Profile of High-Impact Chronic Pain in the United States."

ⁱⁱⁱ Weissman, Russell, and Taylor, "The Relationship Between Financial Stressors, Chronic Pain, and High-Impact Chronic Pain."