Reducing In-Home Medication Issues Using an Alternative Workforce

BY JUNE SIMMONS AND SANDY ATKINS

Medication issues in the home have been largely invisible for a long time. The kicker is that medication issues are a major driver of costly adverse health outcomes.

A strong, evidence-based program developed by Partners in Care Foundation—HomeMeds℠—brings a nonclinical workforce solution to the home to be the "eyes and ears" for providers. When married to an accompanying software tool, the results are both compelling and powerful:

- Participant A: "I used to take 20 different medications, and after HomeMeds I was down to only eight. You saved us money and you saved my life."
- Participant B: "I have been taking this medication for years and never knew when I should stop because I was never told, so I still take it and I don't know why."
- Participant C: "Medication costs have gone up, so I cut my pills in half and they last longer."
- Participant S: "I didn't know that my cold medication and my pain medication had the same ingredients all of this time I was taking them."

These comments illustrate the great importance of patients taking the right medicines—and consistently taking them in the right dose, at the right time, and in the right way.

Unfortunately, medication-related problems (MRPs) are common. As many as 60% of community-dwelling elders are estimated to have medication-related problems—with falls, dizziness, and confusion being common results.

Over 1.3 million people end up in an emergency department each year as the result of adverse drug events. When you add up unnecessary emergency department use, hospital readmissions, and skilled nursing facility admissions, drug-related morbidity and mortality cost the health system more than $170 billion annually.

Over 72% of post-discharge adverse events are related to medications—and close to 20% of discharged patients suffer an adverse event. What is most shocking, though, is that at least 25% of all harmful adverse drug events are preventable.

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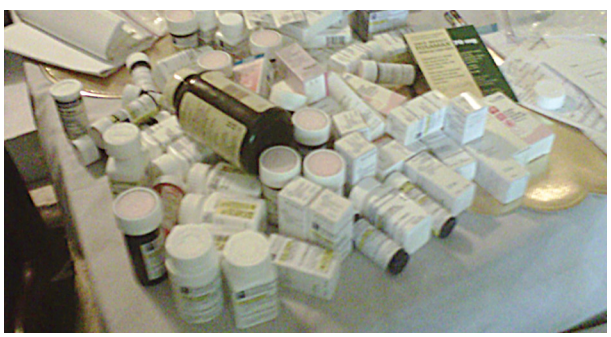
AN EFFECTIVE PREVENTION

Twenty years ago, Partners in Care Foundation of San Fernando, California, developed a home medication safety program called HomeMeds. The high-level, evidence-based model uses bachelor's level social workers or community health workers as health coaches in the home, backed by an offsite consultant pharmacist.



The photo above demonstrates what HomeMeds staff frequently find in patients' homes.

The John A. Hartford Foundation funded the intensive research that established HomeMeds' effectiveness, and it then funded efforts to develop software and disseminate the

HomeMeds at a Glance

- Evidence-based program deploying a nonclinical workforce in the home to:
  - Identify and prevent medication-related problems
  - Improve medication use
- Collaborative approach
  - Homecare team doing medication reconciliation
  - Consultant pharmacist (or nurse practitioner) reviews alerts and recommends changes.
  - Follow-up with prescribers and patient/clients
- Web-based risk assessment software
- Relies on evidence-based protocols and procedures

program nationwide for home health settings. In 2003, Partners was awarded funding from the U.S. Administration on Aging to further develop the program so that a nonclinical workforce could deploy it.

Under the program, highly skilled community health coaches—adept at patient engagement and knowledgeable about community resources—visit the homes of high-risk individuals. The coaches conduct a formal medication safety assessment, as well as an assessment of environmental, functional, and psychosocial needs.

HomeMeds is now included among the few programs listed in the Administration for Community Living's rigorously tested Aging and Disability Evidence-Based Programs and Practices. As MRPs are a major cause of avoidable hospital admissions, readmissions, and emergency department visits, this in-home nonclinical tool has great power to protect and extend health. Licensed by Partners in Care, it has a very powerful ROI in both enhanced quality scores and net financial outcomes.

THE HOMEMEDS PROCESS

A community-based health coach visits the patient and inventories all medications in the home. This inventory includes not only prescribed medications, but also drugs from other countries, meds borrowed from friends or family, over-the-counter drugs, herbals and supplements, and the unusual or unexpected—such as the owner taking his dog's glucosamine.

During the visit, this list and other pertinent data are entered in the HomeMeds web-based software. Next, the coach interviews the patient about signs of potential adverse medication effects, such as any recent falls, dizziness, or confusion.

The coach also asks the patient to take his or her own blood pressure and pulse, preferably in two positions. Lastly, the coach explains each medication's instructions to determine the patient's understanding of and adherence to properly taking and using each medication.

Once the assessment and input are completed, the HomeMeds software algorithm looks for any potential MRPs that would explain patient symptoms. If it identifies problems, a report is sent to a pharmacist, who reviews these potential issues and makes recommendations for resolution. The recommendations are then provided to the prescribing provider and sometimes to the patient as well.

A key aspect of this approach is that the analysis and recommendations are made by trained, licensed professionals—not the coach.

The coach's role is very specific:

- Collect medication information and patient-reported signs and symptoms.
- Enter data into the HomeMeds software, preferably in the home.
- Contact a pharmacist and collaborate with a care plan.
- Contact the patient to verify medications, if needed.
- Follow up with the patient regarding medication changes recommended by the pharmacist.

The pharmacist's role is just as specific:

- Screen alerts to confirm the importance of identified problems.
- Communicate with prescribers.
- Consult with the care manager.
- Identify medication problems beyond protocols.
- Assist with complex cases (e.g., simplification of medication regimens for cognitively impaired people).
- Educate staff about medications/risks.
- Document actions taken into the HomeMeds software.

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HomeMeds Evidence-Based Recognition

- U.S. Administration for Community Living recognition as an evidence-based prevention program
  - Highest level of evidence
- Aging & Disability Registry of Evidence-Based Programs and Practices
  - Quality of research: 3.2/4
  - Readiness for dissemination: 4/4
- U.S. Agency for Healthcare Research and Quality (AHRQ) Innovation Exchange
  - Strong evidence rating

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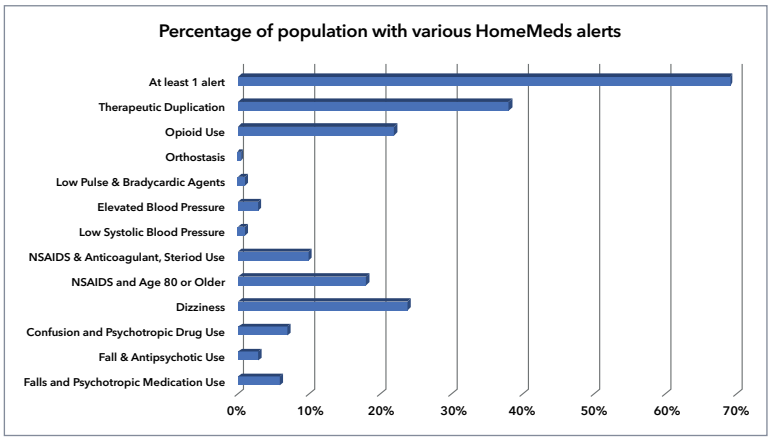
RISK-SCREENING PROTOCOLS

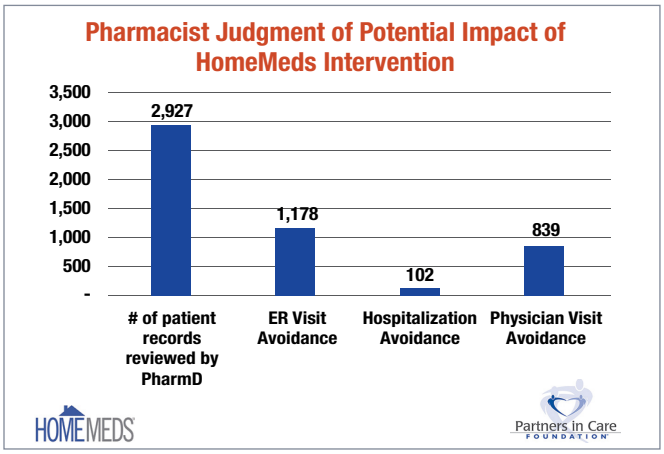
One of the benefits of using the HomeMeds process to identify potential medication complications is that it uses a set of risk-screening protocols. These protocols were selected through the efforts of a national consensus research panel chaired by Mark Beers, MD, using the following criteria:

- Amenable to home-based intervention
- Alternatives exist for prescribers
- Problems identified are important enough that providers are likely to respond (i.e., avoid alert overload).

HomeMeds addresses four categories of MRPs:

1. Unnecessary therapeutic duplication
2. Use of psychotropic drugs in patients with a reported recent fall and/or confusion
3. Use of non-steroidal anti-inflammatory drugs (NSAIDs) in patients at risk of peptic ulcer/gastrointestinal bleeding (age 80 or older, patients also using anticoagulants, antiplatelets, corticosteroids, etc.)
4. Cardiovascular medication problems: high systolic blood pressure, low pulse, orthostasis, and low systolic blood pressure





A COMPREHENSIVE SDOH SOLUTION

While HomeMeds has historically been an add-on to other home- and community-based services, it is increasingly the core element of a home visit program called HomeMedsPlus.

Anchored by HomeMeds, HomeMedsPlus is provided by community agencies in partnership with health systems and health plans. It features evidence-based care transitions coaching, comprehensive psychosocial and home safety assessment, and connection with services to address social determinants of health (SDOH). The assessment and care planning tools are structured to ensure standardized work throughout a contracted service area, such as that served by the California Partners at Home Network and other community-based organizations across the country.

EVIDENCE-BASED SUCCESS

HomeMeds is included in the National Registry for Evidence-based Programs and Practices. It is also included with a strong evidence rating on the U.S. Agency for Healthcare Research and Quality (AHRQ) Innovation Exchange.

Since the software rolled out in 2011, over 65,000 individuals have been screened through HomeMeds, with 40% to 60% of those screened having potential MRPs. Typically, more than 60% of pharmacist recommendations are implemented, in collaboration with physicians, patients, families, and care managers.

In care transition programs, HomeMeds pharmacists have estimated that the intervention prevented emergency department use in 40% of 2,927 patients with MRPs. Combined with the Coleman Care Transitions Intervention, HomeMeds produced a 50% reduction in readmission rates across five Southern California hospitals within a large health system.

HomeMeds is in use at 60 sites in 20 states—including medical groups and hospitals, health plans, area agencies on aging, post-hospital care transition programs, home-delivered meals programs, fall prevention collaboratives, and care management programs. Its use is expanding, and new medical practices are working toward adding the service.

It can be successfully applied anywhere people live, be it an individual residence, a congregate housing site, or an assisted living facility. Partners is also available to advise or consult on the design of related SDOH community partnerships. ○

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ALIGNED INCENTIVES AND VALUE-BASED INFRASTRUCTURE

At the national level, there is strong policy interest in financial risk-sharing as an important component of alternative payment models. These models include Medicare accountable care organizations (ACOs), which are designed to shift incentives away from charging for each patient service and toward producing health.

As the lines between HMO and PPO products blur—through the introduction of ACOs and Covered California's standard benefit design based on actuarial value—the degree of financial risk-sharing and its influence on cost and quality bears further examination.

Financial risk-sharing funds the infrastructure that supports California's delegated model of care and benefits millions of Californians. Capitation provides a stable and predictable source of funds that can be invested in population health, care management, and other programs that support high-quality, efficient care.

This analysis begins to address the key question: What is the added value of risk-sharing provider organizations in managing cost and quality for members? To support delivery system transformation, we need better ways to measure clinical integration and coordination, and to reward strong performance on delivery of patient-centered care.

Risk-sharing is an important part of the puzzle, because it allows provider organizations to shift from a transactional approach to a patient-centered perspective. ○

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IHA's Atlas Tool and Analysis

The Atlas (atlas.iha.org) is a benchmarking and hot-spotting improvement tool that includes about 30 million insured Californians. For commercial insurance, the Atlas tracks regional performance for clinical quality, average annual total cost of care per member, and hospital utilization—based on care provided to roughly 14 million Californians enrolled in commercial HMOs, PPOs, accountable care organizations (ACOs), and self-insured arrangements.

All results are based on administrative (claims and encounter) data, with some supplemental lab results and pharmacy data. Clinical data will be incomplete when using administrative data and may result in rates that are lower than actual performance due to data limitations. The financial risk-sharing analysis is based on performance in 2017 and does not include Kaiser Permanente.