Wellness Prospective Evaluation

Report on Baseline Survey Efforts and Qualitative Study of Program Operations and Costs

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EXECUTIVE SUMMARY

This report describes the status of the third phase of the Centers for Medicare & Medicaid Services' (CMS) evidence review and independent evaluation of community-based wellness and chronic disease prevention programs (henceforth wellness programs) through the first year of the study. In the Affordable Care Act (ACA), Section 4202, subsection (b), Congress mandated that CMS conduct an evidence review and independent evaluation of wellness programs focusing on the following four priority areas:

(i) physical activity, nutrition, and obesity;

(ii) falls prevention;

(iii) chronic disease management; and

(iv) mental health.

The third phase of the evaluation is a prospective evaluation of evidence-based wellness programs focusing on evidence-based programs falling into the first three of the above ACA priority areas; the Acumen team identified no evidence-based program primarily focused on mental health that met other study criteria, although some programs treated mental health as a secondary focus. To assess the impacts of participating in wellness programs, the Acumen team identified six national evidence-based programs:

- Physical activity, nutrition, and obesity:
  - EnhanceFitness
  - Fit & Strong!
- Falls prevention:
  - Stepping On
  - A Matter of Balance
- Chronic disease management:
  - Chronic Disease Self-Management Program (CDSMP)
  - Diabetes Self-Management Program (DSMP)

Two primary research questions will be addressed in the prospective study. First, the study will estimate the percentage of the general population of Medicare beneficiaries who are ready to participate in an evidence-based wellness program. Second, the study will estimate the impact of beneficiary participation in these programs on subsequent health behaviors, self-reported health outcomes, health service utilization rates, and costs.

This interim report presents descriptive findings based on data collected through June 30, 2015. These data include responses to (i) baseline national surveys from the first six of twelve

planned monthly waves and (ii) baseline participant surveys collected from beneficiaries enrolled in the six aforementioned wellness programs during the first eight months of the study period. Medicare enrollment and Parts A, B, and D claims data were linked to each beneficiary who returned a completed survey. The following two sections describe the characteristics of the current national and participant survey respondent populations, respectively. The final section summarizes findings from a qualitative study of wellness program operations and costs.

Preliminary Findings on National Survey Respondents at Baseline

The Acumen team received baseline national surveys from 3,820 individuals as of June 30, 2015. About two-thirds of these respondents were enrolled in Medicare A/B fee-for-service (FFS), and one-third were enrolled in Medicare Advantage. Using a combination of self-reported survey responses and Medicare administrative data sources, the Acumen team characterized the survey respondent population by demographic characteristics, Medicare enrollment, health status, and prior service utilization history. For characteristics obtained from Medicare data sources (e.g., age, urban/rural status, Medicare enrollment status, comorbidities, service utilization history), the population was restricted to the 2,418 beneficiaries who had at least one year of continuous enrollment in Medicare Parts A and B fee-for-service (FFS) and who were at least 66 years old, to ensure that complete claims records were available to conduct the analysis. Noteworthy characteristics of the survey respondent population include the following:

- Among Medicare FFS beneficiaries, both the mean and median age were in the mid-70s, and the 90th percentile of respondents were in their mid-80s; nearly two-thirds were female; nearly 90 percent were white; about three-quarters were from urban areas; and about nine percent were dually enrolled in Medicare and Medicaid.
- Among all respondents, 57.5 percent were married; one-third were living alone; 53.5 percent had annual household incomes of less than $40,000; and 52.8 percent had completed some college or obtained a college degree.
- The majority of Medicare FFS beneficiaries had diabetes or heart disease, and the average CMS Hierarchical Condition Code (CMS-HCC) risk score was 1.2, indicating that annual costs for these beneficiaries would be expected to be about 20 percent higher than for the general Medicare population.
- The majority of respondents did not have inpatient stays or emergency room visits over the year prior to completing the survey.

More than half of respondents reported that they would be at least somewhat likely to enroll in a wellness program within the next six months if one were offered in their community. As shown below in Table 1.1, among those with any reported likelihood of enrollment, nearly 80 percent were interested in programs related to physical activity, nutrition, or obesity.

Table 1.1: Self-Reported Likelihood of Enrollment in a Wellness Program in the National Sample (N=3,820)

Wellness Program Awareness/Readiness Item	Rate
Awareness of Wellness Programs[a] (N=3,725)	
In Community	39.2%
Online	14.2%
Not aware	52.2%
Self-Reported Likelihood of Enrollment in Next 6 Months (N=3,719)	
At least somewhat likely to enroll	56.8%
Very likely to enroll	*12.3%*
Likely to enroll	*13.9%*
Somewhat likely to enroll	*30.6%*
Not at all likely to enroll	43.2%
Interest in Enrolling in Specific Program Type among Respondents Indicating Being at Least Somewhat Likely to Enroll (N=2,112)[a]	
Chronic disease management	46.4%
Falls prevention	43.0%
Physical activity, nutrition, obesity	79.7%
Other program	4.0%

[a] Program types do not sum to 100 percent as respondents could check all that apply.
Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National Survey responses through June 30, 2015

The Acumen team compared the characteristics of respondents who indicated that they were or were not likely to enroll in a wellness program in the next six months. For the purposes of this analysis, anyone who indicated being at least somewhat likely to enroll was treated as likely to enroll. Key findings for this investigation were as follows:

- Respondents who reported that they were likely to enroll in a wellness program were younger, more likely to be female, and less likely to be white as compared with respondents who were not likely to enroll.
- Respondents who reported that they were likely to enroll are also more active, had average or above average levels of self-efficacy, and were more likely to have received a flu shot in the past year as compared to those not likely to enroll.
- Respondents who reported that they were likely to enroll reported greater difficulty with balance, walking, and falls as compared to those not likely to enroll, and many respondents with self-reported health conditions reported interest in enrolling in exercise, nutrition, and obesity programs.
- Health status indicators (e.g., excellent health, poor health) were not consistently associated with likelihood of enrollment.
- The strongest predictor of readiness to engage in a wellness program was the receipt of advice from physicians regarding health behavior improvements.

Preliminary Findings on Initial Sample of Participants at Baseline

By June 30, 2015, 4,085 program participants had returned baseline participant surveys. As shown below in Table 1.2, about half of the respondents participated in falls prevention

programs, while the remaining respondents were nearly evenly split between chronic disease management and physical activity, nutrition, and obesity programs.

Table 1.2: Baseline Survey Participants by ACA Priority Area and Wellness Program

ACA Priority Area	Count and Percentage of Surveys by Priority Area	Count and Percentage of Surveys Wellness Program	
Chronic Disease Management	901 (22.1%)	CDSMP	592 (14.5%)
		DSMP	309 (7.6%)
Physical Activity, Nutrition, and Obesity	1,074 (26.3%)	EnhanceFitness	478 (11.7%)
		Fit & Strong!	596 (14.6%)
Falls Prevention	2,110 (51.7%)	A Matter of Balance	741 (18.1%)
		Stepping On	1,369 (33.5%)

Note: Total number of baseline surveys returned through June 30, 2015 was 4,085 (100 percent).
Source: Participant survey responses through June 30, 2015

The Acumen team compared the characteristics of respondents participating in each of the three ACA priority areas. As with the national survey respondents, our group obtained characteristics from both self-reported survey responses and Medicare administrative data. For characteristics obtained from the latter data source, the Acumen team restricted the population of program participants to the 1,876 beneficiaries who had at least one year of continuous enrollment in Medicare FFS and who were at least 66 years old. Key findings for this investigation were as follows:

- Attendance and program completion rates were high for most programs.
- Chronic disease management participants had lower incomes and educational attainment; were composed of a larger share of black beneficiaries; were more likely to have difficulty with transportation; and were less likely to be married relative to participants in other ACA priority area groups.
- Physical activity, nutrition, and obesity program participants were more likely to be female and have annual household incomes higher than $40,000 relative to participants in other ACA priority area groups.
- Falls prevention program participants were older and more likely to be white relative to participants in other ACA priority area groups.
- Physical activity, nutrition, and obesity program participants had lower expected costs and lower rates of service utilization compared to chronic disease management or falls prevention program participants.
- Chronic disease management program participants had the highest levels of total Parts A and B spending in the baseline period.

- Participants in chronic disease management programs reported the highest rates of health problems, including diabetes, obesity, and vision or hearing impairments; falls prevention program participants reported more difficulty with falls, balance, and walking as compared to participants in other ACA priority area groups.
- Chronic disease management program participants were more likely to have received a recommendation from a physician to make improvements in health behaviors compared to participants in other ACA priority area groups.
- Compared to participants in other ACA priority areas, participants in physical activity, nutrition, and obesity programs reported being more active and had higher levels of self-reported self-efficacy.
- Participants in chronic disease management programs had lower compliance with medication regimens compared to other wellness program participants.
- Awareness of other wellness programs that were available online or in their communities and participation in other wellness programs was high among participants across all ACA priority area groups.

Qualitative Study of Program Operations, Implementation, and Costs

The Acumen team collected qualitative information from site visits to ten wellness programs to inform wellness program operations and costs and identified the following best practices, challenges, and lessons learned:

- To create operational efficiencies, large and multi-site coordinators have centralized portions of workforce management, marketing, fidelity monitoring, and data reporting.
- Small and single-site implementation coordinators maintain smaller staff, and staff members perform multiple tasks and roles.
- To recruit leaders and guest experts, organizations have leveraged partnerships with local health systems and universities.
- Referrals from health care providers and staff at workshop locations are effective in identifying those who may benefit most from wellness programs.
- In-person and word-of-mouth marketing strategies are most effective.
- To establish legitimacy of wellness programs and develop possible reimbursement or additional funding streams, organizations are seeking to build partnerships with health care providers.
- Transportation services or translators are used to engage harder to reach rural or immigrant populations.
- Spanish language programs were more successful where they were supported by a large Hispanic community, but there were challenges when the Hispanic community was small or reluctant to engage with government-related programs.
- Participant retention strategies include accurate marketing, creating a sense of community, and minimizing paperwork.

- The majority of organizations are able to conduct simple data analyses, but only a few organizations maintain robust data collection and reporting systems.
- Organizations reported high fidelity to program design, leader training, and program delivery.
- Across all organizations, fidelity checks were conducted by staff with various levels of training and on different schedules.
- Leaders not staying on script was the most common challenge to fidelity.

The findings presented in this report have several limitations. Since these findings are based on data collected through June 30, 2015, findings presented in this report only represent a portion of the national and participant populations. In addition, while some of the characteristics were obtained from Medicare claims and enrollment data for survey respondents who Acumen was able to link to their Medicare administrative records, other characteristics were identified via beneficiary self-report. For the participant population, while nearly all wellness program participants were enrolled in Medicare, only about a third of program participants were continuously enrolled in Parts A and B after enrollment restrictions were applied, thus reducing the size of the population for which Acumen could examine claims- and enrollment-based outcomes. Furthermore, some of these findings are based on incomplete and unweighted data. These preliminary findings cannot be used to draw conclusions regarding readiness to engage in wellness programs and the impact of such programs, which will be the focus of subsequent reports.

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1 INTRODUCTION

Community-based wellness and chronic disease prevention programs (henceforth wellness programs) aim to promote healthier lifestyles, lower beneficiary health risks, and ultimately improve health outcomes. Wellness programs have the potential to both benefit Medicare beneficiaries in terms of improving their health and well-being and to reduce spending in the Medicare program.

In the Affordable Care Act (ACA), Section 4202, subsection (b), Congress mandated that the Centers for Medicare & Medicaid Services (CMS) conduct an evidence review and independent evaluation of wellness programs focusing on the following four priority areas:

(i) physical activity, nutrition, and obesity;

(ii) falls prevention;

(iii) chronic disease management; and

(iv) mental health.

In response to the ACA mandate, CMS adopted a three-phase approach to evaluate the impact of wellness programs on Medicare beneficiary health, utilization, and costs to determine whether broader Medicare beneficiary participation in wellness programs could lower future growth in Medicare spending.

CMS has contracted with Acumen, LLC, and its partner, Westat, Inc., (henceforth the Acumen team) to conduct the third phase of this evaluation, a prospective evaluation of evidence-based wellness programs. The first two phases consisted of an environmental scan and literature review conducted by Altarum Institute and a retrospective evaluation conducted by Acumen. The Phase III prospective evaluation aims to round out CMS's understanding of the potential impact of such programs on Medicare beneficiaries and of the potential cost saving opportunities for the Medicare program. Specifically, this evaluation effort aims to (i) describe the overall distribution of readiness to engage with wellness programs in the Medicare population, (ii) better adjust for selection biases in the evaluation of individual programs and interventions using beneficiary-level survey data and evaluate program impacts on health behaviors, self-reported health outcomes, and claims-based measures of utilization and costs, and (iii) better describe program operations and costs in relation to the expected benefits. The results of these analyses will be used to inform CMS wellness and prevention activities in the future.

As part of the prospective evaluation to assess the impacts of participating in wellness programs, the Acumen team identified six national evidence-based programs focused on physical activity, nutrition, and obesity; falls prevention; and chronic disease self-management for inclusion in the prospective evaluation. The selected programs include the following:

(i) Chronic Disease Self-Management Program (CDSMP);

(ii) Diabetes Self-Management Program (DSMP);

(iii) EnhanceFitness;

(iv) Fit & Strong!;

(v) A Matter of Balance; and

(vi) Stepping On.

Table 1.1 provides an overview of the wellness programs. The Acumen team collaborated with the national leaders of these evidence-based wellness programs to recruit 90 organizations offering these programs. The Acumen team partnered with these organizations to enroll Medicare beneficiaries who were new program participants to voluntarily participate in the prospective evaluation.

Table 1.1: Overview of Wellness Programs Included in the Prospective Evaluation

ACA Priority Area	Wellness Program	Description	Duration and Intensity	Program Leaders	Content	Potential Impact
Chronic Disease Management	CDSMP	Group class for individuals with one or more chronic conditions, and their caregivers or significant others	6 weeks; one 2.5-hour class per week	Two trained leaders, one or both of whom are non-health professionals or peers with chronic diseases	Techniques to manage: • Frustration and pain • Chronic disease risk and symptoms Knowledge to improve: • Diet and exercise • Medication use • Communication with health care providers	Improvement in: • Self-efficacy • Medication adherence • Chronic disease risk and symptom management Reduction in: • Progression of chronic disease
Chronic Disease Management	DSMP	Group class for individuals with diabetes, and their caregivers or significant others	6 weeks; one 2.5-hour class per week	Two trained leaders, including one with diabetes	Similar to CDSMP but specific to diabetes	Similar to CDSMP but specific to diabetes

ACA Priority Area	Wellness Program	Description	Duration and Intensity	Program Leaders	Content	Potential Impact
Physical Activity, Nutrition, and Obesity	EnhanceFitness	Group exercise class for older adults.	Ongoing classes; three 1-hour classes per week	Certified fitness instructor	Physical activity training for: • Stretching • Cardiovascular endurance • Strength training • Balance and flexibility	Improvements in: • Self-efficacy • Strength, balance, and mobility Reduction in: • Pain • Falls, and related fractures • Progression of chronic disease
Physical Activity, Nutrition, and Obesity	Fit & Strong!	Group exercise class targeted at sedentary and de-conditioned adults with lower extremity mobility challenges, with or without arthritis	8 weeks; three 1.5-hour classes per week	Certified fitness instructor	Health education, Goal-setting, Problem solving, Exercises: • Stretching and balance • Low-impact aerobics • Strength training	Improvements in: • Physical activity • Lower-extremity strength, mobility Reduction in: • Lower-extremity pain and stiffness • Falls • Depression and anxiety
Falls Prevention	A Matter of Balance	Group class for older adults to reduce the fear of falling and to prevent falls	8 weeks; one 2-hour class per week	Trained lay leaders	Coping strategies to: • Reduce fear of falling • Set realistic goals for increasing activity • Change the environment to reduce falls risk factors.	Improvements in: • Strength, mobility, and balance • Social activity Reductions in: • Fear of falling • Incidence of falls and fall-related fractures
Falls Prevention	Stepping On	Group class for older adults to understand their risk of falls, coping behaviors, and safety strategies in everyday life	7 weeks; one 2-hour class per week; plus one booster session 3 months post-program	Two trained leaders, one of whom is a current or retired health care professional or fitness expert	Knowledge to assess: • Falls history and future risk • Home hazards • Safe footwear and clothing • Vision as it relates to falls • Community mobility • Medication risks Strength and balance exercises	Improvements in: • Strength, mobility, and balance • Knowledge of falls risk factors and safety strategies Reductions in incidence of falls

This report describes the status of the prospective study through the first year of the study period. The following sections present interim descriptive findings from data collection activities, baseline claims-based measures of utilization and costs, and qualitative findings about the implementation and operations of these programs by a limited number of organizations. Section 2 describes the study's two key research questions and the methods used to address them. Section 3 outlines the preliminary approach and findings for estimating the Medicare population's readiness to enroll in evidence-based wellness programs, initially measured by a beneficiary's intent to enroll in a wellness program. Section 4 summarizes the status of partnerships with wellness programs and organizations that collect wellness program participant data. Section 5 describes the implementation and operations of ten organizations offering these wellness programs, including implementation best practices, challenges, and lessons learned. Section 6 includes interim descriptive findings on a sample of wellness program participants. Finally, Section 7 describes the next steps of the Acumen team's evaluation.

2 OVERVIEW OF RESEARCH QUESTIONS AND STUDY DESIGN

This study is designed to answer two primary research questions:

- *Research Question 1:* What percentage of the general population of Medicare beneficiaries is ready to participate in an evidence-based wellness program?
- *Research Question 2:* What is the impact of beneficiary participation in these programs on subsequent health behaviors, self-reported health outcomes, health service utilization rates, and costs?

To estimate overall readiness to participate in wellness programs among the general Medicare population (Research Question 1), the Acumen team designed and is conducting a survey of a nationally representative population of Medicare beneficiaries. Responses to this national survey, along with information obtained from Medicare claims and enrollment data, will be used to generate an estimate of beneficiary readiness to engage in a wellness program. For purposes of this interim report, the Acumen team only reports on one component of readiness: the self-reported likelihood of enrollment in a wellness program in the next six months. Further refinement and modeling to predict readiness to participate in a wellness program will be developed after all data collection is complete.

To evaluate program impacts of beneficiary participation in the six wellness programs on measures of health behavior, health status and resource use (Research Question 2), the Acumen team has recruited 90 organizations offering the six wellness programs to prospectively enroll and survey their Medicare participants at enrollment (i.e., baseline), and 6 and 12 months after program enrollment, over a 15-month initial enrollment period. Our group will combine responses to the wellness program participant surveys with linked Medicare claims and will use the resulting data to assess program impacts on changes in health outcomes (e.g., quality of life, physical activity, falls and balance problems, medication adherence), health service utilization, and medical costs. The impact analysis will be based on a quasi-experimental design using a difference-in-differences (DiD) estimation approach, where the average change in each outcome is calculated between the pre-enrollment period and post-enrollment period among program participants, and compared to a matched comparison group; this comparison group will be selected from among the respondents to the national survey of beneficiaries described above. The Acumen team will use individual demographic, enrollment, behavioral, diagnostic, and functional health information to match the wellness program participant group to a comparison group drawn from the national survey that we determine to have a similar propensity to enroll in a wellness program.

Table 2.1 below presents the design of the primary survey data collection for the national and participant samples. Our group administers two surveys, the national survey of Medicare beneficiaries (hereafter referred to as the national survey) and the wellness program participant

survey (hereafter referred to as the participant survey), at baseline, and at 6 months and 12 months after the baseline survey. The Acumen team administers the national surveys by mail with phone follow-up. For the baseline national survey, the total survey sample was divided into 12 monthly replicates administered over the course of the study period, with the follow-up surveys administered at the corresponding 6-month and 12-month intervals. The participant surveys are distributed in person at enrollment at each organization offering the wellness programs and by mail for each of the two follow-up periods. Our group also collects wellness program participant attendance records to characterize each participant's level of exposure to the intervention. Baseline participant surveys capture information about beneficiary demographic and socio-economic characteristics and other factors (e.g., ability to manage one's health; awareness of and participation in wellness and prevention activities) that may contribute to readiness to participate in a wellness program. Baseline and follow-up surveys gather information on outcomes related to perceived health status and quality of life, physical activity, falls and balance problems, and medication adherence.

Table 2.1: Medicare Beneficiary-Level Primary Data Collection Design

Survey	National Sample	Wellness Program Participant Sample
Baseline	12 replicates at 1-month intervals, by mail	Administered onsite at enrollment to new program participants over the 15-month enrollment period Wellness program attendance records are also collected for those participants for whom baseline surveys have been received.
6-Month Follow-Up Survey	12 replicates at corresponding 1-month intervals to all completing baseline survey, by mail	Administered by mail to all program participants at corresponding 6-month point
12-Month Follow-Up Survey	12 replicates at corresponding 1-month intervals to matched comparison only, by mail Respondents must have completed 6 month follow-up survey	Administered by mail monthly to all program participants at the corresponding 12 month-point Participants must also have completed the 6 month follow-up survey

This interim report is descriptive in nature and is based only on data collected through June 30, 2015, reflecting responses to baseline national surveys received from the first six replicates, and to baseline participant surveys received from beneficiaries enrolled in the six selected wellness programs during the first eight months of the study period.

The Acumen team linked Medicare enrollment data, as well as Parts A, B, and D claims data, to each beneficiary for whom a completed survey was received. For this report, our group describes health care costs and utilization for each beneficiary for the year prior to survey

completion. Subsequent analyses will use these data to understand (i) the contribution of costs and utilization to a beneficiary's readiness to engage in wellness programs; and (ii) the impact of wellness program participation on Medicare costs and utilization.

The Acumen team also conducted site visits to a number of study organizations delivering wellness programs to provide additional context on factors that may affect broader implementation and sustainability of the selected wellness programs. Our group conducted in-depth interviews with staff from each wellness program, including such staff as executive directors, outreach/recruitment coordinators, program coordinators, leaders, and financial officers during in-person site visits to 10 organizations that deliver or support delivery of wellness programs. During the site visits, the Acumen team collected information on organizational structure, implementation and best practices, program fidelity, and performance data and reporting.

In future reports, our group will conduct a global assessment of program impacts and operations based on the combined quantitative and qualitative findings of specific program effects on health status, behavior, resource use, demand in the Medicare population for wellness programs, and program delivery cost. The intent of this global assessment is to provide additional insights into the viability and benefits of wellness programs that may inform future federal efforts to offer wellness and preventive services.

3 READINESS TO PARTICIPATE IN WELLNESS PROGRAMS

This section describes findings from the national survey of non-institutionalized Medicare beneficiaries over a one-year period (through June 30, 2015), with a focus on one component of readiness–a direct estimate of a beneficiary's self-reported likelihood to enroll in a wellness program in the next six months at the time of survey completion.[1] Section 3.1 provides information on the national survey sample and administration. Section 3.2 outlines selected characteristics of the national survey sample. Section 3.3 provides preliminary descriptions of the differences in characteristics between beneficiaries based on their likelihood of enrolling in a wellness program in the next six months. Finally, Section 3.4 describes next steps for completing the national survey data collection and estimating readiness measures.

3.1 National Survey Sample and Administration

The Acumen team drew the national sample from Medicare enrollment files. Our group used three phases of sampling to arrive at the approximately 15,500 Medicare beneficiaries selected for the national survey sample:

- In Phase 1, the Acumen team drew a one-percent sample of non-institutionalized beneficiaries from Medicare enrollment files. This phase resulted in a sample of approximately 400,000 beneficiaries. After examining characteristics of this sample, including health care conditions among beneficiaries, the Acumen team decided to oversample women with diabetes to improve our ability to construct a matched comparison group for the participant sample (which was disproportionately composed of women with diabetes).[2]
- In Phase 2, the Acumen team drew a sample of approximately 49,000 beneficiaries from the Phase 1 sample in two strata: the first composed of 11,000 women with diabetes and the second composed of 38,000 other individuals. The Phase 2 sample was systematically drawn from the Phase 1 sample, by strata, sorted by sex, age group, and Census Bureau region.
- In Phase 3, the Acumen team assigned each of the Phase 2 sample records into one of 12 "waves" representing the month during which the sample member would receive the survey. The first wave was fielded in January 2015, and the twelfth wave was scheduled

[1] This timeframe is also the same timeframe as the participant wellness program enrollment period. Conducting the national survey over the one-year enrollment period enables the analyses to control for possible seasonal effects in both the national estimates of readiness and the program outcomes evaluation.

[2] Perlroth D, Rusev, E., Marrufo, G., Packarg, M., Ghimire, E., Lewis, C., Montesinos, A., Dixit, A., Solomon, N., Masaki, M., Li, B. *Retrospective Study of Community-Based Wellness and Prevention Programs: Final Report to Center for Medicare and Medicaid Services (CMS)*: Acumen LLC;2013.

for fielding in December 2015. Once all Phase 2 sample members were assigned to a wave, the Acumen team drew the Phase 3 sample of 15,500 beneficiaries systematically from the Phase 2 sample sorted by sex, age group, and Census Bureau region.

- The size of the Phase 3 sample draw varied slightly by month to reflect anticipated attrition of beneficiaries; later waves contained larger samples. To increase fielding efficiency, each month the sample was checked against updated Medicare enrollment data to help identify newly ineligible beneficiaries

Survey administration included an initial mailing with reminder postcard to non-responders to the first mailing. Continued follow-up with non-responders included a second mailing, followed by attempts to survey non-responders by phone using computer-assisted telephone interviewing (CATI). As shown in Table 3.1, the Acumen team received 3,820 completed baseline national surveys as of June 30, 2015, reflecting response rates of 52 percent and 55 percent, respectively, for the two fully completed replicates.[3]

Table 3.1: Baseline National Survey Data Collection Status as of June 30, 2015

Replicate	Initial Survey Mailing	Survey Administration Status as of June 30	Starting Sample Size	Eligible Sample*	Response Rate as of June 30, 2015	Number of Completed Surveys as of June 30, 2015
1	January 15, 2015	Complete	1,560	1,457	52%	751
2	February 13, 2015	Complete	1,565	1,436	55%	786
3	March 13, 2015	Ongoing CATI non-response follow up	1,571	1,411	52%	730
4	April 15, 2015	Ongoing CATI non-response follow up	1,584	1,433	50%	719
5	May 15, 2015	Follow up survey mailing	1,594	1,451	47%	682
6	June 15, 2015	Reminder/thank you postcard	1,609	1,455	10%	152

Note: Total number of surveys returned as of June 30, 2015 was 3,820.
* Excludes individuals who were reported as deceased, postage not deliverable, or not locatable for CATI non-response follow up

3.2 Selected Characteristics of the National Survey Sample

This section provides information on the characteristics of the baseline national survey sample, based on responses received as of June 30, 2015. These characteristics are provided as a snapshot of a portion of the baseline national survey population, but ultimately the full population of survey respondents may differ from the group described in the present report due to continuing follow-up with replicates 5 and 6 and the addition of replicates 7 through 12. In addition, these characteristics have not yet been weighted to account for sampling stratification.

[3] Response rates for subsequent replicates have been consistently in the 52 to 55 percent range for the additional replicates, as well.

While the Acumen team identified some characteristics via beneficiary self-report from the baseline national survey, others were obtained from Medicare claims and enrollment data. In reporting the characteristics obtained from Medicare data sources, the Acumen team restricted the population to beneficiaries who had at least one year of continuous enrollment in Medicare A/B fee-for-service prior to program enrollment and who were at least 66 years old; these restrictions ensured that the Acumen team was able to observe complete claims histories for the beneficiaries in the pre-enrollment period. The population that satisfied these criteria represented 2,418 (63 percent) of the 3,820 survey respondents. The tables throughout this section note the data source and associated restrictions for each characteristic.

About two-thirds of baseline national survey respondents were enrolled in Medicare A/B fee-for-service (FFS), while about one-third was enrolled in Medicare Advantage, as shown below in Table 3.2. Among the Medicare FFS beneficiaries, a majority also had Part D coverage. About 10 percent of beneficiaries were dually enrolled in Medicare and Medicaid. All but one of the beneficiaries met the restriction of one prior year of continuous Medicare enrollment and being age 66 or older.

Table 3.2: Count and Rate of National Survey Respondents by Medicare Enrollment Status

Category	Medicare FFS (Parts A/B)	Medicare FFS (Parts A/B/D)	Medicare Advantage	Other Medicare Enrolled	Not Medicare Enrolled/Unknown	Dual-Enrolled	Total
Count	2,509	1,604	1,289	21	1	375	3,820
Percentage	65.7%	42.0%	33.7%	0.5%	0.0%	9.8%	100.0%

Source: Medicare enrollment data from Enrollment Database (EDB)

Table 3.3 below shows the demographic characteristics of the survey respondents. Among beneficiaries enrolled in Medicare FFS, both the mean and median ages were in the mid-70s, and the 90th percentile of respondents were in their mid-80s. Moreover, nearly two-thirds of Medicare FFS respondents were female; this is consistent with the sample design, which oversampled female beneficiaries given prior research showing that women make up a majority of wellness program participants. Nearly 90 percent of survey respondents were white. Among the Medicare FFS population, about three quarters of respondents were from urban areas, and nearly nine percent were dually enrolled in Medicare and Medicaid. Among all respondents—including those with or without enrollment in Medicare FFS—the majority reported being married (57.5 percent), and less than one-third are living alone. About 54 percent reported annual household incomes less than $40,000, and more than half (52.8 percent) had completed some college or obtained a college degree.

Respondents in this snapshot sample are similar to community resident respondents from the 2013 Medicare Current Beneficiaries Survey (MCBS)[4] in terms of age, marital status, urban/rural status, and the proportion of beneficiaries living alone. MCBS reports a slightly higher percentage of beneficiaries without a high school diploma (19.1 percent) and a substantially lower percentage of beneficiaries with incomes of $40,000 or more (35.7 percent). The percentage of males (46 percent) is unsurprisingly higher in MCBS given the sampling design for our baseline national survey. Once data collection and weighting are complete for the baseline national survey, the Acumen team will compare the characteristics of the full national survey population to the broader Medicare population.

Table 3.3: Demographic Characteristics among National Survey Respondents

Category	Group	National Survey Respondents
Age (Years)+	Mean	76.4
	10th Percentile	68.0
	Median	75.3
	90th Percentile	86.5
Sex+	% Male	39.9%
	% Female	60.1%
Race/Ethnicity*	% American Indian/Alaska Native	1.2%
	% Asian	2.5%
	% Black/African American	6.9%
	% Native Hawaiian/ Pacific Islander	0.4%
	% White	88.0%
	% Multi-race	1.0%
	% Hispanic[a]	5.1%
Urban/Rural Status+	% Urban	74.1%
	% Rural	25.8%
	% Other	0.1%
Dual Status+	%Dual	8.9%
Annual Household Income*	% less than $20,000	25.4%
	% $20,000-$39,999	28.1%
	% $40,000 or more	46.5%
Education*	% less than high school	14.4%
	% high school graduate	32.7%
	% some college/2 year degree	26.1%
	% 4 year college graduate or higher	26.8%

[4] 2013 Medicare Current Beneficiaries Survey Data Tables accessed December 11, 2015 from https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Data-Tables-Items/2013CNP.html

Category	Group	National Survey Respondents
Other Characteristics*	% married/cohabiting	57.5%
	% living alone	29.3%
	% difficulty with transportation	13.2%
	% employed	11.2%

+ Characteristics are identified through Medicare claims data from the Common Working File (CWF) and enrollment data from EDB. The population for this characteristic is limited to the 2,418 respondents who have at least one year of continuous enrollment in Medicare FFS (A/B) and who are at least 66 years old.
* Characteristics are identified through baseline national survey data. The population for this characteristic includes the 3,820 survey respondents received through June 30, 2015.
[a] Hispanic ethnicity is identified separately from race, and therefore percentages within the Race/Ethnicity category do not sum to 100 percent.

Health status, as measured by CMS Hierarchical Condition Code (CMS-HCC) risk scores, varied among national survey respondents. Acumen used the CMS-HCC risk adjustment methodology to calculate risk scores for all Medicare FFS survey respondents who were at least 66 years old and who had at least one year of continuous Medicare enrollment, based on data from the year prior to survey completion. As Table 3.4 below shows, the average risk score among respondents was 1.2, indicating that annual costs for these beneficiaries would be expected to be about 20 percent higher than for the general Medicare population. At the 90th percentile, beneficiaries were expected to be about 160 percent more expensive than the general Medicare population. Moreover, certain diagnoses were common among the survey population, as shown in Table 3.5. More than half of beneficiaries had diabetes, either with or without complications; this is consistent with the sample design, which oversampled beneficiaries with diabetes. Moreover, large shares of beneficiaries had heart-related conditions such as coronary atherosclerosis and cardiac dysrhythmias, cardiac arrest, and ventricular fibrillation.

Table 3.4: Distribution of Hierarchical Condition Code (HCC) Risk Scores among Medicare FFS National Survey Respondents Meeting Enrollment and Age Restrictions+

Mean	10th Percentile	Median	90th Percentile
1.2	0.3	0.9	2.6

+ Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old.
Source: Medicare claims data from the CWF and enrollment data from the EDB

Table 3.5: Rates of Healthcare Cost and Utilization Project (HCUP) Diagnosis Categories in Year Prior to Survey Administration among Medicare FFS National Survey Respondents Meeting Enrollment and Age Restrictions+

HCUP Diagnosis Categories	Percentage of Respondents with Diagnosis in Year Prior to Survey
Diabetes mellitus without complication	39.9%
Cardiac dysrhythmias, arrest and ventricular fibrillation	27.8%
Coronary atherosclerosis	23.6%
Asthma	20.4%

HCUP Diagnosis Categories	Percentage of Respondents with Diagnosis in Year Prior to Survey
Other cancers	17.7%
Diabetes mellitus with complications	17.4%
Heart valve disorders	16.0%
Renal failure	15.0%
Cerebrovascular disease	13.9%
Hypertension with complications	12.7%
Fluid and electrolyte disorders	12.0%
Congestive heart failure (all settings)	10.4%
Disorders of nervous system	10.1%
Pneumonia	9.3%
Coagulation and hemorrhagic disorders	5.2%
Dementia	4.6%
Gastrointestinal hemorrhage (all settings)	4.2%
Peri-, endo-, and myocarditis	4.2%
Pulmonary heart disease	3.7%
Rheumatoid arthritis and related disease	3.6%
Parkinson's disease and multiple sclerosis	1.9%
Stomach, pancreas, and lung cancer	1.8%
Septicemia	1.7%
Congestive heart failure (IP)	1.3%
Hepatitis	0.8%
AMI (IP)	0.7%
Paralysis	0.7%
Acute cerebrovascular disease (IP)	0.4%

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old.
Source: Medicare claims data from the CWF and enrollment data from the EDB

The vast majority of national survey respondents had no hospital stays or emergency room visits over the year prior to completion of the survey. As shown below in Table 3.6, more than 80 percent of beneficiaries had zero hospital stays, and three quarters of beneficiaries had zero ER visits. Moreover, only 4.8 percent of beneficiaries had multiple hospital stays in the prior year, and only 7.6 percent had multiple ER visits. The Acumen team calculated hospital and emergency room visit rates using claims data for all survey respondents who had at least one year of continuous enrollment in Medicare FFS and who were at least 66 years old at the time of the survey; these restrictions ensured that beneficiaries had at least one year of complete claims history. The ER visit rate included observation stays, but it excluded ER visits that resulted in a hospital admission. Additionally, the mean number of physician office visit claims over the prior year among the national survey population who met the above enrollment and age criteria was 8.9.

Table 3.6: Service Utilization Counts and Rates in Year Prior to Survey Administration among Medicare FFS National Survey Respondents Meeting Enrollment and Age Restrictions[+]

Service Area	Service Utilization Rate
Average Number of Office Visits	8.9
Hospitalization Rate	
0 Stays	84.5%
1 Stay	10.7%
2+ Stays	4.8%
ER Visit Rate	
0 ER Visits	77.0%
1 ER Visit	15.4%
2+ ER Visits	7.6%

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old.
Source: Medicare claims data from the CWF and enrollment data from the EDB

Survey respondents enrolled in Medicare Parts A, B, and D had higher costs in the year prior to survey completion than those enrolled only in Parts A and B. Those without drug coverage had annual A/B expenditures of about $6,800, while those with drug coverage had annual A/B expenditures of about $7,200, as shown in Table 3.7. Moreover, among this latter population annual Part D costs were about $4,000.

Table 3.7: Mean Expenditures per Beneficiary in Year Prior to Survey Administration among Medicare FFS National Survey Respondents Meeting Enrollment and Age Restrictions[+]

Service Category	Expenditures per Beneficiary, Medicare FFS (A/B) N=2,418	Expenditures per Beneficiary, Medicare FFS (A/B/D) N=1,537
Total Medicare Parts A/B Expenditures	$6,826	$7,244
Total Medicare Part D Expenditure	N/A	$3,947
Inpatient Cost	$1,742	$1,886
ER Cost	$215	$215
DME Cost	$196	$235

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old. Beneficiaries in the A/B/D column also must have had at least one year of continuous enrollment in Medicare Part D.
Source: Medicare claims data from the CWF and enrollment data from the EDB

3.3 Preliminary Data on Likelihood of Enrollment in a Wellness Program

This section presents data from the 3,820 baseline national survey respondents who returned surveys by June 30, 2015. First, our group describes the overall awareness among beneficiaries about wellness programs[5] and likelihood of enrollment, as well as the types of

[5] Wellness programs were defined for respondents on the survey as "ongoing, organized group meetings or sessions, done online or in person, where the focus is on improving one's health through knowledge and/or activity." Respondents were also instructed not to include diet or fitness programs done on an individual basis.

programs that are of interest to respondents. Next, the Acumen team describes how the characteristics of respondents–demographic, health status, and health engagement–differ between those who indicate they are or are not likely to enroll in a wellness program in the next six months. This preliminary analysis highlights variables that are associated with likelihood of enrollment that will be explored in more detail with the full weighted baseline national survey sample data in future reports. Given that the findings in this section are based on incomplete and unweighted data they cannot be used to draw conclusions about the readiness of Medicare beneficiaries to participate in wellness programs[6]. Weighting, in particular, is critical in correcting for demographic differences in response rates that may impact results. All results in this section were obtained through self-reported responses to items on the national survey.

3.3.1 Awareness and Likelihood of Enrollment in a Wellness Program

Nearly half (47.8 percent) of baseline national survey respondents were aware of wellness programs in their community, online, or both. Regardless of awareness, the survey instrument described the nature and intent of wellness programs and asked how likely respondents were to enroll in a wellness program, assuming such a program was offered in their community. As shown in Table 3.8, more than half of respondents (56.8 percent) reported that they were "somewhat" to "very" likely to enroll over the next six months. For the remainder of this report, the Acumen team treats all respondents who indicated they were at least somewhat likely to enroll in a wellness program as being likely to enroll. About 80 percent of respondents who indicated that they were likely to enroll in a wellness program indicated that they would enroll in a program related to physical activity, nutrition, and obesity. Nearly half selected programs related to chronic disease management and falls prevention, respectively.

Table 3.8: Self-Reported Likelihood of Enrollment in a Wellness Program in the National Sample (N=3,820)

Wellness Program Awareness/Readiness Item	Rate
Awareness of Wellness Programs[a] (N=3,725)	
In Community	39.2%
Online	14.2%
Not aware	52.2%
Self-Reported Likelihood of Enrollment in Next 6 Months (N=3,719)	
At least somewhat likely to enroll	56.8%
Very likely to enroll	*12.3%*
Likely to enroll	*13.9%*
Somewhat likely to enroll	*30.6%*
Not at all likely to enroll	43.2%
Interest in Enrolling in Specific Program Type among Respondents Indicating Being at Least Somewhat Likely to Enroll (N=2,112)[a]	
Chronic disease management	46.4%
Falls prevention	43.0%

[6] The Acumen team did not perform tests of statistical significance for this interim analysis, as the national survey data are incomplete and unweighted.

Wellness Program Awareness/Readiness Item	Rate
Physical activity, nutrition, obesity	79.7%
Other program	4.0%

[a]Program types do not sum to 100 percent as respondents could check all that apply.
Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National survey responses through June 30, 2015

3.3.2 Demographic Characteristics of Respondents by Self-Reported Likelihood of Enrollment

Respondents who indicated they were likely to enroll in a wellness program were demographically different from those who indicated they were not likely to enroll, as shown below in Table 3.9. Those likely to enroll were younger; more than half (51.4 percent) were under the age of 75 compared to only 40.8 percent of those not likely to enroll. They were also more likely to be female (64.9 percent vs. 55.7 percent) and less likely to be white (85.1 percent vs. 92.1 percent). While all non-white racial and ethnic groups are better represented among those who are likely to enroll, the largest difference was found for black respondents, who comprised 9.3 percent of those likely to enroll but only 3.7 percent of those not likely to enroll. Income did not differ substantially between the two groups, but those likely to enroll were better educated; 87.9 percent had completed high school or more as compared with only 82.4 percent of those not likely to enroll.

Table 3.9: Demographics of the National Sample (N=3,820) by Self-Reported Likelihood of Enrollment

Demographic Category	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
Age (N=3,576)		
66-74	51.4%	40.8%
75-84	37.0%	40.5%
85 and older	11.6%	18.7%
Race/Ethnicity[a] (N=3,466)		
American Indian/Alaska Native	1.5%	0.7%
Asian	2.9%	2.0%
Black/African American	9.3%	3.7%
Native Hawaiian/Other Pacific Islander	0.4%	0.3%
White	85.1%	92.1%
Multi-race	0.8%	1.3%
Hispanic (N=3,312)	5.3%	4.9%
Annual Household Income (N=2,957)		
Less than $20,000	25.0%	25.7%
$20,000-$39,999	28.2%	28.1%
$40,000 or more	46.8%	46.2%
Educational Attainment (N=3,610)		
Less than high school	12.1%	17.6%
High school graduate	32.3%	33.2%
Some college/2 year degree	28.8%	22.5%
4 year college graduate or higher	26.8%	26.6%
Other Characteristics		

Demographic Category	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
Female (N=3,628)	64.9%	55.7%
Married/cohabiting (N=3,621)	57.6%	58.0%
Living alone (N=3,620)	29.3%	28.7%
Difficulty with transportation (N=3,669)	12.5%	13.7%
Employed (full/part time) (N=3,600)	10.7%	11.9%

[a] Hispanic ethnicity is identified separately from race, and therefore percentages within the Race/Ethnicity category do not sum to 100 percent.
Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National survey responses through June 30, 2015

3.3.3 Health Status of Respondents by Self-Reported Likelihood of Enrollment

Indicators of health status were not consistently associated with likelihood of enrollment in a wellness program, but the initial results are suggestive of future analyses that can be conducted once all national surveys are received. For example, as shown below in Table 3.10, respondents who indicated they were not likely to enroll in a wellness program were more likely to report being in excellent or very good general health, suggesting that healthier respondents did not see the need for participation given their good health. Yet respondents who indicated they were likely to enroll reported being in fair or poor health slightly less often than the group who were unlikely to enroll, suggesting that beneficiaries with a baseline level of relatively good health may be more likely to participate than beneficiaries in poorer health.

Table 3.10: Health Status of the National Sample (N=3,820) by Self-Reported Likelihood of Enrollment

Health Status Category	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
General Health (N= 3,668)		
Excellent or Very Good	35.8	40.8
Good	39.5	33.8
Fair or Poor	24.7	25.3
Chronic Conditions (N=3,512)		
% with arthritis	64.7	58.1
% with diabetes	28.5	24.4
% with prediabetes	11.1	7.9
Physical and Mental Health Measures		
Obesity (Body Mass Index) (N=3,579)		
% overweight, not obese	36.8	38.1
% obese	33.0	24.7
% with vision/hearing impairment (N=3,660)	16.4	18.5
% current smoker (N=3,642)	5.3	7.3
% with major depression (PHQ-2) (N=3,620)	13.9	12.9

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National survey responses through June 30, 2015

Respondents who were likely to enroll in a wellness program reported a greater level of difficulty with balance, walking, and falls than those who were not likely to enroll, as shown

below in Table 3.11. The most notable difference between the two groups of respondents was related to fear of falling. Among those likely to enroll, about 44 percent expressed a fear of falling compared to only 34 percent of respondents not likely to enroll. The percentage of respondents who reported having experienced falls, and the average number of falls, was also higher among those likely to enroll in a wellness program. Survey respondents also completed a series of six items measuring beneficiary confidence in balance, known as the Activities-specific Balance Confidence (ABC-6) scale.[7] These items ask respondents to rate their confidence in remaining steady on a scale of 0-100 percent for specific activities such as standing on their tiptoes and reaching for something above their heads or stepping onto and off of an escalator. The measure is scored as the average across all six items. There was little difference in the ABC-6 score between those likely and not likely to enroll; those likely to enroll averaged around 63 percent confidence compared to 65 percent among those not likely to enroll in a wellness program.

Table 3.11: Falls and Balance Outcomes within the National Sample (N=3,820) by Self-Reported Likelihood of Enrollment

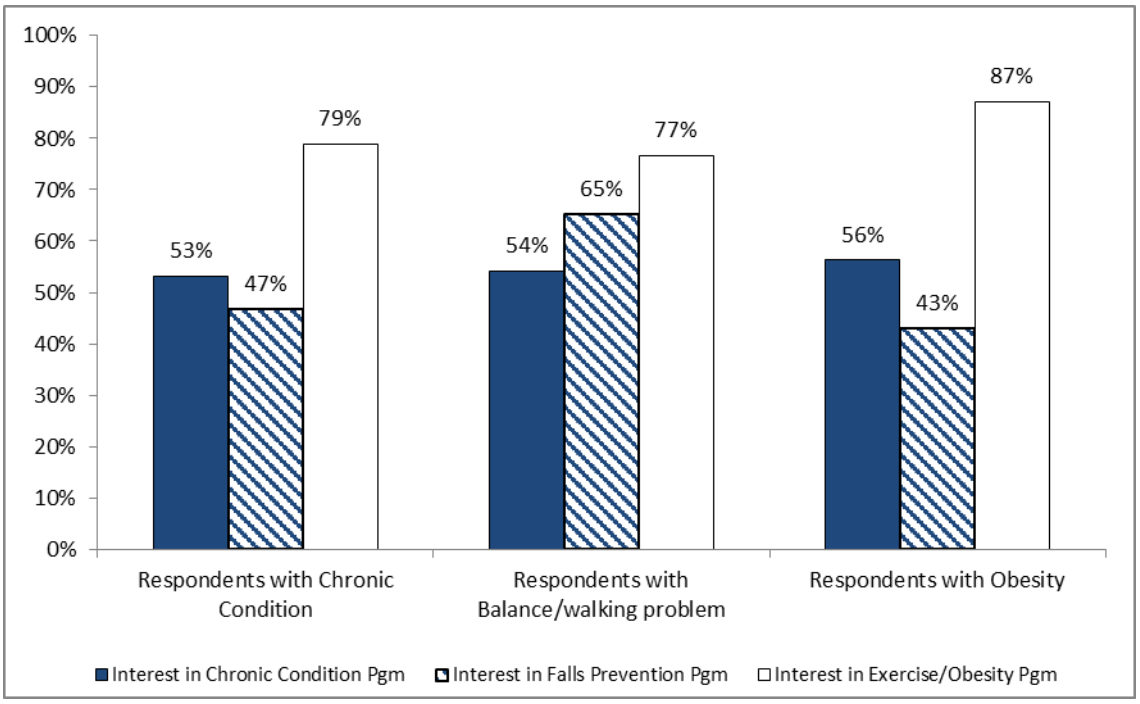
Health Condition Category	Likely to Enroll in Program 56.7% (N=2,114)	Not Likely to Enroll in Program 43.3% (N=1,613)
Falls		
Percentage who fell in past 6 months (N=3,562)	22.2%	18.7%
Average number of falls (N=695)	2.1	2.1
Average number of falls limiting activities/requiring doctor (N=647)	1.1	0.8
Percentage afraid of falling (N=3,141)	43.8%	33.6%
Balance and Walking		
Percentage with balance/walking problems (N=3,534)	36.9%	29.9%
Average Confidence in Balance Score (ABC-6) (N=2,899)	63.4%	64.6%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National survey responses through June 30, 2015

Among respondents with self-reported health conditions, including chronic conditions, balance or walking problems, or obesity, many were interested in enrolling in exercise, nutrition, and obesity programs, as shown below in Figure 3.1. Interest in exercise, nutrition, and obesity programs was high among all respondents with one or more self-reported health conditions, but it was highest (87 percent) among respondents with obesity. Similarly, interest in falls prevention programs was highest among individuals with balance and walking problems. In contrast, interest in chronic condition programs was similar across respondents with chronic conditions (defined as arthritis, diabetes, and prediabetes), balance and walking problems, and obesity.

[7] Chava Peretz, Talia Herman, Jeffrey M. Hausdorff, Nir Giladi.. "Assessing Fear of Falling: Can a Short Version of the Activities-Specific Balance Confidence Scale Be Useful?" *Movement Disorders* 21 (December 2006): 2101–2105; also see: http://www.ncbi.nlm.nih.gov/pubmed/19615762.

Figure 3.1: Interest in Program Type by Self-Reported Health Condition, for Respondents Likely to Enroll in a Wellness Program (N=2,112)



Source: National survey responses through June 30, 2015

3.3.4 Health and Health Care Engagement of Respondents by Self-Reported Likelihood of Enrollment

Physician advice appears to be among the strongest predictors of readiness to engage in a wellness program. As shown in Table 3.12, respondents who are likely to enroll in a wellness program were far more likely to have received recommendations to eat more healthful foods, lose or gain weight, or get regular exercise. In contrast, those not likely to enroll in a wellness program were far more likely to report that their physician made no such recommendations (41.3 percent vs. 21.8 percent).

Table 3.12: Rates of Physician Recommendations in Past 12 Months for National Sample (N=3,820) by Self-Reported Likelihood of Enrollment

Recommendation Topic Area	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
Physical Activity, Nutrition, and Obesity (N=3,494)		
Eat more healthful foods	34.3%	21.8%
Lose or gain weight	30.5%	17.5%
Get regular exercise	46.1%	28.2%
Falls Prevention (N=3,494)		
Improve balance	20.6%	13.2%
Chronic Disease Management (N=3,494)		
Manage health problems	41.6%	32.2%
None		

Recommendation Topic Area	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
Physician made no recommendations (N=3,494)	21.8%	41.3%
Did not visit physician in past year (N=3,643)	3.3%	5.1%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels. Respondents could select multiple physician recommendations, so percentages do not add to 100 percent.
Source: National survey responses through June 30, 2015

Respondents who are likely to enroll in a wellness program are also somewhat more active than their counterparts who are unlikely to enroll. The national survey contained a series of items measuring aerobic, strength, and flexibility activities, based on the Rapid Assessment of Physical Activity 1 and 2 (RAPA1 and RAPA2) scales.[8] Those likely to enroll were about half as likely to be classified as "sedentary" in the area of aerobic activity, and they were rated as more active on measures of muscle strength and flexibility, as shown below in Table 3.13.

Table 3.13: Physical Activity Measures of the National Sample (N=3,820) by Self-Reported Likelihood of Enrollment

RAPA Scale	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
Aerobic Activity (RAPA1) (N=3,628)		
Active	43.6	43.8
Under-active	50.9	45.6
Sedentary	5.5	10.6
Strength/Flexibility Activity (RAPA2) (N=3,525)		
Muscle strength and flexibility	21.1	16.6
Flexibility	18.9	14.9
Muscle strength	7.8	6.6
None	52.3	61.9

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National survey responses through June 30, 2015

Relationships between the likelihood of enrollment in a wellness program and other measures of health management are shown in Table 3.14. Similar to the pattern found for general health, results show that respondents with very high or very low levels of self-efficacy[9] are slightly less likely to enroll in a wellness program, while those with average and above average self-efficacy are slightly more likely to enroll. This pattern could indicate that individuals with very high self-efficacy are less likely to need the support of a wellness program,

[8] The RAPA questionnaire was designed to provide clinicians with a tool for quickly assessing the level of physical activity of their older adult patients. The RAPA scales measure the amount and intensity of the respondent's usual physical activities (RAPA 1); and the level of activities undertaken to increase muscle strength and flexibility (RAPA 2). See: http://depts.washington.edu/hprc/rapa.

[9] The New General Self-Efficacy (NGSE) scale contains eight items measuring an individual's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands. See Chen, G., Gully, S., Eden. D. (2001). Validation of a New General Self-Efficacy Scale. *Organizational Research Methods* 4:62.

while individuals with very low self-efficacy do not feel confident or engaged enough to participate.

With respect to measures of patient engagement, respondents likely to enroll in a wellness program were slightly more likely to report having received a flu shot in the past year than those who were not likely to enroll. However, both groups scored similarly on patient activation, which asks about confidence in identifying the need for health care and whether respondents take medication lists to their physician visits.[10] Respondents likely to enroll reported lower adherence to medication regimens prescribed by their physicians.

Table 3.14: Health Management of the National Sample (N=3,820) by Self-Reported Likelihood of Enrollment

Health Management Outcomes	Likely to Enroll in Program 56.8% (N=2,112)	Not Likely to Enroll in Program 43.2% (N=1,607)
Self-Efficacy (N=3,649)		
Low	6.7	10.8
Below average	10.7	10.4
Average	30.5	26.9
Above average	30.4	26.9
High	21.7	25.0
Patient Engagement		
Percent who received flu shot past year (N=3,645)	80.3	74.2
Patient Activation (N=3,417)		
Active	47.4	49.4
Complacent	7.8	9.7
High effort	35.7	32.2
Passive	9.0	8.6
Self-Reported Medication Adherence[a] (N=3,346)		
High compliance	52.1	62.4
Moderate compliance	22.9	19.7
Low compliance	25.0	17.8

[a]Medication adherence is measured by a modified form of the CDSMP Medication Adherence Scale. Percentages are based only on respondents who take medications.
Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: National survey responses through June 30, 2015

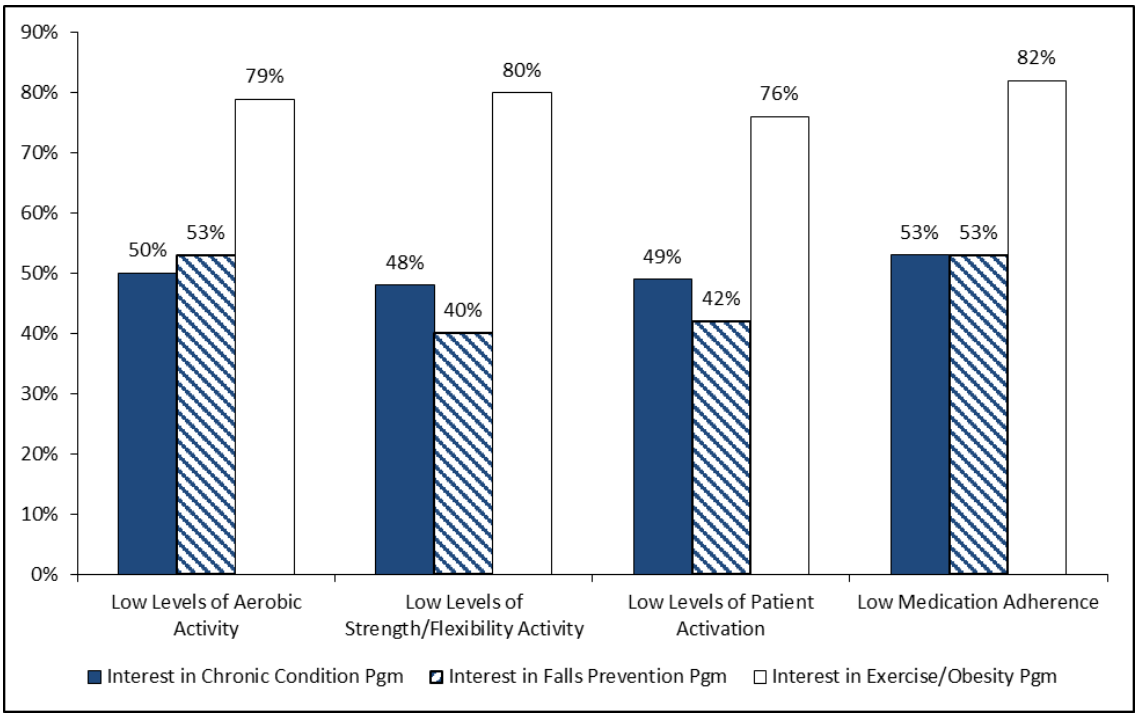
As Figure 3.2 shows, interest in specific types of wellness programs (among those likely to enroll in the next six months) was generally consistent across levels of respondent activity and engagement. Interest in falls prevention programs was slightly higher among those with low

[10] Patient activation was measured with two items from the Medicare Current Beneficiaries Survey. These items were validated by Williams and Heller (2007) and found to reliably discriminate between beneficiaries who take a proactive role in managing their health care and those who are more passive. See Williams, S. and Heller, A. (2007). Patient Activation among Medicare Beneficiaries: Segmentation to Promote Informed Health Care Decision Making, International Journal of Pharmaceutical and Healthcare Marketing, 1(3), 199 – 213.

levels of aerobic activity and low medication adherence, and interest in chronic disease management programs was slightly higher among those with low medication adherence.

The analyses presented above suggest that a number of demographic, health status, and health care engagement variables are important predictors of readiness to engage in a wellness program. Recommendations for health behavior change from physicians appear to be an especially strong predictor of likelihood to enroll in a wellness program. If confirmed in subsequent analyses on the full, weighted sample from the baseline national survey, this finding is of great policy significance because guidelines for physician recommendations can be refined and disseminated to Medicare providers to ensure beneficiaries are motivated to enact appropriate behavior changes. Enrollment in wellness programs may be an important component of lasting change in their health behaviors. In subsequent analyses, the Acumen team will further explore this and other relationships with readiness to engage in wellness programs to provide CMS with information about the size and characteristics of the population likely to take part in these programs. Results may also suggest methods for encouraging participation within specific subpopulations that could benefit most from wellness programs.

Figure 3.2: Interest in Program Type by Respondent Activity and Engagement for Respondents Likely to Enroll in Program (N=2,112)



Source: National survey responses through June 30, 2015

3.4 Next Steps

Over the next year, the Acumen team plans to complete data collection for the baseline national survey, weight the national data to account for nonresponse and sampling stratification, and finalize methods for calculating the readiness measure. The Acumen team will also continue ongoing data collection for the 6- and 12-month follow up national surveys. As shown in Table 3.15, the final replicate of the baseline National Surveys will be mailed by December 2015, with non-response follow up to be initiated in February 2016. The Acumen team anticipates that all responses to the national survey will be complete by March 2016, at which time weights can be applied to the full national sample to ensure that the national sample is representative of the Medicare beneficiary population.[11]

Table 3.15: Baseline National Survey Administration Schedule

Replicate	Initial Survey Mailing	Reminder/ Thank You Postcard	Follow Up Survey Mailing	CATI non-response follow up begins
1	15-Jan 2015	22-Jan 2015	05-Feb 2015	19-Feb 2015
2	13-Feb 2015	20-Feb 2015	06-Mar 2015	23-Mar 2015
3	13-Mar 2015	20 Mar 2015	03-Apr 2015	20-Apr 2015
4	15-Apr 2015	22-Apr 2015	06-May 2015	20-May 2015
5	15-May 2015	22-May 2015	05-Jun 2015	19-Jun 2015
6	15-Jun 2015	22-Jun 2015	06-Jul 2015	20-July 2015
7	15-Jul 2015	22-July 2015	05-Aug 2015	19-Aug 2015
8	14-Aug 2015	21-Aug 2015	04-Sep 2015	18-Sep 2015
9	15-Sep 2015	22-Sep 2015	06-Oct 2015	20-Oct 2015
10	15-Oct 2015	22-Oct 2015	05-Nov 2015	19-Nov 2015
11	15-Nov 2015	22-Nov 2015	05-Dec 2015	19-Jan 2016
12	15-Dec 2015	22-Dec 2015	05-Jan 2016	19-Feb 2016

Note: Dates for replicates 11 and 12 may be adjusted to account for the holidays in order to maximize response rate.

Further refinement and modeling to predict readiness to participate in a wellness program will be developed after all data collection is complete. One promising preliminary finding from the present analysis is that the initial cohort of national survey respondents who indicated readiness to participate in wellness programs had higher rates of chronic conditions and obesity, as shown above in Table 3.10. The literature on readiness suggests that predisposing factors may include demographic characteristics such as age, sex, and race/ethnicity, and lifestyle factors such as social engagement and prior participation in other wellness activities. Barriers and enabling factors include English language proficiency, income, living arrangement, education,

[11] The Acumen team will develop non-response adjustment cells using CHAID (a categorical search algorithm), establishing groupings (adjustment cells) showing distinct response propensities. Each grouping will reflect a marginal or a cross-classification of variables where data are available for both respondents and non-respondents. Potential variables might include those available in the sample frame (e.g., age, sex, and health conditions) or in Medicare administrative data (e.g., number of office-based visits to a health care provider). To account for the complex sample design, we will estimate variance (e.g., standard errors or confidence intervals) using either replication methods (such as a jack-knife approach) or bootstrapping.

social support, health insurance, physician referral, awareness of wellness programs, attitudes about prevention care, and transportation resources. Factors indicating a need for wellness programs will also be considered, such as physical or behavioral comorbidities (e.g., depression, presence of certain chronic conditions, body-mass index (BMI), and current health practices (e.g., tobacco use). The Acumen team will explore developing a composite readiness measure incorporating items such as these predisposing characteristics, self-efficacy, mental health, and previous participation in wellness programs.

4 PARTNERSHIPS WITH EVIDENCE-BASED WELLNESS PROGRAMS AND COORDINATING ORGANIZATIONS

In support of the prospective evaluation, the Acumen team partnered with wellness programs and coordinating organizations, which support the delivery of wellness programs in the community. The Acumen team entered into a series of formal agreements with the wellness programs and coordinating organizations to compensate programs for evaluation activities, such as collecting and maintaining data on program participants, fielding participant surveys, and complying with local administrative requirements (e.g., Institutional Review Board [IRB]). This section summarizes and updates the "Wellness Prospective Evaluation Report on Program Recruitment and Readiness" delivered in October 2014.

4.1 Wellness Program Selection

The Acumen team engaged in a systematic process to identify the wellness programs to target for inclusion in the evaluation. The Acumen team identified an initial list of 58 wellness programs considered for inclusion based on the findings from the CMS wellness evaluation Phase I report, *Environmental Scan of Community-Based Prevention and Wellness Programs in the United States,* [12] the Phase II report, *Retrospective Study of Community-Based Wellness and Prevention Programs,*[13] and from expert recommendations.[14] The inclusion criteria were:

- strongest level of evidence of improvements in health or health outcomes among program participants;
- preliminary evidence of reduced health care utilization among program participants;
- expert recommendation;
- wellness services delivered in a community-based setting and with in-person classes;
- willingness to participate in the prospective evaluation; and
- capacity to provide 2,000 new enrollees for the prospective evaluation.

The six wellness programs included in the study, and described in more detail below in Table 4.1, include:

- CDSMP

[12] Brad Smith, Michelle Kloc, and Holly Korda. *Environmental Scan of Community-Based Prevention and Wellness Programs in the United States: Evidence Review Report* (Ann Arbor: Altarum Institute, December 15, 2011).
[13] Perlroth D, Rusev, E., Marrufo, G., Packarg, M., Ghimire, E., Lewis, C., Montesinos, A., Dixit, A., Solomon, N., Masaki, M., Li, B. *Retrospective Study of Community-Based Wellness and Prevention Programs: Final Report to Center for Medicare and Medicaid Services (CMS)*: Acumen LLC;2013.
[14] Experts consulted included representatives from the Evidence-Based Leadership Council (EBLC), the Arthritis Foundation, the YMCA of the USA, and other government agencies (i.e., Administration for Community Living [ACL], National Council on Aging [NCOA], Centers for Disease Control and Prevention [CDC], and the Substance Abuse and Mental Health Services Administration [SAMHSA]),

- DSMP
- EnhanceFitness
- Fit & Strong!
- A Matter of Balance
- Stepping On

The wellness programs cover all four of the ACA priority areas and have a primary focus on three of the four priority areas: physical activity, nutrition, and obesity; chronic disease management; and falls prevention. Two programs have a secondary focus on the fourth priority area: mental health. Four programs are available in 30 or more states, and two programs are available regionally. Brief descriptions of the included wellness programs are available in Appendix A.

CMS and the Acumen team convened a series of meetings to engage key stakeholders from the national wellness program community, obtain feedback on the proposed approach to the evaluation, and identify and mitigate risks to the success of the project. The Evidence-Based Leadership Council (EBLC), comprised of national leaders of the wellness programs with the strongest evidence base and implementation capacity, was an essential stakeholder group involved in the planning process. Representatives from the EBLC were also engaged to serve as strategic partners during the program recruitment and evaluation planning process. EBLC members advised on survey design, evaluation participation payment models, and the scope of activities of wellness program and coordinating organizations participating in the study evaluation. The EBLC advised that (i) the sample size requirements greatly restricted the number of programs that could feasibly participate; and (ii) wellness programs—specifically, the program developers and/or licensing organizations—were enthusiastic and interested in participating, but they lacked the workforce capacity to coordinate evaluation activities across sites offering the programs. In addition, the EBLC also recommended that the national programs assist in identifying state and local organizations offering their wellness program for direct recruitment.

Additionally, national leaders of the selected wellness programs have contributed in several ways to the evaluation, including by (i) acting as liaisons to organizations coordinating delivery of the wellness program, including identifying organizations that deliver the programs to large numbers of Medicare beneficiaries and introducing the Acumen team to organization leadership for recruitment; (ii) assisting with identifying and facilitating access to organizations to participate in site visits; and (iii) providing expert review of project deliverables and other key materials, such as training materials.

Table 4.1: Description of Wellness Programs Included in the Phase III Prospective Evaluation

Wellness Program	ACA Priority Area(s)	Program Start Year	Total Number of Locations in the U.S.	Number of States Where Program Is Available	Number of Classes per Session	Class Size
Chronic Disease Self-Management Program (CDSMP)[2] • English language • Tomando Control de su Salud (Spanish CDSMP)	**Chronic Disease Management**[1]; Physical Activity, Nutrition, & Obesity; Mental Health	Early 1990s (English); 2007 (Tomando)	2,685 locations (English); Not specified (Tomando)	46 states, plus Washington DC and Puerto Rico (English); Not specified (Tomando)	6 classes	10 to 16
Diabetes Self-Management Program (DSMP)[2] • English language • Programa de Manejo Personal de la Diabetes (Spanish DSMP)	**Chronic Disease Management**[1]; Physical Activity, Nutrition, & Obesity; Mental Health	2008	Not specified (English); 60 locations (Tomando)	43 states, plus Washington DC (English); 21 states (Tomando)	6 classes	12 to 16
EnhanceFitness	**Physical Activity, Nutrition & Obesity**[1]; Falls Prevention	1997	550 locations	32 states	Ongoing	up to 25
Fit & Strong!	**Physical Activity, Nutrition & Obesity**[1]	1996	35 locations	5 states	24 classes	20 to 25
A Matter of Balance	**Falls Prevention**[1]; Physical Activity, Nutrition, & Obesity	2004	500 locations	36 states, plus Washington DC	8 classes	10 to 12
Stepping On	**Falls Prevention**[1]	2004	156 locations	19 states	7 classes plus post-program visits	Not specified

[1] Indicates the primary focus of the program; other ACA priority areas listed are the secondary focus of the program.
[2] Unless noted, information is the same for both the English and Spanish versions of the wellness program

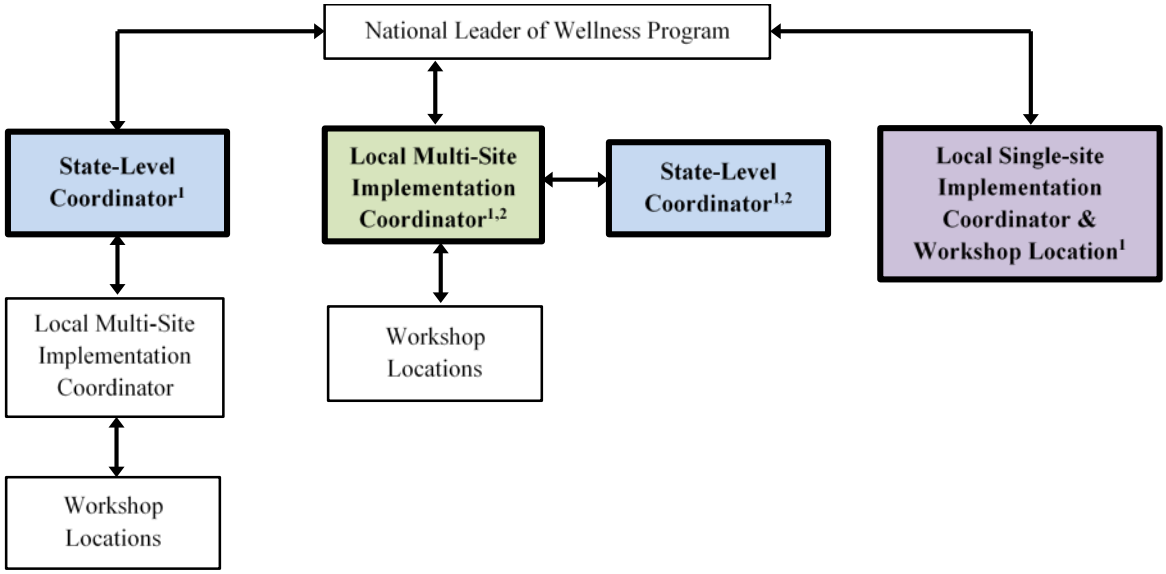
4.2 Coordinating Organization Role and Responsibilities

Upon final identification of the six wellness programs to be included in the prospective evaluation, the Acumen team worked with the leadership of each wellness program to identify and recruit the local organizations which offer these programs. These local organizations are referred to throughout this document as "coordinating organizations," reflecting that they either deliver or support delivery of the six selected wellness programs in the community. The types of coordinating organizations involved in wellness program delivery varied, but three main types emerged:

- state-level coordinators (e.g., department of health, statewide non-profit organization);
- local multi-site implementation coordinators (e.g., Area Agencies on Aging [AAAs], regional non-profit organization); and
- local single-site implementation coordinators that deliver the wellness program at their facility (e.g., senior centers, YMCAs).

Figure 4.1 shows these various configurations for coordinating organizations and depicts how coordinating organizations for the prospective study relate to other organizations involved in wellness program implementation. The relationships between the various types of organizations are described in more detail in Section 5.

Figure 4.1: Coordinating Organization Delivery Models



[1] Organizations that served as coordinating organizations for the prospective study.

[2] Either the implementation coordinator or the state-level coordinator could serve as a coordinating organization for the prospective study, but not both at the same time.

For the purposes of this study, coordinating organizations support evaluation data collection from wellness program participants. The scope of work for coordinating organizations includes:

- collection of baseline participant surveys and attendance records across multiple class leaders and locations for submission to the Acumen team through one point of contact;
- notification of wellness program class schedule for the data collection period (September 2014 to December 2015);
- assurance that study ID numbers appearing on the survey are linked to attendance records;
- completion of monthly reporting requirement; and
- dispersal of reimbursement to individual sites for evaluation activities, using funds provided by the Acumen team.

Partnerships between the Acumen team and coordinating organizations were formalized via negotiated agreements. In these formal agreements, coordinating organizations estimated the number of new enrollees per wellness program per year. Enrollment estimates were developed by coordinating organizations based on previous year's enrollment and upcoming wellness program schedules, if known.

The Acumen team provided evaluation data collection training and technical assistance to coordinating organizations, including webinars, a training manual, pre-established summary slides for presentation to local organizations, and ad hoc support by email and phone. Training materials included an overview of the study and study materials, step-by-step instructions for distributing and collecting study materials, a script for class leaders, data security procedures, and frequently asked questions (FAQs). The Acumen team also ensured all coordinating organizations had appropriate IRB review. For the vast majority of coordinating organizations, the Westat IRB served as the IRB of record. A few coordinating organizations required review by their own IRB, and the Acumen team assisted in provided study materials and in responding to the local IRB requirements.

4.3 Recruitment and Monitoring of Coordinating Organizations

The Acumen team sought to recruit enough coordinating organizations to meet sample size goals of 2,000 new enrollees for each of the six wellness programs. New enrollees are defined as Medicare beneficiaries age 66 years or older participating in the wellness program for the first time in the past 12 months. This effort required ongoing assessment and review of the anticipated number of new enrollees (measured by the number of baseline participant surveys received) by wellness program by coordinating organization to assess whether additional recruitment of coordinating organizations was needed to meet the threshold of 2,000 new

enrollees per wellness program. This required ongoing monitoring of new participant enrollment and the anticipated class schedules for each coordinating organization to estimate enrollment over the year.[15]

The Acumen team engaged in two rounds of recruitment of coordinating organizations, resulting in 90 coordinating organizations participating in the evaluation. Round 1 (Fall 2014) focused on organizations that offered any of the six selected wellness programs. Round 2 (late Spring through early Fall 2015) focused on organizations that offered three of the six wellness programs (DSMP, EnhanceFitness, and A Matter of Balance) due to lower than anticipated new participant enrollment. In addition, the Acumen team conducted ongoing recruitment for Fit & Strong! throughout the entire year in an attempt to meet participation goals. Descriptions of Round 1, Round 2, and ongoing Fit & Strong! recruitment and monitoring are provided in the sections below.

4.3.1 Round 1 Recruitment and Monitoring

The Acumen team recruited a convenience sample of coordinating organizations with the assistance of the national leaders of the wellness programs. The national leaders facilitated access to and buy-in from the coordinating organizations. National leaders used licensing data or national databases, such as the Project Enhance national database and the NCOA database that contains information on CDSMP and DSMP, to identify organizations that deliver the wellness programs to a large number of Medicare beneficiaries. For five of the six wellness programs, national leaders or their delegate facilitated introductions to the coordinating organizations for direct recruiting by the Acumen team. In contrast, leadership at Fit & Strong!, the smallest of the six wellness programs, requested to be the front-line, direct recruiter for coordinating organizations offering Fit & Strong! programs to ensure that existing sites agreed to participate and to recruit new sites.

Round 1 of recruitment occurred from July to December 2014 and yielded 45 coordinating organizations with approximately 2,000 anticipated new enrollees for CDSMP, DSMP, EnhanceFitness, A Matter of Balance, and Stepping On (see Table 4.2).

[15] The class schedules were used to estimate anticipated enrollment based on class size of each wellness program; however, class schedules tended to be finalized only a few months or weeks in advance.

Table 4.2: Final Coordinating Organization Recruitment Results by Wellness Program

Recruitment Goal & Estimates	Number of Coordinating Organizations	Estimated Number of New Enrollees					
		CDSMP	DSMP	EF	F&S!	MOB	SO
Recruitment goal	As many as needed	2,000	2,000	2,000	2,000	2,000	2,000
Round 1 Recruitment (July to December 2014)							
Original annual enrollment estimates for organizations recruited during Round 1	45	3,820	2,167	2,051	1,500	2,194	1,929
Revised annual enrollment estimates for organizations recruited during Round 1[a]	45	2,865	1,192	1,272	1,215	1,763	2,349
Net change		-955	-975	-779	-285	-431	420
Round 2 Recruitment (March to September 2015)[b]							
Annual enrollment estimates for new organizations recruited during Round 2	45	158	689	905	105	157	N/A
Final recruitment estimates	90	3,023	1,881	2,177	1,320	1,920	2,349

[a] The Acumen team collected revised enrollment estimates from Coordinating Organizations because early survey return rates were below target levels.
[b] Round 2 recruitment for Fit & Strong! occurred from January to September 2015.

The Acumen team provided support to launch evaluation data collection and monitored the enrollment of new participants at each coordinating organization. As shown in Table 4.2, many of the coordinating centers overestimated the number of new enrollees that each of their organization could deliver, and many of these estimates were later revised downward. Several factors contributed to these lower-than-anticipated original enrollment estimates:

- **Loss of key staff:** Most coordinating organizations operate with minimal full-time staff, and the loss of one staff member can have a significant impact. Ten organizations reported loss of key staff to turnover, retirement, or medical leave. For example, one very large coordinating organization experienced turnover in the leadership position four times during the period of study participant enrollment. Some organizations were able to hire replacement staff or redistribute staff to assist in study enrollment and evaluation data collection, but often the evaluation activities never fully recovered at these organizations recruited in Round 1.
- **Competing data collection activities:** Some coordinating organizations participate in multiple projects with survey requirements (e.g., CDC Million Hearts Initiative, CMS Everyone with Diabetes Counts), and in some instances they sought to manage survey burden on participants by offering one of the other study's surveys in selected classes rather than offering the Acumen team's survey. As a result, the baseline participant survey was distributed to fewer new enrollees than estimated in the formal agreement.

- **Wellness program participants under 66 years of age:** Coordinating organizations reported that the average age of participants was lower than in previous years. This was especially problematic for CDSMP and DSMP.
- **Limited opportunities for new enrollees (EnhanceFitness only):** EnhanceFitness is an ongoing class, and in established classes there are few openings for new enrollees because existing participants tend to continue attending the class. As a result, EnhanceFitness leaders had fewer opportunities to distribute surveys.
- **Cancelled classes due to winter conditions:** Multiple organizations reported cancelled classes due to the several snow and ice storms in the winter of 2015.

The Acumen team contacted all coordinating organizations to collect revised enrollment estimates and determine the extent to which additional recruitment was needed. Revised enrollment estimates by program are also shown in Table 4.2. Fit & Strong! recruitment experienced additional unique challenges, which are summarized below.

In contrast to many of the other wellness programs, Stepping On was very successful with enrollment, exceeding its original estimate of participants. Stepping On's national lead organization, the Wisconsin Institute for Healthy Aging (WIHA), is also the largest implementer of the program. During the data collection period, WIHA delivered more Stepping On workshops than originally estimated due to increased funding and demand for the program. In addition, survey return rates per Stepping On workshop were higher than return rates observed for other programs because WIHA worked with representatives from the State of Wisconsin to integrate the Prospective Evaluation of Evidence Based Wellness Programs into statewide Stepping On program operations, including making the baseline participant survey a part of the standard enrollment paperwork for the entire state.

4.3.2 Round 2 Recruitment for DSMP, EnhanceFitness, and A Matter of Balance

Based on revised enrollment estimates from coordinating organizations, the Acumen team determined that additional recruitment was needed for three of the programs: DSMP, EnhanceFitness, and A Matter of Balance. The Acumen team recruited additional coordinating organizations, which led to an increase in the estimated number of new enrollees for the three wellness programs. Moreover, after reviewing initial survey returns, the Acumen team found that many coordinating organizations offering CDSMP were not projected to meet their initial enrollment estimates and, when contacted by the Acumen team, decreased their CDSMP enrollment estimates. The net decrease in CDSMP enrollment estimates from 3,820 to 2,865 new enrollees was not enough to drop below the recruitment goal of 2,000 new enrollees, and thus the Acumen team did not conduct additional recruitment. However, recruitment of additional coordinating organizations offering DSMP, EnhanceFitness, and A Matter of Balance also led to incidental increases in CDSMP enrollment (i.e., if a new coordinating organization that offered A Matter of Balance also offered CDSMP, the Acumen team also was able to add

the CDSMP participants to the study). Round 2 recruitment occurred from March to September 2015, and resulted in the addition of another 45 coordinating organizations to supplement the Round 1 enrollment estimates. As shown above in Table 4.2, the Acumen team anticipates that following Round 2 recruitment activities, most programs with the exception of DMSP and Fit & Strong! will meet the target enrollment estimate of 2,000 new participants per wellness program.

- **DSMP:** Potential DSMP coordinating organizations were identified using the NCOA database and the Stanford Master Trainer Listserv. The DSMP recruiter used the NCOA database to identify organizations that actively delivered DSMP within the past six months and that were likely to deliver DSMP to at least 50 new enrollees in 2015.[16] Round 2 of DSMP recruitment yielded 11 new coordinating organizations with 665 new enrollees.
- **EnhanceFitness:** Round 2 of EnhanceFitness recruitment expanded to include the YMCA of the USA (Y-USA), which holds a national license for EnhanceFitness. The Y-USA issues EnhanceFitness licenses exclusively to local YMCAs and provides national coordination and administration for the program. Y-USA and EnhanceFitness national leadership work closely to coordinate program activities. Round 2 of EnhanceFitness recruitment yielded 28 new coordinating organizations with 905 new enrollees.
- **A Matter of Balance:** The Acumen team conducted additional A Matter of Balance recruitment, which yielded four new coordinating organizations with 157 new enrollees.

Overall, Fit & Strong! recruitment did not meet the sample size goal of 2,000 new enrollees due to limited implementation of the program. The Fit & Strong! recruitment plan relied on a combination of existing and planned implementation sites. With the support of the Fit & Strong! national leader, the Acumen team successfully recruited the majority of organizations that were actively implementing the program; however, enrollment estimates at these organizations were lower than anticipated. Many organizations planning to implement Fit & Strong! experienced delays in program implementation. To compound these challenges, key Fit & Strong! staff who were assisting in recruiting coordinating organizations left the national leader organization in early 2015, which hindered their ability to launch new sites. New support staff joined Fit & Strong! in May 2015, and the Acumen team worked with the national organization to generate last-minute recruitment activity through September 2015. Although the recruitment target of 2,000 new enrollees was not feasible given the limited implementation of Fit & Strong!, the high level of involvement from the national leaders and the Acumen team has resulted in baseline participant survey return rates that are as good as or better than other wellness programs in the study.

[16] Round 1 of DSMP recruitment focused on organizations that delivered DSMP to at least 100 participants annually.

5 QUALITATIVE STUDY OF PROGRAM OPERATIONS, IMPLEMENTATION, AND COSTS

The Acumen team conducted a qualitative study of wellness program operations and costs, using 10 example sites, to understand the current best practices, ongoing challenges, and lessons learned in wellness program implementation. Table 5.1 describes key findings from the qualitative study, which may inform strategies for scale-up and spread of wellness programs and serve as a roadmap for others seeking to implement similar programs.

Table 5.1: Best Practices for Program Implementation and Fidelity

Research Question	Key Findings
What are the best practices for program implementation and operations and what lessons can be learned from the various programs?	• Large, multi-site implementation coordinators have centralized aspects of workforce management, marketing, fidelity monitoring, and data reporting to create operational efficiencies. • Small and single-site implementation coordinators maintain smaller staff, with staff members performing multiple implementation tasks and roles. • Organizations leveraged partnerships with local health systems and universities to recruit leaders and guest experts. • Health care providers and staff at wellness program workshop locations (e.g., assisted living facilities, senior centers) may effectively identify and refer individuals who may benefit most from wellness programs based on their knowledge of an individual's health status. • In-person and word of mouth marketing strategies are most effective. • Organizations are seeking to build strategic partnerships with health care providers to reinforce the legitimacy of the wellness programs and develop possible paths to reimbursement or additional funding streams. • Organizations use additional services, such as transportation services or translators, to engage harder to reach rural or immigrant populations. • Spanish language programs were more successful in locations where they were supported by a large Hispanic community, but implementers experienced challenges when the local Hispanic community was small or reluctant to engage with government-related programs. • Participant retention strategies included accurately marketing the programs so that participants are aware of the required commitment, creating a sense of community among workshop participants, minimizing paperwork, and for programs that involve guest experts, marketing the experts as a special event. • The majority of organizations conduct simple data analyses to support funding requirements and grant applications; however, a few organizations maintain robust data collection and reporting systems.
Did the various interventions delivered by the programs that will be studied maintain a high level of fidelity to their respective evidence bases?	• The organizations reported relatively high fidelity to program design, leader training, and program delivery. Program manuals and training materials are standardized by the national leaders of the wellness programs. Implementing organizations conduct ongoing training and monitor program delivery through fidelity checks. • Fidelity checks were conducted by staff with various levels of training and on different schedules across the 10 organizations. • The most common challenge related to fidelity was having leaders stay on script.

The remainder of this section provides detailed methods and findings from the qualitative work. Section 5.1 describes the methods used to conduct the study and the selection of organizational participants. Section 5.1.1 gives context on the organizations selected for the

study and the populations served. Finally, Sections 5.2 through 5.5 discuss findings related to various areas of program operations, including workforce, implementation, reporting, and sustainability.

5.1 Methodology for the Qualitative Study

The Acumen team used a mixed-methods approach, including site visits, interviews with key staff, reviews of program documents (e.g., organizations' websites, marketing materials, and fidelity assessment tools), direct observation, and structured data requests to collect information on wellness program operations and costs. The process to select organizations for the qualitative study and analysis of program operations and costs is described in more detail below.

5.1.1 Organizations Included in the Qualitative Study

The Acumen team sought to select ten organizations participating in prospective evaluation for inclusion in the qualitative study. To ensure diversity among the 10 organizations, the Acumen team considered a range of variables during the selection process, including:

- Wellness programs offered and the ACA priority areas represented;
- Geographic region;
- Estimated annual enrollment in wellness programs included in the prospective study;
- Role of organization, including whether the organization serves as an Area Agency on Aging (AAA), acts as the state-level coordinator for wellness programs, or operates as part of a health system.

The Acumen team classified organizations according to these variables and identified a list of 10 potential organizations. Selections were reviewed and finalized with CMS. National wellness program leaders were briefed on the list of potential organizations prior to contacting the organizations to participate in the qualitative study. The key characteristics of the selected organizations are summarized in Table 5.2 below.

Table 5.2: Characteristics of Organizations Selected for Qualitative Study

Characteristics of Organizations	Number of Organizations
Wellness Program Offered[a]	
CDSMP	6
DSMP	5
EnhanceFitness	3
Fit and Strong!	2
A Matter of Balance	3
Stepping On	3
Region	
South	4
Midwest	2
West	3
Northeast	1
Population Density of Community Served	

Characteristics of Organizations	Number of Organizations
Mostly Rural	5
Mostly Suburban	1
Mostly Urban	0
Mixed Population Density	4
Organization Type	
Private Foundation or Non-Profit Organization	5
Government-Affiliated Agency[b]	3
Senior Center or Wellness Center	1
Hospital, Health System, or University	1
Local Area Agency on Aging	5

[a] Organizations could offer more than one wellness program.
[b] Including departments on health, public health, and/or aging, and government-sponsored councils on aging

Collectively, the selected ten organizations offered all six national wellness programs included in the evaluation, and six of the organizations offered multiple programs. Among the selected organizations, annual enrollment in the wellness programs ranged from fewer than 100 to more than 1,000 participants. Two organizations served as the national leader of a wellness program, and three served as state-level coordinators for a wellness program. The selected organizations also differed in geographic region and type of organization. Six organizations were designated as 501(c)(3) non-profit private foundations or public charities. Four were government-affiliated agencies, including departments on health, public health, and/or aging; and councils on aging. One organization was part of a health system, and one was a senior center. Five of the ten organizations were designated local AAAs.

The organizations offered numerous other services in the community. Most services focused on the elderly and individuals with disabilities, but some were available to the entire community. Commonly offered services and programs include: Meals on Wheels, caregiver resources and support, exercise programs, congregate meals or other dining programs, information and assistance helplines, Medicare and Medicaid health insurance benefits advisors, transportation services, English as a second language programs, workforce training programs, and senior volunteer programs.

The organizations included in the study also differed substantially in both service area and target population. The organizations' service areas varied in size from one county to select regions of the state to the entire state. Seven organizations reported that the majority of their wellness program participants reside in rural areas. Four organizations served either urban or suburban communities. Diabetes was the most frequently reported chronic condition across all organizations, with hypertension, heart disease, obesity, and osteoarthritis also commonly reported. Some organizations reported serving special population groups with unique needs, such as refugees and immigrants. Two organizations reported working with local tribal organizations to deliver wellness programs to Native American populations.

5.1.2 Collection of Data on Program Operations

When possible, site visits also included observation of the wellness programs themselves. Site visits were conducted between June 2015 and September 2015.

During site visits, teams used a semi-structured interview guide to examine program operations and more fully understand the process of program implementation. The interview protocol included the following topics:

- Organizational structure;
- Workforce, training, and fidelity monitoring;
- Implementation processes (e.g., marketing, outreach, recruitment; referrals; enrollment);
- Data and reporting; and
- Sustainability and scalability.

Background information and program materials were collected during the planning process and site visits. The Acumen team asked key contacts to provide program materials to review in preparation for the visit (e.g., fidelity tools, organizational descriptions, marketing materials, job descriptions). While on site, the organizations shared additional documents related to implementation (e.g., newsletters, presentations, reports, training videos and other materials, recruitment flyers, Memorandums of Agreement and Understanding).

The Acumen team used content analysis and a grounded theory approach to analyze the qualitative data. First, each site visit team compiled their notes from interviews, observations, and program documents to form a more complete understanding of each organization and the wellness program(s) offered. These notes were then independently reviewed by each visit team member. Disagreements in notes were discussed until consensus was reached. Once each set of notes was finalized, the teams categorized thematic patterns in the data. Findings were synthesized based on emerging topics related to each of the interview protocol domains, identifying them as themes and sub-themes. Next, the Acumen team identified text relating to these themes and identified quotes that aided in the understanding of the content of the theme. Each team reviewed, discussed, and finalized the emergent themes and continued to refine and supplement codes throughout the analysis.

5.1.3 Implementation Roles

The organizations perform different roles in wellness program implementation, and as a result, the organizations are engaged in a variety of partnerships with other organizations in their communities. Wellness program implementation involves the following types of tasks: workforce training and management, marketing and recruitment, workshop delivery, fidelity monitoring, and data reporting. These tasks are typically operationalized by up to four types of organizations: (i) national leaders of wellness programs; (ii) state-level coordinating

organizations (e.g., state Department of Health, statewide non-profit organization); (iii) local coordinating organizations (e.g., AAAs, regional non-profit organization); and (iv) workshop locations (e.g., senior centers). National leaders develop the curriculum for the wellness program, provide training for master trainers, and may provide implementation resources (e.g., templates for marketing materials, fidelity monitoring tools, attendance tracking tools). If present, state-level coordinators provide strategic guidance on wellness program implementation to multiple license-holding organizations within their jurisdiction. The state-level coordinator, the local coordinator, and workshop location then divide implementation tasks amongst themselves as appropriate for the community or wellness program. Some regions have centralized certain aspects of implementation to increase efficiency, extend their reach into the communities, and leverage existing relationships between the host site locations and potential class participants.

The ownership of a license to implement the wellness programs is often a key factor in how communities organize for implementation. The licenses may specify the numbers of workshops, locations where workshops can be offered, leaders that can be trained per year, and other factors, such as which organization's logo can appear on marketing materials. Six of 10 organizations in the qualitative study were license holders for at least one of the programs that they deliver. If an organization did not hold a license, it typically delivered the wellness programs under a state-level license holder. Relationships between a license holder and implementer may be formalized in a MOU or similar agreement. Typically, implementers report data on the workshop back to the license holder. The license holder status of an organization could vary by wellness program. For example, an organization may serve as a license holder for CDSMP but work under another organization's license for Stepping On.

5.2 Program Operations: Workforce

To understand best practices related to staffing, the Acumen team reviewed program policies related to personnel roles, both for delivery of services and program administration, as well as practices governing recruitment, training, and ongoing workforce support. The following subsections discuss each of these areas in turn.

5.2.1 National Program Standards for Workforce and Training

The national wellness program models have specific standards for the types of individuals who can serve as leaders, the initial and continuing training of leaders, and leader monitoring activities. The standards support fidelity to the national models and support replication of the potential positive outcomes at the local level. The personnel specified by the national wellness programs include:

- **Leaders:** are responsible for leading the wellness program classes for participants. Leaders do not train others and must successfully complete training as specified by the national program. Leaders may be called instructors, workshop leaders, or volunteer lay leaders, depending on the program.
- **Master Trainers:** can serve as instructors but are also qualified to train new leaders. In most cases, Master Trainers must be trained as leaders and then receive additional training and certification.
- **T-Trainers:** can serve as leaders, are qualified to train new leaders, and are also authorized to train Master Trainers. T-Trainers are used only for CDSMP, DSMP, EnhanceFitness, and Fit & Strong!.
- **Guest Experts:** do not receive specialized training according to the national program models. Instead, these individuals present on specific topics related to falls safety and prevention during A Matter of Balance and Stepping On workshops.

The staffing requirements for workshops across the national programs are summarized in Table 5.3 below. These requirements stipulate the number of leaders and specify certain leader characteristics that must be present (e.g., one CDSMP leader must have a chronic disease; EnhanceFitness and Fit & Strong! leaders must be nationally certified fitness professionals). Additionally, the national programs typically suggest whether leaders should be paid and provide direction as to use of guest experts, including what types of guest experts should be engaged and when these experts should present.

Table 5.3: Staffing Requirements by National Wellness Program

Wellness Program	Number of Leaders	Leader Requirements	Compensation Recommendation	Guest Experts
CDSMP[a]	2	At least one leader must be living with a chronic disease	Paid	None
DSMP[a]	2	At least one leader must be living with a diabetes	Paid	None
EF[b]	1	Fitness instructors certified by a nationally recognized fitness organization such as American Council on Exercise or American College of Sports Medicine	Paid	None
F&S![c]	1	Exercise instructors certified by a nationally recognized fitness organization or licensed physical therapists	Paid	None
MOB[d]	2	Trained Facilitator	Volunteer	Guest "health care professional" visit that occurs during any session (typically session 4 or 7)
SO[e]	2	Leader is a current or retired health, aging, or fitness professional; Peer leader is a former participant	Not Specified	Session 1: Physical Therapist Session 4: Vision and Community Safety Session 5: Pharmacy Session 6: Physical Therapist

[a] Implementation Manual: Stanford Self-Management Programs 2008. Stanford Patient Education Research Center: Stanford University, Palo Alto, California. 2008.
[b] http://www.projectenhance.org
[c] Fit and Strong! Guide to Successful Implementation. Center for Research on Health and Aging Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL.2014.
[d] http://www.mainehealth.org/mob
[e] National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, prepared by Wisconsin Institute for Healthy Aging, (2012). Stepping On: An Implementation Guide. Grant #U49CE001288.

The amount and type of leader training is dictated by the national wellness programs, which provide the curricula and materials for leader training, Master Trainer training, and if relevant, T-Training. The national programs also set standards for maintaining leader certification. Usually, this includes a minimum number of classes to be taught within a certain time period (e.g., one workshop per year) as well as a continuing education requirement. Additionally, national programs recommend follow-up processes to monitor leader performance and in some cases, provide tools to assist with monitoring. National programs may also manage listservs or social media groups to facilitate ongoing communication and training with leaders and trainers. Overall, managers of each of the six wellness programs studied emphasize the importance of maintaining fidelity to these key workforce elements, which has direct implications for how the organizations handle recruitment, training, and ongoing monitoring of wellness program leaders.

5.2.2 Organization Staff Roles

The organizations oversee as well as deliver wellness programs. Thus, organization staff roles may also include responsibilities related to program delivery or training (e.g., leader, Master Trainer). Organizations typically had staff in the following roles:

- **Program or executive director:** responsible for overseeing wellness program operations or implementation. This individual is often involved in fundraising efforts and may also manage higher level interactions, such as developing relationships with governmental agencies, executives at the organization, or key community partners (such as hospitals).
- **Program coordinator/manager:** often reports to the individual serving in the program director role and is responsible for a range of tasks, which may include wellness program marketing, recruiting and managing leaders, managing fidelity, and working with workshop locations to secure classroom space and materials. One organization used the title "Aging Specialist" to describe this role, and in some organizations these individuals are also health educators, health promotion coordinators, or community health workers

Organizations may also have operations managers/assistants, administrative support staff, data managers, or finance staff, depending on the organization's size and need.

Most organizations had staff members trained as leaders or Master Trainers who performed their duties in addition to fulfilling their roles related to managing ongoing wellness

program implementation. Half of the organizations studied also used paid consultants or contractors to support wellness program implementation. These consultants performed various functions, including contributing to leader recruitment and hiring, monitoring fidelity, engaging with outside stakeholders, and fundraising. Organizations also relied on outside contractors and in-kind staff or volunteers to serve as leaders.

Given the diversity of size, affiliation, and number and type of wellness programs offered among the organizations, there was some variation in terms of staffing size. However, there was some consistency with regard to how these staff roles are structured based on the general implementation roles of organizations as previously described in Section 4.2.3. Local multi-site implementation coordinators serve as a "hub" for organizing wellness program implementation at workshop locations, and tended to have more robust staff models consisting of all or most of these staff roles. These staff members were often housed in a separate department dedicated to wellness or evidence-based programming. In contrast, the organizations that simply served as single site implementers or workshop locations had smaller-scale operations and subsequently had one or two individuals who performed some tasks across these roles and split time associated with implementing wellness programs with their other (non-wellness program) responsibilities.

Additionally, the extent to which the organizations utilized external consultants and volunteers varied depending on the size of the organizations and the types of wellness programs offered. Several of the larger programs offering multiple lay-lead wellness programs (CDSMP, DSMP, and MOB) had large rosters of volunteers, reported as approximately 100-200. This is in contrast to the smaller organizations offering exercise programs, such as EnhanceFitness and Fit & Strong!, which usually had fewer than five different leaders to maintain the class load. Organizations reported that compensation through either hourly wages or travel stipends supported retention of leaders.

5.2.3 Leader Recruitment

Organizations generally have a variety of approaches for recruiting leaders to deliver the wellness program classes. Some organizations (typically multi-site implementation coordinators) had existing pools of volunteers that they established over time to deliver their other services and were able to approach these existing volunteers to serve as leaders for the wellness programs. Some organizations work with volunteer organizations such as the United Way to recruit leaders. Organizations also indicated that it is somewhat common to recruit leaders from the wellness program participants after the wellness program was completed. Organizations that largely rely on volunteers indicated that recruitment is a continually occurring activity.

Additionally, organizations have leveraged partnerships with local health systems or universities, which may supply employees to serve as leaders or guest experts. Health system

employees may receive training and lead classes as part of their paid professional positions. Organizations often hire university students, particularly in the nursing and allied health fields, as interns or trained as leaders. Similarly, organizations have engaged professors in the health professions to serve on advisory boards. Once engaged, these professors are often willing to serve as the guest expert for Stepping On or A Matter of Balance.

Organizations uniformly emphasized the importance of recruiting, selecting, and maintaining a pool of high quality leaders since excellent leaders are critical to the successful implementation of the wellness programs. Most organizations use application forms and screening processes, often through structured interviews, to determine if an individual had a solid understanding of wellness program expectations and would be a strong, suitable candidate to serve as a leader. For example, one organization recently implemented a process to have all leaders sign an agreement that, in part, requires the leaders to specify the dates and times they plan to hold a workshop. This strategy has been helpful for creating leader accountability and ensuring that leaders remain continually active in delivering the classes. Organizations also discussed the importance of recruiting a diversity of leaders to most effectively serve all the communities in their areas. Some organizations recruit volunteers from class participants, which helps ensure that leader demographics align with the demographics of the participants.

Several organizations expressed difficulty recruiting leaders to serve rural communities as leaders tend to be concentrated in the more urban parts of the organizations' catchment areas. Additionally, one organization reported that cultural differences in rural communities have been another challenge in recruiting leaders. They have struggled to find a leader who is able to connect with a rural population that is wary of "outsiders." Organizations utilized several methods to remedy these issues, including reimbursing travel costs and partnering with religious organizations with ties to the local communities. Partnerships with universities and health systems have also allowed the organizations to expand their reach to different areas of the community since these institutions often have multiple satellite campuses. For example, one organization used staff from the state university's extension campuses located throughout the state to serve as leaders in difficult-to-reach, rural areas. Organizations also reported that it has been extremely difficult to recruit male leaders, and one organization stated that it does not enforce the national requirement of having at least one DSMP leader who has diabetes because it has not been able to find enough leaders that have diabetes.

5.2.4 Initial Leader Training

The organizations work internally or with partners to schedule and administer leader training according to each national program's licensing requirements, which vary considerably across wellness program. The number of trainings that the organizations held per year varied widely depending on the organization's capacity and role in wellness program implementation.

Some organizations held no trainings, whereas others, especially those functioning as local multi-site implementation coordinators, held several every year.

Organizations reported some notable lessons learned related to wellness program training. For example, it is beneficial to have only a few strong and reliable Master Trainers and focus efforts on building a reserve of good leaders. Using a small core of Master Trainers also helps ensure consistent delivery of the wellness program course material, which contributes to fidelity. Organizations noted that they generally use Master Trainers to lead leader trainings rather than teaching the wellness classes. Organizations also indicated that emphasizing the evidence base behind the wellness program during leader training is an effective way to obtain buy-in regarding fidelity. Additionally, two organizations require that all potential leaders participate in workshops before starting training. The program directors at these organizations reported that this has been an extremely useful process since it gives leaders a true sense of what their role entails.

5.2.5 Ongoing Training, Fidelity Monitoring, and Support Structures

Fidelity monitoring is used to ensure that local implementation practices align with national program standards. Fidelity monitoring procedures vary by program or implementing organization, and occur at specified times (e.g., 3rd session, between weeks 2-4 of the program, once annually). Fidelity checks are guided by approved materials (e.g., implementation checklists that focus on a key leader tasks, program content, and site set-up/materials). In general, a designated individual, such as a local Master Trainer or specially trained fidelity monitor will observe a class and document feedback. The observer will then share feedback with the leader, discussing opportunities for improvement or highlighting strong performance.

This monitoring process serves as an important source of ongoing training for leaders; however, conducting these fidelity checks is not without its challenges. Organizations indicated that providing timely review and feedback can be labor intensive, time consuming, and expensive. As a result, they reported training internal staff to serve as fidelity monitors and adjusting the frequency of fidelity checks based on leader experience (e.g., every quarter instead of every session for experienced leaders). Moreover, organizations reported that monitoring leaders can leave leaders feeling intimidated or uncomfortable, and that identifying and addressing problems can be difficult especially with very experienced and long-time leaders. Organizations reported that communicating with leaders to schedule observations in advance, explaining expectations for the observations, and structuring observations and feedback process to be more like a conversation have been helpful strategies for facilitating the fidelity check process.

Organizations often had their own version of continuing education and leader engagement activities that it indicated were helpful in providing ongoing support and training to leaders. These included:

- Quarterly, bi-monthly, or bi-weekly meetings or calls to discuss issues, share best practices, reinforce reasons for maintaining program fidelity, and conduct skill-building exercises;
- Matching newly trained leaders with experienced leaders or pairing leaders to build on individual strengths;
- Annual retreats to conduct in-person trainings, role-play hypothetical situations, and listen to guest speakers or annual refresher trainings; and
- Ongoing training opportunities, such as seminars, discussions, online training videos and social media forums/discussion groups.

In general, organizations invested substantial time in these activities and expressed a commitment to ongoing training and support of the leaders. Organizations indicated that these activities were important for establishing and retaining a core group of highly engaged and skilled leaders, as leaders appreciate the opportunity to receive additional training and the investment in their education makes them feel valued and supported. Many organizations generally reported high levels of retention of leaders, with many reporting that the majority of their leaders were actively engaged and teaching classes.

5.3 Program Operations: Implementation

The Acumen team reviewed implementation processes in the following areas: eligibility criteria, marketing, referrals, enrollment and participant costs, and attendance and retention. Most organizations reported many similar approaches to implementation across wellness programs. Though less common, program-specific differences in implementation are noted as applicable.

5.3.1 Participant Eligibility Criteria

Eligibility criteria for the wellness program workshops may be defined by multiple sources, such as the national leaders, funding requirements, or workshop locations, and are reportedly easy to implement. At the national level, CDSMP and DSMP accept adults of all ages who currently have or are at-risk for a chronic disease or diabetes, respectively. EnhanceFitness, Fit & Strong!, A Matter of Balance, and Stepping On are designed for older adults. Stepping On also requires that participants are cognitively intact and able to walk without a walker, scooter, wheelchair, or help of another person. Funding agreements may further dictate the target population for the programs. For example, a few organizations had grants to focus on low-income, rural populations, or ethnic minorities. Workshop locations, such as senior housing facilities or wellness centers, may also require that a certain proportion of the workshop be

reserved for residents or members of the location. Most organizations had leaders or staff at workshop locations manage the enrollment lists. Typically, participants could enroll by phone, online, or in-person.

5.3.2 Marketing

Organizations use a variety of marketing strategies to recruit participants, and reported that work-of-mouth and in-person marketing at workshop locations or community centers were particularly effective. Even these approaches, however, required additional tailoring to improve outreach to specific groups that are challenging to recruit, such as non-English speakers, rural populations, and men. The remainder of this subsection provides additional discussion of issues related to marketing as reported by the selected organizations.

The majority of organizations reported that word-of-mouth advertising was a very effective method to recruit participants, and a few organizations rely on word-of-mouth as one of their core methods of advertising. Organizations suggested that word-of-mouth advertising was effective because peers were a trusted source of information, especially if the peers had similar health conditions or concerns. For one organization, word-of-mouth was its primary source of participants for MOB workshops, and another organization reported that word-of-mouth advertising had helped spread Stepping On to new workshop locations and communities. Other organizations ask every participant to "refer a friend." A few organizations reported that work-of-mouth is becoming increasingly important because marketing budgets are shrinking and word-of-mouth is free.

Organizations also reported that in-person marketing at workshop locations or community centers was effective because staff members or volunteers could engage potential participants and discuss the goals and benefits of the wellness programs. Organizations reported conducting presentations at churches and synagogues, support groups, lunch-and-learn sessions, senior centers, senior housing facilities, and libraries. Staff at three organizations marketed the program and registered seniors for wellness programs at local fitness centers, community health screenings, health fairs, and senior health expos. This approach was particularly useful for the chronic disease management programs.

Organizations also reported using various free or low-cost media to advertise wellness programs to seniors. The most common ad locations were websites, public service announcements, newsletters at senior centers or senior housing facilities, and church bulletins. Organizations with higher levels of funding also reported advertising in senior living magazines and on local television and radio stations.

Some organizations used marketing materials, such as brochures, flyers, and posters at workshop locations and in conjunction with in-person marketing. Organizations that use

marketing materials reported that templates helped them produce consistent and branded materials that help to build recognition and reputation, especially when just starting a program or class or when covering a large region. The templates contained standard text provided by the national program or state or regional implementation leaders about the wellness programs and sections that could be customized with the wellness program schedule and other location-specific information. One wellness program coordinator uses NCOA and State templates to design marketing materials and requires partners and host locations to use them for a consistent and accurate message. Other organizations with marketing departments create original materials in addition to using the templates. For example, one organization created its own verbal presentation scripts, videos, press releases, brochures, and presentations and makes them available for partners on their website.

Recruitment for Spanish language programs was more successful in locations where the programs were supported by a large Hispanic community, but implementers experienced challenges when the local Hispanic community was reluctant to engage with government-related programs. One large implementing organization in the South reported a successful and growing Tomando Control de su Salud (Spanish CDSMP) program. Facilitators of its success included the presence of a large Hispanic population, referrals from local health care partners, and a culture of trust between the organization's staff and the community they serve. Three organizations in the Southwest also serve large Hispanic populations, but reported challenges with participant and leader recruitment because of concerns about interacting with government organizations. Despite these challenges, one organization and its affiliates delivered 22 Tomando workshops and found that radio ads in Spanish and offering blood pressure checks at workshops were effective recruitment methods.

Organizations had an easier time recruiting rural participants if the workshops were at a convenient location; if other services such as transportation or meals were available, or if the wellness programs were associated with other important clinical screenings. As staff at one organization noted, recruitment is more successful when an organization can "get the program to the people, not the people to the program." This was especially important for reaching rural populations. Most organizations sought to offer the programs in convenient locations such as senior housing communities, churches, community medical centers, or locations where group meals are served. Other organizations also noted the importance of providing transportation or clinical screenings.

Many of the organizations reported challenges recruiting men and non-English speakers into the wellness programs. Targeted efforts included using translation services so that marketing materials were available in multiple languages, having a leader who reflects characteristics of the hard-to-reach group, and holding special in-person events. For example,

one senior center offers bi-monthly Veterans' breakfasts and leverages that event to recruit men, who are often reluctant to engage in group wellness programs.

5.3.3 Referrals

Organizations pursued referrals from multiple sources, but prioritized referrals from health care providers by pursuing partnerships with those groups. Less commonly, organizations also created specific tools to facilitate provider outreach, such as outreach materials or formal referral tools. Obtaining referrals through partnerships with workshop locations or other wellness programs was also relatively common. Additional details on the referral processes implemented in the representative wellness programs follow.

Many organizations were prioritizing partnerships with health care providers to increase referrals because individuals referred by providers tend to be appropriate for the programs and are more likely to complete the programs. Furthermore, many organizations view relationships with health care providers and health systems as strategic partnerships that reinforce the legitimacy of the wellness programs and possible paths to reimbursement or additional funding streams. Organizations are seeking to collaborate with providers in a variety of care settings, including hospitals, outpatient primary or specialty care, Federally-qualified health centers (FQHCs), social service organizations, physical therapy or rehabilitation centers, and emergency medical services (EMS). Organizations varied in the volume of referrals they currently receive from providers, with some organizations like one leading organization receiving up to 50 percent of their referrals from providers and others receiving none at all.

Several organizations allocated paid staff time to provider engagement because the partnerships were labor- and time-intensive to build. For example, several implementers have dedicated health promotion coordinators who are responsible for outreach to local providers. The health promotion coordinators reported that building effective networks often requires persistence and time to make direct, personal connections and that identifying local champions who advocate for the wellness programs within the health system was important. Almost all of the large, multi-site coordinating organizations also devote paid staff time to conducting outreach to provider organizations and building partnerships and noted the same facilitators as collaborating with health systems. After receiving buy-in from leadership, some organizations conducted outreach to groups of providers at lunch-and-learn sessions, morning meetings, or during hospital grand rounds presentations. A few organizations have invited physicians and their office staff to attend a class.

Some organizations developed outreach materials aimed at health care providers to encourage partnerships and referrals of patients to the wellness programs. A few organizations noted that a key lesson learned is to keep provider outreach materials brief and focused on outcomes. To that end, organizations reported using brochures, brief fact sheets, or power point

presentations to communicate with providers. Key messages in the provider outreach materials included: (i) statements that the programs are evidence-based, (ii) measures of impact on clinical outcomes from studies, (iii) descriptions of how wellness programs can help providers fulfill community outreach goals, community health improvement plans, community health needs assessments (as part of the ACA), or other quality improvement goals, and (iv) notes about how wellness programs can enhance, rather than compete with, clinical services.

Although the majority of provider referrals are verbal, a few organizations noted that local health care providers were using or developing formal tools to refer patients to the wellness programs. Providers at one hospital may distribute "appointment cards" with information about upcoming CDSMP workshops, and another implementer has several partners who write down wellness program information on prescription pads. One of the state-level coordinating organizations is working with a local hospital and its electronic health record (EHR) vendor to incorporate the Centers for Disease Control and Prevention's Stopping Elderly Accidents, Deaths, and Injuries (STEADI) algorithm into the EHR and eventually automate referrals to falls prevention programs. Referrals are also commonly written in the visit summary given to patients at the end of the appointment. Some provider organizations also serve as workshop locations, and patients can enroll in programs as they leave the office.

Many organizations also rely on referrals from staff at workshop locations (e.g., assisted living facilities, senior centers) and other wellness programs. Organizations use referrals to help identify individuals that can benefit most from the wellness programs. The process to obtain referrals from workshop locations is often well-defined and, in some cases, formalized in agreements with workshop locations. Staff from the wellness programs typically meet with management at the workshop location (e.g., assisted living facilities, wellness centers, low-income housing buildings) and discuss which residents might be a good fit for the wellness programs. This process was used by half of the organizations. The most common challenge with referrals from workshop locations was a lack of understanding of the wellness programs, which can lead to inappropriate referrals and increased drop-out rates among participants because the program was not as the participants expected. As one A Matter of Balance implementer noted, "Some people drop out when they realize it isn't Zumba." To overcome this challenge, wellness program staff spend more time explaining the programs to workshop location staff and provides marketing materials to support shared understanding.

Organizations reported referring participants across wellness programs to help maintain patient-activation and potential health outcomes. All organizations that offered multiple wellness programs reported conducting cross-screenings for eligibility and cross-referrals. There was no standard directionality of referrals. More commonly, one wellness program served as a gateway to others because the programs can be complementary (e.g., falls prevention programs

referring to chronic disease management programs, to address underlying health issues contributing to falls and injuries). Some organizations also reported referring participants to wellness programs from their other community services, such as Meals on Wheels or during transportation services. One organization leverages use of their exercise facilities to generate referrals, making attendance at wellness programs a co-requisite for receiving free or subsidized gym memberships.

5.3.4 Enrollment and Participant Costs

All of the wellness programs require a certain class size to ensure fidelity to the national program model, adequate interaction among participants, attention from the leader, and cost-effectiveness for the implementing organization. The falls prevention workshops are the smallest with 8 to 12 participants. Chronic disease management programs may have 10-16 participants, and the physical activity programs are the largest with up to 25 participants. Organizations had different challenges related to enrollment, with some struggling to fill classes and others managing waitlists. Some organizations reported that it can be challenging to fill workshops, and the best approach is to start enrollment many weeks in advance. Other organizations reported waitlists, and if a waitlist existed, it tended to be for EnhanceFitness or the falls prevention programs. EnhanceFitness is an ongoing program, and participants tend to stay in the class, which leaves few openings for new participants. The falls prevention workshops, with the smallest class size, may fill quickly. An organization's ability to provide programs to the waitlisted seniors depended on funding or workforce limitations. Some organizations allowed slight overenrolling to manage waitlists and compensate for potential drop-outs.

The majority of organizations offered the wellness programs to participants at no cost or for a refundable deposit for supplies, such as weights or program manuals. Multiple organizations offering EnhanceFitness reported a suggested donation of approximately $2 per class. A few organizations also had a suggested donation of $10-20 for the workshop-style classes. Some organizations require a participant fee, which varied based on equipment requirements of the programs and funding sources.

Organizations differed in their beliefs about the impact of participant fees on wellness program participant enrollment. Some implementers felt that a small fee of $5 ensured that participants had some "skin in the game" and improved attendance. One organization has begun charging $89 for one of its most popular classes (a tai chi program not included in this study), and is monitoring the impact this fee has on enrollment and revenue to explore this as a potential model for other classes. Half of the organizations expressed concerns that fees would create barriers to participation, believing that "enrollment would drop tremendously" because participants "would largely be unable to afford to pay out-of-pocket for the evidence-based

programs." One organization felt strongly about this issue, stating that that accepting payment for classes that were grant-funded was "unethical." Still, even those who were opposed to charging for classes acknowledged that the feasibility of continuing to offering the classes at no cost was questionable, and that implementing some form of cost-sharing in the future may be inevitable.

5.3.5 Participant Attendance and Retention Strategies

Strategies for monitoring completion and supporting retention were relatively consistent across the organizations, although specifics of the definition of completion differed. Most of the national leaders have developed definitions of program completion, which serves as the minimal effective dose of the wellness program. Definitions of completion vary by program and range from attendance at 60 to 75 percent of classes (see Table 5.4 below). EnhanceFitness does not have a definition of completion because it is an ongoing program; however, attendance at 2 out of 3 classes per week for at least 4 months is recommended from the evidence base. Participants who fail to complete the wellness programs may not experience the potential benefits of the programs. Moreover, some organizations' funding is also tied to attendance. For example, Salt Lake County has grants for CDSMP and DSMP that reimburse for "completers" who attend four of the six classes. Poor attendance was often caused by health concerns, weather, and family responsibilities and was beyond the control of the implementing organizations.

Table 5.4: Wellness Program Completer Definitions

Wellness Program	Class Frequency	Definition of Completion[a]
CDSMP	1 class a week for 6 weeks	Attends 4 out of 6 classes
DSMP	1 class a week for 6 weeks	Attends 4 out of 6 classes
EF	2-3 times a week; ongoing	No official definition of completion because the class is ongoing; however, attendance at 2 out of 3 classes per week for at least 4 months is recommended
F&S!	3 times a week for 8 weeks	Attends 18 out of 24 classes
MOB	1 class per week for 8 weeks or 2 classes per week for 4 weeks	Attends 5 out of 8 classes
SO	1 class per week for 7 weeks	Attends 5 out of 7 classes

[a] Based on national program definitions.

Many organizations reported that leaders support retention by engaging participants and creating a sense of community, with many stating that a strong leader was "the key" to retaining participants. Organizations suggested that leaders who demographically reflect the participants were best positioned to foster engagement. Effective leaders can facilitate discussion and shared learning among all participants. For the physical activity programs, leaders may incorporate different types of movements (e.g., ballet movements, sports movements) or music genres depending on the preferences of the participants. Implementers of the falls prevention programs noted that the presence of the guest speaker bolstered attendance, so leaders would utilize this to build excitement for the class. One organization offered blood pressure screenings at the first

and last sessions, and the opportunity to see improvement in their readings kept participants engaged throughout the session. At another organization, the leaders call each participant prior to the first class or if they miss a class.

5.4 Program Operations: Data Collection and Reporting

Data collection and reporting activities varied across organizations and served multiple purposes, including fulfilling national program or funding requirements, assisting with tracking leader performance and training, monitoring class participant characteristics and needs, and contributing to ongoing quality improvement/quality assurance. Collectively, organizations reported capturing data at the participant, class, leader, and program level. Examples of specific data elements collected by organizations are listed below:

- Participant demographics, health history, consent, class attendance, satisfaction, fitness check results, and pre-post or first session/last session surveys;
- Workshop characteristics, including start and end dates, location, leaders, class registration, and class attendance rosters/number of completers;
- Individual leader contact information and information regarding affiliation, training/certification completion dates, classes led, results of fidelity checks;
- Program-level information related to leader trainings offered, MOUs, non-disclosure agreements, HIPAA/privacy tests, consent forms, national wellness program license expiration date (if appropriate for the program offering); and training evaluations.

Organizations generally collect some of the participant-level information, including demographics and brief health history, during the intake and enrollment process. Leaders are responsible for collecting the remaining participant data, as well as most of the workshop data, which is done over the course of the workshop. Leaders often use paper forms to collect these data and then submit the forms after the conclusion of the workshop to the organization for entry into internal, state, and/or national databases. Organizations typically assume responsibility for collecting and tracking leader and program-level information. Organizations indicated that the types of data they collect change over time depending on funding requirements and other program needs.

All but one of the organizations reported collecting and submitting participant and workshop data to national databases according to their license agreements, and the organizations implementing CDSMP and DSMP submit to a statewide database that feeds into the national repository. Most organizations use relatively simple internal databases (using Excel or Access) to track some of these data, but some serve as the state or national data warehouse and have developed more robust data management programs. For example, one organization is developing a statewide database for chronic disease management programs that will include pre- and post- measures, a physician referral tracking and feedback system, and workforce

certification tracking for quality assurance. In the future, this statewide database may be expanded to include Stepping On. EnhanceFitness developed and maintains a robust Salesforce database to track national EnhanceFitness data, which tracks outcome measures, attendance records, and local workforce training. It is also under contract with A Matter of Balance to support data collection. Some organizations reported that they do not necessarily enter all data into databases. Instead, they keep paper files which they may internally or informally review without entering, aggregating, or reporting.

Organizations noted that data reporting was one of the most helpful implementation activities, with one respondent noting that it "informs the whole operation." Some organizations reported that participant- and workshop-level data are particularly important for approaching potential partners. These partners often are interested in particular outcomes or metrics (e.g., number of individuals reached, participant demographics, number of workshop locations). However, data-related activities are challenging for many organizations. Data collection, entry, management, reporting, and review of the data take time and resources. These activities require specialized skills that may necessitate finding resources outside the organization. Another challenge is ensuring leader buy-in and support for collecting and returning data properly since leaders are often the primary data collectors. Finally, organizations indicated that the data they submit to state and national databases is rarely available to them, but would be helpful for internal monitoring and benchmarking purposes, especially in the cases of smaller organizations with limited resources.

5.5 Program Operations: Sustainability and Scalability

The majority of organizations reported that financial sustainability was an ongoing challenge and emphasized the need for reliable funding streams. Most organizations rely on grant- or contract-based funding to support wellness program operations, and several respondents noted that the unreliability of these funding streams hinders success and creates "fear that programs will go away." Furthermore, many organizations felt that unreliable funding was a challenge to the scale up and spread of wellness programs because organizations were reluctant to create infrastructure and expand the workforce. Organizations reported that reliable funding would support additional staff, stipends for volunteers, equipment and materials, and additional marketing and recruitment of participants. A few organizations also reported that reliable funding would provide more legitimacy to the wellness programs and support partnerships with health care providers.

Several organizations discussed the value of a per participant reimbursement model and have started forming or exploring partnerships with both public and private payers. At one large multi-site implementer, a local health plan provides reimbursement for EnhanceFitness through the fitness benefit of its Medicare Advantage (MA) plans. The implementing organization

receives the reimbursement from the health plan and forwards the funds to the workshop locations that provided EnhanceFitness. Another large implementing organization currently partners the local quality improvement organization (QIO), to deliver services to marginalized populations for a per-completer fee, and stated that they wish to pursue other similar funding setups in the future. Two other organizations applied to be a Medicare provider for their DSMP classes as part of the Medicare Diabetes Self-Management Education reimbursement policy, and reported exploring opportunities with private insurers and Medicare Advantage plans, respectively.

6 BASELINE CHARACTERISTICS OF INITIAL PARTICIPANT SAMPLE

As described in the previous chapter, the Acumen team recruited 90 organizations offering the six wellness programs to prospectively enroll and survey their Medicare participants at enrollment (i.e., baseline) and six and 12 months after program enrollment over a 15-month period.

The remainder of this section describes preliminary descriptive results on participant characteristics for whom baseline participant surveys were received through June 30, 2015, reflecting the first eight months of the study period.

6.1 Coordinating Organizations Providing Data for the Current Report

This report is based on data received from 43 coordinating organizations and for the wellness program participants for whom baseline participant surveys were received as of June 30, 2015. Recruitment of coordinating organizations was ongoing through September 2015, and as a result, only a subset of the 90 coordinating organizations noted in Chapter 4 had joined the study and submitted survey data in time for inclusion in this report.

As shown in Table 6.1, close to half (47 percent) of the coordinating organizations included in this report were located in the South, and approximately one-quarter were located in the Midwest (26 percent) and West (23 percent), respectively. The geographic distribution of programs was even among rural, suburban, and urban areas. Nearly half of coordinating organizations (49 percent) were non-profit or private organizations, and many were government-affiliated organizations (21 percent) or senior centers (21 percent). Forty-four percent of coordinating organizations also serve as the Area Agency on Aging (AAA) for their community. Two coordinating organizations, Senior Services of Seattle and Wisconsin Institute for Health Aging (WIHA), also serve as national leaders of wellness programs included in the study.

Table 6.1: Characteristics of Coordinating Organizations that Submitted Baseline Participant Surveys by June 30, 2015

Characteristics of Coordinating Organizations	Number and Percentage of Coordinating Organizations that Submitted Data by June 30, 2015			
	All ACA Priority Areas	Chronic Disease Management[a]	Physical Activity, Nutrition, and Obesity[a]	Falls Prevention[a]
Organizations Providing Data for the Current Report	43 (100%)	25 (100%)	21 (100%)	19 (100%)
Geographic Region				
South	20 (47%)	15 (60%)	9 (43%)	6 (32%)
Midwest	11 (26%)	5 (20%)	3 (14%)	8 (42%)
West	10 (23%)	5 (20%)	6 (29%)	5 (26%)
Northeast	2 (5%)	0 (0%)	2 (10%)	0 (0%)
Population Density of Community Served				
Mostly Rural	13 (30%)	7 (28%)	7 (33%)	6 (32%)
Mostly Suburban	12 (28%)	7 (28%)	6 (29%)	5 (26%)

Characteristics of Coordinating Organizations	Number and Percentage of Coordinating Organizations that Submitted Data by June 30, 2015			
	All ACA Priority Areas	Chronic Disease Management[a]	Physical Activity, Nutrition, and Obesity[a]	Falls Prevention[a]
Mostly Urban	11 (26%)	6 (24%)	5 (24%)	4 (21%)
Mixed Population Density	7 (16%)	5 (20%)	3 (14%)	4 (21%)
Organization Type				
Private Foundation or Non-Profit Organization	21 (49%)	9 (36%)	9 (43%)	13 (68%)
Government-Affiliated Agency[b]	9 (21%)	14 (64%)	13 (62%)	7 (37%)
Senior Center or Wellness Center	9 (21%)	1 (4%)	1 (5%)	8 (42%)
Hospital, Health System, or University	3 (7%)	2 (8%)	1 (5%)	0 (0%)
Private For-Profit Organization	1 (2%)	0 (0%)	1 (5%)	1 (5%)
Local Area Agency on Aging (AAA)	19 (44%)	13 (52%)	11 (52%)	7 (37%)

[a] Some coordinating organizations offer multiple wellness programs and submitted study data for multiple ACA priority areas, and consequently these organizations are included under all applicable ACA priority areas.
[b] Including departments on health, public health, and/or aging, and government-sponsored councils on aging.

6.2 Wellness Program Participant Respondents at Baseline

The final participant sample may differ from this initial group. The distribution of baseline participant surveys received during this time period across the 43 coordinating organizations that submitted baseline surveys is shown in Table 6.2. Slightly over half (51 percent) of all baseline participant surveys received represented participants in falls prevention programs, with the majority enrolled in Stepping On. About a quarter (22 percent) of the respondents were enrolled in a chronic disease management program, with the majority enrolled in CDSMP. Another 26 percent of the respondents were enrolled in a wellness program targeted at physical activity, nutrition, and obesity.

Table 6.2: Baseline Survey Participant Respondents by ACA Priority Area and Wellness Program

ACA Priority Area	Count and Percentage of Surveys by Priority Area	Count and Percentage of Surveys Wellness Program	
Chronic Disease Management	901 (22.1%)	CDSMP	592 (14.5%)
		DSMP	309 (7.6%)
Physical Activity, Nutrition, and Obesity	1,074 (26.3%)	EnhanceFitness	478 (11.7%)
		Fit & Strong!	596 (14.6%)
Falls Prevention	2,110 (51.7%)	A Matter of Balance	741 (18.1%)
		Stepping On	1,369 (33.5%)

Note: Total number of baseline surveys returned through June 30, 2015 was 4,085 (100 percent).
Source: Participant survey responses through June 30, 2015

The subsections below cover the following subjects in turn: attendance records; demographic characteristics; baseline utilization and costs; baseline self-reported health status; health recommendations from physicians; self-management of health; and awareness of and participation in other wellness programs. The majority of the information in this section was derived from responses to the baseline participant survey. Additional sources include attendance records submitted by coordinating organizations and linked Medicare enrollment and claims data; these sources are noted as applicable underneath each table. In most subsections, the Acumen team provides findings for the full set of participants who completed baseline surveys through June 30, 2015. For the baseline service utilization and cost findings described below in Section 6.2.3, however, the participant sample is restricted based on Medicare enrollment criteria that ensure that the beneficiaries have complete claims records with which to examine utilization and costs.

6.2.1 Program Attendance and Completion

In addition to survey responses, the Acumen team received attendance data from the vast majority of program participants included in the June 30, 2015 sample. Attendance and program completion rates were generally high for most programs. As shown in Table 6.3, the number of sessions offered by each wellness program varied. Each national program uses its own definition of the number of sessions that must be attended to constitute "program completion," and these definitions were developed based on the evidence base for each program. For most programs, more than 80 percent of respondents with attendance data completed the program, which is consistent with the average number of sessions attended by participants. One exception is Fit & Strong!, where less than half of respondents (46.8 percent) completed the program.

Table 6.3: Wellness Program Attendance by ACA Priority Area

ACA Priority Area	Wellness Program	Expected Number of Sessions	Number of Sessions Required for "Completion"[a]	Percentage of Participant Survey Respondents with Attendance Data	Respondents with Attendance Data	
					Percent of Participants Completing Program	Average Number of Sessions Attended
Chronic Disease Management (N=901)	CDSMP (N=592)	6	4	92.6%	82.3%	4.7
	DSMP (N=309)	6	4	97.7%	82.5%	4.8
Physical Activity, Nutrition, and Obesity (N=1,074)	Enhance Fitness (N=478)	indefinite	NA[b]	87.0%	N/A	14.7
	Fit & Strong! (N= 596)	24	18	91.1%	46.8%	15.3

ACA Priority Area	Wellness Program	Expected Number of Sessions	Number of Sessions Required for "Completion"[a]	Percentage of Participant Survey Respondents with Attendance Data	Respondents with Attendance Data	
					Percent of Participants Completing Program	Average Number of Sessions Attended
Falls Prevention (N=2,110)	A Matter of Balance (N= 741)	8	5	91.2%	83.0%	6.3
	Stepping On (N=1,369)	7	5	93.9%	84.1%	5.8

[a] Based on national wellness program standards
[b] Attendance at 2 out of 3 classes per week for at least 4 months is recommended. (Ackerman et al. Community exercise program use and changes in healthcare costs for older adults. Am J Prev Med 2003;25(3):232-7.)
Source: Participant survey responses through June 30, 2015 linked with attendance data submitted by coordinating organizations.

6.2.2 Demographic Characteristics

Demographic characteristics of respondents differed markedly by wellness program, as shown in Table 6.4. Relative to respondents in the other ACA priority area groups, chronic disease management participants had lower incomes (more than half had annual household income less than $20,000) and educational attainment (22.1 percent had not completed high school). Moreover, the chronic disease management participant sample had a larger share of black beneficiaries than the other two groups, and participants in this group were more likely to have difficulty with transportation and less likely to be married. Respondents in physical activity, nutrition, and obesity programs were more likely to be female (84.3 percent) and have annual household incomes higher than $40,000 (42.7 percent). Respondents in falls prevention programs were typically older (more than a quarter were 85 or older) and more likely to be white (91.0 percent) compared with other programs.

Table 6.4: Wellness Program Participant Demographics by ACA Priority Area

Category	Group	Chronic Disease Management	Physical Activity, Nutrition, and Obesity	Falls Prevention
Age (Years)+	Mean	76.0	75.4	79.4
	10th Percentile	67.9	68.1	69.4
	Median	74.8	74.4	79.6
	90th Percentile	85.8	84.1	88.6
Sex+	% Male	18.4%	14.6%	21.3%
	% Female	81.6%	85.4%	78.7%

Category	Group	Chronic Disease Management	Physical Activity, Nutrition, and Obesity	Falls Prevention
Race/Ethnicity*	% American Indian/Alaska Native	0.6%	3.2%	1.4%
	% Asian	1.0%	4.5%	0.9%
	% Black/African American	34.8%	22.8%	5.6%
	% Native Hawaiian/ Pacific Islander	0.4%	0.3%	0.1%
	% White	62.5%	68.2%	91.0%
	% Multi-race	0.6%	1.0%	0.8%
	% Hispanic[a]	17.4%	15.1%	6.1%
Urban/Rural Status+	% Urban	74.9%	83.9%	79.5%
	% Rural	24.6%	15.9%	20.4%
	% Other	0.5%	0.2%	0.1%
Dual Status+	%Dual	18.2%	5.7%	9.9%
Annual Household Income*	% less than $20,000	55.7%	29.1%	32.6%
	% $20,000-$39,999	20.5%	28.2%	30.4%
	% $40,000 or more	23.8%	42.7%	37.0%
Education*	% less than high school	22.1%	12.5%	6.9%
	% high school graduate	28.7%	23.5%	31.2%
	% some college/2 year degree	28.9%	33.2%	28.0%
	% 4 year college graduate or higher	20.3%	30.8%	33.9%
Other Characteristics*	% married/cohabiting	35.4%	42.7%	43.4%
	% living alone	47.8%	42.2%	46.1%
	% difficulty with transportation	21.5%	10.5%	15.2%
	% employed	5.8%	7.3%	4.6%

+ Characteristics are identified through Medicare claims data from the Common Working File (CWF) and enrollment data from the Enrollment Database (EDB). The population for this characteristic is limited to the 1,876 respondents who have at least one year of continuous enrollment in Medicare FFS (A/B) and who are at least 66 years old; and whose survey or attendance record data contained at least one valid value indicating the date of the first program session or of survey completion.

* Characteristics are identified through baseline participant survey data. The sample for this characteristic includes all 4,085 survey respondents received through June 30, 2015.

[a] Hispanic ethnicity is identified separately from race, and therefore percentages within the Race/Ethnicity category do not sum to 100 percent.

6.2.3 Service Utilization and Costs in Year Prior to Enrollment

The program participant respondents within the three ACA priority areas differed substantially from each other in service utilization and costs, with those in the chronic disease management and falls prevention programs generally sicker and more expensive to treat than those in the physical activity, nutrition, and obesity programs. This section describes the utilization and cost history of the program respondents, drawing on Medicare claims data.

Across all ACA priority areas, about 60 percent of respondents were enrolled in Medicare Parts A and B, as shown below in Table 6.5. A smaller share of those in the physical activity, obesity, and nutrition group was also enrolled in Part D, compared to beneficiaries in the other two ACA priority areas. Moreover, the other two ACA priority areas had higher rates of enrollment in Medicare Advantage compared to the physical activity, obesity, and nutrition group. Respondents in the chronic disease management group had the highest rates of dual eligibility, with nearly 30 percent enrolled in both Medicare and Medicaid. Only about two percent of respondents were either not Medicare beneficiaries or were unable to be linked to their Medicare records.

Table 6.5: Wellness Program Participant Medicare Enrollment Status by ACA Priority Area

Enrollment Status		Chronic Disease Management (N=814)	Physical Activity, Nutrition & Obesity (N=884)	Falls Prevention (N=1,861)
Medicare FFS (Parts A/B)	Count (Percentage)	457 (56.1%)	534 (60.4%)	1,075 (57.8%)
Medicare FFS (Parts A/B/D)	Count (Percentage)	335 (41.2%)	311 (35.2%)	737 (39.6%)
Medicare Advantage	Count (Percentage)	320 (39.3%)	268 (30.3%)	707 (38.0%)
Other Medicare Enrolled	Count (Percentage)	20 (2.5%)	61 (6.9%)	44 (2.4%)
Not Medicare Enrolled/Unknown	Count (Percentage)	17 (2.1%)	21 (2.4%)	35 (1.9%)
Dual-Enrolled	Count (Percentage)	237 (29.1%)	61 (6.9%)	190 (10.2%)

Source: Medicare CWF and EDB data on the 3,559 participant survey respondents whose survey or attendance record data contained at least one valid value indicating the date of the first program session or of survey completion.

While nearly all respondents were enrolled in Medicare, fewer satisfied the enrollment criteria that would allow Acumen to observe complete claims histories over the relevant study period, as shown below in Table 6.6. Specifically, Acumen identified the percentage of beneficiaries who had at least one full year of prior continuous Medicare A/B enrollment and who were at least 66 years old. These criteria ensure that claims across all settings are available both in the one-year baseline period prior to program participation and in the period following the start of the wellness program. The Acumen team excluded Medicare Advantage beneficiaries because only a limited set of utilization and expenditure outcomes are available for this group. Only about half of respondents in all three ACA priority areas satisfy these criteria, likely driven by the large share of participants who are enrolled in Medicare Advantage. Moreover, only about a third of respondents were continuously enrolled in Parts A, B, and D,

which reduces the size of the population for which Acumen could examine medication-related outcomes.

Table 6.6: Count and Percentage of Wellness Program Participants Who Satisfy Study Medicare Enrollment Criteria, by ACA Priority Area

Analysis Requirements		Chronic Disease Management (N=814)	Physical Activity, Nutrition & Obesity (N=884)	Falls Prevention (N=1,861)	Total (N=3,559)
≥1 year of prior continuous Medicare enrollment and ≥66 years old	Count (Percentage)	773 (95.0%)	853 (96.5%)	1,776 (95.4%)	3,402 (95.6%)
≥1 year of prior continuous Medicare FFS Part A/B enrollment and ≥66 years old	Count (Percentage)	391 (48.0%)	492 (55.7%)	993 (53.4%)	1,876 (52.7%)
≥1 year of prior continuous Medicare FFS Part A/B/D enrollment and ≥66 years old	Count (Percentage)	279 (34.3%)	281 (31.8%)	673 (36.2%)	1,233 (34.6%)

Source: Enrollment data from the EDB; table includes the 3,559 participant survey respondents whose survey or attendance record data contained at least one valid value indicating the date of the first program session or of survey completion.

Using the same CMS-HCC risk score model described in Section 3.2, Acumen found that respondents in the physical activity, nutrition, and obesity programs had lower expected costs than respondents in the chronic disease management or falls prevention programs. Respondents in the former group had mean risk scores of 0.9 and median risk scores of 0.7, indicating expected costs lower than the Medicare population as a whole, as shown in Table 6.7. By contrast, the mean and median risk scores for the other two groups were 1.0 and above, indicating expected costs that are either comparable to or higher than those for the general Medicare population, with the highest expected costs among the chronic disease management group. Respondents in the physical activity, nutrition, and obesity group also had lower rates of individual HCCs representing comorbid conditions relative to the other two groups, as shown in Table 6.8. Unsurprisingly, respondents in chronic disease management programs had substantially higher rates of diabetes, hypertension, and asthma than participants of programs in the other two priority areas.

Table 6.7: Distribution of Hierarchical Condition Code (HCC) Risk Scores among Wellness Program Participants Meeting Medicare Enrollment and Age Restrictions,[+] by ACA Priority Area

HCC Risk Score	Chronic Disease Management (N=391)	Physical Activity, Nutrition & Obesity (N=492)	Falls Prevention (N=993)
Mean HCC Risk Score	1.4	0.9	1.3
10th Percentile	0.4	0.3	0.4
Median HCC Risk Score	1.1	0.7	1.0
90th Percentile	2.7	1.8	2.4

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old, and respondents' survey or attendance record data must contain at least one valid value indicating the date of the first program session or of survey completion.
Source: Medicare claims data from CWF and enrollment data from EDB

Table 6.8: Rates of HCC Diagnosis Categories in 12 Months Prior to Survey Administration among Wellness Program Participants Meeting Medicare Enrollment and Age Restrictions[+], by ACA Priority Area

HCC Diagnosis Categories	Chronic Disease Management (N=391)	Physical Activity, Nutrition & Obesity (N=492)	Falls Prevention (N=993)
Acute cerebrovascular disease (diagnosed in hospital setting)	0.4%	0.4%	1.2%
AMI (diagnosed in hospital setting)	0.4%	0.4%	0.4%
Asthma	25.4%	20.6%	21.0%
Cardiac dysrhythmias, arrest and ventricular fibrillation	27.6%	20.3%	34.8%
Cerebrovascular disease	12.5%	8.9%	15.5%
Coagulation and hemorrhagic disorders	5.0%	3.9%	3.7%
Congestive heart failure (diagnosed in any setting)	10.4%	5.7%	10.3%
Congestive heart failure (diagnosed in hospital setting)	0.7%	0.0%	0.4%
Coronary atherosclerosis	28.3%	15.7%	21.7%
Dementia	5.7%	2.8%	6.5%
Diabetes mellitus with complications	30.8%	10.7%	14.3%
Diabetes mellitus without complication	64.9%	40.9%	40.6%
Disorders of nervous system	11.8%	6.8%	16.9%
Fluid and electrolyte disorders	8.6%	8.2%	13.5%
Gastrointestinal hemorrhage (diagnosed in any setting)	3.9%	3.2%	5.1%
Heart valve disorders	14.7%	11.0%	18.0%
Hepatitis	0.7%	0.0%	0.9%
Hypertension with complications	15.4%	10.0%	10.4%
Other cancers	22.2%	16.7%	16.6%
Paralysis	0.7%	0.4%	1.6%
Parkinson's disease and multiple sclerosis	2.2%	0.7%	4.3%
Peri- endo- and myocarditis	5.7%	1.8%	4.2%
Pneumonia	6.8%	4.6%	8.6%
Pulmonary heart disease	3.6%	2.5%	5.5%
Renal failure	17.6%	7.5%	13.7%
Rheumatoid arthritis and related disease	6.1%	4.3%	4.6%
Septicemia	0.7%	1.1%	0.7%
Stomach, pancreas and lung cancer	2.5%	0.4%	1.2%

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old, and respondents' survey or attendance record data must contain at least one valid value indicating the date of the first program session or of survey completion.
Source: Medicare claims data from CWF and enrollment data from EDB

Respondents within physical activity, nutrition, and obesity programs also had lower rates of service utilization than those participating in chronic disease management and falls prevention programs. As shown in Table 6.9, respondents in the former programs had the lowest rates of single and multiple hospital stays and single and multiple ER visits over the baseline period. They also had fewer office visit claims during the 12 months prior to program enrollment than participants in the other two priority areas. Respondents in falls prevention programs had the highest rates of single ER visits in the 12 months prior to program enrollment, while those in chronic disease management programs had the highest rates of multiple ER visits. Hospitalization and ER visit rates were calculated using Medicare claims data from the 12-month period prior to survey administration. The ER visit rate includes hospital observation stays, but it excludes ER visits that result in a hospital admission. The average number of office visits was calculated based on evaluation and management claims from the 12-month period prior to survey administration.

Table 6.9: Service Utilization in 12 Months Prior to Survey Administration among Program Participants Meeting Medicare Enrollment and Age Restrictions,[+] by ACA Priority Area

Service Area	Chronic Disease Management (N=391)	Physical Activity, Nutrition & Obesity (N=492)	Falls Prevention (N=993)
Average Number of Office Visits	10.5	8.2	9.9
Hospitalization Rate			
0 Stays	85.8%	90.0%	85.5%
1 Stay	11.2%	7.5%	10.7%
2+ Stays	3.1%	2.4%	3.8%
ER Visit Rate			
0 ER Visits	74.8%	84.1%	70.7%
1 ER Visit	16.3%	10.0%	20.8%
2+ ER Visits	8.9%	5.9%	8.5%

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old, and respondents' survey or attendance record data must contain at least one valid value indicating the date of the first program session or of survey completion.
Source: Medicare claims data from CWF and enrollment data from EDB

Finally, beneficiaries participating in chronic disease management programs had the highest levels of total Parts A and B spending in the baseline period, as shown in Table 6.10. Among Medicare beneficiaries with continuous Part D enrollment, total Part D expenditures were lowest among respondent participants in physical activity, nutrition, and obesity programs and highest among those who participated in falls prevention programs. Drug expenditures for participants in falls prevention programs were more than three times higher than those for participants in physical activity, nutrition, and obesity programs. There were similarities among

the three ACA priority areas in inpatient hospitalization and ER visit costs, although participants in physical activity, nutrition, and obesity programs generally had the lowest ER costs. Participants in the chronic disease management programs had substantially higher DME costs relative to participants in any other group.

Table 6.10: Mean Expenditures per Beneficiary in Year Prior to Survey Administration among Wellness Program Participants Meeting Enrollment and Age Restrictions, by ACA Priority Area[+]

Service Category	Chronic Disease Management		Physical Activity, Nutrition & Obesity		Falls Prevention	
	A/B (N=393)	A/B/D (N=280)	A/B (N=492)	A/B/D (N=281)	A/B (N=993)	A/B/D (N=673)
Total Medicare Parts A/B Expenditures	$6,514	$7,269	$4,513	$5,298	$5,945	$6,261
Total Medicare Part D Expenditure	N/A	$1,135	N/A	$587	N/A	$1,940
Inpatient Cost	$1,314	$1,349	$1,096	$1,396	$1,244	$1,242
ER Cost	$194	$197	$116	$131	$214	$189
DME Cost	$385	$447	$113	$120	$166	$176

[+] Respondents must have at least one year of continuous enrollment in Medicare FFS (A/B) and must be at least 66 years old. Beneficiaries in the A/B/D columns also must have had at least one year of continuous enrollment in Medicare Part D. All respondents' survey or attendance record data must contain at least one valid value indicating the date of the first program session or of survey completion.
Source: Medicare claims data from CWF and enrollment data from EDB

6.2.4 Health Status at Baseline

Health status varied among respondents enrolled in each of the wellness programs, as shown in Table 6.11. Respondents in chronic disease management programs reported the highest rates of health problems: 45 percent had diabetes, 44 percent were obese, nearly 20 percent had sensory impairments, and almost 19 percent were identified as having major depression, based on screening questions for major depression as measured by the Patient Health Questionnaire-2 (PHQ-2) score.[17] This group was also least likely to report excellent or very good health (23.0 percent) and most likely to report fair or poor health (28.8 percent).

[17] The Patient Health Questionnaire-2 (PHQ-2) is two-item questionnaire used as an initial screening test for major depressive episode. See: Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: validity of a two-item depression screener. Med Care 2003; 41:1284-92.

Table 6.11: Rates of Baseline Health Status Indicators of Wellness Program Participants by ACA Priority Area

Health Status Category	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
General Health (N=4,049)			
Excellent or very good	23.0%	45.0%	36.4%
Good	48.2%	39.9%	47.5%
Fair or poor	28.8%	15.2%	16.1%
Chronic Conditions (N=3,918)			
Arthritis	69.5%	64.4%	70.2%
Diabetes	44.7%	23.4%	18.9%
Pre-diabetes	9.2%	10.9%	11.7%
Physical and Mental Health Measures			
Obesity (Body Mass Index) (N=3,935)			
Overweight, not obese	32.8%	38.9%	34.5%
Obese	44.1%	31.0%	31.6%
Vision/hearing impairment (N=4,027)	19.8%	13.9%	18.5%
Current smoker (N=4,022)	4.8%	3.4%	2.4%
Major depression (PHQ-2) (N=3,901)	18.7%	9.3%	12.2%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: Participant Survey responses through June 30, 2015

In contrast, 45 percent of physical activity, nutrition, and obesity program participants reported excellent or very good health. Respondents in this group were the least likely to report sensory impairment, and they had the lowest rate of major depression as measured by PHQ-2. Falls prevention program participants had the highest rates of arthritis but were mid-range on most other measures.

Not surprisingly, respondents in falls prevention programs reported more difficulty with falls, balance, and walking compared with participants in other programs, as shown below in Table 6.12. About 39 percent of falls prevention program participants reported that they had fallen in the past six months, compared with only 17 percent of participants in physical activity, nutrition, and obesity programs. A high proportion of falls prevention program participants reported being afraid of falling (68.5 percent) and having balance or walking problems (59.3 percent). Participants of physical activity, nutrition, and obesity programs were less likely to fall, less likely to be afraid of falling, more likely to have confidence in their balance (as measured by the Average Confidence in Balance score [ABC-6]), and less likely to report balance or walking problems than participants in other program types.[18] However, among those respondents who fell in the past six months, participants of physical activity programs had the highest average number of falls.

[18] The ABC-6 scale is described above in Section 3.2.33.3.3.

Table 6.12: Falls and Balance Outcomes among Wellness Program Participants by ACA Priority Area

Falls and Balance Outcomes	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
Falls			
Percent who fell in past 6 months (N=3,749)	23.3%	16.7%	39.3%
Average number of falls (N=999)	2.3	2.9	2.2
Average number of falls limiting activities/requiring doctor (N=926)	1.0	1.0	0.8
Percent afraid of falling(N=3,501)	51.3%	45.2%	68.5%
Balance and Walking			
Percent with balance/walking problem (N=3,805)	39.5%	28.6%	59.7%
Average Confidence in Balance score (ABC-6) (N=3,219)	53.3%	67.6%	48.3%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: Participant Survey responses through June 30, 2015

6.2.5 Health-Related Recommendations from a Physician

Respondents in chronic disease management programs were more likely to have received a recommendation from a physician to make improvements in health behaviors when compared with other groups, as shown in Table 6.13. As expected, a high rate (66.1 percent) of participants in chronic disease management programs reported that their physician recommended better management of their chronic conditions. However, these program participants were also more likely to report physician recommendations to eat more healthful foods, lose or gain weight, and exercise regularly than those in other programs. The only physician recommendation that was more common among participants in other wellness programs was to improve balance, which was highest among falls prevention program participants.

Table 6.13: Rates of Physician Recommendations in the Past 12 Months among Wellness Program Participants by ACA Priority Area

Recommendation Topic Areas	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
Physical Activity, Nutrition, and Obesity (N=3,736)			
Eat more healthful foods	57.3%	41.9%	35.3%
Lose or gain weight	41.5%	33.2%	30.3%
Get regular exercise	62.8%	54.7%	54.2%
Falls Prevention (N=3,736)			
Improve balance	31.0%	26.1%	35.7%
Chronic Disease Management (N=3,736)			
Manage health problems	66.1%	45.9%	49.1%
None			
Physician made no recommendations (N=3,736)	9.6%	20.2%	18.0%
Did not visit physician in past year (N=3,826)	2.1%	3.1%	2.1%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels. Respondents could select multiple physician recommendations, so percentages do not add to 100 percent.
Source: Participant survey responses through June 30, 2015

6.2.6 Self-Management of Health

Respondents in physical activity, nutrition, and obesity programs were far more active, as measured by the aerobic and strength/flexibility subscales of the RAPA, than were participants in other wellness programs, as shown below in Table 6.14. In the area of aerobic activity, 60 percent of participants in such programs reported being active while fewer than two percent reported being sedentary. The difference across programs was most pronounced in the area of strength and flexibility. More than half of physical activity, nutrition, and obesity program participants reported engaging in both muscle strength and flexibility activity, compared with about a quarter of participants in other programs.

Table 6.14: Rapid Assessment of Physical Activity (RAPA) Results for Wellness Program Participants by ACA Priority Area

RAPA Rating	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
Aerobic Activity (RAPA1) (N=3,988)			
Active	51.7%	60.3%	46.4%
Under-active	43.9%	37.8%	50.0%
Sedentary	4.4%	1.9%	3.6%
Strength/Flexibility Activity (RAPA2) (N=3,826)			
Muscle strength and flexibility	25.2%	53.2%	26.1%
Flexibility	25.6%	17.4%	22.9%
Muscle strength	5.2%	6.1%	7.6%
None	44.1%	23.3%	43.4%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: Participant Survey responses through June 30, 2015

With respect to other health management outcomes, respondents in physical activity, nutrition, and obesity programs had higher levels of self-efficacy when compared with other groups. As shown in Table 6.15, nearly one-third reported high levels of self-efficacy, compared to only 18 percent of falls prevention program participants in this category. Levels of patient activation were similar between the three groups. Falls prevention program participants–perhaps because of their advanced age–were more likely to have received a flu shot in the past year.

Table 6.15: Health Management Outcome Rates for Wellness Program Participants by ACA Priority Area

Health Management Outcomes	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
Self-Efficacy (N=3,951)			
Low	6.3%	3.6%	7.2%
Below average	9.3%	7.9%	12.2%
Average	28.7%	26.5%	34.9%
Above average	31.0%	30.9%	27.3%

Health Management Outcomes	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
High	24.7%	31.1%	18.4%
Patient Engagement			
Received flu shot past year (N=4,015)	71.3%	77.6%	84.1%
Patient Activation (N=3,775)			
Active	45.8%	48.3%	43.6%
Complacent	8.8%	9.6%	7.9%
High effort	36.0%	32.4%	39.7%
Passive	9.5%	9.8%	8.7%
Self-Reported Medication Adherence (N=3,572)			
High compliance	42.3%	50.2%	53.5%
Moderate compliance	21.5%	23.6%	22.1%
Low compliance	36.1%	26.2%	24.4%

[a]Medication Adherence is measured by a modified form of the CDSMP Medication Adherence Scale. Percentages are based only on respondents who take medication.
Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels.
Source: Participant Survey responses through June 30, 2015

Respondents in chronic disease management programs had lower compliance with medication regimens prescribed by physicians when compared with participants enrolled in other wellness programs. More than a third reported low medication adherence, compared with about a quarter of participants in other wellness programs. This result may be correlated with the likelihood that participants in chronic disease management programs are taking a larger number of medications to manage chronic conditions.

6.2.7 Wellness Program Awareness and Participation

Responding program participants were often aware of other wellness programs that were available either online or in their communities. Awareness of other programs was highest among physical activity, nutrition, and obesity program participants (48.7 percent). Interestingly, program participants reported high rates of participation in other wellness programs–about one-third of all participants reported that they are currently enrolled in other wellness programs. The most common type of additional program for these participants was exercise, with 60 to 72 percent reporting that they are involved with another exercise program. As Table 6.16 shows, there is a tendency for participants to be involved with other programs that are similar to their current wellness program. For example, among those enrolled in other programs, chronic disease management program participants had the highest rate of enrollment in additional programs to manage health problems. Similarly, falls prevention program participants had the highest rate of enrollment in additional balance improvement programs, and physical activity program participants had the highest rates of enrollment in exercise programs.

Table 6.16: Percentage of Wellness Program Participants with Awareness of or Participation in Other Wellness Programs, by ACA Priority Area

Awareness and Participation Outcomes	Chronic Disease Management (N=901)	Physical Activity, Nutrition, and Obesity (N=1,074)	Falls Prevention (N=2,110)
Awareness of Other Programs (N=3,897)			
Community program	32.0%	46.0%	41.5%
Online program	6.5%	6.3%	5.5%
None	64.2%	51.3%	56.1%
Participation in Other Programs (N=3,869)			
Currently enrolled in other program	33.4%	32.1%	31.2%
Eat more healthful foods	55.1%	45.8%	34.5%
Lose or gain weight	41.7%	31.7%	25.0%
Get regular exercise	60.9%	72.3%	65.0%
Improve balance	42.4%	46.2%	52.0%
Manage health problems	51.1%	39.4%	32.2%

Note: Missing data are not included in the percentages reported. Valid N for each variable is reported in row labels. Respondents could select multiple program types, so percentages do not add to 100 percent.
Source: Participant Survey responses through June 30, 2015

6.2.8 Summary of Findings

Preliminary results from the participant survey illustrate that participants in the three ACA priority areas are very different from one another. In particular, chronic disease management program participants stood out from participants in other wellness programs in several ways. They had lower levels of income and education, poorer health, higher levels of obesity, and were more likely to have received recommendations from physicians to make a variety of lifestyle changes. Moreover, Medicare beneficiaries in chronic disease management programs had higher levels of baseline Medicare spending than participants in the other two ACA priority areas. In contrast, physical activity program participants tended to be healthier and more confident about their ability to manage their health. These findings, if confirmed based on the complete baseline participant survey sample, have implications for understanding the impact of program participation. Participants in chronic disease programs are beginning the process of change at a greater disadvantage in terms of both socioeconomic and health status. Follow up at 6 and 12 months, and comparison with a matched sample of national survey respondents, will assist in understanding how differences at baseline affect the process of change for participants in the different types of wellness programs.

7 NEXT STEPS

Over the next two years, the Acumen team will finish collecting baseline and national surveys and will continue fielding the six-month and 12-month follow-up surveys to both respondent populations. Using data from the national survey respondents, the Acumen team will construct an estimate of the readiness of the general Medicare population to participate in wellness programs; this estimate will aid CMS in assessing the feasibility of offering such programs to Medicare beneficiaries. Moreover, the Acumen team will assess the impact of wellness programs on a broad range of outcomes, including self-reported health status, service utilization, and cost. To measure the impact of wellness programs, the Acumen team will first use propensity score matching to construct a comparison group for the program participant population, drawing comparison group members from the national survey population. Matching variables will include demographics, readiness to participate in wellness programs, Medicare enrollment status, historical service utilization and costs, and other factors as deemed appropriate. To estimate implementation costs, the Acumen team will continue to work with the national program leaders to gather more reliable data on operational costs and supplement it with data from the literature. This may include exploring with program leaders the feasibility of gathering operational cost information from organizations that are well-established providers of the evidence-based wellness programs but were not involved in participant survey data collection for this study. The Acumen team will summarize the results of these analyses in future reports to CMS.

APPENDIX A– DESCRIPTIONS OF WELLNESS PROGRAMS PARTICIPATING IN THE EVALUATION

A.1 Chronic Disease Self-Management Program (CDSMP) & Tomando Control de su Salud (Spanish CDSMP)

General Description: CDSMP/Tomando Control de su Salud is a lay-led participant education program for adults with chronic health conditions, to provide information and teach skills on managing chronic health problems, such as hypertension, arthritis, heart disease, stroke, lung disease, and diabetes.

ACA Priority Area(s)

- Chronic disease management (considered primary area for evaluation purposes)
- Physical activity, nutrition, and obesity
- Mental health

Target population

- Adults
- Medicare and non-Medicare
- Living in the community
- Experiencing chronic health conditions such as hypertension, arthritis, heart disease, stroke, lung disease, and diabetes
- Family members, friends, and caregivers to individuals experiencing chronic health conditions
- Spanish CDSMP (Tomando) is targeted at Spanish speaking populations

Program Goals: Improvements in:

- Exercise
- Cognitive symptom management
- Communication with physicians
- Self-reported general health
- Health distress
- Fatigue
- Disability
- Ability to engage in social activities

History: CDSMP was designed by researchers at the Stanford University School of Medicine. Program development began in 1990, and evaluation findings were first reported in 1996. Tomando Control de su Salud, the Spanish adaptation of CDSMP, was later introduced.

Geographic Reach

- U.S.: 46 states, plus Washington DC and Puerto Rico
- International: 23 countries

Program Administration

- Format: In-person, classroom-based
- Schedule: meets once a week for six weeks, for 2.5 hours per session
- Recommended class size: 10-16 participants
- Definition of program completion[19]: Attends at least 4 out of the 6 sessions

Instructors

- Instructor: Pair of instructors, at least one of whom must be an individual living with a chronic illness themselves
- Instructor Training: 4.5 day training facilitated by Stanford University School of Medicine
- Paid or volunteer: Paid

Key References from Phase I – Environmental Scan[20]

CDSMP

Lorig KR, Sobel DS, Ritter PL, Laurent D, Hobbs M. Effect of a self-management program on patients with chronic disease. *Eff Clin Pract,* 2001 Nov-Dec;4(6):256-62.

Lorig, Kate R.; Ritter, Philip; Stewart, Anita L.; Sobel, David S.; William Brown, Byron Jr.; Bandura, Albert; Gonzalez, Virginia M.; Laurent, Diana D.; Holman, Halsted R. Chronic Disease Self-Management Program: 2-year health status and health care utilization outcomes. *Medical Care,* November 2001;39(11):1217-1223.

Lorig, Kate R.; Sobel, David S.; Stewart, Anita L.; Brown, Byron William Jr.; Bandura, Albert; Ritter, Philip; Gonzalez, Virginia M.; Laurent, Diana D.; Holman, Halsted R. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: A randomized trial. *Medical Care,* January 1999;37(1):5-14.

[19] Defined by the wellness program

[20] Altarum Institute. Environmental Scan of Community-Based Prevention and Wellness Programs in the United States Evidence Review Report. Centers for Medicare and Medicaid Services. December 15, 2011

Lorig, Kate, Philip L. Ritter, Kathryn Plant. A disease-specific self-help program compared with a generalized chronic disease self-help program for arthritis patients. *Arthritis Care & Research*, 15 December 2005;53(6):950–957.

Tomando Control de su Salud

Kate R. Lorig, Philip L. Ritter, Anna Jacquez. Outcomes of border health Spanish/English chronic disease self-management programs. *The Diabetes Educator,* May/June 2005;31(3):401-409.

Lorig, Kate R.; Ritter, Philip L.; González, Virginia M. Hispanic chronic disease self-management: A randomized community-based outcome trial. *Nursing Research,* November/December 2003;52(6):361-369.

A.2 Diabetes Self-Management Program (DSMP) & Programa de Manejo Personal de la Diabetes (Spanish DSMP)

General Description: DSMP/ Programa de Manejo Personal de la Diabetes is a lay-led participant education program for adults with diabetes to provide information and teach skills on managing diabetes.

ACA Priority Area(s)

- Chronic disease management (considered primary area for evaluation purposes)
- Physical activity, nutrition, and obesity
- Mental health

Target population

- Adults
- Medicare and non-Medicare
- Living in the community
- Diagnosed with Type II diabetes
- Spanish DSMP is targeted at Spanish speaking populations

Program Goals: The goals of DSMP include:

- Improving health status, health behavior, and self-efficacy
- Reducing healthcare costs
- Decreasing emergency room visits
- Improving A1C blood glucose levels
- Build participants' confidence in their ability to manage their health and maintain active and fulfilling lives

History: DSMP was designed by researchers at the Stanford University School of Medicine as a program for Spanish-speaking populations, but was introduced on English-speaking populations in 2008.

Geographic Reach

- U.S: 43 states, plus Washington DC
- International: 7 countries

Program Administration

- Format: In-person, classroom-based
- Schedule: meets once a week for six weeks, for 2.5 hours per session
- Recommended class size: 12-16 participants
- Definition of program completion: Attends at least 4 out of the 6 sessions

Instructors

- Instructor: Pair of instructors, at least one of whom must be an individual living with diabetes him/herself
- Instructor Training: 4.5 day training facilitated by Stanford University School of Medicine
- Paid or volunteer: Paid

Key References from Phase I – Environmental Scan

DSMP

Lorig K, Ritter PL, Villa FJ, Armas J. Community-based peer-led diabetes self-management: A randomized trial. *Diabetes Educ*, 2009 Jul-Aug;35(4):641-651. Epub 2009 Apr 30.

Programa de Manejo Personal de la Diabetes

Lorig K, Ritter PL, Villa F, Piette JD. Spanish diabetes self-management with and without automated telephone reinforcement: Two randomized trials. *Diabetes Care*, 2008 Mar;31(3):408-414. Epub 2007 Dec 20.

A.3 EnhanceFitness

General Description EnhanceFitness is an evidence-based group exercise program focusing on four key areas: stretching and flexibility; low impact aerobics; strength training; and balance.

ACA Priority Area(s)

- Physical activity, nutrition, and obesity

Target population

- Seniors
- Living in the community
- Medicare and non-Medicare

Program Goals

- Improve the overall functional fitness and well-being of older adults
- Help older adults of all fitness levels become more active, energized, and empowered to sustain independent lives
- Fitness checks conducted at baseline and every 4 months to assess:
  - Chair stands
  - Arm curls
  - Timed-up-and-go
  - If the participant has fallen in the past 4 months
  - 6-minute walk
  - 2-minute step test
  - 1-leg stand

History

EnhanceFitness was developed by the Senior Services of Seattle, in partnership with the University of Washington and the Group Health Cooperative in 1993. It was first implemented in the community setting in 1997.

Geographic Reach

- U.S.: 32 states
- International: none

Program Administration

- Format: In-person, group fitness class
- Schedule: 3 times a week for 1 hour, for no specific amount of time
- Class size: Up to 25 participants
- Definition of program completion: attend 11 or more classes in 6 months

Instructors

- Instructors: Fitness instructors certified by a nationally recognized fitness association
- Instructor training: 1.5 day training specific to EnhanceFitness.

- Paid or volunteer: Not specified

Key References from Phase I – Environmental Scan

Ackermann RT, Williams B, Nguyen HQ, Berke EM, Maciejewski ML, LoGerfo JP. Healthcare cost differences with participation in a community-based group physical activity benefit for Medicare managed care health plan members. *J Am Geriatr Soc,* 2008 Aug;56(8):1459-1465. Epub 2008 Jul 15.

Belza B., Anne Shumway-Cook, Elizabeth A. Phelan, Barbara Williams, Susan J. Snyder, James P. LoGerfo. The effects of a community-based exercise program on function and health in older adults: The EnhanceFitness Program. *Journal of Applied Gerontology,* August 2006;25(4):291-306.

Nguyen, Ronald T. Ackermann, Ethan M. Berke, Allen Cheadle, Barbara Williams, Elizabeth Lin, Matthew L. Maciejewski, James P. LoGerfo. Impact of a managed-Medicare physical activity benefit on health care utilization and costs in older adults with diabetes. *Diabetes Care*, 2007 January;30(1):43-38.

Wallace JI, Buchner DM, Grothaus L, et al. Implementation and effectiveness of a community-based health promotion program for older adults. *J Gerontol A Biol Sci Med Sci,* 1998;53(4):M301-M306.

A.4 Fit & Strong!

General Description Fit & Strong! is an evidence-based, multi-component exercise program for older adults with lower extremity osteoarthritis (OA) that combines flexibility, strength training, and aerobic walking with health education.

ACA Priority Area(s)

- Physical activity, nutrition, and obesity (considered primary area for evaluation purposes)
- Chronic disease management

Target population

- Seniors
- Living in the community
- Medicare and non-Medicare
- Sedentary and/or experience lower-extremity joint pain and stiffness or osteoarthritis

Program Goals

- Help participants maintain independent function
- Reduce and manage arthritis symptoms

- Learn a variety of exercises and how exercise can manage arthritis symptoms
- Develop a sustainable regimen of physical activity

History

Fit & Strong! was developed by researchers at the University of Illinois at Chicago, and was first implemented in community settings in 1996.

Geographic Reach

- U.S.: 3 states
- International: none

Program Administration

- Format: Community-based, in-person group fitness class
- Schedule: 2-3 times a week for 90 minutes each, for 8-12 weeks (total of 24 sessions)
- Recommended class size: 20-25 participants
- Definition of program completion: Attend 18 out of 24 classes

Instructors

- Instructors: Exercise instructors certified by a nationally recognized fitness organization or licensed physical therapists
- Instructor training: Certification from Fit & Strong! after attending an 8-hour training.
- Paid or volunteer: Paid

Key References from Phase I – Environmental Scan

Hughes SL, Seymour RB, Campbell RT, Huber G, Pollak N, Sharma L, Desai P. Long-term impact of Fit and Strong! on older adults with osteoarthritis. *The Gerontologist,* 46(6):801-814.

Hughes, Susan L., Rachel B. Seymour, Richard Campbell, Naomi Pollak, Gail Huber, Leena Sharma. Impact of the Fit and Strong intervention on older adults with osteoarthritis. *The Gerontologist,* 2004;44(2):217-228.

Hughes, Susan L.; Rachel B. Seymour; Richard T. Campbell; Pankaja Desai; Gail Huber; H. Justina Chan. Fit and Strong!: Bolstering maintenance of physical activity among older adults with lower-extremity osteoarthritis. *American Journal of Health Behavior,* November/December 2010;34(6):750-763.

Seymour RB, Hughes SL, Campbell RT, Huber G, Desai P. Comparison of two methods of conducting the Fit and Strong! program. *Arthritis & Rheumatism,* 61(7):876-884.

A.5 A Matter of Balance

General Description A Matter of Balance is a class designed to help older adults prevent falls by dealing with their fear of falling, reducing fall risk factors, and increase their physical activity level, strength, and balance.

ACA Priority Area(s)

- Falls prevention

Target population

- Adults age 60 years and over
- Live in the community
- Medicare and non-Medicare
- Ambulatory
- Able to problem-solve
- Concerned about falls
- Interested in improving flexibility, balance, and strength

Program Goals

- Reduce fear of falling
- Stop the fear of falling cycle
- Increase activity levels among community-dwelling older adults.

History A Matter of Balance was initially developed by Boston University, and in 2003, it was translated into a volunteer lay-leader format (from a health professional-lead format) by the Partnership for Health Aging, Southern Maine Agency on Aging, Maine Medical Center's Geriatric Center, and the University of Southern Maine.

Geographic Reach

- U.S.: 36 states, plus Washington DC
- International: 1 country

Program Administration

- Administration: In-person, community based classes
- Schedule: Once or twice weekly, for a total of eight 2-hour classes.
- Recommended class size: 10-12 participants, but can range from 8-14.
- Definition of program completion: Attends 5 out of 8 sessions

Instructors

- Instructors: Trained volunteers who are members of the community
- Instructor training: 2-day training workshop
- Paid or volunteer: Volunteer

Key References from Phase I – Environmental Scan

Healy TC, Cheng Peng, Margaret S. Haynes, Elaine M. McMahon, Joel L. Botler, Laurence Gross. The feasibility and effectiveness of translating A Matter of Balance into a volunteer lay leader model. *Journal of Applied Gerontology,* February 2008;27(1):34-51.

Ory MG, Smith ML, Wade A, Mounce C, Wilson A, Parrish R. Implementing and disseminating an evidence-based program to prevent falls in older adults, Texas, 2007-2009. *Prev Chronic Dis,* 2010;7(6).

Smith ML, Sang Nam Ahn, Joseph R. Sharkey, Scott Horel, Nelda Mier, Marcia G. Ory. Successful falls prevention programming for older adults in Texas: Rural–urban variations. *Journal of Applied Gerontology,* August 25, 2010.

A.6 Stepping On

General Description Stepping On is a community-based proven reduce falls and build confidence in older people. The program content covers: falls and risk; strength and balance exercises; safe footwear and walking; vision and falls; home and community safety; medication review and management; bone health; and coping after a fall.

ACA Priority Area(s)

- Falls prevention

Target population

- Adults aged 65 or older
- Living in the community
- Cognitively intact
- Medicare and non-Medicare
- Ambulatory, able to walk without a walker, scooter, wheelchair, or help of another person
- Concerned about falls
- Understand the language being used by the leader

Program Goals

- Use adult group learning principles plus individualized follow-up to build participants' self-confidence in making decisions and behavioral change in situations where they are at risk of falling
- Challenge older persons to appraise their fall risk realistically and provide a forum for gaining and applying knowledge about safety practices
- To facilitate older persons' taking control to choose, adopt, and follow-through with safety strategies in everyday life

History Stepping On was developed at the University of Sydney in Australia, and was first implemented in the United States in 2004 by the Wisconsin Institute for Health Aging.

Geographic Reach

- U.S.: 19 states
- International: 1 country

Program Administration

- Format: Community-based, in-person group classes; followed by 2 individual home visits
- Schedule: 7 sessions, once a week for 2 hours
- Recommended class size: 8-12 participants
- Definition of program completion: Attends 5 out of 7 sessions

Instructors

- Instructors: 2 individuals- a current or retired health, aging, or fitness professional, and a former participant
- Instructor training: 3-day training, plus practice facilitation sessions and quizzes
- Paid or volunteer: Unspecified

Key References from Phase I – Environmental Scan

Clemson L, Cumming RG, Kendig H, Swann M, Heard R, Taylor K. The effectiveness of a community-based program for reducing the incidence of falls in the elderly: A randomized trial. *J Am Geriatr Soc,* 2004 Sep;52(9):1487-1494.