Implementing Clinical Pharmacists in Primary Care: Care Team Satisfaction Survey Results

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ABSTRACT

Background: The rising demand on primary care providers encourages innovative use of care extenders, such as primary care pharmacists. Our academic medical center includes 34 multidisciplinary primary care clinics that provide general pediatric and adolescent medicine, internal medicine, and family medicine services. Primary care pharmacy services (PCPS) have grown since 2016 across 13 clinics serving internal and family medicine services. This study evaluated care team member satisfaction and workflow implications with current PCPS and systematically identified priorities for future expanded services.

Methods: A 15-question survey was developed and administered through an online platform targeting multidisciplinary care team members. Likert and ranked scale responses were averaged by the electronic survey platform to calculate overall composite scores or weighted averages for each question.

Results: The survey response rate was 24.7%. There was a high level of agreement among care team members about the satisfaction with currently provided PCPS (range 3-5; mean 4.65 ± 0.66). Care team members disagreed with the perception of *increased* clinical burden from the PCPS (range 1-5; mean 1.82 ± 1.13). The most beneficial components of current PCPS included hypertension medication management and clinical consult activities (composite scores 3.8 and 3.19, respectively). The highest priority future PCPS identified was diabetes medication management (composite score 4.21).

Discussion: Care team members perceive the most value derived from PCPS when pharmacists are able to independently manage medications as care extenders under collaborative agreements with providers.

BACKGROUND

Innovative use of care extenders is imperative given the ever-rising demand on providers.[1-3] Primary care pharmacy services (PCPS) have expanded from providing medication dosing and

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interaction information to acting as care extenders for patients by monitoring and titrating medications for chronic conditions. Wisconsin Act 294 of 2013 allows a pharmacist to perform any patient care service delegated by a physician (Wis. Pharmacy Examining Board § 450.033). Provider-endorsed delegation protocols and collaborative practice agreements allow pharmacists to manage medications independently, therefore increasing patient access to care and freeing provider time to care for more complex patients.[4] Embedding care extenders, including pharmacists, in team-based care models has demonstrated enhanced patient care, improved cost-effectiveness, and reduced provider burnout.[5-8]

Here we highlight our academic medical center's journey in the development of PCPS. Our medical center has residency, community-based, and regional partners in family medicine and internal medicine. The goal at the outset was to grow the services offered for comprehensive primary care and achieve the Quadruple Aim.[9] Services at 13 clinic locations were implemented over 1 year, with an average of 1 location implemented per month. The PCPS offered were determined by analyzing internal clinical performance measures, workflows and care team roles, provider preference, and external literature demonstrating value-added PCPS.[10]

The PCPS within this medical center emphasize 3 core patient care services: hypertension medication management, statin initiation, and comprehensive medication reviews. Based upon prior

provider experiences, a consult component also exists for care team members to request support for medication-related questions that are not specific to the core services. One pharmacist is onsite at each collaborating clinic 1 to 3 days per week based on clinic size. When not physically onsite, PCPS are supported by a centralized triage pharmacist.

Following demonstrated condition control and medication optimization with PCPS during year 1,[11] the need to evaluate care team perspectives was identified. The primary objective of this study was to evaluate care team member satisfaction with PCPS and perceived workflow impact. The secondary objective of this study was to systematically identify and collect care team member priorities for potential expanded PCPS.

METHODS

This evaluation project was selected by a student pharmacist in the final year of experiential training, with oversight from 2 pharmacist preceptors. A 15-question survey was developed. The first 2 survey questions (Q1-2) collected clinic location and role within the clinic using standard selection lists. Questions 3 through 6 (Q3-6) addressed satisfaction, and questions 7 through 11 (Q7-11) addressed workflow; all were developed for evaluation using a typical 5-level Likert scale, ranging from strongly disagree (1) to strongly agree (5). Question 12 (Q12) invited respondents to rank the most beneficial existing PCPS from highest priority (1) to lowest priority (5). Question 13 (Q13) was open-ended for qualitative responses about desired changes to the PCPS.

The final 2 questions (Q14-15) of the survey focused on potential expanded PCPS. Health care performance measures, including state-specific quality measures and Healthcare Effectiveness Data and Information Set (HEDIS), were analyzed to identify opportunities for improvement within the academic medical center. Proven measures in which pharmacists provide value and improve outcomes were identified using literature searches via PubMed and pharmacy journals. The top 5 proposed pharmacy services were identified based on overlap of metric-based need for improvement and published data to support pharmacists improving outcomes. In Q14, respondents ranked each proposed pharmacist service from highest priority (1) to lowest priority (5) based on the perceived need of their patients. The final open-ended question (Q15) invited respondents to comment on additional PCPS, not reflected in the list for ranking, that would benefit their patients in the future.

The survey was administered through an online platform. The survey link was provided to the leaders of each collaborating clinic location that had PCPS for at least 2 months, with a brief description and request to distribute. All care team members (eg, attending physician, medical resident/fellow, advanced practice provider, nurse) were included, regardless of years of service. The survey accepted responses for 2 weeks. Responses were averaged by the electronic survey platform to calculate overall composite scores for ranking questions and weighted averages for rating scale questions. This study was deemed exempt by the University of Wisconsin-Madison Institutional Review Board.

RESULTS

A total of 61 responses were received from an estimated 247 care team members at 12 of the 13 collaborating clinic locations (response rate 24.7%). Responses were received from 30 attending physicians, 17 nurses, 9 advanced practice providers, 2 medical residents/fellows, 2 medical assistants, and 1 clinic manager. Satisfaction with currently provided PCPS (Q3) ranged from 3 to 5, with a mean of 4.65 ± 0.66. Responses provided for both PCPS enhancing the quality of care provided to patients (Q4) as well as recommendation of the PCPS to a friend/colleague (Q5) ranged from 1 to 5, with a mean of 4.61 ± 0.86 and 4.61 ± 0.9, respectively. Care team member perception of patient satisfaction (Q6) ranged from 2 to 5, with a mean of 4.7 ± 0.67 (Table 1).

Recognition of pharmacists as valued care team members (Q7) ranged from 1 to 5, with a mean of 4.76 ± 0.73. Perceived improvements in communication among clinical partners (Q8) ranged from 1 to 5, with a mean of 4.20 ± 1.09. A noted decrease in the number of medication-related problems experienced by patients (Q9) ranged from 1 to 5, with a mean of 3.70 ± 1.01. Care team member perception of *increased* clinical burden from

Table 1. Analysis of Likert Scale Responses to Satisfaction and Workflow Survey Questions

	Average[a]	SD
Satisfaction Questions		
Q3. I am satisfied with the pharmacist service being provided at my clinic.	4.65	0.66
Q4. The pharmacist service enhances the quality of care I provide my patients.	4.61	0.86
Q5. I would recommend the pharmacist service provided at my clinic to a friend (colleague).	4.61	0.90
Q6. My patients have been satisfied with the pharmacist service they receive.	4.70	0.67
Workflow Questions		
Q7. I currently feel that a pharmacist is a valuable part of the health care team.	4.76	0.73
Q8. Communication between myself and my clinical partners (MDs, DOs, RPhs, NPs, RNs) is improved because of the pharmacist service.	4.20	1.09
Q9. Because of the pharmacist service, I have noticed a decrease in the number of medication-related problems my patients experience.	3.70	1.01
Q10. The pharmacist service has increased clinical burden at my clinic.	1.82	1.13
Q11. The pharmacist service at my clinic allows me more time to address patient concerns during office visits.	3.84	1.03

Abbreviations: MD, doctor of medicine; DO, doctor of osteopathic medicine; RPh, registered pharmacist; NP, nurse practitioner; RN, registered nurse.
[a] Likert scale responses ranged from strongly disagree (1) to strongly agree (5).

Table 2. Most Beneficial Primary Care Pharmacy Services

	Composite Score
Q12. Current	
Hypertension medication management	3.8
General consultative activities	3.19
Comprehensive medication reviews	3.14
Hospital follow-ups	2.82
Statin/aspirin initiation	2.09
Q14. Future	
Diabetes medication management	4.21
Management of older adults with high risk medications	3.69
COPD medication management	2.65
Antidepressant medication management	2.35
Asthma medication management	2.12

Abbreviation: COPD, chronic obstructive pulmonary disease.

Table 3. Additional Recommended Primary Care Pharmacy Services

	N
Q15: Additional Recommended Primary Care Pharmacy Services	
Navigating financial and/or medication assistance resources; medication cost reviews	6
Pain/opioid management (tapering, product substitution)	4
Therapeutic interchange support	2
Review and consults for patients of advanced age	2
Deprescribing proton pump inhibitors	1
Bone health (calcium, vitamin D, bisphosphonate duration)	1
Anticoagulation teaching (warfarin vs. direct oral anticoagulants)	1
Device demonstration (insulin, glucagon-like peptide-1 receptor agonists, inhalers)	1

the PCPS (Q10) ranged from 1 to 5, with a mean of 1.82 ± 1.13. Responses regarding increased available time to address patient concerns because of PCPS (Q11) ranged from 2 to 5, with a mean of 3.84 ± 1.03 (Table 1).

Qualitative comments from respondents regarding desired changes to current PCPS (Q13) were received from 40 (65.6%) respondents. Of the responses received, 21 (52.5%) statements requested increased pharmacist presence, and 4 (10%) statements indicated desire for increased pharmacist involvement with more patients/conditions. Requests to modify specific workflow aspects and streamline documentation were provided by 3 (7.5%) and 2 (5%) respondents, respectively.

The most beneficial components of current PCPS (Q12) included hypertension medication management and clinical consult activities (composite scores 3.8 and 3.19, respectively). The most beneficial future pharmacy service identified by care team members (Q14) was diabetes medication management (composite score 4.21) (Table 2). Additional PCPS not reflected in the ranking list but recommended by care team members (Q15) are reflected in Table 3 with the corresponding number of responses received.

DISCUSSION

Overall, this survey demonstrates care team members are satisfied with the PCPS offered in clinic. While similar conclusions recently were reached by Moreno et al, Funk et al, and Truong et al, a few differences make our study novel.[4,7,8] The three publications noted surveyed only primary care providers. The results presented here are unique, as we collected responses from a cross-section of care team members. Additionally, we included questions regarding desired future PCPS service lines, an angle that was not explored in the other publications. Notably, Moreno et al and Funk et al included one-on-one physician interviews, a strategy we hoped to include to draw a more complete conclusion but eliminated due to time constraints. Like our publication, these articles only addressed provider satisfaction with pharmacist services; they did not assess patient satisfaction.

The results show care team members perceive the most beneficial existing and future PCPS focus on pharmacists acting as care extenders and managing medications independently through delegation protocols. As pharmacists work with patients for hypertension management or statin initiation, additional medication-related problems that fall outside the scope of the delegation protocols are often uncovered. These medication problems must be resolved through consultation with the provider and therefore, in theory, may increase clinical burden through additional in-person or electronic interaction. Despite the potential increase in workload, care team members more often disagreed or strongly disagreed that PCPS increased the clinical burden within their clinic (Q10)—a positive finding. However, there were split results in perceived decrease in medication-related problems their patients experience (Q9) and increased time to address patient concerns during office visits (Q11), likely due to the additional medication problems uncovered by working with the pharmacist.

General consultative activities, which may include requests to support medication access, were identified as the second most beneficial service (Q12). This is not surprising given the complexity of medication access continues to increase, and challenges with medication affordability, prior authorization requirements, and ongoing formulary changes are technical burdens experienced by all care team members. Additionally, the largest number of responses for additional service ideas (Q15) related to medication access; however, the small sample size prevents specific conclusions (Table 3). Further research may uncover additional roles and responsibilities for pharmacy technicians among the primary care team to support expansion of pharmacist-led medication management activities by reallocating technical tasks that are highly beneficial to the care team and patients.

Limitations
While the survey was open for all care team members across 13 collaborating clinics, most respondents were primary care provid-

ers (67.2%), which warrants further research of the full care team. Additionally, we only received responses from 24.7% of the care team members surveyed. The low response rate may have been due to the short duration the survey was open or because some clinics elected to have their medical director or clinic manager respond on behalf of the entire clinic. Notably, this survey omits the perspective of ancillary care extenders, such as certified diabetes educators. Prior to implementing a new service, such as diabetes management, it would be important to define the pharmacists' niche among existing care team members. Additionally, while 1 question asked care team members to rank perceived patient satisfaction with PCPS, we did not survey patients directly. This is an important consideration when assessing satisfaction of clinical services and a perspective we plan to include in future surveys at our academic medical center.

Lastly, this survey was limited in scope and unable to directly measure the intangible impact of pharmacists on care team member burnout and offloaded work. We hope to develop strategies to tell this story more completely moving forward, as one respondent reported "the decrease in workload is huge."

CONCLUSION

Implementation of PCPS is perceived positively by care team members, with minimal opportunities for workflow optimization noted. This analysis demonstrated most benefit is derived when PCPS allow pharmacists to serve as care extenders by independently managing medications.

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