

Get the medications right:

a nationwide snapshot of expert practices



Comprehensive medication management in ambulatory/community pharmacy

MAY 2016



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Katherine H. Capps, project director
President, Health2 Resources

II. Preface

Pharmacists: The Evolution of a Profession in Community/Ambulatory Care—Welcome Aboard

What is *community* pharmacy and what is the evolving role of pharmacists in community/ambulatory patient care today—and tomorrow? Like many facets of our health care system, the roles and responsibilities of those delivering care to patients and the types—and even places—of care are rapidly transforming.

A systematic approach to medications as embodied in comprehensive medication management, or CMM, has risen to the forefront as a means to significantly improve clinical outcomes and reduce overall health care costs for high-risk patients—a key component in the era of precision medicine.

New molecular tools will change how we further define precision medicine.¹ For example, CRISPR/Cas9² can precisely find and cut away sections of viral or mutated, disease-causing DNA, then repair or replace those sections with “normal” DNA. Pharmacogenomics informs which combinations of medications and dosages are most effective and safe for a particular patient. Cognitive computing³ promises to link and integrate data in ways that will advance our ability to move medicine from an “art”—dependent on the ability of individual providers—to a science. It will bring to bear the latest clinical, procedural, medication and scientific information on each patient’s clinical, genomic and personalized experience and preferences.

We are truly on the cusp of transformation. So what is the role of pharmacists in this new world? As the professionals dedicated to the knowledge and science of medications, pharmacists must play a key role to optimize medication use in collaborative, team-based patient care.

And they do. Pharmacists are increasingly delivering advanced disease-state and CMM-level services to ambulatory/community-dwelling patients in outpatient primary care and specialty clinics, patient homes, retirement communities, federally qualified health centers, free-standing pharmacists’ offices, integrated delivery centers and, yes, in community pharmacies.

Pharmacists are patient care pharmaceutical experts who now directly manage medications through collaborative practice.

More medications, including specialty medications, are being approved; they hold the promise to treat more conditions than ever before. Dispensing is becoming more automated and pre-packaged, while computer programs readily check for drug-drug interactions. Pharmacy technicians are gaining more competencies to handle all aspects of dispensing, while some are cultivating skills that allow them to integrate into non-dispensing, team-based care roles. Many of the profiles in this report illustrate the changing role of the pharmacy technician. This evolution of the pharmacy technician’s role

allows more pharmacists to transition to direct patient care roles in community/ambulatory settings—separate and distinct from dispensing—thus redefining “community pharmacy.” The need for comprehensive medication management services is a driver of this transition.

The Patient-Centered Primary Care Collaborative (PCPCC), through a multi-stakeholder medication management taskforce (which I had the privilege of convening and then co-leading with Ed

1 Formerly called personalized medicine.

2 The CRISPR-Cas9 method for genome editing holds tremendous potential in biomedical research. The McGovern Institute for Brain Research at MIT has developed an animated video showing how this works.

3 IBM Watson: How Cognitive Computing Can Be Applied to Big Data Challenges in Life Sciences Research. Chen, Ying et al. Clinical Therapeutics, Volume 38, Issue 4, 688-701. <http://www.clinicaltherapeutics.com/article/S0149-2918%2815%2901316-8/fulltext>

Webb and Linda Strand⁴), set forth the definition of CMM along with the guidelines for its practice and documentation. What emerged was *Integrating Comprehensive Medication Management to Optimize Patient Outcomes*.⁵ This guide is widely used in coordinated care settings across the country as practices adopt comprehensive medication management. CMM is consistent with both pharmaceutical care and the Joint Commission of Pharmacy Practitioners' Pharmacists' Patient Care Processes.⁶

Professional pharmacist organizations recognize the need to integrate clinical pharmacist services into ambulatory care/community settings as systems move to value-based care. For example, the American Society of Health System Pharmacists, in its *2016-2020 Pharmacy Forecast*, included as its top strategic recommendation, "Move assertively to expand pharmacist services in ambulatory-care clinics, showing system leaders how this will contribute to imperatives in population health, quality improvement, and cost reduction."⁷

This all points to one thing: Pharmacists are patient care pharmaceutical experts who now directly manage medications through collaborative practice. But it's not happening rapidly enough. Consider: Here we have a workforce of pharmacists—the third largest profession in health care⁸—available to engage in clinical management. And yet, they are vastly underutilized.⁹ This must change; the evolution of biomedicine and the move to value-based care are demanding optimal medication use. We stand at the forefront of a new era in medicine.

This report offers a glimpse of how pharmacists, as both medication experts and clinicians, are optimizing medication use and making an impact on the communities they serve. We hear clearly from physicians and other providers an enthusiastic welcome and appreciation of pharmacists in collaborative team-based care. Many are championing these practices. Another voice is that of the patient. This voice you will hear loudest and, I predict, will long remember.

Not only is this report a resource for pharmacists, it is also a resource guide with real-world examples that should inform the greater community of stakeholders: providers, payers, employers, government, policymakers and, most important, patients and advocacy groups looking for solid solutions which directly and profoundly affect care and reduce unnecessary costs. We encourage you to reach out to the sites listed to learn more.

The journeys outlined in this report are transformational. They are necessary steps, not only in the evolution of clinical pharmacy, but in the revolution of health care delivery.

Pharmacists, welcome to the team!



Terry McInnis, MD, MPH, CPE, FACOEM
Principal Investigator
President, Blue Thorn Inc.

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- 4 Dr. Linda Strand, a Remington award winner, professor and researcher, co-wrote the textbooks on pharmaceutical care (Cipolle RJ, Strand L, Morley P, *Pharmaceutical care practice: the patient-centered approach to medication management*, Third edition. 2012)
 - 5 McInnis T, Webb E, and Strand L. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, Patient-Centered Primary Care Collaborative, June 2012
 - 6 *Future Vision of Pharmacy Practice*, developed in 2004 by the Joint Commission of Pharmacy Practitioners, articulating a vision for 2015.
 - 7 Zellmer WA, ed. *Pharmacy forecast 2016-2020: Strategic planning advice for pharmacy departments in hospitals and health systems*, December 2015. Bethesda, MD: ASHP Research and Education Foundation. www.ashpfoundation.org/pharmacyforecast
 - 8 "An Era of Growth and Change: A Closer Look at Pharmacy Education and Practice." Feb. 2014 University of California
 - 9 Mossialos E, et al., "From 'retailers' to health care providers: Transforming the role of community pharmacists in chronic disease management." *Health Policy*, 2015

III. Executive Summary

Expert practices in the real world: Community/ambulatory pharmacy and patient-centered comprehensive medication management

“The future of pharmacy lies in patient care.”

— Steve Simenson, BPharm, FAPhA, DPNAP, president and managing partner, Goodrich Pharmacy, Inc., Anoka, Minn.

Comprehensive medication management (CMM) is becoming a mainstream practice. Health systems, patients, physicians—even payers—are beginning to understand the value of advanced clinical pharmacy services and the importance of integrating these pharmacist services collaboratively into community/ambulatory team-based care.

This market research assessed responses from 935 practitioners and program directors to identify 15 CMM-level practices for deeper understanding of the barriers to and enabling factors for success. Interviews and survey results revealed a fertile CMM landscape. Selecting from among the qualifying practices for this report proved quite challenging; the Principal Investigator identified 43 practices that could easily have been featured. The 15 high-functioning CMM practices ultimately included illustrate the story of CMM's evolution. They include new and established practices, representing a range of settings, including safety-net clinics, primary care practices, mental health and specialty clinics, a health plan, a community pharmacy, free clinics, a medication management vendor, and ambulatory/community practices within integrated health systems. The report offers detailed insights into five and a glimpse into the other 10.

What follows is an overview of the barriers these practices overcame and an exploration of the elements that enabled their success in delivering both advanced disease-state and CMM services collaboratively in team-based care. These practices focused on the needs of ambulatory patients in the community, following them through all transitions of care.

Key Findings

1. The pharmacist's role in CMM should be differentiated and redefined in terms of direct patient care delivery. This is a key learning in the transition we are seeing overall in the pharmacist's role—from dispensing to CMM practice within the ambulatory pharmacy setting. It demands defined roles and responsibilities, as well as recognition of the pharmacist as a member of the patient care team effectively managing the medications. Enabling factors we identified for CMM included the following:

- **Broad collaborative practice agreements that empower clinical pharmacists** to identify and address all of a patient's drug therapy problems quickly and efficiently.
- **Ability to delegate and utilize pharmacy staff** effectively to maximize efficiency of pharmacists so they can focus on patient care. This may involve pharmacy techs, students, residents, clerical staff and others.
- **Pharmacist board certification** enhances recognition of the pharmacist as a valued, contributing member of the patient clinical care team; other providers recognize board certification as a proxy for competence in patient care. It is considered an asset when hiring new pharmacists into CMM practices.

Minnesota's mature CMM environment

One interesting finding came before the first interview was conducted: Among sophisticated CMM practices, Minnesota shows dominant representation as home of 13 of the 43 practices with promising survey results. Minnesota provides an academic and regulatory culture that has supported team-based approaches, including collaborative clinical pharmacist services, long before the term comprehensive medication management was coined.

In addition, many of these organizations are members of the Health-systems Alliance for Integrated Medication Management, a collaborative that includes clinical pharmacy administrators from different health systems.

Respondents cited the University of Minnesota College of Pharmacy as having a longstanding commitment to pharmaceutical care as a core of the curriculum. Residency programs help ensure availability of a trained and prepared workforce, enabled by a community sharing of best practices.

Medicaid has paid for MTM (CMM level) services for eligible beneficiaries for over 10 years and as highlighted in our report, progressive plans such as HealthPartners does also for many commercial and Medicare beneficiaries.

▶ To learn more, see the University of Minnesota College of Pharmacy report, *Integrating Medication Management: Lessons Learned from Six Minnesota Health Systems*, at www.pharmacy.umn.edu/sites/pharmacy.umn.edu/files/integrating-medication-management-lessons-learned.pdf

- **Consistent care processes** enable rapid uptake and spread of CMM as it maximizes efficiencies, both for onboarding new pharmacists and for integration into the larger care team. Consistency spells credibility in the provider community and feeds the referral chain. It is particularly important when the CMM program seeks to integrate into ACOs and similar advanced care models that require efficient, measurable processes.
- **Follow-up processes** and clinical monitoring are key to sustain desired outcomes and address condition changes in the overall care continuum.
- **Effective use of defined time blocks and physical space within community/ambulatory practices** supports the concept that CMM is fundamentally separate from the pharmacy dispensing role. Some practices have set aside distinct hours for pharmacists to focus on CMM; others have set up CMM practice within primary care or group practice locations designated exclusively for medication management services delivery.
- **Residency or mentorship training** that goes beyond pharmacy school training underscores the need to develop a distinct skill set beyond the knowledge of medications. One barrier to the rapid spread of CMM is a lack of adequate residency program slots that fill this training need.

2. CMM has moved from an emerging practice to a proven element in integrated health care delivery. CMM has proven its validity as a means to improve outcomes and control costs. In Minnesota and other areas where CMM flourishes (see sidebar), it is recognized by health plans, providers and policymakers as a means to achieve the Quadruple Aim:¹⁰

- **Better outcomes:** Demonstrated in reductions in emergency department and hospital admissions and improvements in metrics related to chronic conditions such as asthma, diabetes and hypertension, and other illnesses, including schizophrenia.
- **Cost savings:** Demonstrated in financial return on investment ranging from 2.8-to-1 to 12-to-1.

10 Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Ann Fam Med*. 2014 Nov-Dec;12(6):573-6. (In this paper, Thomas Bodenheimer, MD, and Christine Sinsky, MD, propose adding a fourth aim—clinician satisfaction—to the long-established Triple Aim.)

●●● Executive Summary

- **Patient satisfaction:** Our interviews revealed extremely high patient satisfaction rates—some as high as 100 percent.
- **Clinician satisfaction:** Surveys and retention rates support that CMM enhances physician and other clinical providers' job satisfaction through reducing physician workload thereby opening access to the acute needs of more patients. Not only do other providers see the value of pharmacists on the team, the pharmacists themselves express enthusiasm for the impact they have by using their skills to maximize medication regimens for the patient's benefit.

3. The move to risk is accelerating expansion of CMM. This requires that CMM practices demonstrate their value in measureable ways to sustain its long-term viability as new payment models overtake fee-for-service medicine. Enabling factors required for this include:

- **Immediate and ongoing access to real-time patient data so pharmacists can access treatment goals** and assess the patient's clinical status and progress toward goals. Pharmacists must be authorized to note therapeutic changes, measures and follow-up within the record. This allows for measurement and reporting as well as improved communication for care coordination with other members of the clinical team.
- **Defined expectations** and demonstration of the impact of CMM within organizations and with clinical partners. This is critical as health care reimbursement evolves from volume to value; these models look to savings through reduced hospitalizations and ER visits, patient satisfaction and lower overall cost of care—all proven outcomes of CMM.

4. Physician buy-in and champions are crucial for CMM advancement. Pharmacists offer a unique skill set that complements the skills of the rest of the clinical team. Pharmacists in successful practices have senior-level support, most often from physician leaders. They must also nurture relationships with physicians in practice, nurses, administrators, and even chief financial officers to make it clear they bring a complementary and financially sustainable—not competitive—service. Physician buy-in is connected to several enabling factors for CMM success, including the following:

- patient referrals;
- streamlined communication and access to patient data;
- ongoing business viability and beneficial payment structures; and
- broad collaborative practice agreements that allow for efficient practice.

5. Successful CMM practices, taking a whole-person approach, target patients who will gain the most benefit. By focusing on patients who most need the intervention of a clinical pharmacist, programs show rapid improvement in clinical outcomes and make it easier for physicians to understand CMM's strengths. Enabling factors for successfully targeting these patients are varied; the practices we interviewed illuminated several.

- Population management triggers for referral into the program may be linked to management of specific uncontrolled chronic disease states, events such as hospitalizations, ER visits, or presence of multiple co-morbidities and medications.
- For one featured behavioral health practice, a specific diagnosis requiring careful monitoring of medications triggered CMM.

- Once the patient enters the program, clinical pharmacists take a whole-patient approach that encompasses all medications and all disease states; this means adding, modifying and changing medications based on resolving drug therapy problems to control all conditions. This is the hallmark of CMM.

Implications of the findings

What are the implications of this examination and assessment of expert CMM practices? First, it is clear that **CMM is no longer in its infancy**. The framework for CMM practice is clearly established and has been in place for more than two decades. Pharmacy organizations can learn from sources such as this report, from credible consultants in the field and from other practices how to set up programs and avoid pitfalls.

Second, pharmacist delivery of **CMM services through collaborative practice can effectively address the primary care workforce shortage and growing physician job dissatisfaction**. CMM complements primary care, maximizing efficiency and effectiveness of other primary care providers on the care team. The William S. Middleton Memorial Veterans Hospital practice profiled in this report demonstrated a 27 percent reduction in primary care workload by instituting a ratio of one clinical pharmacist for every three primary care providers. Considering that at least half of physicians today report experiencing burnout,¹¹ the consistently high physician satisfaction with integrated CMM services can address the deepening concern about the well-being of the primary care workforce.

Third, **CMM significantly improves patient clinical outcomes**. The practices profiled in this report have demonstrated improvements in a range of clinical values common to the most prevalent chronic diseases. If we as a nation truly value the patient and value-based care, significant efforts should be focused on wider acceptance and uptake of CMM.

Fourth, CMM targets the most complex—and often most costly—cases and **delivers lower health care utilization and overall costs**. Many of the practices profiled in this report demonstrate significant return on investment.

Fifth, **CMM maximizes the training and skill of clinical pharmacists** and positions them to do what they do best: work directly with patients and make timely adjustments and changes to medications. This ensures the appropriate, effective and safe use of medications that patients are willing and able to take for optimal benefit. CMM liberates pharmacists to assume new collaborative team-based roles. It leverages their expertise for better health, better care and better value. In the process, it produces a transformational shift in health care that we believe will contribute to a bright future for a new vanguard of clinical pharmacists, as the profession as a whole shifts with new training and education demands.

Finally, **patients are extremely satisfied with CMM services**. For example, at Holyoke, 100 percent of patients indicated they would recommend the CMM program to family and friends; one wrote “God first, and Holyoke is second.” Holyoke is no outlier; we found this level of satisfaction and enthusiasm consistent across practices. However, a challenge remains in the ability to inform eligible patients about the availability of these services and create further demand so many more can benefit.

11 Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014 Shanafelt, Tait D. et al. Mayo Clinic Proceedings, Volume 90 , Issue 12 , 1600–1613, [http://www.mayoclinicproceedings.org/article/S0025-6196\(15\)00716-8/abstract](http://www.mayoclinicproceedings.org/article/S0025-6196(15)00716-8/abstract)

IV. Introduction and environmental overview

The CMM Process

1. Identify patients that have not achieved clinical goals of therapy.
2. Understand the patient's personal medication experience/history and preferences/beliefs.
3. Identify actual use patterns of all medications including OTCs, bioactive supplements and prescribed medications.
4. Assess each medication for appropriateness, effectiveness, safety (including drug interactions) and adherence (in that order), focusing on achievement of the clinical goals for each therapy.
5. Identify all drug-therapy problems.
6. Develop a care plan addressing recommended steps including therapeutic changes needed to achieve optimal outcomes.
7. Ensure patient agrees with and understands care plan which is communicated to the prescriber/provider for consent/support.
8. Document all steps and current clinical status vs. goals of therapy.
9. Follow-up evaluations with the patient are critical to determine effects of changes, reassess actual outcomes, and recommend further therapeutic changes to achieve desired clinical goals/outcomes.
10. Comprehensive medication management is a reiterative process—care is coordinated with other team members and personalized goals of therapy are understood by all team members.

SOURCE: McInnis, T, Webb E, and Strand L. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, Patient-Centered Primary Care Collaborative, June 2012

A rare consensus in health care acknowledges this: Team-based care offers the most effective way to achieve better health, better care and lower costs.

Recently, it's become clear that the clinical pharmacist must play an important role on that team. Comprehensive medication management (CMM) is the natural outgrowth of team-based care as the link for optimizing medications to achieve both the patient's physical and mental health goals.

Pharmacists have the opportunity to make a tremendous impact on outcomes and efficiency. The pharmacy profession can contribute to providing high-quality, high-value and patient-centered care in an interprofessional collaborative health care practice by effectively managing and coordinating the use of medications for high-risk patients.¹²

CMM offers the framework and the most effective way to accomplish this for patients, regardless of setting. This needs to include patients in the *community*—patients visiting outpatient primary care and specialty clinics, patients in their own homes, in retirement communities, at pharmacists' offices and in community pharmacies.

This community aspect is crucial: CMM is not focused solely on medications. Rather, as defined and described by the Patient-Centered Primary Care Collaborative (PCPCC), CMM is a process, a whole-patient approach which begins with patients and seeks to optimize their medications by identifying and resolving drug therapy problems that are preventing them from reaching their goals of therapy. The PCPCC provides a framework for a robust CMM practice, and

12 Butler A, Dehner M, Gates RJ, et al. *Comprehensive Medication Management Programs: Description, Impacts, and 2015 Status in Southern California*, California Department of Public Health white paper, Dec. 2015

CMM defined: “The standard of care that ensures each patient’s medications (whether they are prescription, nonprescription, alternative, traditional, vitamins, or nutritional supplements) are individually assessed to determine that each medication is appropriate for the patient, effective for the medical condition, safe given the comorbidities and other medications being taken, and able to be taken by the patient as intended.”

McInnis, T, Webb E, and Strand L. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, Patient-Centered Primary Care Collaborative, June 2012

documentation consistent with PCMH and ACO integration.¹³ This framework undergirds the more recently adopted patient care processes put forward by The Joint Commission of Pharmacy Practitioners.

Why it matters

The pharmacist’s role in direct patient care—actively managing medications outside of inpatient and long-term care settings—has long been overlooked. But over the last few years that has begun to change. In a symbiotic way, the positive impact on medication-related outcomes from CMM has raised its profile and advanced its growth. Qualified clinical pharmacists in collaborative ambulatory/community practice, delivering broadly to patients both in community settings and while transitioning care, enhances

recognition of the value of CMM outside the inpatient sphere.¹⁴ As recognition grows, and higher acuity care increasingly shifts outside the hospital setting, the demand for CMM as a longitudinal process across settings will also grow. And so will its impact, increasing recognition and feeding this virtuous cycle.

At least 80 percent of way we prevent and control disease is through the use of medications; research supports CMM as an effective way to address this reality.^{15,16,17} Pharmacist-provided direct patient care through collaborative team-based practice has a positive impact on therapeutic, safety and patient-centric outcomes.¹⁸

Researchers have identified models of successful pharmacist-provided medication management services across the country.^{19,20}

For example, a recent white paper from the California Department of Public Health identifies successful pharmacist-led CMM programs and pilots in Southern California that demonstrated substantial improvements in therapeutic outcomes and reduced costs.²¹ A featured CMM project, the USC/AltaMed HHS Innovation grant—with over 6,000 patients—demonstrated significant impact on clinical outcomes and health care utilization.²² The Centers for Disease Control and Prevention, the Center for Medicare & Medicaid Services, the Institute of Medicine and others are also on board, recognizing that the integration of clinical pharmacy services into the care team

13 McInnis, T, Webb E, and Strand L. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, Patient-Centered Primary Care Collaborative, June 2012

14 McBane, S et al. “Collaborative Drug Therapy Management and Comprehensive Medication Management.” 2015 American College of Clinical Pharmacy white paper. *Pharmacotherapy* 2015; 35(4):e39–e50

15 “Clinical and Economic Outcomes of Medication Therapy Management Services: The Minnesota Experience.” *J Am Pharm Assoc.* 2008;48(2):203-211

16 Smith M, Giuliano MR, Starkowski MP. “In Connecticut: improving patient medication management in primary care.” *Health Aff* (Millwood). 2011 Apr;30(4):646-54. <http://content.healthaffairs.org/content/30/4/646.full>

17 Nielsen M, Langner B, Zema C, Hacker T and Grundy P. “Benefits of Implementing the Primary Care Patient-Centered Medical Home: A Review of Cost & Quality Results.” PCPCC, September 2012

18 Chisholm-Barnes M et al. “US Pharmacists’ Effect as Team Members on Patient Care.” *Medical Care*; Volume 48, Number 10, Oct. 2010.

19 Smith M, Bates DW, Bodenheimer T, Cleary PD. “Why pharmacists belong in the medical home.” *Health Aff* (Millwood). 2010 May;29(5):906-13. (Abstract; Full Text)

20 Butler A, Dehner M, Gates RJ, et al. *Comprehensive Medication Management Programs: Description, Impacts, and 2015 Status in Southern California*, California Department of Public Health white paper, Dec. 2015

21 California white paper, op. cit.

22 USC Conference presentation Feb 2016. pharmweb.usc.edu/2016hcquality/PDF/Chen-CMMI-project-update-and-general-overview.pdf

●●● Introduction and environmental overview

ensures optimal medication therapy (especially for complex patients), empowers patients, improves patient and primary care provider satisfaction, and improves health outcomes.^{23,24,25} Health plans, employers and other payers also benefit when they pay only for medications that are safe, appropriate and effective for the patient; CMM accomplishes this.^{26,27}

*The pilot days are over:
CMM is in the early stages
of becoming mainstream.*

Moreover, medication-related errors are a top preventable cause of serious adverse health events and avoidable readmissions. The medical savings from appropriate medication use could cover most of the approximately \$374 billion spent on medications in 2014 and significantly reduce the number of such deaths.^{28, 29,30} Much of that savings would accrue to payers and integrated delivery systems taking risk in the move to value-based care.

Integrated into the medical home and beyond

CMM is expanding in the patient-centered medical home space. Blue Cross Blue Shield of Michigan announced in September 2015 that, in collaboration with the University of Michigan Health System, it would place pharmacists in PCMHs as part of the Michigan Pharmacists Transforming Care and Quality program.³¹

Integration of clinical pharmacy services into the medical home has demonstrated significant improvements in health care quality and safety while lowering costs.^{32,33} For example, Geisinger Health System has incorporated pharmacists into its team-based model, deploying them to help treat chronically ill patients with diabetes, hypertension and high cholesterol.³⁴ From December 2010 to March 2012, 84 percent of patients in the program experienced reduced A1C levels, with 64 percent reaching their clinical A1C goals; 72 percent reached goals for reduced LDL-cholesterol and 70 percent achieved goals for controlled blood pressure.³⁵

Because CMS and other insurers are reducing reimbursement for hospitals with high rates of avoidable readmissions, medication management in general and CMM in particular are becoming more important for providers/hospitals that want to reduce readmission rates and achieve clinical targets. We see CMM services extending into the medical neighborhood, following the patient through care transitions and into the home and the community.

23 California white paper, op. cit.

24 U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. CDC Public Health Grand Rounds. How pharmacists can improve our nation's health. Oct. 21, 2014.

25 Perlroth D, Marrufo G, Montesinos A, et al. Medication therapy management in chronically ill populations: final report. Centers for Medicare and Medicaid Services. August, 2013

26 McInnis T, Webb E, and Strand L. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, Patient-Centered Primary Care Collaborative, June 2012

27 California white paper, op. cit.

28 "Thinking Outside the Pillbox: A System-wide Approach to Improving Patient Medication Adherence for Chronic Disease" NEHI Research Brief, August 2009

29 IMS Institute: Medicines Use and Spending Shifts: A Review of the Use of Medicines in the U.S. in 2014

30 McInnis T, Capps K. 2015 Health Care Value Forecast: Payers, purchasers and providers: "An elegant solution: Advancing comprehensive medication management for better care, better health, lower costs," Primary Care Learning Network, Sept. 2015

31 "Insurer placing pharmacists in patient-centered medical homes," *Drug Topics*, Jan 4, 2016

32 Chen S., et al. Medication Therapy Management Provided Through a Community Pharmacy in Collaboration with a Safety Net Medical Clinic. Final Project Report for the Community Pharmacy Foundation communitypharmacyfoundation.org/resources/grant_docs/CPF-GrantDoc_74861.pdf

33 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

34 Top health industry issues of 2016-Thriving in the New Health Economy. PWC Health Research Institute

35 "Geisinger Health System: Providing a One-Stop Shop for Medication Management." *AHIP Innovations in Medication Therapy Management*

Challenges and barriers

Challenges to wide-scale CMM implementation include

- reimbursement limitations and misaligned financial incentives;
- lack of robust electronic health information exchange;
- inadequate access to electronic patient records;
- limited patient and provider awareness of and institutional access to CMM programs, and lack of awareness of its value; and
- inadequate staffing and space.³⁶

The first challenge is critical, according to a 2015 American College of Clinical Pharmacy white paper. “Patient access to CMM remains limited due to lack of payer recognition of the value of clinical pharmacists in collaborative care settings and current health care payment policy.”³⁷ Payments for pharmacists’ clinical services vary and are often initiated as grant-funded pilot projects or demonstration programs.³⁸

These efforts focus first on the patient and the clinical and personal goals of therapy, rather than relying solely on the knowledge of the currently prescribed medications as a baseline for interventions.

Unfortunately, provider status for pharmacists under federal laws and direct payment for these high-level services through Medicare under fee-for-service have greatly impeded progress and availability for those most in need—the elderly.

However, as this report shows, that too is changing as CMM becomes integrated into care delivery across all settings. Additionally, more states are enacting laws that establish provider status for pharmacists and/or establish comprehensive medication management services as a benefit for certain Medicaid or state-funded employees, enabling payment and integration of these services.^{39,40} For example, California SB 493, which took effect Jan. 1, 2014, declared pharmacists to be health care providers who have the authority to provide health care services.

California lawmakers also introduced AB 2084 which, if enacted, would allow for provision of CMM services for certain high-risk Medicaid (Medi-Cal) patients.⁴¹

In 2005, Minnesota began coverage of pharmacist MTM (CMM-level) services for patients in its Medicaid and state employee health programs with such positive impact that the state has continued to expand eligibility to more patients.

In North Carolina, the Clinical Pharmacist Practitioner (CPP) Act became effective July 1, 2000; it authorizes CPPs to implement drug therapies as outlined by a drug therapy management agreement.⁴² Also, North Carolina in 2013 enacted the NC Chronic Care Act, which included provisions

36 Butler A, Dehner M, Gates RJ, et al. *Comprehensive Medication Management Programs: Description, Impacts, and 2015 Status in Southern California*, California Department of Public Health white paper, Dec. 2015

37 McBane, S et al. “Collaborative Drug Therapy Management and Comprehensive Medication Management.” 2015 American College of Clinical Pharmacy white paper. *Pharmacotherapy* 2015;35(4):e39–e50

38 Smith M, Bates DW, Bodenheimer T, Cleary PD. “Why pharmacists belong in the medical home.” *Health Aff* (Millwood). 2010 May;29(5):906–13.

39 McBane, S et al., op. cit.

40 Bonner L. “Pharmacist provider status now law in Oregon.” American Pharmacist Association website. www.pharmacist.com/pharmacist-provider-status-now-law-oregon. June 2015.

41 California AB 2084- http://www.leginfo.ca.gov/pub/15-16/bill/asm/ab_2051-2100/ab_2084_bill_20160217_introduced.htm

42 “The Expanding Role of Pharmacists in a Transformed Health Care System.” National Governors Association, 2015

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for CMM for certain publicly funded beneficiaries.⁴³ Nationally, the Affordable Care Act (section 3503) called for demonstration projects to focus efforts on integrating a more comprehensive approach to medication management to close gaps in care and reduce overall cost.⁴⁴ However, to date, section 3503 demonstrations have not occurred.

Moving forward: an evolution toward clarity

Barriers notwithstanding, it's clear that CMM continues to grow and gain acceptance. The pilot days are over: CMM is in the early stages of becoming mainstream.

For high-risk patients who frequently see multiple providers, deal with numerous chronic diseases and need multiple medications, our current health care system lacks a systematic and coordinated approach to medication management. Recognition of what CMM is and what "CMM" means, and the impact CMM services have on quality and costs, unlocks the power of appropriate, effective and safe medication use. This should fuel and prioritize the need to address this issue; it is essential to the systematic, value-driven, team-based care required to transform the health care system and address the needs of our most vulnerable patients.

An important issue emerged during the development of this report: unclear nomenclature. Terms such as "comprehensive medication review," "comprehensive medication management," "disease-state medication management," "medication reconciliation" and "medication therapy management" are often used interchangeably—and thus, often incorrectly. One reason for the confusion is that medication therapy management (MTM) is a broad category covering a range of activities, from "siloed" medication interventions to advanced disease-state and CMM-level services.

At its most basic level, MTM services require knowledge of currently prescribed medications. The goals: Ensure an accurate and updated medication list, enhance safety, and improve adherence and access to those medications. This involves checking for drug-drug interactions, duplicative therapies and medications that may be less costly or easier to take; it may also involve answering patient questions on the use of medications. Such efforts include medication refill synchronization programs, CMS Part D MTM services and medication reconciliation. Because these basic efforts do not require knowledge of the patient's clinical status, they may be termed "medication silo" approaches.⁴⁵ These may be useful for some patients; however, they lack the ability to identify and resolve many drug-therapy problems (e.g., need for additional medications, sub-therapeutic dosages, drugs no longer indicated, etc.).

In contrast, disease-state MTM (DS-MTM) and CMM represent an advanced, coordinated level of MTM: a whole-patient intervention with the goal of optimizing outcomes for either a particular condition or disease state (DS-MTM), or for all conditions (CMM), by the most effective and appropriate use of medications. These efforts focus first on the patient and the clinical and personal goals of therapy, rather than relying solely on the knowledge of the currently prescribed medications as a baseline for interventions.

This advanced level demands close cooperation between the pharmacists delivering these services and the clinical team, including physicians, other prescribers and care coordinators. Unlike the "siloed" approaches, CMM and DS-MTM require knowledge of the clinical status of the patient's condition(s) and recognized clinical goals for the medication therapy (i.e., formal collaboration, usually in the form of collaborative practice agreements and timely access to current clinical information) between the pharmacist and the prescribers.⁴⁶

43 NC Chronic Care Coordination Act <http://www.ncleg.net/Sessions/2013/Bills/House/PDF/H459v3.pdf>

44 <http://www.hhs.gov/healthcare/about-the-law/read-the-law/index.html#>

45 McInnis T. "Medication Underuse: The Most Underappreciated Quality of Care Gap." *Pharmacy Times* March 2015

46 Butler A, Dehner M, Gates RJ, et al. *Comprehensive Medication Management Programs: Description, Impacts, and 2015 Status in Southern California*, California Department of Public Health white paper, Dec. 2015

Practices profiled in this report have such agreements in place and, ideally, immediate access to shared clinical records. Interventions range from single-disease-state interventions (e.g., anticoagulation clinics, diabetes, HIV, oncology, etc.) to truly comprehensive medication management, depending on the needs of the patients and the sophistication of the delivery system.⁴⁷ For CMM-level services—regardless of the way the patient was identified, through referral, population management or disease-state triggers—the pharmacist looks at the whole patient and all the patient’s medications (prescription and nonprescription) to optimize outcomes.

What is emerging is an evolution from DS-MTM (such as INR clinics and diabetes education and management) to medication management of a broader array of conditions, and CMM when appropriate. Understanding and properly characterizing these services (and when more advanced interventions are needed) is essential moving forward so the industry can assess their impact on clinical outcomes, satisfaction and costs. This report seeks to enhance understanding of CMM by not only providing an overview of what’s happening today, but also by offering a glimpse of what’s possible.

47 McInnis T. “Medication Underuse” op. cit.

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V. Methodology

This project was supported by a grant from the Community Pharmacy Foundation and designed by Blue Thorn Inc. and Health2 Resources to identify and highlight community/ambulatory pharmacy/pharmacist practices that have successfully integrated patient-centered comprehensive medication management (CMM) services in team-based collaborative care. Developed by Project Director Katherine Capps, president of Health2 Resources, and Principal Investigator Terry McInnis, MD, MPH, CPE, FACOEM, president of Blue Thorn Inc., the goals and objectives of the research were to

- Briefly define the various levels of MTM and highlight the key elements necessary to be considered CMM, referencing key sources;
- Explore the role of the community/ambulatory pharmacy/pharmacist in CMM-level practice;
- Assess CMM at the community/ambulatory pharmacy/pharmacist practice level (e.g., who is doing it and how they are accomplishing it);
- Identify and focus on up to five expert/diverse community/ambulatory pharmacy/pharmacist practices and highlight up to 10 other practices that best represent CMM levels of service and integration into ACO/PCMH/coordinated care teams; and
- Identify enabling factors (and barriers to success) to inform expert practices for other community/ambulatory pharmacy/pharmacist engagement and spread of CMM services.

To identify practices and assess the current level of MTM and CMM practice, the Health2 Resources/Blue Thorn research team used subjective and objective data. We cast a wide net across geographic and practice settings, defining targeted community/ambulatory pharmacy practices as those providing services to community-dwelling patients. Practice settings could include outpatient primary care and specialty clinics, patient homes, retirement communities, pharmacist offices, community pharmacies, telephonic or virtual.

The research team engaged an esteemed Advisory Board (see sidebar) to offer counsel and recommendations over the course of the project. It offered input on definitions, analysis and feedback and gave valuable insight on study findings and practice selection.

Practice evaluation tool design

McInnis led development of an initial practice evaluation instrument, now called the McInnis Index for Advanced Medication Management Practice (MI-AMMP™). The MI-AMMP is consistent with key components and processes of CMM practice.^{48,49,50} It assesses robustness of practice infrastructure, such as CMM and MTM essential practice elements:

Project Advisory Board

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Clinical Pharmacology Services, Inc.*

48 McInnis T, Webb E, and Strand, L. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, Patient-Centered Primary Care Collaborative, June 2012

49 *Future Vision of Pharmacy Practice*, developed in 2004 by the Joint Commission of Pharmacy Practitioners, articulating a vision for 2015

50 Cipolle RJ, Strand L, Morley P, *Pharmaceutical care practice: the patient-centered approach to medication management*, Third edition. 2012

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collaborative practice agreements; quality and financial metrics; patient and provider satisfaction; IT integration and decision support; and pharmacist training. The MI-AMMP tool comprised 103 questions with branching logic, and took approximately 15 minutes to complete.

Select pharmacy practice leaders (see sidebar) completed an early version of the survey tool, offered detailed, structured feedback and assessed the validity and reliability of the tool in its ability to capture key practice elements. Results from this assessment were systematically reviewed for use in refining the tool.

Market scan administration

The research team coordinated with and gained support from major pharmacy organizations in addition to many other pharmacist networks for dissemination of the practice evaluation instrument; this ensured a broad scan of the ambulatory/community pharmacy spectrum. The MI-AMMP practice evaluation tool was distributed using the Survey Monkey online research tool Jan. 1-25, 2016. Total reach is unknown; it is likely that pharmacists with multiple memberships and affiliations received multiple invitations. Each organization distributed the invitation in January via monthly membership materials and/or through website and email invitation. During the week of Jan. 8, 2016, each of the collaborating organizations was contacted by phone to confirm that dissemination was underway.

On Jan. 5, 2016, the research team also directly invited more than 70 practice sites, identified as further dissemination channels or known to have evidence of advanced practices, to complete the MI-AMMP practice evaluation tool. Additionally, practice sites were invited to participate through broader announcement platforms such as Health2 Resources' weekly e-newsbrief, *H2R Minutes*, reaching more than 30,000. In total, 935 individuals/program managers started the practice evaluation tool, and 618 completed it. Of the completed responses, 464 included contact information—an essential element, as follow-up intake interviews were required to perform post MI-AMMP analysis. Of the 464 that included contact information, 155 respondents self-reported their practice as performing CMM. Responses were received from 45 states and Puerto Rico.

MI-AMMP™ Tool Evaluators

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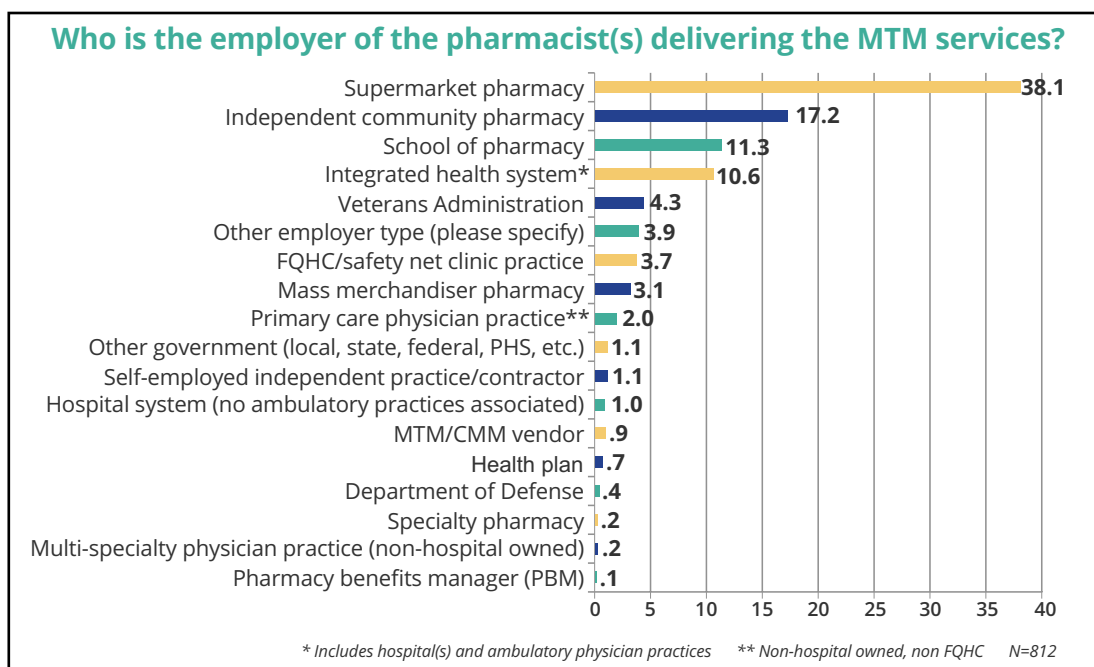
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Practice evaluation tool dissemination

The MI-AMMP practice evaluation tool was distributed to participants via cooperation with the following organizations:

- Alliance for Integrated Medication Management
- American Association of Colleges of Pharmacy
- American College of Clinical Pharmacy
- American Pharmacists Association/
Academy of Pharmacy Practice and Management
- American Society of Health-System Pharmacists
- Apexus
- California Pharmacists Association
- Connected Care North Carolina Network Pharmacist
Program and Pharmacy Home Project
- Community Pharmacy Foundation
- National Association of Chain Drug Stores
Foundation
- National Alliance of State Pharmacy Associations
- National Community Pharmacists Association



Results analysis and practice screening

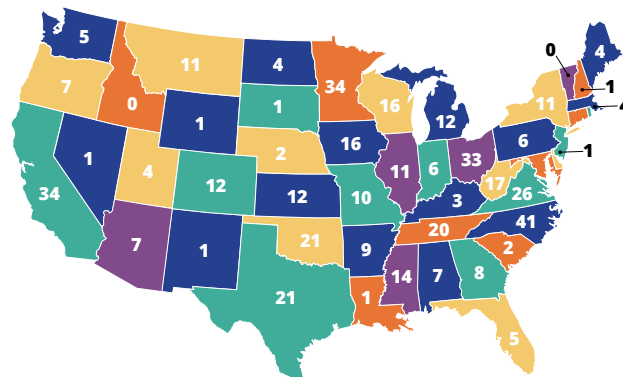
Analysis of the MI-AMMP market scan data to identify those high-performing CMM practices was accomplished in two ways. First, the research team created a six-way filter to determine whether each participating practice had processes in place for CMM, as demonstrated by the following characteristics:

- Self-identifies as performing CMM;
- Has access to current clinical data to assess/determine patient clinical status;
- Has broad collaborative practice agreements in place;
- The interventions and care plans are effectively shared with the team;
- Performs adequate patient follow-up; and
- Is delivering CMM to a sufficiently large enough client base to ensure processes are in place for proficiency, sustainability and scalability.

Through the six-way filter screen, the research team identified 33 practices for further evaluation.

Second, the MI-AMMP has a weighted scoring mechanism linked to each discriminating survey question response to determine the overall robustness of practice capability to deliver advanced disease-state MTM and CMM services by giving each practice a total score. This allowed for inclusion of a review of practices whose answers indicated they had a robust disease-state MTM/CMM practice, but may have not met all the

Number, by state, of the MI-AMMP respondents who gave address information



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six-way filter screen criteria, such as few patients or lack of collaborative practice agreements. The scoring mechanism was applied to all 935 MI-AMMP practice evaluation tool responses.

Not surprisingly, the 33 practices identified through the filter process were, by and large, among the top tier identified using the weighted scoring mechanism. This confirmed the validity of the detailed scoring mechanism. The team added another 10 practices to the 33 based on high scores achieved through the weighted scoring assessment. This resulted in a total of 43 practices for individual, detailed assessment by the Principal Investigator.

High-Scoring Practice Screen

935 Participants



Weight applied to key questions/answers:
cases scored and reviewed by P.I.



All practices scoring 50+ points further
evaluated by P.I.

Identifying the featured CMM practices

Of these 43 practices evaluated in detail, 22 were brought forward for evaluation by the project's Advisory Board. Each member of the Advisory Board received practice evaluation tool responses for the 22 practices under consideration (blinded as to location and practice site identifiers), which they examined during a seven-day evaluation period. The Advisory Board members were invited to assess and rank their top 10 practices from the 22-practice group and to provide feedback and counsel during a 90-minute conference call held Feb. 16, 2016.

The Principal Investigator then selected five practices to serve as case examples that could demonstrate a full-range of CMM practice. It is important to note that any of the 15 final practices selected could serve as an outstanding case example. The five selected, however, represent geographic diversity and diversity of setting types, which the research team determined valuable features for deeper investigation.

Each of these five practices took part in a 90-minute interview with the research team, and participated in follow-up communication to confirm details. Honorariums were offered to each practice in exchange for a total of three hours of its time (required for the interview, follow-up and review of the case example). Each of the 10 featured practices participated in a 30-minute interview and participated in follow-up communication to confirm details; honorariums were offered to each of these practices in exchange for a total of 90 minutes of their time (required for the interview, follow-up and review of the case example). This phase of the research was essential to capture the nuances of CMM practice and to identify enabling factors, barriers to success and lessons learned to inform other efforts and to build on their progress.

VI. CMM in practice: *Five case examples*

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Community pharmacy develops creative CMM business model

Goodrich Pharmacy, an independent community pharmacy in the greater Minneapolis/St. Paul area, is focused on the future, and that future is patient care. President and Managing Partner Steve Simenson, BPharm, FAPhA, DPNAP, expects the pharmacy to eventually derive 50 percent of its revenue from patient care (CMM/DS-MTM). Right now, that makes up only 16 percent, but Simenson—a former American Pharmacists Association president—is adamant: “The future of pharmacy lies in patient care.”

Goodrich Pharmacy, with 18 pharmacists at seven sites, has served approximately 75,000 patients over the past two years. (That includes CMM/DS-MTM and dispensing.) Five of those sites provide CMM and DS-MTM services. Goodrich also contracts, in four-hour blocks, with six primary care clinics, providing CMM patient consultations. Altogether, Goodrich has 14 outside CMM contracts. At those sites, the business arrangement is essentially a bundled payment, with the fee based on cost plus profit.

By the numbers: patients and staff

Goodrich pharmacists saw roughly 3,200 unique CMM/DS-MTM patients during the last 12-month period, broken down thusly:

- At five Goodrich sites, 900 unique CMM patients and 700 unique DS-MTM patients.
- At primary care clinics, between 1,280 (billable) and 1,600 (based on number of appointments) visits, most of which were CMM.

On any given day at the five Goodrich sites, four pharmacists provide CMM/DS-MTM services for a couple of hours. It varies, but the absolute minimum is two pharmacists at two sites. One resident is largely (.75 FTE) focused on CMM.

At a glance:

Goodrich Pharmacy, Anoka, Minn.

Person in charge: Steve Simenson, BPharm, FAPhA, DPNAP

Organization type: Community Pharmacy

Launched: 2011

Payment and funding sources: Medicare, commercial plans, disease-specific medication management, Medicaid, private pay. Some grant money (about \$5,000 to \$10,000 annually).

Number of pharmacists: 18

Number of CMM sites: 5

Unique patients served in 12 months:

- **Onsite (Pharmacy):** 900 unique CMM patients and 700 unique DS-MTM patients.
- **Offsite (Primary care clinics):** 1,280 to 1,600 patients

Can patients self-refer? Yes.

Notable findings:

- Having pharmacists involved in the primary care offices enhances ability to deliver CMM services in other settings, such as the pharmacy. For example, Goodrich delivers CMM at its pharmacy locations, but it also puts pharmacists on site at physician offices in four-hour blocks, using a bundled payment model.
- Goodrich plans to generate 50 percent of revenue from patient care, up from the current 16 percent.
- An organization cannot provide dispensing and CMM services at the same time in the same space. They need to be handled separately.

●●● CMM in practice: *Five case examples*

Simenson leverages the entire staff. Clerks and technicians identify patients and make sure all the information is entered. They also send reminders. The residents and the pharmacists spend time with the patients and enter the notes. Sometimes fourth-year students will help with patient interviews. Students also assist with documentation. The objective, he said, is to assign the task to the most appropriate person for cost-effective care.

Look for champions in unexpected places

Goodrich contracts with primary care clinics to provide medication management services, so Simenson knows how to identify who can successfully champion CMM efforts. Identifying influential physicians and winning them—and the clinic director—over is important, but that's just the beginning, he said. He identifies two valuable champions to cultivate.

- **The CFO:** Be sure to be able to answer “How much is this going to cost?” Some costs will go up, some will go down. Be clear about this.
- **The nursing director:** Be up front and transparent. Be aware of potential turf issues and explain that you aren't trying to take business away.

Patients and their goals

The typical patient is older with cardiovascular disease, hypertension and diabetes. Patients also include many subpopulations, ethnicities and recent immigrants.

Ideally, Simenson said he likes to use an EHR to identify therapy goals; he has access to about 60 percent of patient records, but accessing the rest can be challenging. “We end up requesting paper charts all the time. A lot of EHR vendors think it's their data, not the patient's.”

Follow-up is in person and by phone, and it's always patient-specific—so much depends on the medications involved. The average number of encounters for CMM patients is two; for DS-MTM, it's one. The door remains open. “We never really close a case unless the patient withdraws or dies. They are our patients.”

Getting started

Goodrich Pharmacy opened in 1884. Simenson joined in 1977 and has been a partner since 1980. He said he always wanted to provide medication management, and in the late 1990s Goodrich began offering DS-MTM. The CMM program, launched five years ago, evolved naturally from working closely with providers in the primary care clinics.

Clinical pharmacists began seeing more complex patients—e.g., those with multiple chronic diseases—who needed *comprehensive* medication management. “People are more complicated than one disease state,” Simenson said. Providing CMM fits into Goodrich's mission as a community pharmacy to provide the best possible care to patients based on their needs, not on their disease. “Pharmacy isn't just about giving patients medication. Medication needs supervision. We need to monitor goals.”

Adding CMM was tough. He identified three barriers.

1. **Revenue to justify business model:** “Revenue is a constant challenge...health care is a business,” Simenson said. Winning referrals is the way to address that, which means winning over providers. In the contract scenario, Goodrich is “constantly marketing” to clinics and physicians. They focus on those who are already taking a team-based approach to care—those used to working collaboratively with other professionals. Once the pharmacists are in the door, he said, it becomes easier because the clinical pharmacist's value is recognized.
2. **Insurance companies try to do MTM themselves, failing to recognize the added value of CMM services provided by external pharmacists:** He's critical of “the internalization” of insurance plans on patient care that pharmacists could be doing “instead of reaching out to willing and capable pharmacists.” Pharmacy benefit managers—through letters, phone calls and internal staff—attempt to deliver MTM, but usually, they only provide targeted medication

Balance dispensing with patient care

As a community pharmacy, Goodrich dispenses medications; that's its primary business. The same pharmacists who dispense also provide CMM/DS-MTM services, but the activities are separate.

"You can't move back and forth between the counter and the exam room. You have to provide undivided attention to your patient and, at the same time, you can't shortchange order fulfillment workflow; careful scheduling is a must," Simenson said. That demands staff flexibility and teamwork. Pharmacists cover for each other on the dispensing side to allow this undivided time for CMM/DS-MTM. "To make this work, you need a culture where the goal is to provide needed care for patients."

review services. The solution, he said, is for insurers to "loosen up and give us more patient referrals."

3. Patient expectations: "Patients initially have a difficult time getting their heads around the idea of a pharmacist in a patient care role," Simenson said. The slow uptake in patients wanting to take advantage of the program was, for him, the most surprising aspect of launching a CMM/DS-MTM service. Once patients have had a visit and see the level of service, they know—and appreciate—the difference. But clinical pharmacists have to differentiate themselves as patient care professionals.

What works?

He identified three of the many factors contributing to Goodrich's success.

- 1. A culture that supports the pharmacist as a patient care professional.**
- 2. Read-and-write access to the EHRs of the patients they serve.** His team doesn't always have that access, but it makes a difference in patient care.
- 3. Broad collaborative practice agreements.** "Doctors don't want you to bring them a problem you can't fix," he said. Pharmacists need to have the authority to fix the problems they find.

He knew he was on the right track when physicians began to lobby clinic managers for more pharmacists. "That flat steady line changed to a curve."

Had he to do it over, Simenson said he would be more proactive about building relationships with providers and provider organizations, especially in terms of finding individual champions. He would also be more aggressive in explaining how pharmacists could augment their practices. "I'd have a more targeted pitch of benefits for physicians." And he would have spoken the language of the provider groups in making his case, talking about the issues they face in their business. "Talking the lingo leads to getting more respect," he said.

Getting paid

Outside of the contracted programs, patient populations by payer source in CMM/DS-MTM break down as follows:

- Medicare Advantage: about 50 to 60 percent.
- Commercial plans: about 30 percent.
- Targeted medication reviews: 10 percent.
- Medicaid and private pay: a negligible amount.

There is also a little grant money each year, usually for residents' projects (about \$5,000 to \$10,000). Simenson said he hopes to expand that base: "We're looking for anyone who will pay appropriately for pharmacy-delivered [CMM] intervention." That includes insurance companies and major employers.

Metrics and tracking

Clinical and financial metrics are not separated for CMM/DS-MTM services, but the data are still strong enough to demonstrate value, he said. For instance, Goodrich can point to improved clinical outcomes versus baseline and show that the CMM/DS-MTM intervention was the only variable. Still, identifying the role of CMM in improved outcomes remains challenging. “When patients get to goal, multiple people have been involved in their care. The benefit of the pharmacist can’t be isolated.”

Goodrich has, at various times, looked at medication cost impact—usually as part of a resident’s project. The costs tend to stay flat, he said, while other costs of care go down. But cost of medication is not, by itself, a good metric, he added.

Surveys reveal that patients are satisfied with the program. Physician/client satisfaction is high, and in the contract clinics, these trend upward the longer the pharmacist is in the clinic. Physicians are asking for more hours of pharmacy time, he said. “It shows our physician colleagues value us.” Pharmacist satisfaction is high, too, he noted. CMM and DS-MTM create job satisfaction for pharmacists. It’s not just that the work is engaging; it’s satisfying, because helping patients in that way is “the right thing to do.”

He warned, however, that one could spend an infinite amount of time identifying metrics to impress health plans, health systems, etc. He advises against it. “Collecting numbers is not an effective use of pharmacists’ time,” he said. “Providing care is our number one job. We are more than willing to partner with academia, health systems, foundations and others who have the expertise to conduct quality studies with our help and patient experiences.”

Advice for the community pharmacy engaging in CMM practice

1. **Get the tools and master them.** Those tools include access to EHRs, collaborative practice agreements, relationships with other health care providers, and “through continuous professional development gain the knowledge and skills to perform patient care at a high level.”
2. **Develop a patient care culture.** Make it clear that the pharmacist is a clinician, a patient care provider. “You have to lead by example, and you have to want to do it.”
3. **Don’t co-mingle dispensing with CMM services.** Provide adequate time and personnel to separate the two functions.
4. **Start soon.** Pharmacists moving into patient care face a steep learning curve. “Starting sooner will allow you to be the preferred provider in the area.”

Lessons learned

1. **Perseverance is required: It can take a while to get a program up to speed.** “It will not happen overnight; set goals and timelines and adjust workflow and procedures frequently to be more efficient. It will take a year or more to start seeing the results of your efforts.” It’s not always a straight line, he warned. “Don’t give up. Keep your head in the game.”
2. **Pharmacists like CMM: CMM creates job satisfaction for pharmacists.** (See above.)

●●● CMM in practice: Five case examples

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Doing what makes sense: HealthPartners offers CMM to entire covered population

HealthPartners, a health plan, began paying for CMM services in 2006. The impetus was Medicare Part D and Minnesota Medicaid MTM provisions, both of which required the insurer to offer various levels of MTM. But soon the organization embraced it, fully committing to CMM-level services for these patients, said Dan Rehrauer, PharmD, senior manager of HealthPartners' MTM program. An early CMM pilot among diabetes patients proved HealthPartners was on the right track, which is what led the plan to offer CMM across its entire book of business.

In 2007, it conducted self-insured pilots. In 2008, it began offering CMM to its fully insured commercial business.

Nearly everyone with a HealthPartners pharmacy benefit is eligible for CMM; 850,000 of its 1.4 million members have that benefit. Self-insured employers occasionally opt out, but it's rare.

The vast majority (85 percent) of that population is commercial. Medicaid accounts for roughly 10 percent of HealthPartners business, with Medicare making up the remaining 5 percent.

HealthPartners offers CMM services to these members through a community-based network of pharmacists. Being in Minnesota makes it easier to accomplish, given that organizations such as Fairview (see the Fairview snapshot in this report) have long-established CMM programs and the University of Minnesota College of Pharmacy has long been a champion.

In addition to its network, HealthPartners now employs nine pharmacists (about 7.5 FTEs) at 15 clinics. HealthPartners is both a health insurer and part of an integrated delivery system (IDS). We are profiling the health plan aspects; the side bar on page 26 focuses on HealthPartners as an IDS.

Identification and engagement

Working with case managers, physicians and its own data, HealthPartners identifies, stratifies and invites members who will most benefit from CMM services. There are various triggers, including—but not limited to—various combinations of hospital admissions, multiple chronic conditions and polypharmacy. But Rehrauer said it's less about algorithms and more about

At a glance:

HealthPartners, Bloomington, Minn.

Person in charge: Dan Rehrauer, PharmD

Organization type: Health plan

Launched: 2006

Eligible for CMM: 850,000

Invited to participate in CMM: 22,000

Members using CMM services: 4,500 members;
7,800 visits

Can patients self-refer? Yes

Notable findings:

- Committed to pay for CMM level of service for all of its beneficiaries: Nearly everyone with a HealthPartners pharmacy benefit is eligible for CMM services
- HealthPartners' robust financial analysis uncovered an 11-to-1 ROI for CMM; this led to the decision to expand it to the entire book of business.
- "One of the reasons we have been successful is that we have made it very clear to anyone who joins our [pharmacist] network what's expected."

●●● CMM in practice: Five case examples

Employer demand

Interestingly, employer demand hasn't been a key driver for CMM services. Rehrauer attributes that to confusion about what medication management is and lack of awareness of the value of CMM.

Right now, HealthPartners is working to cut through the confusion and explain what CMM really is.

Once employers see the results, they understand the value. "Overall, employer groups have been happy," he said.

patient needs. "Our methods have been a moving target. We really feel like our best way to identify members needing CMM is by empowering our network to identify them. We consistently see a higher acuity in those members referred to the program, based upon the higher number of visits they complete," he said. There's "no magic formula" for targeting potential CMM patients. Moreover, HealthPartners' outreach and analytics aren't enough to identify all the members who need CMM services; that, he said, requires pharmacists' participation.

Clinical pharmacists can identify and fix patient problems right away, he explained. In fact, the expectation is that the network pharmacist takes responsibility for all medication-related outcomes for their patients.

Outreach and engagement

Rehrauer said he is frustrated by the inability to get more people into CMM services: In 2015, 22,000 were invited, but only 4,500 of those participated. In fact, he identified patient engagement as the biggest barrier to delivering CMM. He's taking on that barrier this year through a three-pronged strategy:

1. **Community education:** speaking to patient groups, seeking media coverage, etc.;
2. **Network provider growth,** which goes hand in hand with community education: more pharmacists offering CMM and educating patients; and
3. **New marketing strategies:** techniques such as micro-segmentation for targeted messages based upon clinical/economic characteristics. This approach—in a new marketing campaign to HealthPartners' Medicare population— increased engagement to 44 percent in the first 45 days of the campaign, compared to 15 percent in all of 2015, he said.

"We are a company that is guided by the Triple Aim—working to achieve the best possible health outcomes, the best possible experience at the most affordable total cost." CMM "is the poster child for that."

DAN REHRAUER, PHARMD,
HEALTHPARTNERS

Measuring results across the book of business

Prior to expanding CMM to its entire book of business, HealthPartners completed a robust financial analysis that found an 11-to-1 ROI for CMM, Rehrauer said. This analysis (one year pre/post CMM intervention) found reductions in emergency department visits and inpatient hospitalizations; drug costs remained flat. In another analysis focused on approximately 300 members with diabetes, there was a 30 percent increase in optimal control that resulted in 199 fewer ER visits and 97 fewer hospital admissions over an eight-year period compared to a control group. Cost avoidance: approximately \$967,000.

●●● CMM in practice: Five case examples

First-hand CMM experience drives buy-in

The culture that fosters and supports the CMM philosophy isn't limited to ambulatory pharmacy, Rehrauer explained. CEO Mary Brainerd is a champion, as are the organizational and the pharmacy leadership. "This is where we see the future of pharmacy."

Because HealthPartners, as an employer, is self-insured, it was involved in the earliest internal CMM pilots. Individuals who are now in leadership positions were able to personally experience why CMM is so important. And that matters: "VPs and presidents have a serious influence with program support."

Those financial outcomes—on top of years of positive clinical outcomes and "rave reviews" from patients—were "the icing on the cake." They were not, however, unexpected. "We are a company that is guided by the Triple Aim—working to achieve the best possible health outcomes, the best possible experience at the most affordable total cost," Rehrauer said. CMM "is the poster child for that."

In addition to the ROI analysis, the program also had years of positive, measurable clinical results based on Minnesota community measurement targets, and can estimate savings based on that, he said. For instance, the annual cost differential between a patient with and without "optimal diabetes control," as defined by Minnesota Community Measurement, is calculated annually by HealthPartners and used in cost savings estimates.

Rehrauer pointed out, however, that clinical improvement can't be attributed solely to pharmacists performing comprehensive medication management. "We are *part* of the reason that patients are getting better."

Risk and reward

When it comes to CMM services, HealthPartners does not have any risk-based contracts with pharmacists. It does offer pay-for-performance incentives to provider organizations; pharmacists are also eligible for cash bonuses for increasing engagement of HealthPartners members in CMM. "It's a double win for them," he said: The more people the pharmacists see, the more fee-for-service revenue they get and, if they have a high engagement percentage, they will receive a bonus—up to \$20,000. HealthPartners plans to add clinical benchmarks into the mix for 2017.

In the last two years, CMM programs have been "springing up" in various medical group practices in the HealthPartners provider network. HealthPartners has been working with those practices to help them get their CMM programs off the ground. "We are showing them that having pharmacists as part of their care team can reduce their total cost of care and can help them as we put more risk on their shoulders. We are doing that as a health plan," Rehrauer said. He believes the move to value-based care has been a driver for CMM services, and many CMM practices are already operating under that model, he added.

"We are part of the reason that patients are getting better."

DAN REHRAUER, PHARM.D,
HEALTHPARTNERS

Success factors and lessons learned

Rehrauer offered recommendations for health plans that want to follow HealthPartners' example and cover CMM services, based on his HealthPartners experience:

- 1. Have a consistent pharmacy practice philosophy, "and that practice philosophy should be CMM."**

Saying you offer medication management "can mean nothing, or it can mean 50 different things."

●●● CMM in practice: *Five case examples*

He continues: “One of the reasons we have been successful is that we have made it very clear to anyone who joins our network what’s expected.” HealthPartners benefits from having the top CMM practices in its backyard, he said. In Minnesota, pharmacists follow a consistent model of CMM services—it’s something they’ve been taught since the first day of pharmacy school. So as HealthPartners adds new pharmacists to the network, Rehrauer can connect them to others who can support them in their CMM practice. “It’s a good thing our practice community has in Minnesota.”

- 2. Verify.** Be able to verify that CMM practices are providing the expected level of service. HealthPartners audits the practices. “At this point, we don’t audit for quality as much as to see the process of care that is being provided.” HealthPartners looks for proper documentation to verify organizations are providing services at the CMM level. “It goes back to having that CMM philosophy of care.”
- 3. Collect data on results of the program.** “You need to be able to determine if the program is helping people reach their health goals—if they are having a good experience—and you need to be able to do a financial analysis,” Rehrauer said. That requires measuring clinical outcomes, patient experience and ROI.

Be able to verify that CMM practices are providing the expected level of service. HealthPartners audits the practices.

Expansion and capacity

“CMM is our most resource-intensive medication management intervention as a health plan. We realistically cannot touch 100 percent of our population with the level of intervention we provide today,” he said. “CMM is our silver-bullet intervention to those at highest risk, but we need to apply that philosophy to everything we do and manage our whole population.” This goes to HealthPartners’ broader medication optimization strategy “to touch our members frequently with generally low intensity interventions and triage those needing higher intensity interventions to our CMM pharmacists.”

More than a plan: also a provider

As a health plan, HealthPartners covers CMM services as part of its pharmacy benefit. But that's not the limit of its involvement. HealthPartners Medical Group runs 15 CMM practices that are integrated into its clinics. HealthPartners employs nine pharmacists (roughly 7.5 FTEs). In the last 12 months, the in-house CMM program saw 4,269 unique patients; there were 8,024 visits. On average, that comes to nearly two encounters per patient, with no restriction on number of visits.

HealthPartners Medical Group's clinics are multipayer. "We see people from all local health plans, and we have risk-based contracts with almost all of them," Rehrauer said.

"Managing a patient care practice is a skill you have to learn, and residency is the place to learn that skill. As more of these practices grow, residency training will become a requirement."

—DAN REHRAUER,
PHARM D

The program has its roots in Medicare and Medicaid MTM, but HealthPartners' program has been CMM from the beginning. "We are ... taking care of the entire patient no matter how they got to us. That's the way our organization works: If it makes sense, we do it."

The pharmacists have considerable autonomy under one overarching collaborative practice agreement. "When our [CMM] pharmacists are working with a patient, they are working on the entire person. So if a patient with diabetes wants to stop smoking, the pharmacist can prescribe one of those drugs without checking back with the physician." Rarely is a medication adjustment not part of an existing protocol.

Wearing his HealthPartners Medical Group hat, Rehrauer offered a few observations about providing CMM services:

- Determining staffing levels can be difficult. He's often asked about the right staffing-to-patient ratio, but he doesn't have a cut-and-dried answer. The complexity of the patient population being managed has a great deal of effect on this calculation. If pharmacists are seeing only heart failure patients with more than 15 medications, the number of patients they can take care of is considerably lower than if they are focused on those with diabetes and taking seven medications.
- Pharmacists need hands-on training. One cannot leave pharmacy school and jump into an existing CMM pharmacy practice, he said. In his own HealthPartners Medical Group clinics, he won't hire someone who has not had an ambulatory care residency or hasn't already been providing direct patient care services. "Managing a patient care practice is a skill you have to learn, and residency is the place to learn that skill. As more of these practices grow, residency training will become a requirement." Likewise, Rehrauer said he believes board certification is important because it sets a bar for pharmacists' knowledge of drug therapy. However, he added that it doesn't help a pharmacist manage a schedule, conduct visits, or document care in a timely and effective manner.
- Non-clinical staff members can make a big difference. The HealthPartners CMM team includes pharmacy navigators. They are, in effect, excellent customer-service representatives who understand everything about the pharmacy benefit. They aren't limited to CMM, but they take calls from patients who are confused, have complaints, need help with prior authorization or have any other questions about their pharmacy benefit.

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Times change: Technology, increased physician acceptance and the move to value-based care help early adopter Desert Oasis thrive

Much has changed since Desert Oasis Health Care hired Teresa Hodgkins, PharmD, 11 years ago. She was the first pharmacist hired, and she launched the DS-MTM (now CMM) program there. Now, Hodgkins is vice president of clinical quality initiatives.

Desert Oasis is an independent practice association and medical group affiliated with Heritage Provider Network, employing 20 primary care physicians and contracting with 110 more. It also contracts with 150 specialists. Because many of its IPA offices share electronic medical records, about 72 percent of its patients have records in a common EHR.

Had the CMM program launched today, the ramp-up would have been much quicker, Hodgkins said. It's not only that physicians know what to expect from pharmacists, but there's more coordination. Back then, she said, "we didn't have the same robust ability to coordinate that we have today."

Evolving into CMM

The program began with a disease-state focus, offering anticoagulation therapy; soon, additional disease-specific programs were added, including hepatitis C and, eventually, diabetes.

When Hodgkins and her team took on diabetes, screening rates were around 90 percent but control rates weren't improving. "Our medical director said pharmacists could help with diabetes, and we saw it as an opportunity," Hodgkins said. It was a chance to demonstrate the value of CMM.

At a glance:

Desert Oasis Health Care Palm Springs, Calif.

Person in charge: Lindsey Valenzuela, PharmD, BCACP, administrator of PHARxM

Organization type: A medical group with a wraparound IPA

CMM launched: 2005

Payment sources: Medicare Advantage, HMO, ACO

Funding sources: Health plan contracts

Can patients self-refer? Yes, but it is the least common method of referral

Number of pharmacist FTEs: 17

Number of sites: 4

Patients served in last 12 months: 7,000

Notable findings:

- Desert Oasis launched its CMM pilot in 2009 with a focus on diabetes. The rate of poorly controlled diabetes dropped significantly, earning a five-star Medicare Advantage rating.
- "Continued follow-up is key to sustain optimal control of conditions—these are, after all, chronic diseases."
- "We're at full risk, and we are here because Desert Oasis is counting on us to do better patient management and reduce unnecessary utilization, which is the highest cost of all."
- "Measuring the impact of pharmacist activities is essential in demonstrating the value to your organization so that these programs can grow."

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“To make sure patients get the care they need, we don’t charge co-pays. CMM helps them manage their chronic conditions, and we want to achieve as much wellness as possible. Copayments can serve as a barrier to accessing services provided by the pharmacist.”

LINDSEY VALENZUELA, PHARM.D,
BCACP, ADMINISTRATOR OF PHARxM

It did. Desert Oasis launched a diabetes CMM pilot in 2009. The rate of poorly controlled diabetes dropped significantly, earning a five-star Medicare Advantage rating.

The program continued to evolve. As Hodgkins and her team began to show success, Desert Oasis looked for ways to get the pharmacists involved with more patients, regardless of disease state.

Recently, the pharmacist’s role expanded even more: Oversight for Desert Oasis programs that target high-risk and medically managed patients with CHF and cardiovascular disease was incorporated under pharmacist leadership. “Our programs are now re-named under a new department: Population Health and Prescription Management (PHARxM),” explained Lindsey Valenzuela, Pharm.D, BCACP, administrator of PHARxM.

Team-based approach

The CMM team takes a whole-patient, rather than a disease-state, approach. Various disease states serve as *triggers* for CMM services; they include diabetes, cardiovascular disease, hypertension and asthma/COPD. But once the pharmacist meets with the patient, he or she provides a comprehensive, patient-focused assessment, reviewing all medications and deciding whether to add or discontinue certain ones based on clinical goals of therapy.

Identifying patients, overcoming barriers

Patient identification by disease state isn’t the only way patients come to the program. Other ways include referrals from physicians and case managers, hospital discharge, annual medication reviews, lab reports and registries. Patients can also refer themselves.

“To make sure patients get the care they need, we don’t charge co-pays,” explained Valenzuela. “CMM helps them manage their chronic conditions, and we want to achieve as much wellness as possible.” Copayments can serve as a barrier to accessing services provided by the pharmacist, she added.

Why it works

Valenzuela and Hodgkins identified three factors that contribute to their success.

- 1. Payment model (capitation):** “We’re at full risk, and we are here because Desert Oasis is counting on us to do better patient management and reduce unnecessary utilization, which is the highest cost of all,” said Hodgkins. Desert Oasis’s major lines of business involve global capitation payments from health plans to provide all medical services to its assigned members. “As such, we are at full risk for all medical costs,” Hodgkins explained. Inpatient hospital stays are a significant contributor to overall health care costs. “Developing programs that target the proactive management of chronic conditions in order to prevent inpatient hospital admissions is one way to reduce the total cost of care. This is the strategy that underlies the development of our pharmacist-led programs. Optimal use of medications is where pharmacist expertise benefits treatment outcomes,” she added.
- 2. Physician acceptance and increased primary care access:** As drug therapy has become more complex, physicians are more open to tapping the expertise of pharmacists. Physicians

●●● CMM in practice: *Five case examples*

who may have been more likely to train with pharmacists in collaborative practice tend to understand the importance of the pharmacist's role in medication management in the ambulatory care setting. Another factor bolstering physician acceptance is that Desert Oasis is in a primary care shortage area. This creates an opportunity for pharmacists to work with patients who have chronic conditions—patients who can take up a lot of time. Collaborative practice agreements are broadly written, allowing pharmacists to make adjustments to medications 95 percent of the time without further physician involvement, and greatly enhancing efficiency of the services and physician time, said Valenzuela. “Our primary care physicians are very supportive of pharmacist activities.”

- 3. Smart staffing:** Identifying pharmacists who are well suited to this work is one reason for success, but another is hiring and making best use of the support staff. Pharmacists and pharmacy techs are able to delegate work, and all are able to work at the top of their ability and/or skill set.

Patients by the numbers

Overall, Desert Oasis sees about 7,000 unique CMM cases a year (based on 2015-16 data). Many of those are targeted by disease state, including

- **Anticoagulation:** 3,600
- **Cardiovascular:** 500
- **Diabetes:** 700
- **Hepatitis C:** 300

Average number of encounters per patient: three face-to-face visits with telephonic follow-up in between

Breakdown by payer:

- **65 percent:** Medicare Advantage (includes dual-eligibles)
- **30 percent:** commercial HMO
- **5 percent:** ACO (fee-for-service Medicare)

More on smart staffing

Using pre-written scripts when they call patients allows support staff to gather information into a meaningful file for the pharmacist to review. Pharmacy techs also call low-priority patients; they can handle medication refills, as well as delegate clerical duties to support staff. The role of the pharmacy technician is ripe for expansion, said Hodgkins and Valenzuela.

Across four sites, there are

- 17 pharmacists
- three pharmacy residents
- two or three pharmacy students every six weeks
- 14 pharmacy technicians
- 15 support staff

Advice and lessons learned

Hodgkins and Valenzuela offered four recommendations, based on their experience.

- 1. Target those who most need your services.** Look at your entire patient population and identify those who will receive the most benefit from your services. “Identify what patients represent the most opportunity to improve outcomes and reduce costs through better use of medications—likely these are patients with chronic conditions such as diabetes, COPD, CAD and CHF.”
- 2. Recognize the importance of pharmacist training.** You want people truly interested in this work, said Hodgkins. “We hired many of our former residents.” (Valenzuela was one.) Desert Oasis provides training and continuing education for pharmacists and residents, and encourages additional post-graduate education and board certification.
- 3. Define the data needed to show results.** It will guide implementation and make it much easier to demonstrate value down the road.

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- 4. Consider ROI.** Pharmacists typically don't like to think about the finances, but it's essential to build a sustainable program. "No margin, no mission. In order to have the opportunity to work with patients to optimize the use of medications—which is what pharmacists are trained to do—it also has to make financial sense to your organization to deploy pharmacists in this manner," Hodgkins said. "Measuring the impact of pharmacist activities is essential in demonstrating the value to your organization so that these programs can grow."

Showing results

Both Hodgkins and Valenzuela are adamant about the power of collecting and tracking data; it's how they demonstrate the program's value to Desert Oasis. But it can be difficult to prove the connection between the outcomes and the pharmacist's intervention. With that said, they report significant improvements, including a moderate reduction in readmissions and a tremendous reduction in emergency department visits.

They also report that overall medication costs remain flat due to the use of generics and working with programs that reduce the cost of medication for the highest-risk patients. "One lesson learned from these results is that continued follow-up is key to sustain optimal control of conditions—these are, after all, chronic diseases," said Valenzuela.

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North Memorial's CMM program focuses on communicating value to patients and clinicians

When Mary Sauer, PharmD, BCACP, launched North Memorial's CMM/DS-MTM program in November 2013, she was stunned that most physicians, nurse practitioners and physician assistants didn't understand that the pharmacist had a role outside dispensing. And without provider support, she wouldn't win patient support. She won both.

North Memorial Health Care is an integrated delivery system that includes 17 primary care clinics and two hospitals across the Minneapolis/St. Paul metropolitan area.

Sauer, the clinical pharmacy specialist, said the key motivating factor was the move to value-based reimbursement. The growing focus on quality outcomes made it a good time to start the program. It took about a year to get from concept to launch. The CMM/DS-MTM program started as a single pilot site—a clinic that served primarily Medicaid patients.⁵¹ Focusing on Medicaid provided consistency in measurement, unlike a site with multiple payers.

"There were a lot of quality incentives that needed to be met for particular clinics serving that population," Sauer said. That made it easy to measure. The pilot was a success, and the program expanded.

Moving toward success

Sauer identified three significant barriers to launching the program:

1. **Billing, coding and compliance requirements:** Setting up the EHRs for appropriate claims and coding was a headache. Fortunately, because Minnesota is a leader in CMM/DS-MTM,

At a glance:

North Memorial Health Care Brooklyn Center, Minn.

Person in charge: Mary Sauer, PharmD, BCACP

Organization type: Integrated delivery system

Launched: 2013

Payment sources: Medicaid, Medicare, commercial

Funding sources: Medicaid ACO, Medicare ACO, Minnesota Community Measures pay for performance initiatives

Number of pharmacists: 2 (2 FTEs)

Number of pharmacy residents: 1 (0.5 FTE)

Number of sites: 4

Unique patients served in last 12 months:

About 500 CMM/DS-MTM (North Memorial's collaborative practice agreements are very broad, so most patients that initially present for DS-MTM also generally receive CMM.)

Can patients self-refer? Yes

Notable findings:

- Sauer is able to turn to colleagues at other organizations. "The Minnesota teams offered guidance and resources by sharing what they learned from starting their programs. This allowed us to learn from their successes."
- Delegating tasks that don't require clinical training increases efficiency. For example, a non-medical coordinator calls patients and handles referrals. "She's my biggest asset. She gets patients on the schedule and in the door."
- CMM creates professional satisfaction. "I think that's what draws me to CMM—the ability to use my clinical knowledge and work with patients and providers to help solve their problems. It's so satisfying to see a patient's A1C drop and for them to have a better quality of life. It's really a great feeling."

51 The 2005 Minnesota Legislature directed the Minnesota Department of Human Services to pay qualified pharmacists for Medication Therapy Management Services (MTMS) for Medicaid recipients. (Minnesota Department of Human Services Provider Manual; Medication Therapy Management Services)

Kid gloves and real results: winning over skeptics

Starting out, Sauer discovered many providers didn't understand the role of the pharmacist as a patient care provider. Some were resistant to the concept. It took about six months for the skeptics to come around.

"Before they accept you, they're going to give you their hardest patient. If you can change how that patient feels and impact their outcome, you make the provider a believer, and then you get more referrals." She offered tips for winning over skeptics:

- **Demonstrate the pharmacist is part of the team:** Providers need to understand the pharmacist isn't there to make things more difficult for them. That means educating them about the pharmacist's patient care role. Sauer shadowed clinicians, watching what they did and letting them get to know her. Had she to do it over, she would spend more time early on educating clinicians.
- **Display competency:** Trust builds as other clinicians realize pharmacists know the appropriate guidelines. As pharmacists bring their unique knowledge to the table, physicians, NPs and PAs become more confident and treat the pharmacist as an expert in medication.
- **Be deferential, if necessary:** How a clinical pharmacist—especially a resident—phrases requests can make a difference. Many providers feel the pharmacist is going to tell them how they prescribed the wrong dose or medication. Set up the conversation in a way that is less confrontational, such as, "What are your thoughts on this medicine or this change?" It's about creating the opportunity for discussion, she said.
- **Success speaks:** In her experience, once providers see improvement in their patients, they are "hooked."

Sauer could turn to colleagues at other organizations for guidance. "The Minnesota teams are very willing to help out programs trying to start, so it's been a great asset to have some leaders of [CMM] right at my back door," she said. "The Minnesota teams offered guidance and resources by sharing what they learned from starting their programs. This allowed us to learn from their successes." If she had it to do over, Sauer said she would work more closely with the compliance and coding departments from the outset.

2. **EHR infrastructure:** Trying to get the CMM infrastructure built within the EHR was challenging. "We had to create new visit types within our EHR, Epic.⁵² We also had to design templates, flowsheets and reports in a way to capture discrete fields in order to show our medication-related interventions and patient outcomes," she explained. "I wanted to set up the infrastructure for expansion and to have future practitioners document and record outcomes the same way."
3. **Space:** Many of the clinics were already tight on space and didn't have room for a consultation area. "We had to get creative when I first started out," she said. "I started seeing patients in our clinic manager's office. After a couple of months, providers started sharing their exam rooms with me." Ideally, the CMM delivery space has to be in a private room that seats at least three people around a table.

Factors for sustaining success

Sauer identified three of the many factors contributing to North Memorial's success.

1. **Champions:** Provider champions are essential to success. "If a provider tells a patient they want them to see their pharmacist, the patient will go." (For more on winning over providers, see sidebar.) Organization leaders are also important allies, Sauer said. She points to her medical director. "He wanted CMM/DS-MTM to be part of our system, so he was our biggest champion. He had read articles about clinical pharmacists improving patient outcomes. He also attended medical conferences where pharmacist practitioners from our state were presenting on patient outcomes."

52 Epic already had the medication therapy visit type built into the system for some other health systems, but not for North Memorial.

“If a provider tells a patient they want them to see their pharmacist, the patient will go.”

MARY SAUER, PHARMD, BCACP,
NORTH MEMORIAL HEALTH CARE

2. Engaged patients: Patients need to buy into CMM. To win that trust and build a therapeutic relationship, pharmacists need to meet patients where they are, listen carefully and engage in shared decision making.

3. Team-based culture: Successful CMM/DS-MTM requires a structured, team-based approach and a culture that supports team-based care. (See more on this below.)

Lessons learned

Sauer also shared some key lessons.

- 1. Get senior leadership involved.** Identify individuals who can champion CMM/DS-MTM at the organizational level.
- 2. Make every visit count.** “Go above and beyond...especially when the patient is trying to figure out how CMM/DS-MTM fits into their health care.” Happy patients make successful programs.
- 3. Be patient and flexible when starting out.** Allow time for the clinical care team to develop, and be patient in building relationships with RNs, physicians and MAs. “Realize that things will start working out, but first there will be a lot of ups and downs,” she said. “Be open to new opportunities.”

Full-service CMM department

Sauer’s CMM/DS-MTM team includes two pharmacists (2 FTEs), a resident (.5 FTE) and pharmacy students intermittently throughout the year (this varies). Perhaps most importantly, the team includes a non-medical coordinator (.3 FTE) who calls patients and handles referrals. “She’s my biggest asset,” Sauer said. “She gets patients on the schedule and in the door.” She handles many of the outreach phone calls. In addition to seeing patients, the students help send patient-satisfaction surveys, assess patient outcomes and deal with health IT issues.

Front-line clinic staff help with clerical work but aren’t formally part of the CMM program. Sauer said she would like to add pharmacy technicians when the budget allows.

Patient-centered process

Patients come to the program in a variety of ways. Providers refer those they think will benefit from CMM. Patients on 10 or more meds and/or who have diabetes, asthma and COPD, hypertension, hypoglycemia, osteoporosis or gastric by-pass surgery are also identified for inclusion in the program. She is also involved with transgender care and hormone titration. Patients can self-refer.

The typical CMM patient in the North Memorial program is 68 years old and on about 15 unique medications. There’s no typical payer; it varies, she said, by clinic location.

Her team uses motivational interviewing as one way to identify and clarify patient goals. Sometimes, patient goals and clinical goals don’t align. “We try to bridge the gap between medical talk and everyday talk.” That could mean focusing on what a patient personally hopes to get out of her medication therapy—for example, the ability to attend her daughter’s wedding.

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Residency, readiness and board certification

Sauer, while not ready to call for a residency requirement for CMM practice, believes it's important and values her own residency. "I think I was ready for pharmacy after graduation, but to develop interpersonal skills like motivational interviewing with the patient and shared decision making, and truly understanding the ... experience behind taking a medicine—I wouldn't have gotten that out of school."

She also supports board certification, but not necessarily as a requirement. "Someone extremely motivated may not need it, but I need the deadlines built in by certification." As a program manager, she can use board certification as a proxy for competence in new hires. And, she added, there's a perception of value simply by "having the alphabet soup after your name." It can inspire trust among some of the more resistant providers.

Overall, about 30 percent of the income for CMM/DS-MTM comes from value-based contracts with some sort of risk.

Sauer and her team regularly follow up, in person or by phone. The goal is to move patients toward six- or 12-month follow-up. The average number of encounters per patient varies, she said. "Typically a patient will see us about three or four times a year." Once patients reach quality goals and feel confident they can manage medications on their own, follow-up ends. There is currently no official discharge.

Quality and reimbursement

Most of the quality measurements the North Memorial team gathers relate to its two ACO contracts—one for Medicaid, and the other for a Medicare Shared Savings Program (MSSP) ACO. Both are in year two; year three adds more risk. The arrangement for the MSSP is a bit convoluted, she explained. "Right now we can't actually bill for the service so we end up using dummy codes to show that we are meeting with our ACO population; [CMM/DS-MTM] is reimbursed on the back side with what Medicare will give us in terms of our performance dollars."

They are at full risk with one payer: PreferredOne, the company with which North Memorial is self-insured. Overall, about 30 percent of the income for CMM/DS-MTM comes from value-based contracts with some sort of risk. The rest comes from fee-for-service. She estimated the payer mix as follows:

- Medicaid: 45 percent;
- Commercial: 25 percent; and
- Medicare: 30 percent.

Metrics

When tracking clinical and financial goals, Sauer and her team don't separate patients receiving CMM/DS-MTM services from others. They are able to code visits differently, comparing quality scores of people with CMM/DS-MTM visits to those without. "We have found patients' diabetes quality scores/goals are 14 percent higher when they participate in CMM/DS-MTM compared to those who have not met with the pharmacist." They haven't yet measured the impact on financial savings, but this will be the next step.

They identify and track drug-therapy problems via a template set up in the Epic EHR. Before closing the record, the pharmacist documents the problem and the resolution. In 2015, they did so for an estimated 2,441 interventions:

●●● CMM in practice: *Five case examples*

"I asked the patients how they heard about us and they said 'my friend Judy told me' or 'my Uncle John said you have to come here.' I realized people were finding a lot of value in this service."

MARY SAUER, PHARMD, BCACP
NORTH MEMORIAL
HEALTH CARE

- 32 percent related to indications;
- 24 percent related to efficacy—usually needing a different drug or dose;
- 15 percent related to safety; and
- 28 percent related to adherence; most of these came out of the Medicaid population and could be traced to affordability. Other factors included forgetting and not understanding how to administer medications correctly.

Patient satisfaction, pharmacist gratification

Sauer knew the program was successful when she saw how happy the patients were. She sent patient satisfaction surveys to everyone who had a CMM appointment; the responses were overwhelmingly positive. She also began to see more patients from word-of-mouth. "I asked

the patients how they heard about us and they said 'my friend Judy told me' or 'my Uncle John said you have to come here.' I realized people were finding a lot of value in this service."

In health care, it's easy for patient communication and follow-up to be dropped because there are so many moving parts, Sauer said. "So if you tell a patient you're going to look into something, you have to make sure to follow up with them."

And that, she said, is the point: helping patients. "I think that's what draws me to CMM—the ability to use my clinical knowledge and work with patients and providers to help solve their problems. It's so satisfying to see a patient's A1C drop and for them to have a better quality of life. It's really a great feeling."

●●● CMM in practice: Five case examples

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Tight teamwork fuels rapid expansion of Spectrum's CMM program

Spectrum Health is fully embracing CMM: The integrated health system intends to add a pharmacist for every physician practice. In effect, that's a jump from two pharmacists when it was launched in 2015 to 90 by 2021. "This is driven by metrics of treating the whole patient and modeling after the patient-centered medical home," explained Heather Christensen, PharmD, clinical pharmacy specialist.

Spectrum includes a medical center, regional community hospitals, a dedicated children's hospital, a multispecialty medical group, affiliated physicians and a health plan, Priority Health.

The CMM program, launched in January 2015, has been growing rapidly. Today it has six pharmacists at 10 practices. The program took three years to launch; Spectrum took a careful, phased-in approach, reviewing data on the impact pharmacists could have on patient outcomes. It became clear that it was "just the right thing to do," said Christensen. The original plan was to add two pharmacists every year for five years. That wasn't fast enough, so the program added six pharmacists the first year, and three technicians to support them.

There were barriers to getting started. Christensen and Julie Kyser, a pharmacy technician who was there during the launch, identified three of the biggest challenges.

"When I see them the first time, I have the ability to look at the whole patient."

HEATHER CHRISTENSEN, PHARM.D,
SPECTRUM HEALTH

At a glance:

Spectrum Health *Grand Rapids, Mich.*

Person in charge: Heather Christensen, PharmD, clinical pharmacy specialist

Organization type: Integrated health system

Launched: 2015

Funding sources: Priority Health pays for the pharmacists, but they are not Priority employees

Number of pharmacists: 6 (5.5 FTEs)

Number of sites: 10 practice sites

Patients served in last 12 months: 6,000

Can patients self-refer? Yes

Notable findings:

- Pharmacists need to push back on requests to accomplish tasks that others can perform. They can delegate appropriate work under their license to a licensed pharmacy technician. "I don't need to call a pharmacy or pharmacy benefit manager about a medication or formulary question," Christensen said; devoting her time to direct patient care is the best use of time.
- The PCPCC's resource guide, *Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, serves as a template for CMM services in the context of a patient-centered medical home and coordinated care.

1. Defining roles and functions: The clinical pharmacy team had to manage the process so the pharmacist could see more patients. As a result, the role of the technicians has evolved, said Christensen. At first, technicians managed scheduling. Now, they handle other duties, such as documentation, billing and special projects.

●●● CMM in practice: *Five case examples*

- 2. Patient understanding of the pharmacist's new role:** Getting patients to understand the pharmacist's role in patient care was a huge barrier at the beginning. Before the visit, Christensen said they are resistant. "Once we get the patients in, they love the service. By the time they leave, they are happy," she said.
- 3. EHR documentation:** Rapid growth of the program made it essential that everyone be on the same page to ensure no lapse in hand-offs. They worked on consistency of documentation and created "smart phrases" to pre-populate information in the EHR. This ensures the team of pharmacists can be consistent in its work, and any of the technicians is able to follow up with billing and patients where necessary.

Despite growing pains, the program thrived. By June 2015—just six months after launch—Christensen said they knew they had a winning program design.

Finding and connecting with patients

Spectrum pharmacists saw nearly 6,000 CMM patients over the past 12 months across all sites. Of those, 4,586—all from Priority Health—were *labeled* comprehensive medication review; most, however, constituted true CMM services. Most of the patients are identified by Priority Health, which provides the CMM team with a "send a patient" list. Physicians refer patients, and Christensen meets weekly with case managers, who also may refer patients. Patients are able to self-refer and can call to set up appointments with the office.

The PCPCC's resource guide, Integrating Comprehensive Medication Management to Optimize Patient Outcomes, serves as a template for CMM services in the context of a patient-centered medical home and coordinated care.

"When I see them the first time, I have the ability to look at the whole patient," Christensen said. Her goal is to improve outcomes as quickly as possible. Because collaborative practice agreements cover about 95 percent of her patient encounters, she and her fellow pharmacists are able to do just that.

Pharmacists work with patients to identify goals. The goals are based on the latest guidelines, and on the patient's understanding and level of commitment. "That's where the art of medicine comes in," Christensen said. Follow-up depends on the patient's needs. Some need extensive follow-up in person and by phone. Others, she noted, understand what needs to be done after one visit. She and her team try to piggyback follow-ups on top of a visit to the doctor's office—especially for patients in rural areas who have to travel 45 minutes or more each way.

Growing pains

Every practice has different leadership, providers and workflows, and initially doesn't fully understand where a pharmacist fits into the workflow. "We know what we're doing. But MAs, doctors, clerical, etc.—they don't always get what we are doing," said Christensen.

Sometimes, physicians try to foist other tasks on her, such as dealing with pre-authorizations. But she's learned to manage expectations. She has also learned to clearly communicate her role as a patient care clinician to colleagues.

Success factors and lessons learned

Christensen attributes the program's success to three key factors:

●●● CMM in practice: *Five case examples*

- 1. Support from superiors:** “We have a great leader who understands the difficulties and is willing to say ‘What can we do to make it better?’ and then gives me that support.” Spectrum has three business lines: a managed care organization (Priority Health), a medical group and the hospital group. Each division has a director of pharmacy who supports CMM services.
- 2. Communication and data management:** “Our team is dispersed,” Christensen said. “How do we make sure we know what everyone is doing?” They communicate in various ways, including via EHRs, internal instant messaging and regular meetings.

“We know what we’re doing. But MAs, doctors, clerical, etc.—they don’t always get what we are doing.”

JULIE KYSER, SPECTRUM HEALTH

- 3. Pharmacist/tech collaboration:** Pharmacists can delegate appropriate work under their license to a licensed pharmacy technician. “I don’t need to call a pharmacy or pharmacy benefit manager about a medication or formulary question,” Christensen said; devoting her time to direct patient care is the best use of time.

Team-based and integrated

As structured, the team-based approach is important to Christensen, both for her CMM team and for the larger clinical team. Spectrum generally follows a medical home model. Some of the sites are designated as medical homes through Blue Cross Blue Shield of Michigan. In fact, Christensen’s program is guided by the PCPCC’s resource guide, *Integrating Comprehensive Medication Management to Optimize Patient Outcomes*, which standardized CMM in the context of the medical home. “Look at the theoretical aspect: We have set up our practices to follow the PCMH model, even if not every office has that designation,” she said.

Six clinical pharmacists (5.5 FTEs) directly provide patient care, and Christensen shares one pharmacy resident (.5 FTE) with the hospital. This will increase with the planned expansion. Three full-time pharmacy techs and one student every other month round out the staff.

Priority Health funds the pharmacists, but they are not Priority employees. The funding is based on anticipated savings through reduced emergency department visits, readmissions and other outcomes-based ROI.

As they do with pharmacy techs, Spectrum is finding important roles for pharmacy students. “We know there is a lot of potential with students, but it takes a couple of weeks to get to

Launching a CMM program? Consider this advice.

- 1. Ensure sufficient resources are available for direct patient care:** Spectrum’s CMM program was developed to include technicians. “Our boss understands that without this support, the time to see enough patients would be minimal.”
- 2. Team logistics matter:** The CMM team is spread out across greater Grand Rapids. Planning and connectivity for good communication among the team is essential. Each team member learns at a different rate. Being able to support a team that is not housed in the same location allows for growth, knowledge and sharing of experiences.
- 3. Plan ahead:** When bringing in a new pharmacist, try to have everything in place, including the CPAs and adequate work space, as well as time to understand the culture of the pharmacy team and the individual office with which he or she will be working closely.

●●● CMM in practice: *Five case examples*

“We have a great leader who understands the difficulties and is willing to say ‘What can we do to make it better?’ and then gives me that support.”

know each other.” The right student can take on real responsibilities. Her current student initiates some of the charting and does follow-up calls, allowing Christensen to devote more of her time to patient care.

The team hopes to expand the residency program slot to full time. She values residency; nevertheless, she believes most pharmacy school training adequately prepares clinical pharmacists to deliver CMM services. Still, she’d want a three-month ramp-up time of on-the-job training for any new pharmacist. Likewise, board certification can be very useful, but she doesn’t consider it necessary at this time.

Spectrum’s plans to expand the program indicate it’s been successful in its first year, but Christensen and her team are still developing specific quality metrics. A priority has been collecting and analyzing the data. For now, however, access is her focus: creating efficiencies that allow her to see more patients. “We need to touch as many people as possible.”

VII. CMM practices at a glance: *Ten profiles*

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PCMH model, university involvement, allow Holyoke to successfully provide CMM to underserved populations

Over the last 12 months, Holyoke Health Center, an FQHC, has delivered CMM services to 400 to 500 unique patients. Between October 2014 and March 2015, there were 337 unique visits, some of which were follow-ups.

Referrals come from a variety of sources, including providers, family members, insurance companies, other pharmacists and the patients themselves. Patients who receive their primary care at Holyoke Health Center or use its pharmacy are eligible. The center hopes to expand these services to more patients in the next 12 months, ideally with the help of grants.

The program is self-supporting, but grants allow it to enhance its offerings. The program also sees benefit from 340B funding (the federal drug discount program). "That money gets rerouted through the entire health center to support everyone," said Marisa Campanale, clinical pharmacist at the Holyoke pharmacy center.

Staffing and teamwork

The FQHC takes a team-based approach to care. Pharmacists, with the help of pharmacy students,

- complete a full medication reconciliation against three sources;
- perform a full chart review;
- evaluate the current medication regimen for appropriateness, safety and effectiveness; and
- provide full counseling and assist patients with any adherence or life issues they may be experiencing.

At a glance:

Holyoke Health Center *Holyoke, Mass.*

Person in charge: Marisa Campanale, PharmD, clinical pharmacist

Organization type: FQHC; PCMH

Launched: 2008

Funding sources: Affiliations with several schools of pharmacy with faculty and students on-site; grant; 340B funding

Number of pharmacists: 2 (1 FTE)

Number of sites: 2

Unique patients served in last 12 months: 400 to 500

Can patients self-refer? Yes

Notable findings:

- Pharmacy-based community health workers enable culturally competent care.
- All patients surveyed indicated they would recommend the program to family and friends.
- Savings through the 340B program allows Holyoke to stretch scarce resources and provide more comprehensive services to patients.

●●● CMM practices at a glance: *Ten profiles*

Advice for FQHCs considering adding a CMM program: You need the support of the chief medical officer and the providers in your organizations, and you need to cultivate those partnerships. “Providers take our advice on the spot because of the relationships we built,” Campanale explains.

Team members dedicated to CMM include the following: one FTE, two part-time faculty members, one pharmacy resident and anywhere from four to 10 pharmacy students who spend most of their time on CMM. They also have access to three community health workers primarily devoted to CMM services (about 2.25 FTEs). Medical staff and clerical non-medical staff at the clinic sites are also involved, but not focused on CMM. Holyoke is an NCQA Level 3 patient-centered medical home, so everyone works as part of an integrated program.

Measurement and data

That integrated approach also applies to data collection. For instance, Holyoke is seeing a reduction in ER visits and hospitalizations, but that’s being tracked through the transitions of care program; it’s not specific to CMM. Quality improvement efforts target high-risk patients, including one that tracked reductions in A1C levels and one that tracked improvements in adherence from roughly 65 percent to 90 percent.

The program is collecting data, but it doesn’t have much time for analysis—that happens when there is a grant involved, Campanale said. One such example is a patient-satisfaction survey that generated passionately strong responses, including “God first, and Holyoke is second.” A second survey found 100 percent of patients—at baseline and at follow-up—would recommend the program to family or friends.

Success factors

Campanale identified three key elements that contribute to the program’s success:

- 1. Faculty and student involvement:** Because the school pays for those resources, it’s essentially free to the clinic.
- 2. Culturally competent outreach:** Community health workers dedicated to CMM help build better relationships with the patients and deliver culturally competent care.
- 3. Support from the chief medical officer:** The chief medical officer is an important ally.

Lessons learned

- 1.** Develop ways to track data efficiently to show success and value.
- 2.** Customize patient needs and care. “You need to customize the way you approach each patient. “Patients respond to different motivational interviewing techniques, so you need to figure out what works best for each individual. In addition, when we are conducting a CMM visit we try to make it patient centered—incorporating what the patient feels is their biggest problem—what they would like to work on—into the visit.”

●●● CMM practices at a glance: *Ten profiles*

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Clinic coordinates with school, brings CMM to the underserved

The Center for Healthy Hearts, a free clinic, partners with the Virginia Commonwealth University School of Pharmacy and its new Center for Pharmacy Practice Transformation.

The clinic, a medical home, houses the CMM program, with the university providing faculty and expertise. “In return, we have a site where we can be innovative and develop new clinical models, as well as have a great learning environment for pharmacy students and others,” said Dave L. Dixon, PharmD, AACC, FNLA, CDE, CLS, BCPS-AQ Cardiology, of the Center for Healthy Hearts.

Today, the CMM team includes five pharmacists (0.5 FTE) and one pharmacy resident (0.8 FTE). Roughly 20 to 24 advanced pharmacy practice experience (APPE) students are involved each year, plus numerous service-learning students (512 hours per year).

Formalizing referrals

The clinic has always taken referrals from area emergency departments, but in an ad hoc manner. “Now, we’re moving toward formalizing our referral process rather than just relying on patient self-referral,” Dixon said. The Center is currently working on a formal agreement with the VCU Health emergency department to serve as a referral for patients who go to the emergency department primarily for chronic-disease management. This 12-month pilot will include 80 patients. Dixon said other similar proposals are in the works.

Making a difference

A review of 250 patients referred to the Center from local emergency departments (six months before and after CMM intervention) revealed CMM was associated with an 86 percent reduction in non-emergent emergency department use. Dixon noted part of this success relates to connecting uninsured patients with chronic conditions to a medical home. Its recently published evaluation of this model reported that reduction in blood pressure was durable over the

At a glance:

Center for Healthy Hearts Richmond, Va.

Person in charge: Evan M. Sisson, PharmD, MSHA, CDE, FAADE

Organization type: Free clinic— 501(c)3

Launched: 2008

Payment sources: Grant, public and private contract funding

Funding sources: Pharmacy school pays for pharmacists and PGY-2 resident

Number of pharmacists: 0.5 FTE among 5 volunteer pharmacists

Number of sites: 1

Unique patients served in last 12 months: 525

Can patients self-refer? Yes

Notable findings:

- Collaborations between safety-net clinics and schools of pharmacy can be a “win-win,” providing experience for pharmacists and students while offering otherwise unavailable resources to the clinic.
- Board certification is becoming important.
- A study of 250 patients (six months before and after CMM intervention) revealed CMM was associated with an 86 percent reduction in inappropriate emergency department use.

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four-year study period, with a mean blood pressure control rate (68 percent) that exceeded the NCQA reported mean control rates (57 percent for Medicaid) for the same time period.⁵³

Adding CMM services had a major impact on how the clinic served its patients, he said. Before 2008, the Center was primarily a nurse-driven clinic with physician support. Patients received refills on their medications and assistance by completing the patient-assistance paperwork, but chronic disease management through medication management was not formally done. “Integrating pharmacists into the care model and allowing them to provide CMM via collaborative practice agreements with the medical director allowed for expansion of services to include diabetes education and management, and improved management of hypertension and dyslipidemia,” he said.

Success factors

Dixon identified two factors contributing to his program’s success:

- 1. Support from the board of directors and the clinic medical director:** For the medical director, it was a “no brainer,” Dixon said. But he encountered some uncertainty from the board—not all of whom are health care professionals. “There was a little bit of ‘pharmacists doing what?’” Having the medical director on board—and on the board—made a big difference. “I think for the board it was more a function of necessity, to be honest, but at the same time, a great opportunity to try something new. Timing and need will drive these things.”
- 2. Ability to initiate therapy:** He attributes this to two factors: broad collaborative practice agreements and scope-of-practice regulations. “In Virginia, pharmacists can initiate drug therapy as long as the condition has been diagnosed by one of our physician or nurse practitioner colleagues.”

Lessons learned

- 1. Be patient with administrators and physicians.** It takes time to build trust, but once they see the results of CMM, they will buy into what you’re doing.
- 2. Be proactive in developing a way to make it financially sustainable.** “Being a free clinic helps in some ways, but hurts in others.” Public monies only provide a portion of the annual operating expenses. “That’s why we’re working on referral agreements to diversify our revenue streams, using a capitated approach,” he said.
- 3. Demonstrate results.** “You must be able to demonstrate the value of your CMM program to various stakeholders, and that requires developing an ongoing data collection process that demonstrates the pharmacists’ impact.”

53 Sisson EM, Dixon D., et al. “Effectiveness of a Pharmacist-Physician Team-Based Collaboration to Improve Long-Term Blood Pressure Control at an Inner-City Safety-Net Clinic” *Pharmacotherapy* 2016;36:342-347

Professional advancement: board certification and residency

Board certification is only going to become more important for pharmacists practicing CMM, Dixon predicted. “If you asked me a few years ago, I would have had a different answer.” But now, he thinks it will be important in terms of billing and credentialing. “So from a CMM standpoint, it’s really important.” He plans to pursue board certification in ambulatory care this year.

Similarly, he sees residency training as important for CMM. Even though he believes schools of pharmacy are moving in the direction of preparing students to provide CMM, “by and large, I think CMM requires post-graduate training.”

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Fairview: CMM trailblazer ensures success with consistent practice model

Fairview Ambulatory Pharmacy Services has been a trailblazer in medication management in general and in CMM in particular.⁵⁴ Its medication management program launched in 1997 in partnership with the University of Minnesota College of Pharmacy. Since then, it has cared for more than 20,000 patients and resolved more than 100,000 medication-related problems, avoiding at least 46,000 provider visits; this significantly improves access to care, according to Fairview's data.

In 2015, across all practice sites, Fairview provided CMM services to 5,371 unique patients under one broad collaborative practice agreement. The average number of encounters per person: 2.2. It currently has 31 CMM sites; all but six are in primary care, explained Amanda Brummel, PharmD, BCACP, program director. Specialty practices include psychiatry, geriatric, transplant/kidney, oncology, infectious disease/HIV, women's health and a complex care clinic (which includes a home-visit program).

The CMM team includes the program director (Brummel), 13.3 pharmacist FTEs, two pharmacy residents, 0.6 FTE for an operations lead, 0.4 FTE for supervisors and three FTEs for non-clinical support staff. Providers are Fairview's primary referral source, but patients may also be referred due to complexity/risk in its population health efforts, or via transitions of care referrals. Hospital referrals doubled in 2015. Patients can also self-refer.

A residency program lets Brummel cultivate future CMM team members. "Keeping residents who train with you is a great way to expand," she said. In general, she'd hire a candidate with a residency over one without. Otherwise, it takes at least six months to come up to speed. About half of the Fairview pharmacists doing CMM are board certified. "A lot have decided to pursue certification because it is becoming the norm in our area for CMM positions," she said. "Our physician colleagues are board certified and it seems like a natural progression to ensure we move in that direction, too."

Tracking data, consistent practice

The CMM program tracks reductions in the number of emergency room visits, hospitalizations/readmissions and physician visits. Some of the tracking is based on what the care team thinks

At a glance:

Fairview Pharmacy Services Minneapolis

Person in charge: Amanda Brummel, PharmD, BCACP

Organization type: Integrated health system

Year CMM Launched: 1997

Payment sources: Contracts with commercial plans/employers in Minnesota, Medicaid, Medicare part D (also, indirectly, multiple commercial ACOs and a Pioneer ACO)

Funding sources: Fee-for-service payment, Fairview system

Number of pharmacists: 13.3 FTEs

Number of sites: 31

Unique CMM patients served in last 12 months: 5,371 (2015)

Can patients self-refer? Yes

Notable findings:

- Having a core and consistent practice model is critical: "Don't jump around. Systemize and prioritize."
- Measurement is vital: "If you want to receive payments, you need to have data."

54 Some of the many studies featuring Fairview are available at www.fairview.org/Pharmacy/MedicationTherapyManagement/News/index.htm

●●● CMM practices at a glance: *Ten profiles*

they avoided, which is typically lower than what economic analysis finds. For 2015, the team estimated the reductions were 30 emergency department visits, 80 hospitalizations and 6,000 primary care visits.

Peer-reviewed economic research found considerably more robust results. CMM contributes to optimal care in complex patients with diabetes. Earlier analysis found the percentage of diabetes patients optimally managed was significantly higher for the CMM program patients. The program also showed a 12-to-1 return on investment (ROI) when comparing the overall health care costs of commercial Blue Cross Blue Shield patients receiving services with patients who did not.⁵⁵ Overall, the published data show that, over the years, the program is associated with improved outcomes, high (95 percent) patient satisfaction and financial savings.^{56,57} Unpublished research found an 11-to-1 ROI for an employer.

Success factors and lessons learned

Brummel identified three of the elements contributing to program success:

- 1. Consistent care model and consistency in the practice:** “It really goes back to the CMM model and having a core practice foundation underneath that.” With 31 sites, each could be delivering a different level and type of care; that would be chaos. Having the core practice model is critical.
- 2. Full access to EHR:** The ability to access the medical record and be integrated with the rest of the health care team is crucial. “We can see what else is going on with the patients.”
- 3. Collaborative practice agreements:** The ability to make medication changes immediately is also critical. It improves clinical outcomes, patients are more satisfied because they can see changes right away, and it improves savings.

Lessons learned

- 1. Set up a consistent practice model.** Physicians know what to expect because they see a consistent practice model, which leads to increased referral success. “Have that foundation. Understand what you’re providing and what you contribute to the team,” she said. “The pharmacist sees a patient and the pharmacist knows he or she is there to take responsibility of the patient’s medication needs. We make sure that all meds are indicated, effective, safe and convenient.” She’s seen other practices that don’t have a systematic way of looking at patients. “Don’t jump around. Systemize and prioritize—look at indication, effectiveness, safety, then compliance.” Then ensure follow-up, which sometimes gets ignored.
- 2. Measure outcomes.** “You must measure the outcomes you provide. If you want to receive payments, you need to have data.”
- 3. Communicate what you’re bringing to the team as a pharmacist.** Sometimes, clinical pharmacists are so eager to integrate they forget their true value to the team, she said. Pharmacists should work to the top of their talents and license to justify value. She offers patient education on diabetes meters as an example. “Pharmacists can do it and do it well, but a diabetes educator could be teaching patients about this. Pharmacists should be dealing with the medications.”

55 Isetts, et al. “Clinical and economic outcomes of medication therapy management services: The Minnesota experience.” *J Am Pharm Assoc.* 2008;48(2):203-211

56 Brummel A, Lustig A, Westrich K, Evans MA, Plank GS, Penso J, Dubois RW. “Best Practices: Improving Patient Outcomes and Costs in an ACO Through Comprehensive Medication Therapy Management.” *J Manag Care Spec Pharm.* 2014 Dec;20(12):1152-8.

57 Ramalho de Oliveira D, Brummel AR, Miller DB. “Medication therapy management: 10 years of experience in a large integrated health care system.” *J Manag Care Pharm.* 2010 Apr;16(3):185-95.

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Whole-person CMM at a mental health clinic has potential to transform young lives

Eskenazi Health Midtown Community Mental Health, Indiana's first community mental health center, provides comprehensive inpatient and outpatient services for emotional and behavioral problems. It is part of the larger Eskenazi Health System.

The Midtown Community Mental Health Prevention and Recovery Center for Early Psychosis clinic, the focus of this profile, delivered CMM services to 160 patients in the last 12 months, said Carol Ott, PharmD, BCPP, clinical pharmacy specialist, outpatient psychiatry. Specifically, they are first-episode schizophrenia patients (perhaps without a schizophrenia diagnosis yet). The average patient is about 21 years old. Psychiatrists can refer patients to the clinic; she sees them all. She then looks at all the medications under a broad collaborative practice agreement. She has independent medication management, based on that agreement. Across Eskenazi, that varies according to the wishes of the provider.

Currently, she's the only pharmacist in her practice. She has one second-year psychiatric pharmacy resident who, after spending a month with her, is then on call. She usually has several first-year pharmacy residents as well, plus 16 students.

Ott is a strong advocate for the importance of residency training in delivering CMM services. Residency helps provide the opportunity to build skills under supervision. Pharmacy residencies at Eskenazi Health provide pharmacy residents with "soft skills," such as how to work on committees and within the administration. They need more than clinical training, and that's what her residency provides, she said. Likewise, board certification helps the pharmacist demonstrate she has the skills required to do her job. Most clinical pharmacists at Eskenazi are board certified in their area, Ott said. Board certification also enhances standing with physicians.

At a glance:

Eskenazi Health/Midtown Community Mental Health, Prevention and Recovery Center for Early Psychosis, Indianapolis

Person in charge: Carol Ott, PharmD, BCPP

Organization type: Mental health clinic within an integrated health system

Launched: 2009

Payment sources: Medicaid, Medicare, commercial

Funding sources: Patient assistance programs and grants, including the Eskenazi Health Foundation

Number of pharmacists: 1

Number of sites: 1

Unique CMM patients served in last 12 months: About 160 at the Prevention and Recovery Center for Early Psychosis

Can patients self-refer? Yes

Notable findings:

- A CMM approach allows clinical pharmacists to meet a patient's mental and physical health needs.
- Patients get better; they get their lives back.

Making a difference

“CMM has helped us identify specific areas of improvement, as well as broader areas of impact for pharmacists in the clinic,” said Ott. There are also specific metrics. As part of a grant from the Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, she tracks a variety of data for the early psychosis clinic, looking at outcomes. “We do have outcomes measures in place,” she said. “What we don’t have are specific numbers.” Doing such analysis is one of the residents’ tasks.

Part of what Ott does—and measures—is ensure patients can afford their medications. She cites one of the program’s positive outcomes as the high rate of covered patients. The clinic has financial counselors, but the medication therapy responsibility falls to her. “We track acute care services, but ... we don’t have specific percentages yet,” she said. One small study, conducted by a PGY1 pharmacy resident, showed improved medication adherence (persistence in medication use and fewer gaps in therapy) for long-acting injectable antipsychotics vs. oral antipsychotics.

Success factors

Ott cited three factors contributing to the program’s success:

1. **The climate of care at Eskenazi:** Across the organization, clinical pharmacists provide CMM. “Nearly every treatment team has a clinical pharmacist and they want it that way,” she said. “We have more than 20 clinical pharmacists with inpatient and outpatient treatment teams. We are accepted and integrated into treatment teams and our skills are recognized and respected.”
2. **Independent practice:** Broad CPAs allow her to make most needed changes to medications without checking with the physician.
3. **Access to data from EHRs in a streamlined way:** Ott’s team is in the process of switching to an Epic EHR. They currently have access to data, but from multiple sources. This change will streamline the process.

Lessons learned

1. **Pharmacists are jacks of all trades.** You have to embrace that you may be stepping outside of “medication management.” CMM pharmacists need a willingness to reach into any area. Don’t turn down those opportunities, Ott said.
2. **Patients can take control.** Motivational interviewing is more important than pharmacists realize, she said. Ott uses it to engage patients in their own care and give them responsibility for it. “It empowers them to make those decisions; that’s extremely important. There are a lot of concerns that patients with mental illnesses can’t do that. They can.”
3. **Individualized care matters.** It’s important to have broad but specific knowledge of medication. That means being able to apply what you know to very individualized patient care issues. “Sometimes thinking outside the box is necessary.”
4. **CMM works.** “We have a big role in getting people back to their lives. My patients get better. They go back to school. They go back to work. They get back to their lives, and I think that’s another thing that’s important to understand,” she said.

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VA CMM program draws raves from PCPs by integrating into team, solving problems and increasing access

One sure way for CMM providers to win the hearts and minds of primary care providers is to solve their problems. That's the approach Ellina Seckel, PharmD, and her team take at William S. Middleton Memorial Veterans Hospital.

The CMM approach there is called *chronic disease-state medication management*. The clinical pharmacists have medication prescriptive authority, and modify, start, stop and/or continue medications as per guideline recommendations and the pharmacist's clinical judgment. They also perform associated physical assessments, order lab and diagnostic tests, and place consults for other services.

Most referrals come from primary care providers for managing chronic diseases such as diabetes, hypertension, dyslipidemia, gout, hypothyroidism, BPH and vitamin deficiencies. Only about 10 percent of the time are patients referred solely for polypharmacy.

Across all the primary care sites, there are 12 pharmacists, accounting for 6.7 FTEs. Most of the CMM patients are seen at the hospital site in Madison and at a nearby clinic, but some receive care at one of the satellite sites. The number of pharmacy students varies. Ten ambulatory care pharmacy residents devote about half their time to medication management in primary care (the rest of resident time is spent in specialty clinics). Medical and clerical staff support clinical pharmacy as part of the larger primary care team.

Fully integrated team-based care

Seckel's CMM program is fully integrated with the medical home. Her pharmacists meet weekly with the rest of the primary care teams and share information about patients. Also, because they are fully integrated, the clinical pharmacists perform physical assessments, such as diabetic foot exams, abdominal palpations, checks for edema, etc.

Clinical outcomes have improved across the clinic, which can be attributed to CMM. Among them are patients with controlled blood pressure—an average of 7 percent more patients

At a glance:

William S. Middleton Memorial Veterans Hospital, Madison, Wis.

Person in charge: Ellina Seckel, PharmD

Organization type: VA outpatient ambulatory primary care office

Year CMM Launched: A residency program with pharmacy residents prescribing began 30 years ago. In July 2015, the program expanded heavily into a team-based model of primary care co-located with the primary care physicians and other team members.

Number of pharmacists: 12 (6.7 FTEs)

Patient load: Each full-time pharmacist has about 50 appointments per week (60 percent telephone and 40 percent face to face).

Number of sites: two primary sites, five satellites

Can patients self-refer? Yes

Notable findings:

- Primary care access has improved substantially: CMM services contributed to a 27 percent reduction in primary care workload, greatly expanding patient access. This earned Middleton a VA "Gold Status Practice" designation.
- Providers are satisfied: "I can't believe you guys. You would think that I'd be getting used to it by now. [...] The nurses love you guys. The PCPs do, too." — Jean Montgomery, MD

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reaching goals across sites—and significant improvements in patients with uncontrolled diabetes (A1C>9)—an average of 9.5 percent more patients controlled across sites. Morale and satisfaction have increased among patients and providers, while the program is garnering praise from others on the team. (See sidebar.) Across all settings, primary care providers are asking for more clinical pharmacists, she said.

Making a difference: addressing the primary care shortage

Of particular note, Seckel demonstrated that CMM services contributed to an astounding 27 percent reduction in primary care workload. This integration of pharmacists into primary care led to significantly opening access in primary care provider schedules. Pharmacists were able to manage the chronic disease patients, leaving appointment spots open for primary care physicians to see more patients with acute or diagnostic needs. More than 250 innovations and improvements were submitted throughout the VA medical facilities in 2015 as part of an effort to replicate and adapt best practices. The VA recognized this important practice as one of only 13 selected, making Seckel a “Gold Status Fellow” and the *Increasing Access to Primary Care with Pharmacists* a “Gold Status Practice.” *As a result, the VA will be standardizing a ratio of one pharmacist to every three primary care providers across the entire system.* The Under Secretary of the VA then asked Seckel to help the El Paso VA site implement a similar program to open access for their primary care providers in the same way they did in Madison.

Success factors

Seckel cited three factors contributing to program success.

1. **Access to the patient chart.**
2. **Integration with the primary care team.**
3. **Scope of practice and broad practice agreements.**

She also shared the lessons she’s learned through the program

1. **Solve problems.** You can solve an issue the primary care providers are facing or one the facility is dealing with, but you have to continually look to solve a problem.
2. **Relationships are important.** “That means every single person on the team,” Seckel said. You should cultivate relationships with institutional leadership: They need to know you are there to improve clinical outcomes.
3. **Set clear strategic directions.** Create a strategic plan within the clinical pharmacy team and make sure that everyone shares the same vision, she counsels. “Do a needs assessment with the whole primary care team, then hold a strategic planning session with the clinical pharmacists to react to the needs assessment and create a plan for the future.”

Seckel shared some of the many provider comments received:

“I can’t believe you guys. You would think that I’d be getting used to it by now. [...] The nurses love you guys. The PCPs do, too.”

— *Jean Montgomery, MD*

“Basically everyone on the team is functioning at a higher level with pharmacy involvement. [Our pharmacist] brings us the data and we decide which areas to hit when. It’s been super helpful in assisting me to identify where the biggest problem areas are for my team.”

— *Erinn Mullan, NP*

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Standard approach across sites makes SinfoníaRx's CMM program scalable

A consistent, scalable process of care allowed SinfoníaRx to work collaboratively with different care teams and provide CMM and DS-MTM to nearly 2,000 patients last year.

SinfoníaRx, established in 2006 at the University of Arizona College of Pharmacy, is a wholly owned subsidiary of Sinfonía HealthCare Corp. It develops and manages a suite of medication management services, including Medicare Part D MTM.

Three sites provide more advanced services—CMM. Those sites—Tucson Medical Center, the University of Arizona Health Network and Assurance Health and Wellness Center (an integrated behavioral health clinic)—saw roughly 1,800 to 2,000 patients last year. Most were in the ambulatory care setting. Patients were referred by their provider or by the transitional care coordination team. Patients can self-refer in the integrated behavioral health model.

In these programs, the equivalent of five full-time clinical pharmacists and year-2 residents are embedded in the practices. In the clinics, they have established collaborative practice agreements and can document in the EHR directly. Those in the hospital don't have collaborative practice agreements, but their recommendations are accepted 80 to 90 percent of the time. They work collaboratively with primary care providers and specialists, and they also coordinate with community pharmacies to make them aware of patient medication issues. Patient follow-up can be in person, by telephone or via telehealth.

Pharmacogenomics

Clinical pharmacists at the integrated behavioral health clinic are also involved in pharmacogenomic testing. Pharmacogenetics relates to the analysis of genes involved in drug metabolism, transport or targets; it looks at an individual's genetic likelihood to respond—well or poorly—to a given medication. SinfoníaRx collects data to assess the impact of these efforts, said Sandra Leal, PharmD, MPH, vice president for innovation. "Pharmacogenetics is creating an opportunity for further integration of pharmacists in the care team because providers are relying on them to help with identification of appropriate candidates to test and, with the interpretation of the results, to determine follow-up action."

Evidence-based practice

SinfoníaRx's business model requires demonstrating value to clients, and it has published outcomes and other data on its MTM program.⁵⁸ Leal and her team currently collect data on the

At a glance: **SinfoníaRx, Tucson, Ariz.**

Person in charge: Sandra Leal, PharmD, MPH, Vice President for Innovation

Organization type: Medication management vendor

Year CMM Launched: 2014

Payment and funding sources: clients, commercial insurers, grants

Number of CMM pharmacists: 5 FTEs

Number of CMM sites: 3

Unique CMM/DS-MTM patients served in last 12 months: 1,800 to 2,000

Can patients self-refer? Yes (some)

Notable findings:

- CMM allows for rapid integration of precision medicine, such as introducing pharmacogenetic testing to optimize medication use.
- Medication management vendors traditionally offering Part D MTM services can diversify to include advanced DS-MTM and CMM services.

58 Much of this research is posted here: sinfoniarx.com/pages/research.html

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impact of CMM on readmission rates and the associated costs. The effort is still in process but she shared some preliminary results from a transitions-of-care program: Of 363 patients enrolled, 266 completed a post-discharge consultation. That first consult resulted in 285 calls to providers (mostly primary care) and dispensing pharmacists. The week 3 follow-up resulted in 176 such calls.

She and her team are also looking at how offering CMM changes physician referral patterns. There's no topline data on this yet, but she shared two observations:

- The entire workflow around pharmacogenetic testing is built around a standing order that involves the pharmacists so they always touch that patient.
- For the transitions of care program, all high-risk patients that meet the criteria established receive an automatic referral, "creating a model that doesn't wait for physician referrals but is more proactive in identifying patients that would benefit."

She is also looking at more anecdotal data, such as provider satisfaction. The approach is well received—not just by physicians, but by nurses and social workers as well. Leal also has examples of patients who would have been hospitalized if not for the CMM intervention.

Value-based payment

Payment varies; she generally uses a combination of "soft" billing codes, including wellness visit and incident-to-billing codes. But generally, payment is value-based. Pharmacists' services are being leveraged to target value-based outcomes that are key targets for current contracts, she explains. There are also organizational priorities like establishing patient-centered medical home accreditation that is providing an opportunity for pharmacists to contribute to the necessary requirements to achieve that goal.

Success factors

Leal identified three success factors—what her clients are looking for from her services. It comes down to data, organizational priorities and sustainability:

- 1. Pharmacists on the clinical team must demonstrate how they make a difference:** "We're very specific about the types of interventions we are following and then do evaluation to show ROI."
- 2. Identifying and aligning with organizational priorities:** When working with a clinic, it is essential to identify and align with those priorities as part of showing value.
- 3. Demonstrating sustainability:** When she meets with a potential client, the first question she hears relates to paying for the services. "I sit down with admin and billing, and talk about potential revenue sources; I show we are actively working on meeting those needs."

Lessons learned

- 1. Communicate constantly.** "You have to repeat yourself a lot," she said. Practice and hospital administrators come and go, and they change roles. "It's continuously educating the administrators about what value you bring."
- 2. Scalability is critical.** Once people accept the services, a pharmacist can be overwhelmed with referrals.
- 3. Have a consistent process of care.** In clinics, procedure, documentation and notes are standardized. The expectation is consistency across clinical pharmacists and practice sites.

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Integrated, hands-on Hennepin clinical pharmacists meet patients where they are

Serving a largely Medicaid population, Hennepin County Medical Center's CMM program helps reduce readmissions and emergency department visits by taking a whole-person approach and working collaboratively with the rest of the clinical team.

Hennepin County Medical Center is part of Hennepin Healthcare System, which operates a hospital, primary care clinic, specialty clinics and retail clinics throughout the county. It's a teaching hospital and a safety net provider, and has eight community pharmacies.

Integrated, patient-centered

Clinical pharmacists are integrated into the care team at each site, involved in "everything that goes on with a patient," said Haley S. Holtan, PharmD, BCACP, ambulatory pharmacist manager. At some sites, pharmacists see all the patients. At others, they see the ones most in need of services. This may be defined by a set of criteria, including number of medications, number of chronic conditions, specific disease states, history of noncompliance, etc. Patients can self-refer.

Clinical pharmacists have collaborative practice agreements in place for about 75 percent of the DS-MTM encounters and about 50 percent of CMM encounters. In the other cases, it's simply unnecessary, she explained. Many of the clinics without collaborative practice agreements are medical resident teaching facilities. "We don't utilize the collaborative practice agreements because we are supposed to be actively teaching medical residents." In many cases, the physician may be standing right next to the pharmacist.

Encounters per patient vary dramatically, she said, averaging about 2.3 per year. Some patients only need to be seen once, but about 10 percent are seen weekly or monthly.

At a glance:

Hennepin County Medical Center, Minneapolis

Person in charge: Haley S. Holtan, PharmD, BCACP, ambulatory pharmacist manager

Organization type: Safety net health system

Year CMM launched: 2007

Payment and funding sources: Medicaid fee-for-service and self-pay; ACO contracts; grants; 340B savings

CMM/DS-MTM staff:

- 20 pharmacists (13.6 FTE)
- Two pharmacy residents (about 1.4 FTEs)
- Five pharmacy students (.4 FTE) over the course of the year
- Two clerical staff (1.1 FTE)

Number of CMM/DS-MTM sites: 20

Unique CMM patients served in last 12 months: 3,200

Unique DS-MTM patients served in last 12 months: 1,000

Can patients self-refer? Yes

Notable findings:

- Extending beyond the traditional walls of the clinic, pharmacists meet patients where they are, including homeless shelters and skilled nursing facilities—and as part of transitional care teams.
- Patients in the transitions-of-care unit who received CMM services had a 10 percent lower rate of 30-day readmissions and 12.3 percent reduction in ED visits compared to a control group.

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Tracking hard-dollar ROI is even harder. “We struggle a little with the hard-dollar piece, because a lot of it is soft dollars,” Holtan said. “But as a safety-net provider, we have to make sure we are keeping costs at minimum.” For some metrics, she is able to tie outcomes to savings. For example, soon-to-be published data found patients in the transitions-of-care unit who received CMM services had a 10 percent lower rate of 30-day readmissions and 12.3 percent reduction in emergency department visits compared to a control group. The researchers did not note the actual dollar amount saved.

Success factors

Holtan identified three critical elements for success:

- 1. Integrated, interdisciplinary care team:** Pharmacists in the hospital, in community pharmacy and in clinics work alongside providers. “We all work together—providers, social workers, nurses, psychologists, interpreter services. It’s a truly integrated care team.”
- 2. Access to patient data:** Clinical pharmacists have access to a fully integrated EHR. “I can see if my patient filled her prescription and how much it cost. I can see labs. I can see everything.”
- 3. Funding:** Funding and reimbursement come from several sources, including some Medicaid fee-for-service, self-pay, some ACO contracts and 340B savings reinvested into programs.

Lessons learned

- 1. Identify and collect the data you want to measure from day one.** “When I started, I wish I had known what I know now.” She would have collected more data at the outset instead having to “backpedal” and reconstruct the reports after the fact. Her advice: Know what data you need, and find or develop a mechanism to get it quickly, easily and efficiently. Work closely with the EHR team and analytics department to ensure data elements are built correctly and you can retrieve data via reporting functionality.
- 2. Consider the financial aspects.** “How are you going to pay for your services? I have lots of meetings with the billing department helping them understand what a clinical pharmacist does,” Holtan said.
- 3. Each site is unique, so adapt.** Even in the same health system, each site has different needs and values. Identify what’s most important to a site and then adapt to meet its needs. That means focusing on the needs of the individual patients and meeting them where they are, both in terms of location and in terms of their health.

Thoughts on training

Holtan’s career began as a Hennepin pharmacy resident in 2006. She essentially built the program: Her residency project was to start an ambulatory pharmacy practice in the internal medicine clinic. At that point, the program was in three specialty practices. Now it’s in 20 different practices. Still, she’s not ready to make residency a requirement for employment. “I struggle. At some point it should be required, but it’s not realistic now. When we look at candidates, it’s definitely more desirable,” she said. “It builds clinical competence and confidence—something a new graduate may not have.”

Likewise, her program prefers, but doesn’t require, board certification. “As we grow CMM across the country, a lot of practices are going to need to be developed. In that regard, board certification is important.”

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Broad CPAs and physician trust help CMM program reach the underserved

Trust, backed by broad collaborative practice agreements, helps Ole Health deliver CMM services to the underserved in Napa, Calif.

Patients come to the program in a number of ways: They may be identified by the complex care management team, by providers or by the clinical pharmacists. They can also self-refer. All patients receive comprehensive medication management, said Kajua B. Lor, PharmD, BCACP, interim director of pharmacy and residency site coordinator.

The diagnosis can be a trigger, but the program isn't limited to specific diagnoses. "It could be pneumonia, it could be COPD...it could be anything," Lor said.

The Touro University College of Pharmacy pays for one of two full-time pharmacists. Other team members include two or three students every six weeks, working in the clinic three days a week (about .6 FTEs each); one full-time resident and three pharmacy technicians (2.4 FTEs). The technicians work on patient assistance and access issues and deal with prior authorization. A medical assistant/front office person who calls patients to confirm appointments accounts for about .1 FTE.

Ole is a patient-centered medical home. Each provider has a care coordination team, and CMM is integrated into that. "We have to be able to do everything," Lor said. To facilitate reimbursement, she or a colleague will deliver CMM services concurrently with the doctor visit when appropriate.

Because they are so integrated, demonstrating the value of CMM—distinct from the clinic itself—can be challenging. Ole is tracking incoming patients for cholesterol, blood pressure, etc. starting at baseline, then measuring at three and six months. Again, it is hard to determine the specific impact of CMM, she said. She and her students are involved in quality improvement projects to determine the impact of pharmacy services on outcomes of A1C, blood pressure, appropriateness of statins and medication adherence.

At a glance: **Ole Health, Napa, Calif.**

Person in charge: Kajua B. Lor, PharmD, BCACP, Interim Director of Pharmacy & Residency Site Coordinator

Organization type: FQHC; Ole Health is part of an MSSP ACO: Redwood Community Care Organization, with 8,000 fee-for-service Medicare lives

Year CMM Launched: 2010

Payment sources: Medicare/Medicaid

Funding sources: HRSA grant (funds for clinical pharmacist)

Number of pharmacists: 2 full-time pharmacists

Number of sites: 1

Unique CMM patients served in last 12 months: approximately 750

Can patients self-refer? Yes

Notable findings:

- Establishing trust with physicians and the rest of the care team paves the way for broad collaborative practice agreements that allow pharmacists to work at the top of their license. Board certification and residency are both key to earning this trust.
- Few FQHCs are part of the MSSP ACO program. Ole Health is one of them.

Success factors

Lor cites three key elements to CMM program success:

1. **Collaborative practice agreements.** “If you don’t have that...you can’t really do anything on your own.”
2. **Access to current clinical data.**
3. **Payment and the ability to bill for services.** She generally uses the 99211 code—“office or other outpatient visit”—for the evaluation and management of an established patient that may not require the presence of a physician. For billing, she has used the OutcomesMTM platform since late 2015. The clinic will participate in a pilot to move from a fee-for-service model to a capitation payment model, she said. “The collaboration with Touro University California College of Pharmacy has been helpful in building the foundation for clinical pharmacy services at Ole Health. Touro funded a clinical pharmacist to be present two to three days per week in 2010 when the clinical pharmacy services started.”

Lessons learned

1. **Provider trust is essential.** “If you don’t have that, you can’t implement any of the practices clinical pharmacists can do.” Having a physician champion has been especially valuable, she said. “I was fortunate to have my medical director on the forefront and supportive of the clinical pharmacy services we were initiating. In terms of other champions, establishing a relationship by shadowing the providers was important to understand where pharmacy services would be able to fit in.”
2. **Developing a robust CMM program takes time.** “Building a CMM program doesn’t happen overnight,” she said.
3. **Have policies and procedures in place and in writing.** Over time, you can build your practice, she said, but you need to have the basics in place. (The collaborative practice agreement is an important part of this, she added.)

Training and certification

For Lor, both residency and board certification are important. Residency helps pharmacists become established in ambulatory care. Board certification has been especially useful to her personally. “It helps me be on top of the knowledge, and know the trends. It has also made me more confident.” It establishes trust not only with physicians, but the entire team: nurses, medical assistants, etc. That’s especially important for younger pharmacists.

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Clearly defined roles and responsibilities help CMM program to deliver services efficiently

Fully integrated into a medical home practice, the CMM pharmacists at RiverStone Health Clinic are part of a clinical team that identifies and resolves patients' unmet needs.

Bringing clinical pharmacy skills to that team—and being fully integrated into the medical home—leads to better outcomes and higher satisfaction for its underserved community.

Patients arrive at the CMM practice through a variety of doors. Referrals are automated in three areas:

- Discharge from a hospital;
- The “diabetes pathway,” which targets those newly diagnosed or not in control; and
- Discharge from a psychiatric or substance abuse inpatient stay.

Everyone is eligible, however: Providers can schedule their patients into CMM slots. Referrals are based on an assessment of needs, not a particular diagnosis. Clinical pharmacists are part of the team that identifies patients for CMM. Regardless of how a patient is referred, each receives comprehensive medication management. Patients can self-refer (usually for follow-up) if they have a primary care provider at the clinic, but they are almost always initially referred by a staff member, she said.

There were 317 unique CMM patients in 2015 (288 were new patients, 29 were established patients) and 621 visits. That works out to a mean of 1.96 visits per patient.

Staffing and training

Three pharmacists, accounting for one FTE, are supported by one or two students (generally accounting for 1.5 FTEs). As part of a medical home team, Cobb has access to staff who help with scheduling, pre-visit planning and other issues, but they are not part of the CMM patient-care team. She hopes to be able to add a pharmacy tech position to the CMM program.

At a glance:

RiverStone Health Clinic, *Billings, Mont.*

Person in charge: Carla Cobb, PharmD, BCPP

Organization type: FQHC, Level 3 patient-centered medical home

Year CMM Launched: 2010

Payment sources: Only receives payment for diabetes self-management visits through its recognized diabetes program.

Funding sources: Primarily through the FQHC contract with some support from the HRSA 340B medication discount program.

Number of pharmacists: 3 (1 FTE in 2016; .7 FTEs in 2015)

Number of CMM sites: 1

Unique CMM patients served in 2015: 317

Can patients self-refer? Yes

Notable findings:

- CMM services yielded an ROI of 2.8-to-1. A mean of 5.6 drug therapy problems per patient were identified.
- Pharmacists offer a unique skill set that complements the skills of the rest of the clinical team. “We’re not trying to be mini physicians.”

Access innovation on the horizon

RiverStone consists of a centrally located clinic and several satellite sites. Any patient is eligible for CMM services, but it's delivered only at the central site. The clinic is exploring the possibility of providing CMM services via telemedicine. Assuming the technology needs can be addressed, Cobb expects the option to be available in the next year or so.

Measuring impact

Cobb's program just completed a provider satisfaction survey; the feedback was positive. For example, 100 percent of providers surveyed agreed or strongly agreed that clinical pharmacy services improved patient care. It's been tougher to assess the impact of CMM on organizational quality. "Because it's such a team approach to care, and because there are so many members of the team, it's hard to attribute to pharmacy. Short of a randomized trial, how do you do it?"

But she has measured impact: Looking at data between April 2011 and July 2013, she showed that 154 patients completed 256 CMM visits, with an ROI of 2.8-to-1. A mean of 5.6 drug therapy problems per patient were identified and resolved with an average of 10.1 medical and psychiatric conditions and 13.7 medications per person assessed.⁵⁹

Success factors

Cobb identified four factors crucial to the success of her program:

- 1. The ability to identify and meet a patient's needs:** This is fundamental to the program's success, she said.
- 2. The pharmacists' skill set:** Pharmacists offer a unique skill set that complements the rest of the clinical team. "We're not trying to be mini physicians," she said. That's one reason she sees value in board certification. It gives pharmacists credibility in the eyes of other team members.
- 3. Clearly defined roles and responsibilities:** Cobb and her colleagues understand the role and function of each team member. "We have to trust the members so that we're not all doing everything. That annoys patients and is not efficient use of our time."
- 4. Appropriate funding:** This is tough, she acknowledged. CMM is supported as part of the PCMH and "bits and pieces all cobbled together." The clinic has a contract with University of Montana School of Pharmacy for student advanced pharmacy practice experience. It receives Medicaid and private insurance payments for the PCMH program. Other sources include Montana Family Medicine Residency and the 340B medication discount program. "Otherwise, our physicians and administrators value the contribution of pharmacists on the team, so our positions are supported through the clinic's federal grant funding for FQHCs."

Lessons learned

- 1. They need us.** "Pharmacist services are an essential part of improving outcomes. We see patients every day who are not on the best regimen."
- 2. Clinical pharmacists make a unique contribution to the team.** "CMM pharmacists don't substitute for other members, they complement them," she said.
- 3. Patients must be part of the decision-making process.** It took Cobb a while to embrace the notion of shared decision-making, but she's now a firm believer. "As I tell my students, you may not agree with the patient's decision, but you have to respect it."

59 Cobb CD. Optimizing medication use with a pharmacist-provided comprehensive medication management service for patients with psychiatric disorders. *Pharmacotherapy*. 2014 Dec;34(12):1336-40.

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Collaboration—within and across organizations—is crucial to success

Providing appropriate medication management demands collaboration, said Jean Moon, PharmD, BCACP, assistant professor, University of Minnesota College of Pharmacy. She is a faculty pharmacist and clinical preceptor at the University of Minnesota North Memorial Family Medicine Residency. Housed in a clinic owned and operated by University of Minnesota Physicians, the CMM/DS-MTM practice is part of a patient-centered medical home. Paid by the school of pharmacy, Moon coordinates the CMM/DS-MTM practice, which was launched in 2004.

Nomenclature challenges and delivering services

Moon and her colleagues have been discussing how to label patient visits—CMM, education, medication reconciliation, etc. This can affect how the visit is billed.

Care coordinators and physicians refer patients to her program. Patients can self-refer. She and her team saw 3,775 patients in 2015. Of those labeled (919 were not labeled), 954 were CMM; of those 954, 132 were CMM follow-up visits. The professionals providing these services include:

- Pharmacists: Six, with variable FTE (total of 3 FTEs across five clinics)
- Pharmacy residents: Three; each 0.5 FTE
- Pharmacy students: varies

Exactly how much time is devoted to patient care varies by season and, for Moon, whether she is precepting residents.

Measuring success

Moon's organization tracks the success of clinical pharmacy services through provider and patient satisfaction surveys. She and her colleagues in the Health-systems Alliance for Integrated Medication Management (HAIMM) developed a questionnaire for measuring patient satisfaction with CMM. The survey—and the process of developing it—was published in the January 2016 *Journal of Managed Care & Specialty Pharmacy*; they are currently in phase II of evaluating the tool.

Services provided and interventions made are also tracked, but University of Minnesota

At a glance:

University of Minnesota Physicians Minneapolis

Person(s) in charge: Jean Moon, PharmD, BCACP and Ann Philbrick, PharmD, BCPS

Organization type: PCMH

Year Launched: 2004

Payment sources: Insurance coverage

Funding sources: Pharmacists paid by the college of pharmacy, school of medicine, school of nursing, and by UMP

Number of pharmacists: 6 (3 FTE); 3 residents (1.5 FTE)

Number of sites: 5 (2 new sites)

Number of unique CMM patients in 2015: 954

Can patients self-refer? Yes

Notable findings:

- Residency provides additional training that is significant to professional development.
- Collaboration within and across organizations strengthens CMM delivery.

●●● CMM practices at a glance: *Ten profiles*

Physicians does not have specific financial goals for clinical pharmacy services.

What works?

Moon identified three critical elements that enable her organization to successfully provide CMM:

- 1. Provider relationships:** Because they have earned the providers' trust, Moon and her colleagues are able to work under a very broad CPA. She initially had a few skeptical providers. By showing value without being condescending or presumptive, the pharmacists were able to earn their trust as an integral part of the team. She points out that both CMM pharmacists and family medicine providers look at the whole patient, making it an ideal collaboration. Pharmacists can relieve some of the primary care burden, she said. Once the providers understand that, they are more open to collaboration.
- 2. Needs of the population:** Moon and colleagues manage a patient population that is urban, underserved and coping with multiple chronic conditions. Often, patients lack the resources to successfully manage their own care. CMM interventions with this highly complex, high-risk population can really make a difference for individual patients.
- 3. Climate and culture:** The role of the clinical pharmacist in patient care is much better understood today than in the past. Interprofessional relationships have been developed and supported; there's also a greater focus on team-based care. She added that Minnesota offers a particularly conducive environment for CMM because of Medicaid reimbursement of MTM (CMM-level services).

Lesson learned: Collaborate across organizations

Moon believes in collaboration—not only across the pharmacy team or even clinic teams, but across organizations. She pointed to the Health-systems Alliance for Integrated Medication Management. She explained that administrators of 13 health system clinical pharmacy programs across Minnesota meet monthly to collaborate, engage in research, learn from one another and talk about their challenges and successes with health IT.

"If I want to do something new at my site, I know it can be done because someone else [outside our system] is doing it. I can hear about lessons learned and real-life examples."

Training, credibility and ongoing education

Residency—or some sort of additional post-graduate training or on-the-job experience—is important for many pharmacists to become proficient in CMM, she said. Residency is not necessarily a requirement, but that additional training is significant to professional development and experience. Had she just walked into her clinic without a residency, she likely would have been somewhat successful. But residency gave her additional skills and experiences to be better prepared clinically, and the skills for developing a new practice. "Residency offers approximately three to five years of experience wrapped up into one year," she said.

VIII. Moving forward:

What have we learned about CMM practice?

The organizations profiled in this report represent how comprehensive medication management is delivered in a variety of practice settings. They are located in communities with a range of regulatory, academic and professional support, and they are funded through a variety of sources.

Taken together, they provide lessons to advance the integration of successful CMM practices into the continuum of care and speed its adoption. They offer insights into the characteristics of successful CMM programs and the barriers—internal and external—they face. These lessons also illuminate the path forward with profound implications not only for pharmacy, but for transforming our system of care.

“You can’t move back and forth between the counter and the exam room. You have to provide undivided attention to your patient and, at the same time, you can’t shortchange order fulfillment workflow; careful scheduling is a must.”

— **Steve Simenson,**
Goodrich Pharmacy, Inc.

“Have that foundation. Understand what you’re providing and what you contribute to the team. We’re going in to see a patient and the pharmacist knows they’re there to take responsibility of the patient’s medication needs.”

— **Amanda Brummel,** *Fairview*

“If you don’t have [collaborative practice agreements]...you can’t really do anything on your own.”

— **Kajua B. Lor,** *Ole Health*

1. Reimagine and refine the pharmacist’s role and responsibilities.

CMM practices flourish in a culture that supports the pharmacist as a patient care professional. But without a standard model across practices, that role isn’t always well understood—at least initially. As a result, clinical pharmacists must embrace, nurture and “sell” the CMM concept to physicians, nursing personnel, administrators and even chief financial officers. As medication experts, pharmacists offer a unique skill set that complements the skills of the rest of the clinical team; once colleagues understand it, they, too, embrace CMM.

Consumerism is a popular buzzword, but we must not overlook the role of the patient in carrying the CMM banner. Positive health outcomes and overwhelming patient satisfaction with CMM services make patients—and providers—believers. This can lead to more patient referrals, expansion of services and ongoing confirmation of CMM’s value.

Broad collaborative practice agreements are crucial.

They empower clinical pharmacists to identify and address a patient’s medication problems quickly and efficiently, rapidly improve clinical outcomes and avoid unnecessary hospitalizations/ER visits. These agreements between the physicians and other prescribers establish a trusted framework; that allows the pharmacist to step into the role as a clinical provider managing the medications, rather than merely recommending changes. Broad collaborative practice agreement adoption is crucial to rapid scalability and growth of CMM practice.

CMM’s ability to vastly improve patient care and reduce overall costs is indisputable. The lesson learned from the practices spotlighted here is that CMM-level services represent the most valuable contribution a pharmacist can make as a member of the care team. Cultivating CMM delivery as the expectation for the pharmacist’s primary role on the care team—using CMM’s value and efficacy as the driver—is the next step.

●●● Moving forward: *What have we learned about CMM practice?*

Utilizing all staff effectively allows the pharmacists to focus on patient care. CMM programs include more than pharmacists: Pharmacy techs, students, residents, clerical staff and others complete the team. Most of the practices profiled delegate tasks and optimize pharmacy department personnel to the top of their capabilities. In particular, the role of the pharmacy technician is ripe for expansion, and more efficient practices are maximizing the skills of these professionals. In addition, some practices share staff with others on the care team for tasks such as scheduling. For practices in traditional community pharmacy settings—as we learned from Goodrich—clearly defining personnel functions and services, including private physical space separate and distinct from dispensing, is essential. CMM services require undivided attention and adequate time to deliver.

Successful CMM programs have a consistent process of care. Elements include an effective means of targeting high-risk patients and a consistent process for delivering and documenting CMM services. A consistent care process is essential if CMM is to be scalable and if it is to expand. A consistent process of care maximizes efficiencies, both for onboarding new pharmacists and for integration into the larger care team. It also enhances credibility with physicians and other providers, potentially increasing referrals.

Follow-up is critical. CMM is an ongoing process that requires follow-up and monitoring of clinical progress toward achieving therapeutic goals; it's not a "one-and-done" fix. Most of the programs we profiled in the report work to establish patient trust and rapport, set clear follow-up expectations based on patient need—versus set intervals—and educate patients so they know new medications or changing clinical conditions will trigger a new plan of care.

Training—residency or on-the-job—is necessary. Clinical pharmacists must cultivate the hard and soft skills necessary to deliver CMM services—skills that include business acumen and leadership. Residency provides that training. Pharmacy school alone provides insufficient training for CMM practice, according to most of those interviewed. Many of the programs in this report train new pharmacists through on-the-job mentorship and/or residency that leads to hiring. Many of those interviewed were reluctant to make residency a requirement; however, there was overwhelming consensus on the need for more residency training opportunities.

Board certification is increasingly becoming the norm. Many of those interviewed are board certified or plan to seek certification. Several noted board certification enhances pharmacists' standing with physicians; it's considered a plus when hiring new pharmacists into CMM practices.

2. Make patient access and program entry simple.

Many programs use disease state as the trigger or gateway for CMM. This is a common approach; they consider the health status of the populations they serve, agree upon health characteristics to identify patients eligible for programs and put in place defined triggers to flag referrals rather than rely solely on physician or case management referrals. Specific behavioral health issues can also serve as trigger. By focusing on the patients who most need the intervention of a clinical pharmacist, programs show rich improvement in clinical outcomes and make it easier for physicians to understand its merits. Regardless of triggers, however, once the

"We have a big role in getting people back to their lives. My patients get better. They go back to school. They go back to work. They get back to their lives, and I think that's another thing that's important to understand."
— Carol Ott, Eskenazi Health

"One of the reasons we have been successful is that we have made it very clear to anyone who joins our network what's expected."
— Dan Rehauer, HealthPartners

●●● Moving forward: *What have we learned about CMM practice?*

“I think that’s what draws me to CMM—the ability to use my clinical knowledge and work with patients and providers. It’s so satisfying to see a patient’s A1C drop and for them to have a better quality of life. It’s really a great feeling.”

— **Mary Sauer,**
North Memorial

patient enters the program, CMM practice dictates clinical pharmacists take a whole-patient approach that encompasses all medications and all disease states to include untreated indications.

To reach patients most in need of CMM services, practices must make it easy for the patient. In most of the practices discussed in this report, patients may self-refer. To enhance patient engagement, CMM practices, especially those in underserved communities, have developed practical ways to improve patient access. From providing services in homeless shelters to the use of telemedicine, clinical pharmacists are improving that access. One way, when appropriate, is to “piggyback” the CMM appointment on the doctor’s visit when

transportation is a barrier. The HealthPartners profile reveals another aspect of access: coverage. The health plan makes CMM available to all eligible members.

3. Leverage CMM to achieve the Quadruple Aim.⁶⁰

Better outcomes, lower costs, improved patient experience and improved clinician experience—the Quadruple Aim of health care delivery—are all advanced with CMM in the mix:

- **Better outcomes:** Practices reported reductions in emergency department and hospital admissions and improvements in metrics related to chronic conditions such as asthma, diabetes and hypertension, and other illnesses including schizophrenia.
- **Cost savings:** CMM programs reported financial measurement and results, with return on investment ranging from 2.8-to-1 to 12-to-1. These assessments varied widely in scope, so direct comparisons are not appropriate; however, it is important to note CMM programs in the literature consistently demonstrate cost savings. So did our practices.
- **Patient satisfaction and engagement:** Both are extremely high with CMM services because of the personalized approach to resolving myriad medication-based issues. Our interviews revealed extremely high patient satisfaction rates—some as high as 100 percent.
- **Clinician satisfaction:** Our interviews also revealed significant professional satisfaction among pharmacists as valued members of the care team. Surveys and retention rates support this finding. Pharmacists enjoy providing CMM because it maximizes their training and ability to apply clinical knowledge. Follow-up and ongoing contact with patients offer the opportunity to track and measure clinical improvements. In addition, we learned physicians and nurses were overwhelmingly satisfied with having the clinical pharmacists on the team.

4. Demonstrate efficiency and effectiveness of cross-setting team-based care.

Clinical pharmacists can ease the primary care workload. In the ambulatory care environment, clinical pharmacists providing CMM are in a unique position. They can make the physicians’ job easier and solve their most pressing problems by effectively managing and coordinating the use of medications for high-risk patients. Integrating CMM into the primary care milieu improves access and allows the primary care provider to see more patients and better meet their needs. In an era of primary care shortages, this is particularly important. We saw this at several sites, includ-

60 Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Ann Fam Med*. 2014 Nov-Dec;12(6):573-6. (In this paper, Thomas Bodenheimer, MD, and Christine Sinsky, MD, propose adding a fourth aim—clinician satisfaction—to the long-established Triple Aim.)

●●● Moving forward: *What have we learned about CMM practice?*

ing Desert Oasis, which is in a primary care shortage area. There, pharmacists spent time with patients with chronic conditions, easing the physician's workload and bolstering support for CMM. In the Middleton VA example, CMM services have a direct impact on physician capacity issues—as evidenced by a 27 percent primary care workload reduction. As a result, the VA is implementing more CMM-level services and increasing the ratio of clinical pharmacists to primary care physicians to 1-to-3.

Immediate and ongoing access to real-time patient data is essential. The CMM process requires an understanding of the patient's clinical status and the therapy's clinical goals. In the best circumstances, the pharmacist can not only access this information via the patient's EHR, but is also authorized to note the therapeutic changes, measures and follow-up within the record. This is done through interoperability of electronic therapeutic records designed specifically for clinical pharmacist services, or templates within the EHRs themselves designed to enhance the pharmacists' documentation and communication with physicians and other providers on the team. It puts physicians, pharmacists and others on the same virtual page at all times and is essential for safe, effective and efficient care delivery. To some degree, all of our practices demonstrated this ability. Combined with collaborative practice agreements, it is also essential for efficient and effective communication, and to make timely adjustments to medications.

5. Demonstrate and articulate CMM's value.

Measurement and reporting are necessary to sustain long-term program viability.

The market demands demonstration of value, in terms of cost, quality and appropriateness of services provided. The transition from fee-for-service to value-based reimbursement drives CMM uptake because of its demonstrated contribution to lower cost and better health outcomes. For example, HealthPartners, as a health plan, is showing practices that having pharmacists as part of their care team can reduce their total cost of care and help them as they take on more financial risk.

However, CMM's value isn't broadly understood yet, so leading practices, including those showcased in this report, have a critical role to play in proving its value through measurement and reporting. Many of the organizations in this report have a system in place to measure some of their financial, process and clinical outcomes, as well as patient—and sometimes, provider—satisfaction. It remains a challenge, however, for some to differentiate and measure the success of specific CMM interventions separately from the interventions of the entire care team. It is imperative CMM practices define specific data needs to guide implementation of CMM measurement so they can incorporate metrics and reporting in daily practice; *that* will demonstrate value.

The name has yet to match the service. Medication therapy management (MTM) is a broad category covering a range of activities, some of which can be accurately termed CMM. But if patients, providers and payers already lack a basic understanding of CMM and its value, it is critical the industry specifically differentiate CMM services from the broader category.

Is it still comprehensive medication management if you call it something else? If certain program elements and processes

"I can't believe you guys. You would think that I'd be getting used to it by now. [...] The nurses love you guys. The PCPs do, too."

*— Jean Montgomery, MD,
shared by Ellina Seckel,
William S. Middleton
Memorial Veterans Hospital*

"Measuring the impact of pharmacist activities is essential in demonstrating the value to your organization so that these programs can grow."

*— Lindsey Valenzuela,
Desert Oasis*

●●● Moving forward: *What have we learned about CMM practice?*

are in place, the answer is “yes.” But variation in terminology makes it difficult to discuss CMM’s unique value. Understandably, the term and its definition (as set forth by the Patient-Centered Primary Care Collaborative) did not exist before 2010, long after practices, such as those in Minnesota, had adopted “pharmaceutical care” as the model. That is what CMM is based upon, and it’s often termed in those practices as “MTM.”

Pharmacists represent the third-largest health profession. Their potential to improve patient care, reduce costs and solve the primary care provider workforce shortage and workload is profound.

Recognizing this confusion, our research team used specific capabilities essential for CMM service to identify CMM practice; pharmacists and program managers were selected based on the presence and performance of these essential factors. In interviews, we noted some practices used terms such as “comprehensive medication review,” “comprehensive medication management,” “disease-state medication management,” “medication reconciliation,” “chronic disease management” and “medication therapy management” almost interchangeably.

However, these expert practices were quickly able to describe their processes of care and recognize which patients were receiving CMM-level services versus other interventions such as Medicare Part D CMRs or disease-state interventions. Shakespeare posed the question, “What’s in a name?” in the context of human conflict. It may seem a small point, but unclear use of “CMM” may undermine understanding of its value among providers, payers and the public, and stymie its broader use as a therapeutic and vastly needed service.

A glimpse of the future

Pharmacists represent the third-largest health profession. Their potential to improve patient care, reduce costs and solve the primary care provider workforce shortage and workload is profound. The move to value-based care and precision medicine depends on appropriate and effective use of medications to reduce unnecessary utilization and reduce costs. *That* is the domain of the clinical pharmacist. This isn’t about changing numbers on paper. This is not an academic exercise. We are talking about saving lives and healing a broken health care system. It is imperative we better control the diseases that drive this waste and result in untold suffering and millions of lives lost yearly.

Our lack of a systematic and coordinated approach to medications has contributed to our current crisis. Physicians struggle to coordinate care for the high-risk patients with multiple chronic diseases, many of whom are seeing numerous specialists. As the number of innovative medications with the potential for more good increases, so the potential for harm continues to grow. Integration of CMM and clinical pharmacists, as the profession dedicated to the study and understanding of pharmaceuticals, can be—as we see in these practices—enthusiastically welcomed by their physician, nursing and other colleagues to help them improve the lives of the patients they collectively serve.

We do *not* need another pilot or randomized trial to understand the value of appropriate, effective and safe use of medications. Those have been done, and done successfully. The need for appropriate, effective and safe use of medications is undeniable, and it passes the “common sense” test. Given the cost, measured in money and in human misery, any further delay is unconscionable.

It’s time to make integration of comprehensive medication management a policy and practice priority. As Dan Rehrauer, PharmD, of HealthPartners put it, “This is where we see the future of pharmacy.”

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