

# The CMM in Primary Care Study

Societal Problem		CMM as a Solution	Clinical Pharmacy's Challenge	
More than 50% of Americans have at least one chronic condition, and > 40% have two or more. <sup>1</sup>	Nonadherence has been shown to result in \$100 billion each year in excess hospitalizations. <sup>2</sup>	Pockets of strong evidence exist across the US in single health systems and practices that CMM improves patient outcomes, decreases cost, and contributes to a more positive patient and clinician experience. <sup>6</sup>	Lack of specificity of clinical intervention.	Lack of implementation supports to ensure fidelity to a defined intervention.
Approximately 50%–75% of patients do not take their medications as prescribed. <sup>3,4</sup>	\$528 billion spent on misuse, underuse, and overuse of medications each year. <sup>2,5</sup>	Inconclusive evidence of uniform benefit of medication management services across outpatient settings is likely due to inconsistency in magnitude and precision of intervention and metrics rather than lack of impact. <sup>7</sup>	Inconsistent recognition of value by external stakeholders.	Lack of a sustainable business model to support clinical services.

**Comprehensive medication management (CMM)** is a patient-centered approach to optimizing medication use and improving patient health outcomes that is delivered by a clinical pharmacist working in collaboration with the patient and other health care providers. This care process ensures each patient's medications (whether prescription, nonprescription, alternative, traditional, vitamins, or nutritional supplements) are individually assessed to determine that each medication has an appropriate indication, is effective for the medical condition and achieving defined patient and/or clinical goals, is safe given the comorbidities and other medications being taken, and that the patient is able to take the medication as intended and adhere to the prescribed regimen.<sup>8</sup>

## Summary of the Challenge

Although evidence supports CMM's impact on the Quadruple Aim of healthcare, the lack of systematic and conclusive evidence has been attributed, in large part, to implementation variability, which limits replication and scaling of the intervention.<sup>6</sup> Ensuring consistent CMM delivery is a critical first step to demonstrating reproducible value and recognition of CMM as an evidence-based intervention. Further, a sustainable business model to support widespread scale of clinical services is essential.

## The Opportunity: Applying Implementation Science to the CMM Practice Model

*Implementation science is fundamental to the design of useable and successful interventions.*

**Goal of the Implementation Arm of the Study:** Utilizing the expertise and experience of pharmacists embedded in 35 primary care practices providing CMM<sup>9</sup> and building upon prior work<sup>10-14</sup>, identify best practices in CMM delivery in order to a) establish a shared philosophy of practice for CMM, b) explicitly define and operationalize the intervention, and c) frame the foundational elements core to managing the CMM practice in primary care.

**Why is This Important?** The concept of a "usable innovation" is derived from the implementation science literature, which establishes that for an intervention or service to be consistently implemented, reliably produce outcomes, and be sustained, it must include:<sup>15-17</sup>

1. A clear description of the guiding principles or philosophy of practice,
2. A clear description of the essential functions that frame the intervention,
3. A clear description of the operational definitions that explicitly define how each essential function will be operationalized, and
4. A practical assessment of the performance of practitioners who are delivering the service (i.e., fidelity), which helps to ensure that the intervention is being implemented as intended.



## New Insights and Contributions to Practice from this Research

- Refined philosophy of practice including 5 core philosophical tenets of CMM.<sup>18</sup>
- Identified essential functions and operational definitions to create a common language for the CMM Patient Care Process and developed an accompanying self-assessment tool.<sup>19</sup>
- Identified the CMM Practice Management Framework and Core Components to implementing and sustaining CMM in practice and developed an accompanying self-assessment tool.<sup>20,21</sup>
- Developed a Fidelity Assessment System for CMM to measure the extent to which an intervention is implemented as intended.<sup>22</sup>

## The CMM in Primary Care Study: Assessing Impact of CMM on the Quadruple Aim

**Goal of the Effectiveness Arm of the Study:** As a secondary goal of the study, we sought to evaluate the impact of CMM on the Quadruple Aim: a) clinical quality measures, b) the patient experience, c) the clinician experience, and d) healthcare costs. The primary focus of the study (i.e., the implementation arm) required a retrospective design of the effectiveness evaluation.

**Why is This Important?** These data add to the existing evidence base for CMM as a value-added service to improve patient care.



### Creating a CMM Implementation System<sup>25</sup>

To optimize medication use, improve patient care, and control costs, it is necessary to demonstrate that interventions like CMM produce consistently positive outcomes. This goal can be accomplished by **reducing implementation variability**. Ensuring that CMM can be **implemented as intended** requires customizing and applying **implementation supports** that can serve as a roadmap to those interested in the implementation and delivery of CMM.

*The CMM Implementation System<sup>25</sup> will be released via a website platform (v2.0) in early 2021.* Resources include: assessment of readiness to implement CMM<sup>26</sup>, team charters, philosophy of practice<sup>18</sup>, self-assessment tools for the CMM patient care process<sup>19</sup> and CMM practice management<sup>20-21</sup>, plan-do-study-act templates, implementation outcome measures, and more.



### Key Study Take-Aways

- Created a set of evidence-based CMM implementation tools and resources to facilitate consistent implementation, replication, and scale of CMM in practice and facilitate implementation research.
- Added to the existing evidence base to support the value proposition for CMM aligned with the Quadruple Aim.

Find a complete list of study deliverables [here](#).

### Select Future Applications

**Practice:** Establish a commitment to consistent use of CMM terminology; use the CMM implementation system (coming 2021) and its tools and resources to guide the design, implementation, and improvement of CMM in practice.

**Education:** Use the CMM Patient Care Process to guide the education, training, and assessment of the Joint Commission of Pharmacy Practitioners Patient Care Process in curricula and apply the CMM practice model and fidelity assessments in residency training.

**Research:** Conduct prospective studies of CMM, in partnership with a single payer, to rigorously evaluate the impact on outcomes and return-on-investment, and establish local data to scale; apply CMM implementation tools and resources in continued CMM research throughout the profession.

## Executive Summary Citations

- <sup>1</sup>Buttorff C, Ruder T, Bauman M. Multiple Chronic Conditions in the United States. RAND Corporation. Available at: <https://www.rand.org/pubs/tools/TL221.html>. Accessed October 2020.
- <sup>2</sup>NEHI. Bend the Curve: Health Care Leader's Guide to High Value Health Care. Available at: <https://www.nehi.net/publications/31-bend-the-curve-health-care-leaders-guide-to-high-value-health-care/view>. Accessed October 2020.
- <sup>3</sup>Institute for Safe Medication Practices. A Call to Action: Protecting U.S. Citizens from Inappropriate Medication Use – A White Paper on Medication Safety in the U.S. and the Role of Community Pharmacists. 2007. Available at: <https://forms.ismp.org/pressroom/viewpoints/CommunityPharmacy.pdf>. Accessed October 2020.
- <sup>4</sup>World Health Organization. Adherence to Long-Term Therapies: Evidence for Action. 2003. Available at: [https://www.who.int/chp/knowledge/publications/adherence\\_report/en/](https://www.who.int/chp/knowledge/publications/adherence_report/en/). Accessed October 2020.
- <sup>5</sup>Watanabe JH, McInnis T, and Hirsch JD. Cost of prescription drug-related morbidity and mortality. *Annals of Pharmacotherapy*. 2018;52(9):829-837. <https://doi.org/10.1177/1060028018765159>. Accessed October 2020.
- <sup>6</sup>The Outcomes of Implementing and Integrating Comprehensive Medication Management in Team-Based Care: A Review of the Evidence on Quality, Access and Costs, June 2020. Available at: <https://gtmr.org/wp-content/uploads/2020/07/GTMR-evidence-document-07312020-1-1.pdf>. Accessed October 2020.
- <sup>7</sup>Viswanathan M, Kahwati LC, Golin CE, Blalock SJ, Coker-Schwimmer E, Posey R, Lohr KN. Medication therapy management interventions in outpatient settings: a systematic review and meta-analysis. *JAMA Internal Medicine*. 2015;175(1):76-87. <https://doi.org/10.1001/jamainternmed.2014.5841>. Accessed October 2020.
- <sup>8</sup>Patient-Centered Primary Care Collaborative (PCPCC). The patient-centered medical home: integrating comprehensive medication management to optimize patient outcomes resource guide, 2nd Ed. Washington, DC: PCPCC, 2012. Available at: <https://www.pcpcc.org/sites/default/files/media/medmanagement.pdf>. Accessed October 2020.
- <sup>9</sup>Pestka DL, Sorge LA, Mendkoff J, Frail CK, Funk KA, Carroll J, Sorensen TD, Roth McClurg M. Assessing the state of comprehensive medication management in a sample of primary care clinics. *Innovations in Pharmacy*. 2019, Vol. 10, No. 1, Article 5. <https://doi.org/10.24926/iip.v10i1.1611>.
- <sup>10</sup>Cipolle RJ, Strand L, and Morley P. *Pharmaceutical Care Practice: The Patient Centered Approach to Medication Management*. Third Edition. New York, NY: McGraw-Hill Medical; 2012.
- <sup>11</sup>Ramalho de Oliveira D, Brummel AR, and Miller DB. Medication therapy management: 10 years of experience in a large integrated health care system. *Journal of Managed Care Pharmacy*. 2010;16(3):185-195. <https://doi.org/10.18553/jmcp.2010.16.3.185>. Accessed October 2020.
- <sup>12</sup>American College of Clinical Pharmacy. Standards of Practice for Clinical Pharmacists. *Pharmacotherapy* 2014;34(8):794–797. Available at: <https://www.accp.com/docs/positions/guidelines/standardsofpractice.pdf>. Accessed October 2020.
- <sup>13</sup>Pharmacists' Patient Care Process. May 29, 2014 Joint Commission of Pharmacy Practitioners. Available at: <https://jcphp.net/patient-care-process/>. Accessed October 2020.
- <sup>14</sup>Pharmacy Quality Alliance (PQA) Medication Therapy Problem Categories Framework for PQA Measures document for a framework of MRPs and detailed description of categories and rationale. Available at: <https://www.pqaalliance.org/assets/Measures/PQA%20MTP%20Categories%20Framework.pdf>. Accessed October 2020.
- <sup>15</sup>Metz A. Practice Profiles: A Process for Capturing Evidence and Operationalizing Innovations. January 2016. Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill. Available at: <https://nirn.fpg.unc.edu/resources/white-paper-practice-profiles-process-capturing-evidence-and-operationalizing-innovations>. Accessed October 2020.
- <sup>16</sup>Blanchard C, Livet M, Ward C, Sorge L, Sorensen T, Roth McClurg M. The active implementation frameworks: a conceptual model to advance comprehensive medication management in primary care. *Research in Social and Administrative Pharmacy*. 2017;13(5):922-929. <https://doi.org/10.1016/j.sapharm.2017.05.006>. Accessed October 2020.

- <sup>17</sup>Livet M, Haines ST, Curran GM, Seaton T, Ward C, Sorensen T, Roth McClurg M. Implementation science to advance care delivery: a primer for pharmacists and other health professionals. *Pharmacotherapy*. 2018;38(5):490-502. <https://doi.org/10.1002/phar.2114>. Accessed October 2020.
- <sup>18</sup>Pestka DL, Sorge LA, McClurg MR, Sorensen TD. The philosophy of practice for comprehensive medication management: Evaluating its meaning and application by practitioners. *Pharmacotherapy*. 2018;38(1):69-79. <https://doi.org/10.1002/phar.2062>. Accessed October 2020.
- <sup>19</sup>The Patient Care Process for Delivering Comprehensive Medication Management (CMM): Optimizing Medication Use in Patient-Centered, Team-Based Care Settings. CMM in Primary Care Research Team. July 2018. Available at: [https://www.accp.com/docs/positions/misc/CMM\\_Care\\_Process.pdf](https://www.accp.com/docs/positions/misc/CMM_Care_Process.pdf). Accessed October 2020.
- <sup>20</sup>Pestka D, Frail, C, Sorge L, Funk K, Janke K, Roth McClurg M, Sorensen T. The practice management components needed to support comprehensive medication management in primary care clinics. *Journal of the American College of Clinical Pharmacy*. 2020;3(2):438-447. <https://doi.org/10.1002/jac5.1181>. Accessed October 2020.
- <sup>21</sup>Pestka D, Frail, C, Sorge L, Funk K, Janke K, Roth McClurg M, Sorensen T. Development of the comprehensive medication management practice management assessment tool: A resource to assess and prioritize areas for practice improvement. *Journal of the American College of Clinical Pharmacy*. 2020;3(2):448-454. <https://doi.org/10.1002/jac5.1182>. Accessed October 2020.
- <sup>22</sup>Livet M, Blanchard C, Frail C, Sorensen T, McClurg MR. Ensuring effective implementation: A fidelity assessment system for CMM. *Journal of the American College of Clinical Pharmacy*. 2020;3(1):57-67. <https://doi.org/10.1002/jac5.1155>. Accessed October 2020.
- <sup>23</sup>Funk KA, Pestka DL, Roth McClurg MT, Carroll JK, Sorensen TD. Primary care providers believe that comprehensive medication management improves their work-life. *Journal of the American Board of Family Medicine*. 2019;32(4):462-473. <https://doi.org/10.3122/jabfm.2019.04.180376>. Accessed October 2020.
- <sup>24</sup>Blanchard C, Xu J, Roth McClurg M, Livet M. Reliability and validity of a patient responsiveness survey for comprehensive medication management. [abstract]. *Journal of the American College of Clinical Pharmacy*. 2018;1(2):139. *Manuscript publication pending*.
- <sup>25</sup>Livet M, Blanchard C, Sorensen TD, Roth McClurg MT. An implementation system for medication optimization: operationalizing comprehensive medication management delivery in primary care. *Journal of the American College of Clinical Pharmacy*. 2018;1(1):14-20. <https://doi.org/10.1002/jac5.1037>. Accessed October 2020.
- <sup>26</sup>Livet M, Yannayon M, Richard C, Sorge L, Scanlon P. Ready, set, go!: exploring use of a readiness process to implement pharmacy services. *Implementation Science Communications*. 2020;1(52). <https://doi.org/10.1186/s43058-020-00036-2>. Accessed October 2020.