

The Pharmacist: An Integral Component of the Care Coordination Team for High-Cost, Medically Complex Populations

Specialized medication management
to improve quality of life for patients and reduce costs

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Abstract

Medication management leads to improved care for special populations, savings for health plans

A pharmacist's medication management skill can enhance health outcomes and quality of life for members of Medicaid, Medicare, and commercial health plans — especially for members who have serious medical conditions or need closely coordinated pharmaceutical care. For this reason, UMass Medical School's Clinical Pharmacy Services program has developed a specialized medication therapy management program for high-cost populations with complex medical conditions or other issues that put them at risk.

The Clinical Pharmacy Services pharmacists who work within this program have expertise with high-cost, high-risk populations. They also understand coverage limits and can nimbly navigate the health care system. Currently, these pharmacists work as part of care coordination teams for the following populations:

- Medically fragile children under age 22
- Adults with multiple chronic, complex conditions, such as acquired brain injury with other co-morbidities
- Children in the care of social services
- Children in the care of, or about to enter, the foster care system
- Members with complex medical needs being discharged from hospitals

While medication management programs for the general population save about \$4 for each \$1 spent, **Clinical Pharmacy Services' specialized medication management program produces average cost avoidance of \$10.64 for each \$1 spent to optimize pharmaceutical care** for these medically complex populations. That figure is achieved by having dedicated pharmacists — who have expertise with the populations served — manage multiple aspects of members' pharmaceutical needs, with emphases on procuring medication, resolving clinical and insurance issues, improving care, and enhancing quality of life.

The pharmacists involved in this specialized medication management therapy program are supported by a larger team that includes dozens of pharmacists with board certification in pharmacotherapy and postgraduate training in pharmacy practice specialties. First established in 1999 to provide drug utilization review services for Massachusetts Medicaid, Clinical Pharmacy Services now provides evidence-based clinical and operational support, consulting, and service delivery in areas such as medication management, patient-centered medical homes, prescriber outreach, pharmaco-economic analysis, clinical guideline development, and formulary management.

The issue

Lack of coordinated pharmaceutical care can lead to complications, poor outcomes, high costs

Complex drug regimens — or incomplete medication histories — can present significant challenges to patients and their families, caregivers, and care coordination teams. In particular, when members of Medicaid, Medicare, and commercial health plans have serious medical issues, they often rely on an extensive number of drugs to manage and treat their conditions. The management of these medications can be difficult, especially when members live at home or in community settings.

The processes of prescribing, procuring, and administering medications can be hindered by any one, or all, of these factors:

- Adverse drug interactions
- Polypharmacy, a common problem among patients taking multiple drugs for complex conditions
- Drug side effects, especially those that impact activities of daily living
- Insurance issues
- Less-than-optimal drug administration schedules and techniques
- Other issues

As a result, some members simply do not get the medications they need. Without medically necessary drugs, rates of adherence to medication regimens decrease, which leads to higher costs as a result of greater incidence of emergency room use and hospital admissions.¹ Lack of adherence may also have a negative effect on the quality of care and the quality of members' and caregivers' lives.

However, multidisciplinary care teams that include a pharmacist can increase medication adherence and decrease rates of emergency department use and hospitalization among high-risk patients in the community.²

¹ National Council on Patient Information and Education. Value-based benefit design: using a predictive modeling approach to improve compliance [monograph on the internet]. Bethesda (MD): National Council on Patient Information and Education; 2007 [cited 2012 April 13].

² Mahoney JJ. Value-based benefit design: using a predictive modeling approach to improve compliance. *J Manag Care Pharm.* 2008;14(6)(suppl S-b):S3-S8.

Our solution

Pharmacists trained to manage drug issues for high-cost, medically complex patients

To ensure that patients — especially those with complex medical needs or incomplete medical histories — receive optimal pharmaceutical care, the Clinical Pharmacy Services team employs pharmacists who are trained to provide medication therapy management services that correspond to the unique challenges of these populations. By developing relationships with and becoming part of the care coordination team — and providing personal service to members and their families — these pharmacists enhance the entire team's ability to meet patients' needs for long-term services and supports, improve health outcomes, and contain costs.

The Clinical Pharmacy Services team takes a systematic approach to each case. However, the level of involvement depends on the complexity of the particular patient's needs. A simple intervention, for example, may consist of a single medication-order clarification. A complex intervention may involve working in collaboration with the case manager to take multiple actions — for instance, resolving billing issues to procure medically necessary drugs, reconciling the medication list, talking with the patient by phone (or conducting a home visit, if geographically possible), and reaching out to the member and provider.

Serving needs of complex patients

The Clinical Pharmacy Services team has provided consultation for Medicaid members with a range of conditions:

- Cerebral palsy
- Congenital malformations
- Genetic disorders
- Mitochondrial disease
- Neuromuscular disease
- Multiple chronic, complex conditions
- Conditions managed with psychotropic drugs

The pharmacists have extensive experience working with people who have these and other serious conditions — and understand how to resolve the clinical, billing, and financial issues that commonly affect them.

Recognizing the care coordination team's need for pharmacists' expertise

The specialized medication management program was initially launched in 2006 to support UMass Medical School's Community Case Management program, which coordinates care for more than 600 members of a state Medicaid program. These members are under age 22 at program entry, have complex medical conditions, and qualify for more than two hours of continuous, home-based, skilled nursing services. The resulting improvements in procuring medication, resolving clinical issues, improving quality of life, and reducing costs³ led to the recognition that other high-cost, high-risk populations could benefit from the expertise of a pharmacist trained to meet their needs.

The specialized medication management program now serves a variety of populations, in home- and community-based settings, including adults with multiple chronic, complex medical conditions, such as acquired brain injury with other co-morbidities.

Enhancing member care

This pharmacy team works in conjunction with members, families, providers, care coordination teams, insurers, benefit coordinators, prior authorization reviewers, and community pharmacists to effectively optimize pharmaceutical care for members. In addition to extensive experience in pharmacy, these pharmacists bring expert knowledge of the disease states, risk factors, and unique needs that most frequently affect fragile, medically complex populations. This enables them to provide effective medication reviews and drug therapy consults by phone and in person.

These services lead to recommendations that can improve members' quality of life and decrease overall costs to managed care organizations, accountable care organizations, and fee-for-service payers. In many cases, the pharmacists' suggestions have alleviated adverse effects caused by drug–disease interactions. They have also made it possible to reduce skilled nursing interventions and, ultimately, payer-authorized nursing services (see patient example on page 12).

³ Coderre, K., Meyers, J., Lee, K. Integration of a Pharmacist into a Case Management Program Improved Care. *Drug Benefit Trends*. 2008;20(9):353-358.

Providing operational support

The Clinical Pharmacy Services pharmacists provide a full range of operational services, the majority of which involve issues arising from the need for drugs that require prior authorization. Working with providers and payers, the pharmacists counter these issues by streamlining the drug procurement process for members:

- Providing educational information on prior authorization processes
- Reducing high out-of-pocket costs by assisting with procurement and insurance issues
- Facilitating approval of medications that are prescribed appropriately but denied due to coverage restrictions
- Developing partnerships to encourage prescribers to communicate with and seek guidance from the pharmacist
- Recommending therapy alternatives when drug shortages occur or when necessary medications or dosage forms are not available from a local pharmacy

Identifying need for clinical intervention

The need for clinical intervention may be identified through trend data, a pharmacist's review of clinical comprehensive assessments, or referrals from members, families, providers, or the care coordination team. The pharmacy team's clinical intervention can take a variety of forms:

- Providing drug information and clinical consults
- Conducting medication regimen reviews
- Joining in multidisciplinary team meetings and phone consultations with prescribers and nurses to help develop plans of care for members
- Consulting with members, families, and care providers by phone
- Participating in home visits, as well as visits to other community settings and nursing home facilities, when possible
- Obtaining medication history and reconciling medication regimens

Outcomes

Targeted pharmacy support leads to improved care and cost avoidance

When a Clinical Pharmacy Services pharmacist provides evaluations and recommendations as part of a care coordination team, there are multiple benefits, both clinical and fiscal.

Positive clinical outcomes

Changes in clinical care — and the pharmacists' closer communication with members, caregivers, providers, and other stakeholders — can lead to improved health outcomes and better quality of life for members.⁴ Ensuring that patients with complex drug regimens — or incomplete medication histories — receive complete, appropriate, monitored pharmaceutical treatment leads to positive outcomes:

- Reducing emergency room visits
- Avoiding unnecessary hospitalizations and outpatient visits
- Facilitating hospital discharges

While many medication issues can be resolved by telephone, the pharmacists also conduct in-person visits. These provide the pharmacist with the opportunity to aid the member by addressing other issues:

- Determine whether the medication regimen is being implemented as prescribed
- Identify changes that could improve the member's quality of life or reduce nursing or drug expenses for the state, such as
 - Reconfiguring medication regimens to avoid side effects
 - Preventing adverse interactions between drugs
 - Recommending medication changes to reduce the frequency of dosing and potentially the need for skilled administration
- Help the member and family caregivers feel more comfortable with the drug regimen and administration procedures.

⁴ Berman S, Rannie M, Moore L, Elias E, Dryer LJ, Douglas Jones M. Utilization and costs for children who have special health care needs and are enrolled in a hospital based comprehensive primary care clinic. *Pediatrics*. 2005;115(6):e637-42.

Medication changes help member regain mobility

Complete review of a patient's medications can reveal opportunities for reducing interactions between drugs and for easing side effects.

After repeatedly finding a Medicaid member with multiple chronic, complex conditions to be drowsy, unresponsive, and inactive during site visits, the case manager responsible for transitioning the member to a community setting requested a medication review from a Clinical Pharmacy Services pharmacist.

The pharmacist identified multiple muscle relaxants and antidepressants in the member's medication list — each of which could cause drowsiness. The member, who had kidney disease, was also receiving gabapentin. Indicated to prevent seizures or relieve pain, gabapentin must be carefully adjusted to account for compromised kidney function. However, the pharmacist found that the dose may have been too high for the member's level of kidney function.

The case manager presented the member's physicians with the pharmacist's recommendations:

- Reevaluate the use of muscle relaxants and antidepressants
- Modify the dose of gabapentin to correspond to the clinical guidelines for kidney disease

The case manager reported that, after the medications were adjusted, the member "seemed like a different person." Without the heavy sedation, the member became more active. Now able to stand and move around, the member no longer needed the services of a second personal care attendant.

The Medicaid program's \$333 investment in the pharmacist's services resulted in \$177,320 in avoided costs — in addition to enhancing the member's independence and quality of life. **This is a savings of \$532.94 for each \$1 spent.**

Financial benefits

With this specialized medication management initiative, Clinical Pharmacy Services far exceeds the 4:1 cost avoidance achieved by similar programs designed for general populations, as documented in the Asheville Project, for example.⁵ A recent U.S. Public Health Service report examining 17 years of medication management data showed a comparable result, with a median benefit to cost ratio of 4.53:1.⁶

The Clinical Pharmacy Services initiative, however, has resulted in average cost avoidance of \$10.62 for each \$1 spent by one state Medicaid program between May 1, 2011, and April 30, 2012. In some individual cases, the return on investment has been greater than 500:1 (see patient examples on pages 10 and 12).

Table 1 (on page 12) shows the cost avoidance Clinical Pharmacy Services has achieved for this Medicaid program during a 12-month period. Cost avoidance figures were estimated using evidence-based literature that details the cost-related outcomes reported among medication management programs for Medicaid populations and/or medically complex populations. When literature was not available for these specific populations, Clinical Pharmacy Services reviewed related general-population studies. The overall cost-avoidance estimate for this Clinical Pharmacy Services program is conservative, since medication management programs for the general population data usually produce lower cost avoidance. (References furnished upon request.)

In some instances, making sure that every patient is taking the right medications — and that those medications are being used appropriately — may initially increase drug costs. Whether the costs increase or decrease at the start of a similar medication management program, however, the long-term benefits are substantial, both for the members and for health care budgets.

While this Clinical Pharmacy Services program was initially launched to support only medically fragile children covered by Medicaid (see Our solution on page 6, it has been expanded to encompass the following additional populations and can be customized for other groups of patients as well:

- Adults with multiple chronic, complex conditions who are part of a Medicaid program that helps people move from institutional settings to community-based settings by accessing community-based services
- Children in the care of social services, many of whom have missing, incomplete, or nonexistent health records
- Children in the care of, or about to enter, the foster care system
- Members of Medicaid who have multiple and/or complex medical needs and are being discharged from hospitals and need community-based long-term support services

⁵ Bunting BASmit, h BH, Sutherland SE. The Asheville Project: clinical and economic outcomes of a community-based long-term medication therapy management program for hypertension and dyslipidemia. *J Am Pharm Assoc* (2003). 2008 Jan-Feb;48(1):23-31.

⁶ Giberson S, Yoder S, Lee MP. Improving Patient and Health System Outcomes through Advanced Pharmacy Practice. A Report to the U.S. Surgeon General. Office of the Chief Pharmacist. U.S. Public Health Service. Dec 2011.

Streamlining drug administration reduces nursing hours

Clinical Pharmacy Services was asked to assess a Medicaid member who was on a medication and feeding schedule that required nearly hourly administration by a nurse.

A pharmacist evaluated the overall medication regimen to address both pain and seizure management. The pharmacist was able to reduce administration to eight times per day by consolidating feedings and changing medication dosing schedules.

This reduced the cost of nursing care from \$7,775 per week to \$2,591 per week — saving \$269,035 annually after spending \$499 on the specialized pharmacy consultation. **This is a savings of \$539.06 for each \$1 spent.**

Table 1. Cost Avoidance Resulting from the Specialized Medication Management Program for a state Medicaid client
May 1, 2011 to April 30, 2012

Cost avoidance after expenses:		
Number of members receiving consultations	235	
Average cost avoidance per member (after expenses)		\$1,931.13
Number of consults	348	
Average cost avoidance per consult (after expenses)		\$1,304.07
Total cost avoidance after expenses		\$453,817.07

Expenses:		
Cost of medications added		\$11,723.18
Cost of pharmacist time (including salary and benefits)		\$30,929.05
Total expenses		\$42,652.23

Cost avoidance:		
Increased compliance		\$233,660.06
Hospital/ER cost avoidance		\$142,996.75
Third-party liability coverage		\$4,800.00
Avoidance of unnecessary medication		\$58,233.60
Avoidance of adverse drug reactions		\$48,378.28
Ambulance ride avoided		\$188.76
Discharges facilitated		\$7,912.40
Appeals avoided		\$299.45
Total cost avoidance		\$496,469.30

Intervention solves financial hurdle for family

The parents of a patient receiving care coordination services didn't expect a problem when their primary insurer required them to switch to a new mail order pharmacy. But when they tried to refill a high-cost specialty pharmaceutical for their child's long-term pulmonary issues, the pharmacy would not deliver the drug until the family paid a \$2,500 out-of-pocket deductible.

A pharmacist at Clinical Pharmacy Services worked with multiple parties to ensure that the patient's treatment continued without interruption and that Medicaid remained the payer of last resort:

- Medicaid pharmacy program
- Primary private insurer
- Benefit coordinators
- Mail order pharmacy and multiple additional pharmacies
- Social worker

The pharmacist's work, at a cost of \$873.39, produced the following results:

- Facilitated communication between the private insurer's designated specialty pharmacy and Medicaid, resulting in the private insurer waiving the deductible for the family
- Prevented a lapse in treatment by finding a pharmacy to fill the prescription while the financial issue was being resolved
- Ensured that Medicaid remained the payer of last resort

Because of this intervention, Medicaid has avoided paying for this patient's medication, which totals more than \$55,000 annually; this would be **a savings of \$62 for each \$1 spent** on the Clinical Pharmacy Services pharmacist. However, Medicaid incurred a one-time expense of \$5,792 — to maintain the patient's medication while the issue was being resolved — and still achieved a first-year return on investment of 7.26:1.

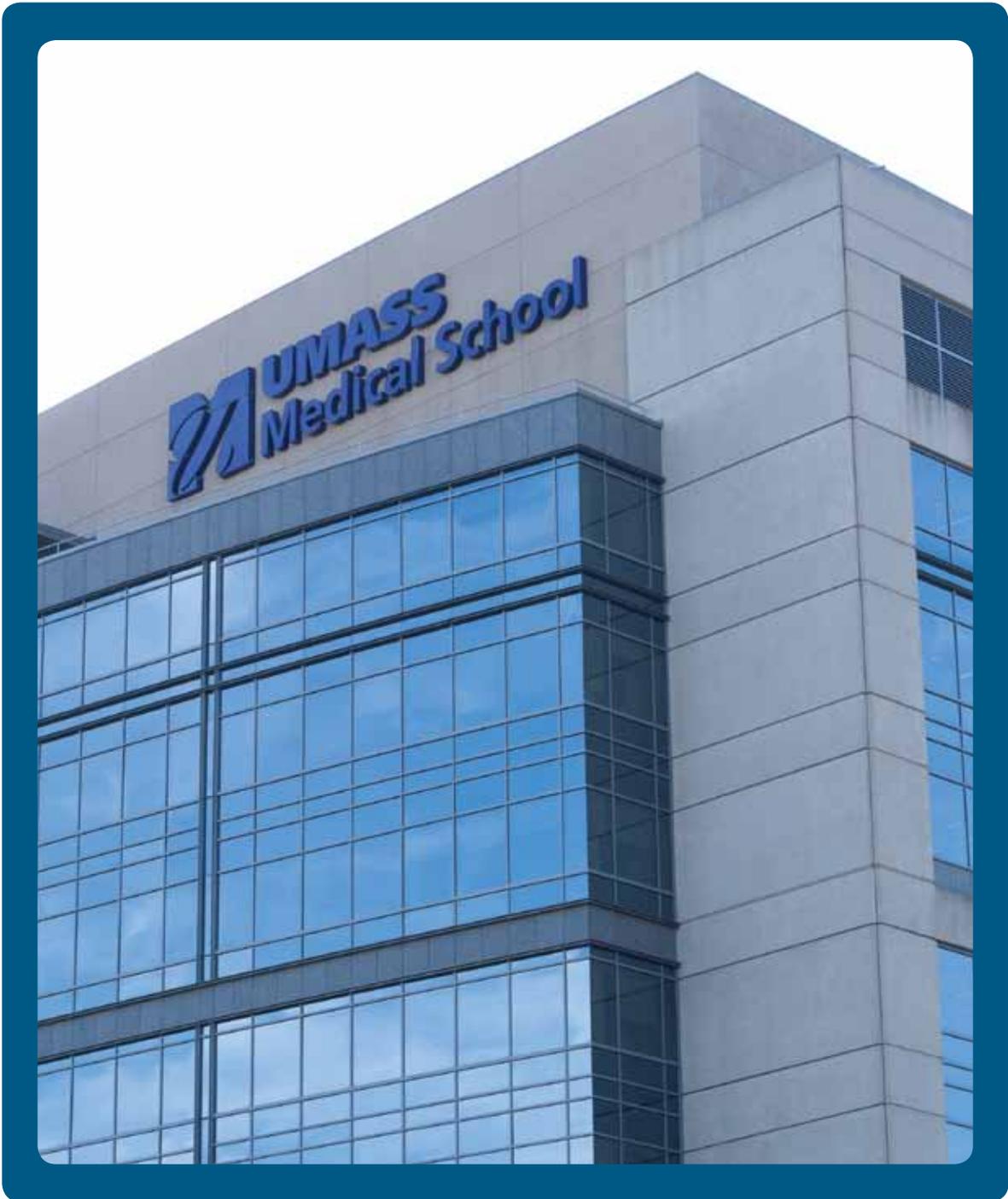
Conclusion

By making pharmacists an integral component of care coordination teams for high-cost, high-risk populations, the Clinical Pharmacy Services specialized medication management program enhances clinical outcomes and quality of life, while significantly reducing and avoiding costs. Applying pharmacists' expert clinical knowledge to evaluations of medication regimens, drug administration, and member quality of life leads to multiple benefits for members and payers. The pharmacists' extensive knowledge of insurance and billing issues only adds to their ability to serve these populations.

This specialized medication management model is applicable to a range of at-risk patients, particularly those with complex drug regimens or incomplete medical histories. Although the program was designed to support a care coordination team responsible for children with complex medical needs, Clinical Pharmacy Services has developed the ability to adapt the program to other populations.

For example, the pharmacy team customized its services to meet the needs of Medicaid members with multiple chronic, complex conditions, such as acquired brain injury with other co-morbidities, as they move from institutions to home- or community-based settings.

This medication management program has been adapted repeatedly for and can be transferred to other high-cost, high-risk patients, whether they are members of Medicaid, Medicare, or commercial plans that operate on managed care, accountable care, or fee-for-service models.



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