DEMOCRATIC GOVERNORS ASSOCIATION

Jobs. Opportunity. Now.

Bending the Healthcare Cost Curve through Better Medication Adherence for People Suffering from Chronic Disease

www.DemocraticGovernors.org

Table of Contents

Preface

Bending the Healthcare Cost Curve through Better Medication Adherence for People Suffering from Chronic Disease is a white paper prepared for the Democratic Governors Association by Prescriptions for a Healthy America and the Partnership to Fight Chronic Disease with policy guidance and editing provided by My Campaign Group. It provides a series of policy options based on proven strategies that states could implement to reduce healthcare spending by empowering people suffering from chronic disease to better manage their health.

The paper builds on the Democratic Governors Association's March 2012 white paper, *Governors Key to Capitalizing on Opportunities to Improve Health, Lower Healthcare Costs*. "Enhancing treatment adherence and self-management" is one opportunity identified in the March 2012 paper as having near-term impact on healthcare spending for the one in two Americans living with chronic disease. This paper explores that opportunity in more detail, and presents several evidence-based policy options for Democratic Governors to control healthcare spending.

Democratic Governors have a strong record of supporting access to affordable, quality healthcare and programs that foster healthy styles and promote well-being. This paper provides opportunities for states to improve medication adherence and to enhance self-management for people with chronic diseases that align with and build upon those values. The recommendations that follow mainly apply to potential savings for Medicaid—one of the largest line items in state budgets—but could also apply to state employee health plans as well as other public and private healthcare programs. They also present opportunities to improve the quality of health insurance plans offered through the state and federal healthcare exchanges to keep state healthcare costs down by providing consumers information that lead to better choices.

Executive Summary

Although the Affordable Care Act (ACA) makes healthcare coverage more affordable and accessible for more Americans, it is only part of what is needed to truly improve health outcomes for the population suffering from chronic disease and for states to better control healthcare spending. That's because an individual's health is ultimately determined by the decisions made outside the healthcare system even with access to the best medical care. Simply put, a treatment plan only works if followed and medications are not effective unless people take them as prescribed by their doctors.

Research shows that 69 percent of the $3 trillion spent annually on healthcare in the U.S. is "heavily influenced" by personal behaviors.[1] For example, people with diabetes have medical expenditures 2.3 times higher than medical expenditures in the absence of diabetes.[2] For example, someone managing type 2 diabetes must regularly test their blood sugar, change eating habits, lose weight, take one or more medications, follow up with a healthcare provider for routine tests and know, both warning signs of a problem

and what to do about it.[3] This added care is part of what drives up the cost of managing chronic disease, however, costs dramatically rise when an individual fails to manage their disease properly. It's this latter part that states could positively influence with the right action.

This paper summarizes the financial impact that people suffering from chronic diseases have on state healthcare spending, especially when they do not follow a prescribed medication regimen or receive the right treatment, and provides four categories of policy recommendations for Democratic Governors to consider as options to improve health outcomes and control healthcare costs. A brief summary of policy recommendations include:

1. **Building self-management skills** by adopting the Stanford Chronic Disease Self-Management Model that equips people with essential skills and information to effectively manage their chronic conditions. Results include better health outcomes, more appropriate utilization of healthcare services and cost savings from reductions in emergency care, hospitalizations and other avoidable medical care that covers program costs within a year.

2. **Adopting comprehensive medication therapy management** (MTM) **programs** to promote the safe and effective use of medications to achieve treatment goals through better medication adherence, which reduces hospital and emergency department visits. At least 20 states have adopted these programs for Medicaid and at least three states offer services for state employees. Results include achieving treatment goals and lowering healthcare costs.

3. **Deploying medication synchronization services** to facilitate one trip to the pharmacy for all refills and to provide people an opportunity to check-in with the pharmacist about their medication regime. More than 1,600 community pharmacists provide the service to more than 70,000 people in communities nationwide.

4. **Allowing 90-day refills for chronic care medicines**. Longer-term refills reduce dispensing costs for the state and are proven to improve adherence. Results from California's Medi-Cal efforts show greater medication adherence sustained by people over longer time periods with 90-day refills.[4]

Introduction

Chronic diseases, such as asthma, arthritis, heart disease and diabetes, consume more than 80 cents of every dollar we spend on healthcare.[5] In the U.S. almost one out of two people currently lives with at least one chronic health condition.[6] As burdensome as the financial and human impact of chronic disease is today, it's likely to worsen without notable changes to improve health outcomes for people suffering from chronic

diseases.

Although these conditions are preventable and highly manageable, it requires that people not only have access to quality healthcare, but also the ability to follow through on treatment recommendations provided by their doctors. Prescription medicines are the primary tools used to treat most chronic conditions, but poor medication adherence or compliance is a common and costly problem. For example, two out of three patients do not take their medication as directed for the time period recommended by their healthcare providers.[7] **Research shows that just ensuring more people follow their medication regime could save more than $105 billion annually in healthcare costs** by eliminating preventable hospitalization admissions, emergency department visits, outpatient visits and avoidable pharmacy spending.[8] Democratic Governors may therefore consider replicating proven programs to enhance people's self-management skills to increase medication adherence rates for those suffering from chronic illnesses. This would not only keep people healthier, but also reduce the amount states now spend to treat people suffering from chronic diseases.

Chronic Conditions Challenge State Budgets

Chronic conditions impact millions of people. Age, the presence of disability and low-income are all risk factors for chronic disease.[9] Today, these illnesses cause seven out of 10 deaths annually and are the leading cause of disability.[10] The prevalence of chronic disease is rising driven by the growing aging population, increase in obesity rates and other risk factors. More than half the U.S. population is expected to have at least one chronic condition by 2020.[11]

Patients with chronic conditions consume 84 percent of what we spend on healthcare every year.[12] For public healthcare programs, the financial toll is even greater. Seventy-nine percent of Medicaid spending is for the 40 percent of non-institutionalized beneficiaries with chronic conditions.[13] This does not include the beneficiaries in long-term care who account for 32 percent of total Medicaid spending for chronic conditions.[14] Many people in this group require more intensive care due to a disability that is often from advanced stages of chronic disease.

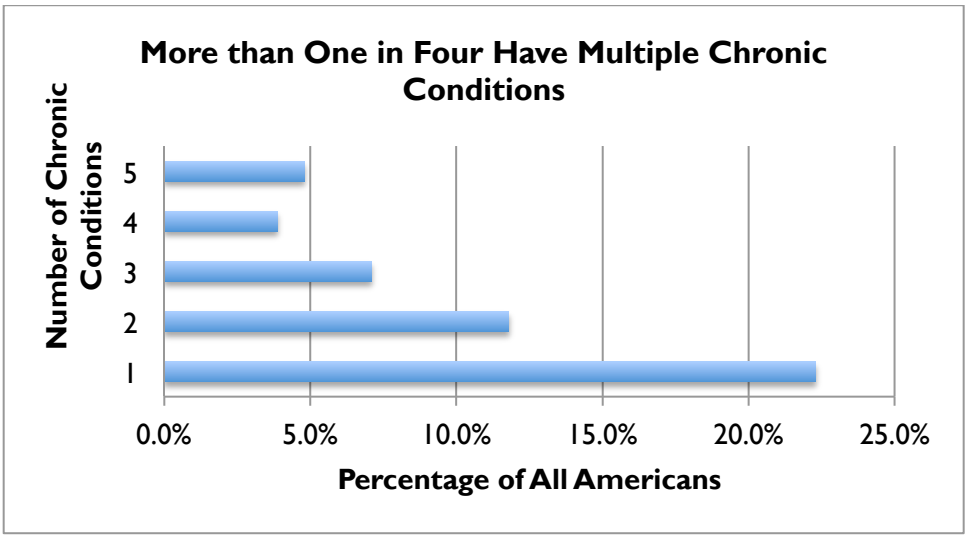
Poor prevention and management of chronic conditions generate added costs from complications and deteriorating health status. Chart 1 provides a breakdown of just some of the chronic conditions affecting people within the Medicaid population and related costs associated with each from improper care. For example, health spending for nonelderly adult Medicaid enrollees with chronic illness ranged from $8,099 per capita among those with respiratory disease to $13,490 per capita among those with diabetes.[15] Comparatively, spending on nonelderly adult Medicaid enrollees without chronic illness was significantly less – around $5,000 per capita.[16]

Chart 1: Impact of Chronic Illnesses on Medicaid

Chronic Illness	General U.S. Population	Medicaid
Heart Disease	In 2010, there were 83.6 million Americans with cardiovascular disease; cardiovascular disease and stroke cost $315.4 billion in treatment costs, lost productivity and premature mortality.[17]	More than 16 million adults with Medicaid coverage have a history of some type of cardiovascular illness.[18]
Diabetes	Diabetes affects 25.8 million Americans (8.3% of the population): 18.8 million diagnosed and 7.0 million undiagnosed. An estimated 79 million adults aged 20 or older have pre-diabetes. [19]	Almost 3.5 million people with diabetes are covered by Medicaid.[20]
Behavioral and Mental Illnesses	In 2006, about 36.2 million Americans incurred expenses for mental disorders, at a cost of about more than $57 billion.[21]	The Medicaid program is the largest payer of mental health services in the U.S., paying over a quarter of all costs, nearly $34 billion in 2005.[22]

Coping with a single chronic condition is challenging enough, but the cumulative effect of having multiple conditions dramatically increases complications associated with treatment and health management, ultimately driving up healthcare expenditures. Chart 2 illustrates the prevalence of chronic disease on the U.S. population. Among the 1 percent of Medicaid beneficiaries with the highest acute care costs, almost 83 percent have at least three chronic conditions and more than 60 percent have five or more.[23]

Chart 2: Number of Americans Suffering from Multiple Chronic Conditions



Source: G Anderson, "Chronic Care: Making the Case for Ongoing Care," Robert Wood Johnson Foundation, 2010.

People with multiple chronic conditions are often among the "super utilizers" – a relatively small concentration of people accruing the greatest amount of healthcare costs. Super utilizers exist in the Medicaid population as well as in other public and privately insured populations. Targeting reform efforts on this group of highly concentrated healthcare users presents additional opportunities for Democratic Governors to lower state healthcare costs across all populations covered by health insurance.[24]

What Drives Up the Cost?

Managing chronic conditions depends largely on the affected individual not only seeking appropriate medical advice, but also following it once obtained. Medications are a potent weapon against the development and progression of most chronic conditions. Yet medications are most effective when taken as prescribed.

Managing chronic conditions often involves following medication regimens over long time periods. Medication adherence means that patients take their medications at the times, frequencies and in the amount prescribed. A breakdown in any one of these elements has the potential to result in unanticipated side effects, complications and higher treatment costs.[25]

Public Survey Results on Medication Adherence

	% Answering "Yes"
One day in the last month didn't or couldn't take meds	**34**
Forget to take meds as prescribed	**23**
Unable to take meds because forget to take them with me when I leave the house or travel	**19**
Inconvenient or difficult to take meds as prescribed	**17**
Cut back or stopped taking meds without telling doctor because I felt worse or experienced worse side effects	**14**
When I think my chronic condition is under control, stop taking meds	**11**
Get confused about when I need to do to take meds exactly as prescribed	**6**

Source: Survey conducted for Prescriptions for a Healthy America by Greenberg Quinlan Rosner, May 2013; Available at adhereforhealth.org. Accessed March 21, 2014.

Reasons for Poor Self-Management and Adherence

In practice, more than one in five new prescriptions go unfilled,[26] and two-thirds of patients do not adhere to their prescription medicines.[27] As many as two out of three medication-related U.S. hospital admissions[28] and 125,000 deaths a year are a direct result of poor medication adherence.[29] Non-adherence has also been associated with as many as 40 percent of nursing home admissions and with an additional $2,000 a year per patient in medical costs for visits to physicians.[30] **IMS Institute estimated that improving use of medicines could save $213 billion annually in the U.S. of which $105 billion would be from improved adherence.**[31] Chart 3 provides several examples for why people do not comply with their medication regimes.

Chart 3: Reasons for Medication Non-adherence

Categories of Non-adherence	Examples
Health system	Poor quality of provider-patient relationship; poor communication; lack of access to healthcare; lack of continuity of care
Condition	Asymptomatic chronic disease (lack of physical cues); mental health disorders (e.g., depression)
Patient	Physical impairments (e.g., vision problems or impaired dexterity); cognitive impairment; psychological/behavioral; younger age; nonwhite race
Therapy	Complexity of regimen; side effects
Socioeconomic	Low literacy; higher medication costs; poor social support

Source: Ho PM, Bryson, CL, and Rumsfeld JS, "Medication Adherence: Its Importance in Cardiovascular Outcomes," Circulation 2009; 119:3028-35.

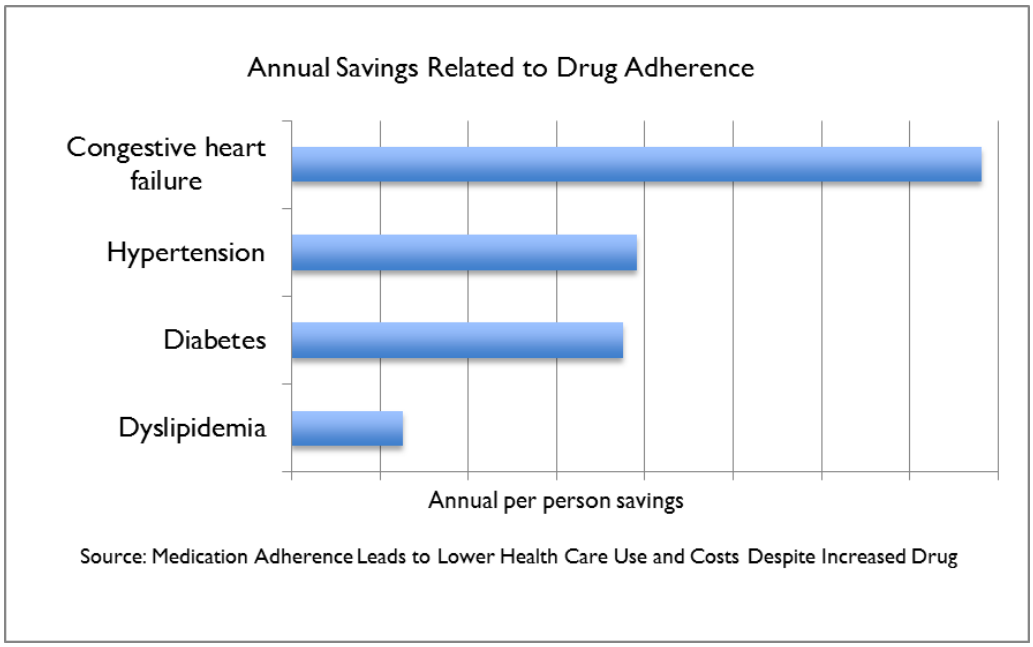
Barriers to good self-management and enhanced medication adherence can involve patient factors, such as forgetfulness, lack of knowledge of disease and purposes for treatment, or may involve external barriers, such as transportation issues and complexity of the medication regimen.[32] Poor communication, a lack of understanding about the condition being treated and low health literacy also present obstacles to better self-management and health outcomes.

People with more than one chronic condition sometimes face difficulty following their physician recommended treatment, because it's too complex. To illustrate this point, researchers compiled a treatment regimen following clinical practice guidelines for a hypothetical 79-year-old woman with five chronic conditions (i.e., osteoarthritis, osteoporosis, type 2 diabetes, high blood pressure and chronic obstructive pulmonary disease). Her recommended treatment would involve 12 specific medications in a regimen of 19 doses a day taken at 5 different times during a typical day.[33]

Achieving Cost Savings through Reform

Chart 4 illustrates what research confirms about the health benefits and potential for cost savings that is possible from improving medication adherence for chronic conditions. For example, a study of medication adherence rates and the impact on annual medical spending showed that adherent patients incurred significantly lower overall medical costs than their non-adherent peers even though they incurred higher pharmacy costs.[34]

Chart 4: Medication Adherence Leads to Lower Overall Healthcare Costs despite Higher Drug Spending



In fact, the Congressional Budget Office (CBO) recently changed its accounting methods to adjust for the positive impact that increased medication use has on reducing spending for other healthcare services. Specifically, CBO methods assume that a 5 percent increase in prescriptions filled will result in a 1 percent decrease in spending on other medical services.[35]

Medicaid beneficiaries have adherence rates below 80 percent for medicines used to treat cholesterol, high blood pressure, depression and diabetes.[36] Additionally, research shows that people with diabetes, who took their diabetes medications less than 60 percent of the time, were almost four times more likely to be hospitalized than those who followed their prescribed treatment.[37] All of this means that if Democratic Governors just focused their efforts on helping a small group of people suffering from certain chronic diseases with better medication adherence, they could significantly reduce state healthcare expenditures from avoidable complications and poor health status.

Opportunities for Reform: Improving Self-Management and Adherence

Improving self-management and medication adherence requires understanding and addressing the variety of barriers individuals face when managing their health. As the barriers to self-management and adherence may vary from individual to individual,

Democratic Governors could consider employing a variety of policies that would empower more people to live healthier lifestyles and enhance their health status.

Policy innovators and providers in states throughout the nation are realizing the opportunities to improve people's health status and reduce healthcare spending by adopting policies to equip people with self-management skills and promote better medication adherence. Learning from these experiences and replicating best practices could provide Democratic Governors with near-term opportunities to reduce the human and financial burden of chronic disease on their Medicaid populations.

There are a number of national best practices from model programs that provide an array of potential policy solutions that Democratic Governors could implement to enhance self-management and medication adherence, and thereby bend the healthcare cost curve, such as:

- Building self-management skills;
- Adopting comprehensive Medication Therapy Management (MTM) programs;
- Deploying medication synchronization services; and
- Allowing 90-day fills for chronic care medicines.

Building Self-Management Skills

People must have a thorough understanding of what is required to manage their chronic diseases as well as the skills and support to adhere to the health recommendations prescribed by their doctors to successfully manage their conditions. Treatment recommendations often include behavioral changes – avoiding salt or certain foods, losing weight, checking blood sugar levels or tracking symptoms and taking medicines at the dose, frequency and duration prescribed. Self-management skills involve understanding why those changes are needed, actually making the changes, following up with a healthcare provider as a part of ongoing care and being able to identify when there is a problem and knowing what to do about it. Without a solid set of self-management skills, people may not make the changes needed and take medicines as prescribed, which could cause their health to deteriorate and thus require more costly medical care.

Chronic Disease Self-Management Program

The Stanford Chronic Disease Self-Management Program (CDSMP) is considered among the best programs for patients to develop self-management skills. It's being implemented by a range of payers, including both public and private. This well-tested and widely replicated model relies on workshops led by two trained, peer coaches each or both of whom have chronic diseases and are not necessarily health professionals. The workshops are offered either online or in the community and focus on building and reinforcing self-management skills, sharing experiences and offering support for people with chronic diseases.[38] Program participants, regardless of socioeconomic and

education level, have demonstrated improved self-management skills and more appropriate decision-making about when to use healthcare services even with periodic declines in health. States and other payers benefit from cost-savings due to reduced utilization of emergency care, hospitalizations and other intensive services.[39] The program generates sufficient cost savings within the first year to cover its costs.[40]

Implementation

There are a number of options for states to integrate the CDSMP into their Medicaid programs. For example, several states already provide Medicaid beneficiaries with chronic disease access to the CDSMP utilizing a variety of new or existing Medicaid waivers, amending Long-Term Services and Supports and modifying contracting requirements with Medicaid health plans. For example, California, New York, Vermont and Washington offer the CDSMP through Medicaid waivers.[41] In Washington, the program is reimbursed through the Aged, Blind and Disabled Home and Community-Based Services Waiver (1915C Community Waiver), which includes personal care services. The category for receiving the CDSMP is "client training." The program is reimbursed at the rate of $50/session, which covers the cost of the two separate one and one-half hour workshops and all materials. Up to six sessions are authorized under the waiver (up to $300) if the participant attends all six sessions.[42] In New York, delivery of the CDSMP is allowable through a Medicaid waiver obtained by the AIDS Institute, which is delivering the program as part of a bundled service.[43]

One Midwest state has included the program as a part of a new Medicaid Plan for Long-Term Services and Supports. Delaware, Minnesota and Puerto Rico, have Medicaid managed care plans providing coverage for the CDSMP that target specific populations or require coverage as a part of bundled services. In Delaware, the two largest Medicaid Managed Care Organizations have opted to refer members with diabetes to diabetes-specific self-management programs and to pay for books and CDs for members. One state's contracted health provider is also planning to offer cash incentives to participants attending all six program sessions, as a way to incentivize participation.[44]

Maryland, Connecticut, Virginia and West Virginia have established referral systems within Medicaid for the CDSMP or diabetes-specific version of the self-management program for Medicaid beneficiaries.[45] In 2012, 22 states received grants totaling more than $8 million from the Prevention and Public Health Fund for Empowering Older Adults and Adults with Disabilities through Chronic Disease Self-Management Education Programs. Grantees are using the funds to embed programs within other ACA initiatives, such as care transitions programs and patient-centered medical homes.[46]

To help defer costs, states may also consider including, adding or expanding access to the CDSMP through State Innovation Models and innovation grants from the Centers for Medicare and Medicaid Innovation.[47] For example, Massachusetts received $44 million over 42 months to implement its State Health Care Innovation Model,[48] which

includes building access to the CDSMP.[49] A second round of awards for grants is anticipated, but dates for applications have yet to be announced.

In addition to providing the CDSMP for Medicaid beneficiaries, Democratic Governors could offer the CDSMP as a covered benefit for state employees, retirees and dependents with one or more chronic conditions to reduce healthcare expenditures for more population groups.

Care Transitions Intervention

While the CDSMP sets a standard for payer-driven programs to encourage patient self-management, other programs used by stakeholders also rely on increasing self-management skills to reduce utilization of healthcare services. One example is the Care Transitions Intervention that is being utilized by high-performing hospitals nationally to reduce hospital readmissions. This program targets patients with recent hospital admissions. A trained care transitions coach works with the patients and their caregivers to build self-management skills in at least three of the program's four major areas that include:[50]

1. **Medication self-management**: Patient is knowledgeable about medications and has a medication management system.

2. **Use of a dynamic patient-centered record**: Patient understands and utilizes the Personal Health Record (PHR) to facilitate communication and ensure continuity of care plan across providers and settings. The patient or informal caregiver manages the PHR.

3. **Primary Care and Specialist Follow-Up**: Patient schedules and completes follow-up visit with the primary care physician or specialist physician and is empowered to be an active participant in these interactions.

4. **Knowledge of Red Flags**: Patient is knowledgeable about indications that their condition is worsening and how to respond.[51]

The model has shown success in reducing hospital readmission rates to 30 days and even longer in some cases for people with chronic diseases. Its anticipated annual savings for a typical panel of 350 chronically ill patients per coach is estimated at $300,000.[52] The annual cost for the Care Transitions Intervention is about $75,000, including the salary and benefits for the care transitions coach, mileage reimbursement for home visits, and other materials and supplies.[53]

Implementation

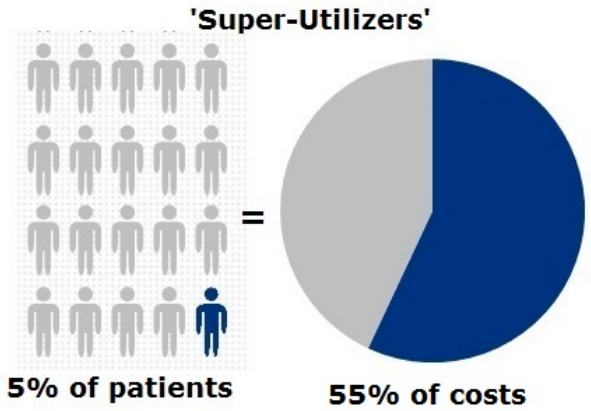
More than 800 healthcare organizations in 42 states have adopted the Care Transitions Intervention.[54] Additionally, the Center for Medicare and Medicaid Innovation is funding care transitions programs in 102 sites nationwide, providing opportunities for many states to build upon local experience.[55] Democratic Governors could choose to accelerate replication of these best practices in public hospitals by providing guidance and aligning resources to support and encourage readmission reduction. This program could be effective when targeted particularly at hospitals with high readmission rates through contracting for services, ongoing quality initiatives and readmission reduction efforts.

Adopting Comprehensive Medication Therapy Management Programs

Medication Therapy Management (MTM) is a term used to describe a broad range of healthcare services. These comprehensive services are usually provided by pharmacists aiming to improve therapeutic outcomes for patients through improved medication use[56] that engage a pharmacist or other qualified healthcare provider, the patient and family caregiver and other health professionals to promote the safe and effective use of medications as well as helping patients achieve medication treatment goals. MTM services include five core elements: 1) medication therapy review, 2) a personal medication record, 3) a medication-related action plan, 4) intervention and/or referral and 5) documentation and follow-up.[57]

Targeting the right patients for MTM services is critical for improving their health status and lowering healthcare costs. For example, beneficiaries who have multiple chronic conditions and are prescribed multiple medications are generally those who have the potential to benefit most. Other key targets for these services are patients undergoing care transitions, as the change in location and care delivery tend to be disruptive to the medication regimen.

New York, Washington, Minnesota and a number of other states have "super-user" or "super-utilizer" programs targeted to the approximately 5 percent of Medicaid beneficiaries who account for more than 50 percent of total Medicaid expenditures. This population provides additional opportunities for states to consider deploying MTM approaches, with the potential for significant cost savings.[58] In fact, an evaluation of 14 model super-utilizer programs for Medicaid concluded, "Coaching patients to understand their medications and to become more



Source: Kaiser Commission on Medicaid and the Uninsured, 2012

medication adherent is an essential feature of all programs."[59] Recognizing this interest and need for more information, the Centers for Medicare and Medicaid Services published a federal informational bulletin with helpful information about key policy decisions and funding streams for implementing super-utilizer programs.[60] (See the Center for Health Care Strategies for more information about super utilizers and their Complex Care Lab.[61])

Implementation

At least 20 states have established formal MTM programs within Medicaid and are realizing positive results:[62]

- ✓ Minnesota public healthcare programs have covered MTM services for individuals prescribed three or more medications for one or more chronic diseases since 2006. A 10-year evaluation of MTM in Minnesota (including Medicare, commercially insured and public health programs) estimated a return on investment (ROI) of $1.29 per $1 spent in administrative costs.[63] Many commercial insurance products also provide coverage of MTM services, although the services covered varies across the market.

- ✓ Since its launch in 2006, the Maryland P^3 (Patients, Pharmacists, Partnerships) Program, a joint effort of the University of Maryland School of Pharmacy, the Maryland Department of Health and Mental Hygiene (DHMH) and the Maryland Pharmacists Association, has reduced direct healthcare costs by $498 to $3,281 for each Medicaid participant in the program each year.[64]

Maryland's experience led the state to fund a pilot program providing 5,000 state employees access to MTM services through the P^3 Program,[65] and attracted the interest of a school district in a neighboring state. In 2009, the Chesapeake Public Schools in Virginia partnered with the Maryland P^3 Program to provide services to employees and family members with diabetes. Total savings, including improved employee productivity and reduced absences from work, amounted to $919,768 – in just over three years since its launch.[66]

Adherence in Your State

In its 2013 State of the States Adherence Report, CVS Caremark examines how each state fares when it comes to medication adherence and predicts cost savings for each state from improving adherence.

The report analyzes adherence differences on a payer basis, chronic conditions and geographically.

More information, including an interactive map, is available online at
http://info.cvscaremark.com/cvs-insights/state-states-2013/us-map

Comprehensive Medication Management

Democratic Governors may also consider adopting Comprehensive Medication Management (CMM) for state programs. CMM is the standard of care that ensures each patient's medications are individually assessed to make certain that the medication is: 1) appropriate, 2) effective for the medical condition, 3) safe given the patient's comorbidities and with other medications they are taking and 4) the patient is willing and able to take the medication as prescribed. CMM involves regular interaction between the patient and healthcare provider to ensure that they are meeting their clinical goals of therapy with the prescriber having ultimate decision making authority for any changes made to the patient's medication or treatment regimen.[67] Because of the ongoing interaction between the patient and their CMM provider, this could lead to better improvements in health outcomes than MTM alone.

Implementation

States could take various approaches to provide CMM services to Medicaid beneficiaries and state employees. For example, state programs in Minnesota and several Midwestern states are codified under state statutes with authorized appropriations.[68] Vermont's program is an exception, as it was developed after the state's experience under a Medicaid waiver.[69] School of Pharmacy faculty members played lead roles in establishing many of the state programs and are a source of significant assistance for Democratic Governors in terms of program design, implementation and overall leadership.[70] Vermont also recently published an evaluation of a broader, population-based, two-year pilot CMM program tested in seven primary care demonstration sites.

The pilot program, required by statute and supported by a state grant, estimated that for every $1.00 spent on a pharmacist in the program, the state avoided $2.00 in healthcare expenditures.[71]

Deploying Medication Synchronization Services

Medication synchronization is a relatively new and promising intervention that offers an important opportunity for improving medication adherence. With medication synchronization, all of a patient's prescriptions are refilled on the same day of the month, or another time period determined by the patient. It adds a convenience factor by eliminating the need for separate trips to the pharmacy, which reduces barriers to proper medication adherence. Prior to the fill date, the pharmacy calls the patient to review and reconcile the full medication list; this can further facilitate, if needed, a conversation between the patient and prescriber and lead to a discussion on the importance of proper adherence. Today, more than 1,600 community pharmacists[72] have recognized the value of medication synchronization and provide the service to more than 250,000 patients nationwide.[73] Chain pharmacy, Thrifty White, has also implemented medication synchronization for more than 16,700 patients,[74] and CVS pharmacy is conducting research on medication synchronization.[75]

Synchronization practices not only provide increased patient engagement and convenience, but could also significantly improve adherence. Thrifty White employs an Appointment-based Medication Synchronization (ABMS) program resulting in measurable improvements in medication adherence rates.[76] Across different classes of chronic disease medications, people enrolled in the ABMS program achieved adherence rates 30-40 percentage points higher than those not in the program, as Chart 5 shows.[77] Also, patients receiving services were much less likely to stop taking their medicines.

Chart 5: Adherence and Lack of Persistence for 6 Drug Classes[32]

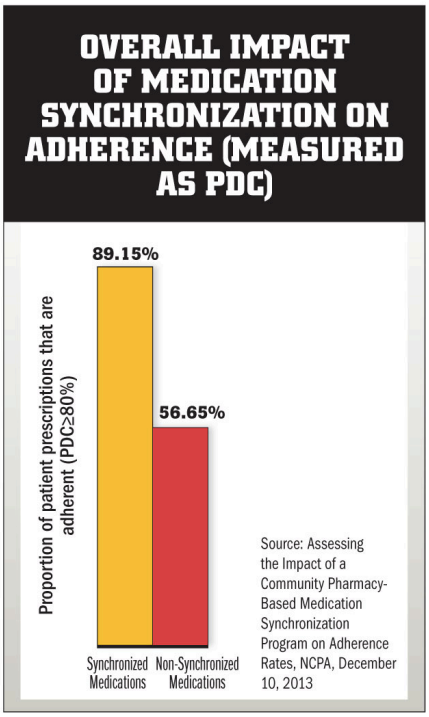
	Adherent** (%)		Nonpersistent (%)	
Drug Class	**Control**	**Treatment**	**Control**	**Treatment**
ACEIs/ARBs*	40.8%	79.5%	70.0%	33.8%
Beta Blockers	38.3%	71.8%	71.6%	38.1%
DCCBs*	40.3%	68.9%	67.4%	43.4%
Thiazide Diuretics	37.0%	66.1%	74.0%	47.5%
Metformin	40.2%	76.6%	73.6%	34.0%
Statins	37.4%	76.2%	72.5%	41.6%

*ACEI indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; DCCB, dihydropyridine calcium channel blocker.
** Adherence defied as proportion of days covered of 80 percent or more.

In a separate study, the National Community Pharmacists Association evaluated a "personalized high-touch community pharmacy-based" medication synchronization program. The patients in that study took an average number of 5.9 medications a

month.[78] The effort achieved 89 percent adherence rates[79] among those receiving ABMS services compared to 57 percent adherence in the control group.

Implementation



States have multiple options for implementing synchronization programs depending on current state regulations. Implementation may initially require filling less than a 30-day supply for some medicines to align all refills to eventually occur at the same time. In states with laws or regulations prohibiting a pharmacy from providing less than a 30-day supply, legislation would be required to change this law so a "short-fill" could be provided to coordinate timing of refills. Also, health plan contracts may need to be modified to require plans to charge partial co-payments for these "short-fills." Medicare recently changed its plan rules to explicitly require plans to allow short-filled prescriptions and to charge partial co-payments for short-filled prescriptions.[80] Finally, a Democratic Governor may choose to require its Medicaid plan to synchronize medications for patients with high medical spending or who are taking more than a specified minimum number of medications to achieve cost savings.

Allowing 90-Day Refills for Chronic Care Medicines

Most state Medicaid programs impose dispensing limits on the number of days of medication supplied. Research shows, however, that allowing longer days supply for chronic care medicines could reduce pharmacy costs by decreasing dispensing fees. Additionally, research demonstrates that allowing patients to receive a 90-day supply of medication improves medication adherence rates, providing the potential for both improved health outcomes and additional healthcare cost savings.

For example, in a retrospective analysis of California Medicaid claims for medicines used to treat cholesterol (statins), high blood pressure (antihypertensives), depression (SSRIs) and diabetes (oral hypoglycemics),[81] adherence was 20 percent higher among patients receiving a 90-day supply of medicine compared with those receiving a 30-day supply. Also, the number of patients continuing their treatment for the duration prescribed was 23 percent greater for those receiving a 90-day supply of medicines.

To maximize favorable outcomes, Democratic Governors could consider synchronizing 90-day prescriptions to the same schedule, further reducing the patient's trips to the pharmacy and providing the opportunity for appointment-based synchronization services.

Implementation

Although Democratic Governors who may be considering implementing a 90-day refill policy do not need not worry about upfront costs, some legislative or regulatory changes may be required to address Medicaid prescription drug fill limits. Nearly all states impose dispensing limits on medication days' supply for Medicaid patients with most states allowing only a 34-day supply.[82] At least 13 states allow up to a 90-day supply for some medications within Medicaid, and notably, Washington has mandated that certain maintenance medications be dispensed with a minimum 90-day supply.[83] Several states, including Vermont, Illinois, Connecticut and Maryland allow state employees to receive a 90-fill for maintenance medicines.[84]

Additional Opportunities to Enhance Outcomes

Measuring how well these new healthcare delivery and financing models improve self-management and medication adherence could help Democratic Governors ensure these programs achieve cost savings by improving patient care without diminishing access or quality. Analysis of medication management programs by AHIP health plan members concluded, medication management "is key to achieving the goals of new delivery system models, such as accountable care organizations and patient-centered medical homes."[85] Similarly, the Patient-Centered Primary Care Collaborative (PCPCC), a national coalition dedicated to advancing the patient-centered medical home, estimates the average return on investment for medical homes utilizing comprehensive medication management to be $3 to $5 in savings for each $1 invested.[86]

State "Health Homes" Program Best Practice

Missouri's sought an amendment to authorize Healthcare Homes or "Health Homes" in October 2011 that now operate in 28 of the state's Coalition of Community Mental Health Centers (CMHCs) as of January 2012 for people who are Medicaid-eligible and suffering with chronic diseases.[87] The state's Health Home model was a collaboration led by multiple stakeholders in the healthcare community, which has resulted in a more integrated approach to service delivery. The provides people with mental illness and multiple chronic illnesses better quality of care through comprehensive care management, improved communication and other essential elements, with the intention of keeping people out of the hospital by providing enhanced treatment in the community. A November 2013 Progress Report concluded that Health Homes have been effective at both improving the health status of people enrolled in the program and reducing the amount the state spends on their care.[88] Specifically, Health Homes reduced hospital admissions per 1000 enrollees by about 13 percent and emergency room use per 1000 enrollees by about 8 percent, and the program generated total cost savings of $38 million after one year for the approximately 20,000 enrolled in the program.[89]

Helping Consumers Purchase the Right Plans from Healthcare Exchanges

Democratic Governors may also consider ways to encourage consumers to make more informed choices when purchasing coverage through healthcare exchanges. Consumers need easy access to information that enables them to compare plan options explained in a clear and understandable way. For example, they should be able to easily evaluate out-of-pocket costs, premiums and benefit options from plan to plan so that those with chronic conditions and other illnesses can make well-informed decisions before purchasing coverage. To make this process easier for consumers, Democratic Governors could ensure that information about chronic care management, self-management support, medication formularies and out-of-pocket costs for healthcare services and medications are readily available to consumers. For example, a description of which medications a plan covers and how much of the cost is covered and not covered could help consumers, both avoid paying more out-of-pocket for healthcare and ensure they adhere to medications.

Conclusion

Since chronic conditions are the leading driver of healthcare costs, efforts undertaken by Democratic Governors to reform how their states deliver services to people with chronic diseases could help bend the healthcare cost curve and free up money to spend in other areas. Although the ACA provides more people access to affordable healthcare coverage, it will not entirely address the high expenditures associated with the population impacted by chronic disease and additional reforms will likely be needed in this area.

Because states play a key role in keeping people healthy, building self-management skills for people with chronic disease and removing barriers to medication adherence seem the likely next step for Democratic Governors to consider. With a host of successful programs available, Democratic Governors have several policy options they could use to empower people to improve their health, while also benefiting from the potential savings that would likely result.

[1] S Dixon-Fyle, S Gandhi, et al., "Changing patient behavior: the next frontier in healthcare value," *Health International,* (2012). Available online at http://selfmanagementalliance.org/wp-content/uploads/2013/10/Changing-Patient-Behavior.nextfrontier.pdf

[2] American Diabetes Association, "The Cost of Diabetes," 2013. Available online at http://www.diabetes.org/advocacy/news-events/cost-of-diabetes.html

[3] See, e.g., American Diabetes Association, "Living with Diabetes," 2014. Available online at http://www.diabetes.org/living-with-diabetes/treatment-and-care/?loc=lwd-slabnav

[4] M Taitel, L Fensterheim, et al. "Medication days' supply, adherence, wastage, and cost among chronic patients in Medicaid." *Medicare & Medicaid Research Review.* 2012; 2(3).

[5] G Anderson, "Chronic Care: Making the Case for Ongoing Care," Robert Wood Johnson Foundation, 2010.

[6] Ibid.

[7] Greenberg Quinlan Rosner Research. "Medication Adherence: A survey of adults nationwide." April 2013.

[8] IMS Institute for Healthcare Informatics, "Avoidable Costs in U.S. Healthcare: The $200 Billion Opportunity from Using Medicines More Responsibly," June 2013. Available online at http://www.imshealth.com/portal/site/imshealth/menuitem.c76283e8bf81e98f53c753c71ad8c22a/?vgnextoid=12531cf4cc75f310VgnVCM100000076192ca2RCRD

[9] Partnership for Solutions. Chronic Conditions: Making the Case for Ongoing Care. September 2004 Update. http://www.partnershipforsolutions.org/DMS/files/chronicbook2004.pdf

[10] Institute of Medicine, "Living Well with Chronic Illness: A Call for Public Health Action," National Academies Press 2012.

[11] D Campbell-Scherer, "Multimorbidity: A Challenge for Evidence-Based Medicine," Evidence-Based Med 2010; 15(6):165-66.

[12] Ibid.

[13] G Anderson, "Chronic Care: Making the Case for Ongoing Care," Robert Wood Johnson Foundation, 2010.

[14] B. Briody, "Medicaid's Ticking Time Bomb – Long-Term Care – Could Wipe out State Budgets." Kaiser Health News/Fiscal Times. June 23, 2010.

[15]Kaiser Family Foundation, "The Role of Medicaid for Adults with Chronic Illnesses," November 2012. Available online at http://kaiserfamilyfoundation.files.wordpress.com/2013/01/8383.pdf

[16] Ibid.

[17] American Heart Association, "Executive Summary: Heart Disease and Stroke Statistics – 2014 Update: A Report from the American Heart Association," Circulation 2014; 129:399-410.

[18] American Heart Association/American Stroke Association. Facts Critical Coverage for Heart Health: Medicaid and Cardiovascular Disease. Available at: https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_461513.pdf Accessed March 21, 2014.

[19] Centers for Disease Control and Prevention. 2011 national diabetes fact sheet. Available at: http://www.cdc.gov/diabetes/pubs/factsheet11/fastfacts.htm Accessed February 13, 2014.

[20] American Diabetes Association, Cancer Action Network, American Heart Association/American Stroke Association. Medicaid: A Lifeline for Patients with Chronic Disease. http://www.acscan.org/content/wp-content/uploads/2013/09/2013-PHP-Medicaid-fact-sheet.pd f

[21] A. Soni. Agency for Healthcare Research and Quality. "The Five Most Costly Conditions, 1996 and 2006: Estimates for the U.S. Civilian Noninstitutionalized Population." July 2009. Available at: http://meps.ahrq.gov/mepsweb/data_files/publications/st248/stat248.pdf

[22] Kaiser Commission on Medicaid and the Uninsured. The Role of Medicaid for People with Behavioral Health Conditions. Washington, DC: Kaiser Family Foundation; November 2012. Publication 8383_BHC.

[23] R Kronick, M Bella, et al., "The Faces of Medicaid II: Recognizing the Care Needs of People with Multiple Chronic Conditions," Center for Health Care Strategies, Inc. Oct. 2007. Available online at http://www.chcs.org/usr_doc/Full_Report_Faces_II.PDF.

[24] AHRQ, "The Concentration of Health Care Expenditures and Related Expenses for Costly Medical Conditions, 2009," Statistical Brief #359 (February 2012). Available online at http://meps.ahrq.gov/mepsweb/data_files/publications/st359/stat359.pdf

[25] Adherence rates for individual patients are typically reported as a percentage: the prescribed doses of the medication a patient actually takes over a defined period divided by the total number of pills prescribed for that period.
[26] Fischer MA, Choudhry NK, et al. "Trouble Getting Started: Predictors of Primary Medication Nonadherence." *Am. J. of Med.,* 2011 November; 124(11): 1081.e9 – 1081.e22; See also, Fischer MA, Stedman MR, Lii J, et al. "Primary Medication Non-Adherence: Analysis of 195,930 Electronic Prescriptions." *J. Gen. Intern. Med.,* 2010 April; 25(4): 284–290.
[27] Greenberg Quinlan Rosner Research. "Medication Adherence: A survey of adults nationwide." April 2013.
[28] Osterberg L, Blaschke T, "Adherence to Medication," *New Engl. J. Med*., 2005;353(5):487-497.
[29] McCarthy R, "The price you pay for the drug not taken." *Bus Health*. 1998;16:27-28,30,32-33.
[30] Medication Compliance-Adherence-Persistence Digest, American Pharmacists Association 2003.
[31] IMS Institute for Healthcare Informatics, "Avoidable Costs in U.S. Healthcare: The $200 Billion Opportunity from Using Medicines More Responsibly," June 2013. http://www.imshealth.com/portal/site/imshealth/menuitem.c76283e8bf81e98f53c753c71ad8c22a/?vgnextoid=12531cf4cc75f310VgnVCM100000076192ca2RCRD
[32] Source: L Osterberg and T Blaschke, "Adherence to Medication," N Engl J Med
[33] C Boyd, et al., "Clinical Practice Guidelines and Quality of Care for Older Patients with Multiple Comorbid Diseases: Implications for Pay for Performance," JAMA 2005; 294:716-24.
[34] Roebuck MC, Liberman JN, et al., "Medication Adherence Leads to Lower Health Care Use and Costs Despite Increased Drug Spending," Health Affairs 2011; 30(1):91-99.
[35] Congressional Budget Office. Offsetting Effects of Prescription Drug Use on Medicare's Spending for Medical Services. Washington, DC: Congressional Budget Office; November 2012.
[36] Taitel M, Fensterheim L, Kirkham H, Sekula R, Duncan I. Medication days' supply, adherence, wastage, and cost among chronic patients in Medicaid. *Medicare & Medicaid Research Review.* 2012; 2(3).
[37] DT Lau and DP Nau, "Oral Antihyperglycemic Medication Nonadherence and Subsequent Hospitalization among Individuals with Type 2 Diabetes," Diabetes Care 2004;27(9):2149-53.
[38] Stanford School of Medicine, "Chronic Disease Self-Management Program (better Choices, Better Health Workshop). Available online at http://patienteducation.stanford.edu/programs/cdsmp.html
[39] "Review of Findings on Chronic Disease Self-Management Program (CDSMP) Outcomes: Physical, Emotional & Health-Related quality of Life, Healthcare Utilization and Costs," (2008). Available online at http://patienteducation.stanford.edu/research/Review_Findings_CDSMP_Outcomes1%208%2008.pdf
[40] Ibid.
[41] Administration on Aging and National Council on Aging, "Working with State Medicaid Agencies." Available online at http://www.ncoa.org/improve-health/center-for-healthy-aging/content-library/NCOA-AoA-Flyer-State-Medicaid-1.pdf.
[42] Ibid.
[43] Ibid.
[44] Ibid.
[45] Ibid.
[46] State Reforum, "Population Health Components of State Innovation Model (SIM) Plans: Round 1 Model Testing States," January 2014. Available online at https://www.statereforum.org/population-health-in-SIM
[47] Centers for Medicare and Medicaid Innovation, "State Innovation Models Initiative: General Information." Available online at http://innovation.cms.gov/initiatives/state-innovations/.
[48] CMS, "State Innovation Models Initiative: Model Testing Awards," available online at http://innovation.cms.gov/initiatives/State-Innovations-Model-Testing/index.html
[49] Commonwealth of Massachusetts, State Innovation Model Operational Plan, August 2013. Available online at http://www.mass.gov/eohhs/docs/eohhs/state-innovation/ma-sim-operational-plan.pdf
[50] The Care Transitions Program, "Program Structure." Available online at http://www.caretransitions.org/structure.asp.
[51] Ibid.
[52] Encouraging Patients and Family Caregivers to Assert a More Active Role During Care Hand-Offs: The Care Transitions Intervention." Available online at http://www.caretransitions.org/documents/Evidence_and_Adoptions_2.pdf

[53] Care Transitions Intervention Frequently Asked Questions. Available online at http://www.caretransitions.org/CTI_FAQ.asp
[54] Encouraging Patients and Family Caregivers to Assert a More Active Role During Care Hand-Offs: The Care Transitions Intervention. Available online at http://www.caretransitions.org/documents/Evidence_and_Adoptions_2.pdf
[55] CMS, Community-Based Care Transitions Program, available online at http://innovation.cms.gov/initiatives/CCTP/
[57] Encouraging Patients and Family Caregivers to Assert a More Active Role During Care Hand-Offs: The Care Transitions Intervention." Available online at http://www.caretransitions.org/documents/Evidence_and_Adoptions_2.pdf
[57] CMS, Community-Based Care Transitions Program, available online at http://innovation.cms.gov/initiatives/CCTP/
[58] Super-Utilizer Summit: Common Themes from Innovative Complex Care Management Programs. Hamilton, NJ: Center for Health Care Strategies, Inc.; October 2013.
[59] Center for Health Care Strategies, Inc. "Strategies to Reduce Costs and Improve Care for High-Utilizing Medicaid Patients: Reflections on Pioneering Programs," October 2013. Available online at http://www.chcs.org/usr_doc/HighUtilizerReport_102413_Final3.pdf
[60] Cindy Mann, CMCS Informational Bulletin, "Targeting Medicaid Super-Utilizers to Decrease Costs and Improve Quality," July 24, 2013. Available online at http://medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-07-24-2013.pdf
[61] Center for Health Care Strategies, Inc., Complex Care Innovation Lab, http://www.chcs.org/info-url_nocat3961/info-url_nocat_show.htm?doc_id=1261537#.U2fFEGdOXIV
[62] National Council of State Legislatures. Medication Therapy Management: Pharmaceutical Safety and Savings. Updated March 2012. http://www.ncsl.org/research/health/medication-therapy-management.aspx. Accessed March 21, 2014.
[63] Rucker NL. Medicare Part D's Medication Therapy Management: Shifting from Neutral to Drive. Insight on the Issues, No. 64. AARP Public Policy Institute. June 2012.
[64] N Eddington, "Utilizing Pharmacists to Increase Access to Care," Capsule, Summer 2013. Available at http://www.pharmacy.umaryland.edu/practice/pdf/UtilizingPharmacists.pdf
[65] Ibid.
[66] M Carroll, "New Case Study Shows Maryland P3 Program Can Improve Employee Health and Productivity," May 23, 2013. Available online at https://rxsecure.umaryland.edu/apps/news/story/view.cfm?id=361&CFID=4290269&CFTOKEN=ebfc63837a939660-62E15F73-A4C8-23EE-B61828467AB6F049
[67] The Patient Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes: Resource Guide; Second Edition; June 2012: page 5.
[68] American Society of Health-System Pharmacists, "Pharmacist Provider Status in 11 State Health Programs," Sept. 2008. Available online at http://www.ashp.org/DocLibrary/Advocacy/ProviderStatusPrograms.aspx
[69] Ibid.
[70] Ibid.
[71] A Kennedy, "Medication Management Pilot Study: Report to the Vermont Department of Health, January 2012-December 2013," University of Vermont, Jan. 15, 2014. Available online at http://www.leg.state.vt.us/reports/2014ExternalReports/295820.pdf Legislation for the program is Act 63 (2011), Sec. E.311.
[72] Patients benefit from pharmacy-provided medication synchronization programs [press release]. Alexandria, VA: National Community Pharmacists Association; January 15, 2014. Available at: http://www.ncpanet.org/index.php/news-releases/1869-patients-benefit-from-pharmacy-provided-medication-synchronization-programs. Accessed February 14, 2014.
[73] Estimate from Samuel F Stolpe, PharmD, Associate Director, Quality Initiatives, Pharmacy Quality Alliance, Inc., April 30, 2014.
[74] Walden G. "Thrifty White honored for pharmacy innovation." *Chain Drug Review*. January 9, 2013.
[75] Walden G. "Medication adherence pushed by CVS Caremark." *Chain Drug Review*. June 6, 2011.

[76] Holdford D, Inocencio T. Adherence and persistence associated with an appointment-based medication synchronization program. *J Am Pharm Assoc*. 2013;53:576-583.
[77] Holdford D, Inocencio T. Appointment-based Model (ABM) Data Analysis Report: Prepared for Thrifty White Pharmacy. Virginia Commonwealth University School of Pharmacy. Available at: http://www.naspa.us/documents/grants/abm/thrifty_white_12mo_abm_study_final.pdf. Accessed February 14, 2014.
[78] Ateb Inc. Assessing the Impact of a Community Pharmacy-based Medication Synchronization Program on Adherence Rates. Alexandria, VA: National Community Pharmacists Association; December 10, 2013. Available at: http://www.ncpanet.org/pdf/survey/2014/ncpa-study-results.pdf. Accessed March 14, 2014.
[79] Adherence measured by proportion of days covered.
[80] CMS, "Copayment/Coinsurance in Drug Plans," available online http://www.medicare.gov/part-d/costs/copayment-coinsurance/drug-plan-copayments.html
[81] M Taitel , L Fensterheim, et al. "Medication days' supply, adherence, wastage, and cost among chronic patients in Medicaid." *Medicare & Medicaid Research Review.* 2012; 2(3).
[82] M Taitel, L Fernsterheim, et al., "Medication Days' Supply, Adherence, Wastage, and Cost Among Chronic Patients in Medicaid," Medicare & Medicaid Research Review, 2012: 2(3); E1-E13.
[83] Ibid.
[84] Vermont - http://humanresources.vermont.gov/salary/benefits/prescription_drugs; New York - http://www.cdphp.com/plans_mem/nys_employees.aspx; Connecticut - http://www.osc.ct.gov/empret/healthin/2011hcplan/maintdrugfaq.htm; and Maryland - http://www.cdphp.com/plans_mem/nys_employees.aspx
[85] M Carroll, "New Case Study Shows Maryland P3 Program Can Improve Employee Productivity," Maryland P3 Program
[86] The Patient-centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes. Washington, DC: Patient-Centered Primary Care Collaborative; June 2012.
[87] More information can be found on the Missouri Department of Mental Health website: http://dmh.mo.gov/about/chiefclinicalofficer/healthcarehome.htm
[88] Progress Report, Missouri CMHC Healthcare Homes, November 1, 2013.
[89] Ibid.