Shifts in Pharmacists' Responsibilities in Family Medicine Residency Programs during COVID-19

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Abstract

***Background**: The role of clinical pharmacists in family medicine residency programs (FMRPs) has become increasingly commonplace in the last several years, with mixed responsibilities, however largely involving teaching and patient care. The COVID-19 pandemic affected all facets of healthcare, pharmacists included. Assessment of the impact of COVID-19 on the role of the pharmacist in FMRPs is needed. **Methods**: A survey tool was developed and distributed through two national listservs clinical pharmacists in FMRPs commonly subscribe to. **Results**: A total of 32 responses were received. The majority of pharmacist participants indicated no change in their overall time allocation to the FMRP. Patient care was affected by transitions to virtual or remote care for those in the outpatient setting, which in some cases were sustained changes. Teaching responsibilities increased for the majority, largely impacted by the need to transition to virtual platforms. Barriers to relationship development resulted from both of these transitions. Innovations and positive results were reported by participants in patient care, teaching, and research. **Conclusions**: These results highlight the many silver linings of the COVID-19 pandemic. The new challenges, such as the increased teaching need, use of virtual platforms and using creative ways to find connections and build relationships in an ongoing, semi-virtual world, are opportunities for continued innovation for clinical pharmacists as they fit within our strengths and scope within FMRPs.*

Keywords: COVID-19, pharmacists, pharmacist responsibilities, family medicine, family medicine residency program

Background

In the last four decades, the involvement of clinical pharmacists in family medicine residency programs (FMRPs) and the support for these positions has continually increased, with just over half of accredited programs reporting having a pharmacist directly involved in 2015.[1-4] Due to the work of our predecessors, the advancement of pharmacy education, and the continued demand for interprofessional education and practice, presently clinical pharmacists are viewed as a valued part of the FMRP team, both as educators and practitioners. The role of the clinical pharmacist in FMRPs has continued to be diverse but the amount of time dedicated to various responsibilities have fluctuated. The most recent survey of clinical pharmacists in FMRPs found an increased prevalence of clinical pharmacists (from 27.9% to 52.5%), with less time dedicated to teaching within the FMRP and more time spent providing patient care.[4] While teaching roles have been shown to be consistent between clinical pharmacists, patient care roles are tailored based on the patient population and clinical site served.[5]

The COVID-19 pandemic changed the professional role of the pharmacist, as it did with most other healthcare professionals. Pharmacists adapted their provision of care as needed to help their patients across care settings.[6] Changes to laws allowed for these adaptations and in turn helped pharmacists practice at the top of their license and to aid the overburdened system.[7]

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While there have been positive impacts of the pandemic[8] and reported appreciation by patients for their efforts,[9] pharmacists have been reported to be experiencing higher rates of burnout as compared to before the pandemic.[10] It has been reported that the COVID-19 pandemic has both interrupted and provided unexpected learning opportunities, however, its impact on the role of clinical pharmacists in FMRPs remains undefined.

Methods

Focusing on the roles and responsibilities of clinical pharmacists in FMRPs and previous work,[1-4] a survey tool was developed by the research team and reviewed by the department research committee. In addition to five questions collecting respondent demographic characteristics, the survey tool included a total of 15 questions, including, 5 Likert-style questions and 13 free response questions prompted by responses by previous questions. A maximum of 28 questions was possible, depending on provided answers. Participants were asked to consider the timeframe of March 2020 to time of survey distribution. The survey was built electronically (Qualtrics, Provo, UT) and piloted with five FMRP clinical pharmacists within Minnesota. The pilot feedback was incorporated, the survey was finalized, however, pilot responses were not included in the data analysis.

Descriptive statistical analysis was performed for all demographic and quantitative survey questions for all responses received. Responses to free-response questions were reviewed by two individuals in the study team to identify themes, which were then quantified and reported for review by the whole study team. The University of Minnesota Institutional Review Board (IRB) determined this study was exempt from IRB review.

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Participation in the survey was requested through two national listservs including the American College of Clinical Pharmacy Ambulatory Care Practice and Research Network (approximately 1339 members) and the Society of Teachers in Family Medicine Pharmacy Faculty Collaborative (approximately 74 members). Surveys were distributed in June 2021. After the initial invitation, one reminder was sent two weeks later. Surveys were anonymous and participants did not receive an incentive to participate. Authors did not complete the survey due to bias.

Results

A total of 32 pharmacists participated in the survey (Table 1). The majority were female and were located in the West North Central area of the United States. Years in practice ranged from less than 5 years to greater than 20 years, with most between 6-15 years. The average amount of full-time equivalent (FTE) allocated to the FMRP was 58%, with only 18% (n=6) pharmacists reporting full-time effort. Time allocation was collected by percentage and all pharmacists reported at least some time allocation to teaching, though the highest mean percentage of allocation was attributed to patient care. The majority (68%) of pharmacists reported administrative time allocation and only two pharmacists had time allocated for drug distribution.

Patient Care

Approximately 20% of pharmacists reported either increases or decreases to their overall time allocation due to COVID-19, while the majority remained the same (Table 2). Most pharmacists shifted patient care activities to virtual or remote care by at least 20% FTE. Of the subtypes of patient care activities (inpatient rounding, outpatient visits, drug information consults/chart review, drug dispensing, and patient assistance programs), the majority reported no change. Results comparing the type of outpatient visit, collaborative versus independent, were mixed. Fifty percent reported collaborative visits decreased and 9% reported an increase. Independent visits decreased by 26% for some and increased by 21% for others overall indicating a shift from more collaborative to independent visits. Drug information consults/chart review and patient assistance activities mostly stayed the same (63% and 60% of respondents, respectively), with 25% and 40% of respondents, respectively, reporting increased activity.

Most pharmacists who had shifts in their virtual or remote work provided comments. Several reported complete shifts to virtual for a short period of time (2-3 months) with a range of pharmacists reporting a sustained mix of virtual visits from 10% to 50% of visits. Some reported this as a new modality for them while others increased utilization. A few pharmacists cited patient preferences and clinic social distancing as reasons for the shift to virtual and remote care, with another who reported a centralized process being put into place for anticoagulation services. Comments included some of the practices finding value in pharmacy services and finding new ways to ensure access. Two pharmacists commented on only using telephone and not using video conferencing platforms, even though their practices utilized this tool. Of note, one pharmacist noted that the pandemic provided the opportunity for pharmacists at their institution to be included in the telemedicine rollout as they were previously excluded.

A few pharmacists mentioned limiting patient care activities (e.g., not going to patient rounds) or shifting their activities to cover furloughed or laid off employee responsibilities (e.g., prior authorizations, anticoagulation management). Some reported concerns with providing education and working with non-English speaking patients during virtual patient care. Innovations in patient care included participation in a multi-center clinical trial of a new monoclonal antibody treatment, implementation of a new telephone-only patient-centered scheduling system, and utilization of technology for home monitoring (e.g., continuous glucose monitoring and home anticoagulation monitoring).

Teaching

Teaching activities overall increased for almost all pharmacists with only two reporting a decreased shift in activities. Comments regarding teaching activities included shifting to virtual didactic teaching sessions and reduced time for in-clinic teaching opportunities. Specifically, one pharmacist mentioned shifts from in-clinic to electronic (e.g., email or electronic health record) drug information questions. Some pharmacists noted that audience attendance and interaction was decreased in the virtual format. Innovations in teaching reported included learning new technology (e.g., Zoom, Qstream, Microsoft Teams), creating new active learning strategies, developing new content materials, implementing layered learning strategies, and increasing audience response activities.

Research

Regarding research activities, one pharmacist described a shift in priorities of research activities including some research studies being delayed and abandoned. One reported that research time was reduced and shifted into patient care and teaching, thus creating more “independent work” to be completed on nights and weekends. Another pharmacist reported more interest from the site for medical and pharmacy collaboration in quality improvement projects. Innovations included improvement in effective writing from the home environment and technology (e.g., Zoom, Microsoft Teams) was found to improve research team collaboration.

Administrative Activities

Pharmacists reported a higher cognitive load for pandemic-related decision making and other administrative tasks such as curricular updates, accreditation activities, scheduling for patient care, and clinical support activities. A new technology platform (Microsoft Teams) was found to be helpful for sharing files and instant messaging at one site for administrative tasks.

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Relationship-Building

Relationship-building setbacks were reported and mostly specific to the new resident class. Staff (e.g., front desk, nursing support, office admin) relationships were also noted as one site that experienced employment turnover and inter-office "turmoil" during the pandemic. One pharmacist experienced a colleague's (fellow pharmacist) burnout and also a special focus and acknowledgment by faculty on "preserving cohesion and respectfully handling broader special issues."

Discussion

Pharmacists experienced both positive and negative changes in their roles within FMRPs. Throughout the open comments, pharmacists mentioned the "out of sight, out of mind" sentiment and how this impacted patient care and relationship building.

Compared to the national landscape of clinical pharmacists in FMRPs in 2015, time spent in various roles was fairly consistent, with teaching and research increasing slightly (from 32%[4] to 35% and 8%[4] to 11%, respectively). However, reported time spent in patient care decreased more dramatically (from 53%[4] to 41%). This aligns with pharmacists reporting shifting care to virtual and/or remote as well reported decreases in inpatient rounding and outpatient visits.

While face-to-face patient care decreased, opportunities for telemedicine and technology innovations expanded. Pharmacists were able to serve as a drug information resource remotely. These roles can help address gaps in care, patient education needs, and adherence and access issues, which mirror the benefits pharmacists have provided to the primary care team during the COVID-19 pandemic.[11]

Most likely, some changes that were put in place due to the COVID-19 pandemic are here to stay. The American College of Clinical Pharmacy (ACCP) has developed a framework for implementing comprehensive medication management (CMM) using telehealth models.[12,13] In graduate medical education, when the Center for Medicare and Medicaid Services (CMS) expanded reimbursement for telemedicine and allowed for virtual precepting of residents, telemedicine models in residency programs were quickly developed and implemented.[14] Even without a pandemic, telemedicine provides benefits for many different patient populations, especially those with barriers due to healthcare disparities.

Collaborative learning and relationship building are important aspects of health profession education. When teaching and meetings move to a virtual platform, these suffer. In addition, our study highlights the need to improve virtual teaching, both precepting and didactics. Pharmacists expressed that if they are not physically on-site and are precepting virtually, the volume of consultations decreases. There is also a need for improved virtual didactic sessions to better involve participants.

The impact on relationship building during COVID-19 is particularly significant for pharmacists within FMRPs. Being visible and accessible to the team is recommended for pharmacists when integrating into the primary care team.[15] Virtual and remote work can make this challenging, especially in a residency practice where new family medicine residents are starting and may not be familiar with the roles and services provided by clinical pharmacists. Direct interactions have been shown to be important for optimizing resident physician use of pharmacy services.[16] The survey captured perspectives from March 2020 to June 2021, providing context of both ending a residency training year and onboarding of a new residency cohort.

This project has several limitations. The sample size is small and may not represent all pharmacists in FMRPs. The findings may be impacted by non-response bias if there were differences in characteristics and experiences between responders and non-responders. The findings may also be impacted by recall bias and social desirability bias. The term "innovation" was not defined in the survey question, participants were asked to self-identify, "changes, both positive and negative, and innovations in [patient care, teaching, research, administrative activities, relationship building] as a result of the COVID-19 pandemic." Furthermore, it is difficult to know how much of the adaptations and innovations will be sustained, as practices likely continue to change due to the pandemic.

Conclusion

Like other members of the healthcare team, clinical pharmacists in FMRPs also saw positive outcomes and challenges from the COVID-19 pandemic. As many of the resulting changes from the pandemic are here to stay (virtual and/or remote patient care and teaching), the survey results highlight areas in which to work toward improvement, namely in relationship building which benefits all facets of the clinical pharmacist's role within FMRPs.

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Table 1. Demographic Characteristics (n=32)

Characteristic	Value
Location, n (%)	
East North Central (IL, IN, MI, OH, WI)	5 (15.63)
South Atlantic (DE, DC, FL, GA, MD, NC, SC, VA, WV)	3 (9.38)
Middle Atlantic (NJ, NY, PA)	2 (6.25)
West North Central (IA, KS, MN, MO, NE, ND, SD)	13 (40.63)
West South Central (AR, LA, OK, TX)	5 (15.63)
Mountain (AZ, CO, ID, MT, NV, NM, UT, WY)	4 (12.50)
Age, mean years (range) (n=30)	39.1 (26-53)
Gender, n (%)	
Male	6 (18.75)
Female	26 (81.25)
Non-binary	0 (0)
Prefer not to disclose	0 (0)
Years in Practice, n (%)	
≤ 5 years	3 (9.38)
6- 10 years	13 (40.63)
11-15 years	7 (21.88)
16-20 years	5 (15.63)
> 20 years	4 (12.50)
Years with Current FMRP, n (%)	
≤5 years	13 (40.63)
6-10 years	13 (40.63)
11-15 years	1 (3.13)
16-20 years	2 (6.25)
>20 years	3 (9.38)
FTE Allocated to FMRP, mean percentage (range)	58.32 (0.15-1.0)
Time Allocation within FTE, mean percentage (SD) (n=31)	
Teaching	31.71 (22.75)
Patient Care	46.45 (25.79)
Research/Scholarship	11.38 (14.11)
Administration	6.85 (7.75)
Drug Distribution	0.52 (2.69)

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Table 2. Survey Responses to COVID-19 Changes

Variable	Value
Change in time allocation, n (%)	
Increased	4 (12.5)
Stayed the same	25 (78.13)
Decreased	3 (9.38)
Extent of change in patient care activity to virtual or remote care, n (%)	
<20% FTE decrease	1 (3.13)
≥20% FTE decrease	1 (3.13)
≥20% FTE increase	21 (65.62)
<20% FTE increase	5 (15.63)
No change	4 (12.5)
Extent of change in teaching activity shifted to virtual or remote, n (%)	
<20% FTE decrease	1 (3.13)
≥20% FTE decrease	1 (3.13)
≥20% FTE increase	24 (75.0)
<20% FTE increase	2 (6.25)
No change	4 (12.50)
Change in research/scholarly activity due to COVID-19, n (%)	
Yes	7 (21.88)
No	20 (62.5)
Not applicable	5 (15.63)
Change in administrative activity due to COVID-19, n (%)	
Yes	9 (28.13)
No	18 (56.25)
Not applicable	5 (15.63)
Involvement in COVID-19 vaccine administration, n (%)	
Have been involved	14 (43.75)
Have not been involved	18 (56.25)
Change in ability to build and maintain relationships and connections with the faculty and residents due to COVID-19, n (%)	
Yes	24 (75.0)
No	8 (25.0)

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