

Enhancing Systems to Support Medication Adherence and Promote Healthy Aging: Key Findings from the ASTHO-PhRMA Meeting

Executive Summary

In support of the ASTHO 2015 President's Challenge on Healthy Aging, ASTHO and Pharmaceutical Research and Manufacturers of America (PhRMA) convened an expert meeting to share successes and challenges in promoting systems that support medication adherence. This report summarizes key findings from the meeting and highlights potential opportunities identified by meeting participants for public health agencies and other key stakeholders to advance systems that support medication adherence.

Key Elements of Effective Medication Adherence Systems

Meeting participants identified several key areas that must be addressed to effectively improve systems to support medication adherence.

- **Address patient barriers and medication access**
 - Improve medication access
 - Simplify medication regimens
 - Streamline medication fill and refill processes
 - Empower, support, and educate patients and caregivers
- **Strengthen medication management systems**
 - Improve provider and pharmacist knowledge, skills, and tools
 - Leverage technology to streamline the prescribing process
 - Expand access to, and use of, MTM services
 - Link clinical and community resources
- **Expand payment mechanisms and align incentives**
 - Expand reimbursement for pharmacy services
 - Align incentives for better outcomes
 - Establish meaningful metrics
- **Support data-driven action**
 - Define success and identify key performance measures
 - Identify, access, and use a variety of data sources
 - Address lack of interoperability and other data sharing barriers
 - Identify best uses for different types of data
 - Address lack of concordance across medication lists

Opportunities

Meeting participants identified a number of opportunities to improve systems to support medication adherence. These include engaging a broad stakeholder group, using a systems approach to comprehensively address medication adherence, identifying and promoting evidence-based interventions and programs, and leveraging the role of state health agencies.

Background

Medication adherence is defined as the extent to which an individual takes medications as prescribed by their healthcare provider,¹ and it is critical to improving health and supporting disease management. Poor medication adherence can significantly impact health status, increase complications, reduce quality of life, increase hospitalizations and morbidity, increase the need for expensive medical services,² and decrease productivity.³ Nearly 75 percent of adults who take medications do not fully adhere to their medication regimen.⁴ For example, they may not fill a new prescription or take less than the recommended dose. This leads to significant health and economic costs. Nonadherence alone results in \$100 billion in additional healthcare costs each year,⁵ and the Network for Excellence in Health Innovation estimates that \$290 billion of healthcare costs could be avoided each year if medication adherence were improved in tandem with improving prescribing, drug administration, and diagnosis.⁶

Improving medication adherence may be particularly important for certain populations, including older adults. Individuals over the age of 65 comprise 13 percent of the U.S. population but account for 34 percent of prescription drug use and 30 percent of nonprescription or over-the-counter medication use.⁷ Ninety percent of older adults use one or more prescription medications per week, and 12 percent use 10 or more medications per week.⁸ Older adults are more likely to use expensive healthcare services when their medication regimens are not optimized, accounting for 61.5 percent of emergency department visits associated with adverse drug reactions.⁹ Improving medication adherence among older adults may significantly improve health outcomes and cost savings. In fact, recent evidence suggests that Medicare savings due to better use of medicines by older adults with common chronic conditions may be three to six times greater than the Congressional Budget Office previously estimated.¹⁰

In support of the [ASTHO 2015 President's Challenge on Healthy Aging](#), on Sept. 14, 2015, ASTHO and PhRMA convened an expert meeting, "Enhancing Systems to Support Medication Adherence and Promote Healthy Aging." The meeting aimed to share successes, challenges, and lessons learned in promoting medication adherence, as well as identify strategies to strengthen systems that support medication adherence. Meeting participants included state health officials, state health agency staff, academic and research partners, national membership associations, pharmaceutical partners, and representatives from CDC, HRSA, PhRMA, and ASTHO. See the Appendix for a full list of meeting participants. This report summarizes key findings from the meeting and highlights potential opportunities identified by meeting participants for public health agencies and other key stakeholders to advance systems that support medication adherence.

Key Elements of Effective Medication Adherence Systems

Meeting participants identified several key areas that must be addressed to effectively improve systems to support medication adherence. These areas include: addressing patient barriers and medication access; strengthening medication management systems; expanding payment mechanisms and aligning incentives; and supporting data-driven action.

ADDRESS PATIENT BARRIERS AND MEDICATION ACCESS

Many individuals face [barriers](#) to filling and taking their medications as prescribed. These barriers may include high medication cost, complex medication regimens, or difficulty accessing pharmacies to fill

their prescriptions. Meeting participants identified several opportunities to address these and other patient barriers, including: improving medication access; simplifying medication regimens; streamlining medication fill and refill processes; and empowering, supporting, and educating patients and caregivers.

Improve medication access. Both physical access and medication costs influence medication access. Drug costs for individuals are largely determined by health insurance copays and coinsurance, collectively called [cost sharing](#). High cost sharing has consistently been found to reduce medication adherence.^{11,12} Potential strategies to address these cost barriers include:

- Improving coverage for drugs by reducing cost sharing.
- Addressing the [Medicare Part D](#) coverage gap (the “doughnut hole”).
- Reducing copays for using a single pharmacy rather than multiple pharmacies (i.e., establishing a pharmacy home).
- Helping patients review their drug coverage plan annually to ensure they are on the right plan.
- Removing prior authorization requirements.

Meeting participants identified a need for more data on cost savings to inform discussion around these strategies.

Simplify medication regimens. Simplifying patients’ medication regimens can improve adherence. For example, using polypills that contain multiple medicines can improve adherence because they reduce the overall number of pills a patient needs to take.¹³ Dispensing pills in vacuum-sealed packs or with dispensing devices can also reduce confusion for patients when pills change color and shape, which occurs frequently.

Streamline medication fill and refill processes. Streamlining the process patients use to fill and refill their medications, including pick-up, daily schedules and frequency, can support better medication adherence. Promising strategies include:

- *Establishing pharmacy homes.* Individuals who use a single pharmacy to fill and refill prescriptions have greater adherence. Narrow pharmacy networks are a growing trend in which “in-network” pharmacies negotiate reduced prescription prices with insurance plans. Plans then offer their members reduced cost sharing to incentivize in-network pharmacy use. In 2014, 75 percent of Medicare Part D and 70 percent of healthcare exchange plan members were in a narrow or preferred network drug plan.¹⁴ There has been debate about whether narrow networks support better medication adherence by encouraging individuals to establish a pharmacy home, or if they reduce medication adherence by restricting geographic access to lower-cost medications. A [recent letter in JAMA Internal Medicine](#) suggests that narrow networks, when combined with 90-day prescriptions, may support better adherence.
- *Synchronizing medication refill schedules.* Medication synchronization coordinates medication refill schedules so all of a patient’s medications are refilled at the same time, reducing the number of pharmacy trips needed. Synchronization also allows a pharmacist to regularly conduct comprehensive medication reconciliation, medication therapy management (MTM¹),

¹ MTM refers to a group of services pharmacists offer to help patients better manage their drug therapy regimens and address medication-related issues. MTM has five elements: medication therapy review, personal medication records, medication action plans, intervention/referral and documentation, and follow-up. MTM’s potential benefits include decreased medication costs,

and other services. Achieving medication synchronization for a particular patient may require writing partial prescriptions, which can lead to payment and coverage challenges during the period in which medications are being synchronized. Prescription drug plans could address this challenge by reducing or prorating cost sharing for partial refills to make the synchronization process affordable for patients.

- *Extending refill periods.* Some data indicates 30-day medication supplies may decrease adherence compared to 90-day refill periods due to the need for more frequent refills. Some states are actively addressing this issue. For example, in collaboration with the New York State Office of Health Insurance Programs, the New York State Department of Health (NYSDOH) is promoting adoption of a 90-day pharmacy benefit for antihypertension medications by Medicaid managed care plans within the state. NYSDOH conducted a literature review and analyzed Medicaid claims data to determine the potential health and cost impact of providing a 90-day supply of antihypertension medication. The literature review found that a 90-day supply does improve both medication adherence and hypertension-related outcomes. The Medicaid claims data analysis also found that a 90-day supply improves adherence, but the data set was too small to determine if it improves hypertension-related outcomes. NYSDOH staff presented findings to the state Medicaid managed care organization medical directors and pharmacy directors. Partners continue to discuss health plans' concerns about adopting the benefit, which include cost, waste, and safety issues.

Empower, support, and educate patients and caregivers. Providing information to patients helps them understand their disease and increases their ability to take their medications appropriately and manage their condition. It is important to understand specific populations and their education needs and preferences. For example, older adults may prefer face-to-face interaction with a provider or pharmacist, and may be less interested in taking an active role in managing their condition than younger age groups. To address this issue, providers can educate and train patients using a credentialing model that rates their proficiency on the knowledge, skills, and performance needed to effectively manage their conditions and associated medications. The American Pharmacists Association Foundation has created the [Patient Self-Management Credential](#), a psychometrically validated tool that allows healthcare providers and patients to assess patients' knowledge of their disease, lifestyle requirements, and medication adherence strategies. This information can then be used to tailor educational interventions to each individual's needs. In addition, education and empowerment efforts should also target caregivers, particularly around home care delivery.

STRENGTHEN MEDICATION MANAGEMENT SYSTEMS

Meeting participants identified a variety of important actions to create effective systems that support medication management and adherence. These actions include: improving provider and pharmacist knowledge, skills, and tools; leveraging technology to streamline the prescribing process; expanding access to, and use of, MTM services; and linking clinical and community resources.

fewer sick days, improved clinical outcomes, reduced hospitalizations, improved adherence to and understanding of drug therapy, and overall enhanced quality and continuity of care. Systematic reviews and evidence-based initiatives, including the [Asheville Project](#) and [Diabetes Ten City Challenge](#), have shown MTM to be highly effective in supporting better patient medication self-management, improving clinical outcomes, and reducing healthcare costs for diabetes and other chronic conditions. (Source: Rodriguez de Bittner M. "P3 Program Progress Report: January 1, 2011 through June 30, 2012." University of Maryland School of Pharmacy. 2012.)

Improve provider and pharmacist knowledge, skills, and tools. Effective patient engagement requires assessing and addressing their barriers and needs to meet them where they are. All care team members—including providers, community pharmacists, and others—must have tools, knowledge, and incentives to provide this type of support. Providers should regularly and systematically assess patient barriers to medication adherence as part of a comprehensive approach to chronic disease management. Meeting participants identified several existing tools and resources that could be used, including [Morisky scale](#) assessment tools, the [Merck Adherence Estimator](#), training materials through the HHS [Education and Training Resources on Multiple Chronic Conditions for the Healthcare Workforce](#) initiative, and area agencies on aging surveys. In addition, providers and prescribers should have access to up-to-date, accurate medication cost information to inform their prescribing decisions. Community pharmacists also need tools to help them assess and intervene with patients at the point of care. Research shows that interventions delivered by pharmacists at the pharmacy when patients pick up medications are successful 83 percent of the time—more than any other type of intervention to improve medication adherence except those delivered by a pharmacist in a hospital setting.¹⁵

Leverage technology to streamline the prescribing process. Evidence shows that printed paper prescriptions are associated with higher nonadherence compared to scripts delivered through an electronic system.¹⁶ These so-called [e-prescribing](#) systems, such as SureScripts, not only support better adherence, but also contain information about medication fill and refill histories, active medication lists, and other important information to help physicians monitor their patients' medication taking behaviors and history. However, physician demand for these systems is currently low. Data from e-prescribing systems may also be used to calculate population-level medication adherence rates, but it may be challenging to gain access to this data.

Expand access to, and use of, MTM services. MTM is an evidence-based set of services that is highly effective at supporting better patient medication self-management, improving clinical outcomes, and reducing healthcare costs for diabetes and other chronic conditions. Several states are exploring opportunities to expand MTM use and connect MTM services to primary care. For example, through a partnership with the University of Connecticut School of Pharmacy, the Connecticut Department of Public Health established a pilot MTM program in five community pharmacies in Hartford for individuals with hypertension and diabetes. Eligible patients are identified using a pharmacy database and counseled by MTM-trained pharmacists on disease self-management. The pharmacists also communicated with the patients' primary care provider to address changes in patient status and medication adjustments as needed. Encouraging broader adoption of MTM services requires establishing and improving policies for MTM reimbursement. Two key policy opportunities include:

- *Expanding reimbursement for pharmacists to deliver MTM services.* Several states have passed legislation to reimburse pharmacists for these services. For example, in 2005, Minnesota passed [legislation](#) requiring the Minnesota Department of Human Services to reimburse qualified pharmacists for MTM services. The state developed an advisory committee tasked with defining the benefit and evaluate outcomes. To be eligible for reimbursement, pharmacists must enroll; be licensed; meet the pharmacy privacy and space requirements; use a structured patient care process allowing for assessment, develop a care plan and evaluation plan; and use an electronic MTM documentation system.
- *Relaxing criteria for eligibility for Medicare MTM programs.* In 2004, CMS established stringent parameters for MTM eligibility criteria, which is a barrier to prescription drug plans broadening MTM enrollment. This rule could be updated to remove enrollment restrictions and better align

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incentives for prescription drug plans and pharmacy benefit managers (PBMs)² to broaden eligibility and increase MTM enrollment. Strong data on cost savings of MTM programs will be needed to inform these discussions.

Other important opportunities include updating and refining the criteria prescription drug plans can use for defining MTM services (particularly through Medicare Part D), and addressing quality improvement and implementation issues. Existing programs such as BlueCross BlueShield CareFirst's MTM program or [Maryland's Patients, Pharmacists Partnerships \(P³\) program](#) could serve as valuable models.

Link clinical and community resources. Effective medication adherence systems connect clinical, community, public health resources, and increase access to clinical care and community-based healthcare professionals such as community pharmacists and community health workers (CHWs). These systems connect patients to resources to address adherence barriers and better self-manage their conditions. Systems that leverage community partners can facilitate access to services and supports for medication adherence during emergencies, address underlying barriers to medication adherence, and mitigate triggers to nonadherence such as the transition from hospital to outpatient care or home. These systems use bidirectional referral processes that allow clinical providers to refer individuals to community resources to address barriers to medication adherence, as well as facilitate community screening and referral to clinical care. Meeting participants identified several opportunities to support community-clinical-public health linkages including: supporting establishing pharmacy homes; improving reimbursement for community pharmacists, CHWs, and other community-based healthcare professionals; and establishing bidirectional referral systems that use electronic data systems to share information and monitor patients.

Some states are already testing these strategies. In a California pilot project, paramedics make home visits to patients with heart failure who frequently use the emergency department, to make sure they understand their treatment plans. The Arkansas Pharmacy Transformation Collaborative (APT), which was formed in October 2015 through the ASTHO Million Hearts Learning Collaborative, aims to improve medication adherence among people with hypertension or diabetes across the state. APT builds on a statewide community-team-based care protocol involving primary care providers, community hospital emergency departments, nurse care managers, and community pharmacists to: (1) develop a system to address primary medication nonadherence; (2) develop a sustainable training framework for community pharmacists to deliver brief counseling (modeled after the [Pennsylvania Project](#)) to address secondary nonadherence; and (3) work with key stakeholders to develop a pharmacy incentive program. APT is piloting this model in two communities, and is also exploring using EHR platforms to identify patients who are not adherent using validated medication adherence assessment tools.

It is essential to engage a range of stakeholders to support medication adherence. However, all stakeholders must use common language and instructions for patients to ensure consistent messages are being delivered.

² Historically, a PBM is a third-party administrator of prescription drug programs. However, PBMs may also be a service within an integrated healthcare system.

EXPAND PAYMENT MECHANISMS AND ALIGN INCENTIVES

Identifying and expanding payment mechanisms to support the strategies identified above is key to creating sustainable systems that improve medication adherence. Meeting participants identified three key aspects of these mechanisms: expanding reimbursement for pharmacy services; aligning incentives for better outcomes; and establishing meaningful metrics.

Expand reimbursement for pharmacy services. Addressing payment, scope of practice, and licensing issues for pharmacists is key to advancing community team-based care support for medication adherence and patient self-management. As discussed previously, reimbursing pharmacists for MTM services is one important strategy, but other opportunities exist. For example, Washington state enacted [legislation](#) in May 2015 requiring commercial or private healthcare plans to enroll pharmacists in their provider networks and pay them for services within a pharmacist's scope of practice.

Align incentives for better outcomes. Aligned incentives across patients, providers, and payers may be critical to improving medication adherence and coordinating efforts. As described previously, patient incentives include improving access to medications and resources to help them monitor and actively manage their medications and conditions. Providers and payers each have their own unique incentives.

Providers, including physicians, pharmacists, and other members of the healthcare team, should be properly incentivized to optimize drug prescribing and monitoring. Currently, there is a disconnect between the stakeholders who incur the most risk for non-optimal drug prescribing (i.e., pharmacy benefit managers and payers) and those who make on-the-ground prescribing decisions (i.e., clinical providers). Implementing incentive structures that address this disconnect is important. For example, implementing higher provider reimbursement rates for provider prescribing decisions that improve patient health outcomes could incentivize providers to prescribe medications that patients will be more likely to take properly, as well as monitor adherence over time.

Finally, payers and associated entities (including managed care plans, prescription drug plans, and pharmacy benefit managers) must be incentivized to optimize medication adherence through payment reform. This will require policy changes at the health plan, state, and federal levels. One potential incentive strategy is developing rating systems for Medicare managed care drug plans that provide higher reimbursement to plans that achieve high ratings. These systems use star ratings based on member satisfaction surveys across four dimensions: customer service, changes to the drug plan's performance, member experience, and drug safety and drug pricing accuracy. This rating model could also be applied to MTM programs. Another potential policy lever is to measure state Medicaid plan performance by requiring reporting on programs and outcomes specifically focused on optimizing medication use.

Establish meaningful metrics. Defining the metrics used to determine incentives is an important challenge. These metrics may measure patient health outcomes, medication utilization, or cost-savings. More information is needed to better understand what incentives are most meaningful for pharmacists, as well as assessing how and where incentives align across providers, health plans, and pharmacy benefit managers. Advancing this work will require partnerships between health plans, providers, and patients. Public health plays a key convening role for these partnerships.

SUPPORT DATA-DRIVEN ACTION

Reliable, timely data systems are critical to support a broad range of strategies to support medication adherence. They help identify individuals with low medication adherence and inform action at the state, local, community, and clinic levels. They also help monitor population-level medication adherence rates, evaluate intervention effectiveness, and inform payment conversations. In addition, health IT systems such as electronic health records (EHRs) can be used to provide point-of-care prompts, decision-making support, and screening tools to help providers identify patient barriers to better adherence and refer them to resources. Meeting participants identified several important considerations, challenges, and opportunities related to supporting effective data systems, including: defining success and identifying key performance measures; identifying, accessing, and using a variety of data sources; addressing lack of interoperability and other data sharing barriers; identifying best uses for different types of data; and addressing lack of concordance across medication lists.

Define success and identify key performance measures. Identifying key performance measures at the system- or state-level is important. The process of identifying and standardizing performance measures should involve cross-sector collaboration that includes state- and community-level partners, providers, public health partners, payers, and others. It is important to understand different stakeholders' reporting requirements. For example, through CDC 1305 and 1422 funding, state health agencies are required to report on [NQF 0541](#) (proportion of days covered).

State health agencies are well-positioned to facilitate state-level discussions about aligning performance measures. In Vermont, as a result of exploratory work to calculate population-level medication adherence rates using Medicaid and BlueCross BlueShield of Vermont claims data, the Vermont Department of Health (VDH) started state-level discussion through the [Green Mountain Care Board](#),³ which led to adoption of the National Committee for Quality Assurance's [Controlling High Blood Pressure](#) measure as a payment category measure for shared savings programs among commercial and Medicaid accountable care organizations (ACOs) across the state. VDH staff's support was key to the measure's inclusion.

Identify, access, and use a variety of data sources. Data may come from different sources, including EHR systems, e-prescribing systems such as [SureScripts](#), medication claims data, ambulatory service data sources, all payer claims databases, and [prescription drug monitoring programs](#). An important first step to establish strong data systems is identifying which sources are the most appropriate to measure different dimensions of adherence, such as primary versus secondary nonadherence, population-level metrics, and health and cost savings impacts. It is critical to understand each data source's strengths and limitations. For example, claims data may not capture some of the most at-risk populations (such as homebound individuals) because they may not access the health system and have no diagnoses or health claims related to their conditions. In addition, data on prescription fills does not necessarily indicate the medications are actually being taken.

States are collaborating with a variety of healthcare, health IT, pharmacy, and community partners to test and spread data strategies to inform medication adherence efforts. For example:

³ The Green Mountain Care Board is a state-level regulatory entity that oversees healthcare regulation and health insurance rates, tests innovative healthcare reimbursement and delivery models, and engages in other activities to support healthcare quality improvement and cost stabilization.

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- The Maryland Department of Health and Mental Hygiene is collaborating with the [Maryland Learning Collaborative](#) to test using claims data to identify high utilizers in 53 patient centered medical home practices.
- The Ohio Department of Health is working with federally qualified health centers (FQHCs) that have embedded pharmacies to better understand how they collect data. They are also working with the state health information exchange to collect medication adherence data related to performance measures for CDC cardiovascular disease prevention funding.
- Pennsylvania's Regional Information Center is working with 150 practices to explore using EHRs to understand medication adherence.
- The South Carolina Department of Health and Environmental Control is working with FQHCs, particularly those in rural settings, to incorporate medication adherence measures into their EHRs and generate statistics for hypertension and diabetes within their populations.
- The Iowa Department of Public Health (IDPH) partnered with the Iowa Pharmacy Association (IPA), board of pharmacy, and Drake University College of Pharmacy and Health Sciences to survey pharmacists across the state about patient consultation services they offer to individuals with hypertension and diabetes, including MTM. The survey found that the majority of respondents offer MTM to patients with hypertension and diabetes, but most pharmacists are unable to report medication adherence performance measures of interest to CDC and IDPH. Based on the results of the survey, IDPH plans to work with IPA to explore developing a medication adherence performance measure.

Address lack of interoperability and other data sharing barriers. Providers, pharmacists, public health agencies, and other stakeholders use different data platforms that may not “talk” with one another, or that require proprietary access. This creates a major barrier to accessing and sharing data. Allowing access to these data sources may facilitate greater coordination and inform data-driven action by all partners. For example, allowing public health agencies and physicians access to data in pharmacy databases and e-prescribing systems is particularly important.

Identify best uses for different types of data. Medication claims data may have limitations when used to calculate medication adherence because it does not capture primary non-adherence (i.e., individuals who never fill a prescription in the first place), physician stop orders, or whether an individual actually takes the medication as prescribed once it is filled. Through the ASTHO Million Hearts Learning Collaborative, New York and Vermont explored using medication claims data to calculate medication adherence and inform clinical decisionmaking. Both states concluded that medication claims data had limited usefulness in informing clinical decisionmaking and was better suited for population-level surveillance.

Address lack of concordance across medication lists. The lack of concordance, particularly across medication lists, is a major challenge for providers and patients to have the most up-to-date, accurate information when making prescribing decisions. One strategy being tested to address this issue include real-time benefit checks through e-prescribing systems that allow a prescriber to instantly determine if a drug will be covered for a specific patient. Public health partners can also play a role in solutions. For example, in Ohio, the Summit County Public Health Department developed a [hypertension drug formulary](#) that includes community-based medication access resources, and shared the formulary with primary care providers in the county.

Opportunities

Meeting participants identified a number of opportunities to improve systems to support medication adherence. These include engaging a broad stakeholder group, using a systems approach to comprehensively address medication adherence, identifying and promoting evidence-based interventions and programs, and leveraging the role of state health agencies.

Engage a broad stakeholder group.

Engaging a broad stakeholder group is key to establishing shared goals, performance measures, accessing and strengthening data systems, establishing pilot programs, promoting policy change, and other important components of improving medication adherence. Meeting participants identified an array of stakeholders who must be involved to effectively establish and strengthen systems to improve medication adherence (Table 1).

State health agencies are well-positioned to convene and facilitate stakeholder groups to advance this work, and many of them are already leveraging this role. For example, through the ASTHO Million Hearts Learning Collaborative, state health agencies are convening broad stakeholder groups, including Medicaid and private payers, in meaningful systems change initiatives. State health officials can leverage their leadership position to bring policymakers and other state leaders to the table to support policy change.

Use a systems approach to comprehensively address medication adherence. There is no single intervention that will improve medication adherence for everyone. Significant, sustainable

improvements in medication adherence across populations will be achieved only through the cumulative impact of many different interventions, connected through strong systems. These systems should not be prescriptive. Rather, they should allow flexibility for each community to drive change based on its available resources. These systems should use a variety of data sources, address policy and financing barriers to supporting medication management, ensure accountability at all levels of the

Table 1: Key Stakeholders

- State agencies.
- Public and private payers and pharmacy benefit managers.
- Pharmacists and retail pharmacy chains.
- Academic partners such as colleges of pharmacy, medical schools, and schools of public health.
- State boards of pharmacy.
- Employers.
- State healthcare professional associations.
- Clinical and healthcare partners, providers, and prescribers.
- Community health workers and patient navigators.
- Emergency services personnel.
- Patients and caregivers.
- Community-based health and social support services.
- Pharmaceutical companies.
- School-based healthcare partners.
- Local public health departments.
- Nursing homes.
- Faith-based communities and faith-based nurses.
- Patient advocacy groups.
- Federal agencies.
- Naturopaths, osteopaths, and practitioners of complementary alternative medicine modalities.
- Philanthropic organizations.
- Disease-specific associations.

system, including providers and patients, and establish infrastructure to scale and spread successful, evidence-based interventions and services.

Identify and promote evidence-based interventions and programs. It is important to promote broad use of evidence-based interventions, such as the community-based interventions recommended by the U.S. Community Preventive Services Task Force in the [Guide to Community Preventive Services](#), (particularly those related to improving systems to promote [vaccination](#)), evidence-based MTM models, and tools for community pharmacists and providers to screen and manage patients. Other evidence-based programs may be identified through the National Association of States United for Aging and Disabilities, the National Association of Area Agencies on Aging, and area agencies on aging.

Research and evidence of effectiveness will be important to inform policy decisions related to scope of practice for pharmacists and other community-based health care professionals, Medicaid/Medicare case management programs, and other aspects of medication adherence support systems. Educating stakeholders—particularly payers and decisionmakers—about the benefits of evidence-based services will support better coverage for services and interventions delivered by a range of healthcare professionals, including pharmacists.

Leverage the leadership role of state health agencies. As described above, state health agencies play a variety of critical roles in coordinating and strengthening initiatives across their state to improve medication adherence. These roles include:

- Engage and educate key stakeholders, including policymakers, payers, pharmacy chains, health IT partners, local health departments, primary care providers, CHWs, community pharmacists, and nurse navigators. State health officers can engage leaders across sectors and agencies to elevate the priority level of medication adherence in state decisionmaking and budgeting.
- Leverage state and federal funding opportunities to integrate medication adherence across state initiatives, including SIM, CDC 1305 and 1422,⁴ and other healthcare reform initiatives, as well as state health improvement plans.
- Support collaboration across sectors to establish and strengthen medication adherence data systems. State health agencies can coordinate with partners to establish or strengthen all payer claims databases, negotiate access to pharmacy data sets, increase EHR adoption and the use of health IT to improve performance, and more.
- Identify opportunities to align, institutionalize, and monitor performance measures across state initiatives, providers, and systems, and develop state plans to improve these systems. For example, NQF 0541 (proportion of days covered) is a performance measure for CDC 1305 grantees.
- Promote adoption of evidence-based programs and services to improve adherence. State health agencies can share best practices, raise awareness of availability of community resources, and

⁴ “1305” is an informal shorthand reference for the federal grant program, “State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health,” administered by CDC and implemented in all 50 states and the District of Columbia. “1422” is an informal shorthand reference for the federal grant program, “State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke,” also administered by CDC and financed by the Prevention and Public Health Fund of the Affordable Care Act. The two programs are intended to complement each other.

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help healthcare professionals understand the most important evidence-based interventions they can use to improve medication adherence.

Conclusion

Establishing systems and strategies to effectively support medication adherence, particularly for older adults, will require a coordinated, multifaceted approach that engages cross-sector partners at the local, state, and national levels. Many states have already identified promising strategies, but opportunities remain for public health agencies and other key stakeholders to advance systems that support medication adherence.

Resources

Medication Adherence Interventions: Comparative Effectiveness (Agency for Healthcare Research and Quality, 2012)

This review synthesizes evidence regarding the efficacy and effectiveness of interventions to improve medication adherence among adults across a broad array of chronic conditions. This report is part of a larger initiative, the *Closing the Quality Gap: Revisiting the State of the Science* series.

Available at <http://effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=1249>

Collaborative practice agreements: Stimulating increased integration (American Pharmacists Association, 2013)

This webpage summarizes recommendations from a roundtable consortium that the American Pharmacists Association Foundation convened in January 2012 to stimulate increased integration of collaborative practice agreements and pharmacist patient care services into practice. This webpage also includes a link to the full article published in the *Journal of the American Pharmacists Association*.

Available at <https://www.pharmacist.com/collaborative-practice-agreements-stimulating-increased-integration>.

Medication Adherence Call Series Summary: August 2015 (National Association of Chronic Disease Directors and ASTHO, 2015)

This document summarizes content from two national webinars and virtual roundtables hosted by NACDD and ASTHO in support of the ASTHO Million Hearts Learning Collaborative. The document also provides an overview of actions states are taking to address medication adherence. Available at

http://c.ymcdn.com/sites/www.chronicdisease.org/resource/resmgr/CVH/ASTHO-NACDD_Medication_Adher.pdf.

Improving Prescription Medicine Adherence is Key to Better Health Care (PhRMA, 2011)

This issue brief presents current data on the scope of medication nonadherence, the impact on health outcomes and healthcare expenditures, and promising strategies to address key challenges. Available at <http://www.phrma.org/publications/improving-prescription-medicine-adherence-is-key-to-better-health-care>.

Evaluating the Use of New York State Medicaid Data to Assess Medication Adherence for Hypertension (New York State Department of Health, 2015)

This report summarizes the design, methods, results, and lessons learned from a pilot initiative implemented by the New York State Department of Health and key partners for a pilot project to analyze two measures of medication adherence (proportion of days covered and primary medication non-adherence), and provide feedback to clinicians about adherence to antihypertension medications among their Medicaid patients diagnosed with hypertension. Available at http://www.health.ny.gov/statistics/diseases/cardiovascular/evaluation_reports/docs/med_adherence_eval.pdf.

Older Americans Behavioral Health Issue Brief 5: Prescription Medication Misuse and Abuse Among Older Adults (Substance Abuse and Mental Health Services Administration and Administration on Aging, 2012)

This issue brief is part of a larger collaboration between SAMHSA and AoA to support the planning and coordination of aging and behavioral health services for older adults in states and communities. It offers strategies for education, screening, and early interventions for prevention of prescription medication misuse and abuse. Available at <https://www.ncoa.org/resources/issue-brief-5-prescription-medication-misuse-and-abuse-among-older-adults/>.

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¹ Osterberg L, Blaschke T. "Adherence to Medication." *New England Journal of Medicine*. 2005. 353:487-97. Available at <http://www.nejm.org/doi/full/10.1056/NEJMra050100>. Accessed 3-6-2016.

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APPENDIX

Enhancing Systems to Support Medication Adherence and Promote Healthy Aging September 14, 2015

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