

Administration on Aging
Chronic Disease Self-Management Program (CDSMP)
Process Evaluation

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EXECUTIVE SUMMARY

The U.S. Administration for Community Living (ACL) supports states in their efforts to develop and implement delivery systems for Chronic Disease Self-Management Education programs. This includes the Chronic Disease Self-Management Program (CDSMP) developed by Stanford University. CDSMP, one of the most recognized evidence-based health promotion programs, provides participants with the education and tools they need to help them manage chronic conditions such as diabetes, heart disease, or arthritis. The highly developed protocol for delivering Stanford CDSMP makes it possible to disseminate, evaluate, and bring the program to scale.

This process evaluation examines state CDSMP programs funded through *Communities Putting Prevention to Work: Chronic Disease Self-Management Program*, an initiative of the Administration on Aging (AoA)—now a part of ACL¹—in collaboration with the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare & Medicaid Services (CMS). Under this initiative, AoA awarded two-year grants totaling \$27 million to 45 states, the District of Columbia, and Puerto Rico in 2010. Grant funds were authorized by the American Recovery and Reinvestment Act (ARRA) of 2009.

In their ARRA grant applications, each state was to provide “a vision for long-term sustainability of CDSMP as part of its overall approach to helping older adults remain independent and living in their own home and communities.”² AoA endeavored to support states in developing strong, sustainable delivery systems for CDSMP that would continue to thrive after federal funding came to an end. AoA promotes these key elements for an integrated, sustainable service delivery system:

1. **State-level aging and public health leadership.** Regardless of which agency is the lead for CDSMP implementation, AoA encourages states to develop effective collaborations between the state unit on aging and the public health agency.
2. **Effective partnerships to embed CDSMP into statewide health and long-term services and supports systems.** AoA encourages states to strategically recruit and partner with organizations that can embed CDSMP into their ongoing operations, with priority to delivery system partners with multiple delivery sites, the capacity to reach large populations, and a commitment to offering workshops on an ongoing basis beyond the grant period.
3. **Delivery infrastructure/capacity to provide programs throughout the state.** AoA encourages states to develop adequate capacity to deliver CDSMP workshops throughout the state.

¹ In April 2012, AoA, the Office on Disability, and the Administration on Developmental Disabilities were combined into ACL, a single agency with the U.S. Department of Health and Human Services. AoA is now a part of ACL. Throughout this report, we refer to AoA as the sponsor and administrator of the agency’s CDSMP initiative.

² ARRA grant RFP, page 16.

4. **Centralized or coordinated processes for recruitment, intake, referral, and registration/enrollment.** AoA encourages states to develop centralized or coordinated outreach and marketing efforts and to coordinate with ADRCs in the state.
5. **Quality assurance program and ongoing data systems and procedures.** States are strongly encouraged to have a strong quality assurance program to ensure fidelity and facilitate continuous quality improvement, as well as data collection systems to support these functions.
6. **Business planning and financial sustainability.** States are expected to develop and execute business or sustainability plans to help ensure financial sustainability beyond the grant period, working with government agencies, foundations and corporations, health care providers, employer groups, and public and private insurers.

In September 2011, AoA awarded Contract No. HHSP233201100492G entitled *CDSMP Process Evaluation and Detailed Outcome Evaluation Design* to IMPAQ International and Altarum Institute. AoA was particularly interested in learning about states' experiences in delivering CDSMP to adults aged 60 and older, the agency's target population. This report details findings from the process evaluation of CDSMP.

Research Questions

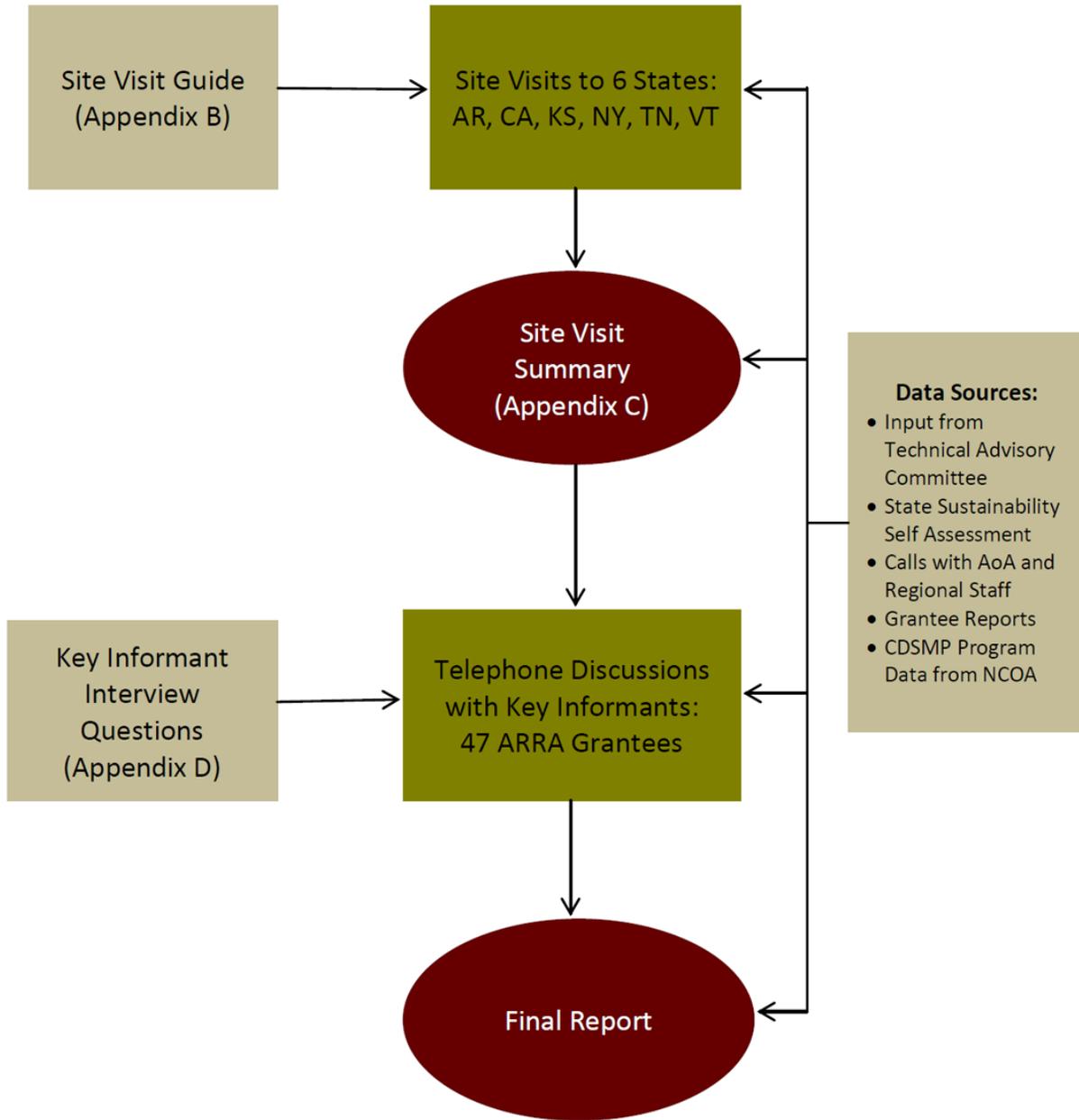
The process evaluation addresses five research questions:

1. Who do ACL CDSMP grantees serve? How do the individuals served through the ACL CDSMP grants compare with populations studied through other CDSMP evaluations?
2. How are local sites implementing the CDSMP? For example, how do their organizational structure, financial resources and allocation and their fidelity compare to the Stanford CDSMP model? Are there common adaptations being made at ACL supported sites? Are there adaptations which specifically improve the applicability of the CDSMP to seniors (age 60+) with chronic diseases?
3. What are program completion rates, in general and by important sub-groups? What barriers and supports affect the existing completion rates?
4. What data are ACL CDSMP grantees collecting and what is the state of their records systems? What is the evaluation capacity of state-level grantees and/or local sites including whether they have conducted or participated in program evaluations?
5. Have these grantees built sustainable statewide distribution and delivery systems which increase the availability of evidence-based self-management programs and provide an ongoing distribution channel for other evidence-based programs that may be delivered by community based organizations?

Process Evaluation Approach and Data Sources

The research team employed a multi-method approach using multiple qualitative and quantitative data sources (Exhibit ES1). We consulted with AoA program and regional staff and formed a Technical Advisory Group (see Appendix A) to inform the process evaluation design. The team conducted site visits to six states in January-February 2012 to observe program implementation on the ground and further inform development of the process evaluation. For the site visit interviews, we mapped the five research questions to research domains and then developed interview questions for each domain. Next, during April-June 2012 we conducted one-hour telephone discussions with key informants representing each of the 47 state grantees as part of AoA's ARRA grant close-out activities. We used an abbreviated list of questions that focused on the current landscape for CDSMP and the anticipated changes in the post-ARRA funding environment in order to assess the current status of each program and prospects for sustainability. We also analyzed program data submitted to the National Council on Aging (NCOA) by the state grantees to present a descriptive analysis of participants, workshops, and leaders. The program data were also used to conduct regression analyses to examine the influence of various factors on participant completion rates, such as participant demographics and chronic conditions, size and location of the workshops, seasonal factors, and characteristics of the state's CDSMP delivery system.

Exhibit ES1. Process Evaluation Approach and Data Sources



Summary of Findings

Characteristics of State Grantees

1. **The lead agency in the majority of states is the state unit on aging.** In two-thirds of the ARRA-funded states, the lead agency is the state unit on aging. The department of health is the state lead for one-third of the states.
2. **Grant awards varied by state.** Grant awards totaled \$27 million; awards to states ranged from \$50,000 to \$1.19 million.
3. **Most state grantees had received prior funding to implement CDSMP.** Only ten grantees had never before received significant Federal funding to develop a CDSMP program; the other states had received prior funding from AoA, the Centers for Disease Control and Prevention (CDC), and/or CDC's National Association of Chronic Disease Directors (NACDD) so already had experience implementing the program.
4. **All but one state met their goals for the number of participants and completers.** ARRA grantees agreed to goals at the outset of their awards that were based on the number of Medicare beneficiaries in each state. Only one grantee did not achieve their goals during the two-year grant period or during a no-cost extension. Nine grantees exceeded their goals by more than 200 percent.

CDSMP Participants

1. **ARRA grantees provided CDSMP to nearly 90,000 participants.** During the two-year ARRA grant period, 22,043 individuals under age 60, 57,870 individuals aged 60 and older, and 9,945 individuals of unknown age participated in CDSMP workshops in grantee states, for a total of 89,861 participants.
2. **Disproportionately more CDSMP participants were served by state units on aging.** Eighty percent of participants were enrolled in CDSMP operated by state units on aging; 20 percent participated in programs operated by public health departments even though two-thirds of grantees were state units on aging.
3. **The majority of participants attended workshops in metropolitan areas.** Seventy-nine percent of participants attended workshops in metro areas; 21 percent participated in workshops in non-metro areas.
4. **Participants were largely white and female, although grantees were targeting more diverse populations.** Among those aged 60 and older, 72 percent of participants were female, just over half were white, and 15 percent were African American. Many state grantees reported targeting special populations, particularly Latinos, Asians, and Native Americans.

5. **On average, participants reported 2.44 chronic conditions.** However, women reported more chronic conditions than men (an average of 2.51 for women; 2.17 for men). Hypertension/high blood pressure and arthritis/rheumatic disease were the most commonly reported chronic conditions for participants aged 60 and older. Rates of cancer, heart disease, stroke, and osteoporosis tended to increase with increased age. Depression or anxiety disorders and diabetes tended to be more prevalent among those younger than age 60 and those aged 60 to 64, with rates decreasing with age thereafter.
6. **Longer funding histories were not associated with serving more diverse populations.** Although the research team hypothesized that grantees with longer and more diverse funding histories for CDSMP implementation would be serving more diverse populations, this was not the case. Participant demographics were generally consistent across the three types of funding histories examined.

Implementation of CDSMP

1. **CDSMP was implemented successfully in a diverse set of organizational arrangements.** Aging services networks served as grantees in most states, using aging services providers such as AAAs, state and local public health departments, and private health systems as key partners for CDSMP program oversight and delivery. Grantees used centralized, decentralized and shared infrastructures.
 - **Oversight:** Grantees used centralized program administration and oversight in 14 states, decentralized models in 23 states, and shared systems of oversight in 10 states.
 - **Delivery:** Most grantees (37) used decentralized delivery systems to deliver CDSMP through public and private organizations including AAAs, 9 used centralized infrastructures such as private or public health systems, and one grantee used a mixed approach. Grantees that used centralized systems to deliver CDSMP typically centralized communications, licensing, and referral as well.
2. **No single approach works best in all contexts. However, centralized approaches offer advantages such as standardization of training and delivery, leverage for data collection, and certain economies of scale—while decentralized approaches can be more responsive to local conditions and resource availability.** CDSMP oversight and delivery arrangements typically reflected historical funding and partnerships, geographical relationships, or political structures already established within the state.
3. **Marketing and recruitment continue to be challenges for many grantees, especially those with limited staff and financial resources for outreach.** Grantees that leveraged established partnerships and networks (e.g., AAAs, Area Health Education Centers, etc.) to market and recruit participants were more likely to be successful reaching older adults and filling workshops.

4. **Retaining participants throughout the 6 workshop sessions can be difficult—but grantees have identified successful strategies to support retention.** Transportation and weather problems, illness, and participant motivation or interest can all interfere with attendance. Grantees and workshop leaders reported using small incentives such as gift cards, key chains, and other giveaways; scheduling workshops at convenient times and places; and assisting participants with transportation to and from workshops as key strategies for improving retention.
5. **Reaching cultural and ethnic minorities can be difficult, especially if funding for outreach is limited. However, many sites have been able to reach and serve these populations successfully.** Once enrolled, these populations are likely to stay with the program and show high rates of completion. Several grantees have expanded reach and reported success serving special populations including prisoners and disease-specific populations. More information is needed about grantees’ experiences with these groups.
6. **Program success depends highly on the commitment of key leaders and champions.** Program champions are key to the success and sustainability of CDSMP programs, especially at start up. Grantees of programs lacking champions or continuity of leadership encountered more problems with ongoing program operations and had more difficulty making the case to sustain the program at the end of ARRA funding. Grantees should be sure to start establishing policy and infrastructure immediately so the program does not fail if the champion is gone.
7. **Fidelity is multi-faceted, with multiple components identified as important to program success in the Stanford protocols. Grantees reported fidelity as a priority and approached it in various ways.** The relative importance of specific items to program success is unclear. Grantees and workshop leaders questioned some items, including class size and presentation format. Questions were also raised regarding the relative importance of specific workshop sessions. Some grantees suggested a study of the relative importance of CDSMP fidelity requirements would be helpful to shed light on these and other issues.
8. **Grantees called out a need for state-specific information about the effectiveness, cost effectiveness, and return on investment of CDSMP.** This information is often requested by legislators and is needed to support third-party payment and funding to continue program availability.

Completion Rates

Grantees were expected to track the number of participants and “completers” (i.e. the number of individuals who completed at least four out of six workshop sessions).

1. **The average completion rate for CDSMP participants was 75 percent.** However, average completion rates varied from 63 percent in Oregon to 86 percent in Oklahoma. Completion rates for individuals aged 60 and older were slightly higher than for those under age 60 (77.2 percent compared to 74.5 percent). At 77 percent, female participants had higher completion rates than males. Workshops that were held by faith-based organizations had the highest completion rates of any type of implementation site.
2. **Completion rates varied by type of program oversight.** States that instituted a centralized model to oversee CDSMP had the highest completion rates for participants under age 60 (75.4 percent) and over age 60 (79.3 percent). Average completion rates were slightly higher for programs led by state units on aging than for programs led by public health agencies.
3. **Individuals with certain chronic conditions were more likely to complete CDSMP.** Individuals reporting hypertension and osteoporosis had greater odds for completion. Not unexpectedly, individuals reporting depression were less likely to complete CDSMP, suggesting the need for more supports for this population.
4. **Smaller workshops tend to have higher completion rates.** Participants in smaller workshops (i.e., with no more than 5-6 participants) had significantly higher completion rates even though workshops of this size are not recommended in Stanford's program fidelity guidelines. Greater camaraderie and peer pressure combined with possibly more individualized attention from leaders may explain the higher completion rates.
5. **Leader experience matters.** Participants who attended workshops with leaders who taught a workshop in the previous quarter or with leaders who had taught together previously had higher odds of completion.
6. **Completion rates were higher for Spanish language CDSMP (*Tomando Control de su Salud*).** Cultural elements included in the Spanish language CDSMP curriculum may have a positive effect on completion rates and should be examined more carefully for applicability to English language CDSMP.
7. **Completion rates in non-metro areas were higher than in metro areas.** This was despite barriers common in rural areas such as a lack of public transportation, long travel distances to classes, and a greater impact of inclement weather reported by grantees.
8. **The relationship between Class Zero and completion rates is unclear.** Regression analysis did not find strong evidence that participation in Class Zero improved the overall odds of completing CDSMP. Participants in workshops that offered an introductory Class Zero had slightly higher completion rates than other participants (75.8 percent compared to 74.7 percent) and the difference is statistically significant.

Taken together this suggests that additional research on which populations and in which situations Class Zero might prove beneficial is needed.

Data Collection

1. **More than half (31 of 47) of grantees reported using CDSMP data required under the ARRA grant, often supplemented with other primary and secondary data on programs, for program management or process evaluation, and 17 grantees reported conducting special studies of health outcomes, cost or utilization.** Grantees often evaluate participant (and sometimes workshop leader) satisfaction, with 3-, 6- and 12-month follow up after completion of the workshops. Even states collecting only the data requested under the grant were able to use the information for program planning (e.g., to target need for leader training and to target populations and locations for workshops).
2. **Grantees used a wide array of approaches to collect data on CDSMP participants required under their ARRA grants.** All grantees were able to collect and submit program data. Some used basic commercially available software such as Excel or Access to track or collect additional data, while others developed or expanded data collection programs used by state agencies, contracted organizations or host sites. Data collection activities were typically conducted by program staff funded by the CDSMP grant or integrated as part of other grantee infrastructure for CDSMP or other programs.
3. **Several grantees reported partnering with universities to conduct rigorous research studies. Grantees' studies use many different types of measures, and are starting to build a research base for CDSMP as implemented at the state and local levels.** Measures track changes in functional status, health care utilization, cost and clinical indicators.
4. **Grantees reported various benefits of data collection and reporting, including program planning and oversight, program improvement, and reporting to stakeholders.** Some grantees and host sites have incorporated evaluation into their aging and public health programs. Data collection and monitoring require funding to support. Not all states are able to continue these activities post ARRA funding.

Program Sustainability

1. **Strong leadership and vision at the state level will be a key factor in program sustainability.** Whether a state opts for centralized or decentralized oversight or a centralized or decentralized delivery system, state-level commitment to CDSMP will be critical. Leaders at the state level who ensure that CDSMP is integrated into statewide strategic planning, actively support implementation at the local level through technical assistance and other supports, and advocate for statewide standards for fidelity monitoring are likely to be rewarded with stronger, more sustainable programs.

2. **A symbiotic partnership between the state unit on aging and the public health department benefits CDSMP implementation and sustainability.** Aging brings access to a state’s aging network, which is important for reaching older adults and, increasingly, persons with disabilities (through ADRCs). Public health brings a commitment to evidence-based health promotion and prevention programs and partnerships with established delivery systems. States in which aging and public health collaborate effectively tended to have stronger CDSMP delivery networks, even though the aging-public health partnerships vary significantly in structure and function across the states.
3. **Agency leaders at the state level will not be successful in advocating for and sustaining CDSMP unless they are able to effectively communicate the program’s benefits to the governor’s office, legislators, and other stakeholders.** Many grantees reported that state officials and legislators want evidence of program benefits and cost-effectiveness before considering broader support for CDSMP.
4. **While strong leadership is needed at the state level, regional and local leadership is also important to sustainability.** Regional or local leaders committed to CDSMP, as well as “embedded” agency staff who are trained as CDSMP leaders, can bring stability and continuity at the local level. Embedded leaders can also reduce dependence on volunteers. Many sites reported that recruiting, training, and sustaining an all-volunteer corps of workshop leaders can be challenging and costly.
5. **With their boundless energy and tenacity, state and local champions often play a pivotal role in launching successful programs; however, sufficient attention must be given to building a strong delivery system and broad support for the program.** Otherwise, a program may not be able to weather the loss of a champion or a change in leadership.
6. **Strong infrastructure is key to sustainability, whether at the state level (centralized models) or the regional level (decentralized models).** Some grantees advocated for centralized infrastructure to support multi-site, multi-program licenses and data collection and support for community-based organizations. Others advocated for decentralized approaches, making efforts to have community-based organizations take on program responsibilities to ensure sustainability of CDSMP in the event of state budget cuts or reorganizations might impact capacity to support ongoing program activities. There is not strong evidence for one approach over the other as a sustainability strategy.
7. **Simultaneous pursuit of multiple strategies to promote sustainability can be beneficial in a program’s start-up phase, but a focus on the most effective strategies is ultimately the best approach.** “Let a thousand flowers bloom” was the mantra of a number of ARRA grantees in their quest for sustainability; however, those who systematically evaluate the various strategies and ultimately focus only on those likely to result in the greatest benefit will be most successful over the long term.

8. **Outsourcing program oversight and technical assistance can be an effective strategy as long as there is funding to do so.** Grantees such as California and New York have been able to build strong programs by outsourcing program implementation responsibility to other organizations. However, this is a sustainable model only if there is a dedicated source of funding for these organizations (e.g., grant funding or a state budget line) or program revenue streams that can support them (e.g., technical assistance fees).
9. **Perhaps most challenging for grantees was developing effective referral networks and few “best practices” emerged.** While all but one grantee met their goals for workshop participants, virtually all reported difficulty recruiting participants. Developing more effective recruiting strategies will be an important factor for ensuring long-term sustainability of CDSMP.
10. **“Smart” investment of program development funds can help to build sustainability.** Many grantees avoided using ARRA funds to support state and/or local staff salaries, understanding that it would be difficult to find replacement funds when the ARRA grant came to an end. Instead, investing in infrastructure building was more likely to position a program for sustainability over the long term (e.g., developing marketing materials and Web sites, training program coordinators and leaders, establishing processes for fidelity monitoring).
11. **Long-term sustainability is likely to depend on integration of CDSMP into new delivery system and financing models.** States cannot rely on public or private grant funding to sustain CDSMP, which can ebb and flow as budgets and priorities change. Incorporating CDSMP into medical home models, large medical practices like Kaiser Permanente, and public and private managed care programs is likely to be a more sustainable strategy.

Best Practices and Recommendations

Our analysis of data collected during site visits and telephone discussions with grantees suggests a number of “best practices” for developing and sustaining CDSMP programs for older adults. Federal and state policies can advance adoption of evidence-based programs, such as the new federal requirement that Title IIID funding may only be used for evidence-based programs and Arkansas’ requirement that AAAs include at least one evidence-based program in their four-year State Plans on Aging. State health reform initiatives that incorporate CDSMP can have a significant impact on incentivizing program development and sustainability (e.g., Vermont’s *Blueprint for Health*). States that have developed effective referral networks (e.g., with physician practices, health plans, FQHCs, ADRCs) are more likely to have strong programs, as are states that have established strong and creative partnerships to expand the reach of CDSMP. Grantees also benefit from partnerships with universities (specifically, special centers, programs, or research groups) and other external organizations whose missions align with CDSMP. Organizations such as these can provide technical assistance, data collection, and evaluation expertise.

Ensuring long-term sustainability will require multiple strategies, but the evaluation team believes that positioning states to diversify their funding streams and receive third party payment should be a goal shared by all states and stakeholders. This will require documenting the effectiveness and efficiency of CDSMP delivery, conducting cost finding and establishing payment rates and approaches for delivering the program, and working with private health plans, Medicare Advantage plans, and Medicaid managed care organizations to incorporate CDSMP as a billable service for members. The time is right, with public and private health plans actively embracing health promotion, care coordination, and medical home models and states adopting more expansive managed care for public beneficiaries.

To continue to build and expand CDSMP, the evaluation team offers the following recommendations to ACL.

Recommendation 1: Support Grantees in Communicating the Benefits of CDSMP to State Policy Makers

State grantees often remarked that in order to convince state legislators and agency leaders of the importance of building and sustaining a strong CDSMP program, they must be able to demonstrate the benefits of CDSMP for residents of their state. Grantees stressed the importance of having data on both improved health outcomes and demonstrated cost savings.

The peer-reviewed literature includes a number of evaluation studies in which improvements in health behaviors, health status, and health service utilization have been documented through self reports by CDSMP participants as well as more rigorous studies of impact and outcome including the original clinical trials that establish the evidence base for CDSMP by Stanford University. Grantees could benefit from guidance on which research studies could best support their advocacy efforts at the state level, as well as how to “message” research findings to convince policy makers that similar outcomes could be expected in their state.

ACL and CMS should continue to pursue studies of cost effectiveness using Medicare and Medicaid fee-for-service administrative data. In addition, cost-effectiveness studies in managed care settings could help persuade health plans to either provide CDSMP directly or offer members access to state programs. Several grantees reported interest from Medicare Advantage plans, Medicaid managed care plans, and private insurance plans. Health plans active in multiple states may be interested in multi-state demonstrations and evaluations. Once cost-effectiveness studies are completed, grantees will need assistance with messaging findings so that their applicability can be understood by state policy makers.

Grantees should also be encouraged in their efforts to continue collecting and monitoring program performance data (e.g., through technical assistance). It will be important for grantees to monitor participation and completion rates, participant satisfaction, leader performance, and fidelity in order to help convince state policy makers that program dollars are well spent and to continue funding the program. To support data collection efforts, ACL should continue to allow grantees to enter data into and receive reports from the NCOA database even if they are

no longer receiving AoA funding. Technical assistance could also be provided to states interested in collecting additional data. Encouraging grantees to partner with local university-based research centers to collect, analyze, and report performance data could be beneficial as well.

Recommendation 2: Assist States with Determining the Cost of CDSMP and Preparing for Third-Party Payment

States are eager to seek payment for provision of CDSMP from diverse funding sources but do not have an established methodology for determining the true cost of the program. While NCOA provides a cost calculator developed by the Lewin Group that states can use to estimate the costs of program delivery, more sophisticated state and region-specific information is needed to determine the actual per capita cost of providing a CDSMP session to ensure that the service is priced correctly and the program does not operate at a loss. As in any business model, the cost calculation should include product development, marketing, service provision, quality assurance, and indirect costs. States would benefit from a more complex model developed by a reputable accounting firm, as well as technical assistance in applying the model. Having defensible estimates for per capita cost will be important in negotiating payment with providers, third-party payers, and employers. Payment options range from fee-for-service payment per workshop or workshop session, to per capita completion payments, bundled rates, or global payments from health plans, patient-centered medical homes, accountable care organizations, and other purchasers.

The transformation from grant-funded programs to a third-party payment business model will require the capability to bill for services. A technical assistance program that aids states in developing billing system requirements, issuing procurements to prospective vendors, implementing new billing systems and linking them to other systems (e.g., Medicaid MMIS, electronic registration systems), and training staff to manage billing functions would be welcomed by states. Grants to states for purchase and implementation of systems would also be beneficial.

Accreditation processes and programs for Medicare reimbursement for community-based delivery of the Diabetes Self-Management Program (DSMP) are now available and several respondents in the evaluation interviews suggested that DSMP could well provide a model for CDSMP. ACL should continue to provide grants and technical assistance to states seeking to become accredited to receive Medicare reimbursement for DSMP. In addition to expanding access to DSMP, this will help states to build the capacity to bill for self-management programs, which will in turn support state efforts to bill health plans and Medicaid. Additionally, ACL and CMS should evaluate the DSMP experience and consider the prospects for statutory change that would permit Medicare reimbursement for CDSMP.

Recommendation 3: Promote Peer Learning Among Grantees

State grantees are eager to learn from the experiences of other grantees. Creative peer learning opportunities in which grantees are “matched” with other grantees to provide peer technical assistance could spur more rapid program expansion through the use of proven implementation strategies. This could be coupled with a Web site that organizes resources supplied by grantees (i.e., manuals, organizational charts, marketing plans and materials, legislative reports, sample contracts, requests for proposals, Medicaid rules, survey instruments, evaluation reports) around implementation topics (e.g., delivery system oversight and organization, outreach and marketing, recruitment and retention of leaders, building referral networks, fidelity monitoring, program evaluation). Mini-case studies on best practices and peer technical assistance that had a significant impact on program implementation could also be shared. Activities such as these are currently provided by NCOA. ACL should continue to support current and expanded options for peer knowledge transfer.

Recommendation 4: Develop an Electronic Registry for Leaders

Few states have electronic systems for registering leaders, scheduling leaders for workshops, and monitoring leader certification. An electronic registry could facilitate efficient training and leveraging of leaders within and across states and regions, including providing interstate access to leaders. ACL could sponsor the development of a web-based electronic registry that could be used by all states. The registry could be designed for states to use individually (i.e., each state would only have access to their own data, but all states could use the system) or by groups of states (e.g., smaller states in the northeast that may want to share leaders across state lines). Alternatively, ACL could sponsor the development of registry software that could be downloaded and customized for use by individual states (i.e., a freeware or shareware program).

Recommendation 5: Educate Health Professionals about Self Management

Universities in New Jersey, Ohio, and Illinois have incorporated education about self-management and evidence-based health promotion programs into their nurse training programs. In some states, health professions students are being trained as CDSMP leaders and are referred to organizations that are seeking volunteer leaders. While this strategy is not likely to significantly increase the leader workforce in the immediate future, educating health professionals about the importance of self management could, over time, have an impact in practice settings and in terms of referrals to self management programs. ACL could work with professional societies such as the American Association of Colleges of Nursing to develop curricula on self-management education that could be adopted by other nurse training programs. Curricula could also be developed for practicing professionals that could be offered online or at professional meetings, with continuing education unit (CEU) credits awarded to professionals completing the programs.

Recommendation 6: Assist Grantees in Developing More Effective Strategies for Building Referral Networks for Recruiting Participants

Grantees reported that building an effective referral network for recruiting participants was perhaps the most daunting challenge they faced. Given the pressures on today's medical practices, getting physicians to directly refer patients was rarely a successful strategy. However, some grantees reported success with special mailings generated by physicians' offices (signed by the physician) to patients whose medical records indicated they might benefit from CDSMP. Other grantees reported efforts to incorporate a "button" in the electronic medical record that could trigger a patient referral. Additionally, some health plans were identifying members who might benefit from a self-management program through medical record reviews—and in some cases, providing cash rewards for participation. Strategies such as these warrant further exploration. In addition, more research is needed to identify the personal, social-behavioral, and clinical characteristics of individuals most likely to participate, complete, and benefit from the program and how to effectively target these individuals using electronic medical records.

With the growth of ADRCs, ACL has a unique opportunity to encourage referrals within the aging and disability services networks. ADRCs in many states are referring consumers to CDSMP. ACL's technical assistance contractor for the ADRC program could develop a training module for ADRC staff on incorporating self-management program referrals into the ADRC screening and options counseling processes. This could include developing several questions related to chronic disease management for integration into the initial screening questions ADRCs use when a consumer contacts them for the first time, as well as developing guidelines for building self-management program counseling and referrals into options counseling. Nevada's vision for integrating CDSMP into their ADRC Web site—using the portal for consumer information, workshop schedules and registration, communications with and reporting by leaders, and on-line leader training—could be promoted to other states through webinars and presentations at ADRC grantee meetings, as well as through technical assistance on implementing these functions.

CHAPTER 1. INTRODUCTION

1.1 Purpose of the Process Evaluation

To provide older adults with the education and tools they need to manage chronic diseases such as hypertension, diabetes, arthritis, and heart disease, the U.S. Administration for Community Living (ACL) supports states in their efforts to develop and implement delivery systems for the Chronic Disease Self-Management Program (CDSMP) developed by Stanford University. This process evaluation examines state programs funded through *Communities Putting Prevention to Work: Chronic Disease Self-Management Program*, an initiative of the Administration on Aging (AoA)—now part of ACL³—in collaboration with the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare & Medicaid Services (CMS). Under this initiative, AoA awarded two-year grants totaling \$27 million to 45 states, the District of Columbia, and Puerto Rico in 2010. Grant funds were authorized by the American Recovery and Reinvestment Act (ARRA) of 2009. Many of the states used grant funds to support CDSMP as well as other evidence-based, disease-specific self-management programs such as the Arthritis Self-Management Program (ASMP) and the Diabetes Self-Management Program (DSMP). However, the focus of the process evaluation is on the development and dissemination of CDSMP.

In September 2011, AoA awarded Contract No. HHSP233201100492G entitled *CDSMP Process Evaluation and Detailed Outcome Evaluation Design* to IMPAQ International and Altarum Institute. The process evaluation conducted under this contract was intended to examine the populations served by state grantees, how grantees implement their CDSMP programs, and how programs differ in terms of completion rates, distribution channels, delivery systems, and the capacity of grantees to disseminate and sustain their programs. AoA was particularly interested in learning about states' experiences in delivering CDSMP to adults aged 60 and older, the agency's target population. Prior studies of CDSMP did not focus specifically on the older adult population.

1.2 AoA's Role in Funding CDSMP

The ARRA grants were awarded to state grantees for the two-year period March 31, 2010, to March 30, 2012. In each state, funding was awarded to either the state unit on aging or the state department of health as the lead agency. Development and delivery of CDSMP is carried out by the lead agency together with host and implementation sites. A host site is an organization that oversees program operations (e.g., an Area Agency on Aging (AAA)) and may also manage recruitment and enrollment of participants. An implementation site (also known as a program delivery site) is where the workshop is conducted (e.g., a senior center, YMCA, or

³ In April 2012, AoA, the Office on Disability, and the Administration on Developmental Disabilities were combined into ACL, a single agency with the U.S. Department of Health and Human Services. AoA is now considered a program of ACL. Throughout this report, we refer to AoA as the sponsor and administrator of the agency's CDSMP initiative.

faith-based organization). In some locations the host and implementation sites are the same organizations; in other locations they are different.

AoA has a cooperative agreement with the National Council on Aging (NCOA) to provide technical assistance to CDSMP grantees and other AoA grantees implementing evidence-based prevention programs. Technical assistance may include web-based training, on-site visits, targeted teleconferences, peer-to-peer mentoring, strategies and models for developing statewide CDSMP distribution systems, and strategies to sustain programs beyond the grant cycle (<http://www.healthyagingprograms.org>). NCOA maintains a database on programs, including location, number, and characteristics of participants served, and workshops offered. Grantees submit program data to NCOA for inclusion in this database.

1.3 Stanford CDSMP

CDSMP was developed in 1992 by the Stanford Patient Education Research Center working with the Divisions of Family and Community Medicine and the Division of Rheumatology and Immunology. CDSMP consists of 2.5-hour workshops offered once a week for 6 weeks. CDSMP is generally administered in community settings such as churches, libraries, YW/MCAs, senior centers, public housing projects, community health centers, and cooperative extension programs. The program is also available online, named Better Choices, Better Health.⁴ Because the program is not disease-specific, people with different chronic health problems attend together. Several key characteristics of the Stanford CDSMP intervention make it unique when compared to other such evidence-based disease and disability prevention initiatives. The highly developed protocol for delivering Stanford CDSMP makes it possible to disseminate, evaluate, and bring the program to scale. CDSMP uses master and lead (lay) trainers and in-person workshops. Workshop leaders are trained to strictly adhere to specific program requirements and processes in order to attain and maintain fidelity to the program as originally designed. For example, they are asked to conform to guidelines regarding numbers of workshop participants, workshop content, duration, and more.

Master trainers. Master trainers provide some oversight of CDSMP workshops, train workshop leaders, work in pairs, and serve as workshop leaders themselves. In addition, master trainers:

- Attend 4.5-day master training.
- Facilitate one 4-day leader training within a year of completing master training.
- Lead a full 4-day leader training at least once a year to remain certified.

Lay Leaders. These are individuals who facilitate the CDSMP workshops. They work in pairs and commit to the following requirements:

- Attend four 6-hour days of training over 2 weeks and complete two practice teachings during training.

⁴ NCOA has licensed the CDSMP online program.

- Commit to facilitating at least one 6-week workshop in the year in which they were trained.
- Must come from the same communities which the CDSMP intends to serve.

In-person workshops:

- Are offered to group sizes of 10–16 participants.
- Are offered 2.5 hours a week over 6 weeks.
- Are conducted by two lay leaders who received training from a master trainer.

Workshop topics include: 1) techniques to deal with problems such as frustration, fatigue, pain, and isolation; 2) appropriate exercise for maintaining and improving strength, flexibility, and endurance; 3) appropriate use of medications; 4) communicating effectively with family, friends, and health professionals; 5) nutrition; and 6) how to evaluate new treatments.

Findings from Stanford’s evaluation of CDSMP are available on the Stanford web site. They found that CDSMP participants—when compared to those who did not participate in CDSMP—had significant improvements in exercise, cognitive symptom management, communication with physicians, self-reported general health, health distress, fatigue, disability, and social/role activities limitations. Participants in a randomized trial also had fewer hospitalizations and spent fewer days in the hospital.⁵

⁵ See:

- (1) Lorig KR, Sobel DS, Stewart AL, Brown Jr BW, Bandura A, Ritter P, González VM, Laurent DD, Holman HR. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: A randomized trial. *Medical Care*, 37(1):5-14, 1999
- (2) Lorig KR, Ritter P, Stewart AL, Sobel DS, Brown BW, Bandura A, González VM, Laurent DD, Holman HR. Chronic Disease Self-Management Program: 2-Year Health Status and Health Care Utilization Outcomes. *Medical Care*, 39(11), 1217-1223, 2001.

CHAPTER 2. PROCESS EVALUATION DESIGN

2.1 Process Evaluation Research Questions

The process evaluation addresses five research questions:

1. Who do AoA CDSMP grantees serve? How do the individuals served through the AoA CDSMP grants compare with populations studied through other CDSMP evaluations?
2. How are local sites implementing the CDSMP? For example, how do their organizational structure, financial resources and allocation and their fidelity compare to the Stanford CDSMP model? Are there common adaptations being made at AoA supported sites? Are there adaptations which specifically improve the applicability of the CDSMP to seniors (age 60+) with chronic diseases?
3. What are program completion rates, in general and by important sub-groups? What barriers and supports affect the existing completion rates?
4. What data are AoA CDSMP grantees collecting and what is the state of their records systems? What is the evaluation capacity of state-level grantees and/or local sites including whether they have conducted or participated in program evaluations?
5. Have these grantees built sustainable statewide distribution and delivery systems which increase the availability of evidence-based self-management programs and provide an ongoing distribution channel for other evidence-based programs that may be delivered by community based organizations?

Evaluation findings will assist AoA in its continuing efforts to work with grantees to refine, bring to scale, and sustain CDSMP and other evidence-based prevention programs. Specifically, findings will guide improvements to partnership building, marketing and outreach, development of referral systems, ensuring program fidelity and quality, program evaluation, and financial viability.

2.2 Data Sources

The evaluation team used a mix of qualitative and quantitative data sources in conducting the process evaluation. A description of data sources follows.

Technical Advisory Committee (TAG) input. During telephone meetings convened on March 2, 2012, and July 20, 2012, the TAG provided valuable insights that informed development of the process evaluation design (see Appendix A for TAG members).

State survey on program sustainability. AoA provided the evaluation team with data from a state survey conducted in 2011 that examines six elements identified by AoA as central to a sustainable infrastructure and delivery system. The survey instrument, entitled *Sustainable Infrastructure and Delivery System Self-Assessment*, is available at <http://www.ncoa.org/chamodules/documents/AOASustainabilityAssessmentTool.pdf>.

Conference calls with AoA regional and program staff. AoA has central office staff and regional staff all of whom are involved in monitoring AoA's CDSMP grantees. The project team held two calls with AoA regional staff to gain a better sense of the on-the-ground experience with CDSMP in order to inform a) site selection criteria, site selection, and the interview guide for the site visits, and b) discussion topics, participant selection, and the discussion guide for the telephone discussions conducted with key informants as part of the grant close-out process. The IMPAQ team held calls with the AoA Regional offices on November 9, 2011, and December 1, 2011.

Site visits. The evaluation team site visited CDSMP programs in six states in January-February 2012 to observe program implementation on the ground and inform development of the process evaluation. During the two-day visits to Arkansas, California, Kansas, New York, Tennessee, and Vermont, the evaluation team met with state lead agency staff, host sites, implementation sites, leaders, program participants, and other stakeholders. To select the six states for site visits, the team used data from AoA's *Sustainable Infrastructure and Delivery System Self Assessment* to develop a system for ranking state performance and then selected a mix of states.⁶ The site visit guide, organized around six research domains that address the process evaluation research questions, is provided in Appendix B. A summary of site visit findings can be found in Appendix C.

Telephone discussions with key informants. The evaluation team conducted telephone discussions with state grantees, partners, and host sites over the three-month period April-June 2012 as part of AoA's ARRA grant close-out activities. The discussions focused on program status, challenges and opportunities, and plans for sustaining the program when ARRA funding comes to an end. Telephone discussion topics can be found in Appendix D.

CDSMP program data. NCOA, the technical assistance contractor, manages a web-based data collection system that states use to upload data on CDSMP participants, workshops, and leaders each quarter. NCOA provided the evaluation team with a dataset consisting of program data about CDSMP sessions conducted by the 47 grantees during the ARRA grant period (April 2010 to March 2012).

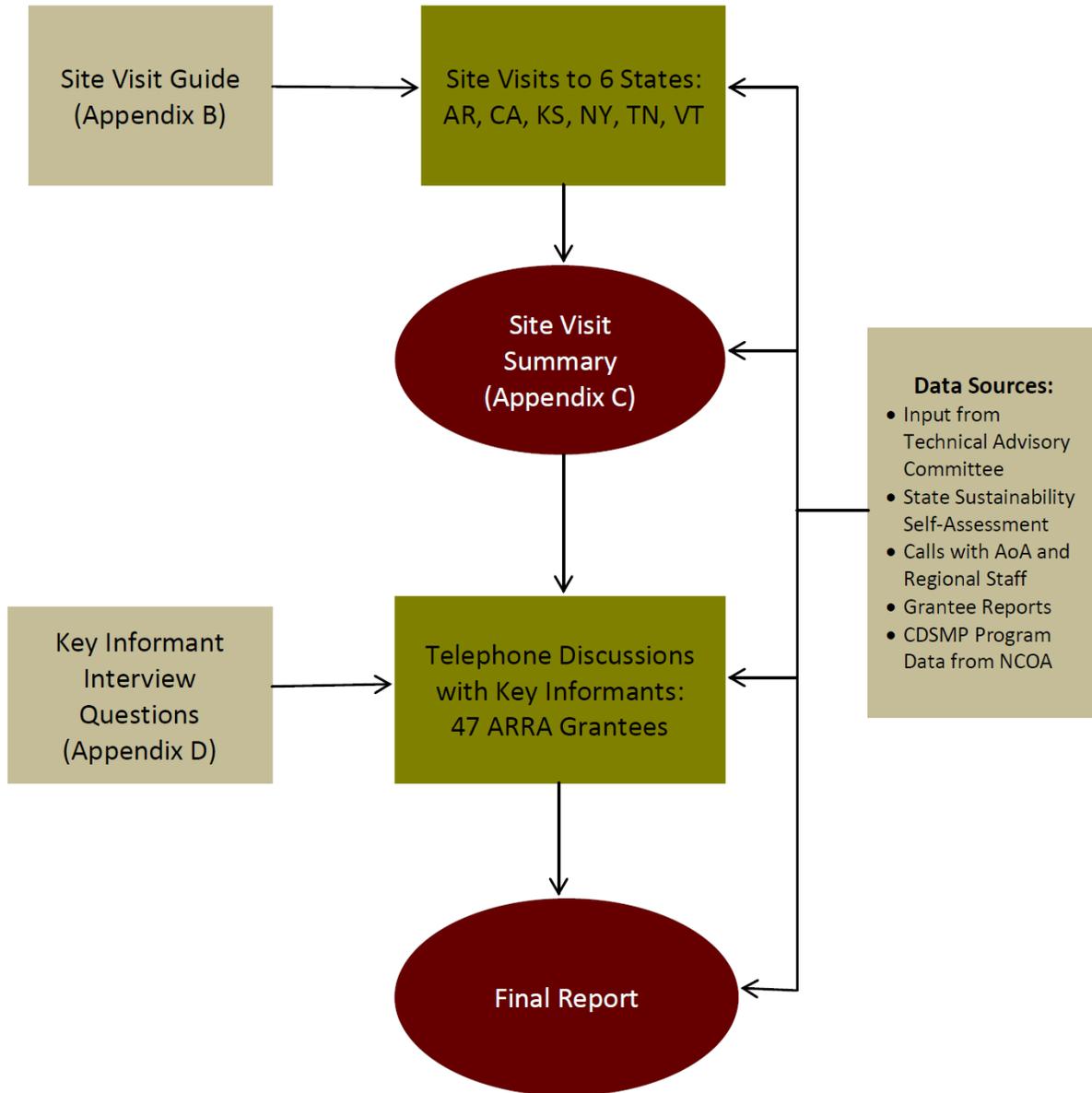
Grantee reports. Grantees are required to submit quarterly progress reports and final reports to AoA. The reports follow a format outlined in AoA program guidance and document program goals, history, progress in reaching milestones, and other accomplishments. The evaluation team consulted the reports in preparing for site visits and prior to conducting grant closeout interviews with key informants.

2.3 Evaluation Approach

To address the five research questions for the process evaluation, we employed a multi-method approach using the multiple data sources described above. Our approach is depicted in Exhibit 2.1 and a description follows.

⁶ For more information on how the six sites were selected, see the *Site Visit Summary* in Appendix C.

Exhibit 2.1. Process Evaluation Approach and Data Sources



1. **Consultations with stakeholders:** As discussed in Section 2.2, we consulted with AoA program and regional staff and the TAG to inform the process evaluation design, planning for the site visits, and planning for the key informant telephone discussions.
2. **Site visits to six states:** We mapped the five research questions to the research domains listed below. Then, within each domain, we developed a series of questions and probes for site visit interviews with state grantee agency staff, representatives from host and implementation sites, CDSMP participants, and other stakeholders. See the interview guide in Appendix B. The site visit report can be found in Appendix C. Site visit findings were used to guide planning for the key informant telephone interviews.

S.No.	Research Domains
1	CDSMP Populations, Marketing/Recruitment
2	Site Implementation
3	CDSMP Eligibility, Enrollment, and Completion
4	Data Collection
5	Statewide Distribution and Delivery System
6	Consumer and System-Level Environment

3. **Telephone interviews with key informants:** For the one-hour telephone discussions with groups of key informants representing each of the 47 state grantees that were conducted as part of the grant closeout process, we developed an abbreviated list of questions that mapped to the five research questions. The questions focused on the current landscape for CDSMP versus anticipated changes in the post-ARRA funding environment in order to assess the current status of each program and prospects for sustainability. The interview guide can be found in Appendix D. The evaluation team consolidated and analyzed interview notes by research domain.
4. **Analysis of NCOA program data:** The dataset provided by NCOA included information, by state grantee, on program participants, workshops, and leaders. We designed a data analysis plan that enabled us to use these quantitative data to complement the qualitative data and address, to the extent possible, the research questions for the process evaluation. Specifically, we examined CDSMP participant characteristics, program completion rates, workshop size and location, and leader experience. In addition to a descriptive analysis, we designed a series of regression analyses to examine the influence of multiple factors on workshop completion, such as participant characteristics, workshop size and location, and differences in funding history among state grantees.

In the following chapters, we describe the CDSMP programs in grantee states and discuss findings of our quantitative and qualitative data analyses related to populations served, program implementation, completion rates, evaluation capacity, and prospects for sustainability. We conclude with a summary of best practices and recommendations.

CHAPTER 3: CHARACTERISTICS OF ARRA-FUNDED STATE GRANTEES

Key Findings

1. **The lead agency in the majority of states is the state unit on aging.** In two-thirds of the ARRA-funded states, the lead agency is the state unit on aging. The department of health is the state lead for one-third of the states.
2. **Grant awards varied by state.** Grant awards totaled \$27 million; awards to states ranged from \$50,000 to \$1.19 million.
3. **All but one state met their goals for the number of participants and completers.** ARRA grantees agreed to goals at the outset of their awards that were based on the number of Medicare beneficiaries in each state. Only one grantee did not achieve their goals during the two-year grant period or during a no-cost extension. Nine grantees exceeded their goals by more than 200 percent.

3.1 Introduction

Forty-seven grantees⁷—45 states, the District of Columbia, and Puerto Rico—received ARRA funding under the *Communities Putting Prevention to Work: Chronic Disease Self-Management Program*. This chapter presents information on funding levels, funding history, and the number of CDSMP participants and completers in each grantee state. While our analysis does not extend to a regional analysis, the exhibits below do designate the 10 AoA regions in the event AoA is interested in comparing regions.

For the analyses below and in the chapters that follow, the NCOA database was our primary source for quantitative data. Because our process evaluation is limited to CDSMP, we eliminated two grantees from the sample for our quantitative analysis in Chapters 4 and 6—Delaware and the District of Columbia. These grantees chose not to implement CDSMP with their ARRA funding but instead developed Diabetes Self-Management Programs (DSMP).

3.2 Grantee Characteristics

As shown in Exhibit 3.1, the lead agency for 30 state grantees is the state unit on aging. The department of public health is the lead agency for 15 grantees, including a small cluster of western mountain states—Idaho, Utah, Colorado, New Mexico, and Arizona—with large rural populations.

⁷ Referred to as “state grantees,” “states,” or “grantees” in this report.

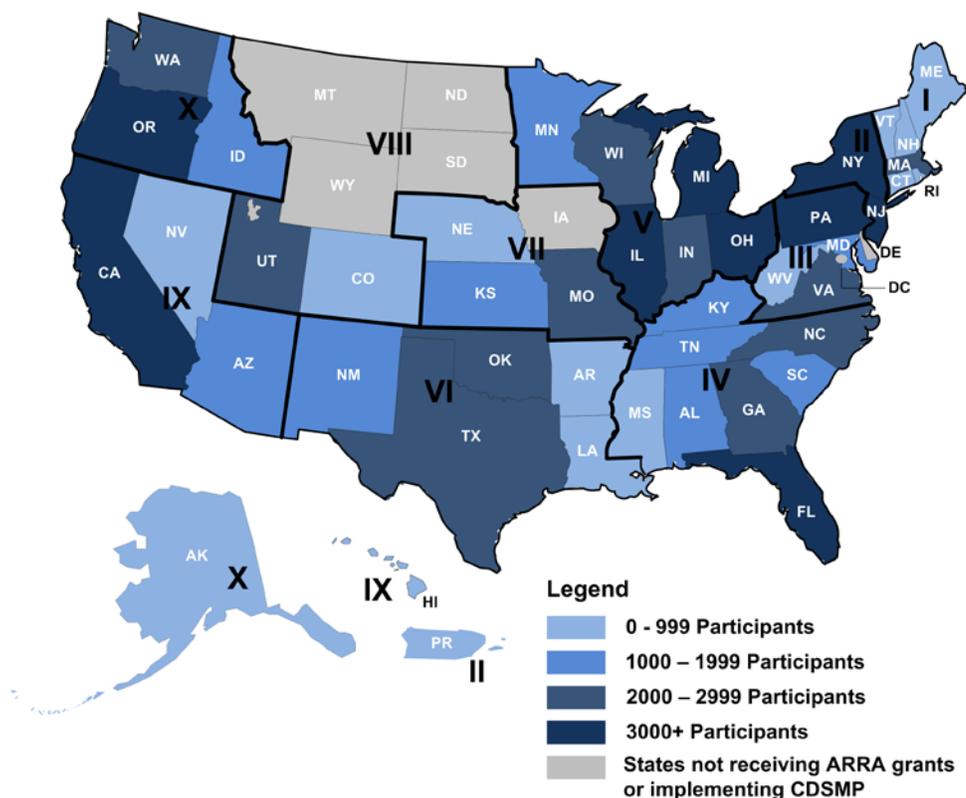
Grantee	Amount	Grantee	Amount	Grantee	Amount
Illinois	\$1,000,000	New Mexico	\$252,583	West Virginia	\$400,000
Indiana	\$600,000	New York	\$1,190,610	Wisconsin	\$810,328
Kansas	\$400,000	North Carolina	\$1,006,573	Total:	\$27,000,000

Source: Administration on Aging

Over the two-year period April 2010 to March 2012, 89,861 individuals participated in CDSMP workshops in grantee states. This includes 57,870 adults aged 60 and older, 22,043 individuals under age 60, and 9,948 of unknown age.

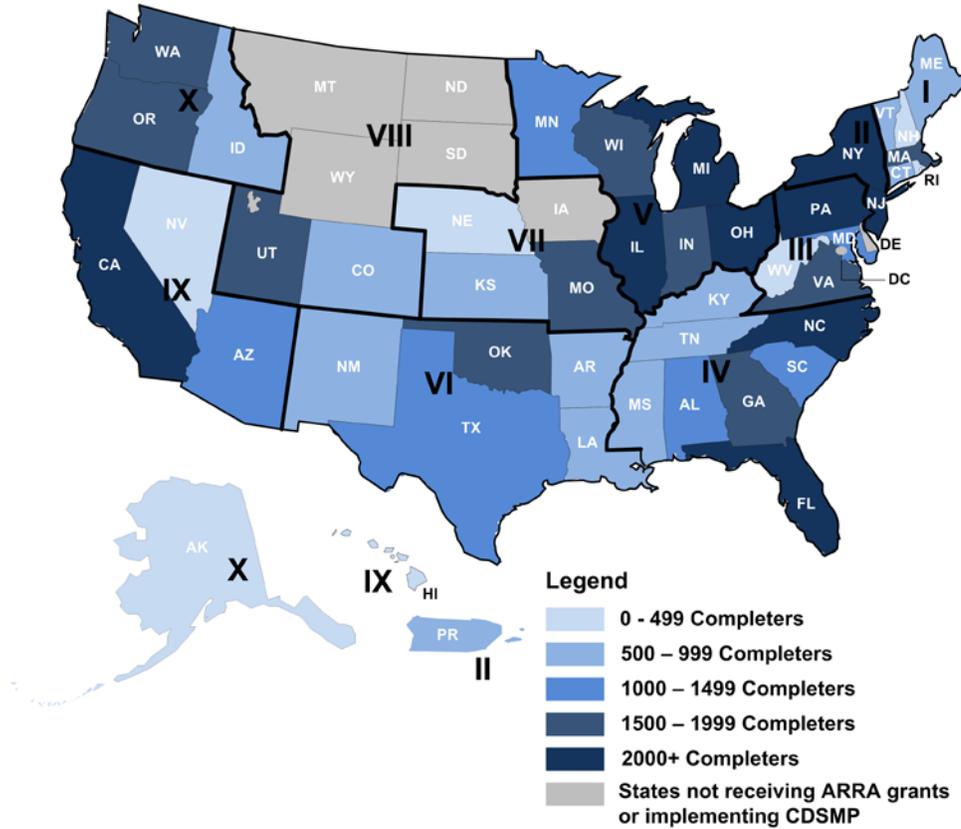
Exhibit 3.3 shows the total number of CDSMP participants of all ages in each state during the two-year grant period. More heavily populated states—such as California, Oregon, Florida, Michigan, Illinois, Ohio, Pennsylvania, New York, and New Jersey—each served more than 3,000 participants. Less populated states with large rural populations like Arkansas, Colorado, Maine, Nebraska, Nevada, and West Virginia typically served fewer than 1,000 participants. Exhibit 3.4 shows a similar pattern for the number of individuals completing CDSMP in each state.

Exhibit 3.3. ARRA Grantees: Number of CDSMP Participants, April 2010 to March 2012



Source: National Council on Aging

Exhibit 3.4. ARRA Grantees: Number of CDSMP Completers, April 2010 to March 2012

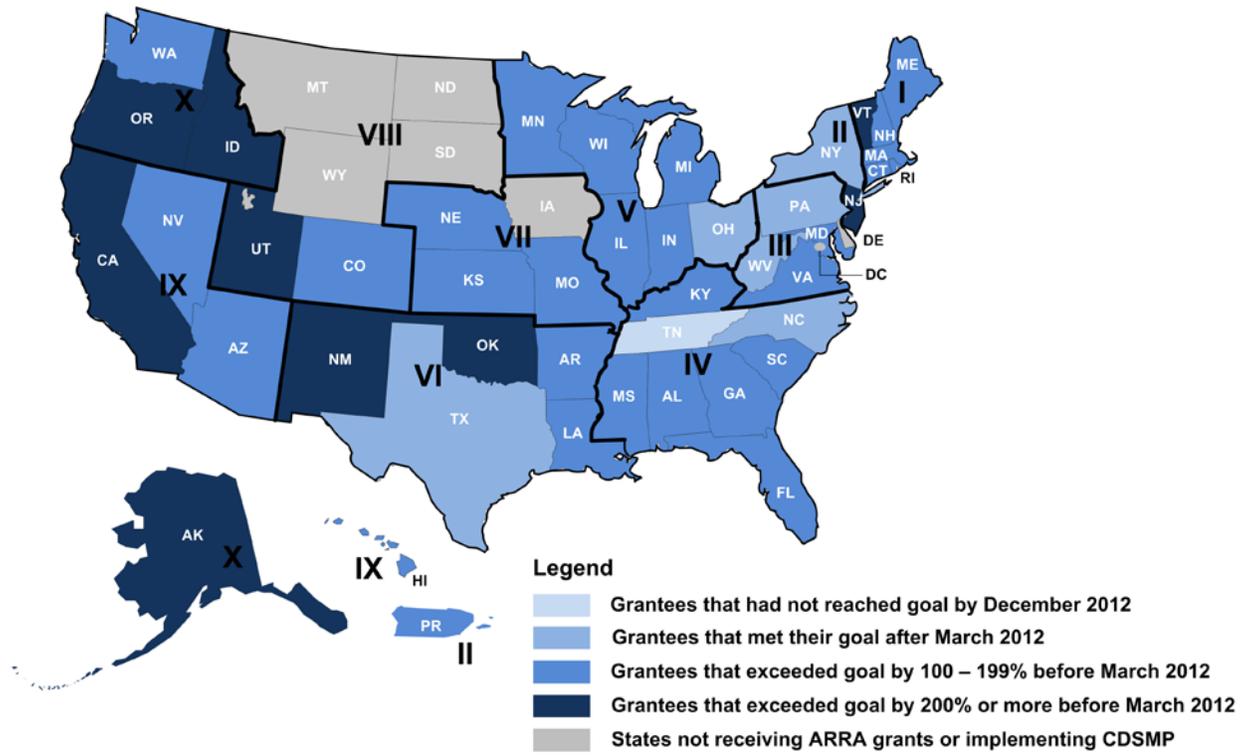


Source: National Council on Aging

Exhibit 3.5 shows the state grantees that met the goals they agreed to at the outset of their awards for the number of CDSMP participants and completers of all ages (e.g., individuals both older and younger than age 60). These goals were set based on the total number of Medicare beneficiaries in each state.⁸ State grantees achieving their goals during a no-cost extension to their ARRA grants (i.e., after March 2012) are indicated separately. It is worth noting that nine states exceeded their goals by more than 200 percent.

⁸ For Medicare data used to set state goals, see U.S. Administration on Aging. American Recovery and Reinvestment Act, Communities Putting Prevention to Work, Chronic Disease Self-Management Program: Program Announcement for Cooperative Agreements. 2009, December 16.

Exhibit 3.5. ARRA Grantees Meeting Goals for Number of Participants and Completers, April 2010 to March 2012



Source: Administration on Aging

CHAPTER 4: POPULATIONS SERVED BY CDSMP

Research Question 1: *Who do AoA CDSMP grantees serve? How do individuals served through AoA's CDSMP grants compare with populations studied through other CDSMP evaluations?*

Key Findings

1. **ARRA grantees provided CDSMP to nearly 90,000 participants.** During the two-year ARRA grant period, 22,043 individuals under age 60, 57,870 individuals aged 60 and older, and 9,945 individuals of unknown age participated in CDSMP workshops in grantee states, for a total of 89,861 participants.
2. **Disproportionately more CDSMP participants were served by state units on aging.** Eighty percent of participants were enrolled in CDSMP operated by state units on aging; 20 percent participated in programs operated by public health departments, while only two-thirds of grantees were state units on aging.
3. **The majority of participants attended workshops in metropolitan areas.** Seventy-nine percent of participants attended workshops in metro areas; 21 percent participated in workshops in non-metro areas.
4. **Participants were largely white and female, although grantees were targeting more diverse populations.** Among those aged 60 and older, 72 percent of participants were female, just over half were white, and 15 percent were African American. Many state grantees reported targeting special populations, particularly Latinos, Asians, and Native Americans.
5. **On average, participants reported 2.44 chronic conditions.** However, women reported more chronic conditions than men (an average of 2.51 for women; 2.17 for men). Hypertension/high blood pressure and arthritis/rheumatic disease were the most commonly reported chronic conditions for participants aged 60 and older. Rates of cancer, heart disease, stroke, and osteoporosis tended to increase with increased age. Depression or anxiety disorders and diabetes tended to be more prevalent among those younger than age 60 and those aged 60 to 64, with rates decreasing with age thereafter.

4.1 Introduction

AoA's primary target population is individuals aged 60 and older. In addition to this primary target population, AoA encouraged CDSMP grantees to reach older adults within diverse populations. As described in the Request for Proposals (RFP) to potential grantees, AoA required grantees "to reach a broad population and demonstrate their capacity and ability to achieve health equity among disparately effected populations."⁹ Grantees were also "expected to coordinate with tribal entities in their jurisdiction... and give special attention to serving low-income, minority, and limited English-speaking seniors."

⁹ U.S. Administration on Aging. American Recovery and Reinvestment Act, Communities Putting Prevention to Work, Chronic Disease Self-Management Program: Program Announcement for Cooperative Agreements. 2009, December 16.

This chapter describes who AoA grantees served during the ARRA grant period, with a particular focus on age, ethnic/racial groups, metro versus non-metro populations, and reported chronic conditions. Because AoA-funded CDSMP is intended to target individuals aged 60 and older, AoA was interested in learning the extent to which grantees actually served older adults. AoA was also interested in comparing the populations served by grantees to populations studied in prior evaluations to better understand the extent to which the findings from other evaluations can be generalized to populations served by AoA grantees.¹⁰

Data sources used to identify and describe populations served by ARRA grantees include AoA and NCOA data and reports, site visits, key informant interviews, and grantee reports. Our analysis of NCOA data examines only CDSMP (not the Diabetes Self-Management Program, or Arthritis Self-Management Program). Two grantees receiving ARRA funding but only implementing DSMP are therefore not included in the data analysis: Delaware and the District of Columbia.

4.2 Characteristics of CDSMP Participants

The tables below present characteristics of CDSMP participants based on NCOA data. These data illustrate who AoA CDSMP grantees served while receiving ARRA funding. Appendix E provides data on CDSMP participants by AoA region.

ARRA grantees operated CDSMP either under their state's aging or public health agency. As shown in Exhibit 4.1, 80 percent of CDSMP participants (63,741) were enrolled in programs offered by aging agencies and 20 percent (16,172) participated in programs operated by public health agencies. Though public health agencies served one-fifth of CDSMP participants, one-third of grantees operated CDSMP through their public health agency. This difference may be because public health agencies tended to be the lead in states with lower populations and a higher proportion of rural residents. Within each age group (under age 60 and aged 60 and older), the percentages were similar for those enrolled in aging- versus public health-led programs.

Specifically, 72 percent of CDSMP participants were aged 60 and older (57,870 of 79,913 participants). Of the total number served by states with aging leads, 73 percent were 60 years of age and older; among those served by public health leads, 71 percent were aged 60 or older.

¹⁰ Findings from an evaluation design report conducted by IMPAQ under a prior contract reviews CDSMP populations studied in other evaluations.¹⁰ The mean age of participants in a majority of the studies was 60 years and older. However, many of the programs that were studied included adults under the age of 60. For example, Goepfinger et al. (2007) included adults 18 years of age and over in a comparative study of a small arthritis education program and traditional CDSMP and Gordon's review of the CDSMP literature (Gordon, 2008) shows that many U.S. CDSMP programs include middle-aged adults (i.e., 40 years old and older). The participant samples described in the studies were predominately white and female, with a majority of study groups consisting of 60 percent or more females and 80 percent or more whites. In addition, a majority of the studies required participants to have one or more chronic conditions in order to be included.

Exhibit 4.1. CDSMP Participants by Age and Type of Lead Agency Operating Program

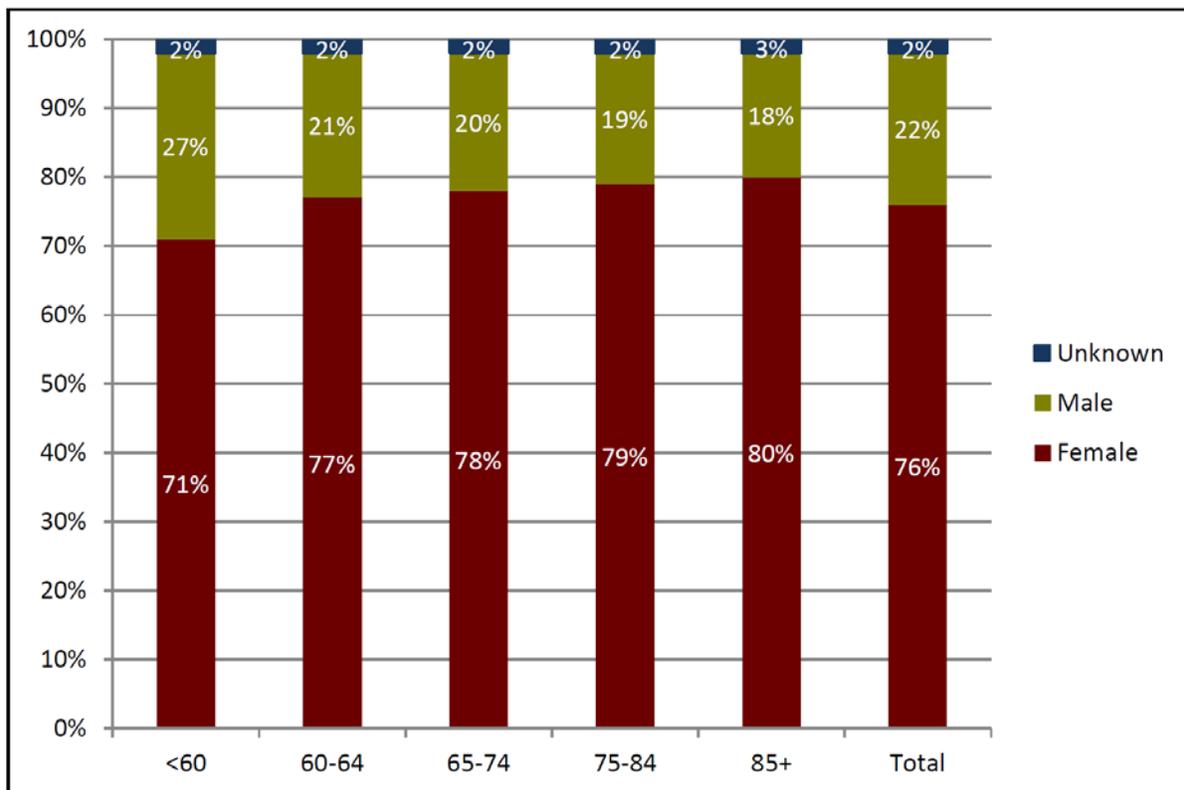
Lead Agency	Participants Under Age 60	Percent of Participants Under Age 60	Participants Age 60+	Percent of Participants Age 60+	Participants Total	Percent of Participants Total
Aging	17,408	79%	46,333	80%	63,741	80%
Public Health	4,635	21%	11,537	20%	16,172	20%
Total	22,043	100%	57,870	100%	79,913	100%

Note: Excludes participants with missing date of birth.

Source: NCOA data

Exhibit 4.2 shows CDSMP participants by age group and sex. Across all age categories, CDSMP participants were more likely to be female. The percentage of female participants tends to increase slightly with age. Interestingly, males constituted a larger portion of participants in the younger than 60 age group than in other age categories.

Exhibit 4.2. CDSMP Participants by Sex



Note: Excludes participants with missing date of birth.

Source: NCOA data

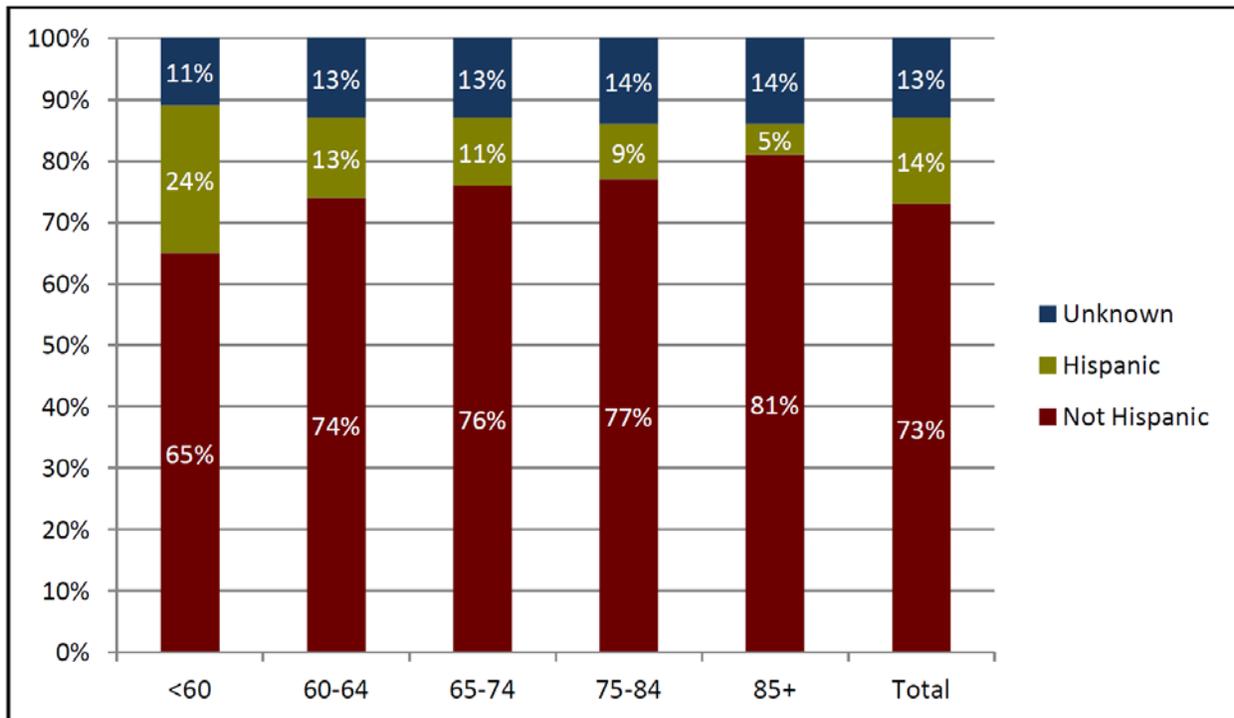
Total number of CDSMP participants by age group is as follows:

Age	<60	60-64	65-74	75-84	85+	Total
Total participants	22,043	9,717	23,044	18,165	6,944	79,913

Exhibit 4.3 shows CDSMP participants by ethnicity. The proportion of those who identify as Hispanic or Latino tends to decrease as age increases. Twenty-four percent of participants younger than 60 identified as Hispanic or Latino, while only five percent of participants older than 85 identified as Hispanic or Latino.

Exhibit 4.4 shows CDSMP participants by race. White or Caucasian participants are the most numerous across all age groups, followed by African Americans. Exhibit 4.4 illustrates how the proportion of minority participants steadily declines as age increases. In the aged 85 and older group, almost three-quarters of participants are white. This could reflect the longer life expectancies of whites, as well as health and income disparities that tend to disadvantage people of color and could make participation more problematic.

Table 4.3. CDSMP Participants by Ethnicity



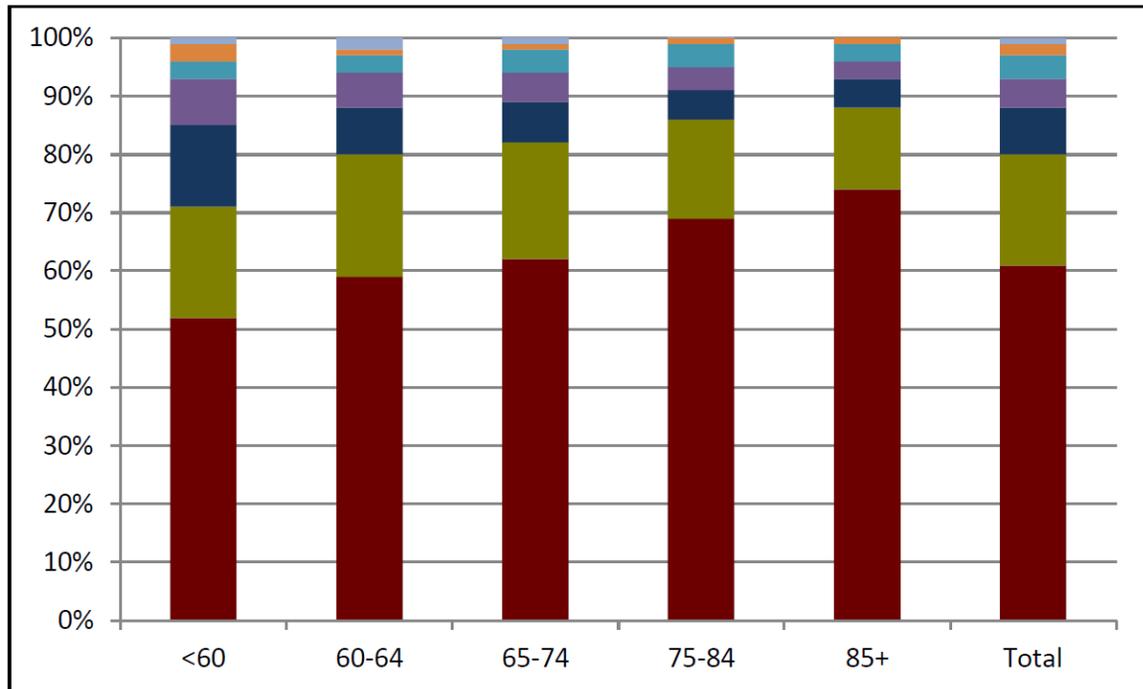
Note: Excludes participants with missing date of birth.

Source: NCOA data

Total number of CDSMP participants by age group is as follows:

Age	<60	60-64	65-74	75-84	85+	Total
Total participants	22,043	9,717	23,044	18,165	6,944	79,913

Exhibit 4.4. Percentage of CDSMP Participants by Race



	<60	60-64	65-74	75-84	85+	Total
Hawaiian Native or Pacific Islander	1%	2%	1%	0%	0%	1%
American Indian / Alaskan Native	3%	1%	1%	1%	1%	2%
Asian or Asian American	3%	3%	4%	4%	3%	4%
Other/Multiracial	8%	6%	5%	4%	3%	5%
Unknown	14%	8%	7%	5%	5%	8%
Black or African American	19%	21%	20%	17%	14%	19%
White or Caucasian	52%	59%	62%	69%	74%	61%

Note: Excludes participants with missing date of birth.

Source: NCOA data

Total number of CDSMP participants by age group is as follows:

Age	<60	60-64	65-74	75-84	85+	Total
Total participants	22,043	9,717	23,044	18,165	6,944	79,913

As shown in Exhibit 4.5, in each age group more participants attend workshops in metro locations than non-metro locations.¹¹

Exhibit 4.5. Percentage of CDSMP Participants Attending Workshops in Metro versus Non-Metro Areas by Age

Location of Workshop	Age <60	Age 60-64	Age 65-74	Age 75-84	Age 85+	Total
Metro	77%	80%	80%	81%	80%	79%
Non-Metro	23%	20%	20%	19%	20%	21%
Total	100%	100%	100%	100%	100%	100%

Note: Excludes participants with missing date of birth.

Source: NCOA data; metro and non-metro designations from NCHS and USDA ERS

Exhibit 4.6 shows the average number of chronic conditions reported by CDSMP participants by age and sex. Females across all age categories tend to report more chronic conditions, on average, than males. The differences (between male and female) are statistically significant in each age group. Also, the average number of chronic conditions among participants increases in each age group as participants age up until the age 75-84 age group, when the average number of chronic conditions begins to decline. As the number of chronic conditions tends to increase with age in the general Medicare population¹², more research is needed to determine why older individuals with more chronic conditions are not participating in CDSMP and what sites may be able to do to make participation easier for that subpopulation.

Exhibit 4.6. Average Number of Chronic Conditions Reported by CDSMP Participants by Age and Sex

Sex	Age <60	Age 60-64	Age 65-74	Age 75-84	Age 85+	Total
Male	1.75	2.41	2.41	2.37	2.20	2.17
Female	2.04	2.68	2.73	2.67	2.50	2.51
Total	1.96	2.62	2.67	2.66	2.45	2.44

Note: Excludes participants with missing date of birth and sex.

Source: NCOA data

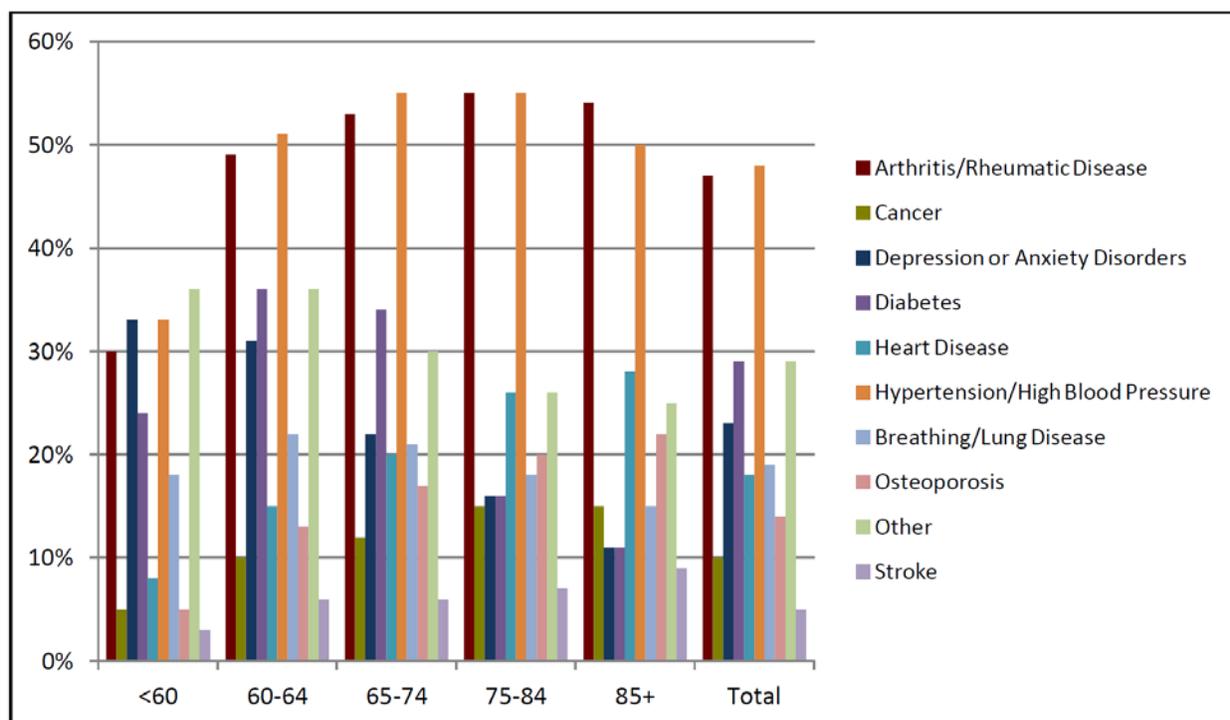
Exhibit 4.7 shows the percentage of CDSMP participants by age and type of chronic condition. Hypertension/high blood pressure and arthritis/rheumatic disease are the most commonly reported chronic conditions among participants aged 60 and older. More than half of

¹¹ Metro and non-metro classification is based on county of the implementation site. NCHS was the primary source; USDA-ERS was the secondary source. For implementation sites for which counties could not be found, county of the participant was used. For Puerto Rico, USDA-ERS Rural-Urban continuum codes were used, as Puerto Rico is not available in the other two sources.

¹² Centers for Medicare & Medicaid Services: Center for Strategic Planning. (2011) Chronic Conditions Among Medicare Beneficiaries: 2011 Chartbook. <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/Downloads/2011Chartbook.pdf>

participants reported having hypertension/high blood pressure; a similar number reported having arthritis/rheumatic disease. Though percentages generally vary across age groups and condition types, some trends are apparent. For instance, the rates of cancer, heart disease, stroke, and osteoporosis tend to increase as age increases. Depression or anxiety disorders, diabetes, and other chronic conditions tend to be more prevalent for those younger than 60 and from 60 to 64 years of age, with rates decreasing with age.

Exhibit 4.7. Percentage of CDSMP Participants Reporting Chronic Conditions by Age and Type of Chronic Condition



Note: Excludes participants with missing date of birth.
Source: NCOA data

During the key informant interviews, ARRA grantees were asked to share which special populations they targeted while receiving ARRA grant funding, why they chose to target these populations, and their strategies for reaching them. Grantees reported similar reasons for choosing to target a particular group: to reach underserved populations, many of whom face continued barriers to self-managing chronic conditions, including lack of knowledge and resources. Exhibit 4.8 shows special populations targeted by state grantees during the funding period as reported by grantees during the key informant interviews, supplemented by information available from the state survey on program sustainability conducted by ACL in 2012.¹³

¹³ The data in Exhibit 4.8 may be incomplete because of significant limitations in the data sources: 1) the key informant interviews were telephone discussions and not a systematic, quantitative data collection effort; and 2) “target populations” were inferred from data collected on “partnerships” in the state survey on program

**Exhibit 4.8. Special Populations Targeted by States While Receiving ARRA Grant Funding
(April 2010-March 2012)**

State	Veterans	Incarcerated Adults	Native Americans	African Americans	Latin os	Other Ethnic Groups	Rural Residents	Low-Income	Disabilities	Dual Eligibles	< 60
Alabama	√	√	-	√	√	√	√	√	√	-	-
Alaska	√	-	√	-	√	-	-	√	-	-	-
Arizona	√	-	√	-	√	-	√	√	√	√	-
Arkansas	-	-	-	-	√	-	√	-	-	-	-
California	-	-	-	-	√	√	-	√	-	√	-
Colorado	-	-	-	√	-	-	√	√	-	√	-
Connecticut	√	-	-	√	√	-	√	√	-	√	-
Florida	√	-	-	√	√	-	√	√	-	-	-
Georgia	√	-	-	-	-	√	√	√	√	-	-
Hawaii	√	-	√	-	-	√	-	√	√	-	-
Idaho	√	-	-	-	√	-	√	√	√	-	-
Illinois	√	-	-	√	√	√	√	√	√	-	-
Indiana	√	-	√	-	√	-	-	√	√	-	√
Kansas	√	-	√	-	√	-	√	-	-	-	-
Kentucky	-	√	-	-	-	-	-	√	-	-	-
Louisiana	-	-	-	-	√	√	√	√	√	-	-
Maine	√	√	√	-	-	√	√	√	√	-	-
Maryland	-	-	-	-	√	√	√	√	√	√	√
Massachusetts	-	-	√	-	√	√	√	√	√	√	-
Michigan	√	-	√	-	-	-	-	√	√	√	-
Minnesota	√	-	√	-	-	√	√	√	√	√	-
Mississippi	-	-	√	-	-	-	√	√	-	-	-
Missouri	√	-	-	√	√	-	√	√	√	√	-
Nebraska	√	√	√	-	√	-	-	√	-	-	-
Nevada	-	-	-	-	√	-	-	-	-	-	-
New Hampshire	√	√	-	-	√	-	√	√	-	-	-
New Jersey	-	√	-	-	√	√	√	√	√	-	-
New Mexico	√	-	√	-	√	-	√	-	-	-	-
New York	√	-	√	√	√	√	√	√	√	-	-
North Carolina	-	√	-	-	-	-	√	-	√	-	-
Ohio	√	√	-	-	√	-	√	√	√	-	-
Oklahoma	-	√	√	-	√	√	√	√	√	-	-
Oregon	√	√	-	-	√	-	√	√	√	√	-
Pennsylvania	-	-	√	√	√	√	-	√	√	√	-
Puerto Rico*	-	-	-	-	-	-	-	-	-	-	-
Rhode Island	√	√	√	-	√	√	-	√	√	-	-
South Carolina	√	√	-	√	-	-	√	√	√	-	-
Tennessee	-	-	-	√	-	√	√	√	-	-	-
Texas	√	√	√	-	√	√	-	√	-	-	-
Utah	√	√	√	-	-	√	√	√	√	-	√

sustainability (e.g., states reporting partnerships with Federally Qualified Health Centers were considered to be targeting “low-income populations” in Exhibit 4.8; states partnering with “groups working with people with disabilities” were considered to be targeting the “disabilities” group in Exhibit 4.8).

State	Veterans	Incarcerated Adults	Native Americans	African Americans	Latin os	Other Ethnic Groups	Rural Residents	Low-Income	Disabilities	Dual Eligibles	< 60
Vermont	√	-	-	-	-	-	√	√	√	-	-
Virginia	√	√	-	-	√	√	√	√	√	-	-
Washington	-	-	√	-	-	√	√	√	√	-	-
West Virginia	√	-	-	-	√	-	√	√	√	-	-
Wisconsin	√	-	√	-	-	-	√	√	√	-	-
Total Number of States	29	15	20	10	29	20	33	39	29	11	3

*Did not report targeting special populations; residents of Puerto Rico, however, are almost exclusively Latino, so “Latinos” is not an applicable category.

Source: State Survey on Program Sustainability and IMPAQ/Altarum Interview Data

As shown in Exhibit 4.8, the most common special population targeted by ARRA grantees was the low-income population. Many grantees worked with Federally Qualified Health Centers (FQHCs) and non-profit organizations that support the low-income population to increase awareness of CDSMP and recruit participants. Another common special population targeted by ARRA grantees was the Latino community; 29 grantees indicated that they actively sought to reach this population. Many grantees partnered with community- and faith-based organizations to reach Latinos, particularly to increase awareness of CDSMP and recruit participants. Grantees focused intently on training bilingual lay leaders and master trainers to help expand their reach into the Latino community, as grantees believed this led to better success in recruiting participants and sustaining high completion rates

Reaching Latinos: New Mexico’s Southern Area Health Education Center (SAHEC), near the Texas border, uses *promotoras*, community health workers who advise residents about health and health resources in the community, to deliver CDSMP to Hispanic/Latino residents. The *promotoras* are respected as lay health leaders on diverse topics, and CDSMP has been a natural fit with their outreach activities. The SAHEC director reports that fidelity is very high, as the *promotoras* are proud of and take their role in delivery of CDSMP very seriously.

Other ethnic groups, such as Asians and African immigrants and Native Americans, were also common populations actively targeted for CDSMP participation by ARRA grantees. Similar to strategies developed to reach the Latino community, grantees sought to target these populations by partnering with community- and faith-based organizations and residential facilities to increase awareness of CDSMP and recruit participants. Illinois, for instance, targeted immigrants and limited English speakers, particularly those 60 years of age and older, through a community wellness center. Implementation sites worked with the center to recruit participants through their established outreach program and network.

Grantees targeted a range of other special populations, including but not limited to inmates in prison settings, persons with mental illness, veterans, and individuals with disabilities including hearing disorders and developmental disabilities, and Medicare-Medicaid enrollees (“dual eligibles”). Grantees offered the same program to these unique communities as was offered to

other populations; however, grantees made special considerations for these groups on a case-by-case basis. For instance, lay leaders would read materials to participants who were blind or visually impaired to keep them engaged in the class. Grantees noted that their objective was to find ways to deliver CDSMP to all participants in the same setting in order to preserve the social aspects of the workshops and maintain fidelity. Partnerships with community organizations and other groups were often used to reach these populations. A description of partnerships is included in Chapter 5.

4.3 Looking Ahead to the Future

During the key informant interviews, grantees were asked if they plan to target special populations in the future, in addition to those already targeted through ARRA funding. Twenty grantees indicated that they do not plan to make major changes to their targeting strategies in the future; these states are indicated in gray in Exhibit 4.9. All grantees noted that their targeting strategies will be fully dependent on receiving additional funding (from AoA and elsewhere). Grantees expressed concern that funding challenges will significantly affect their ability to continue outreach to current and new populations.

Regardless of the target population, grantees described similar strategies to expand their reach after ARRA funding ends. In addition to seeking ongoing program support, the most common strategy included developing and expanding partnerships with key stakeholders in target communities, such as community- and faith-based organizations, health clinics, and hospitals. However, many noted that they would not be able to pursue new partnerships without additional funding. In addition, existing partners were not instrumental in recruiting new partners. Grantees often developed partnerships through internal connections and networks. By collaborating with these entities, grantees hoped to increase and expand awareness of CDSMP, thereby increasing referrals and participation and completion rates. Below are a few examples of how grantees plan to target more diverse populations in the future.

- **Latinos:** The most frequently mentioned population that grantees hope to target after ARRA funding ends is the Latino population. Grantees hope to increase their efforts to produce local training and workshop materials in Spanish and begin or increase trainings for Spanish-speaking lay leaders. Grantees also plan to expand their outreach efforts to community- and faith-based organizations in new regions throughout their states to reach the Latino populations in localities that have not been targeted.
- **Native Americans:** Some grantees expressed a desire to reach out more actively to the Native American population. Colorado, for example, initiated a partnership with this population toward the end of the ARRA funding period. The state is developing a plan to build on this relationship in the future, particularly by assisting one tribal council to obtain a license for CDSMP. Additionally, Massachusetts hopes to build capacity, specifically through lay leader trainings and network building with local health systems to implement CDSMP in tribal communities.

- **Low-Income Populations:** Some grantees hope to expand the reach of CDSMP to specifically target low-income populations. Connecticut, for example, is working to expand availability of CDSMP in inner city areas, particularly regions with high rates of poverty. Similarly, Louisiana would like to expand program reach to low-income senior housing, and Nebraska hopes to expand their partnerships with FQHCs to strengthen referral systems and increase the number of participants who are low-income. In addition to these strategies, some grantees plan to expand or begin partnerships with their states' Medicaid agencies to develop a comprehensive referral system for CDSMP and provide reimbursements for Medicare-Medicaid enrollees who participate in CDSMP. For most grantees, these strategies and partnerships are in their infancy and have not advanced beyond the initial stages.

It is important to note that the information presented in Exhibit 4.9 is not intended to provide a comprehensive account of grantees' intentions to target special populations in the future, but rather to provide examples of future target populations. The information was collected during key informant interviews, which were not a systematic, quantitative data collection effort, so the information presented below is not inclusive of all the special populations states anticipate targeting in the post-ARRA funding environment. Additionally, this is a rapidly changing area based on funding and other opportunities so information provided in the exhibit may not reflect states' current focus.

Exhibit 4.9. Special Populations States Anticipate Targeting in the Post-ARRA Funding Environment (after April 2012)

State	Veterans	Incarcerated Adults	Native Americans	African Americans	Latinos	Other Ethnic Groups	Rural Residents	Low-Income	Disabilities	Dual Eligibles	< 60
Alabama	-	-	-	-	-	-	-	-	-	-	-
Alaska	√	-	-	-	-	-	-	-	-	-	-
Arizona	-	-	-	-	-	-	-	-	-	-	-
Arkansas	-	-	-	-	-	-	-	-	-	-	-
California	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	√	-	-	-	-	-	-	-	-
Connecticut	-	-	-	-	-	-	-	√	-	-	-
Florida	-	-	-	-	-	-	√	-	-	-	-
Georgia	-	√	-	-	√	-	-	-	√	-	-
Hawaii	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	√	-	-	-	-	-	-	-	-
Illinois	-	-	-	-	√	√	-	-	-	-	-
Indiana	-	-	-	-	√	√	-	-	√	-	-
Kansas	-	-	-	-	√	-	√	-	-	√	-
Kentucky	-	-	-	-	-	-	-	-	-	-	-
Louisiana	-	-	-	-	-	-	-	√	-	-	-
Maine	-	-	√	-	-	√	-	-	-	-	-
Maryland	-	-	-	-	-	-	-	-	-	-	√
Massachusetts	-	-	√	-	√	√	-	-	-	-	√
Michigan	-	-	-	-	-	-	-	-	-	-	-
Minnesota	-	-	-	-	-	-	-	-	-	-	-
Mississippi	-	-	-	-	-	-	-	-	-	-	-
Missouri	-	-	-	√	√	-	-	-	-	√	-
Nebraska	-	√	-	-	-	-	-	√	-	-	-

State	Veterans	Incarcerated Adults	Native Americans	African Americans	Latinos	Other Ethnic Groups	Rural Residents	Low-Income	Disabilities	Dual Eligibles	< 60
Nevada	√	-	-	-	-	√	√	-	√	-	-
New Hampshire	-	√	-	-	√	-	-	-	-	√	-
New Jersey	-	-	-	-	-	-	-	-	-	-	-
New Mexico	-	-	-	-	-	-	-	-	-	-	-
New York	-	-	-	-	-	-	-	-	-	√	-
North Carolina	-	-	-	-	-	-	-	-	-	-	-
Ohio	√	√	-	-	-	-	-	-	√	-	-
Oklahoma	-	-	-	-	-	-	-	√	-	√	√
Oregon	-	-	-	-	-	-	-	-	-	-	-
Pennsylvania	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico	√	√	-	-	-	-	-	-	√	-	-
Rhode Island	-	-	-	-	-	-	-	-	-	-	-
South Carolina	-	-	-	-	-	-	-	-	-	-	-
Tennessee	-	-	-	-	-	-	√	√	-	-	-
Texas	-	-	-	-	-	-	-	-	-	-	-
Utah	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-
Virginia	-	-	-	-	√	√	-	-	√	√	-
Washington	-	-	-	-	-	-	-	-	-	-	-
Wisconsin	-	-	-	-	-	-	-	-	-	√	-
West Virginia	-	-	-	-	-	-	-	-	-	-	-
Total Number of States	4	5	4	1	8	6	4	5	6	7	3

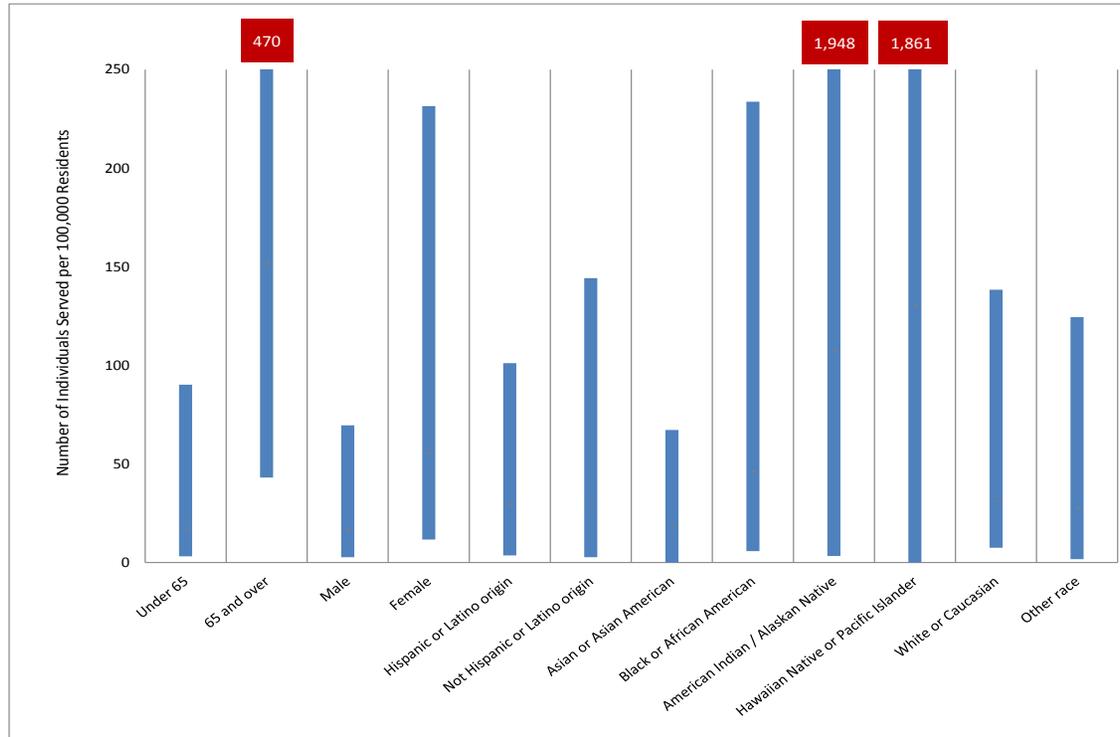
Note: States shaded in gray do not plan major changes to their targeting strategies in the immediate future.

Source: IMPAQ/Altarum Interview Data

4.4 Reach of CDSMP

AoA expressed interest in the “reach” of CDSMP—that is, what proportion of the residents in a state participated in CDSMP during the ARRA grant period, and how participation varied across different population groups and across different states. Exhibit 4.10 shows variations in reach by age, gender, and race/ethnicity. For example, on average 151 individuals aged 65 and older participated in CDSMP out of every 100,000 residents aged 65 and older. Across the 45 grantees, minimum reach to individuals aged 65 and older was 43 participants per 100,000 residents aged 65 and older; maximum reach was 470 participants per 100,000. The density of some special populations varies widely across states and may, in part, be responsible for the variation shown in Exhibit 4.10. This may be particularly true for the categories of Latino, American Indian, and Hawaiian Native/Pacific Islander. The table in Appendix F, which presents the underlying data for Exhibit 4.10, shows variations in CDSMP reach by sex, age, and race/ethnicity for each of the 45 state grantees.

Exhibit 4.10. State Variations in CDSMP Reach to Specific Populations



	Under 65	65 and over	Male	Female	Hispanic or Latino origin	Not Hispanic or Latino origin	Asian or Asian American	Black or African American	American Indian / Alaskan Native	Hawaiian Native or Pacific Islander	White or Caucasian	Other race
Min	3	43	3	12	4	3	0	6	3	0	7	2
Mean	17	151	17	55	29	31	18	46	107	131	31	28
Max	90	470	70	231	101	144	67	234	1,948	1,861	138	124

Source: NCOA and U.S. Census data.

CHAPTER 5: IMPLEMENTATION OF CDSMP

Research Question 2: *How are local sites implementing the CDSMP? For example, how do their organizational structure, financial resources and allocation and their fidelity compare to the Stanford CDSMP model? Are there common adaptations being made at AoA/ACL supported sites? Are there adaptations which specifically improve the applicability of the CDSMP to seniors (age 60+) with chronic diseases?*

Key Findings

1. **CDSMP was implemented successfully in a diverse set of organizational arrangements.** Aging services networks served as grantees in most states, using providers such as AAAs, state and local public health departments, and private health systems as key partners for CDSMP program oversight and delivery. Grantees used centralized, decentralized and shared infrastructures.
 - **Oversight:** Grantees used centralized program administration and oversight in 14 states, decentralized models in 23 states, and shared systems of oversight in 10 states.
 - **Delivery:** Most grantees (37) used decentralized delivery systems to deliver CDSMP through public and private organizations including AAAs, 9 used centralized infrastructures such as private or public health systems, and one grantee used a mixed approach. Grantees that used centralized systems to deliver CDSMP typically centralized communications, licensing, and referral as well.

No single approach works best in all contexts. However, centralized approaches offer advantages such as standardization of training and delivery, leverage for data collection, and certain economies of scale—while decentralized approaches can be more responsive to local conditions and resource availability. CDSMP oversight and delivery arrangements typically reflected historical funding and partnerships, geographical relationships, or political structures already established within the state into which the administration of CDMSP programs was fit.

2. **Marketing and recruitment continue to be challenges for many grantees, especially those with limited staff and financial resources for outreach.** Grantees that leveraged established partnerships and networks (e.g., AAAs, Area Health Education Centers, etc.) to market and recruit participants were more likely to be successful reaching older adults and filling workshops.
3. **Retaining participants throughout the 6 workshop sessions can be difficult—but grantees have identified successful strategies to support retention.** Transportation and weather problems, illness, and participant motivation or interest can all interfere with attendance. Grantees and workshop leaders reported using small incentives such as gift cards, key chains, and other giveaways; scheduling workshops at convenient times and places; and assisting participants with transportation to and from workshops as key strategies for improving retention.
4. **Reaching cultural and ethnic minorities can be difficult, especially if funding for outreach is limited. However, many sites have been able to reach and serve these populations successfully.** Once enrolled, these populations are likely to stay with the program and show high rates of completion. Several grantees have expanded reach and reported success serving special populations including prisoners and disease-specific populations. More information is needed about grantees' experiences with these groups.

5. **Program success depends highly on the commitment of key leaders and champions.** Program champions are key to the success and sustainability of CDSMP programs, especially at start up. Grantees of programs lacking champions or continuity of leadership encountered more problems with ongoing program operations and had more difficulty making the case to sustain the program at the end of ARRA funding. Grantees should be sure to start establishing policy and infrastructure immediately so the program does not fail if the champion is gone.
6. **Fidelity is multi-faceted, with multiple components identified as important to program success in the Stanford protocols. Grantees reported fidelity as a priority and approached it in various ways.** The relative importance of specific items to program success is unclear. Grantees and workshop leaders questioned some items, including class size and presentation format. Questions were also raised regarding the relative importance of specific workshop sessions. Some grantees suggested a study of the relative importance of CDSMP fidelity requirements would be helpful to shed light on these and other issues.
7. **Grantees called out need for state-specific information about the effectiveness, cost effectiveness, and return on investment of CDSMP.** This information is often requested by legislators and is needed to support third-party payment and funding to continue program availability.

5.1 Introduction

The initial studies of CDSMP conducted by Stanford University established the evidence base for the program by demonstrating the effectiveness of CDSMP in improving the ability of participants to self manage their health and health care. The importance of fidelity in implementing and delivering the program as designed was emphasized and is widely recognized to be essential to replicating program success. However, studies have not examined the organization, financing, and infrastructure of CDSMP programs as they are implemented more broadly in community settings, and whether or to what extent such differences may affect CDSMP implementation, delivery, or sustainability. These questions are important to ACL given its interest in supporting widespread dissemination of the program in diverse contexts, and its requirement that grantees develop viable models for CDSMP delivery that could be sustained at the completion of ARRA funding.

To address these questions, the evaluation team developed, for each grantee, a descriptive profile examining organizational structure and the program delivery system. The descriptive profiles were then used to analyze differences across state grantees in these areas: program oversight and administration, delivery system structure, responsibility for resource allocation, marketing and recruitment strategies, leader training and oversight, and CDSMP licensure (see Exhibit 5.1 for a description of the variables in the state profiles). Findings from this analysis are presented below. In this chapter we also discuss other factors associated with implementing strong programs—specifically, strategies employed by state grantees to maintain fidelity to the Stanford model and any common adaptations, the ways in which state grantees have sought to build productive partnerships that complement and enhance organizational and delivery models, and strategies for expanding the reach of CDSMP to new populations.

Principal data sources for the analyses in this chapter include the site visits and telephone discussions with key informants conducted by the research team, grantee progress and final reports, program data from NCOA, and the descriptive profiles on organizational structure and the program delivery system developed by the evaluation team.¹⁴

Exhibit 5.1. Variables in the State Descriptive Profiles

Variable	Definition
Program Oversight and Administration	State programs were classified into one of three models: <ul style="list-style-type: none"> ▪ Centralized: program responsibility resides largely at the state level ▪ Decentralized: program responsibility resides mostly at the regional or local level ▪ Shared: program responsibility is shared at the state and regional/local levels
Program Delivery Infrastructure	Refers to infrastructure and dissemination channels used for general communications, program coordination, conducting marketing and recruitment, and data collection and reporting. State programs were classified into one of three models: <ul style="list-style-type: none"> ▪ Centralized: delivery infrastructure coordinated at the state level ▪ Decentralized: delivery infrastructure coordinated at the regional and/or local levels ▪ Mixed: responsibility for coordination of delivery infrastructure is shared at the state and regional/local levels
Resource Allocation	Refers to whether allocation of grant funding and other program resources (e.g., funds for supplies) is managed: <ul style="list-style-type: none"> ▪ At the state level ▪ By local/host sites ▪ By both the state and the local/host sites
Leader Training and Oversight	Refers to whether leader training was coordinated: <ul style="list-style-type: none"> ▪ At the state level ▪ By local/host sites
CDSMP Licensure	Refers to whether the CDSMP license is held by: <ul style="list-style-type: none"> ▪ A state agency ▪ Regional or local organizations

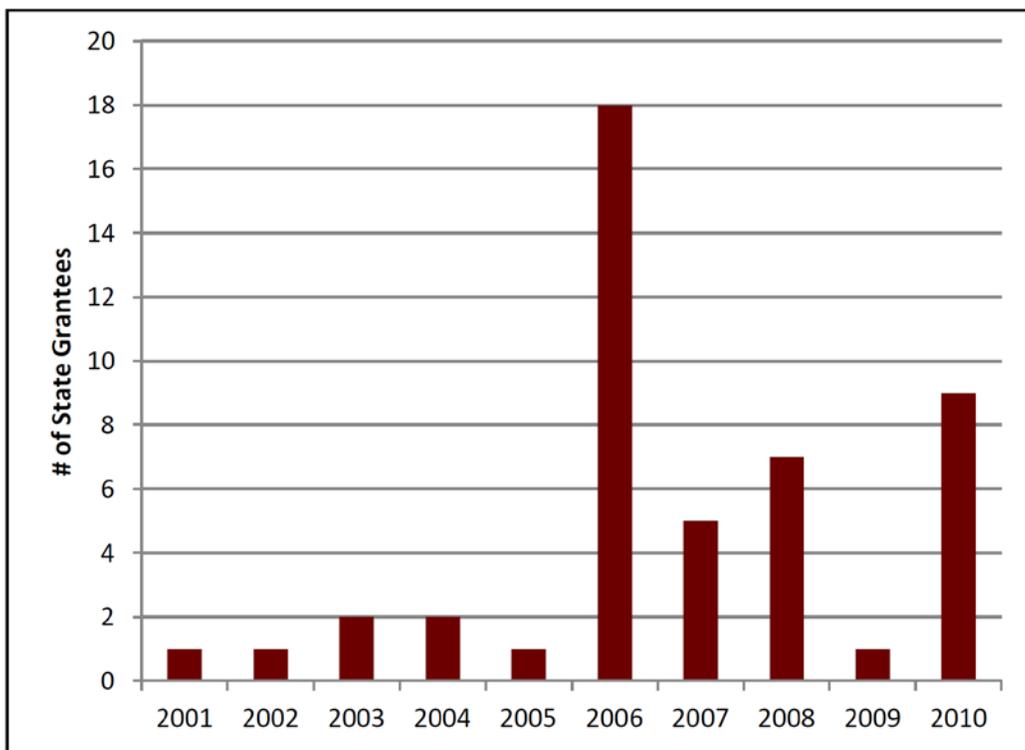
5.2 Program Oversight and Administration

State grantees oversee CDSMP implementation and administration using a variety of organizational strategies and structures to ensure efficient and effective program delivery and

¹⁴ The analyses of organizational structure and program management and administration presented in this chapter represent the best judgment of the evaluation team. Because of data limitations and the subjective nature of classifying state programs, category assignments could not always be made with full confidence.

fidelity to the Stanford model. These activities can be wide-ranging and may include marketing and recruitment, training and supervising workshop leaders, monitoring fidelity, and collecting and analyzing program data. Departments of aging and departments of public health were eligible to serve as lead agencies; 31 grantees selected departments of aging as the lead and 16 chose departments of public health. Infrastructure for program oversight and administration are often influenced by historical patterns of funding and service delivery. Many ARRA grantees had already been delivering CDSMP for a number of years (see Exhibit 5.2) and were able to use ARRA funds to build upon and expand legacy systems for program delivery. In other cases, grantees were using 2010 ARRA funding to build CDSMP delivery systems for the very first time, which was the case for 9 states.

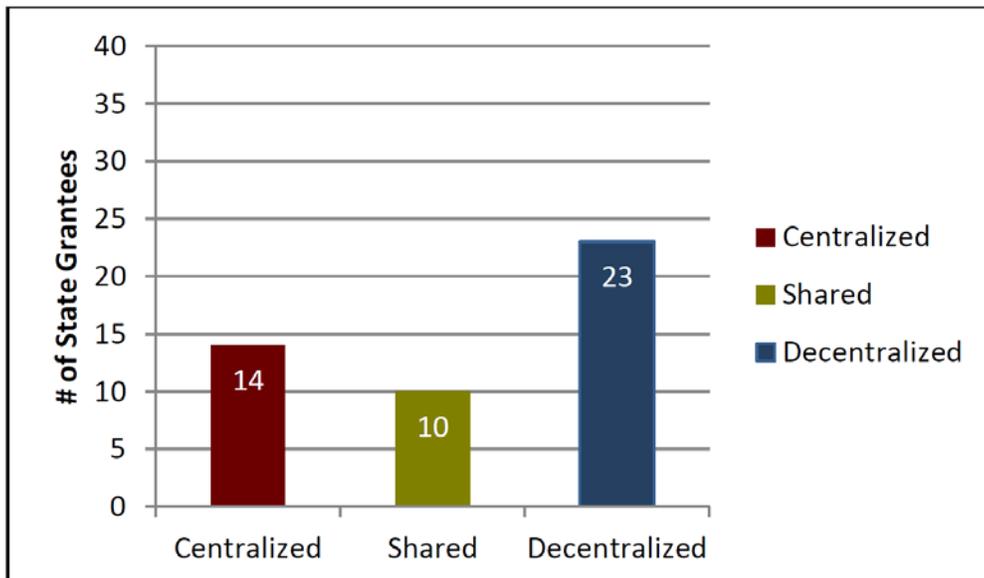
Exhibit 5.2. Number of States and Year of First Federal Funding to Deliver CDSMP, 2001-2010



Source: IMPAQ International and Altarum Institute

Of the 47 grantees, 14 used centralized models for program oversight and administration, 23 used decentralized models, and 10 had delivery systems in which responsibility was shared at the state and regional/local level (Exhibit 5.3). Grantees’ approaches to program oversight and administration reflected a variety of factors, including the organization and historical roles of state health and human services departments, the prominence of the state unit on aging (e.g., whether it is a separate agency with a cabinet-level secretary or an agency within the department of health and human services), the role and strength of regional/local agencies in the state (e.g., AAAs, ADRCs, private organizations, collaboratives), and existing infrastructure for the delivery of evidence-based health promotion programs.

Exhibit 5.3. Program Oversight and Administration



Source: IMPAQ International and Altarum Institute

The evaluation team examined the various oversight models, comparing and contrasting their performance. No clear patterns were identified. Variations were considerable and reflected the unique socio-political, geographic, and historical context of each state. However, specific benefits appear to be associated with each approach. Centralized approaches offer advantages such as standardization of training and delivery, leverage for data collection, and certain economies of scale. Decentralized approaches can be more responsive to local conditions and resource availability. Shared approaches are able to offer some benefits of both centralized and decentralized models.

5.2.1 Centralized CDSMP Oversight and Administration

Among the 14 states with centralized CDSMP oversight, 5 reported program oversight and administration provided by state departments of aging, 4 used departments of public health, and 5 used shared models. Some examples of centralized models are:

- **New Jersey:** CDSMP is overseen by the New Jersey Department of Aging, which actively oversees and manages the program across the state. Prospective partners compete in a competitive application process with selected partners receiving one of multiple categories of grants. The Department of Aging has established quality assurance protocols for fidelity monitoring and developed their own instruments/checklists based on national documents tailored to New Jersey's program. For example, the peer leader instrument lists the major skill areas and operational guidelines (e.g., use of posters, room set up) and has a check list for each class that includes the elements the leader is to address in that session. The Department of Aging also actively trains and monitors trainers and leaders.

- **Nebraska:** Nebraska’s Department of Health and Human Services oversees policy, fidelity monitoring, master trainer and lay leader training, and partnership development. The department has implemented memoranda of understanding (MOUs) with six of the eight AAAs in the state (two dropped out due to reported over-burden and difficulties developing partnerships). They are now seeking to embed the program within the public health network and Federally Qualified Health Centers (FQHCs).
- **New York:** The State University of New York (SUNY) at Albany has state-wide oversight and responsibility for the CDSMP program. The New York grantee distributes funds to SUNY Albany, which allocates those resources amongst the host sites. SUNY Albany develops MOUs with leaders/trainers, oversees and coordinates training, develops program policies, and monitors quality assurance for the state.

Of the 14 states using centralized oversight, seven contracted with private or non-governmental entities provided program oversight. West Virginia and New York (see above) delegated responsibility and direct oversight of CDSMP to universities (Marshall University and SUNY, Albany, respectively) and California¹⁵ designated Partners in Care as their state-wide technical assistance provider. Statewide Area Health Education Centers (AHECs) provide CDSMP oversight in New Hampshire and Colorado. The Arizona Living Well Institute, a public-private partnership established to advance evidence-based programs throughout the state, and Wisconsin’s Institute for Healthy Aging, formed to advance the spread of evidence-based programs that encourage and support healthy living among older adults, oversee CDSMP in their respective states. All funds and direct project oversight were passed from the state grantees to these non-governmental entities to oversee funding distribution, training, data collection and entry, and fidelity policy and monitoring.

5.2.2 Decentralized CDSMP Oversight and Administration

Twenty-three states adopted a decentralized model for oversight in which host or delivery sites were delegated the majority of responsibility regarding funding, training, fidelity monitoring, and data collection. In these states, program oversight and administration was either regional or local (generally county or metropolitan-area), contributing to considerable within-state variation in program delivery and oversight in some cases. Additionally, decentralized delivery systems largely utilized the AAAs as regional CDSMP oversight entities; sixteen of the 23 states with decentralized models of program oversight used AAAs in a regional oversight capacity. No grantees solely used local health departments in this role, although five states used a mix of AAAs and local health departments.

Examples of decentralized models are:

- **Minnesota:** All six AAAs within the state offer CDSMP. The AAAs are responsible for all elements of program operations, including training, materials purchase, quality assurance, and licensing.

¹⁵ Information provided by the National Council on Aging (NCOA).

- **Kentucky:** CDSMP oversight occurs within each partner site, largely AAAs. There is little coordination between the AAAs on program operations or delivery. Fidelity monitoring is conducted by the AAAs and varies by region.
- **Vermont:** CDSMP is offered through AAAs, which are anchored in Health Service Areas (HSAs) within the state as part of Vermont's comprehensive Blueprint for Health. HSAs receive community health funding from the state legislature that local stakeholder coalitions direct to develop and integrate comprehensive population health plans within each HSA. The AAAs, as part of this plan, develop a local work plan describing the strategy for resource use which is reviewed and approved by the HSA community coalition. CDSMP funding is passed from the state grantee to each HSA for distribution. Regional coordinators manage the program within each HSA.

Two states—Vermont and Nevada—used non-governmental private organizations, specifically health systems, to provide oversight of CDSMP at all host sites. In Vermont, CDSMP is a core component of the state's *Blueprint for Health*, a community-based approach to health care reform that uses a chronic care model centered around hospitals and community health coalitions. Nevada uses local hospitals as host sites, with University of Nevada-Reno's Sanford Center for Aging providing fidelity monitoring. Respondents from states using decentralized oversight reported intra-state variation in fidelity standards, monitoring, training, and sustainability efforts. In these settings, partner recruitment and sustainability were generally seen as host site responsibilities. Often, host sites had a full-time coordinator on staff with responsibility for CDSMP program oversight.

5.2.3 Shared CDSMP Oversight and Administration

In this model, oversight responsibilities are shared by the state grantee and regional host sites. The ten grantees that used this model generally operated in a collaborative fashion to develop and craft program policy on delivery, training, fidelity standards and monitoring, and data collection. Additionally, these grantees used collaborative approaches to promoting sustainability, involving multiple stakeholders at the state, regional and local, or host site levels. Shared responsibility grantees exhibited consistency in fidelity standards, monitoring, training, and sustainability efforts. A typical arrangement was for host sites to have a part-time coordinator responsible for program oversight while the state grantee maintained a full-time program manager. Examples of shared delivery models are:

- **Hawaii:** In a hybrid arrangement, Hawaii's state grantee, the Executive Office on Aging, and Island AAAs work collaboratively to manage the CDSMP program through a Healthy Aging partnership. The state distributes funding to local public health partnerships and establishes memoranda of agreement (MOAs) with leaders who oversee and participate in quality assurance. The University of Hawaii leads evaluation, fidelity monitoring (using Stanford's 10-item checklist), and partnership efforts. Island AAAs have established steering committees in coordination with different partners at each location to oversee and assist with CDSMP management on each Island.

- **Maine:** To assist with CDSMP oversight, this state grantee has established a coordinating council consisting of representatives from partners, host/delivery sites, and state agencies. Established in 2004 as the Healthy Aging Advisory Committee for all evidence-based programs, the coordinating council now includes representatives of state offices on Aging and Disability and Quality Improvement, health systems, and AAAs, and includes three subcommittees: evaluation, marketing, and quality improvement/fidelity. The state grantee assists with licenses and training while the AAAs and other partners oversee much of day-to-day program operations. Maine is moving toward decentralization.

5.3 Program Delivery Infrastructure

CDSMP delivery infrastructure is needed to provide the framework for program implementation. Delivery infrastructure includes systems for general communications, program coordination, allocation of resources, conducting marketing and recruitment, training and monitoring leaders, data collection and reporting, and the allocation of resources. To a great extent, grantees worked through established relationships among state agencies and regional organizations to build and expand CDSMP delivery infrastructure. Some grantees faced especially difficult contextual challenges such as rural or remote geography, populations with special cultural or linguistic needs, economic issues impacting resource availability and more.

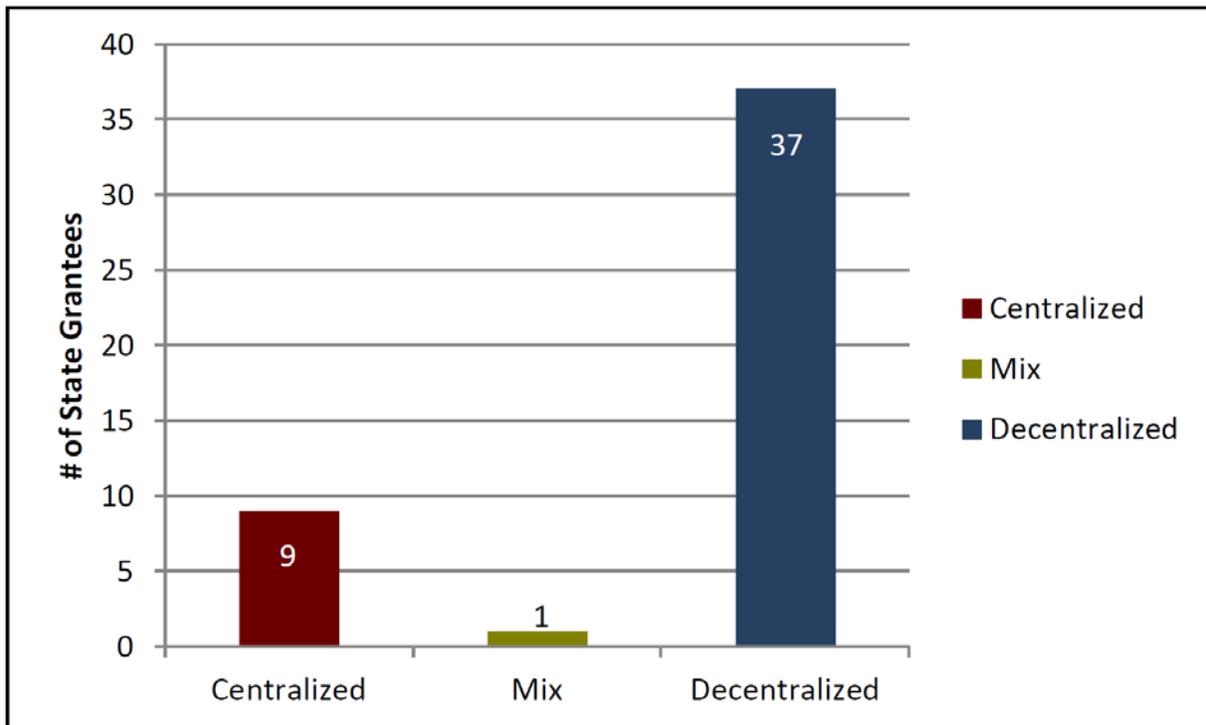
The highly unique features of each state, including program history, socio-political and cultural factors, program advocates, and state or local “champions,” helped to shape the delivery system. In some states, the delivery infrastructure aligned with the state’s model for program oversight; in others, the delivery infrastructure and oversight models were unrelated. A discussion of delivery system models is provided below.

It is important to recognize the influential role of program advocates or champions. These individuals can play a pivotal role in program development, leveraging their enthusiasm, interpersonal skills, and in many cases sheer effort in helping to assure program success. For example, the director of the Alaska program—who is the sole CDSMP staff person—wears multiple hats to ensure delivery of the program in the nation’s geographically largest state. Program directors who are also champions are especially critical at program start up as evidenced by two grantees who struggled to recruit and retain strong directors and subsequently experienced difficulty meeting complete goals and sustaining their programs. While champions are important, they are not always available or accessible to programs. In addition, programs that are dependent on the energy and tenacity of a champion must be sure to also build a strong underlying program infrastructure that can help the program weather changes in leadership.

5.3.1 Delivery System Models

Most grantees (37 of 47, or 79 percent) adopted a decentralized model for CDSMP delivery. Nine grantees had a centralized delivery system and one had a mixed state/regional system (Exhibit 5.4).

Exhibit 5.4. Delivery System Models



Source: IMPAQ International and Altarum Institute

Decentralized Delivery System. Grantees with decentralized systems often used a combination of public and private sector systems. For example, one region might rely on a public sector delivery system such as aging services providers, while another region might use the delivery system of a private or non-governmental partner.

Of the 37 decentralized states, the majority (27) used AAA and/or ADRC delivery systems, 12 states used non-governmental delivery systems, and 7 states used public health systems.¹⁶ The states using non-governmental delivery systems (e.g., health or hospital systems) often had long histories of productive partnerships with private community-based organizations. However, one grantee experienced difficulty when a private partner opted to no longer provide CDSMP.

¹⁶ Some states use multiple delivery system types, so the number of states in these examples adds up to more than 47 (the total number of ARRA grantees).

Minnesota's decentralized delivery system offers CDSMP workshops through host site agencies, with regional technical assistance provided by AAAs (e.g., multi-site licensing, provision of program materials). However, delivery coordination and communications is host-site specific and exhibits considerable variability across the state.

Centralized Delivery System. Nine states adopted centralized delivery systems. Common features were statewide systems for communications, referrals, leader training, and program licensure. Many employed a “No Wrong Door” approach to program recruitment, typically using a 1-800 number and a referral system involving all public sector health agencies. Examples of centralized delivery systems follow.

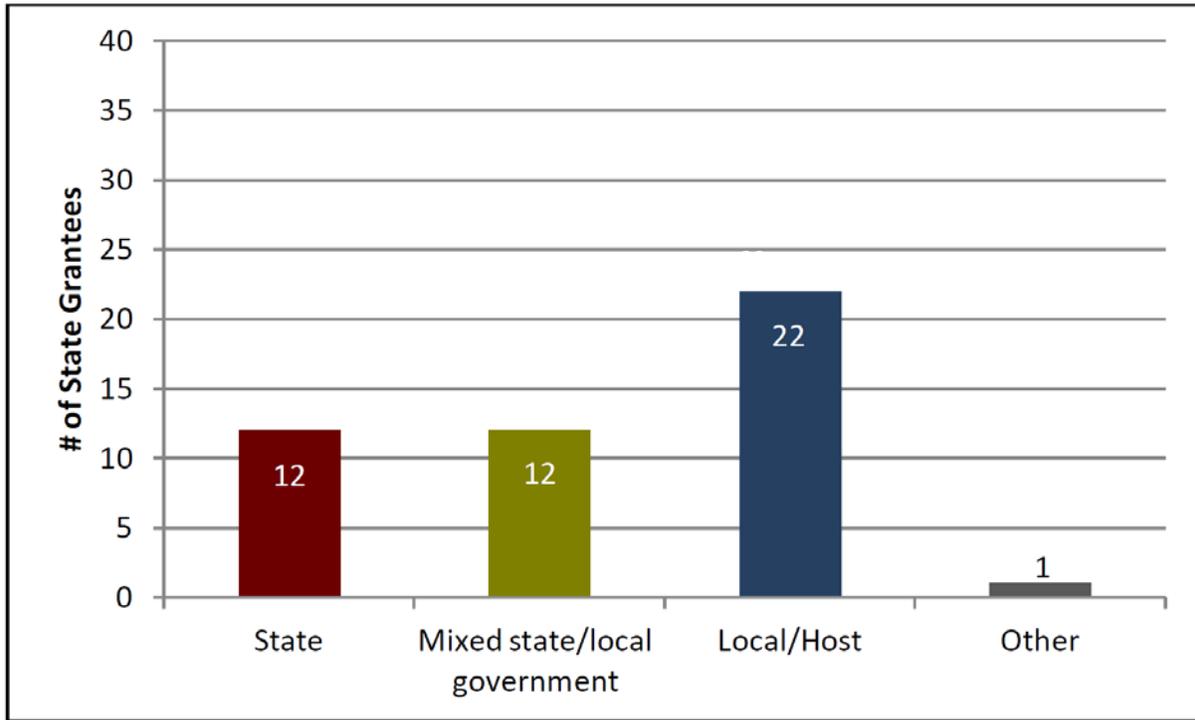
- **Alaska:** Alaska’s CDSMP program is overseen by a program director from the Alaska Department of Public Health. The program director oversees and conducts all management operations for the statewide program, including marketing, training, partner development, and class scheduling with very limited support from Commission staff or other state and local agencies.
- **Virginia:** The Virginia Department for the Aging and Virginia Department of Health are actively collaborating to deliver CDSMP through both the aging network and the state’s health districts. While the oversight model is decentralized, the delivery system is coordinated at the state level and implemented through the aging and public health networks, enabling consistent and coordinated communications and program delivery.
- **Rhode Island:** Rhode Island utilizes a delivery system managed by the Department of Health. The department, guided by a broad-based steering committee, establishes statewide policies, manages communications, and coordinates program dissemination.

Mixed Model Delivery System. Hawaii is the only state in this category. Hawaii uses a two-tiered delivery system, with communications and program delivery coordinated at the state and regional (island) levels. The state grantee is the Executive Office on Aging, but CDSMP is delivered through the aging network’s AAAs located on each island. The state distributes funds to local public health partnerships led by AAAs, each with its own steering committee. The University of Hawaii coordinates monitoring, evaluation, and partnership building across sites.

5.3.2 Responsibility for Resource Allocation

A number of grantees reported that CDSMP—compared to other evidence-based health and wellness programs—requires significant resources to implement (e.g., staff time for marketing, scheduling workshops, registering participants, monitoring leaders, and program reporting; the cost of workbooks and supplies). As shown in Exhibit 5.5, grantees adopted a variety of approaches to managing allocation of grant funding and other program resources.

Exhibit 5.5. Responsibility for Resource Allocation



Source: IMPAQ International and Altarum Institute

Resource Allocation by Local/Host Sites. Twenty-two grantees (47 percent) distributed funding to the local/host sites that then had responsibility for expending funds in accordance with local policies and priorities. This resulted in considerable within-state, as well as across-state, variation in resource availability and use. Local sites frequently use funds for purchase of workbooks, snacks, and supplies, stipends for leaders, and a full- or part-time coordinator whose salary was either partially or fully covered with funding received from the state. Some local sites used state funding for participant incentives (e.g., coffee mugs) and snacks.

State-Level Resource Allocation. Twelve state grantees retained primary control for purchasing workbooks and supplies for local sites. Georgia, for example, provides each AAA with a set of materials intended to last a full year. Some state grantees provided local sites with stipends for workshop leaders or incentives for participants to encourage workshop completion (e.g., coffee mugs). When the state has responsibility for resource allocation, resource availability tends to be more consistent across local sites.

Mixed State/Local Government Resource Allocation. Twelve grantees retained control over much of the funding dedicated to resource purchasing, but local/host sites received some discretionary funds. For example, in some cases the state purchased workbooks and the local sites used their discretionary funds to purchase incentives for participants.

Other Resource Allocation. New York—the only state in this category—delegates to SUNY Albany responsibility for resource allocation as well as program oversight and administration.

5.3.3 Marketing and Recruitment

Marketing and recruitment are key activities for viable, sustainable CDSMP programs and occurred at two levels:

- **Marketing to potential partner organizations.** Grantees sought out funding partners as well as partners who could offer host and implementation sites and refer prospective participants to CDSMP, such as hospitals, clinics, and senior centers. Marketing was conducted through community presentations, one-on-one visits, letters, and telephone calls, and involvement in larger coalitions of public health and aging services groups.
- **Marketing to prospective workshop participants.** As discussed above, responsibility for marketing varied by delivery system model (i.e., centralized versus decentralized). Marketing typically consisted of distribution of pamphlets and brochures, outreach to local newspapers and other media, community presentations, and announcements on state and local Web sites. Class Zero—which is included in the Stanford curriculum and is intended to give individuals interested in the workshops an idea of what to expect—was offered by some grantees in some localities. While we were not able to examine the effects of Class Zero on recruitment, we did examine its effects on workshop attendance patterns and found some evidence for higher completion rates for those who attended Class Zero compared to those who did not.¹⁷

AoA's RFA for the ARRA funded CDSMP instructed applicants to target underserved minority populations as they implemented and expanded their programs. Established programs with a history of broad program reach to diverse participants, like those in New Jersey and New York, were able to deepen program penetration by building on and replicating outreach already in place. Partnership development with organizations serving target populations was an effective way to expand reach to minorities. In fact, New Jersey leveraged its relationship with the Office of Minority Health to reach a range of cultural and ethnic minority participants. Grantees newer to CDSMP were faced with the challenge of establishing new relationships with special population constituents. Several respondents commented about the difficulties this presented given the modest resources available. Program outreach and recruitment practices are discussed in Sections 5.5 and 5.6 below on partnerships and expanding CDSMP to new populations.

Both established grantees and grantees newer to CDSMP delivery acknowledged the importance of funding for marketing and recruitment activities, especially in reaching minority and non-traditional populations. Several grantees expressed interest in sharing information

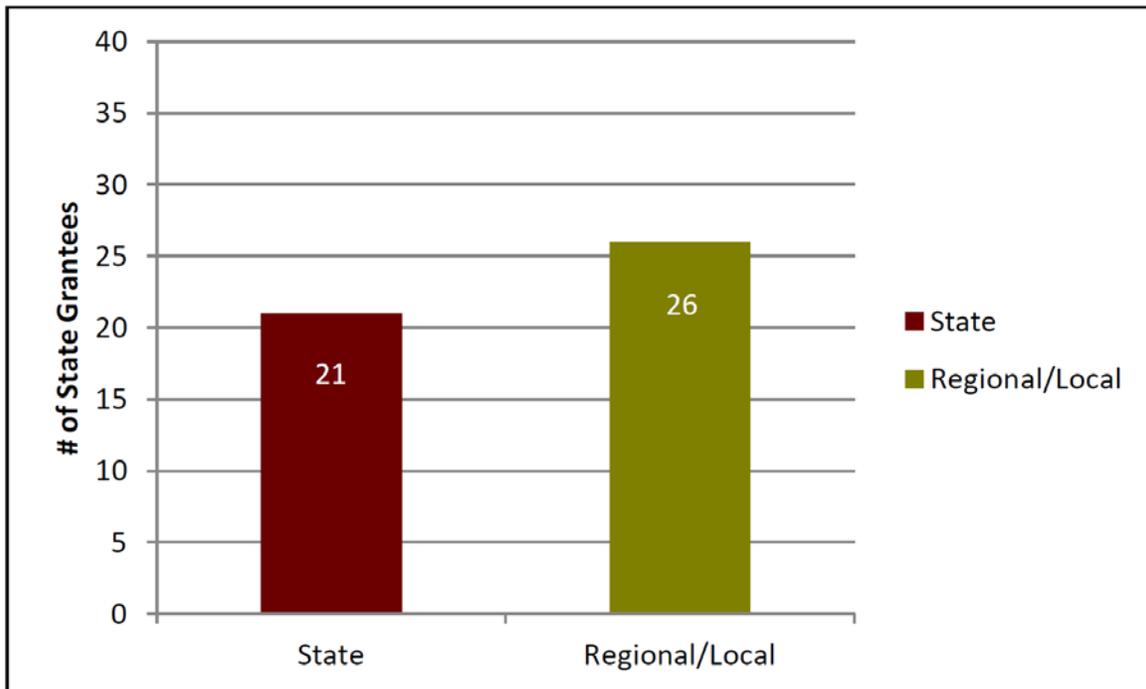
¹⁷ See regression analyses in Chapter 6 for the effect of Class Zero on completion rates.

about “what works,” and called for more information about cost effective approaches that could be implemented in their communities. While grantees expressed their ongoing commitment to these populations, several expressed concern about how marketing and recruitment could continue to be supported after their ARRA grants ended.

5.3.4 Leader Training and Oversight

Leader training and the ability of the state to maintain a sufficient number of active master trainers and lay leaders are crucial to the successful delivery of CDSMP. For 21 grantees, training was primarily the responsibility of the state. For the other 26 grantees, training was coordinated at the regional or local level, although in some states master training was coordinated at the state level and responsibility for supplemental training and lay leader training resided at the regional or local level (Exhibit 5.6).

Exhibit 5.6. Responsibility for Leader Training and Oversight



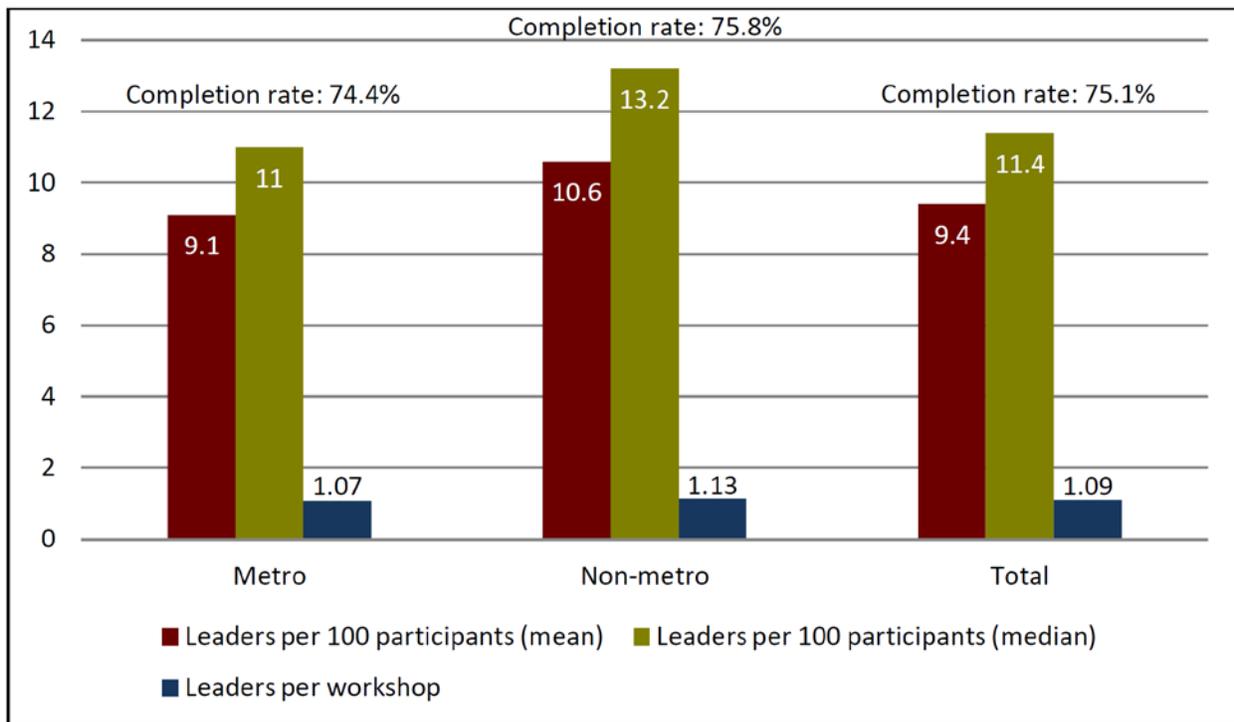
Source: IMPAQ International and Altarum Institute

Grantees frequently reported difficulty in retaining leaders and having sufficient numbers of T-trainers and/or master trainers to meet training needs. A number of grantees reported that incentives for leaders—such as modest stipends or reimbursement for transportation expenses—were especially important to demonstrate appreciation and encourage long-term participation in CDSMP. To curb leader attrition, states with centralized oversight and delivery systems were increasingly considering use of MOAs or MOUs with new trainers and leaders that detail expectations such as the number of required workshops, refresher requirements if any, data collection responsibilities, and fidelity monitoring requirements. Some grantees have

engaged in multi-state partnerships to reduce the travel costs associated with training and enable states to share master trainers and other key program delivery personnel.

While many grantees reported a shortage of leaders in rural areas, an analysis of leaders conducting workshops in metro versus non-metro locations during the ARRA grant period indicated, on average, a greater number of unique (or unduplicated) leaders per 100 participants in non-metro locations (Exhibit 5.7). However, because of the dispersed populations and long travel distances involved in delivering CDSMP in rural areas, it is likely that states require even larger numbers of trained leaders to adequately staff rural workshops.

Exhibit 5.7. Number of Leaders per 100 CDSMP Participants and Workshop



Source: IMPAQ International and Altarum Institute

Note: Calculations based on number of unique leaders by host organizations. Leaders might lead multiple workshops over time for the same host organization.

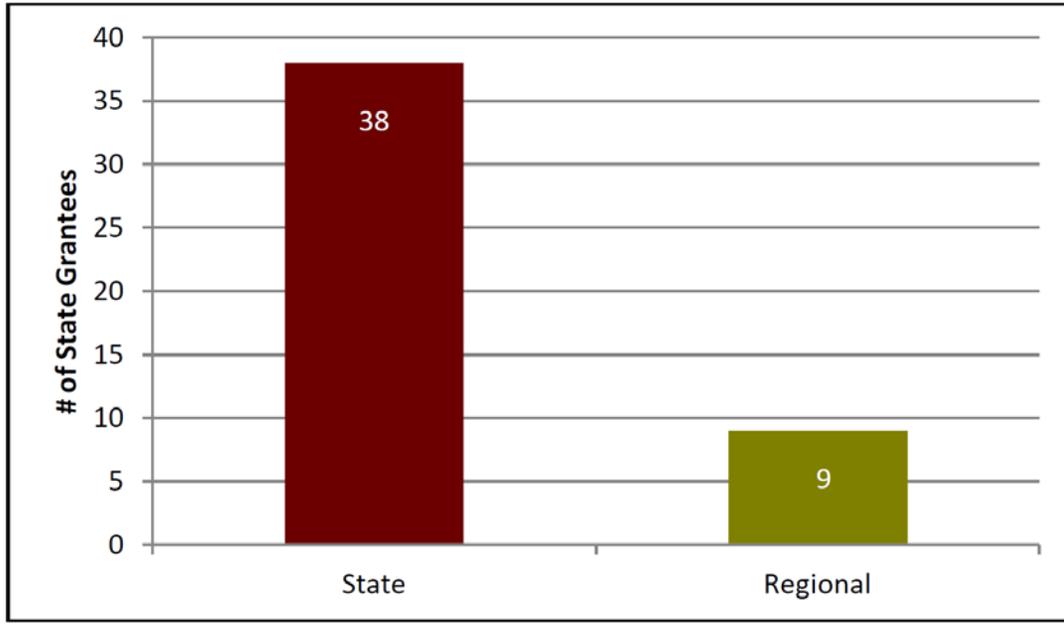
5.3.5 CDSMP Licensure

Stanford requires any organization offering CDSMP to purchase a license.¹⁸ Two types of licenses are available for Stanford’s self-management programs: a single-program license or a multiple-program license. Multiple program licenses are also available to organizations that wish to offer more than one program. The fee is based on how many total workshops an organization offers annually, regardless of which ones.

¹⁸ Stanford’s licensing policies and fees are described on their web site at: <http://patienteducation.stanford.edu/licensing/>.

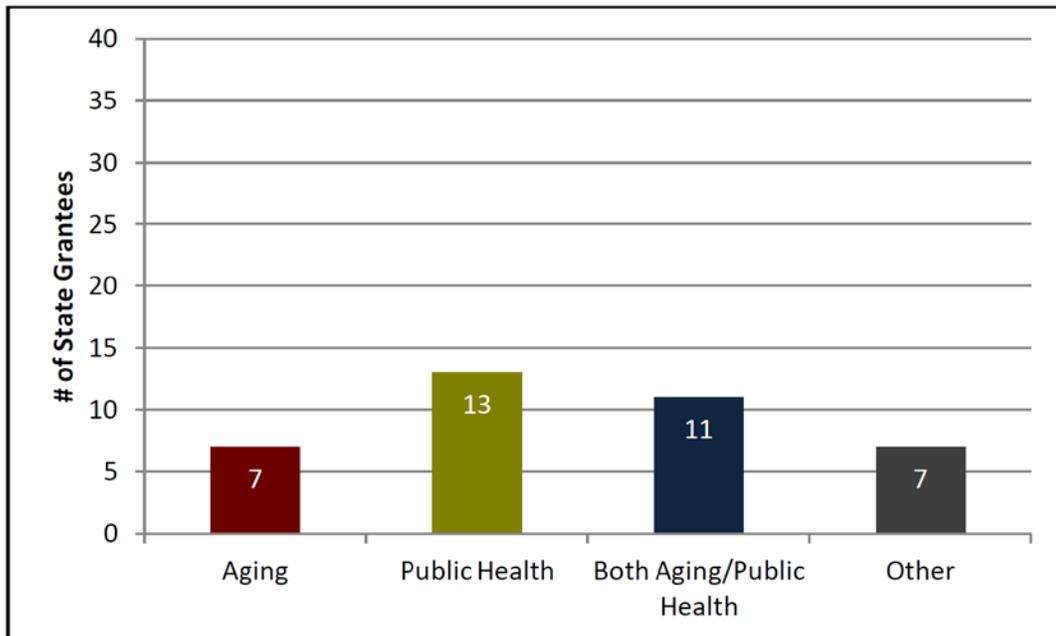
Thirty-eight state grantees hold a state-level license for CDSMP (Exhibit 5.8). The types of state-level agencies holding licenses are shown in Exhibit 5.9. In the 9 remaining states AAAs or other regional-wide host sites were typically the license holders.

Exhibit 5.8. Ownership of CDSMP Licenses



Source: IMPAQ International and Altarum Institute

Exhibit 5.9. State-Level Ownership of CDSMP Licenses, by Agency



Source: IMPAQ International and Altarum Institute

There appears to be a trend towards increased use of multi-site licenses at either the state or regional levels, although some grantees disagree with this approach. Many grantees said that CDSMP licensing costs can be a barrier for community organizations with limited budgets, especially when other evidence-based programs are available free of charge (e.g., programs offered by the Arthritis Foundation).¹⁹ In contrast, Ohio encourages sites to purchase their own licenses and sees this as a strategy to enhance CDSMP availability and sustainability in the event state funding becomes unavailable. Ohio sites that have obtained their own licenses include the Veterans Administration Medical Center and Jewish Family Services, both of which are well funded. Some grantees reported difficulty in obtaining a CDSMP license and said this contributed to difficulties in meeting goals for workshops and participant completion rates.

5.4 Program Fidelity

An important aspect of the process evaluation was to assess the extent to which ARRA-funded grantees have been able to maintain program fidelity, or adherence to the intent and design of CDSMP, to achieve the benefits to participants obtained in the original clinical studies conducted by Stanford University. Fidelity as described by Stanford involves numerous features: selecting and training program personnel, workshop trainers, and leaders, delivery of CDSMP workshops, and oversight and retraining of leaders over time. Initial studies conducted by Stanford included participants of varying ages. AoA has a particular interest in understanding the extent to which grantees have been able to maintain fidelity for delivery of CDSMP for adults aged 60 and older in community settings. All state grantees were required to maintain and monitor fidelity as part of the ARRA-funded awards.

Stanford University has developed a list of 144 “must do” and 49 “nice to do” fidelity standards for delivery of CDSMP, published in the *Program Fidelity Manual*²⁰ issued in May 2010 (Exhibit 5.10). The Stanford Self-Management Fidelity Tool Kit, including a Fidelity Checklist, was issued concurrently. “Must do” standards range from instructions for minimum and maximum class size, to buddy matching approaches for group problem solving, emphasis on strict adherence to the curriculum, and more. Leaders are encouraged to follow Stanford’s CDSMP delivery standards and to seek review of any adaptations from the program’s designer, Dr. Kate Lorig.

¹⁹Stanford offers single licenses for a single program in one language for \$500 (up to 30 workshops and 6 leader trainings) or \$1,000 (up to 90 workshops and 12 leader trainings). Multiple-program licenses that allow an organization to offer more than one Stanford self-management program (e.g., CDSMP and *Tomando Control de su Salud*) are available for \$1,000 (up to 75 workshops (all programs) and 6 leader trainings) or \$1,500 (up to 120 workshops (all programs) and 12 leader trainings). Multi-site licenses are available for \$8,000 that allow states to offer up to 200 courses a year for three years; mix and match multiple programs; and include as many organizations as desired. Organizations that cannot afford the fees are encouraged to contact Stanford for a fee reduction.

²⁰ *Program Fidelity Manual*, Stanford Self Management Programs, May 2010. Available at <http://patienteducation.stanford.edu/>

Exhibit 5.10. Fidelity Standards

Fidelity Standards	Must Do	Nice to Do
<u>Fidelity in Choosing Personnel</u>		
Personnel Overview	4 items	2 items
Program Coordinator	6 items	1 item
Leader	15 items	7 items
Master Trainer	11 items	10 items
T-Trainer	9 items	2 items
<u>Fidelity Before Leader or Master Training</u>		
Before Leader Training	27 items	2 items
Before Master Training	24 items	See: Selecting Leaders, Master Trainers, T-Trainers
<u>Fidelity During Training</u>		
Leader Training	17 items	2 items
Counseling Leader Out of Program	12 items	-
Master Training	4 items	4 items
<u>Fidelity After Training</u>		
Leaders	3 items	3 items
Master Trainers	2 items	8 items
<u>Fidelity During Workshops</u>		
During Workshop	3 items	5 items
<u>Fidelity for Leader & Master Trainer</u>		
<u>Retention</u>		
Retention	5 items	3 items
After Workshop	2 items	-

Stanford’s fidelity standards are numerous and the relative importance of various items, alone or in combination, has not been studied. Some grantees—as well as some host and implementation sites—reported that the large number of standards was cumbersome and presented challenges in their efforts to monitor and maintain fidelity. Some states called for simplification or consolidation of standards to facilitate offering CDSMP workshops. Rural areas, in particular, found standards for class size, leader trainings, updates, and workshop delivery to be difficult in sparsely populated areas where demand for CDSMP was limited.

5.4.1 Challenges to Fidelity

While grantees reported understanding the importance of maintaining fidelity of their CDSMP programs, most recounted problems and challenges at the state, regional, and local levels relating to serving the older adult populations. Attendance among individuals with chronic conditions could be interrupted by health and health care needs. Transportation often posed problems for older adult participants, especially those in rural areas or during poor weather conditions (heat in the summer in southern states, and snow and ice in northern regions).

Host and implementation sites typically addressed workshop participation by individuals with special needs on a case-by-case basis. Workshop leaders at several sites noted their preference to “mainstream” individuals with visual or hearing impairments, dementia/cognitive impairments, behavioral health conditions, or limited literacy, and include these individuals in workshops, where other participants often stepped in to assist them. One respondent noted, however, that individuals with behavioral issues could be disruptive, depending on their condition. At one site an individual with traumatic brain injury likely to benefit from the workshop was asked to leave as his behaviors were disruptive to the class.

Meeting Stanford’s class size requirements for a minimum of 10 and a maximum of 16 participants per workshop was a common fidelity challenge across all grantees. The evaluation team used data reported to NCOA by sites to assess class size and found significant fidelity issues in this area (see analysis presented in Appendix G).

5.4.2 Fidelity Monitoring

All grantees were required to address fidelity as described by Stanford program developers. The methods and approaches they used varied widely and represented differing degrees of complexity and resource intensity. Despite these variations, there is a lack of information about the relationship of fidelity monitoring approaches to actual fidelity and CDSMP program outcomes, even by Stanford developers. Examples of fidelity monitoring used by state grantees and their sites are provided below.

New Jersey and Massachusetts, states with established programs, developed customized fidelity monitoring tools and approaches.

- **New Jersey** established its own protocol for fidelity monitoring and developed instruments/checklists from national materials customized for its state. The state observes peer leaders training and completes and maintains a checklist. Master trainers are required to observe the first workshop of their trainees, and maintain records of this effort. A refresher course including observation and feedback for peer leaders was developed in 2012. The state also convenes annual in-service days and webinars for master trainers and is available for ongoing technical assistance and support.
- In **Massachusetts**, the Department of Public Health contracted with the University of Massachusetts Donahue Institute to develop a Fidelity Monitoring and Continuous

Quality Improvement Plan. The plan includes three sections. Section I is comprised of commonly asked questions about program fidelity, definitions, and references. Using the National Institute for Health's Behavior Change Consortium framework, Section II charts the plan's fidelity tools, level of responsibility, and fidelity processes. Section III includes fidelity forms and checklists to facilitate fidelity adherence and standardize data collection.

Most grantees use more basic fidelity monitoring approaches that require fewer staff and resources. Many reported that master trainers or others observe at least one workshop by new trainers to monitor fidelity. Sometimes observations were combined with use of checklists, for example, the Stanford Fidelity Checklist or a state adaptation of the checklist. Other examples are provided below.

- **Wisconsin** uses 12 fidelity coaches to oversee fidelity across the state for CDSMP and other evidence-based programs. These coaches observe classes and assess them using a fidelity tool similar to that developed by Stanford program developers. Program staff report that their programs, initiated in 2004, had fidelity concerns in the early years, and they contacted Dr. Kate Lorig about them. Many of the areas of focus in Stanford's current fidelity tool are reportedly based on issues Wisconsin staff brought to her attention.
- **Washington** posts fidelity materials on the CDSMP website co-developed and provided by Oregon, Idaho, and Alaska (see <http://livingwell.doh.wa.gov/>). One AAA in the state reportedly uses a "mystery shopper" who attends workshop sessions and reports observations back to the program.
- **New Hampshire** uses a self-assessment survey developed by the state's AHECs to monitor fidelity as the state does not have funds and master trainers do not have time to conduct onsite monitoring of leaders.
- **Colorado** started to use master trainers to conduct fidelity checks, but found this was not feasible in rural areas. Shifting its approach, the state had leaders videotape workshops for master trainers to review. This grantee also developed a Colorado-specific fidelity manual.

State grantees with centralized CDSMP delivery structures were more likely to include some level of central fidelity monitoring, providing more standard oversight than in states with decentralized delivery structures. Centralized program oversight was often based in the state's department of public health or aging. Decentralized oversight was likely to be delegated at the AAA region. Decentralized monitoring allows more local control, but can result in greater variation across regions than centralized state approaches.

Maintaining a cadre of trained and certified leaders was identified as a challenge by some grantees, particularly those serving participants in rural areas. Due to low population density in rural areas it is can be difficult for workshop leaders, especially volunteer leaders, to facilitate a sufficient number of workshops to maintain certification over time. Additionally, trained

volunteers who do not have regular opportunities to facilitate workshops often lose interest and drop out of the trainer pool.

5.4.3 Adaptations

State grantees and sites are expected to follow Stanford’s standards for CDSMP. Grantees and sites understand the importance of this directive; however, grantees reported making adaptations and accommodations such as those listed in Exhibit 5.11. Stanford does request that adaptations be submitted for comment and Stanford will comment on those that it does not deem permissible. The most common adaptation reported was allowing smaller class sizes in rural areas due to problems enrolling a sufficient number of participants in sparsely populated areas. The majority of state grantees acknowledged that class size requirements were difficult to meet due to transportation and recruitment.

Exhibit 5.11. CDSMP Adaptations/Accommodations Reported by State Grantees and Sites

Common Adaptations/Accommodations to CDSMP
<p>Smaller class sizes in rural settings. In rural settings class sizes ranged from 1 to 20, with the average class size of 12.</p> <ul style="list-style-type: none">▪ Temporary class size exception for workshop of 6 homeless individuals and a class of 8 incarcerated individuals.▪ Some changes to the first class to address problems with participant retention. For example, one site postponed the first class until at least 10 participants could attend.▪ Program name changes to increase interest. For example, one grantee changed the program’s name to “Take Charge of Your Health: Live Well, Be Well.” Another grantee changed the name to “Are You Sick and Tired of Being Sick and Tired?”▪ Some faith-based groups use opening and/or closing prayer.▪ Voluntary 6-month participant reunion meetings provided opportunities for participants to reconnect, socialize, and compare progress since workshop completion.▪ Tracking stick to designate speakers/discussants used for Navajo populations.▪ Starting classes late if transportation issues arise.▪ Shorter class times are sometimes requested, and some classes may skip breaks in order to reduce the overall class time needed.▪ Postponing class when there is a death in a tribe (cultural sensitivity).▪ Allowing some participants to maintain the same partner instead of changing partners at each workshop session.▪ Leaders supplement CDSMP script with their own experiences to “personalize” the sessions.

Source: IMPAQ International and Altarum Institute

5.5 Partners

State grantees have established relationships with diverse partner organizations in their efforts to market and deliver CDSMP. Partnerships with AAAs were common and provided essential networks for CDSMP marketing, enrollment, delivery, data collection, and management. In many states AAAs also served as ADRCs, facilitating direct referral to CDSMP through their service provision partners. Other common partner organizations included other state programs, particularly state and local departments of public health, Area Health Education Centers and their networks; provider organizations including community hospitals, Veterans Affairs Medical Centers, health plans, community health centers, physician groups; universities and community colleges; and community-based organizations such as YMCAs, churches, and other faith-based organizations.

Grantees also reported some unusual partners, including departments of corrections and parks and recreation, public libraries (in rural areas), fire stations, and mental health clinics. Most of the more unusual partners were selected as a means of reaching specific target populations-- for example, inmates at local prisons, older adults at risk for or who had used emergency medical services through fire stations, individuals with serious mental illness, and others. New Jersey, with funding from the Office of Minority and Cultural Health, reported partnering with the New Jersey Sickle Cell Association. While this partnership serves individuals below age 60, it provides ready access to individuals with this chronic condition likely to benefit from CDSMP. Successful behavior change outcomes were reported in these settings, anecdotally in most cases, leading to ongoing partnerships with these unconventional organizations.

Medicaid programs and local philanthropic foundations were also named as partners. Foundations such as Tufts Health Plan Foundation and Health Foundation of South Florida have provided significant funding for program development and implementation. Examples of partner organizations are shown in Exhibit 5.12.

Exhibit 5.12 CDSMP Partner Organizations

Partner Organizations
<ul style="list-style-type: none">▪ Departments of Public Health▪ Networks (AAAs, AHECs)▪ Hospitals▪ Veterans Administration Medical Centers▪ Health Plans▪ Community Health Centers▪ Physician Groups▪ Senior Housing▪ Universities and Community Colleges▪ YMCAs▪ Faith-based organizations▪ Other state agencies (Medicaid, Corrections, Parks and Recreation)▪ Other community organizations (libraries, fire stations, mental health providers)▪ Local philanthropic foundations

Source: IMPAQ International and Altarum Institute

Grantees' selection of partners reflected historical relationships, capacity, and willingness to participate and coordinate efforts among state and local agencies and networks. Typically, grantees sought out and engaged groups with capacity and experience in reaching and serving older adults, for example AAAs and senior centers. However, grantees seeking to serve populations such as cultural/ethnic minorities or older adults in rural areas developed partnerships with organizations already serving these groups. Oklahoma partnered with libraries in rural communities, several states reported partnering with churches to reach older African Americans, and states such as New Hampshire and New Mexico leveraged relationships developed by the AHEC programs serving rural and underserved individuals. As one respondent advised on partner selection,

"Go where the enthusiasm is. The answer is in the community..."

--Statement by host site staff during evaluation team interview

5.5.1 Departments of Public Health

Sixteen grantee awards were made to state public health departments and many had prior experience in offering CDSMP, the Diabetes Self-Management Program (DSMP), and/or the Arthritis Self-Management Program (ASMP) with funding from the CDC (one state, Vermont, reported providing the Chronic Pain Self-Management Program in one community region). Even when departments of aging were the primary awardees of ARRA funds, state and local health departments were important contributors and supporters of CDSMP. The aging-public health partnerships were especially close when these agencies were organizationally located within

the same umbrella agency at the state level. Such arrangements often enabled sharing of resources and infrastructure for data collection, evaluation, program development, and more. Some examples include:

- The **Arkansas** CDSMP grantee is in the state’s Department of Public Health, which worked closely with the Department of Aging during the ARRA grant award. The Department of Public Health had provided CDSMP and DSMP on a limited basis for several years prior to the ARRA awards. Prior to the ARRA award the CDSMP director had been a Public Health DSMP trainer.
- **Puerto Rico’s** CDSMP grant was awarded to the Department of Health. ADRCs are part of an Advisory Committee of public, private, and community-based organizations used to market CDSMP, enroll participants, and deliver the program.

5.5.2 Area Agencies on Aging

AAAs served as host sites as well as coordinated program implementation by other organizations, from community hospitals and clinics to senior housing, community-based organizations such as churches and YMCAs, and others. Where AAA networks exist, states typically used their resources and existing partnerships, statewide or in specific regions, to support the CDSMP program. Washington reported that ARRA funding allowed the state to expand CDSMP to four additional AAAs. The AAAs played critical roles in states with all three (centralized, decentralized, and mixed) program delivery models.

All AAAs make available basic, core services for older adults (information and referral assistance, legal assistance, transportation, meal services (both congregate and home-delivered), and family caregiver support services) as required by the Older Americans Act. However, the capacity and capabilities of AAAs varied considerably. Some AAAs deliver services directly while others deliver those services through arrangements with local service providers. States like New Jersey and North Carolina were able to build on well established AAA organizations with robust data collection and evaluation capabilities. Other states provided CDSMP through a mix of well developed AAAs and smaller AAAs with more limited resources, particularly those located in many rural areas. Many of the AAAs provided not only CDSMP, but other self-management programs such as DSMP or ASMP, as well as other evidence-based community-based programs and, therefore, had an already established presence in the community.

Grantees also offered CDSMP through community-based AAA partners and outside organizations, in various roles and configurations. Oftentimes AAAs also functioned as ADRCs; with their “no wrong door” and “single point of entry” approach to information and referrals for long-term services and supports, ADRCs can be excellent partners for recruiting and referring CDSMP participants. Examples of AAA partnerships include these:

- **Ohio’s** AAAs are also ADRCs, providing direct referrals for workshops. Other partners include the VA Medical Centers, Ohio’s Public Employees Retirement System, and Miami University School of Nursing, among others.

- In **Hawaii**, the AAAs and the University of Hawaii work together in a partnership established through the Department of Health. Each AAA has a local steering committee to help shape program delivery, while the University leads evaluation and fidelity monitoring activities, including pre-post testing of social and role activity limitations and communications with physicians, self-rated health and time spent engaging in exercise, self-reported physician visits, ability to cope with symptoms, and self efficacy across different populations in the state.
- The **Arizona** Department of Health Services, the CDSMP grantee, delegated funds to three organizations to provide statewide coverage. Host sites include AAAs, behavioral health organizations, county health departments, and local faith-based organizations.

5.5.3 Providers

A variety of provider types have partnered with CDSMP grantees. These partnerships have typically been developed at the local level through grantee outreach to individuals or organizational leaders, or have evolved as a result of local, regional, or state coalitions established to coordinate community health and aging services. Some grantees report they have had solid, impressive experiences with workshop leadership, continuity, and stability when partnered with provider organizations. Veterans Administration Medical Centers provide CDSMP on site or through community referral in Ohio, Arizona, and New Mexico. FQHCs in Vermont, physician groups in Rhode Island, and nursing students from local colleges and universities have provided CDSMP in Ohio and New Jersey. Vermont’s statewide health care reform initiative, *Blueprint for Health*, is anchored around the state’s hospital network and their local community health coalitions. Vermont developed its *Blueprint* from a chronic care model and has embedded CDSMP as part of this reform from its launch in 2003.

Partnering with public and private health plans is a topic raised by several grantees, but to date few have consummated successful arrangements. Many health plans are familiar with CDSMP and its proven benefits to both participants and the health plan; referral to community-based providers is a “win-win” for all. Health plan referrals and reimbursement strategies being pursued by state grantees are discussed in more detail in Chapter 8.

5.5.4 Colleges and Universities

Grantees have partnered with colleges and universities for assistance with data collection and evaluation, but these groups frequently support CDSMP program implementation and delivery as well. Student nurses are being trained to deliver CDSMP in at least two states (New Jersey and Ohio), although it is too early to know whether nurse training is having an impact on professional awareness, the availability of leaders, and patient referrals. Adult education classes in Los Angeles, California, offer CDSMP training to students. In Kansas, interns from Wichita State University provide hands-on program support as well as research support, and

the University of Missouri Extension program is an implementation partner through its eight regional offices in Missouri.

5.5.5 Community-based Organizations

A wide range of community-based organizations including YMCAs, United Ways, Jewish Family Services, senior housing and assisted living programs, churches, and other faith-based organizations have partnered with grantees in a number of states. These organizations usually serve as implementation sites for CDSMP. Grantees reported providing the program at libraries, bowling alleys, fire stations, prisons, and mental health clinics, all to increase accessibility and with positive results. Offering CDSMP through mental health clinics is reported to lead to better self management of chronic mental illness by participants living in community settings. Reports on these populations are anecdotal and will require further study.

5.5.6 Other State and Local Agencies

State agencies including departments of corrections and departments of parks and recreation have partnered with grantees, as well as state offices of minority health. Early experience offering CDSMP to inmates is reported to have resulted in improved self-management behaviors. One respondent reported that CDSMP has helped inmates more effectively advocate for themselves as well as for family members. Several grantees reported attempts to partner with state Medicaid agencies, and have been successful receiving referrals or are investigating other arrangements to embed CDSMP in Medicaid programs and/or receive state reimbursement. Arrangements with Medicaid have been slow to develop but appear to hold potential for future program delivery and sustainability.

5.5.7 Local Philanthropic Foundations

Local foundations offer additional CDSMP partnership options. Many local foundations share community health and wellness missions and in some cases have initiated evidence-based programming as part of their larger organizational offerings. Notable examples are the Amherst H. Wilder Foundation in Minnesota, which has become a partner in delivery and program funding, and Health Foundation of South Florida, which has invested substantial funding in support of CDSMP and other evidence-based community-based programs. Health Foundation of South Florida launched the Healthy Aging Regional Collaborative in 2008 with \$7 million in foundation funds, providing CDSMP and other classes and programs that have been attended by 17,000 older adults.

5.6 Expanding CDSMP to New Populations

An explicit objective of AoA's ARRA grants was to support grantees in their efforts to provide CDSMP to diverse and underserved older adult populations. Grantees addressed this requirement in several ways, reflecting the demographic, geographic, organizational, and historical arrangements in their states, and reported serving cultural/ethnic minorities,

individuals with low incomes, rural populations, incarcerated individuals, persons with mental illness, and others.

Many grantees used ARRA funds to offer or expand availability of CDSMP to populations with limited access to CDSMP. States with mature delivery infrastructure in place were generally most successful reaching new groups, as easier to reach populations were already being served. Newer, less developed programs often reported successful implementation in terms of marketing and offering workshops to build general program capacity at the community level. States where self-management programs or other evidence-based programs have been offered through previous federal, state, or other grants were able to readily incorporate CDSMP with their other offerings. For example, New Mexico's partner organization, Southern AHEC (SAHEC), offered CDSMP and *Tomando Control de su Salud* near the Texas border on a limited basis from 2003-2007 through its *promotora* program. While the early CDSMP programs were not sustainable, the early presence as part of the local *promotora* program facilitated re-entry of CDSMP with ARRA funds. The SAHEC partnership also facilitated access to participants in this region.

5.6.1 Underserved Groups

Non-Hispanic White females were the overwhelming majority of participants served by all state grantees. However, ARRA funding was credited with expansion of CDSMP to many populations that have been traditionally challenging to reach for health promotion activities. ARRA funds helped grantees to serve Hispanic-Latino/a populations and rural residents in Oregon; Native American and tribal groups in Colorado, Michigan, New Mexico, Utah, Pennsylvania, Minnesota, Oklahoma, and Maine; African Americans in churches and senior centers in Arkansas; and Somali women in Minnesota and Maine. Grantees in Puerto Rico, Rhode Island, Oklahoma, Kentucky, Delaware, New Jersey, and Virginia reported serving individuals in correctional facilities.

5.6.2 Linguistic Minorities

Pennsylvania provided two Chinese language workshops, Illinois delivered CDSMP in Hindi, and Hawaii reported targeting Micronesian groups. The Maryland grantee offered CDSMP to South Americans in Spanish as part of a Breast Cancer initiative. Georgia currently offers workshops in Korean and Vietnamese. For many languages, translations of CDSMP program materials are available through the Stanford website. Working with Dr. Kate Lorig, developer of Stanford's CDSMP, a AAA in Maine translated and adapted CDSMP for use with the Somali community. The adaptation involved reducing class size to accommodate cultural norms allowing participants to fully express their needs. A Hawaii host site reports having modified the program for Asian and Pacific Islander communities, providing supplemental books in Hawaiian, Ilocano, and Chinese, and providing additional support to participants outside class time. Other adaptations reported in Hawaii include program name changes due to language, use of an opening prayer, and six-month reunions.

The New Jersey Office of Minority and Cultural Health has funded 26 agencies to deliver CDSMP since 2008. As a result, CDSMP has been offered in seven languages and has been targeted to Latinos, African Americans, Koreans, and members of other ethnic minority groups.

Grantees also reported serving other, non-linguistically diverse special populations. Grantees in Rhode Island and Kentucky served homeless individuals. Grantees have also targeted CDSMP to individuals with developmental disabilities and obese individuals. Georgia has not yet but would like to offer the workshops to individuals with HIV, early stage dementia, mental health issues, and incarcerated individuals. Several state grantees that reached out to rural areas reported challenges marketing the program and addressing transportation issues to ensure participation in the workshops.

Respondents in several states recognized the additional effort required to reach these priority populations. While all grantees and host sites stated their commitment to continue serving these diverse groups, some expressed concern about their ability to continue to serve their needs with the expiration of ARRA funds. Maintaining workshop leaders with special cultural or linguistic skills was identified as a concern without leader stipends and other resources to support marketing and outreach in communities of interest. Many leaders with these skills are volunteers from the communities themselves, with low incomes, and are unable to participate without these resources.

5.7 Post-ARRA Changes

For many grantees the end of the ARRA funded period of performance on March 31, 2012, raised questions about potential impacts on delivery systems and infrastructure building as well as the future of CDSMP programs overall. Of particular interest to AoA is understanding the extent to which states will continue to offer the CDSMP program, and to what extent delivery will be impacted by the change.

Delivery models, infrastructure, and communication and referral networks are not expected to change significantly with loss of ARRA funding. States that report that they expect changes as a result of reduced funding reported making efforts to recruit health systems and other more “stable” delivery partners. A few grantees reported that partners would likely drop the program given competing interests or priorities and/or the availability of less resource intensive wellness and prevention programs. Almost all grantees report anticipated decreases in number of workshops offered and inability to expand reach to new areas or populations.

Among grantees with private sector delivery partners, there is increased focus on securing partnerships with health systems, health insurance groups, and other larger partners with their own funding sources. In most cases, grantees have reached out locally in the attempt to recruit these partners, or have contacted partners through local, regional, or state coalitions. States

report that a challenge to recruitment is the general lack of research on program impact specific to their state population, limited understanding of existing evaluation results, and limited availability of information about cost effectiveness and return on investment (ROI) associated with CDSMP needed to persuade partners of the value of CDSMP. Additionally, considerable focus is being placed on partners with the ability to sustain CDSMP on their own. However, overall communications and referral networks are expected to be stable. Grantees report that some AAAs and other partners will stop offering CDSMP if there is no funding. These partners are usually community-based organizations or public agencies that have limited operating budgets or anticipate funding cuts that render the organizations unable to make long-term commitments to support ongoing programming.

Some grantees reported that they will purchase licenses at the state level rather than rely on regional- or site-level organizations to purchase licenses. Grantees also reported increasing use of MOAs with partners, master trainers, and leaders. Many reported they were continuing existing approaches for resource allocation, but would increasingly rely on lending libraries for program materials. Some stated they are considering charging a nominal fee for classes and books, decreasing or eliminating stipends for leaders, and eliminating transportation support. Additionally, there is expected to be a considerable shift in funded staff, with many state-level and regional-level coordinators either reducing time spent on CDSMP, shifting to other funding mechanisms, or being removed from the program completely. In many cases, grantees reported that any available funds will be directed towards books and supplies rather than toward coordinator or other staffing support. One approach considered embedding the CDSMP by training staff in public agencies or organizations where CDSMP can be considered part of the individual's salaried (or volunteer) position.

Grantees report further training of master trainers or lay leaders will be reduced and expect difficulty meeting the requirements following Stanford's recent revision of the CDSMP manual once their current licensing agreements end. To maintain fidelity, if sites renew their licenses or apply for new licenses they will have to use the updated version of the CDSMP manual and curriculum.

Fidelity monitoring is generally expected to decrease across the grantees, particularly for those with centralized systems. State level coordinators generally expect to shift the majority of responsibility for fidelity to the regional/host partners. Regional/host agencies are attempting to maintain current levels of monitoring, but expect some difficulty doing so.

CHAPTER 6: PROGRAM COMPLETION RATES

Research Question 3: *What are program completion rates, in general and by important sub-groups? What barriers and supports affect the existing completion rates?*

Key Findings

1. **The average completion rate for CDSMP participants was 75 percent.** However, average completion rates varied from 63 percent in Oregon to 86 percent in Oklahoma. Completion rates for individuals aged 60 and older were slightly higher than for those under age 60 (77.2 percent compared to 74.5 percent). At 77 percent, female participants had higher completion rates than males. Workshops that were held by faith-based organizations had the highest completion rates of any type of implementation site.
2. **Completion rates varied by type of program oversight.** States that instituted a centralized model to oversee CDSMP had the highest completion rates for participants under age 60 (75.4 percent) and over age 60 (79.3 percent). Average completion rates were slightly higher for programs led by state units on aging than for programs led by public health agencies.
3. **Individuals with certain chronic conditions were more likely to complete CDSMP.** Individuals reporting hypertension and osteoporosis had greater odds for completion, suggesting that targeting these populations could have a high pay-off. Not unexpectedly, individuals reporting depression were less likely to complete CDSMP, suggesting the need for more supports for this population.
4. **Smaller workshops tend to have higher completion rates.** Participants in smaller workshops (i.e., with no more than 5-6 participants) had significantly higher completion rates. Greater camaraderie and peer pressure combined with possibly more individualized attention from leaders may explain the higher completion rates.
5. **Completion rates in non-metro areas were higher than in metro areas.** This was despite rural barriers such as public transportation, long distances to classes, and a greater impact of inclement weather reported by grantees. This bears further study and may be, in part, due to these sessions also having fewer participants. (See the previous bullet.)
6. **Leader experience matters.** Participants who attended workshops with leaders who taught a workshop in the previous quarter or with leaders who had taught together previously had higher odds of completion.
7. **Completion rates were higher for Spanish language CDSMP (*Tomando Control de su Salud*).** Cultural elements included in the Spanish language CDSMP curriculum may have a positive effect on completion rates and should be examined more carefully for applicability to English language CDSMP.
8. **The relationship between Class Zero and completion rates is unclear.** Regression analysis did not find strong evidence that participation in Class Zero improved the odds of completing CDSMP. Participants in workshops that offered an introductory Class Zero had slightly higher completion rates than other participants (75.8 percent compared to 74.7 percent) and the difference is statistically significant. Taken together this suggests that additional research is needed about for which populations and in which situations Class Zero might prove beneficial.

6.1 Introduction

To monitor program participation, states tracked the cumulative number of program participants, the cumulative number of completers, and aggregate completion rates during the ARRA grant period. Completers were defined as participants who attended four or more of the six sessions of a CDSMP workshop. In their ARRA grant applications, grantees set goals for participants, completers, and completion rates and then measured progress against these goals.

It is important to note that participants may benefit from CDSMP workshops even if they are not “completers” (i.e., participants who complete at least four of the six sessions). For example, some participants who attend only two or three sessions may be sufficiently encouraged and/or equipped to take better care of themselves and thus benefit from having participated in CDSMP. AoA and CMS are planning more extensive studies of CDSMP participants—including analysis of Medicare administrative data—that will address the extent to which “non-completers” benefit from CDSMP.

To address Research Question 3, the research team examined variations in completion rates over time and by participant and program characteristics. For example, completion rates can be related to the stage of program implementation (developmental versus mature program), the quality of the state’s infrastructure and delivery system, and the characteristics of program participants. Understanding the factors that seem to influence completion rates can guide future improvements in program delivery.

Section 6.2 presents an analysis of completion rates reported to NCOA. This section examines factors that influence completion rates, each looked at independently. Appendix E examines CDSMP completion rates by AoA region. In Section 6.3, we present findings from a series of regression analyses that were designed to examine the influence of multiple factors on workshop completion, such as participant characteristics, workshop-related information, and differences in program administration or funding. Section 6.4 summarizes findings from these two analyses.

Data sources used to conduct the following analysis of completion rates include site visits and telephone key informant discussions, grantee progress and final reports, and program data submitted by the states to NCOA, the technical assistance contractor. Program data are for the period April 1, 2010, to March 30, 2012, only. Some grantees received no-cost extensions to their ARRA grants and therefore had additional time to achieve their participant and completer goals; this is not captured in our analysis.

6.2 Completion Rates for ARRA Grantees

CDSMP completion rates varied from 63 percent in Oregon to 86 percent in Oklahoma. The average completion rate across the 45 grantees offering CDSMP was 75 percent (Exhibit 6.1).

A majority of state grantees met or exceeded their goals for number of completers during the ARRA grant period. Twenty-nine grantees exceeded their completer goals by 100 to 199 percent. For example, Alabama indicated in their ARRA grantee application that they hoped to have 800 completers over the course of the funding period. By March 2012, Alabama had 1,453 completers, 182 percent of their original goal. Nine state grantees exceeded their completer goals by 200 percent or more. Alaska, for instance, set a goal of 52 completers over the course of the ARRA funding period. By March 2012, 287 participants had completed CDSMP—552 percent of the state’s original goal. Seven states did not meet their completer goals during the original project period: New York, North Carolina, Ohio, Pennsylvania, Tennessee, Texas, and West Virginia. With no-cost extensions to their grants, all states, with the exception of Tennessee, were able to meet their participation and completion rates/goals by the end of 2012.

Grantees used a variety of strategies to increase the number of completers. Many provided transportation for participants or offered taxi vouchers or gas reimbursement to mitigate this barrier. Grantees also reported holding workshops at locations where people congregate, such as churches and community centers. Additionally, some grantees shared that they provided small incentives to participants, such as certificates, coffee mugs, pens, and notepads, to encourage them to attend sessions. Leaders reported that small incentives such as these were quite effective in promoting a spirit of community and friendly competition among participants

For grantees who did not reach their completer goals, key informants indicated that common barriers encountered by participants were transportation, particularly in rural areas, inclement weather, illness, and the length of the program which, at six weeks, can interfere with other commitments. Efforts to recruit and provide CDSMP to new or difficult-to-engage populations, e.g., low literacy groups, were also reported to affect completion rates. This is not to say that sites should avoid expanding to new areas or populations, but rather that they should take such expansions into account when developing participation and completion goals.

Exhibit 6.1. State Goals for CDSMP Participants and Completers, April 2010 to March 2012

State	Number of Participants (a)	Number of Completers (b)	Completion Rate (%) (c) = (b)/(a)	Completer Goal* (d)	Percent of Goal (e) = 100*(b)/(d)
Alabama	1,855	1,453	78%	800	182%
Alaska	434	287	66%	52	552%
Arizona	1,789	1,302	73%	800	163%
Arkansas	857	638	74%	500	128%
California	9,361	6,448	69%	2,975	217%
Colorado	922	670	73%	500	134%
Connecticut	934	711	76%	500	142%
Florida	4,913	3,932	80%	2,975	132%
Georgia	2,200	1,663	76%	1,200	139%
Hawaii	608	475	78%	300	158%
Idaho	1,297	899	69%	300	300%

State	Number of Participants (a)	Number of Completers (b)	Completion Rate (%) (c) = (b)/(a)	Completer Goal* (d)	Percent of Goal (e) = 100*(b)/(d)
Illinois	4,226	2,964	70%	2,975	100%
Indiana	1,248	968	78%	800	121%
Kansas	1,062	861	81%	500	172%
Kentucky	1,323	990	75%	800	124%
Louisiana	648	507	78%	500	101%
Maine	673	500	74%	300	167%
Maryland	1,838	1,379	75%	800	172%
Massachusetts	2,317	1,792	77%	1,200	149%
Michigan	5,142	3,800	74%	2,975	128%
Minnesota	1,404	1,050	75%	800	131%
Mississippi	850	658	77%	500	132%
Missouri	2,315	1,640	71%	800	205%
Nebraska	481	395	82%	300	132%
Nevada	484	348	72%	300	116%
New Hampshire	532	382	72%	300	127%
New Jersey	3,942	3,010	76%	1,200	251%
New Mexico	1,065	833	78%	300	278%
New York**	3,716	2,821	76%	2,975	95%
North Carolina**	2,653	2,033	77%	2,975	68%
Ohio**	3,013	2,381	79%	2,975	80%
Oklahoma	2,324	1,997	86%	500	399%
Oregon	3,017	1,896	63%	500	379%
Pennsylvania**	3,683	2,936	80%	2,975	99%
Puerto Rico	619	521	84%	500	104%
Rhode Island	508	388	76%	300	129%
South Carolina	1,670	1,251	75%	800	156%
Tennessee	1,190	883	74%	1,200	74%
Texas**	2,105	1,495	71%	2,975	50%
Utah	2,115	1,511	71%	300	504%
Vermont	948	645	68%	139	464%
Virginia	2,325	1,794	77%	1,200	150%
Washington	2,165	1,615	75%	800	202%
West Virginia**	520	403	78%	500	81%
Wisconsin	2,570	1,859	72%	800	232%
Total	89,861	66,984	75%	48,666	138%

*Completer goals, determined by AoA and published in the CDSMP Program Announcement, were based on the number of Medicare beneficiaries residing in the state.

**These state grantees met their completer goals after March 2012 during no-cost extensions to their grant periods.

Source: NCOA data and AoA

AoA programs target individuals who are aged 60 and older; however, grantees were permitted to serve individuals younger than age 60 with ARRA funds. As shown in Exhibit 6.2, completion

rates for participants aged 60 and older were slightly higher than for the younger population (77.2 percent compared to 74.5 percent). The difference is statistically significant.

Exhibit 6.2. CDSMP Workshops and Completion Rates by Participant Age

Age Group	Number of Participants	Number of Completers	Completion Rate (%)
Under 60	22,043	16,430	74.5%
60+	57,870	44,648	77.2%
Total†	79,913	61,078	76.4%

Note: Excludes participants with missing date of birth.

†The difference in completion rates between “under age 60” and “60 and older” age groups (2.7 percentage points) is statistically significant at the 0.1% significance level.

Source: NCOA data

Exhibit 6.3 presents information on CDSMP workshops and completion rates by participant age and type of lead agency. Completion rates were higher for individuals participating in CDSMP operated by states with an aging lead agency than in programs offered by states with a public health lead agency. The differences were statistically significant for the aggregate and 60 and older age group, but not for the under 60 age group. This finding also holds after controlling for other factors that might affect completion rates (see Section 6.3). We are not aware of any confounding factors that correlate with type of lead agency in every state.

Exhibit 6.3. CDSMP Workshops and Completion Rates by Type of Lead Agency

Age Group	Number of Participants Aging	Number of Completers Aging	Completion Rate (%) Aging	Number of Participants Public Health	Number of Completers Public Health	Completion Rate (%) Public Health	Difference: Completion Rate (%)
Under 60	17,408	13,018	74.7%	4,635	3,412	73.6%	1.1%
60+	46,333	35,908	77.5%	11,537	8,740	75.7%	1.8%***
Total	63,741	48,962	76.8%	16,172	12,152	75.1%	1.7%***

Note: Excludes participants with missing date of birth.

(*), (**), and (***) denote the 5%, 1%, and 0.1% level of significance, respectively, for the difference in completion rates between aging and public health agencies. Lower levels of significance indicate stronger test results.

Source: NCOA data

Exhibit 6.4 shows CDSMP completion rates by type of program oversight as described in Chapter 5. Table A in Appendix H provides results of the statistical significance tests for differences in Exhibit 6.4. States with shared program oversight had significantly lower completion rates than states with centralized and decentralized program oversight for participants under age 60. However, states with decentralized program oversight had significantly lower completion rates for the aged 60 and older group. States that instituted a centralized model to oversee CDSMP activities had the highest average completion rates for

both age groups (75.4 percent and 79.3 percent), but the difference between centralized and decentralized was not significant for participants under age 60.

Exhibit 6.4. CDSMP Completion Rates by Type of Program Oversight

Organizational Structure	Number of Workshops	Number of Participants Under Age 60	Number of Completers Under Age 60	Completion Rate (%) Under Age 60	Number of Participants Age 60+	Number of Completers Age 60+	Completion Rate (%) Age 60+
Centralized	1,768	4,405	3,321	75.4%	13,164	10,440	79.3%
Shared	1,242	3,512	2,542	72.4%	9,218	7,231	78.4%
Decentralized	4,739	14,126	10,567	74.8%	35,488	26,977	76.0%
Total	7,749	22,043	16,430	74.5%	57,870	44,648	77.2%

Note: Excludes participants with missing date of birth.

Source: NCOA data

Exhibit 6.5 shows completion rates by the type of delivery system structure. The tests of statistical significance for Exhibits 6.5 are provided in Appendix H, Table B. For participants under age 60, states with mixed delivery systems had significantly higher completion rates than both states with centralized and decentralized delivery systems, although it is important to note that the estimate for states with mixed delivery systems is based on a small number of states and participants as shown in Exhibit 6.5. For participants aged 60 and older, states with centralized delivery systems had the highest completion rates which were statistically different compared to states with decentralized delivery systems, but not compared to states with mixed delivery systems.

Exhibit 6.5. CDSMP Completion Rates by Type of Delivery System Structure

Organizational Structure	Number of Workshops	Number of Participants Under Age 60	Number of Completers Under Age 60	Completion Rate (%) Under Age 60	Number of Participants Age 60+	Number of Completers Age 60+	Completion Rate (%) Age 60+
Centralized	1,147	2,305	1,697	73.6%	8,290	6,563	79.2%
Mixed	218	273	224	82.1%	1,511	1,165	77.1%
Decentralized	6,384	19,465	14,509	74.5%	48,069	36,920	76.8%
Total	7,749	22,043	16,430	74.5%	57,870	44,648	77.2%

Note: Excludes participants with missing date of birth.

Source: NCOA data

Exhibit 6.6 presents CDSMP completion rates by sex of participant. Except for the younger than 60 age group, female participants had higher completion rates than male participants. The differences were statistically significant for all age groups except for age 60 – 64. Generally, completion rates decreased as the age of participants increased.

Exhibit 6.6. CDSMP Completion Rates by Participant Age and Sex

Age Group	Number of Participants	Number of Completers	Completion Rate (%)	Number of Participants	Number of Completers	Completion Rate (%)	Difference: Completion Rate (%)
	Male	Male	Male	Female	Female	Female	
<60	5,828	4,416	75.8%	15,720	11,686	74.3%	1.5%*
60 - 64	2,078	1,584	76.2%	7,438	5,781	77.7%	-1.5%
65 - 74	4,662	3,553	76.2%	17,915	14,195	79.2%	-3.0%***
75 - 84	3,506	2,628	75.0%	14,268	11,116	77.9%	-2.9%***
85+	1,227	861	70.2%	5,539	4,077	73.6%	-3.4%**
Total	17,301	13,042	75.4%	60,880	46,855	77.0%	-1.6%***

Note: Excludes participants with missing date of birth.

(*), (**), and (***) denote the 5%, 1%, and 0.1% level of significance, respectively, for the difference in completion rates between males and females. Lower levels of significance indicate stronger test results.

Source: NCOA data

Exhibit 6.7 presents data on CDSMP completion rates by participant age and race/ethnicity. Tables C and D in Appendix H provide results of the statistical significance tests for differences in Exhibit 6.7. For participants older than 60, we did not find any statistically significant difference between participants who had Hispanic or Latino origin and participants who did not have Hispanic or Latino origin for any of the age groups. However, we found a statistically significant difference between participants who identified as not Hispanic or Latino and those who identified as Hispanic or Latino for the under 60 age group. Completion rates for Hawaiian Natives/Pacific Islanders were higher than all other races in every age category; the differences were statistically significant for the 60-64 and 65-74 age groups but not for the other age groups.²¹ While most other completion rates were generally similar with insignificant differences, African Americans had the second highest rate at 79.4 percent.

²¹ Hawaiians/Pacific Islanders constitute only a small portion of CDSMP participants overall (less than 1 percent). Sixty-three percent of Hawaiian/Pacific Islander CDSMP participants reside in Utah and the majority (99 percent) of these participants is served by two host sites. The completion rates for Hawaiians/Pacific Islanders at these two sites are 99 and 100 percent, respectively. Interestingly, only 8 percent of Hawaiian/Pacific Islander CDSMP participants in the NCOA data reside in the state of Hawaii.

Exhibit 6.7. CDSMP Completion Rates by Participant Age and Race/Ethnicity

Ethnicity/Race	Age <60	Age 60-64	Age 65-74	Age 75-84	Age 85+	Total
Ethnicity: Hispanic or Latino origin	77.4%	77.9%	79.9%	76.1%	74.0%	77.7%
Ethnicity: Not Hispanic or Latino origin	74.4%	78.1%	78.7%	77.9%	73.2%	76.9%
Ethnicity: Unknown	69.4%	70.9%	75.9%	72.7%	71.1%	72.5%
Race: American Indian / Alaskan Native	73.7%	74.1%	70.4%	72.9%	77.3%	73.1%
Race: Asian or Asian American	77.5%	76.1%	77.9%	78.2%	76.6%	77.6%
Race: Black or African American	76.4%	79.1%	79.3%	80.3%	77.5%	78.6%
Race: Hawaiian Native or Pacific Islander	82.5%	96.7%	93.5%	84.6%	93.3%	90.5%
Race: Other / Multiracial	79.4%	76.7%	79.5%	73.3%	71.9%	77.8%
Race: White or Caucasian	73.9%	76.6%	78.4%	77.1%	71.9%	76.1%
Race: Unknown Race	70.6%	73.2%	79.5%	68.8%	70.9%	71.6%
Total	74.5%	77.1%	78.4%	77.1%	72.9%	76.4%

Note: Excludes participants with missing date of birth.
Source: NCOA data

Exhibit 6.8 presents CDSMP completion rates by workshop type and location. Participants in workshops that offered an introductory Class Zero had slightly higher completion rates than other participants (75.8 percent compared to 74.7 percent) and the difference is statistically significant. Participants in Spanish language CDSMP (*Tomando Control de su Salud*) had slightly higher completion rates than participants in English language CDSMP (76.4 percent compared to 74.3 percent); the difference is also statistically significant.²² Despite the transportation challenges that many states reported in rural areas, participants enrolled in workshops outside of metro areas had slightly higher completion rates than participants attending workshops in metro areas (75.8 percent compared to 74.4 percent); the difference is statistically significant.

²² It is important to note that in the NCOA data, English language CDSMP refers to all workshops conducted in any language other than Spanish. Therefore, workshops conducted in Farsi, for instance, are categorized into the general English language CDSMP.

Exhibit 6.8. CDSMP Completion Rates by Workshop Type and Location

Workshop Type or Location	Category Value / Completion Rate	Difference: Completion Rate (%)
Class Zero	Yes: 75.8%; No: 74.7%	1.1%**
Language	English: 74.3%; Spanish: 76.4%	-2.1%***
Location/Geography	Metro: 74.4%; Non-Metro: 75.8%	-1.4%***

Note: Includes all participants.

(*), (**), and (***) denote the 5%, 1%, and 0.1% level of significance, respectively, for the difference in completion rates between the two values of the variables. Lower levels of significance indicate stronger test results.

The calculations for Class Zero exclude workshops for which the information is unavailable. The calculations for Location/Geography exclude workshops for which the information is unavailable. Metro and non-metro designations are calculated using data from NCHS and USDA ERS.

Source: NCOA data

Exhibit 6.9 shows completion rates by the type of implementation site. The tests of statistical significance for Exhibit 6.9 are provided in Table E of Appendix H. For both age groups, the completion rates are the highest for faith-based organizations. The completion rates are lowest for workshops offered at health care organizations and residential facilities. These differences can be partially explained by the type of participants served at these locations. For example, health care organizations serve the youngest participants (average age of 61.8) and residential facilities serve the oldest participants (average age of 73.4). As shown in Section 6.3, completion rates are the lowest for the very young and very old, which is consistent with the finding here. Additionally, health care organizations serve the largest proportion of males (33 percent) compared to other implementation sites (24 percent on average), and as shown in Section 6.3, males have lower completion rates than females. Finally, there is not enough evidence to suggest that the differences in completion rates among different types of sites are due to the differences in average number of chronic conditions.

Exhibit 6.9. CDSMP Completion Rates by Type of Implementation Site

Type of Implementation Site	Number of Workshops	Number of Participants Under Age 60	Number of Completers Under Age 60	Completion Rate (%) Under Age 60	Number of Participants Age 60+	Number of Completers Age 60+	Completion Rate (%) Age 60+
Area Agency on Aging	368	1,022	782	76.5%	3,167	2,486	78.5%
Faith-based organization	651	2,073	1,631	78.7%	5,706	4,547	79.7%
Health care organization	1,799	7,010	4,860	69.3%	12,478	9,067	72.7%
Residential facility	1,314	7,765	1,429	71.2%	14,160	9,859	69.6%
Senior center	1,738	2,008	1,655	76.4%	18,848	14,383	76.3%
Other*	1,879	2,165	6,073	78.2%	13,459	10,212	75.9%
Total	7,749	22,043	16,430	74.5%	67,818	50,554	74.5%

*Organizations grouped under “other” category include county health departments, educational institutions, libraries, multi-purpose social services organizations, recreational organizations, tribal centers, workplaces, and other unspecified locations.

Note: Excludes participants with missing date of birth.

Source: NCOA data

Exhibit 6.10 shows CDSMP completion rates by participant age and chronic condition. When enrolling in CDSMP, participants are asked to indicate which chronic condition(s) they have from the list shown in Exhibit 6.10. Participants reporting arthritis/rheumatic disease, diabetes, hypertension/high blood pressure, or osteoporosis had higher average completion rates than participants who did not report having those conditions and the differences were statistically significant. The differences were not always significant when broken down by age categories, however. Having cancer, heart disease, breathing/lung disease, or stroke had no significant effect on completion rates. Participants who reported having depression or anxiety disorders had lower average completion rate (74.0 percent) than participants who did not have depression or anxiety disorders (77.2 percent) and the difference is statistically significant. Generally, completion rates for each chronic disease was slightly higher for participants aged 65-74 and then declined for those in the 75-84 and 85 and older age groups.

Exhibit 6.10. CDSMP Completion Rates by Chronic Condition

Age Group	Arthritis/ Rheumatic Disease	Arthritis/ Rheumatic Disease	Diff.	Cancer	Cancer	Diff.	Depression or Anxiety Disorder	Depression or Anxiety Disorder	Diff.	Diabetes	Diabetes	Diff.	Heart Disease	Heart Disease	Diff.
Age Group	Yes	No	Diff.	Yes	No	Diff.	Yes	No	Diff.	Yes	No	Diff.	Yes	No	Diff.
<60	73.1%	75.1%	-2.0***	72.7%	74.6%	-1.9	71.8%	75.9%	-4.1***	74.6%	74.5%	0.1	75.3%	74.5%	0.8
60-64	77.3%	76.9%	0.4	78.8%	77.0%	1.8	75.4%	77.9%	-2.5**	78.1%	76.6%	1.5	76.6%	77.2%	-0.6
65-74	78.5%	78.4%	0.1	78.1%	78.5%	-0.4	76.3%	79.0%	-2.7***	78.8%	78.3%	0.5	78.0%	78.6%	-0.6
75-84	78.0%	75.9%	2.1***	77.5%	77.0%	0.5	75.2%	77.4%	-2.2**	78.2%	76.7%	1.5*	77.3%	77.0%	0.3
85+	74.9%	70.6%	4.3***	74.0%	72.8%	1.2	71.3%	73.1%	-1.8	74.0%	72.7%	1.3	73.7%	72.6%	1.1
Total	76.9%	76.0%	0.9***	76.8%	76.4%	0.4	74.0%	77.2%	-3.2***	77.3%	76.1%	1.2***	76.7%	76.4%	0.3

Age Group	Hypertension/ High Blood Pressure	Hypertension/ High Blood Pressure	Diff.	Breathing/ Lung Disease	Breathing/ Lung Disease	Diff.	Osteoporosis	Osteoporosis	Diff.	Other Chronic Condition	Other Chronic Condition	Diff.	Stroke	Stroke	Diff.
Age Group	Yes	No	Diff.	Yes	No	Diff.	Yes	No	Diff.	Yes	No	Diff.	Yes	No	Diff.
<60	75.1%	74.2%	0.9	73.4%	74.8%	-1.4	75.2%	74.5%	0.7	72.7%	75.6%	-2.9***	73.1%	74.6%	-1.5
60-64	78.9%	75.3%	3.6***	77.1%	77.2%	-0.1	78.4%	77.0%	1.4	76.6%	77.4%	-0.8	77.8%	77.1%	0.7
65-74	78.9%	78.0%	0.9	77.6%	78.7%	-1.1	79.7%	78.2%	1.5	79.8%	77.9%	1.9***	76.6%	78.6%	-2.0
75-84	78.5%	75.5%	3.0***	77.2%	77.1%	0.1	78.6%	76.8%	1.8*	78.2%	76.8%	1.4	77.7%	77.1%	0.6
85+	74.5%	71.3%	3.2***	74.5%	72.7%	1.8	75.1%	72.4%	2.7*	72.8%	73.0%	-0.2	72.6%	73.0%	-0.4
Total	77.7%	75.3%	2.4***	76.1%	76.5%	-0.4	78.1%	76.2%	1.9***	76.2%	76.5%	-0.3	76.1%	76.5%	-0.4

Note: Excludes participants with missing date of birth. Many participants report more than one chronic condition; therefore completion rates are not isolated and may contain some overlap across chronic conditions.

Diff. = Difference in completion rate (%)

(*), (**), and (***) denote the 5%, 1%, and 0.1% level of significance, respectively, for the difference in completion rates between those who reported having the specified chronic condition and those who did not report having the chronic condition. Lower levels of significance indicate stronger test results.

Source: NCOA data

Exhibit 6.11 shows CDSMP completion rates by number of reported chronic conditions for all participants. Participants reporting having no chronic conditions had the lowest completion rate (65 percent) consistent with findings in Exhibit 6.10. The tests of statistical significance for Exhibit 6.11 are provided in Appendix H, Table F. The differences between not having a chronic condition and having at least one are statistically significant.

Exhibit 6.11. CDSMP Completion Rates by Number of Reported Chronic Conditions

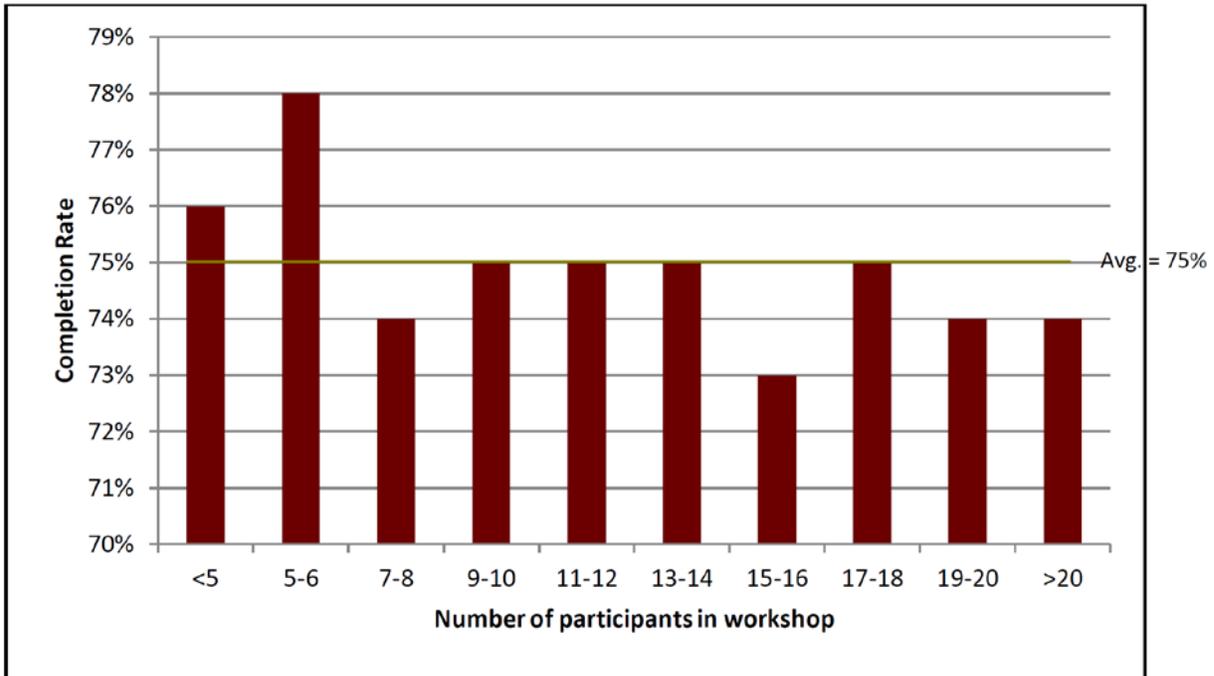
Total Number of Reported Chronic Conditions	Total Number of Participants	Completion Rate
0	16,839	65.2%
1	18,145	76.2%
2 or 3	35,283	77.1%
4 or 5	15,869	76.7%
6 or more	3,725	75.0%

Note: Includes all participants.
Source: NCOA data

Stanford’s *Program Fidelity Manual*²³ encourages an “ideal group size of 10-16 participants” and “at least 10 [participants] on the first day of the workshop.” Exhibit 6.12 shows completion rates by the number of participants enrolled in the workshop. Workshops with 5 or fewer participants or 5-6 participants had the highest completion rates (76.0 percent and 78.0 percent respectively). The regression analyses presented in Section 6.3—which examine the impact of multiple factors on completion rates, such as participant characteristics, workshop-related information, metro/nonmetro location, and differences in program administration or funding—support this finding. The regression models indicate that the odds of completion in workshops with less than 6 participants were about 46-57 percent higher than in the “ideal” workshops of 11-16 participants. Greater camaraderie and peer pressure combined with possibly more individualized attention from the leaders in a small group may explain why smaller groups experienced the highest completion rates. This is an area for further research.

²³ Stanford University. Program Fidelity Manual: Stanford Self-Management Programs, 2010.

Exhibit 6.12. CDSMP Completion Rates by Workshop Enrollment

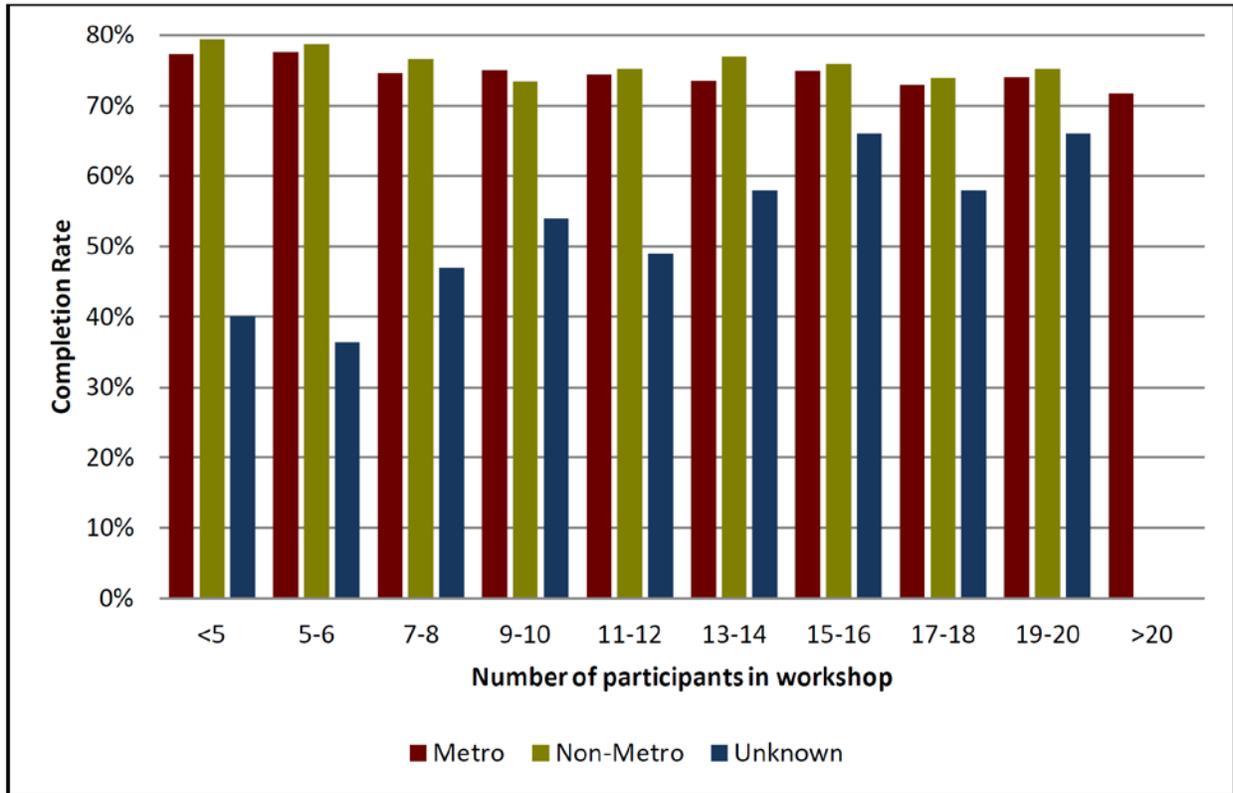


Note: Includes all participants

Source: NCOA data

Exhibit 6.13 shows completion rates by workshop enrollment and workshop location (metro versus non-metro areas). Across all categories of workshop enrollment, except for workshops with 9-10 participants, completion rates were higher for participants attending classes in non-metro areas. The differences between completion rates in metro and non-metro locations (excluding “unknown” locations) are statistically significant at the 0.1 percent significance level for class size of 13-14 participants. The differences for remaining class sizes are insignificant.

Exhibit 6.13. CDSMP Completion Rates by Workshop Enrollment and Workshop Location



Note: Includes all participants.

Source: NCOA data; Metro and non-metro designations are calculated using data from NCHS and USDA ERS

Exhibit 6.14 examines patterns of attendance and completion rates for CDSMP participants. More than 80 percent of completers (i.e., those who attended four or more of the six workshop sessions) during the funding period participated in at least five of the six workshop sessions. Among the completers that participated in exactly four sessions, the most common pattern of attendance was participating in the first four sessions. About 36 percent of non-completers stopped attending workshops after the first session. The second and third most common patterns for non-completers were discontinuing after the second session (16.7 percent) and discontinuing after the third session (8.5 percent). This finding points to a need to better understand why some people do not continue attending after a single session. For example, are there ways to make sure that participants understand the nature of the class before enrolling, or are there barriers for those attending the first class that could be discussed and reduced (e.g., setting up car pools) for the remaining classes?

Exhibit 6.14. CDSMP Workshop Participation Patterns

Patterns for Completers		Patterns for Completers	Patterns for Non-Completers		Patterns for Non-Completers
Patterns	Number of Completers	Percent of Total Completers	Patterns	Number of Non-Completers	Percent of Total Non-Completers
Participates in all 6 workshops	31,828	47.5%	Participates in 1 st workshop	8,121	35.5%
Misses last workshop	3,957	5.9%	Participates in 1 st and 2 nd workshops	3,825	16.7%
Misses 4 th workshop	3,893	5.8%	Participates in 1 st , 2 nd , and 3 rd workshops	1,955	8.5%
Misses 3 rd workshop	3,845	5.7%	Participates in 2 nd workshop	1,875	8.2%
Misses 5 th workshop	3,829	5.7%	Participates in 1 st and 3 rd workshops	802	3.5%
Misses 1 st workshop	3,686	5.5%	Participates in 2 nd and 3 rd workshops	726	3.2%
Misses 2 nd workshop	2,698	4.0%	Participates in 1 st , 2 nd , and 4 th workshops	706	3.1%
Misses last 2 workshops	2,655	4.0%	Participates in 1 st , 3 rd , and 4 th workshops	408	1.8%
Misses 4 th and 6 th workshops	1,160	1.7%	Participates in 2 nd , 3 rd , and 4 th workshops	389	1.7%
Misses 4 th and 5 th workshops	1,037	1.5%	Participates in 3 rd workshop	343	1.5%
All other patterns	968	12.3%	All other patterns	3,630	16.0%
Total	66,984	100.0%	Total	22,877	100.0%

Source: NCOA data

As shown in Exhibit 6.15, the cost in grant dollars per CDSMP participant and per completer can vary from one state to the next. The average cost in grant dollars per participant for the 22 state grantees listed in Exhibit 6.15 was \$337.01 and the average cost in grant dollars per completer was \$450.63. These are the states that completed their projects during the original ARRA grant period (March 31, 2010, to March 30, 2012) and did not request no-cost extensions. It is important to note that the estimates in Exhibit 6.15 are based on a simple calculation—i.e., the amount of the state’s ARRA grant award divided by the number of participants/completers. Consequently, the estimates do not take into account other revenue received or in-kind support contributed by partners and volunteers. Nor do the estimates differentiate costs for start-up and infrastructure building from the direct and indirect costs incurred in providing CDSMP workshops or the costs of doing special evaluation studies or other activities to help sustain the programs.

Exhibit 6.15. Costs Per Participant and Completer by State Grantee, April 2010 to March 2012*

Cost Per Participant	Cost Per Participant	Cost Per Participant
\$100 – \$299	\$300 - \$499	\$500+
Alaska California Florida Idaho Illinois Maine Missouri New Mexico Utah Vermont	Arizona Arkansas Colorado Connecticut Georgia Maryland Massachusetts Nebraska New Hampshire Nevada	Louisiana West Virginia
Cost per Completer	Cost per Completer	Cost per Completer
\$100 – \$299	\$300 - \$499	\$500+
Alaska California Florida Idaho Utah Vermont	Arizona Illinois Maine Maryland Missouri New Mexico	Arkansas Colorado Connecticut Georgia Louisiana Massachusetts Nebraska Nevada New Hampshire West Virginia

*Excludes the 23 state grantees that received no-cost extensions to their ARRA grants.
 Cost per participant = number of participants (<60 and 60+) / amount of ARRA grant
 Cost per completer = number of completers (<60 and 60+) / amount of ARRA grant
 Source: NCOA data and AoA

6.3 Regression Analysis of Completion Rates

Upon completion of the analysis of completion rates in the preceding section, the evaluation team conducted regression analyses to attempt to explain the variation in completion rates by observable factors, such as participant characteristics, workshop-related information, and differences across states (e.g., how the programs are administered). Section 6.2 discusses differences in completion rates by factors such as age, sex, and race/ethnicity of the participant, the location of the workshop (e.g., metro vs. non-metro), and participants' chronic conditions. In this section, we examine multiple factors together that might influence completion. We conducted a *logistic regression analysis* using participant-level data to investigate the effect of a variety of explanatory (or predictor) variables.²⁴ This analysis was conducted using data reported to NCOA by ARRA state grantees on CDSMP workshops conducted during the period April 1, 2010, through March 30, 2012, and on the participants and leaders involved in those workshops. The list of explanatory variables includes:

- Demographic information derived from participant characteristics, such as age, sex, and race/ethnicity;
- Health information, such as chronic conditions reported by the participant;
- Derived variables related to the implementation site, workshop, and leaders offering the workshop;
- External data not directly available in the NCOA data, such as type of lead agency in the state, program oversight and delivery model, and location of the workshop.

For the regression analysis, we constructed two datasets. In the first dataset, we included all 89,861 participants and 7,749 workshops in the NCOA data even when some key information was missing—i.e., we included all observations even when (1) participants did not provide their sex, age (or date of birth), race/ethnicity, or living arrangements; (2) Class Zero information for the workshop was missing; or (3) “metro/non-metro” assignment for the implementation site was unavailable. Consequently, our analyses that use the full data compare “known” attributes to the “unknown” ones for some of the variables. For example, the odds of completion for males and females are compared to participants of “unknown” sex.²⁵ In a second restricted dataset with 51,893 participants and 5,302 workshops, we removed observations if any of the information listed above is missing or unavailable. In this dataset, the comparisons of odds of completion are between known attributes (e.g., males vs. females).²⁶

The results in Exhibit 6.16 provide odds ratios from the logistic regressions. The columns labeled Model 1 and 2 present findings based on the full dataset. Columns labeled Model 3 and

²⁴ For more details on logistic regression analysis, see Appendix J.

²⁵ Note that the “unknown” attribute/value indicates a mixture of the known attributes. For example, when males or females are compared to the participants with “unknown” sex, each group is actually compared to a mixture of males and females that constitute the “unknown” category.

²⁶ Note that the number of observations in the regressions will be different from the number of observations in the two datasets because of lagged variables.

4 present findings from the restricted dataset. Models 2 and 4 incorporate variables for state oversight and delivery system structure.²⁷ In Exhibit 6.16, a coefficient estimate that is greater (less) than 1 indicates that that variable increases (decreases) the odds of a participant completing the program. For example, an odds ratio of 1.25 indicates that the odds of a participant completing the program are 25 percent higher for a one-unit increase in the predictor variable. On the other hand, an odds ratio of 0.9 indicates that the odds of a participant completing the program are 10 percent lower for a one-unit increase in the predictor variable. Findings are summarized below.

6.3.1 Demographic Characteristics

Results from the full dataset (Models 1 and 2) show that the odds of completion for male participants are about 9-10 percent lower than for the unknown group. However, the odds for female participants are not significantly different from the unknown group. Results from the restricted dataset (Models 3 and 4) show that the odds of completion for female participants are about 8 percent higher than for male participants.

With respect to race/ethnicity, we find in Models 1 and 2 that the odds of completion for all race/ethnicity groups are higher than the unknown race/ethnicity. Models 3 and 4 compare completion rates for non-white participants to completion rates for whites, which was designated as the benchmark (or comparison) race/ethnicity category for these analyses. Findings suggest that the odds of completion for African American participants are approximately 14-15 percent higher than for white participants. We also find that the odds of completion for Hawaiian Native/Pacific Islander participants are significantly higher (about 4.1-4.7 times) than any other race/ethnicity in all models. We do not find significant differences between other races and white participants. Hispanic/Latino and Not Hispanic/Latino participants are more likely to complete compared to participants of unknown ethnicity (Models 1 and 2). However, Models 3 and 4 show no significant difference between the Hispanic/Latino and the Not Hispanic/Latino ethnic groups.

We also find significant differences between participants of different age groups. We find that the odds of completion for all age groups are significantly higher than for the participants in the unknown age group (Models 1 and 2). All models show that the odds of completion for the 65 - 74 age group are the highest among all age groups, whereas the odds of completion are lowest for the 85+ age group. For example, Models 3 and 4—which compare completion rates for participants aged 60 and older to participants under age 60—indicate that the odds of completion for the 65-74 age group are about 18 percent higher than for the under 60 age group. The odds of completion for the 85+ age group are about 10 percent lower as compared to the under age 60 group.

²⁷ Centralized *oversight* means that the majority of the responsibility is at the state level compared to models of oversight that rely relatively more on regional or local level of responsibility. Centralized *delivery infrastructure* indicates that a state uses a centralized delivery system for communications or coordination as opposed to a *decentralized infrastructure* that relies more on regional, or local communications and coordination. See Chapter 5 for more details on program oversight and delivery system infrastructure.

Finally, our findings indicate that living arrangement does not influence the odds of completion in any of the models.

6.3.2 Health Status

We also consider the effect of chronic conditions reported by participants on workshop completion rates. Among the list of ten possible chronic conditions, we find that depression significantly lowers the odds of completion. The odds of completion for participants that report depression are approximately 17 percent lower than participants that do not report depression. We also find that the odds of completion increase for participants with hypertension (between 7 and 13 percent) and osteoporosis (7 and 8 percent) in all models compared to participants that do not report any chronic conditions. We find that existence of other chronic conditions does not significantly affect the odds of completion. Even though having multiple chronic conditions appears to have a positive effect on completion rates in Models 1 and 2, this effect is no longer significant in Models 3 and 4.

6.3.3 Implementation Site, Workshop, and Leader Characteristics

We also investigated the effects of type and location of the implementation site, whether the workshop included a Class Zero, number of workshop participants, frequency of workshops offered by an implementation site, and frequency of leaders facilitating workshops on completion rates.²⁸

We find that the type of implementation site affects the odds of completion. Using residential facilities as the comparison group (or excluded type in the regressions), we find that the completion rates are the lowest in residential facilities and highest among faith-based organizations.

All models consistently indicate that the odds of completion at health care organizations, senior centers, area agencies on aging, and faith-based organizations were about 12-14, 33-38, 34-42, and 57-64 percent, respectively, higher than residential facilities.²⁹

In Models 1 and 2, we found that the odds of completion for participants attending workshops at metro versus non-metro locations were approximately 20-22 and 35-38 percent, respectively, higher compared to workshops in unknown locations. When we compared workshops offered in metro areas versus non-metro areas in Models 3 and 4, the odds of completion are about 9 percent lower in metro areas.

²⁸ Each workshop is given by two leaders.

²⁹ Remaining types of organizations that were grouped together under an “other” category were county health departments, educational institutions, libraries, multi-purpose social services organizations, recreational organizations, tribal centers, workplaces, and other unspecified locations.

In Models 1 and 2, we find that the odds of completion in workshops that did not offer Class Zero are about 9 percent lower than in workshops for which the availability of Class Zero was unknown.³⁰ The removal of these unknowns in Models 3 and 4 results in a slightly positive effect for workshops that offer Class Zero. However, it is statistically significant only in Model 3, implying an increase of approximately 7 percent in the odds of completion compared to workshops that did not offer Class Zero. Recall that the review of participation patterns (i.e., Exhibit 6.14 disaggregated by whether or not Class Zero was offered) did not provide evidence for differences between workshops that offer Class Zero and those that do not. Given contradictory results across the four models, we conclude that completion rates do not differ between workshops that offer Class Zero and those that do not. Our analysis of the impact of Class Zero on completion rates (Exhibit 6.8), which did not control for all other potential factors, indicated slightly higher completion rates for workshops with Class Zero. Hence, additional research might shed light on which populations and in which situations CDSMP participants benefit most from Class Zero, thus providing guidance to state grantees on when it is most beneficial to offer it.

To investigate the influence of workshop size (defined as the number of participants), we created five size categories: (1) less than 6 participants, (2) 6 to 10 participants, (3) 11 to 16 participants, (4) 17 to 20 participants, and (5) 21 participants or more. In Models 1 and 2, we analyzed the effect of workshop size using the “11 to 16 participants” category as the comparison group because the CDSMP fidelity manual recommends this as the “ideal” group size.³¹ We did not find any significant difference between workshops with 11-16, 17-20, and 21 or more participants across all four models. However, the odds of completion in workshops with less than 6 participants were about 44 percent higher compared to workshops with 11-16 participants. While Models 1 and 2 indicate that the odds of completion in workshops with 6–10 participants is about 5 percent higher than in workshops with 11–16 participants, this finding does not hold in Models 3 and 4.

We also analyze the effect of implementation sites convening prior workshops as a proxy for implementation site experience, as well as the experience of the leaders. We find a positive but insignificant effect for implementation site experience (measured as the number of workshops offered at the site prior to the quarter in which the workshop the participant attended was held) in Models 1, 2, and 3. Similarly, Model 4 indicates that the odds of completion improve only slightly with implementation site experience (less than 1 percent and significant). Convening a workshop at the same implementation site in the previous quarter does not have a significant effect on the odds of completion.

Models 1 and 2 indicate that the number of workshops taught by the two leaders (i.e., cumulative leader experience) slightly decreases the odds of completion (about 1 percent and significant). However, this does not hold for Models 3 and 4. Two related factors positively

³⁰ The data on Class Zero are not available for about 24 percent (1,823 out of 7,749) of the workshops

³¹ Stanford Patient Education Research Center. Program Fidelity Manual: Stanford Self-Management Programs, 2010. See page 20.

affect the odds of completion: (1) if at least one of the leaders was active (i.e., taught a workshop) in the previous quarter, and (2) if the two leaders previously taught a workshop together. In all models, the odds of completion increased by about 5-7 percent if at least one of the leaders taught a workshop in the previous quarter and by about 7-8 percent if the two leaders previously taught a workshop together.

Finally, we find that the odds of completion are significantly higher in Spanish language CDSMP workshops (*Tomando Control de su Salud*) compared to English language workshops. Models 1 and 2 indicate that the odds of completion are approximately 19-20 percent higher in Spanish workshops compared to 45-46 percent in Models 3 and 4.

6.3.4 Grantee Characteristics

When the recipient of ARRA grant funding was the public health agency, the odds of completion were about 17-18 percent lower in Models 1 and 2 and about 13 percent lower in Models 3 and 4 compared to states in which the state unit on aging was the recipient of grant funding. But, it is important to note that this may not be a reflection on the grantee type, rather it may reflect the different types of populations served by each grantee type.

The odds of completion in states with centralized oversight and/or a centralized delivery system increase by about 9-18 percent.

6.3.5 Trend and Seasonal Factors

We did not find significant differences in completion rates across time (captured by a trend variable covering eight quarters). However, the quarter in which the workshop is offered affects the odds of completion. In all four models, the odds of completion in the fourth quarter (October-December) workshops are about 8 percent lower than the first quarter (January-March) workshops, which we use as the comparison time frame. In the first two models, the odds of completion are 7 percent higher for the second quarter (April-June) workshops than for the first quarter (January-March) workshops. We do not find a statistically significant effect for the third quarter (July-September) workshops compared to the first quarter workshops.

Exhibit 6.16. Logit Regression Results

Demographic Characteristics of Participants	Model 1	Model 2	Model 3	Model 4
Female	0.986	0.965	1.084**	1.082**
Male	0.919*	0.901*	-	-
White	1.435***	1.457***	-	-
African American	1.621***	1.643***	1.143***	1.148***
American Indian / Alaskan	1.181*	1.199*	0.892	0.892
Asian / Asian American	1.477***	1.501***	0.945	0.949
Native Hawaiian / Pacific Islander	4.494***	4.720***	4.136***	4.274***
Multi-racial / Other	1.422***	1.425***	1.104	1.089
Age 60 - 64	1.596***	1.618***	1.149***	1.149***
Age 65 - 74	1.700***	1.718***	1.178***	1.175***
Age 75 - 84	1.586***	1.600***	1.126***	1.123**
Age 85+	1.325***	1.341***	0.905*	0.904*
Age under 60	1.423***	1.442***	-	-
Hispanic or Latino	1.342***	1.338***	0.985	0.993
Not Hispanic or Latino	1.154***	1.139***	-	-
Living alone	0.647	0.647	1.041	1.043
Living with someone	0.641	0.642	-	-
Chronic Conditions Reported by Participants	Model 1	Model 2	Model 3	Model 4
Arthritis	1.013	1.015	1.029	1.032
Cancer	0.989	0.990	1.030	1.31
Depression	0.830***	0.832***	0.818***	0.820***
Diabetes	1.022	1.023	1.008	1.009
Heart Disease	0.996	0.996	1.013	1.012
Hypertension	1.075***	1.077***	1.129***	1.131***
Lung Disease	0.970	0.970	0.983	0.985
Stroke	0.960	0.961	0.969	0.972
Other chronic disease	1.030	1.034	1.031	1.030
Osteoporosis	1.076**	1.075**	1.074*	1.076*
Multiple chronic diseases	1.080**	1.081**	1.028	1.029
Implementation Site, Workshop, and Leader Characteristics	Model 1	Model 2	Model 3	Model 4
Site: Senior center	1.331***	1.319***	1.381***	1.378***
Site: Health care organization	1.124***	1.125***	1.135***	1.132***
Site: Faith-based organization	1.569***	1.574***	1.633***	1.639***
Site: Area agency on aging	1.335***	1.351***	1.401***	1.424***
Site: Other	1.420***	1.415***	1.441***	1.445***

Implementation site in metro area	1.201*	1.223*	0.915**	0.911***
Implementation site in non-metro area	1.348***	1.376***	-	-
Workshop offered Class Zero	0.956	0.938*	1.072*	1.052
Workshop did not offer Class Zero	0.914***	0.914***	-	-
Less than 6 participants	1.440***	1.440***	1.536***	1.537***
6 - 10 participants	1.051*	1.050*	1.014	1.012
17 - 20 participants	0.982	0.979	0.970	0.970
More than 20 participants	0.729	0.724	-	-
Number of workshops convened by implementation site prior to quarter in which workshop was held	1.001	1.003	1.008	1.010*
Implementation site offered a workshop in the prior quarter	1.047	1.056	1.044	1.051
Cumulative number of workshops taught by both leaders in prior quarters	0.995*	0.995*	0.998	0.998
At least 1 leader taught a workshop in the prior quarter	1.050*	1.051*	1.068*	1.069*
Leaders previously taught at least one workshop together	1.067**	1.067**	1.075*	1.077*
Spanish CDSMP	1.192***	1.199***	1.450***	1.457***
State Characteristics	Model 1	Model 2	Model 3	Model 4
Lead agency - Public Health	0.831***	0.824***	0.872***	0.876***
Both Oversight and Delivery Infrastructure centralized	-	1.088*	-	1.149**
Oversight centralized but Delivery Infrastructure not	-	1.176***	-	1.157***
Delivery Infrastructure centralized but Oversight not	-	1.150***	-	1.123**
Trend and Seasonal factors	Model 1	Model 2	Model 3	Model 4
Trend	1.003	1.002	0.994	0.992
Workshop in Q2 (April-June)	1.065*	1.067**	1.012	1.012
Workshop in Q3 (July-September)	1.027	1.029	1.018	1.020
Workshop in Q4 (October-December)	0.919***	0.919***	0.916**	0.917**

N 82,598 82,598 49,853 49,853

Reported coefficients are exponentiated coefficients (odds ratios).

Significance level: (*) p -value < 5%; (**) p -value < 1%; (***) p -value < 0.1%

6.4 Summary and Discussion

The analyses presented in Sections 6.2 and 6.3 confirm findings from site visits and state discussions in some cases, but offer unexpected findings on other fronts. As expected, females are more likely to complete workshops than males, pointing to the need for targeted interventions for males. Among the different race/ethnicity groups, African Americans were more likely to complete the program, as were the “young old” (i.e., individuals aged 65-74). In order to reach individuals most likely to benefit from CDSMP, state grantees may wish to specifically target these groups in their outreach efforts and choose program sites that are accessible to and/or frequented by these populations (e.g., faith-based organizations in the African American community).

Participants in the Spanish language CDSMP had higher completion rates than participants in English language CDSMP. However, it is important to note that English language courses include all non-English speaking groups with the exception of Spanish speakers; this factor could be lowering completion among English language courses. Also, cultural elements in the Spanish language CDSMP specific to this population may be having a positive effect on completion rates; differences in the Spanish CDSMP curriculum should be examined.

It was no surprise that individuals with depression had lower completion rates; however, those reporting hypertension and osteoporosis had greater odds for completion, suggesting that targeting these populations could have a high pay-off. Unexpectedly, individuals in non-metro areas had higher completion rates even though weather and transportation can pose serious barriers to program participation. And the quarter in which a workshop is conducted (i.e., as a proxy for season of the year) can make a difference in completion rates. As one might expect, participants in workshops with leaders who taught a workshop in the previous quarter or with leaders who had taught together previously had higher odds of completion. With regard to Class Zero, additional research might shed light on which populations and in which situations CDSMP participants benefit most.

States with public health as the lead agency had somewhat lower completion rates. Perhaps the most unexpected finding was that participants in smaller workshops (i.e., with no more than 5-6 participants) had significantly higher completion rates even though workshops of this size are smaller than the recommended workshop size described in Stanford’s program fidelity guidelines.

CHAPTER 7: DATA COLLECTION AND EVALUATION

Research Question: *What data are AoA/ACL CDSMP grantees collecting and what is the state of their records systems? What is the evaluation capacity of state-level grantees and/or local sites including whether they have conducted or participated in program evaluations?*

Key Findings

1. **While grantees largely used paper forms to collect data that were later entered into the NCOA data base to track required grant data, they used a wide array of approaches to collect additional data on CDSMP participants.** All grantees were able to collect and submit program data. Some used basic commercially available software such as Excel or Access, while others developed or expanded data collection programs used by state agencies, contracted organizations or host sites. Data collection activities were conducted by program staff funded by the CDSMP grant or integrated as part of other grantee infrastructure for CDSMP or other programs.
2. **More than half (31 of 47) of grantees reported using CDSMP data required under the ARRA grant, often supplemented with other primary and secondary data on programs, for program management or process evaluation, and 17 grantees reported conducting special studies of health outcomes, cost or utilization.** Grantees often conduct process evaluation of participant (and sometimes workshop leader) satisfaction, with 3-, 6- and 12-month follow up after completion of the workshops. Even states collecting data for NCOA only were able to use information for program planning, e.g., to target need for leader training and to target populations and locations for workshops.
3. **Several grantees reported partnering with universities to conduct rigorous research studies. Grantees' studies use many different types of measures, and are starting to build a research base for CDSMP as implemented at the state and local levels.** Measures address changes in functional status, health care utilization, cost and clinical indicators.
4. **Grantees reported various benefits of data collection and reporting, including program planning and oversight, program improvement, and reporting to stakeholders.** Some grantees and host sites have incorporated evaluation into their aging and public health programs. Data collection and monitoring require funding to support. Not all states are able to continue these activities post ARRA funding.

7.1 Introduction

An important focus of the process evaluation is to assess the data collection, reporting, and evaluation capacity of state grantees and host sites, and to understand their ability to support reporting requirements for CDSMP during and after the ARRA funding period. During the grant period, state grantees were required to report information on CDSMP participants, workshops, and leaders to an online data entry system developed and maintained by NCOA. However, grantees are no longer obligated to report data when their funding comes to an end.

The evaluation team's interest in data collection and evaluation was initially directed to assessing the capacity of state grantees to participate in an outcome evaluation. However, in early 2012 AoA decided not to move forward with a prospective outcome evaluation based on

the recommendations of the Technical Advisory Group. Nonetheless, AoA and the evaluation team determined that it was important to assess the capacity of grantees and host sites to collect and use data for program planning, monitoring, and quality assurance. The evaluation team, therefore, examined whether and to what extent grantees and host sites used data for these purposes and their plans for continuing to collect program data after the ARRA grant came to an end. In addition, the evaluation team investigated the extent to which grantees were conducting evaluations of their programs or other special studies.

Until now, information about the capacity of CDSMP grantees and their partners to collect and use program data has been limited, as is information on the research conducted by grantees, e.g., research questions addressed, measures used in the field, study findings, and data use for program implementation and management. Sharing information about these topics can inform grantees' efforts by grantees to develop and bring to scale their CDSMP programs.

Principal data sources were state profiles on data collection capacity developed from the site visits and telephone discussions with representatives from each of the 47 ARRA grantees, grantee progress and final reports, and listings of grantee evaluation activities compiled by AoA and NCOA. A detailed table of grantees' data collection and evaluation efforts is included in Appendix K.

7.2 Findings

At a minimum, ARRA grantees were required to collect the following information:

- The number of participants in CDSMP
- The age, sex, and self-identified race, ethnicity, and chronic conditions of each participant
- The number of workshop sessions actually attended by each participant (out of a total of six sessions)
- Feedback from participants on their experience and self-reported outcomes³²

Grantees were also required to carry out program monitoring and evaluation activities in a way that will allow for continuous quality improvement at both the state and community level. This included ensuring fidelity to the Stanford model standards and tracking the measurable indicators described above.

The evaluation team examined grantees' data collection capacity, data reporting and use, evaluation efforts and their post-ARRA plans regarding continuation of data collection and

³² American Recovery and Reinvestment Act *Communities Putting Prevention to Work Chronic Disease Self-Management Program*, Program Announcement for Cooperative Agreements, Application Instructions and Forms. U.S. Administration on Aging, December 16, 2009.

reporting, including plans for submission of program data to NCOA's database. Findings are presented below, with a focus on grantees activities at the time of ARRA funding, changes anticipated at completion of ARRA funding, and future plans.

7.3 Data Collection under ARRA Funding

All grantees were required to collect and submit core information on their program participants and performance for submission to NCOA's database. All 47 grantees were able to comply with this requirement, but used a wide range of approaches to collect additional data from host sites and partners in their distribution networks (see Appendix K). Some grantees used centralized data collection where host sites and/or implementation sites submitted paper forms or Excel spreadsheets to a program coordinator at the state level who entered the data into the NCOA database. Other grantees used a decentralized approach where specified individuals at the regional and/or local level were responsible for entering data into the NCOA database, with the state providing oversight for quality assurance.

7.3.1 Data Collection Strategies: State Grantees

State grantees used a range of staffing and technical arrangements to support data collection activities, reflecting CDSMP program size, complexity, and the availability of state resources and infrastructure. For example:

- In **Alaska**, the program director—the state's only designated CDSMP staff—collects and maintains, in an Access database, NCOA-required data and additional items used for evaluation, e.g., pre-post participant feedback, number of participant sick days/well days, trainer identification numbers, trainer certification/recertification dates. Information is also collected on clinical measures for diabetics (BMI, LDL, blood pressure, A1C at 3-, 6-, and 12-month follow-ups).
- **Oklahoma** relies on the state's in-house evaluation team to collect and maintain CDSMP data, and to conduct small participant surveys that address how participants find out about workshops, whether participants feel they are better able to deal with their conditions after taking the workshops, and how participants feel they have benefited with regard to enhanced capabilities.
- **Colorado** requires sites providing ARRA-funded CDSMP to submit information through a data portal established by a non-profit partner, Consortium for Older Adult Wellness. This is in addition to submission of data for the NCOA database.

Most state grantees use CDSMP or other state staff to conduct and oversee data collection. However, two grantees—California and New York—contract with outside organizations for data collection and technical assistance. California contracts with Partners in Care Foundation (PICF), the state's technical assistance provider for evidence-based programs, which monitors data from sites for fidelity. In New York, sites send their workshop data for review and data entry/management to the Quality and Technical Assistance Center (QTAC) at SUNY Albany,

which serves as the technical assistance arm of the state's CDSMP program. The QTAC has developed a master database to enable collection and linkage of data across participants for research purposes. They are exploring options for a new online data entry system to improve ease of data collection and reporting.

Fourteen of the 47 state grantees collect only required the data elements. However, many states collect additional information for planning and research purposes, and may require more than one database. Two examples are Missouri and New Jersey:

- **Missouri** established a database for five evidence-based programs, including CDSMP, in 2008. Because the data used for each purpose were different and intended for different purposes, the state carried out dual data entry for CDSMP under the ARRA grant, entering data once for state purposes and again into the NCOA database.
- **New Jersey** has a centralized database and used ARRA funds to develop a supplemental database to maintain information on where workshops are offered, and about peer leaders and master trainers. The state reports that it receives requests for data from partners and the Commissioner of Health and Human Services. A staff person, who devotes 80 percent of her time to collecting and reviewing data, supports these activities. New Jersey's Office of Minority and Cultural Health maintains another database with demographics on participants with limited English proficiency.

7.3.2 Data Collection Strategies: Host and Implementation Sites

Host and implementation sites are on the front line for data collection on their workshops that the sites then submit to regional coordinators or state grantees, which in turn submit the data to NCOA's database. Michigan has developed data collection forms that can be scanned electronically to minimize burden to sites providing CDSMP in the community. This approach enables the state to more efficiently obtain information from all sites that provide CDSMP across the state.

Most site-level respondents, while they were not queried directly on the topic, did not mention difficulties collecting and reporting data on workshops. However, a small number of respondents from the site visits and telephone interviews did note that meeting the CDSMP data requirements could be challenging in some settings. One grantee with oversight of a mature CDSMP network emphasized the difficulties data collection can pose for community programs, stating:

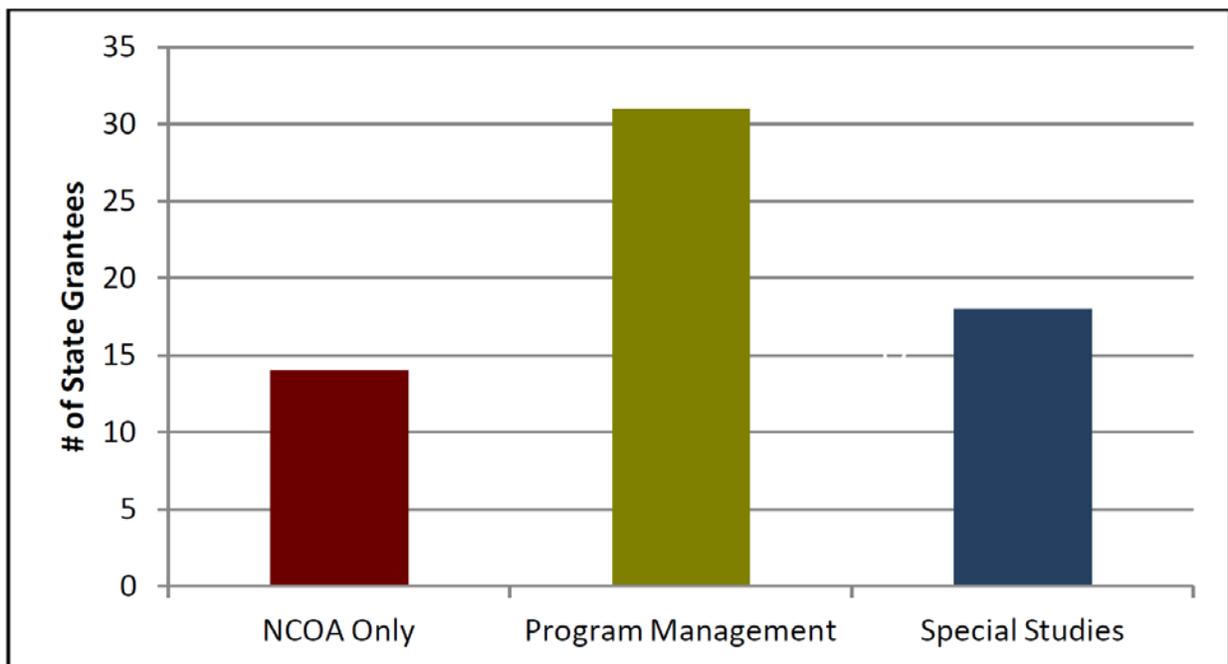
It [data collection] is time consuming, often confusing, very labor intensive, so the state is looking to identify essential elements to collect on an ongoing basis. Tomando [Control de su Salud] is especially difficult for data collection as staff must collect data one-on-one with participants, many of whom have limited Spanish (or English) literacy.

7.4 Data Use and Reporting

The process evaluation examined grantees' use of data relating to their CDSMP programs with particular attention to their use of required data elements, their collection and use of additional data, and whether and how grantees used data for their own program planning, monitoring and decision making. Data collected and used for state reporting is both qualitative and quantitative, and may incorporate surveys of participants and workshop leaders as well as administrative and secondary data sources.

Grantees varied widely in their use and reporting of CDSMP data. All 47 state grantees have been collecting and submitting participant and program data required by AoA to NCOA. Approximately one-third of grantees (14 of 47) reported collecting required data only, 31 grantees reported some level of basic program management or process evaluation, and 17 grantees reported conducting special studies including evaluation of health outcomes, cost or utilization (often in partnership with local universities (Exhibit 7.1).

Exhibit 7.1. Data Use and Reporting



Source: IMPAQ International and Altarum Institute

7.4.1 NCOA-Required Data: State Grantees

Fourteen of the 47 state grantees report collecting only required data. While most just submit the data to the NCOA database, four of these grantees reported that they also combine the data with other information for planning and managing their CDSMP activities.

- **Arkansas** uses the NCOA-reported data with GIS mapping to review compliance with the “30/30 concept,” to ensure everyone in the state can access CDSMP within 30 miles and within 30 days.
- **Louisiana** matches NCOA-reported data against survey data, including questions on substance use, and is exploring the utility of collecting data elements in addition to the NCOA-reported set. The state, with University of Louisiana-Monroe, has examined changes in participants’ health behavior, health status, health care utilization and costs; and qualitative information on program effectiveness with low income, rural, and African American populations.
- **Nebraska** uses the NCOA-reported data internally for program review, shares the data with external partners, and engages a GIS specialist for data mapping.
- **Tennessee** develops individual spreadsheets from NCOA-reported data for each ADRC, representing the areas they serve. This grantee requires implementation sites to telephone completers at 6- and 12-months following the workshops to administer a short survey about their ability to manage their chronic conditions.

7.4.2 Program Management-Process Evaluation: State Grantees

An additional 31 states have included primary and secondary data from other sources and combine this with the NCOA-required data to conduct basic evaluation of their CDSMP operations and management. One example is the Maryland grantee and its partner, Towson University, which have added additional data elements to the required dataset to look for issues or gaps that may impede program delivery, and others that may make it more successful. This team is also conducting phone interviews with coordinators across the state to provide additional input to these assessment activities.

Program management evaluation approaches most frequently reported were participant satisfaction surveys, pre/post workshop surveys, and 3- and 6-month follow up surveys. Seventeen state grantees reported conducting pre/post surveys and/or follow up surveys. Most of these assessments are based on self reports of participants on knowledge and understanding, self-efficacy and health behavior changes. New Mexico reported using data on participant feedback, program reach, and completion for CDSMP program planning. The Georgia grantee has used survey questions from the CDC’s Behavioral Risk Factor Surveillance System and from nutrition classes offered apart from CDSMP workshops, delivered pre/post workshop and 6 months following completion, to assess their CDSMP workshops.

Program administrative data describing numbers and locations of participants, workshop leaders and master trainers; workshop and training schedules; and other operational issues are sometimes analyzed and used to coordinate information across and within regions and statewide. This information can be made available online, as Arkansas has done, to facilitate information sharing. Program management evaluation also addressed fidelity issues. Currently, Georgia is piloting an approach for using evaluation data to refine its program fidelity. Michigan reported focusing program evaluation on fidelity issues using an online survey and phone and

face-to-face interviews. This evaluation has been conducted through a partnership with the Michigan State Geriatric Education Center.

7.4.3 Special Studies: State Grantees

Some grantees have initiated special studies of CDSMP that focus on unique populations or seek to provide information about program cost savings and impacts on health behaviors, health status, and utilization of health services. Seventeen grantees described studies of this type, often conducted in partnership with local universities. Most of these studies have been conducted independently, with each research team developing their own framework, measures and analyses. Many studies are currently in progress and have not yet produced final results; others have been completed and some, including studies conducted in Hawaii, already contribute to the growing evidence base about CDSMP.³³ Example studies are highlighted below. Selected outcomes studies with findings to report are highlighted in the following section.

Exhibit 7.2. CDSMP Special Studies from Example States

State	Special Studies
New Jersey	In collaboration with the University of Medicine and Dentistry of New Jersey (UMDNJ) the state is moving forward with 3 studies aimed at different populations: (1) UMDNJ “SAVE Women and Men” related to New Jersey’s Cancer Education and Early Detection program, which will enroll 90 CDSMP participants and measure clinical outcomes; (2) UMDNJ is measuring outcomes in prisons where CDSMP has been conducted; and (3) an initiative at a Federally Qualified Health Center to examine integration of operations with data collection.
Texas	The state recently completed a pilot study at a women’s prison and hopes to have a dedicated site for program delivery at the facility. The state also held a summit to discuss DSMP accreditation as a requirement for Medicare reimbursement. The state is conducting a pilot to demonstrate the ability to deliver DSMP and has identified Medicare partners including Federally Qualified Health Centers, a nursing school and a home health organization. (Methods and findings have not yet been reported.)
Vermont	As part of a larger data collection effort in the “learning organization” of the state’s Blueprint for Health, the state collects and analyzes data on CDSMP. For many analyses Vermont has the ability to link CDSMP participation to clinical outcomes using electronic health records.

³³ Tomioka M, Braun KL, Tanoue L. Adapting Stanford's Chronic Disease Self-Management Program to Hawaii's multicultural population. *Gerontologist*. 2012 Feb;52(1):121-32. Epub 2011 Jun 30. <http://www.ncbi.nlm.nih.gov/pubmed/21719630>.

Tomioka M, Tom T, Higuchi P, Kidani S, Pendleton N, Yamashita B, Braun K. The Hawai'i Healthy Aging Partnership: partnership development - an investment for program success. *Hawaii Journal of Public Health* 2009 Vol. 2 No. 1 pp. 20-31. <http://hawaii.gov/health/hjph/Volumes/Volume2.1.pdf>

State	Special Studies
West Virginia	Through West Virginia University (WVU) and Marshall University, West Virginia has several studies underway. First, there is an outcomes study in progress based on the Ory model, which incorporated some questions from the Bureau of Public Health, as well as self-reported health, self efficacy, quality of life, communication, activities, pre-diabetes screen, pre-hypertension screen, cholesterol levels (all self-reported). They are training leaders to distribute the outcomes survey pre-class (so far 89 completions), a satisfaction survey at the end of the 6 week course and outcomes again at 3 and 6 month post program. Second, they are planning a leader survey to determine activity, barriers, needs, experiences and demographics (at this point, the survey has been drafted). Third, they are conducting telephone interviews of participants and non-participants by region, with proportional representation (CDSMP, DSMP, non-completers and completers). They aim to survey at least one participant per leader. At this point, the survey instrument is complete. In preparation for these efforts, this grantee restructured its ARRA grant to cover future data collection and pre-paid postage and made copies of data collection instruments to last for several months following the end of the grant.

Source: IMPAQ International and Altarum Institute

7.5 Evaluation Efforts

Several grantees have undertaken evaluation of CDSMP program outcomes that examine impacts of program participation on changes in health behaviors, health status, self-efficacy in managing chronic health conditions, utilization of medical care, cost and cost effectiveness. States that have initiated these studies, beyond basic submission of required data or program management monitoring and evaluation, typically have been in state agencies with more established infrastructure that have designated evaluation staff to support CDSMP or other aging or public health programs, or that have engaged in partnerships with local universities and their research groups. These evaluation activities are contributing to a growing evidence base about CDSMP as it is implemented in community settings, with older adults from diverse populations and settings. The research teams usually operate independently, and have generated considerable expertise and research supports, from measures and surveys to analytic approaches. Stanford University’s Patient Education Research Center has made available some basic suggestions for evaluating CDSMP in its “Primer for Evaluating Outcomes.”³⁴ While many of the standard research approaches presented in the Primer appear to have been adopted (e.g., 3-, 6- and 12 month follow up), the extent to which grantees and their research teams rely on this resource is unclear. In fact, many teams have developed more detailed approaches and alternate methodologies (see Exhibit 7.4) to investigate their research questions.

Grantees and their research teams have examined pre/post and follow-up effects of workshop participation, with an eye to changes in participants’ knowledge, behavior, and perceived self efficacy. Research teams are examining both initial impacts of participation and longer term effects to assess whether and if participants experience longer term effects as a result of their participation in the workshops. Most studies use the conventional 3-, 6- and 12-month follow up periods and examine such items as satisfaction, self-reported patient health and social

³⁴ Lorig, K. and D. Laurent, “Primer for Evaluating Outcomes,” April 2007.

behavioral measures. Grantees that report these measures generally find a statistically significant improvement among key measures related to self-efficacy and some measures of self-reported health status, particularly among participants with long-term chronic conditions.

Grantees and partners with sophisticated data analytic resources were able to investigate CDSMP impacts on clinical outcomes such as BMI, Hemoglobin A1c, and measures of health status and functional abilities. The Alaska grantee has worked hard to implement clinical outcomes for diabetes patients enrolled in CDSMP programs with the most typical outcomes being changes in blood pressure and A1C hemoglobin levels- tangible evidence that the underlying conditions are being controlled. Alaska has implemented a case-control design to separate changes that may occur in participants due to other external factors and changes that occur directly due to program participation. Louisiana is seeking clinical partners in order to gauge CDSMP's impact on health care utilization and cost, and to explore potential payment support from public and private payers. Although there have not been robust studies conducted with medical outcomes, a recent survey has shown statistically significant improvements for individuals dealing with diabetes in blood pressure and hemoglobin levels.

7.5.1 Evaluation Partnerships

Resources to carry out a formal evaluation, both financial and technical, are not always adequate or available for evaluation at the state and local levels. To bridge the gap, some grantees partnered with local academic institutions to assist with evaluations. Twelve grantees reported partnering with universities for evaluation purposes. Due to different state capabilities and existing evaluation infrastructure, however, universities played different roles in facilitating evaluations.

Some partnerships focused on developing tools that would ultimately lead to a more thorough evaluation: New Hampshire tapped the Dartmouth Prevention Research Center to establish a pre-post outcome survey that was later used to evaluate CDSMP across the state. Grantees also tapped university research centers to help evaluate CDSMP programs aimed at specific populations in non-traditional settings. New Jersey partnered with the University of Medicine and Dentistry of New Jersey to evaluate CDSMP as it was administered in prison settings. The Hawaii grantee partnered with the University of Hawaii to evaluate how the adaptation of CDSMP fared across different ethnic populations in the state.

Grantees also partnered with universities to carry out detailed evaluations of program delivery and efficacy. Maryland partnered with Towson University and Massachusetts with the University of Massachusetts' Donohue Institute to examine issues related to program delivery and process evaluation. Finally, Oregon partnered with Oregon State University to produce perhaps the most sophisticated CDSMP program evaluation to date. The report entitled "Program Impact Report: Oregon's Living Well With Chronic Conditions" (available at <http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/LivingWell/Documents/Reports/statedata12.pdf>) not only provides analysis of program participants' change in four domains (health behavior, health status, self-efficacy, and health utilization), but the report also

provides sophisticated estimates such as the number of Quality Adjusted Life Years (QALYS)³⁵ the program has added for participants, and the cost savings of the program in reduced health utilization by participants (a brief summary of this research is provided in Exhibit 7.4).

7.5.2 Evaluation Topics, Measures, and Findings

State-based program evaluations address a wide range of different topics and outcomes. Exhibit 7.3 summarizes the measures and outcomes respondents interviewed for the process evaluation identified for their studies.

³⁵ The QALY is an internationally recognized measure of the value of health outcomes that attempts to combine length of life and quality of life into a single index number.

Exhibit 7.3. CDSMP Evaluation Measures and Outcomes: Grantees and Partners

Evaluation Measures and Outcomes
<u>Clinical</u> <ul style="list-style-type: none">▪ Body Mass Index▪ LDL Cholesterol▪ Blood pressure▪ Hemoglobin A1c▪ Health status▪ Health distress▪ Levels of fatigue, pain, stress, sleep
<u>Self-Reported</u> <ul style="list-style-type: none">▪ Self-rated health status▪ Self-reported physician visits▪ Ability to cope with symptoms▪ Physical activity▪ Time spent engaging in stretching/strengthening and aerobic exercise▪ Communication with physicians
<u>Social-Behavioral</u> <ul style="list-style-type: none">▪ Self efficacy▪ Health behaviors▪ Symptom Management▪ Patient Activation Measures (PAMs)▪ Social and role activity limitations▪ Activities of Daily Living (ADLs)
<u>Satisfaction</u> <ul style="list-style-type: none">▪ Participant satisfaction▪ Leader satisfaction
<u>Health Care Utilization and Cost</u> <ul style="list-style-type: none">▪ Health care utilization (physician services, ER visits)▪ Health care costs▪ Quality Adjusted Life Years (QALYs)▪ Medicare Cost Savings

Source: IMPAQ International and Altarum Institute

Several states reported evaluation and other research studies were underway, and some have been able to report findings. Exhibit 7.4 highlights study findings from states reporting them during the ARRA funding period.

Exhibit 7.4. CDSMP Study Findings from Example States

State	Study Findings
Hawaii	<p>Hawaii has conducted a formal evaluations focusing on the modification of CDSMP to different ethnic groups. The state, with the help of the University of Hawaii, conducted a study looking at the adaption of CDSMP to Caucasian, Asian, and the Asian Pacific Islander (API) population groups. The study took baseline and 6-month measures for the three populations (584 completers, baseline data for 422 including 53 Caucasians, 177 Asians, and 194 Pacific Islanders), and found that all three groups realized significant decreases in social and role activity limitations and increases in communication with physicians. In particular, the API group realized significant increases in self-rated health and time engaging in stretching/significant exercise; Asian respondents reported significant reductions in health distress and self-reported physician visits and increases in time spent in aerobic exercise. The study results suggested that CDSMP could be successfully adapted to different cultures without losing its behavioral change focus using supplemental materials and additional staff time to support participants.</p>
Idaho	<p>Idaho has conducted a formal evaluation of the impact of CDSMP on rural populations, particularly among women of a lower socioeconomic status. The state partnered with Boise State University to evaluate the “Living Well Idaho” program. A survey was administered once to measure pre-intervention (before the program) and again six-months after the program ended in the domains of self-efficacy, health status, health care utilization, and health behavior. The study population of 298 was primarily white Caucasian females above the age of 65 residing in rural areas with 1 or more chronic condition. A majority of participants claimed annual income less than \$24,999 and an education level at or below high school.</p> <p>Overall, there were significant changes in health status, and among those individuals of lower incomes, there were also changes in days affected by physical or mental health and improved communication with physicians. On the negative side, participants of lower social status reported higher utilization and ER visits; they also reported lower self-management skills after the program ended. These respondents also reported higher utilization of physician visits, which may ultimately lower long-term costs if the visits allowed respondents to handle health issues with their physicians before they escalated and required hospitalization. Further research is needed on the role of physician visits.</p>

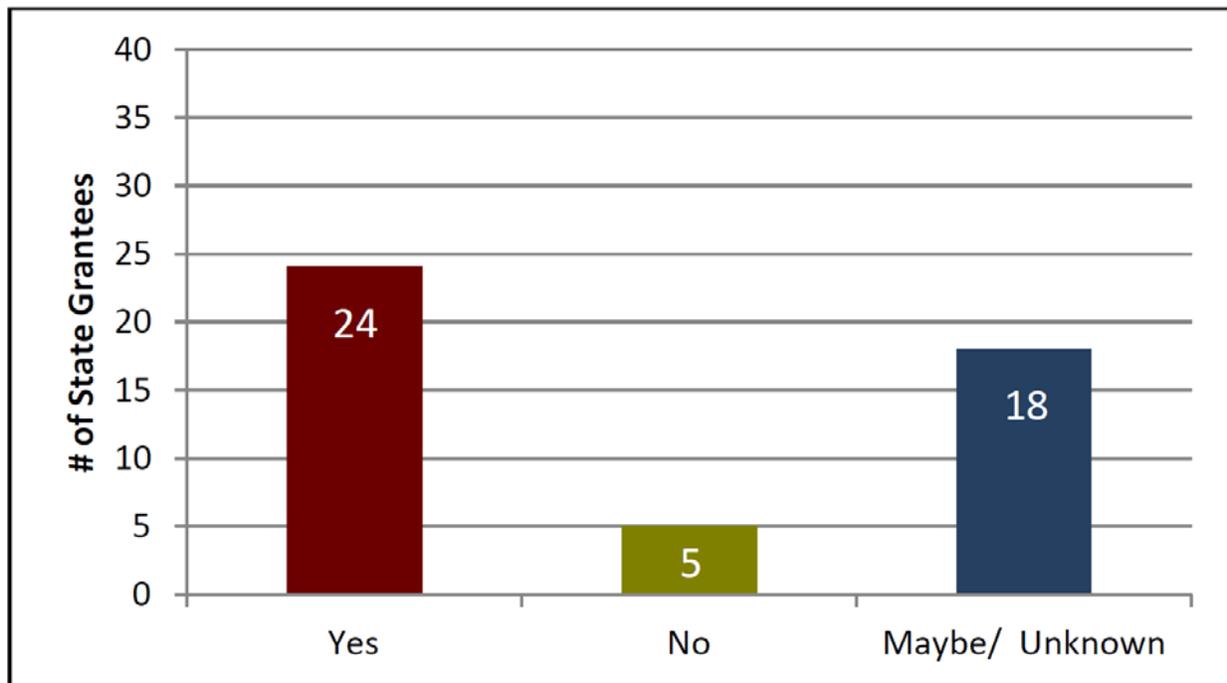
State	Study Findings
Massachusetts	<p>Massachusetts, in cooperation with the University of Massachusetts, published a pilot outcomes evaluation of the state’s programs in March 2012. Between March 1, 2010 and March 2, 2012, a total of 2,720 adults participated in 251 chronic disease self-management workshops with 2,132 completing four out of six workshop sessions for a completion rate of 78%. Of the total number of participants, 83% attended “My Life, My Health” (CDSMP) and “Mi Vida, Mi Salud” (<i>Tomando Control de su Salud</i>) workshops.</p> <p>The outcome study included a pre-workshop health survey prior to the program’s initiation; the same survey was then given to participants after the sixth session and six months after the program ended. Overall, the evaluation found that completers experienced improvements in self-reported general health, levels of fatigue, pain, stress, sleep, physical activity, and communication with their physicians. There were also marginally smaller decreases in health care utilization levels. The completers aged 64 and younger had more significant reported health improvements than those 65 years and older, although completers between 65 and 74 years of age had slightly higher decreases in health care utilization than other groups.</p>
New Hampshire	<p>New Hampshire has developed a survey instrument with the help of Dartmouth Prevention Research Center. The survey instrument shares many of the same foci and question types as already used in Maine and Vermont. The state has already conducted an evaluation of the existing programs, and expects a summary report to be available in late spring 2012.</p>
North Carolina	<p>North Carolina conducted a formal evaluation of the state’s Living Health Chronic Disease Self-Management Program (CDSMP) in the fall of 2009. The evaluation targeted participants who attended a CDSMP workshop from November 2009-March 2010; the survey questions were in four main domains: general health, physician communication, symptom management, and daily activities. The questions were asked pre-program and a year after the program finished. A total of 113 participants participated in both surveys. A series of Repeated Measures ANOVAs were run to examine the changes in scores from pre- to post-test. Statistical trends were found in the four self-reported health domains. Specifically, increases in physician communication, daily activities, and symptom management were found as well as improvements in general health.</p>
Oregon	<p>Oregon conducted perhaps the most comprehensive and complex evaluation with its 2010 impact report. The report evaluated a number of unique metrics for the 3,919 participants in 376 workshops from 2005-2009. Although the state did not conduct a state-wide pre-post survey of participants, it did collect extensive qualitative information from workshops that showed improvements in participants’ attitudes and self-reported conditions in a range of domains including quality of life, health and functional status, disability, and overall confidence levels. Perhaps more notable, Oregon is the first state to conduct a formal cost-effective analysis of the program’s impact on health spending: The report found that the participants saved 107 quality adjusted life years (QALYS) through the program, had 557 fewer visits to the ER that resulted in avoided costs of \$634,090 and 2,783 avoided hospital days that avoided costs of \$6,501,088. The report also made estimates of enrolling 5% of eligible Oregonians in CDSMP that would result in 2,138 gained QALYS, 11,119 avoided ER visits avoiding \$12.6 million in costs, and 55,593 avoided hospital days that would save \$129.9 million dollars.</p>
Wisconsin	<p>Evaluation has largely focused on cost savings associated with the program. In addition, evaluation efforts have measured fidelity adherence, leader motivation, and retention. Program evaluation conducted in November 2010 reported a nearly 1.5 million dollar savings in health care expenditures based on the same utilization indicators of emergency room and hospital days used by Stanford in their original evaluation of the program.</p>

Source: IMPAQ International and Altarum Institute

7.6 Post-ARRA Changes

For many grantees, the completion of ARRA funding for CDSMP on March 30, 2012, raises questions about potential impacts on data collection, analysis and evaluation activities as well as the future of CDSMP programs overall. Of particular interest to AoA, is understanding the extent to which grantees will continue to collect data required for submission to NCOA under the ARRA grant. Although grantees will not be funded for this activity, NCOA on behalf of AoA, has requested that grantees continue to do so. Nearly half of the grantees received extensions on their grants, and are expected to continue to collect and submit data throughout this period, which may extend as far as one year. Completion of ARRA funding for CDSMP has occurred concurrently with difficult economic situations for states and local areas. It is important for AoA to understand and access data from its grantees, maintained by its technical assistance contractor NCOA, to enable AoA to track and monitor the CDSMP programs it funds over time and evaluate the impact of this funding nationwide. Members of the evaluation team explored related questions with grantees during site visits and phone interviews.

Exhibit 7.5. Post-ARRA Data Submission



Source: IMPAQ International and Altarum Institute

As shown in Table Exhibit 7.5, approximately half of the state grantees (24 of 47) reported plans to continue collecting and submitting data to NCOA. As a whole, these grantees tended to have established programs and data management infrastructure in place, and often incorporated collection of NCOA-required data with other state data collection, analysis and evaluation activities. Oklahoma reported that the state Department on Aging's in-house evaluator would continue to submit the data, which the state views as a valuable program asset for refining the

program and reporting its benefits to stakeholders. Vermont will continue to submit data because reporting is integrated within their state Blueprint for Health and CDSMP data are collected routinely.

Five states reported that they did not plan to continue data collection after funding ended. One grantee reported that the part time position supporting CDSMP data activities would be eliminated when funding ended. Another grantee reported that sending data to NCOA is a burden given the grantee's other responsibilities.

Several state grantees reported they were not aware of the request to continue providing data after funding had completed, but stated they would be willing to do so. Grantees also cautioned that, while they were willing to submit data at the state level, they could not speak for their host or implementation sites and their capacity or willingness to comply. The Texas grantee reported that the state will continue its data collection and monitoring as usual after funding ends, and has been encouraging local partners to submit data as well. However, because these activities are no longer a requirement of funding, participation would likely vary by organization.

Eighteen grantees stated they did not know how the completion of ARRA funding would impact their data collection and reporting, or how data collection would likely be affected by state and local budget cuts. In Nevada, the state hopes to obtain funding from other sources to continue CDSMP data-related activities.

Grantees were also uncertain of the post-funding impact on data collection and analysis for program management and basic studies. Some grantees have squarely incorporated evaluation into their public health and aging activities, and surmised that their current activities would continue or expand. Others expressed uncertainty tied to state and local budget negotiations and their impact on their CDSMP programs.

7.6.1 Data, Analysis, and Evaluation Needs

While some states are more data driven and sophisticated in their use of evaluation than others, grantees appear to have their basic needs for program management data and evaluation met. The gap identified by most was the lack of state-level information about CDSMP program outcomes including information about health care costs and utilization, health status and return-on-investment. A common refrain was ... *legislators, health plans and employers want to know about CDSMP in OUR state*. National studies are not sufficient at state and local levels.

- The state unit on aging in one state called for Medicaid claims studies to prove the cost effectiveness of the program.
- According to one grantee, the physician community wants to see state-specific outcomes. Insurers will also want to see outcomes data for the participants they refer to CDSMP.

- Another state grantee is planning to expand their current evaluation framework to support some type of cost effectiveness analysis.

7.7 Future Plans

The future of data collection and evaluation at the state and local levels appears uncertain and quite variable with the completion of ARRA funding for CDSMP. About half of grantees plan to continue collecting and submitting data to NCOA after funding ends, and the remaining grantees are either uncertain or do not plan to submit data on their CDSMP programs.

Some grantees and host and implementation sites have been able to plan for the end of ARRA funding and sustain their data collection, analysis and evaluation by integrating core activities with those of other public health and aging programs, in states where this capacity is present. Partnerships with local universities have helped to sustain capacity for evaluation, particularly where special studies are conducted. Grantees have also sought to develop multiple funding streams from federal and state grant programs. Funding from CDC's Community Transformation grants and CMS, as well as AoA's Title III-D and new grant opportunities for CDSMP continuation and expansion are among the sources grantees have identified to help sustain this capacity.

Grantees' capacity to sustain CDSMP data collection, analysis and evaluation typically depends on the assessment of competing priorities for resources at the state level, as well as the capacity and willingness of regional and local sites to collect and submit data. Successful strategies for sustaining these capabilities include integrating CDSMP data collection and analytic activities with those of other public health or aging programs. States vary in their capacity for and use of data for program management and decision making. Grantees in states with data-driven cultures and established data analytic infrastructure are more likely to report intentions to continue to collect and report required data as well as program management evaluation and special studies than grantees in states with less developed resources. Special studies conducted through partnerships with universities were often funded by grants and contracts unrelated to ARRA funding for CDSMP. As a result, these studies were less likely to be affected by the end of ARRA funding.

The evaluation team identified several areas where efficiencies could be achieved or additional information provided to improve grantees abilities to sustain CDSMP. These are listed below.

1. Grantees have become involved with various types of program management evaluation and special studies, and are gaining experience with diverse measures and methods as they conduct CDSMP-related research. These activities are usually conducted independently, without inter-state collaboration. Sharing measures, methods, findings, and experiences conducting CDSMP-related research among grantees and their research partners across states enables peer-to-peer learning and development of the evidence base for CDSMP as delivered by community-based organizations to older adults.

2. Several grantees mentioned that they provide data and analysis to external stakeholders including individuals in other state agencies, legislators, employers, health plans and Medicaid. Grantees emphasized the importance of this state-level information to support CDSMP adoption and sustainability. Many would have liked to have more state-level information about health care cost, health care utilization, health status and return-on-investment to facilitate their efforts to obtain third party payers including Medicaid.
3. Grantees with advanced research agendas developed in-house and with university researchers, are developing experience merging CDSMP program data with other data sets such as BRFSS, Medicaid claims, and surveys of participants and leaders. Hawaii and Oregon are two examples of states that have developed considerable experience in this area. Grantees in four states have added GIS mapping to their data analytics to support CDSMP planning and management.

Data collection at local sites can be challenging given the many competing priorities of workshop leaders and program staff, especially when funding and resources are limited. Innovations including the scannable forms developed in Michigan show great promise in reducing the burdens associated with data collection, and could be replicated in other states.

CHAPTER 8: SUSTAINABILITY OF CDSMP

Research Question 5: *Have the grantees built sustainable statewide distribution and delivery systems which increase the availability of evidence-based self-management programs and provide an ongoing distribution channel for other evidence-based programs that may be delivered by community-based organizations?*

Key Findings

- 1. Strong leadership and vision at the state level will be a key factor in program sustainability.** Whether a state opts for centralized or decentralized oversight or a centralized or decentralized delivery system, state-level commitment to CDSMP will be critical. Leaders at the state level who ensure that CDSMP is integrated into statewide strategic planning, actively support implementation at the local level through technical assistance and other supports, and advocate for statewide standards for fidelity monitoring are likely to be rewarded with stronger, more sustainable programs.
- 2. A symbiotic partnership between the state unit on aging and the public health department benefits CDSMP implementation and sustainability.** Aging brings access to a state's aging network, which is important for reaching older adults and, increasingly, persons with disabilities (through ADRCs). Public health brings a commitment to evidence-based health promotion and prevention programs and established delivery systems. States in which aging and public health collaborate effectively tended to have stronger CDSMP delivery networks, even though the aging-public health partnerships vary significantly in structure and function across the states.
- 3. Agency leaders at the state level will not be successful in advocating for and sustaining CDSMP unless they are able to effectively communicate the program's benefits to the governor's office, legislators, and other stakeholders.** Many grantees reported that state officials and legislators want evidence of program benefits and cost-effectiveness before considering broader support for CDSMP.
- 4. While strong leadership is needed at the state level, regional and local leadership is also important to sustainability.** Regional or local leaders committed to CDSMP, as well as "embedded" agency staff who are trained as CDSMP leaders, can bring stability and continuity at the local level. Embedded leaders can also reduce dependence on volunteers. Many sites reported that recruiting, training, and sustaining an all-volunteer corps of workshop leaders can be challenging and costly.
- 5. With their boundless energy and tenacity, state and local champions often play a pivotal role in launching successful programs; however, sufficient attention must be given to building a strong delivery system and broad support for the program.** Otherwise, a program may not be able to weather the loss of a champion or a change in leadership.
- 6. Strong infrastructure is key to sustainability, whether at the state level (centralized models) or the regional level (decentralized models).** Some grantees advocated for centralized infrastructure to support multi-site, multi-program licenses and data collection and support for community-based organizations. Others advocated for decentralized approaches, making efforts to have community-based organizations take on program responsibilities to ensure sustainability of CDSMP in the event of state budget cuts or reorganizations that might impact capacity to support ongoing program activities. There is not strong evidence for one approach over the other as a sustainability strategy.

7. **Simultaneous pursuit of multiple strategies to promote sustainability can be beneficial in a program’s start-up phase, but a focus on the most effective strategies is ultimately the best approach.** “Let a thousand flowers bloom” was the mantra of a number of ARRA grantees in their quest for sustainability; however, those who systematically evaluate the various strategies and ultimately focus only on those likely to result in the greatest benefit will be most successful over the long term.
8. **Outsourcing program oversight and technical assistance can be an effective strategy as long as there is funding to do so.** Grantees such as California and New York have been able to build strong programs by outsourcing program development responsibility to other organizations. However, this is a sustainable model only if there is a dedicated source of funding for these organizations (e.g., grant funding or a state budget line) or program revenue streams that can support them (e.g., technical assistance fees).
9. **Perhaps most challenging for grantees was developing effective referral networks and few “best practices” emerged.** While all but one grantee met their goals for workshop participation, virtually all reported difficulty recruiting participants. Developing more effective recruiting strategies will be an important factor for ensuring long-term sustainability of CDSMP.
10. **“Smart” investment of program development funds can help to build sustainability.** Many grantees avoided using ARRA funds to support state and/or local staff salaries, understanding that it would be difficult to find replacement funds when the ARRA grant came to an end. Instead, investing in infrastructure building was more likely to position a program for sustainability over the long term (e.g., developing marketing materials and Web sites, training program coordinators and leaders, establishing processes for fidelity monitoring).
11. **Long-term sustainability is likely to depend on integration of CDSMP into new delivery system and financing models.** States cannot rely on public or private grant funding to sustain CDSMP, which can ebb and flow as budgets and priorities change. Incorporating CDSMP into medical home models, large medical practices like Kaiser Permanente, and public and private managed care programs is likely to be a more sustainable strategy.

8.1 Introduction

In their ARRA grant applications, each state was to provide “a vision for long-term sustainability of CDSMP as part of its overall approach to helping older adults remain independent and living in their own home and communities.”³⁶ AoA endeavored to support states in developing strong, sustainable delivery systems for CDSMP that would continue to thrive after federal funding came to an end.

In announcing funding opportunities for chronic disease self-management education programs and structuring technical assistance for grantees, AoA promotes these key elements for an integrated, sustainable service delivery system:

³⁶ ARRA grant RFP, page 16.

1. **State-level aging and public health leadership.** Regardless of which agency is the lead for CDSMP implementation, AoA seeks to encourage states to develop effective collaborations between the state unit on aging and the public health agency.
2. **Effective partnerships to embed CDSMP into statewide health and long-term services and supports systems.** AoA encourages states to strategically recruit and partner with organizations that can embed CDSMP into their ongoing operations, with priority to delivery system partners with multiple delivery sites, the capacity to reach large populations, and a commitment to offering workshops on an ongoing basis beyond the grant period.
3. **Delivery infrastructure/capacity to provide programs throughout the state.** AoA expects states to develop adequate capacity to deliver CDSMP workshops throughout the state.
4. **Centralized or coordinated processes for recruitment, intake, referral, and registration/enrollment.** AoA expects states to develop centralized or coordinated outreach and marketing efforts and to coordinate with ADRCs in the state.
5. **Quality assurance program and ongoing data systems and procedures.** States are strongly encouraged to have a strong quality assurance programs to ensure fidelity and facilitate continuous quality improvement, as well as data collection systems to support these functions.
6. **Business planning and financial sustainability.** States are expected to develop and execute business plans that will ensure financial sustainability beyond the grant period, working with government agencies, foundations and corporations, health care providers, employer groups, and public and private insurers.

In addressing Research Question 5, AoA expressed interest in better understanding the approaches state grantees have taken to ensure sustainability of their CDSMP delivery systems and whether there is evidence to suggest the relative effectiveness of various approaches in achieving this goal. Our examination of this question centered on the six key elements listed above for an integrated, sustainable service delivery system. We found considerable variation in grantees' approaches to the interconnected dimensions of sustainability, reflecting each state's unique historical, political, and organizational features. Yet, even with this variation, common challenges, opportunities, and themes became evident.

Below we discuss eight strategies state grantees are using to promote program sustainability: integrating CDSMP into existing service delivery networks, organizational strategies, partnering with strong organizations, building provider referral systems, educating students in the health professions, leveraging grant funding, building billing capability, and integrating CDSMP into health reform initiatives. The "Key Findings: Sustainability" listed at the beginning of this chapter are based on our review of these strategies together with the analysis of program implementation in Chapter 5.

Data sources consulted in conducting the following analysis of sustainability include site visits and telephone key informant discussions conducted by the research team, grantee progress and final reports, and program data and reports from NCOA, the technical assistance contractor. The research team also reviewed states' responses to the *Sustainable Infrastructure and Delivery System Self-Assessment* administered by AoA in collaboration with NCOA in 2011.

8.2 Deliver CDSMP through Existing Networks

In developing their CDSMP delivery systems, grantees have taken advantage of six existing networks developed with support from Federal partners: the aging network promoted by AoA; the public health network sponsored by CDC; AHECs and Federally Qualified Health Centers (FQHCs) sponsored by the Health Resources and Services Administration (HRSA); cooperative extension services sponsored by the Department of Agriculture; and the Department of Veterans Affairs' medical centers (Exhibit 8.1). These networks offer established channels for program delivery with regional offices and partners throughout the state. States with stronger existing networks on which to build CDSMP initiatives tended to have more robust programs that are likely to be sustainable over the long term.

Exhibit 8.1. Federally-Sponsored Networks Used by CDSMP Programs

Sponsor	Network
Administration for Community Living (ACL)/Administration on Aging (AoA)	Aging Network
Centers for Disease Control and Prevention (CDC)	Public Health Network
Health Resources and Services Administration (HRSA)	Area Health Education Centers (AHECs)
Health Resources and Services Administration (HRSA)	Federally Qualified Health Centers (FQHCs)
Department of Agriculture	Cooperative Extension System
Department of Veterans Affairs	Veterans Administration Medical Centers

Aging network: In most states AAAs, a key component of the aging network, have assumed an important role in the delivery of CDSMP. AAAs function as host sites and frequently take an active role in other aspects of program development and management, such as seeking out new partners for program delivery and provider referrals, training and managing leaders, program marketing and registration, and conceiving and testing new strategies to promote sustainability. Senior centers are an important component of the aging network and serve as CDSMP host and implementation sites. Many AAAs partner with ADRCs, which are often an important source of consumer referrals to CDSMP.

Public health network: CDC’s Arthritis Program has been funding state arthritis programs managed by state health departments since 1999. The programs focus on building capacity to disseminate and deliver evidence-based interventions. Many of these programs incorporate CDSMP into their program offerings. CDC’s National Diabetes Education Program also promotes the diabetes self-management program. Many states have used these programs as a base for expanding CDSMP.

Area Health Education Centers (AHECs): AHECs aim to improve access to health care in underserved areas through interdisciplinary/inter-professional community-based professional training, continuing education, and outreach. New Hampshire has engaged AHECs to deliver CDSMP and the state’s lead AHEC organization holds the CDSMP license. New Mexico, with its vast rural and frontier areas, has an established network of AHECs that have also helped to implement CDSMP.

Federally Qualified Health Centers (FQHCs): The nation’s network of FQHCs provides comprehensive health services to medically underserved populations. Thirty-five grantees reported collaborating with state primary care associations (which represent FQHCs) and FQHCs to provide CDSMP. The Missouri grantee reports that FQHCs are now actively referring patients to CDSMP and are also program delivery partners. A New Jersey FQHC, Southern Jersey Family Medical Centers, Inc., has trained leaders and is now offering CDSMP and DSMP. In New Hampshire, the FQHCs are exploring the feasibility of inserting a CDSMP referral “button” into their electronic medical record.

Cooperative Extension System: Land-grant universities in each state operate a county network of local offices that provide research-based information to agricultural producers, small business owners, and consumers. The K-State Research and Extension at Kansas State University trains staff members in local offices as CDSMP leaders, and these leaders market and manage CDSMP workshops in their areas. Local offices of the University of Missouri Extension partner with the Missouri Department of Health and Senior Services and the Regional Arthritis Centers to provide CDSMP as well.

Veterans Administration (VA) Medical Centers: Twenty-five state grantees reported developing partnerships with local VA facilities to offer CDSMP to veterans. For example, Michigan reported training VA health system staff so that they can offer CDSMP to returning veterans and Ohio has helped VA facilities in Cincinnati and Columbus to launch CDSMP programs.

8.3 Organizational Strategies

States reported a variety of organizational strategies aimed at building sustainable CDSMP programs and delivery systems.

1. **Embed the program in state and local agencies, including training local agency staff as leaders.** A number of grantees reported training state and local agency staff as master

trainers and workshop leaders as a way of building and sustaining program capacity. Grantees reported having leaders employed by state-level agencies as well as host and implementation sites. This way responsibility for leading workshops becomes part of the job description for paid staff and, in the case of master trainers, training new leaders. These grantees must still rely on a cadre of volunteer leaders to help lead workshops, but states maintained that having leaders on staff—many of whom become CDSMP champions—makes the program less vulnerable to resource reductions during or following grant funding. For example, the state-level program coordinator in Kansas was a trained leader, as were staff of ADRCs in Tennessee, staff at senior centers in Arkansas, and extension agents at Kansas State University.

2. Centralize responsibility for evidence-based programs in one agency or department.

Many grantees reported having established state-level departments for evidence-based programming and offering all of their evidenced-based programs through this one department. The location of these hubs for evidence-based programs varied widely across states, reflecting political and historical funding relationships, including departments of aging or public health, or executive level umbrella agencies such as departments of health and human services. Concentrating evidence-based programming in one department has obvious advantages for program development, marketing, staffing, fidelity monitoring, and continuous quality improvement. Some states offer a number of these programs; others have decided to offer just one or two so as not to “dilute” their efforts around program development (e.g., New Hampshire offers just CDSMP and Puerto Rico only offers *Tomando Control de su Salud* and DSMP). Respondents often linked the decision to offer fewer or more programs to availability of funding for evidence-based programs within and across state departments or agencies. States with more decentralized regional delivery models centralized responsibility for evidence-based programs at the regional or local level rather than the state level.

A number of local agencies reported establishing evidence-based program departments and offering “suites” of programs. The ElderLink AAA in Fairfax, VA, takes this a step further, linking A Matter of Balance (targeted at falls management) to CDSMP. The AAA is encouraging clients to complete both programs and combines program participation with additional supports such as home inspections, with the goal of preventing avoidable hospitalizations.

3. Develop tools to support local delivery of CDSMP. Many states with decentralized delivery systems are working to empower their local sites to develop sustainable programs. The Missouri Arthritis and Osteoporosis Program garnered extensive input from experts and stakeholders to develop a sustainability manual for local sites. Entitled *Self-Management Education Programs for People with Chronic Conditions*,³⁷ the manual offers sites comprehensive, practical guidance on sustainability planning, including

³⁷ Available at <http://www.moarthritis.typepad.com/Final%20-%20Missouri%20Sustainability%20Toolkit.pdf>.

chapters on revenue generation, marketing, referral networks, service operation, community support, and advocacy. The manual is now the centerpiece of local technical assistance efforts. Oregon’s *Living Well Sustainability Toolkit* discusses marketing and financial sustainability strategies for local sites, including recruiting partners, guidance on using traditional marketing approaches and the new media, and targeting and making the case to prospective funders.³⁸ Utah developed a financial model to help sites calculate the number of workshops that can be convened with available funding. The Connecticut and Maryland programs engaged sustainability consultants to work on sustainability planning with local agencies.

Maryland issued a Request for Proposals for a sustainability consultant charged with:

- *Fostering partnerships Medicaid and Medicare health plans to pursue reimbursement for CDSMP.*
- *Providing technical assistance to local CDSMP programs on sustainability and third-party reimbursement.*
- *Providing materials for and participating in regional quarterly meetings with local CDSMP sites.*
- *Regular reporting to the Maryland Department of Aging and the Department of Health and Mental Hygiene on sustainability efforts statewide.*

Source: CDSMP Sustainability Consultant. State of Maryland, Request for Proposals, Solicitation No. MDoA 12-002, July 25, 2012.

4. **Develop broad-based support for CDSMP through coalitions and collaboratives.** A number of states have established new collaboratives or coalitions or are working through existing ones to develop and sustain their CDSMP initiatives. Involving coalitions and collaboratives as CDSMP supporters helps to embed CDSMP at the community level and encourages broad ownership of the program at the state, regional, or local levels. Examples are shown in Exhibit 8.2.

Exhibit 8.2. State Collaboratives for CDSMP

State/Collaborative	Description
Arizona <i>Arizona Living Well Institute</i>	Launched in 2010 through a grant from the Administration on Aging, now supported by multiple grant sponsors and partners. Works collaboratively with community-based organizations, healthcare systems, community health centers, senior centers, tribal and minority leaders, parks and recreation centers, employers, and providers. It will take the volunteers, staff, and providers within these organizations to help spread the word about the benefits of CDSMP workshops. (http://www.alzwi.org).

³⁸ Available at <http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/LivingWell/Documents/Toolkit/lwtoolkit.pdf>.

State/Collaborative	Description
Colorado <i>Be Well Colorado</i>	Established in 2011 by the Colorado Department of Human Services, the Department of Public Health and the Environment, and the Central Colorado AHEC. Sponsors a CDSMP website targeted at consumers and providers that describes the program, presents success stories, and lists upcoming workshops and contact information (www.bewellconnect.net).
Massachusetts <i>Healthy Living Center of Excellence</i>	Includes the Department of Public Health, the Executive Office of Elder Affairs, and six regional coalitions. Working to establish a “center of excellence” that will foster local networking and sharing of leaders and other resources, as well as provide a centralized billing capability to support provision of CDSMP as a reimbursable service (http://www.healthyliving4me.org).
Minnesota <i>Minnesota Live Well at Home</i>	CDSMP has become part of the Minnesota Live Well at Home framework that promotes community-based living for older adults and features the CDSMP workshop schedule on its website (http://www.mnlivewellathome.org).
Mississippi <i>Mississippi Delta Health Collaborative</i>	Mississippi CDSMP has teamed with the Mississippi Delta Health Collaborative (http://msdh.ms.gov/msdhsite/_static/44,0,372.html), an established collaborative sanctioned by the Mississippi State Department of Health. The collaborative works to promote healthy communities in the Delta, including clinical initiatives to increase access to care for treatment for heart disease and stroke and community initiatives to create environments that promote heart healthy lifestyle choices.
Rhode Island <i>Chronic Care Collaborative</i>	Rhode Island CDSMP has become involved with the Department of Health’s Chronic Care Collaborative (http://www.health.ri.gov/partners/collaboratives/chroniccare/), established more than a decade ago to address diabetes prevention and now working to develop standards for patient-centered medical homes.
Wisconsin <i>Wisconsin Healthy Aging Institute</i>	Launched in 2010 to help the state’s citizens live healthier lives through evidence-based prevention programs. Includes university and community-based partners to implement, maintain, and test programs for older adults. (https://wihealthyaging.org/).

5. **Outsource responsibility for program development and technical assistance to a university or nonprofit organization.** Some states have established university-based technical assistance centers for CDSMP. Others outsource technical assistance responsibilities to new or existing nonprofit organizations. The scope of responsibility of these organizations varies. Respondents shared that this arrangement enabled their programs to make available highly skilled staff and resources while protecting the CDSMP programs from state legislative actions—e.g., funding or hiring freezes or redirection—that could threaten program continuity and reach. Examples are provided in Exhibit 8.3.

Exhibit 8.3. University and Nonprofit Organizations Responsible for Technical Assistance

State/Organization	Description
University-Based Centers	
<p>New York <i>Quality and Technical Assistance Center (QTAC)</i></p>	<p>The New York State Evidence-Based Health Programs Quality and Technical Assistance Center (QTAC) is based at the Center for Excellence in Aging & Community Wellness at the University at Albany School of Social Welfare (www.ceacw.org). QTAC’s mission is to help build and sustain local capacity in New York State to deliver evidence-based health promotion and disease prevention programs. The state contracts with QTAC to support statewide infrastructure development, collect and manage program data, and monitor program quality. QTAC is funded through state allocations, grants, contractual work (e.g., for technical assistance, training), and in-kind contributions from partner organizations. QTAC has been an important factor in the success of New York’s CDSMP program with its knowledgeable, entrepreneurial, university-based staff dedicated to program expansion and sustainability.</p>
<p>Missouri <i>Missouri Arthritis and Osteoporosis Program</i></p>	<p>Missouri’s seven Regional Arthritis Centers (RACs) have been operating since 1985 when they were written into statute and began receiving funding from the Department of Health and Senior Services. CDC has also provided core funding to the RACs. The RACs are managed by the Missouri Arthritis and Osteoporosis Program (MAOP) based at the University of Missouri (http://health.mo.gov/living/healthcondiseases/chronic/arthritis/index.php). The RACs offer CDSMP and four other evidence-based programs. MAOP provides technical assistance to local programs and produced and distributes a sustainability manual entitled Self-Management Education Programs for People with Chronic Conditions (see http://www.moarthritis.typepad.com/Final%20-%20Missouri%20Sustainability%20Toolkit.pdf).</p>
<p>West Virginia <i>Marshall University Center for Rural Health</i></p>	<p>In West Virginia, the Center for Rural Health at Marshall University holds a statewide license for CDSMP, trains leaders, recruits partners, and assists local sites with program implementation (http://www.selfmanagementonline.org/About-CDSMPs/about-chronic-disease-self-management.html). Marshall University also provides technical assistance for DSMP. West Virginia University collects and manages program data and monitors fidelity.</p>
<p>Kansas <i>Wichita State University</i></p>	<p>In Kansas, Wichita State University partners with a CDSMP collaborative in Wichita (Sedgwick County) to provide marketing and administrative support for the local CDSMP initiative. Unpaid graduate student interns from Wichita State develop marketing and workshop materials, recruit implementation sites, and develop provider referral networks under the direction of a faculty member in the College of Health Professions.</p>
Nonprofit Organizations	

State/Organization	Description
Arizona <i>Arizona Living Well Institute</i>	The Arizona Living Well Institute (www.azlwi.org) is a public-private partnership launched in 2010 to promote delivery of evidence-based programs. It currently offers CDSMP and several other programs. The Institute was established with ARRA grant funding and is currently supported by the Arizona Department of Health Services, a private foundation, and an AmeriCorps grant. The Institute coordinates workshop delivery, trains leaders, and collects and reports program data. The Institute is one of an array of health and wellness initiatives housed by Empowerment Systems, Inc., a nonprofit organization that promotes health and human services in rural and underserved areas of Arizona.
California <i>Partners in Care Foundation</i>	In California, technical assistance to local sites is provided through Partners in Care Foundation (www.picf.org), which has been in operation for 75 years and is the legacy foundation of the Visiting Nurse Association of Los Angeles. Partners in Care develops, tests, and disseminates new models of care for health and social services. The State reported that allocating funding to and providing technical assistance through Partners in Care has helped to shield CDSMP from state budget cuts and legislative action that might otherwise compromise the sustainability of CDSMP.
Wisconsin <i>Wisconsin Institute for Healthy Aging</i>	The Wisconsin Institute for Healthy Aging (www.wihealthyaging.org) is a nonprofit organization established in 2010 through a public-private partnership with leadership from the state Office on Aging. The Institute's mission is to promote healthier lives through evidence-based prevention programs and it currently administers CDSMP, <i>Tomando Control de su Salud</i> , and two falls prevention programs. The Institute maintains a list of workshops and a registry of leaders, monitors fidelity, and collects program data. Under development by the Institute is the Community Academic Aging Research Network (CAARN), which aims to bring together academic researchers and community partners to conduct clinical trials and disseminate research related to healthy aging.
Planned Entities	Planned Entities
Massachusetts	In the early stages of development is a "center of excellence" in Massachusetts that will promote collaboration the Department of Public Health, the Executive Office of Elder Affairs, and six regional coalitions and facilitate reimbursement for CDSMP.
Nevada	Under development in Nevada is a statewide center for evidence-based programs that the State anticipates funding with CDC grants and tobacco settlement money. The center will provide technical assistance and conduct quality monitoring of CDSMP and other community-based programs.

8.4 Partner with Strong Organizations

States partner with a variety of community-based organizations to offer CDSMP. Partners often offer established channels for program delivery and, in many cases, marketing outlets, electronic registration systems, venues for workshops, provider referrals, experienced program coordinators and workshop leaders, easy access to targeted populations, and administrative services. Contractual arrangements with partners vary. In some cases the state contracts with partners or executes memoranda of understanding (MOUs), other partners are funded through

public or private grants, and some provide services in-kind. Partnerships enable states to avoid “reinventing the wheel” and help them leverage existing delivery channels.

Some of the strongest partners are those who are sustaining the program by incorporating CDSMP into their own programs or networks—i.e., training and embedding leaders, recruiting participants, hosting workshops, and in some cases, purchasing their own CDSMP license. For example, the VA Medical Center and Jewish Family Services in Ohio have opted to purchase their own CDSMP licenses and taken responsibility for managing their own CDSMP programs. In Colorado and California, Kaiser Permanente has incorporated CDSMP into its delivery system in order to serve Kaiser members. In Puerto Rico, Triple S, a Blue Cross-Blue Shield health plan, has embedded leaders on staff who provide CDSMP to members. A number of states reported that hospitals have built internal capacity to provide CDSMP on an ongoing basis.

Partners such as community colleges, YMCAs, and libraries can provide a stable venue for CDSMP, offering classrooms for workshops, advertising workshops through their course catalogs, and managing registration through existing electronic systems. For example, Idaho has partnered with a community college, Puerto Rico with the YMCA, and Oklahoma with libraries. However, partners such as these do not generally train and embed their own leaders so must rely on others to supply leaders.

In some cases states have made grants to local organizations to jump-start CDSMP initiatives targeting new populations that are likely to lead to larger, sustainable initiatives. For example, In New Jersey, the Office of Minority and Cultural Health granted funds to the Sickle Cell Association of New Jersey to provide CDSMP. The State reported that CDSMP has helped many young adults with sickle cell disease to transition from pediatric to adult care and the New Jersey Association is now promoting CDSMP in collaboration with the national association.

8.5 Build Provider Referral Systems

Building strong provider referral networks is key to recruiting consumers most in need of CDSMP and ensuring a continuous flow of participants into workshops. While many participants self-refer, others need that nudge from a physician to take their chronic disease seriously and enroll in CDSMP. States consistently reported that building referral networks with physician practices and health plans was one of the most daunting tasks they encountered in striving to build a sustainable CDSMP program. Among the most promising referral systems reported by states were those that involved panel management, Medicaid referrals, and partnerships with medical home initiatives.

Panel management: Vermont has worked with physician groups to promote panel management whereby physicians mail letters to patients with a body mass index (BMI) above a certain threshold who might benefit from CDSMP. The letters advise patients of workshop locations and dates. Coming from a trusted source (a physician), these letters have motivated a number of consumers to enroll in CDSMP. Some states report working with hospitals and

FQHCs to incorporate a CDSMP referral button into the electronic medical record (EMR), but these electronic referrals systems are not yet operational.

Medicaid referrals: Michigan has been educating Medicaid managed care plans about CDSMP and some are now making referrals to the program. In California, L.A. Care Health Plan, which covers dual eligibles through its Medicaid plan and Medicare Advantage Special Needs Plan for dual eligibles (D-SNP), refers members to county CDSMP providers. In Delaware, the United HealthCare Medicaid managed care plan and Delaware Physicians Care, an Aetna Medicaid managed care plan, refer members to DSMP offered by the State and provide monetary incentives to members who complete the program. In Missouri, CDSMP staff trained coaches for the state-operated MOHealth.net information and referral hotline to refer Medicaid clients to CDSMP. Coaches regularly referred callers to CDSMP until the State discontinued MOHealth.net about two years ago because of funding cuts.

Medical homes: Community Care of North Carolina, which provides medical homes for Medicaid beneficiaries, Medicare-Medicaid enrollees, and privately insured individuals through 14 local networks, refers members to CDSMP. A New Jersey AAA is partnering with a large physician practice on a care transitions program in which physicians are encouraged to refer patients to the AAA's CDSMP program. Once the program is fully operational, the AAA will participate in revenue sharing and anticipates using these funds to help support CDSMP.

8.6 Educate Students in the Health Professions

Educating professionals about the value of evidence-based programs in health promotion and disease prevention is another strategy states are using to institutionalize programs like CDSMP. For example, educating nursing students about the CDSMP curriculum and who is most likely to benefit from it will prepare nurses to incorporate CDSMP into clinical practice and/or make referrals to community programs. It is too early to tell what the impact of this strategy will be on the quality and supply of CDSMP leaders, but the states pursuing this strategy believe it will raise awareness of CDSMP among professionals and contribute to the pool of qualified leaders.

Examples of training programs incorporating CDSMP:

- The University of Medicine and Dentistry of New Jersey (UMDNJ) School of Nursing developed and implemented a curriculum for undergraduate nursing students to educate them about evidence-based programs, how to integrate these programs into nursing practice, and how to refer patients to programs such as CDSMP with the goal of graduating advocates for these programs.
- In Ohio, the Miami University School of Nursing trains nursing students as workshop leaders.
- In Kentucky, independent study students in the University of Louisville School of Social Work are trained as leaders and facilitate workshops.

- In Illinois, Rush University College of Nursing trains master’s level nursing students as CDSMP and DSMP leaders and is considering incorporating this training into the curriculum for undergraduate nursing students.

8.7 Leverage Grant Funding

While a dependence on grant funding is not likely a sustainable funding strategy over the long term, a number of grantees have taken advantage of multiple public and private grant programs to build and expand CDSMP and other evidence-based programs. Grantees cited these federal grant programs:

- ACL: Systems Integration Grants;³⁹ ADRC grants; Community Living grants
- CDC: Arthritis Program, Coordinated Chronic Disease Program; Community Transformation Grants; other grants to support diabetes self-management programs
- CMS Center for Medicare and Medicaid Innovation (CMMI): Funding for Accountable Care Organizations (ACOs), medical homes, Medicaid health homes, the Community-based Care Transitions Program, and demonstrations for Medicare-Medicaid enrollees

State grantees have also turned to a variety of local funders, including private foundations and health plans. These sources typically provide small grants and time-limited funding for program development and implementation and cannot generally be relied on for long-term support.

One partnership with a private foundation stands out. The Health Foundation of South Florida launched the Healthy Aging Regional Collaborative in 2008 with \$7 million in foundation funds. The foundation holds a CDSMP license and supports training for T-trainers, master trainers, and lay leaders. Classes and programs have been attended by 17,000 older adults in south Florida. The foundation is what is known as a “health conversion foundation,” formed by conversions of nonprofit hospitals to for-profit enterprises. Federal law requires that the proceeds of sales of tax-exempt entities be directed to charitable purposes. About 200 local and regional foundations have been created in this way since the 1990s. The mission of many health conversion foundations centers around community health and disease prevention, so these foundations could be a promising source of funding for evidence-based programs.

8.8 Build Third-Party Billing Capability

³⁹ Also called “Accelerating Integrated, Evidence-Based, and Sustainable Service Systems for Older Adults, Individuals with Disabilities, and Family Caregivers.”

State grantees recognize the importance of building a third-party billing capability for CDSMP services but have had very limited success in accomplishing this. Fee-for-service payment requires a business model that is vastly different from a delivery system that is funded through grants and/or state budget allocations. It will require a significant investment of resources as well as major cultural change in the way these grantees' networks operate.

To bill for CDSMP services, a state must first determine the actual cost of providing a workshop or workshop session in order to price the service correctly and not operate at a loss. On the one hand, pricing should incorporate the costs of product development, marketing, service provision, quality assurance, and indirect expenses; on the other hand, the price of the service must be affordable for purchasers. States have experienced difficulty in striking this balance, particularly in serving low-income populations. In addition, many prospective purchasers are inquiring about the return on investment (ROI) for CDSMP, which will require outcome studies. Second, a state must have an accounting system to manage accounts receivable (i.e., to bill health plans, employers, consumers, and other purchasers) and accounts payable (i.e., to pay leaders, workshop sites, and other vendors for services provided).

States have been working with public and private insurers to explore different strategies for financing CDSMP. Fee-for-service reimbursement or capitated payment is the ultimate goal but, as an interim strategy, some states have negotiated lump sum payments (or grants) from health plans to help defray the state's costs for providing CDSMP to individuals referred by the plans. Virtually all the states understand the advantages of moving to fee-for-service reimbursement by Medicaid, Medicare, and private health plans, but are experiencing difficulty in effecting what would be a major transformation in service provision within the aging network.

Below we discuss several approaches states are pursuing: Medicaid waivers, Medicare reimbursement, Medicaid reimbursement or allocations, coverage under Medicaid managed care, and coverage under integrated care programs for Medicare-Medicaid enrollees.

Medicaid home and community-based services (HCBS) waivers: Medicaid HCBS waivers are authorized under Section 1915(c) of the Social Security Act and enable states to provide Medicaid-financed long-term services and supports (LTSS) to eligible individuals. Individuals meeting a state's Medicaid financial eligibility requirements and assessed to need a nursing facility level of care can participate in HCBS waiver programs. Each state establishes its own criteria for determining the need for a nursing facility level of care, but typically an individual must have deficits in two or three activities of daily living (ADLs). Older adult Medicaid waiver clients are typically very frail and often homebound.

States must obtain approval from CMS for their HCBS waiver programs. The approval process includes a review of services and supports that the state proposes to offer under the waiver. States seeking to offer CDSMP as a waiver service in a new or existing waiver program must first obtain approval from CMS.

Vermont and Washington are currently the only states approved by CMS to provide CDMSP as a service under a 1915(c) Medicaid HCBS waiver and can serve as models for other states. As an example, Washington offers CDSMP under its Community Options Program Entry System (COPES) waiver for older adults. As opposed to being a distinct waiver service, CDSMP is provided under a broader service category entitled “Caregiver/Recipient Training Services.” The definition for this service is:

“Recipient training needs are identified in the CARE assessment or in a professional evaluation. This service is provided in accordance with a therapeutic goal in the plan of care and includes for example, adjustment to serious impairment, maintenance or restoration of physical functioning, **self management of chronic disease** [emphasis added], acquisition of skills to address minor depression, management of personal care, and development of skills to work with care providers including behavior management ...”⁴⁰

The waiver application goes on to list “Chronic Disease Self-Management Trainer” as one of 14 approved providers for “Caregiver/Recipient Training Services.” The waiver application authorizes both “individual” trainers and “agency” trainers. In this way trainers (or the agencies they work for) can bill and be reimbursed for services by the State Medicaid agency. The State reports that about 100 individuals have taken advantage of CDSMP as a waiver service, with a per session reimbursement rate of \$50.

California, working with the Partners in Care Foundation, conducted pilots in 2010 and 2011 in which care managers for the Multipurpose Senior Services Program (MSSP) Medicaid HCBS waiver referred waiver clients to CDSMP. Medicaid provided reimbursement of \$60 per workshop session attended by the Medicaid client, as well as reimbursement for transportation (\$24 per hour for each two-and-a-half-hour session). The State found that many waiver clients were too frail or encountered other barriers in completing the workshops and the pilots have been discontinued.

Medicaid reimbursement and FQHCs: Oregon, which has partnered with FQHCs to deliver CDSMP, reported that efforts to obtain reimbursement for Medicaid beneficiaries participating in CDSMP offered by FQHCs failed due to a billing technicality. Medicaid payment rates for FQHCs use a federally-defined methodology and are based on a per visit rate. FQHCs were required to bill each CDSMP session as a separate visit (at an estimated rate of \$900 to \$1,500 per patient), making the total cost of a six-week CDSMP workshop financially unfeasible. A single billing for the entire six-week workshop was not allowable under federal rules.

Medicare reimbursement for DSMP: Section 4105 of the Balanced Budget Act of 1997 authorized Medicare coverage for diabetes self-management training services furnished by a certified provider who meets certain quality standards. Services are covered by Medicare only if the treating physician or a treating qualified non-physician practitioner who is managing the

⁴⁰ State of Washington Application for 1915(c) HCBS Waiver: WA.0049.R06.00, April 1, 2009.

beneficiary's diabetic condition certifies that such services are needed. Medicare rules provide further specifications for eligible beneficiaries and training requirements. Training programs must be approved by a national accreditation organization.⁴¹ AoA has been working with the American Diabetes Association (ADA) and the American Association of Diabetes Educators (AADE)—both approved accrediting organizations—to increase the availability of community-based training programs using Stanford University's DSMP model. Up until now, most training programs have been offered in clinical settings. AoA has provided technical assistance to sites. Providers of DSMP must first be accredited by ADA or AADE and collaborate with a Medicare provider who is recognized by CMS as a diabetes self-management training provider. Providers must also have the infrastructure in place to bill Medicare.

A site in Massachusetts has been accredited to receive Medicare reimbursement for DSMP as a result of a collaborative effort by Hebrew Senior Life, a provider of elder housing, health care, and LTSS, and Elder Services of the Merrimack Valley, an AAA. To be accredited, a registered nurse, dietitian, or pharmacist must conduct a one-on-one assessment with the Medicare beneficiary, develop an individualized plan, and then refer the beneficiary to DSMP. Workshop leaders are supported by the nurse, dietitian, or pharmacist, and then each beneficiary is required to have a follow-up with a nurse, dietitian, or pharmacist at the conclusion of the six-week workshop. The State has convened its first DSMP workshop for which it will be claiming Medicare reimbursement for eligible participants (the workshop included a mix of eligible and non-eligible individuals). The partners believe that if they can build the infrastructure for program management and reimbursement, it could be a replicable model for helping older adults to manage chronic conditions. The “center for excellence” that the Massachusetts partners envision (see description above) would be the framework for this infrastructure.

AgeOptions, the AAA for suburban Cook County in Illinois, was close to submitting their application for DSMP accreditation to AADE at the time the research team conducted the telephone discussion with Illinois. The State is exploring how to “brand” the program and whether to have workshops solely for Medicare beneficiaries or mixed workshops that include non-Medicare beneficiaries.

Allocations from Medicaid to support CDSMP: Colorado reported that the Medicaid agency made a grant to the Division of Aging and Adult Services to help support the provision of CDSMP to Medicaid clients. Some of the 14 local networks that comprise Community Care of North Carolina—which provides medical homes for Medicaid beneficiaries and others—make lump sum payments to local AAAs to help support CDSMP.

Coverage of CDSMP under Medicaid managed care: A majority of the states receiving ARRA funding have Medicaid managed care programs. The number and scope of Medicaid managed care programs continues to grow as states seek greater cost predictability, accountability, and

⁴¹ Department of Health and Human Services. CMS Manual System: Pub. 100-02 Medicare Benefit Policy, Transmittal 13, May 28, 2004. Accessed at www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R13BP.pdf.

quality improvement. These programs aim to provide high quality, cost-effective care by assigning enrollees a medical home with a primary care provider, promoting care coordination, and investing in health promotion and disease prevention. Medicaid health plans—typically called managed care organizations or MCOs—receive capitated per-member-per-month payments from the Medicaid agency to provide care to members. The scope of benefits provided by MCOs varies by state and ranges from primary and acute care only to plans that cover primary and acute care as well as behavioral health, dental care, and/or LTSS.

Grantees reported exploring a variety of methods for covering CDSMP through Medicaid managed care but, to date, there are no reported community-based CDSMP providers (i.e., AAAs or other local providers) who are receiving reimbursement from Medicaid managed care plans. In northwest Missouri, CDSMP is being integrated into an Aetna Medicaid pilot program (as well as into an Aetna plan for employees of Heartland Health, an integrated delivery system, and Heartland Health’s new Accountable Care Organization), but arrangements for Medicaid reimbursement have not yet been developed. Oregon reported that one AAA has arranged for a lump sum payment from a health plan that comes from the plan’s community benefit program budget. WellCare of Texas pledged \$100,000 to the East Texas Coalition to support expansion of CDSMP and DSMP in the Houston area. Maryland and several other states reported that MCOs and the Medicaid agency must first be convinced of the cost-benefit of CDSMP before they will agree to provide reimbursement for Medicaid members, so they are discussing outcome studies with health plans that would involve a comparison of health care expenditures for Medicaid members who participated in CDSMP versus a similar group of Medicaid members who did not. States reported major barriers to conducting outcome studies such as this (e.g., securing health plan participation and research partners, availability of claims data, developing a defensible study design, funding for the study).

Reimbursement under Medicare-Medicaid integrated care programs: A long-standing integrated care program for dual eligibles in Minnesota reimburses CDSMP providers. Under this program, members are enrolled in a Medicare Advantage D-SNP for their Medicare benefits and most receive their Medicaid benefits from the same plan that offers their Medicare benefits. This incentivizes plans to better manage the care of these dually-eligible beneficiaries across the two programs. Medica, one of the health plans that participates in Minnesota’s Senior Health Options program for dual eligibles, reimburses CDSMP providers \$120 per workshop for each participating individual. Medica operates in 38 of Minnesota’s 87 counties. The State reports that because Senior Health Options members tend to be very frail, recruitment and retention can be challenging.

8.9 Integrate Evidence-Based Programs into Health Reform Initiatives

States reported considering a number of potential approaches for incorporating CDSMP and evidence-based prevention programming in general into state health policy aimed at health reform. Most approaches were in the early stages of discussion and will require extensive development and collaboration across state agencies and with the federal government.

Vermont is one state where CDSMP has been integrated into health reform. Vermont's Blueprint for Health is built around a statewide network of patient-centered medical homes coupled with local Community Health Teams (CHTs) that provide care coordination, counseling, transition assistance, and self-management and health education. AAAs offer CDSMP and CHTs refer consumers to the program. Community hospitals anchor services under the Blueprint, providing a highly stable delivery infrastructure and resources. Vermont's Blueprint for Health originated as a community-based chronic care model. CDSMP has been an important part of the Blueprint since it was launched in 2003. Medicaid beneficiaries participate in the Blueprint for Health through a Section 1115 demonstration waiver authorized by CMS.

Federal and state policies can encourage states and local agencies to build and sustain evidence-based programs. Under the Older Americans Act, states are required to submit four-year State Plans on Aging to ACL to document accomplishments and future plans. Arkansas now requires each AAA region to offer at least one ongoing evidence-based program.

This has incentivized a number of AAAs to focus on evidence-based programming. States reported that ACL's new rules requiring states to use Title IID funding for evidence-based programming has helped with program sustainability.

CMS reports a record number of states pursuing Section 1115 demonstration waivers for Medicaid reform. Each state's strategy varies, but typically states are seeking 1115 waivers to enable them to bring all or most Medicaid populations and services under one global waiver. These waivers typically involve a managed care model that uses a single enrollment and assessment process, provides care coordination, and emphasizes wellness and prevention. A number of states recognized opportunities for incorporating CDSMP, but reported limited involvement by their agency in the state's Medicaid reform initiatives.

Several grantees cited the federal demonstrations targeting dual eligibles as a potential opportunity to offer CDSMP. The Center for Medicare and Medicaid Innovation (CMMI) awarded design grants to 15 states in 2010 to develop innovative service delivery and financing models for dual eligibles. In 2011, CMS announced two new financial alignment models for dual eligibles and 26 states have expressed interest in pursuing one of these models. Michigan received a design contract and the State reported exploring with the design contract team ways in which CDSMP might be incorporated.

Grantees also reported interest in incorporating CDSMP into Accountable Care Organizations (ACOs), medical/health homes, and Care Transitions programs. Minnesota reported that an AAA is partnering with a health home that will include patient self-management supports under that state's Integrated Systems Grant. Georgia reported that a CDSMP referral mechanism is being built into a CMS-funded Community-based Care Transitions Program demonstration in that state.

Nevada expressed interest in promoting CDSMP to health plans offering products in the individual and small-group markets in the State's health insurance exchange, due to begin operation on January 1, 2014, as required by the ACA. The State also sees the possibility of creating a chronic disease registry working through the exchange.

CHAPTER 9: BEST PRACTICES AND RECOMMENDATIONS

Our analysis of data collected during site visits and telephone discussions with grantees suggests a number of “best practices” for developing and sustaining CDSMP programs for older adults. Federal and state policies and state health reform initiatives can significantly influence CDSMP development and sustainability. States demonstrated creativity and tenacity in seeking innovative ways to recruit and retain leaders, market CDSMP to consumers and providers, and integrate CDSMP into broader delivery networks and systems. Best practices are discussed below, followed by recommendations for incentivizing continued development of strong, sustainable CDSMP programs.

Ensuring long-term sustainability will require multiple strategies, but the evaluation team believes that positioning states to diversify their funding streams and receive third party payment should be a goal shared by all states and stakeholders. This will require documenting the effectiveness and efficiency of CDSMP delivery, conducting cost finding and establishing payment rates and approaches for delivering the program, and working with private health plans, Medicare Advantage plans, and Medicaid managed care organizations to incorporate CDSMP as a billable service for members. The time is right, with public and private health plans actively embracing health promotion, care coordination, and medical home models and states adopting more expansive managed care for public beneficiaries.

9.1 Best Practices

Best Practice 1: Infrastructure Development and Support

In accordance with AoA’s promotion of integrated, sustainable service delivery, grantees developed strategic partnerships and infrastructure to support the statewide delivery of CDSMP. Grantees reported wide variation in the development and use of infrastructure to support CDSMP program operations. Often, CDSMP was housed with other evidence-based programs for older adults in departments of aging or public health. In states like New Jersey and Ohio, CDSMP programs benefited from established state government programs and infrastructure, often extending to data collection and evaluation. Other states provided CDSMP as free-standing programs, offering basic program supports. Clearly, embedding CDSMP with other programs creates a stronger infrastructure and increases the likelihood of program sustainability. While there are no firm parameters for the most efficient or effective resource levels for statewide CDSMP programs, states with established infrastructure and support are clearly advantaged in implementing and sustaining their programs.

Resource levels: Not surprisingly, grantees that were able to garner substantial resources and infrastructure to support their programs tended to have stronger programs with more offerings, and were better able to withstand reductions in funding when ARRA grant funding came to an end. Grantees with less developed program operations were more vulnerable, both during program implementation and following ARRA grant funding. State grantees with

fewer resources were more likely to report the need to discontinue or scale back activities such as leader training, recruitment and outreach, marketing, data collection, and evaluation. In some cases staff positions were eliminated.

Best Practice 2: State Health Reform and Public and Private Community-Based Initiatives

Several grantees have been able to incorporate CDSMP into state health reform, public health initiatives, and other programs, thereby helping to expand program availability and ensure sustainability. These efforts have aligned with AoA's promotion of embedding CDSMP into statewide health and long-term service and supports systems. Some states have included CDSMP as a prominent component of statewide programs, including Medicaid and CDC Community Transformation grants. Grantees have also successfully embedded workshop leaders into public agencies and included CDSMP training and workshop development as part of staff positions. This helps to ensure a stable workforce of leaders and positions CDSMP advocates and experts within the agency. Many of these staff positions are non-grant-funded or "regular" positions, so tend not to be affected by downturns in grant or discretionary funding. This approach also establishes multiple funding streams for CDSMP, which helps to sustain the programs when federal funding declines or comes to an end. Examples include:

Vermont *Blueprint for Health*: AAAs offer CDSMP as an integral part of Vermont's innovative *Blueprint for Health*, a statewide network of patient-centered medical homes that emphasizes care coordination, transition assistance, health education, and self-management.

Community Care of North Carolina: This nationally acclaimed system of medical homes for Medicaid beneficiaries, Medicare-Medicaid dual eligibles, and privately insured individuals partners with local AAAs to provide CDSMP to members.

Embedded CDSMP trainers and workshop leaders: A number of states reported that paid staff in state and local agencies and/or partner organizations have been trained as CDSMP leaders. Private health plans have also used this approach. Triple S, a Medicaid plan in Puerto Rico, trains staff as leaders and delivers CDSMP to members in its Medicaid health plan directly. Kaiser Permanente also trains leaders and conducts its own workshops for members.

Best Practice 3: Partnerships to Expand Reach and Extend CDSMP to Special Populations

AoA expects states to develop adequate capacity to provide CDSMP workshops throughout the state to all residents. State grantees reported success working with a wide range of public and private partner organizations and groups, including local coalitions and collaboratives, state and local agencies and organizations, and employers to support AoA's vision. Partnerships have enabled access to special populations (e.g., cultural/ethnic minorities, inmates, individuals with specific diseases or conditions), expanded program referrals, and enhanced the resource base available to grantees and their host and implementation sites. Partners may refer to

community-based workshops or hold their own licenses and convene their own workshops. Partners play an important role in diversifying resources for and sustaining CDSMP programs outside direct federal funding streams.

Coalitions and collaboratives: States engaging with existing collaboratives or starting up new ones to support development and dissemination of CDSMP generally reported that the collaboratives made a difference in bringing stakeholders on board and generating broad support for CDSMP. Strong collaboratives already in existence with complementary missions to promote health and disease prevention seemed to be advantageous.

Place-based partners: Partnerships with senior housing complexes enable states to “bring the program to the consumer” and alleviate the need for transportation to workshops. While our data showed residential sites to have among the lowest completion rates across settings, some host sites reported that residential settings enabled delivery of CDSMP to individuals with multiple chronic conditions for whom travel and logistics could be barriers to participation. Several states reported partnering with their departments of corrections to offer CDSMP to inmates. Oklahoma has established CDSMP as a peer educator program and inmates who complete CDSMP receive credit toward reducing their sentences. Oklahoma also partnered with libraries in rural areas to reach individuals in these locales.

State service and community education programs: State grantees reported partnering with community hospitals, YMCAs, community colleges, local four-year colleges, county parks and recreation programs, local fire departments, and libraries to take advantage of these established resources. Ohio is working with the State’s Rehabilitation Services Commission, convening CDSMP workshops that “wrap around” employment supports provided to consumers with disabilities. The goal is to enable persons with disabilities to better manage their chronic conditions so that they are able to work and be independent. One AAA in Washington is pursuing a partnership with that State’s Division of Vocational Rehabilitation. A variety of community partners offer classroom space for educational programs as well as established marketing vehicles (e.g., mailings, Web sites) with electronic registration and billing systems.

Workplace programs: Several states reported offering CDSMP to state or local government employees, giving release time from work for the first hour or hour-and-a-half of each workshop session. Other states were exploring similar partnerships with private companies. Several grantees expressed interest in expanding program reach to private employers and worksites, but have been struggling to establish payment arrangements.

Best Practice 4: Establish Referral Networks

AoA promotes a coordinated process for recruitment, intake, referral, and registration/enrollment. One strategy state grantees and host sites have used to facilitate participant recruitment and target individuals likely to benefit from CDSMP is to establish referral networks through public and private partnerships. While some grantees reported

difficulties collaborating with physician groups, others reported that partnerships to establish referral networks with healthcare practices were particularly effective for recruiting participants. Electronic health records have been used to support panel management to target individuals likely to benefit from CDSMP workshops in some settings. Other referral sources states have used include FQHCs, state AHEC networks, and ADRCs associated with AAA networks.

Physician practices and health plans: Host sites in Vermont and Rhode Island have reached out to local physician practices and have established referral arrangements for CDSMP workshops. A host site in Vermont recounted an effort to encourage a local physician group to mail letters to patients with a body mass index above a certain threshold to encourage them to enroll in a local CDSMP workshop. A letter from a physician proved to be a powerful force for convincing consumers to participate in CDSMP, although the site cautioned that communications must be carefully crafted to balance tact and confidentiality. While some sites reported that outreach to physicians and health plans was challenging, others have successfully reached out to physicians and health plans serving Medicaid and Medicare Advantage members to encourage the plans to refer members to CDSMP.

FQHCs: Several states reported partnering with state primary care associations to offer CDSMP through FQHCs. One FQHC network is considering including a CDSMP referral button in their electronic medical record. Others have trained staff as CDSMP leaders and host workshops. FQHCs offer an opportunity to reach low-income populations and many are pursuing medical home models of health care delivery.

ADRCs: Some states reported that ADRCs are an important source of consumer referrals to CDSMP. New Mexico's ADRC (there is one statewide ADRC in New Mexico) uses a tool to screen callers that includes a chronic disease indicator so that ADRC staff can refer appropriate callers to CDSMP. Rhode Island's ADRC—The POINT—refers callers to CDSMP. Arizona reports ADRC referrals as well. Idaho is actively seeking to collaborate with ADRCs for marketing and referrals. Nevada envisions their online ADRC portal that is now under development as a mechanism for consumer information and registration, provider referrals, and communications with leaders.

Medicaid consumer hotlines: Although no longer in operation because of budget cuts, an information and referral hotline for Medicaid beneficiaries in Missouri trained health coaches to screen and refer callers to CDSMP.

Electronic health records and registries: While there were significant variations in scope and quality, electronic health records and registries are under development in a number of states for provider referrals and so that leaders can more easily be monitored and recruited for workshops.

Best Practice 5: Technical Assistance and Evaluation

As part of its key elements to an integrated, sustainable service delivery system, AoA strongly encourages grantees to develop quality assurance programs and ongoing data systems and procedures. Many grantees have partnered with local colleges and universities for technical assistance, data collection, and evaluation support and report that these are valuable, productive relationships. Partnerships such as this can help states access special skills and resources. In some cases grantees reported that contractual relationships for technical assistance provided by a partner organization can help ensure continuity of services in the event of legislative impasses that may otherwise affect the program. Technical assistance for some grantees also included training leaders and monitoring fidelity. We include these as a best practice for their contributions to CDSMP program support and success. Some examples include:

University Partnerships: New York, Missouri, and West Virginia are some of the states that have partnered with universities for technical assistance, data collection, and program monitoring and evaluation. New York contracts with the Quality and Technical Assistance Center at the State University of New York at Albany for assistance with infrastructure development, data collection and management, and quality monitoring. The Missouri Arthritis and Osteoporosis Program at the University of Missouri provides technical assistance on program implementation and sustainability to local programs, as does Marshall University's Center for Rural Health in West Virginia.

Other Technical Assistance Partnerships: California partners with a nonprofit, Partners in Care Foundation, for technical assistance and CDSMP program oversight. The California Department of Aging focuses on policy and, through an ongoing contract, delegates responsibility to Partners in Care for implementation of all evidence-based prevention programming. The Arizona Living Well Institute is a new nonprofit established to coordinate CDSMP workshop delivery, train leaders, and manage program data.

Best Practice 6: Evaluation for Program Planning and Management

Under the ARRA grants and as part of AoA's vision for long-term sustainability, grantees were required to submit data on CDSMP enrollment, participation, and completion to NCOA. Many grantees reported using these data for program planning. In many cases states supplemented these data with pre- and/or post surveys of participants addressing satisfaction with CDSMP and changes in knowledge and/or behaviors (see Chapter 7 for more information on evaluation efforts by grantees). Grantees also used other state and program data to monitor and evaluate their programs, identify gaps in services, assess availability of leaders, target demand for workshops, and more. Several grantees reported collecting basic program data to monitor fidelity. Evaluation support was built into some programs; in others, the grantees relied on evaluators of other state programs or on external evaluators from universities. Grantees generally agreed that evaluation is a useful program management tool that provides a foundation for program planning, monitoring, and performance improvement. About half of

grantees reported that they intend to continue collecting, reporting, and using these data to support CDSMP delivery. For example, the in-house evaluator in the department of aging in Oklahoma will continue to collect and report data, as will Vermont, whose data reporting is integrated into the state's *Blueprint for Health*.

Best Practice 7: Third-Party Payment for CDSMP

AoA promotes working with public and private insurers to ensure financial sustainability beyond the grant period. Grantees are in widespread agreement that third-party payment arrangements are needed to successfully sustain and expand CDSMP. However, progress in this area has been limited to the experience of a small number of grantees and host sites that are exploring how such arrangements could work and be scaled broadly. Great variation in cost structures and capabilities across AAAs and other host sites, most of which have traditionally operated as grant-funded organizations, has resulted in pricing that is variable and often impractically high for fee-for-service payment. Bundled rates as part of the patient-centered medical home, flat-rate grants or payments, and cost- or rate-based fee-for-service payment are among the possibilities under consideration. Many are examining Medicare reimbursement requirements for DSMP as an example. Two significant efforts in this area include:

Medicaid reimbursement: As discussed in Chapter 8, Washington has successfully demonstrated how CDSMP can be reimbursed as a service under a 1915(c) HCBS Medicaid waiver in its COPES waiver for older adults. Washington's strategy could be used as a model for other states.

Programs for Medicare-Medicaid Eligibles ("dual eligibles"): One of the health plans that participates in Minnesota's Senior Health Options program for dual eligibles reimburses CDSMP workshop providers.

Best Practice 8: Federal and State Policy to Promote Evidence-Based Programming

In its key elements for long-term sustainability, AoA strongly supports effective policies and partnerships to embed CDSMP into statewide systems. There are many opportunities for states to promote availability of CDSMP and other evidence-based programs through federal and state policies. Grantees have used state policy mechanisms and recent provisions to advance prevention and wellness under federal health reform to make available and sustain these community-based programs. For example:

State legislative change: Arkansas reported that they now require AAAs to include at least one evidence-based program in their four-year State Plans on Aging. Other states have pursued similar strategies to advance CDSMP.

From the Arkansas State Plan on Aging: *“The state unit on aging will require all AAAs to implement at least one Evidence-Based Disease Prevention (EBDP) program in all senior centers in their PSA. Implementation will begin with SFY 2008 and will be phased in over a four-year period with all senior centers participating by 2011. The AAA may address one of the following prevention areas: chronic disease self-care, physical activity, fall prevention, nutrition and diet, and depression and/or substance abuse ... Each AAA [must provide] ... a strategy for phasing in the EBDP program over the four-year period ... and to assess all EPDP programs at least annually.”*

Source: Arkansas State Plan on Aging, pp. 34-35. Retrieved at <http://www.daas.ar.gov/pdf/arstateplanonaging08.pdf>.

Title IIID funding: The FY 2012 Older American Act Congressional appropriations required, for the first time, that Title IIID funding be used only for programs and activities which are evidence-based. A number of state grantees reported that this requirement has promoted the adoption of CDSMP by giving the state unit on aging new authority to direct local agencies to use Title IIID funds for evidence-based programs.

Medicare reimbursement for DSMP: Section 4105 of the Balanced Budget Act of 1997 authorized Medicare coverage for diabetes self-management training. While authorization for reimbursement does not extend to CDSMP or other self-management programs, coverage for DSMP represents an important opportunity for states to embed DSMP into their community-based evidence-based programming. Massachusetts was recently approved for reimbursement and Illinois expects to follow soon. Experience with Medicare reimbursement for DSMP could be useful in helping states to establish payment rates and billing practices for CDSMP.

9.2 Recommendations

To continue to build and expand CDSMP, the evaluation team offers the following recommendations to ACL.

Recommendation 1: Support Grantees in Communicating the Benefits of CDSMP to State Policy Makers

Time and again state grantees remarked that in order to convince state legislators and agency leaders of the importance of building and sustaining a strong CDSMP program, they must be able to demonstrate the benefits of CDSMP for residents of their state. Grantees stressed the importance of having data on both improved health outcomes and demonstrated cost savings.

The peer-reviewed literature includes a number of evaluation studies in which improvements in health behaviors, health status, and health service utilization have been documented through self reports by CDSMP participants as well as more rigorous studies of impact and outcome including the original clinical trials that establish the evidence base for CDSMP by Stanford University. Grantees could benefit from guidance on which research studies could best support

their advocacy efforts at the state level, as well as how to “message” research findings to convince policy makers that similar outcomes could be expected in their state.

ACL and CMS should continue to pursue studies of cost effectiveness using Medicare and Medicaid fee-for-service administrative data. In addition, cost-effectiveness studies in managed care settings could help persuade health plans to either provide CDSMP directly or offer members access to state programs. Several grantees reported interest from Medicare Advantage plans, Medicaid managed care plans, and private insurance plans. Health plans active in multiple states may be interested in multi-state demonstrations and evaluations. Once cost-effectiveness studies are completed, grantees will need assistance with messaging findings so that their applicability can be understood by state policy makers.

Grantees should also be supported in their efforts to continue collecting and monitoring program performance data, either through technical assistance and/or grant programs to support data collection activities. It will be important for grantees to monitor participation and completion rates, participant satisfaction, leader performance, and fidelity in order to help convince state policy makers that program dollars are well spent and to continue funding the program. To support data collection efforts, ACL should continue to allow grantees to enter data into and receive reports from the NCOA database even if they are no longer receiving AoA funding. Technical assistance could also be provided to states interested in collecting additional data. Encouraging grantees to partner with local university-based research centers to collect, analyze, and report performance data could be beneficial as well.

Recommendation 2: Assist States with Determining the Cost of CDSMP and Preparing for Third-Party Payment

States are eager to seek payment for provision of CDSMP from diverse funding sources but have no established methodology for determining the true cost of the program. NCOA provides a cost calculator developed by the Lewin Group that states can use to estimate the costs of program delivery. However, more sophisticated state and region-specific information is needed to determine the actual per capita cost of providing a CDSMP session to ensure that the service is priced correctly and the program does not operate at a loss. As in any business model, the cost calculation should include product development, marketing, service provision, quality assurance, and indirect costs. States would benefit from a sophisticated model developed by a reputable accounting firm, as well as technical assistance in applying the model. Having defensible estimates for per capita cost will be important in negotiating payment with providers, third-party payers, and employers. Payment options range from fee-for-service payment per workshop or workshop session, to per capita completion payments, bundled rates, or global payments from health plans, patient-centered medical homes, accountable care organizations, and other purchasers.

The transformation from grant-funded programs to a third-party payment business model will require the capability to bill for services. A technical assistance program that aids states in developing billing system requirements, issuing procurements to prospective vendors,

implementing new billing systems and linking them to other systems (e.g., Medicaid MMIS, electronic registration systems), and training staff to manage billing functions would be welcomed by states. Grants to states for purchase and implementation of systems would also be beneficial.

Certification processes and programs for Medicare reimbursement for community-based delivery of DSMP are now available and several respondents in the evaluation interviews suggested that DSMP could well provide a model for CDSMP. ACL and CDC should continue to provide grants and technical assistance to states seeking to become certified to receive Medicare reimbursement for DSMP. In addition to expanding access to DSMP, this will help states to build the capacity to bill for self-management programs, which will in turn support state efforts to bill health plans and Medicaid. Additionally, ACL and CMS should evaluate the DSMP experience and consider the prospects for statutory change that would permit Medicare reimbursement for CDSMP.

Recommendation 3: Promote Peer Learning Among Grantees

State grantees are eager to learn from the experiences of other grantees. Creative peer learning opportunities in which grantees are “matched” with other grantees to provide peer technical assistance could spur more rapid program expansion through the use of proven implementation strategies. This could be coupled with a Web site that organizes resources supplied by grantees (i.e., manuals, organizational charts, marketing plans and materials, legislative reports, sample contracts, requests for proposals, Medicaid rules, survey instruments, evaluation reports) around implementation topics (e.g., delivery system oversight and organization, outreach and marketing, recruitment and retention of leaders, building referral networks, fidelity monitoring, program evaluation). Mini-case studies on best practices and peer technical assistance that had a significant impact on program implementation could also be shared. Activities such as these are currently provided by NCOA. ACL should continue to support current and expanded options for peer knowledge transfer.

Recommendation 4: Develop an Electronic Registry for Leaders

Few states have electronic systems for registering leaders, scheduling leaders for workshops, and monitoring leader certification. An electronic registry could facilitate efficient training and leveraging of leaders within and across states and regions, including providing interstate access to leaders. ACL could sponsor the development of a web-based electronic registry that could be used by all states. The registry could be designed for states to use individually (i.e., each state would only have access to their own data, but all states could use the system) or by groups of states (e.g., smaller states in the northeast that may want to share leaders across state lines). Alternatively, ACL could sponsor the development of registry software that could be downloaded and customized for use by individual states (i.e., a freeware or shareware program).

Recommendation 5: Educate Health Professionals about Self Management

Universities in New Jersey, Ohio, and Illinois have incorporated education about self-management and evidence-based health promotion programs into their nurse training programs. In some states, health professions students are being trained as CDSMP leaders and are referred to organizations that are seeking volunteer leaders. While this strategy is not likely to significantly increase the leader workforce in the immediate future, educating health professionals about the importance of self management could, over time, have an impact in practice settings. ACL could work with professional societies such as the American Association of Colleges of Nursing to develop curricula on self-management education that could be adopted by other nurse training programs. Curricula could also be developed for practicing professionals that could be offered online or at professional meetings, with continuing education unit (CEU) credits awarded to professionals completing the programs.

Recommendation 6: Assist Grantees in Developing More Effective Strategies for Building Referral Networks for Recruiting Participants

Grantees reported that building an effective referral network for recruiting participants was perhaps the most daunting challenge they faced. Given the pressures on today's medical practices, getting physicians to directly refer patients was rarely a successful strategy.⁴² However, some grantees reported success with special mailings generated by physicians' offices (signed by the physician) to patients whose medical records indicated they might benefit from CDSMP. Other grantees reported efforts to incorporate a "button" in the electronic medical record that could trigger a patient referral. Additionally, some health plans were identifying members who might benefit from a self-management program through medical record reviews—and in some cases, providing cash rewards for participation. Strategies such as these warrant further exploration. In addition, more research is needed to identify the personal, social-behavioral, and clinical characteristics of individuals most likely to participate, complete, and benefit from the program and how to effectively target these individuals using electronic medical records.

With the growth of ADRCs, ACL has a unique opportunity to encourage referrals within the aging and disability services networks. ADRCs in some states are referring consumers to CDSMP, but the practice is not yet widespread. ACL's technical assistance contractor could develop a training module for ADRC staff on incorporating self-management program referrals into the ADRC screening and options counseling processes. This could include developing several questions related to chronic disease management that could be integrated into the initial screening questions ADRCs use when a consumer calls for the first time, as well as developing guidelines for building self-management program counseling and referrals into options counseling. Nevada's vision for integrating CDSMP into their ADRC Web site—using the

⁴² This is consistent with findings from other studies. See Lorig KR, Hurwic ML, Sobel D, Hobbs M, Ritter PL. A national dissemination of an evidence-based self-management program: a process evaluation study. *Patient Education and Counseling*, 59 (2005), 69-79.

portal for consumer information, workshop schedules and registration, communications with and reporting by leaders, and on-line leader training—could be promoted to other states through webinars and presentations at ADRC grantee meetings, as well as through technical assistance on implementing these functions.