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Development of the comprehensive medication management practice management assessment tool: A resource to assess and prioritize areas for practice improvement

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Abstract

Background: Significant attention has been given to developing a consistent patient care process for providing comprehensive medication management (CMM). However, little research exists that examines the structures required to effectively manage a CMM practice to achieve quality, consistency and sustainability.

Objective: The objective of this research was to create a CMM practice management assessment tool to identify and prioritize areas of CMM practice improvement.

Methods: Thirty-four pharmacists providing CMM from 35 primary care clinics across five states were divided into three cohorts. Semi-structured interviews were conducted with pharmacists from Cohort 1. Participants were asked to describe the essential components of CMM practice management and to detail the characteristics of these components in their practice. Themes were identified by two investigators and a descriptive practice assessment tool was developed from emergent themes. Using cognitive interviewing, participants in Cohorts 2 and 3 completed sections of the tool while verbalizing their thought process and providing feedback. This process led to simultaneous development and refinement of the tool, as well as developing evidence of content validity. Throughout tool development, a series of four focus groups with managers overseeing pharmacists providing CMM occurred to obtain their perspectives and feedback on the tool.

Results: A tool with five domains was developed. Each domain consists of two to three essential components of CMM practice management for a total of 13 components. Each component contains several questions which collectively form a 78-item descriptive practice management assessment tool.

Conclusion: A descriptive practice management assessment tool was developed that can be used to aid in CMM practice advancement. This tool can provide direction for quality improvement work as pharmacists and managers seek to make their practices more efficient and sustainable.

KEYWORDS

practice management, clinical pharmacy services, medication therapy management

1 | INTRODUCTION

The United States incurs more than $500 billion in avoidable costs every year due to medication-related morbidity and mortality.[1] An approach to improve patient outcomes and mitigate the avoidable costs caused by suboptimal medication use is comprehensive medication management (CMM).[2-5] CMM is a patient-centered practice that:

> Ensures each patient's medications (whether they are pre-scription, 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. [6]

The practice of CMM is comprised of three primary components: (a) a philosophy of practice, (b) a patient care process, and (c) a practice management system.[7] A previous study described the philosophy of practice articulated by pharmacists delivering CMM and provided five core tenets to serve as the basis of the philosophy of practice of CMM.[8] In addition, significant attention has been given to defining the patient care process of CMM.[6,7,9-11] However, more information is needed on the practice management of CMM, which we define for the purpose of this study as all of the necessary resources and support to provide CMM in an efficient and productive manner.

Curran and Shoemaker posit that while there has been a body of research demonstrating the effectiveness of CMM, few studies have sought to understand or systematically test optimal ways to support implementation and sustainability of CMM.[12] This lack of a clear practice framework may hinder the development of CMM programs as well as the advancement of existing practices. A consistent patient care process is essential for ensuring standardization of CMM across pharmacists; however, practice management is also necessary to replicate, grow, and sustain CMM practices. Pharmacists must have the knowledge and resources to incorporate CMM into existing administrative systems to be successful. Therefore, understanding CMM practice management is critical to enhancing and expanding the practice of CMM to ultimately optimize patients' medications and decrease medication-related morbidity and mortality.

Many pharmacists and organizations state that they are providing CMM. However, the resources and supports required to provide CMM can vary greatly from clinic to clinic. Literature is available to aid in the implementation of CMM,[13-15] but tools are needed to define and assess levels of CMM practice management. The purpose of this study, therefore, was to develop a CMM practice management assessment tool that pharmacists could use to evaluate their CMM practices and guide practice improvement.

2 | METHODS

This study was part of a larger CMM implementation and outcomes project, including 36 primary care clinics across five states. To be a part of the larger study, participating sites needed to provide CMM as defined in the American College of Clinical Pharmacy (ACCP), "Standards of Practice for Clinical Pharmacists"[16] and the "Patient-Centered Primary Care Collaborative Comprehensive Medication Management Resource Guide."[6] To develop the practice management tool, 35 sites were included; one site was not included because the same pharmacist was working at two participating sites. Information collected at the beginning of the study via a baseline and demographic survey[17] was used to divide participating sites into three diverse cohorts. Cohorts 1 and 2 each comprised 12 pharmacists, while Cohort 3 had 11. In addition, there were eight managers who oversaw pharmacists providing CMM included in the study. Managers were defined as those with a formal management title and hold a primary responsibility for the CMM program in their institution. All managers were also pharmacists. This study was approved by the University of North Carolina Institutional Review Board. The University of Minnesota Institutional Review Board determined that this was not human subjects research and therefore did not require formal review.

2.1 | Developing a framework for CMM practice management

To develop items for the practice management assessment tool, a CMM practice management framework was formed in parallel to tool development.[18,19] To develop the framework, a focus group with the CMM managers was carried out by the lead investigator (DLP) and one-on-one, semi-structured interviews with each of the 12 pharmacists in Cohort 1 were conducted by the lead investigator and a research associate who was also a pharmacist. Interviews and the focus group centered on the essential components of CMM practice management from the participants' perspective. Two investigators (DLP and CKF) inductively coded the data from the first CMM manager focus group and the interviews from Cohort 1. During coding meetings, the two investigators also began to organize subcodes and participant examples into a tool where each row of the tool was a subcode and participant responses within that subcode were arranged from least optimal to most optimal in terms of practice management along a horizontal scale. As various sections of the tool were created, they were shared with other members of the research team to gather feedback on clarity and to identify any areas that might have been missing.

2.2 | Ensuring tool comprehensiveness, clarity, and validity

To obtain CMM manager feedback on the tool, a second series of focus groups were held. The first focus group was 90 minutes, while the second and third focus groups were 60 minutes, and occurred via Webex (Cisco, San Jose, CA). Five of the seven managers attended the first focus group (however, due to organizational restructuring, one of the managers was no longer involved in the study at the time of the second series of focus groups), while three and four attended the second and third focus group, respectively. During the series of focus groups, the lead investigator (DLP) displayed the tool to

participants and asked for managers' feedback on each section. The objectives of the focus groups were to obtain managers' feedback on the practice management framework that formed the tool, as well as the appropriateness of items and if anything should be added, modified, or deleted. During the final focus group, the lead investigator also asked the managers how they would group the essential components into domains.

All focus group sessions were audio recorded and transcribed by a commercial transcription company. The lead investigator reviewed the transcripts to identify comments related to addition, modification, or deletion of items. The lead investigator then discussed these comments with other members of the research team to determine methods for modifying the tool accordingly. Participant comments were documented in Excel (Microsoft, Redmond, WA), as well as any changes that came as a result of comments and/or the research team's response to their comments. A revised version of the tool and practice management framework was drafted after incorporating the feedback from the CMM managers and the research team.

To generate further validity for the essential components and items in the tool, cognitive interviews using think-aloud and verbal probing procedures was conducted with the pharmacists in Cohorts 2 and 3. Cognitive interviewing is an iterative process where "small numbers of individuals are tested—generally between 5 and 15 in an interviewing round—before the findings are reviewed and interpreted."[20] Following revision and modification, the revised tool is tested further with another round which is seen as a major strength of cognitive interviewing.[20] All interviews in Cohort 2 were one-on-one, scheduled for 1 hour, and occurred via Webex. Participants were asked to verbalize their thought process as they completed the various sections of the tool for their own practice. Given the length of the tool, feedback was requested on certain sections rather than the entire tool to avoid overburdening participants. The lead investigator and the pharmacist would discuss as many questions as they could during the allotted hour. The sections pharmacists started on were intentionally staggered to ensure that feedback was received on all sections of the tool. In each interview, participants were asked if they felt anything was omitted, unnecessary, or if the participant had any overall feedback regarding the tool.

Interviews were recorded and transcribed verbatim, except for one. One of the pharmacists declined to be recorded, so detailed notes from the conversation were taken instead. The lead investigator reviewed all of the transcripts and notes from the Cohort 2 interviews and extracted participants' comments and feedback regarding questions and transferred them into an Excel spreadsheet. Several meetings with other members of the research team occurred to discuss the comments that were made and methods for addressing participant feedback and points of confusion. The lead investigator documented changes to the tool and rationale in the Excel spreadsheet. Changes to the tool occurred simultaneously with cognitive interviewing. For example, if a pharmacist from Cohort 2 suggested adding another option to an item, and the research team agreed with the comment, this option was added before conducting subsequent interviews.

Cohort 3 interviews also consisted of cognitive interviewing with verbal probing and occurred one-on-one for 1 hour via Webex with each pharmacist. While the practice management tool was modified throughout Cohort 2 interviews, another round of interviews was warranted to ensure that all items were clear and that participants had no further feedback or revisions to the version of the tool that was modified throughout Cohort 2 interviews. Members of the research team met periodically throughout the course of completing the Cohort 3 interviews to discuss participant feedback and address their comments.

The iterative process of conducting the focus groups and interviews in rounds led to simultaneous development and validation of the CMM practice management framework and tool. Through the focus groups and cognitive interviews, participants offered feedback on the domains, components, and subcomponents that had been developed. This process also served as a form of member checking, which is a validation strategy used in qualitative research where the researcher solicits participants' input on the credibility of the findings and interpretations and is often considered the most critical technique for establishing validity of the results.[21]
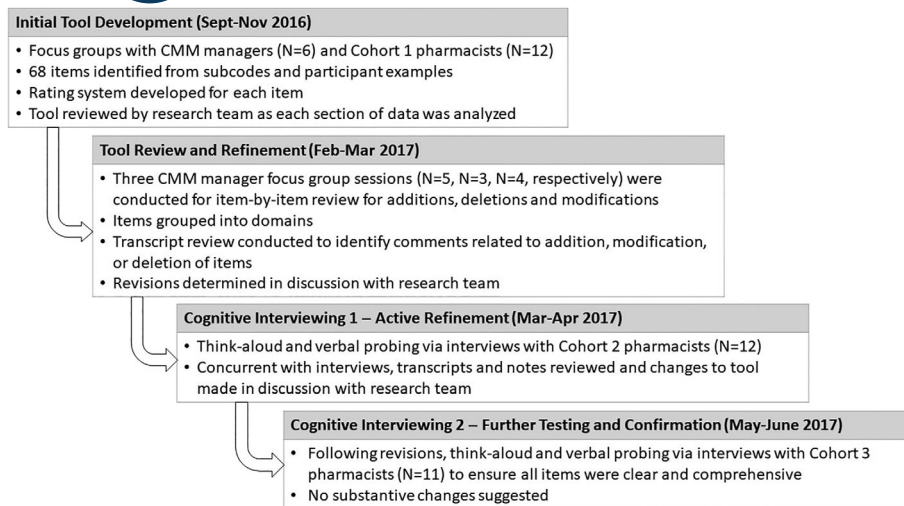
3 | RESULTS

A description of participating pharmacists and clinic sites is available in the companion manuscript.[18]

Using the responses of the first CMM manager focus group and participants in Cohort 1, an initial version of the practice management tool was drafted. The initial tool included 14 essential components and was comprised of 68 items. During the second series of focus groups with the CMM managers, as well as the Cohort 2 and 3 interviews, significant feedback on the tool was received. There was significantly less feedback during Cohort 3 interviews than Cohort 2 and there were no substantive changes that were proposed that would warrant another round of cognitive interviewing. The lack of any proposed additions or deletions of items or components from the tool by the pharmacists in Cohort 3 further validated that the essential components and their items accurately captured CMM practice management. The process of tool development is outlined in Figure 1. Appendix S1 (Supporting information) describes examples of changes that were made in each section of the tool. The final tool, the CMM practice management assessment tool (CMM PMAT) (Appendix S2), is based on the practice management framework that was developed (Table 1) and has five domains made up of 13 essential components and 78 items. The tool is composed of three parts: (a) global assessment of the domains of CMM practice management, (b) assessing the domains and essential components of CMM practice management, and (c) prioritizing and guiding areas for improvement.

3.1 | Developing sections of the tool

Following completion of the Cohort 2 interviews, the format of the tool was modified to make it more targeted. Given the length of the tool (at the end of Cohort 2 it was 17 pages), the research team was concerned that the length of the tool would inhibit completion of the tool in one sitting. Therefore, the research team sought to create a way to

Initial Tool Development (Sept-Nov 2016)
- Focus groups with CMM managers (N=6) and Cohort 1 pharmacists (N=12)
- 68 items identified from subcodes and participant examples
- Rating system developed for each item
- Tool reviewed by research team as each section of data was analyzed

Tool Review and Refinement (Feb-Mar 2017)
- Three CMM manager focus group sessions (N=5, N=3, N=4, respectively) were conducted for item-by-item review for additions, deletions and modifications
- Items grouped into domains
- Transcript review conducted to identify comments related to addition, modification, or deletion of items
- Revisions determined in discussion with research team

Cognitive Interviewing 1 – Active Refinement (Mar-Apr 2017)
- Think-aloud and verbal probing via interviews with Cohort 2 pharmacists (N=12)
- Concurrent with interviews, transcripts and notes reviewed and changes to tool made in discussion with research team

Cognitive Interviewing 2 – Further Testing and Confirmation (May-June 2017)
- Following revisions, think-aloud and verbal probing via interviews with Cohort 3 pharmacists (N=11) to ensure all items were clear and comprehensive
- No substantive changes suggested

FIGURE 1 Methods outline and timeline. CMM, comprehensive medication management

TABLE 1 The domains and essential components of comprehensive medication management practice management[18,19]

Domain	Essential components	Items
Organizational support	Leadership support	4
	Availability and adequacy of clinic space	5
	Billing and revenue systems	1
Care delivery processes	Methods for identifying patients in need of CMM	6
	Scheduling CMM services	8
	Care documentation	9
Care team engagement	Presence and scope of collaborative practice agreements	5
	Interprofessional collaboration	8
	Engagement of support staff	7
Evaluating CMM services	Measuring CMM data	11
	Reporting CMM data and outcomes	5
Ensuring consistent and quality care	Quality assurance processes	3
	Practitioner training	6

Note. Along with number of items in the tool for each component. Abbreviation: CMM, comprehensive medication management.

prioritize sections that pharmacists would complete based on areas the pharmacists felt they were weakest in and could feasibly improve. For this reason, "Part I: Global assessment of the domains of CMM practice management" was added to the tool. This section lists each of the five domains, some questions to consider when thinking of each domain, along with requests to rate the site's performance on that domain on a scale from 0 to 10 (10 being most optimal) and the feasibility of improving that domain on a scale from 0 to 10 (10 being most feasible). After rating the performance and feasibility for each domain, there are instructions to select and then complete the two domains the pharmacist believes to be the most relevant to focus on improving, as well as directions to answer all of the questions within those two domains. What

follows are the domains and the items that make up each essential component, which was labeled "Part II: Assessing the domains and essential components of CMM practice management." Within Part II, responses are laid out from least optimal to optimal, and users are instructed to choose the response that best fits their current CMM practice.

"Part III: Prioritizing and guiding areas for improvement" is meant to give users of the tool some guidance on how to take next steps towards practice development. One participant pointed out the need for such a process during her interview:

> If someone was [practicing] CMM [and] they were ranking on the less optimal...it can seem somewhat overwhelming... Yes, in an optimal, ideal world, these things would occur, but then how do you focus on where to start and what's most critical? I think it would be a lot. If I was just starting a CMM practice, and I was like oh my gosh, I'm in all these less optimal, then what do you do with that? Where do you go from there?

Part III is not a thorough resource on practice development, but rather it is meant to guide users in their next steps as they determine a process for undertaking the aspects of practice management they would like to improve.

It is worth noting that numeric rating systems that would have provided pharmacists with a score of their practice management were considered during the development of the CMM PMAT. However, because many CMM practices still have room to grow and develop, the research team determined that creating a descriptive tool focused on practice improvement would be more valuable to advancing practice at this time.

3.2 | Guidance for use

There was also discussion about which pharmacists are best suited to complete various sections of the tool. It became apparent during the interviews that pharmacists that were part of larger health systems were unaware of various parts of the practice because they had a

CMM manager that oversaw those aspects. For example, some pharmacists were unsure of exactly what CMM measures were being tracked or if there was an algorithm in place to identify patients. On the other hand, there are some clinic specific questions in the tool, such as the clinic space available, presence of a CMM champion, and questions related to support staff, that a CMM manager would not be able to answer on their own. As a result, in the instructions, it is stated that this is a tool to be filled out for an individual practice site by the CMM pharmacist(s) who work there, but some questions may require input from other members of the team, such as a clinic manager or CMM manager. Throughout the interviews, a few participants mentioned that they did not feel certain questions or concepts applied to their practice. Similarly, some commented that they did not need to measure certain CMM measures because their management did not require it of them. For those reasons, it is included in the instructions that some questions of the tool may not apply depending on the practice setting. Finally, in health care, performance is normally assessed on a yearly basis (eg, budgets), so it is recommended that users of the tool complete it, in whole or in part, at least once a year to guide continual practice development.

3.3 | Usability feedback

When asked at the end of the interview if the participant had any remaining feedback or ideas to share, several pharmacists spoke of how the tool had caused them to reevaluate their practices in ways they had not considered before. One pharmacist, who completed the tool with a colleague, shared:

> One thing that we agreed on is that going through it did give us some things to think about. You get into a way of doing things, and you forget about what else is possible, so it did give us some things to think about as far as measurement strategies and other things to work on. (Cohort 3, Pharmacist 3)

Other pharmacists discussed that the tool could be a useful resource for those just starting out in CMM:

> I think this is a nice tool, definitely, to use especially for people that are newer in CMM. (Cohort 3, Pharmacist 9)

On the other hand, even pharmacists that have been practicing CMM for many years commented that they still found the tool useful:

> I think this made me sit down and really think about my process, my service, what are barriers, what are positives. What's really interesting is I've been a part of this very much since its inception and [its] progress so far and there are still things we need to work on. (Cohort 3, Pharmacist 2)

Finally, a number of people commented that they initially found the tool off-putting because of its length, but then once they started filling it out, they found it to be manageable and appreciated the level of detail that was included:

> I guess I appreciated how the tool drilled down to this level, because I had a lot of middle of the road answers for some, and I thought, well, that's a great way of idea generating for our sites… So I think this is an absolutely valuable tool to help us assess where we're at currently and then also to be able to move in a forward direction for development. (Cohort 3, Pharmacist 5)

These comments support the intended use of the tool, which is to provide a resource for pharmacists to identify and prioritize areas for improvement of CMM practice management. These comments also suggest that the tool may be useful for pharmacists at all levels of practice maturity.

4 | DISCUSSION

The purpose of this research was to develop a CMM practice management assessment tool to assess and prioritize areas for CMM practice improvement. Through interviews and focus groups with CMM managers and pharmacists currently practicing CMM, a practice management assessment tool was developed containing five domains and 78 items. The CMM PMAT was refined through two rounds of cognitive interviewing with CMM pharmacists and three focus groups with CMM managers. The CMM PMAT is comprised of three parts to prioritize areas for practice improvement. The first part provides a global assessment of the practice management domains, the second part includes detailed questions relating to all essential components, and the third part guides users in the next steps of practice management improvement.

Within pharmacy, two tools have been previously developed to assess practice management; however, both have slightly different purposes from each other. The first tool, the Ambulatory Care Self-Assessment Tool[22] developed by the American Society of Health-System Pharmacists (ASHP), is meant to determine how well the user's practice aligns with the recommendations from the 2014 ASHP Ambulatory Summit. The tool has two tracks for completing the instrument, a systems-based track and a practitioner track, and every question is linked to one of the recommendations of the 2014 ASHP Ambulatory Care Summit[23] or the "ASHP Guidelines: Minimum Standard for Ambulatory Care Pharmacy Practice."[24] After completing the assessment, an action plan is generated that includes action items along with links to tools and resources to help achieve each item. However, the tool provides limited direction for identifying ideal aspects of practice management. Therefore, a benefit of the CMM PMAT is that the descriptive nature of the tool provides greater direction for those engaged in CMM practice to optimize management structures and processes. Also, by outlining the initial levels of practice management and the steps toward optimal management

practices, the tool can provide guidance to those transitioning into CMM practice.

The second practice management tool that has been developed is the McInnis Index for Advanced Medication Management Practice (MI-AMMP).[25] The MI-AMMP includes a weighted scoring system to deliver a total score of each practice's capability to deliver advanced disease-state medication therapy management (MTM) and CMM. While a numeric score is helpful to assess baseline practice management performance and track progress over time, the MI-AMMP does not provide guidance for improving practice management performance. An additional limitation of both the MI-AMMP and the Ambulatory Care Self-Assessment Tools is that neither tool relied on a robust, evidence-based practice management framework. The CMM PMAT, however, was developed based on a framework for CMM practice management[18,19] and may serve as a valuable guide for CMM practice management development and assessment. A tool such as this can provide direction for quality improvement work as pharmacists and managers seek to make their practices more efficient and sustainable. CMM practice management is a relatively unstudied area; therefore, this tool sheds light on understanding the necessary elements and complexity of a successful CMM practice.

4.1 | Implications for future research

With a robust and rigorously developed tool available, there are several areas of opportunity for future research. For example, further qualitative research could evaluate the tool's impact on practice by examining pharmacists' perceptions using the tool, if it has benefited their practice, and ways the tool helped to identify practice management needs. Additionally, each essential component could be studied further to understand effective strategies for practices to advance within each component and develop practice resources. For example, within the domain of *Practitioner Training*, additional research could evaluate best practices for onboarding new pharmacists delivering CMM and methods to optimize ongoing professional development.

Furthermore, the tool could be adapted to create a quantitative practice management tool. This, in turn, could lead to the identification of high performing CMM practices across the country and stimulate a collaborative learning environment where they could serve as advisors for less developed practices. In addition, it was mentioned among participants that the CMM practice management tool would be a useful educational resource to present to pharmacy students and residents as part of practice development curricula. Therefore, future research could be directed at examining the benefit of the tool for educating pharmacy learners and new practitioners. Finally, the CMM PMAT could serve as a model and/or be modified to address practice management in settings outside of primary care.

5 | LIMITATIONS

While there were several steps taken to strengthen the validity evidence supporting the tool, there are certain limitations that should be considered. The tool was developed based on the input and experience of a convenience sample of CMM managers and pharmacists primarily located in Minnesota and North Carolina. While these managers and pharmacists collectively have decades of experience in CMM, their experience, and therefore items that occur in the tool, may not be reflective of all CMM practices, particularly those in different geographic regions. Furthermore, this tool is meant to be used for CMM practices in primary care. The tool may require modification if it is to be used in other settings, such as community pharmacy, hospitals, or other locations. Also, certain parts of the tool may not be applicable to every practice given their culture, organizational structure, resources, practice setting, and/or state laws. For example, smaller practices may not engage in the activities that fall within the domain of *Ensuring Consistent and Quality Care*. Sites that only have one pharmacist and are not part of a larger system likely will not have a pharmacist training process and opportunities to engage in quality assurance processes may be limited. However, this limitation is addressed in the guidance for use of the tool. Additionally, while participants commented that they appreciated the level of detail the CMM PMAT provides, the length of the tool may be another limitation. This amount of detail was deemed necessary to support practice improvement, so it was clear to the user the distinction between different levels. To aid in reducing response time, Part I was designed to allow completion of the tool to be more targeted to the most applicable and feasible sections. Finally, it will be important that the tool be modified periodically to remain relevant as health care and pharmacy practice evolves.

6 | CONCLUSION

This work produced a descriptive CMM practice management assessment tool, the CMM PMAT. This tool allows primary care practices to assess the core domains and essential components of CMM practice management and serves as a guide for practice development and advancement. The CMM PMAT is a resource for new practices looking to develop an ideal practice management system and for existing practices to identify areas for improvement and understand what is needed to obtain more optimal CMM practice management.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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REFERENCES

1. Watanabe JH, McInnis T, Hirsch JD. Cost of prescription drug-related morbidity and mortality. *Ann Pharmacother*. 2018;52(9):829–837.
2. Isetts BJ, Schondelmeyer SW, Artz MB, et al. Clinical and economic outcomes of medication therapy management services: the Minnesota experience. *J Am Pharm Assoc JAPhA*. 2008;48(2):203–211.
3. 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;16(3):185–195.
4. Prudencio J, Cutler T, Roberts S, Marin S, Wilson M. The effect of clinical pharmacist-led comprehensive medication management on chronic disease state goal attainment in a patient-centered medical home. *J Manag Care Spec Pharm*. 2018;24(5):423–429.
5. Theising KM, Fritschle TL, Scholfield AM, Hicks EL, Schymik ML. Implementation and clinical outcomes of an employer-sponsored, pharmacist-provided medication therapy management program. *Pharmacotherapy*. 2015;35(11):e159–e163.
6. The Patient Centered Primary Care Collaborative. The patient-centered medical home: Integrating comprehensive medication management to optimize patient outcomes, second ed. 2012 [cited 2019 Oct 2]. Available from: www.pcpcc.org/sites/default/files/media/medmanagement.pdf
7. Cipolle RJ, Strand L, Morley P. *Pharmaceutical care practice: The patient centered approach to medication management*. third ed. Inc.: The McGraw Hill Companies, 2012.
8. 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.
9. American Pharmacists Association, National Association of Chain Drug Stores Foundation. Medication therapy management in pharmacy practice: Core elements of an MTM service model (version 2.0). *J Am Pharm Assoc*. 2008;48(3):341–353.
10. Roth MT, Ivey JL, Esserman DA, Crisp G, Kurz J, Weinberger M. Individualized medication assessment and planning: Optimizing medication use in older adults in the primary care setting. *Pharmacotherapy*. 2013;33(8):787–797.
11. CMM in Primary Care Research Team. The patient care process for delivering comprehensive medication management (CMM): Optimizing medication use in patient-centered, team-based care settings. 2019 [cited 2019 Oct 2]. Available from: www.accp.com/docs/positions/misc/CMM_Care_Process.pdf.
12. Curran GM, Shoemaker SJ. Advancing pharmacy practice through implementation science. *Res Soc Adm Pharm*. 2017;13(5):889–891.
13. American Pharmacists Association. Getting your MTM business started. 2018 [cited 2018 May 4]. Available from: www.pharmacist.com/getting-your-mtm-business-started.
14. Schuh MJ, Crumb DJ, Dubois J. Building a pharmacist-managed pharmacotherapy medication therapy management practice. *Consult Pharm*. 2011;26(6):404–413.
15. AHRQ Health Care Innovations Exchange Medication Therapy Management Learning Community. Implementation of a medication therapy management intervention in ambulatory care settings: Experiences and lessons learned from the MyRx pilot. 2016 [cited 2018 May 4]. Available from: https://innovations.ahrq.gov/sites/default/files/experiences_and_lessons_learned_from_the_myrx_pilot.pdf
16. American College of Clinical Pharmacy. Standards of practice for clinical pharmacists. *Pharmacotherapy*. 2014;34(8):794–797.
17. Pestka D, Sorge L, Mendkoff J, et al. Assessing the state of comprehensive medication management in a sample of primary care clinics. *Inov Pharm*. 2019;10(1):5.
18. Pestka DL, Frail CK, Sorge LA, Funk KA, Roth McClurg MT, Sorensen TD. The practice management components needed to support comprehensive medication management in primary care clinics. *J Am Coll Clin Pharm*. 2019;xx:xx–xx.
19. Pestka DL. Assessing the components needed to support and operate comprehensive medication management in primary care clinics [dissertation]. Minneapolis, MN: University of Minnesota. 2018.
20. Willis GB. *Cognitive interviewing: A tool for improving questionnaire design*. Thousand Oaks: SAGE Publications, 2005.
21. Creswell JW. *Qualitative inquiry & research design: Choosing among five approaches*. third ed. Thousand Oaks: Sage Publications, 2013.
22. American Society of Health-System Pharmacists. Ambulatory Care Self-Assessment Tool. 2019 [cited October 2, 2019]. Available from: www.amcareassessment.org.
23. Recommendations of the summit. *Am J Heal Pharm*. 2014;71(16):1390–1391.
24. Buxton JA, Babbitt R, Clegg CA, et al. ASHP guidelines: Minimum standard for ambulatory care pharmacy practice. *Am J Health Syst Pharm*. 2015;72(14):1221–1236.
25. McInnis T, Capps KH. Get the medications right: a nationwide snapshot of expert practices—Comprehensive medication management in ambulatory/community pharmacy. Health2 Resources. 2016 [cited October 2, 2019]. Available from: apptoget.com/wp-content/uploads/2016/10/GetTheMedicationsRight.v22final-5.20.pdf

SUPPORTING INFORMATION

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