A Preventable Problem: Improper Medication Use

Medications, when used appropriately, are the most effective tools we have in fighting disease, including chronic diseases such as diabetes and coronary heart disease. Unfortunately, improper medication use costs our nation an estimated $290 billion annually in total direct and indirect health care costs. Many of these costs can be prevented by reengineering and improving the medication use system. As recommended by the Institute of Medicine, systems must be designed to make the health care system safer at all levels.

The Solution: Pharmacists’ Patient Care Services

- Pharmacists increase patients’ understanding of their medication regimen to improve their health outcomes.
- Pharmacists assist prescribers in avoiding potential medication-related problems and improve treatment outcomes.

Pharmacists: The Medication Therapy Expert on the Integrated Health Care Team

Pharmacists, trained with a focus and level of expertise on medication therapy that exceed those of other health care providers, are ideally suited to be the health care professionals to improve medication use and outcomes. Pharmacists in all patient care settings provide patient care services such as comprehensive and targeted medication therapy reviews, anticoagulation monitoring, pharmacotherapy consults, immunizations, wellness programs, and many other diverse services that help minimize risk and optimize outcomes associated with medication therapy.

Successful States Using Innovative Pharmacists’ Patient Care Services

Several innovative programs that use pharmacists’ provided patient care services have been recognized through funding in the Health Care Innovation Awards from the CMS Innovation Center.

Through the collaboration of pharmacists, with other members of the health care team, these programs are projected to provide cost savings by improving the standards of care using evidence-based medication therapies and improving medication adherence and management, leading to reduced hospitalizations, readmissions, adverse drug events, and emergency department visits. [1] The following are four examples:

CALIFORNIA
“Integrating clinical pharmacy services into safety net clinics”

The University of Southern California is integrating clinical pharmacy services into safety net clinics, providing medication therapy management (MTM), disease state management, medication reconciliation, medication access services, patient counseling, drug information education, preventive care programs, provider education, and quality improvement reviews for care providers and for the underserved and vulnerable. This integration will improve medication adherence, confirm the appropriateness and safety of medication use, and reduce avoidable hospitalizations and emergency department visits, while improving patient and population health. The projected cost savings over a 3-year period is $43.7 million from an award amount of $12 million.

HAWAII
“Pharm2Pharm, a formal hospital pharmacist-to-community pharmacist collaboration”

Integrated into hospital and ambulatory care teams, pharmacists contribute to better care transitions for the elderly by improving medication reconciliation and management in three rural counties of Hawaii through the decision-making support and enhanced communication abilities of hospital and community pharmacists. The projected cost savings over a 3-year period is $27.1 million from an award amount of $14.3 million.

VIRGINIA
“Improving health for at-risk patients (IHARP) in 23 southwest Virginia counties through a collaborative pharmacist practice model”

Pharmacists trained in transformative care and chronic disease management protocols provide medication adherence, management through care coordination, and shared access to electronic medical records for patients with multiple chronic diseases in 23 underserved rural counties in southwest Virginia. The projected cost savings over a 3-year period is $4.3 million from an award amount of $4.1 million.

WISCONSIN
“Retooling the pharmacist’s role in improving health outcomes and reducing health care costs”

Transforming the role of pharmacists from drug dispensers to drug therapy coordinators and managers, pharmacists are working collaboratively with physicians and other prescribers to revise prescription drug therapies based on evidence-based standards of care, targeting patients with diabetes, chronic heart failure, asthma, and geriatric syndromes to improve medication adherence and provide medication therapy management. The projected cost savings over a 3-year period is $20.4 million from an award amount of $4.1 million.

KEY STATE REQUIREMENTS FOR PHARMACISTS TO CONTRIBUTE TO PUBLIC HEALTH, ACHIEVE QUALITY, AND REDUCE COSTS

To exert the most significant impact on public health, pharmacists must be empowered to provide care to patients efficiently and effectively in a manner and scope that are consistent with their level of training and expertise. In addition, states must effectively use pharmacists practicing at the height of their license to maximize the benefit of these health care providers on public health and efficiently improve care and reduce costs. Following are recommendations for achieving these goals:

- **Implement Pharmacist-Provided Medication Therapy Management in State Medicaid and State Employee Benefit Programs**
  - Employ pharmacists’ medication expertise and accessibility to fully optimize medication therapy.
  - Provide MTM services as part of a comprehensive health care benefit.

- **Expand Pharmacist-Integrated Collaborative Practice Agreements and Coordination of Care with Other Health Care Providers**
  - Leverage pharmacists’ medication expertise on drug therapy, clinical services involved in the management of medications and chronic diseases, and accessibility to fully optimize medication therapy.
  - Include pharmacists in integrated care teams; ensure that financial models neither prohibit nor discourage their involvement.
  - Include pharmacists in transition-of-care activities.
  - Include pharmacists in workforce strategies.

- **Include Pharmacists in Statewide or Regional Health Information Technology Initiatives**
  - Employ pharmacists’ medication expertise and accessibility to assist patients in reconciling their medication list for their personal health record.
  - Ensure that health information technology (HIT) is interoperable and provides pharmacists with access to patients’, electronic health record (EHR) data necessary to provide MTM services and to document care.
  - Provide pharmacists with incentives that are equal to those provided to other health care providers for HIT adoption and use.

- **Increase Access to Pharmacist-Provided Immunization Services and Maximize Pharmacists’ Immunization Authority**
  - Employ pharmacists’ medication expertise and accessibility to fully optimize access to medications that are not self-administered such as, but not limited to, immunizations.
  - Include pharmacists as essential providers in addressing the population’s immunization needs.
  - Ensure that pharmacists have access to registries and are able to provide information into registries in a non-burdensome electronic format.

- **Expand Pharmacists’ Role as Public Health Extenders**
  - Employ pharmacists’ training, medication expertise, experience, and accessibility to respond to public health priorities and needs.
  - Include pharmacists in standing orders to address public health emergencies.
### Demographics

Total Number of Residents (2011-12) | 6,367,900  
Metropolitan: | 73%  
Non-Metropolitan: | 27%

### Health Coverage Information

<table>
<thead>
<tr>
<th>Employer Insured</th>
<th>Individual Insured</th>
<th>Medicaid</th>
<th>Medicare</th>
<th>Uninsured</th>
</tr>
</thead>
<tbody>
<tr>
<td>52%</td>
<td>3%</td>
<td>17%</td>
<td>14%</td>
<td>13%</td>
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</tbody>
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Total Medicaid Enrollment (2010-11): **1,145,569**  
Total Dual Eligibles (2010): **157,635**

All Duals as a Percent of Medicaid Enrollees (2009): **13.8%**

### Health Care Costs

- Total Medicaid Spending (2010): $5,921,000,109
- State Share of Medicaid Spending (2010): $1,454,600,107
- Prescribed Drugs Medicaid Payments Percent of Total Spend (2010): 10.16%
- Medicaid Payments per Enrollee (2009): $5,035
- Medicaid Spending per Dual Eligible (2009): $17,715
- Inpatient Hospital Medicaid Payments Percent of Total Spend (2010): 15.8%

### Health Care Utilization

- Hospital Emergency Room Visits per 1,000 Population (2010): 490.73

### Immunization Rates

- Percent of Adults Aged 65 and Over Who Had a Flu Shot Within the Past Year (2011): 60.6%
- Percent of Adults Aged 65 and Over Who Have Ever Had a Pneumonia Vaccine (2011): 70.5%
- Percent of Children Age 19-35 Months Who Are Immunized (2010): 74.0%

### Disease/Health Risk Factor Prevalence

- Percent of Adults Who Have Ever Been Told by a Doctor That They Have Diabetes (2011): 10.2%
- Number of Deaths Due to Diseases of the Heart per 100,000 Population (2009): 195
- Respiratory Disease (Asthma) Prevalence Rate (Adults) (2010): 9.5%
- Percent of Adults Who Are Overweight or Obese (2011): 66%
- Percent of Children (10-17) Who Are Overweight or Obese (2007): 30%
- Percent of Adults Who Smoke (2011): 25.6%

### Healthcare Providers

- Number of Nonfederal Physicians (2012): 14,654
- Number of Physician Assistants in Clinical Practice (2010): 973
- Number of Nurse Practitioners (2011): 3,135

### Number of Licensed Pharmacists in State (2012)

- Number of Outpatient Prescriptions Filled Yearly (2011): 72,975,200
- Amount Spent on Prescription Medications (2011): $4,466,810,519

### Estimated Amount Spent on Medication-Related Problems

$7,593,577,882

### Current Pharmacist Patient Care Authority

- Collaborative Practice Agreement Authority: Full
- Extent of Immunization/Medication Administration Authority:
  - Patient Age: 11 and older
  - Allowed Route(s): Any
  - Allowable Vaccines/Medications: Any vaccine
  - Administration Authorized by: Protocol or Prescription (depending on age and/or vaccine)

### Additional State Information

- State Board of Pharmacy Web Site: [http://www.in.gov/pla/pharmacy.htm](http://www.in.gov/pla/pharmacy.htm)
- State Pharmacy Association/Web Site: [Indiana Pharmacists Alliance](http://www.indianapharmacists.org)
PATIENTS ACROSS THE UNITED STATES ARE RECEIVING BETTER CARE AND ACHIEVING BETTER OUTCOMES FROM PHARMACISTS’ PATIENT CARE SERVICES

Why Engage Pharmacists as Essential Health Care Providers When Addressing the Health Care Needs of Your State?

- **Patients benefit** from pharmacists’ expertise and skills in managing complex medication regimens and chronic conditions, minimizing adverse events, supporting patient adherence to therapy, and coordinating medications in transitions among health care settings.
- **Communities benefit** from improved health outcomes through pharmacists’ patient care services.
- **Appropriate medication use is achieved and adverse drug events are reduced** with proper management of medications by pharmacists and engagement of patients.
- **Patient experiences are better and other health care providers and the overall health care system are more efficient** when pharmacists’ patient care services are integrated and coordinated within existing and evolving care delivery models.
- **Patient and population quality of care is improved and health care costs are reduced** by providing coverage for pharmacists’ patient care services in existing programs and evolving health care delivery models.

When it comes to addressing the issues of cost, quality, and access to health care in your state ...

**PHARMACISTS COUNT!**

**Sources**

- Individual state board of pharmacy websites and internal APhA databases