

The Impact of COVID-19 on Primary Care Teamwork: a Qualitative Study in Two States



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BACKGROUND: The emergence of coronavirus disease 2019 (COVID-19) disrupted how primary care physicians (PCPs) and their staff delivered team-based care.

OBJECTIVE: To explore PCPs' perspectives about the impact of stay-at-home orders and the increased use of telemedicine on interactions and working relationships with their practice staff during the first 9 months of the pandemic.

DESIGN: Qualitative research.

PARTICIPANTS: Participants included PCPs from family and community medicine, general internal medicine, and pediatrics.

APPROACH: One-on-one, semi-structured video interviews with 42 PCPs were conducted between July and December 2020. Physicians were recruited from 30 primary care practices in Massachusetts and Ohio using a combination of purposeful, convenience, and snowball sampling. Interview questions focused on work changes and work relationships with other staff members during the pandemic as well as their experiences delivering telemedicine. All interviews were audio-recorded, transcribed verbatim, and coded using deductive and inductive approaches.

KEY RESULTS: Across respondents and states, the context of the pandemic was reported to have four major impacts on primary care teamwork: (1) staff members' roles were repurposed to support telemedicine; (2) PCPs felt disconnected from staff; (3) PCPs had difficulty communicating with staff; and (4) many PCPs were demoralized during the pandemic.

CONCLUSIONS: The lack of in-person contact, and less synchronous communication, negatively impacted PCP-staff teamwork and morale during the pandemic. These challenges further highlight the importance for practice leaders to recognize and attend to clinicians' relational and work-related needs as the pandemic continues.

KEY WORDS: Primary care; Teamwork; Qualitative research; Healthcare workforce; COVID-19.

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INTRODUCTION

In the early months of the coronavirus disease 2019 (COVID-19) pandemic, social distancing, stay-at-home orders, and restrictions on in-person patient visits were common strategies deployed by primary care practices to protect patients and healthcare providers from contracting and spreading COVID-19.^{1–3} In addition, the rapid implementation of telemedicine enabled primary care physicians (PCPs) and their staff (e.g., nurses and medical assistants) to provide essential services without having to occupy the same workspace, representing a drastic change for primary care practice⁴. In the wake of these changes, reports have indicated that the COVID-19 pandemic has exacerbated PCP exhaustion and burnout.^{5–7} If left unaddressed, declining physician mental health could negatively affect patient care quality as well as physicians' job satisfaction.^{8–10}

The hallmarks of team-based primary care—stable teams, clear roles, and effective communication—have the potential to mitigate the symptoms of burnout and improve both physician satisfaction and patient outcomes.^{11–14} To this end, primary care practices have adopted a variety of strategies including, but not limited to, forming teamlets (i.e., physician-staff dyads) or multidisciplinary care teams, using non-physician staff for care coordination, introducing care manager roles, implementing team huddles, and integrating behavioral health to facilitate coordinated and continuous primary care.^{15–17} Previous research indicates that cultivating teamwork and fostering communication between healthcare providers can reduce PCP burnout and improve physician work satisfaction.^{13,14,18}

However, as far as we know, there have been no systematic examinations of COVID-19's impact on primary care teamwork from the perspective of PCPs. It is unclear how measures taken by practices to protect individuals from infection by the

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coronavirus (e.g., social distancing, masking protocols) and increased use of telemedicine have affected primary care teamwork, specifically as it relates to interpersonal interactions between PCPs and staff. We begin to address this gap by describing the findings from our analysis of data from a multi-state qualitative study designed to understand the changes to PCP work practices during the COVID-19 pandemic. The objective of this study was to examine PCPs' perspectives about primary care teamwork between July and December 2020 of the COVID-19 pandemic to improve our understanding of how practice changes required by the pandemic impacted primary care teamwork.

METHODS

Study Design, Setting, and Participants

We designed a qualitative study using content analysis to understand PCPs' perspectives about the impact of COVID-19 on primary care and how their work changed. We originally planned to employ a purposeful, regional multi-site sampling strategy that would identify and recruit PCPs from the USA. However, due to the varied nature and timing of pandemic surges in different geographic areas, only the research sites in Massachusetts and Ohio were able to recruit PCPs for the study. In these two states, the research sites employed a combination of purposeful, convenience, and snowball sampling to recruit physicians who practiced general and internal medicine (GIM), family and community medicine (FM), or pediatrics, and were affiliated with either a primary care research center (Massachusetts) or an academic medical center (AMC) (Ohio).

With the approval of the institutions and department chairs, the research team recruited PCPs via two mechanisms: (1) an invitation via a primary care newsletter, which had approximately 7,000 subscribers at the time of the study; and (2) via emailed recruitment letters to 106 PCPs describing the purpose of the study and offering them an opportunity to participate. Up to three follow-up emails were sent to non-respondents. Medical residents were excluded from the study as they had not been practicing long enough to meaningfully compare primary care practice before and during the COVID-19 pandemic. This project received approval from the Institutional Review Board at [Harvard Medical School, The Ohio State University, and Suffolk University] prior to data collection. The study followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines.

Interview Guide Development

We developed a semi-structured interview guide during May and June of 2020 using the emerging literature on the COVID-19 pandemic to inform our questions. The interview guide included the following domains: physician background and work information; changes in work since the emergence of

COVID-19; perspectives about confidence and competence as a PCP during the pandemic; and impacts of telemedicine and virtual care on PCPs and patient care (see [Appendix: Interview Guide](#)). A panel of health services researchers including a PCP reviewed the interview guide and questions were refined based on their feedback. The study team (MJD, EES, MB, ASM) has extensive expertise in conducting qualitative research in primary care settings, including developing interview protocols, conducting physician interviews, and analyzing interview data.

Interview Procedures

Interviews were conducted between July and December 2020, before any vaccines against COVID-19 had become available. On average, interviews lasted 30 min. Participants provided verbal consent prior to being interviewed. The authors (MJD, EES, MB, DM, ASM) conducted all interviews for their respective sites using the Zoom videoconference platform. All interviews were audio-recorded, transcribed verbatim, and de-identified. Participants received no compensation for their participation. We conducted a total of 42 semi-structured interviews, at which time data saturation, or information redundancy, occurred.¹⁹⁻²¹

Data Analysis

De-identified transcripts were entered into qualitative data analysis software (NVivo and Atlas.Ti) and were thematically indexed and coded. Following the tenets of deductive and inductive thematic content analysis,²²⁻²⁴ each team (Ohio/Massachusetts) reviewed the transcripts from their respective state using a core set of common codes derived from the interview guide, but also allowing for the identification of new codes during analysis. Consensus was reached about the final codes and definitions through Zoom meetings held between the authors (MJD, EES, MB, AAG, ASM). A member from each team (AAG/DM) initially coded all their data using the core set of common codes, with frequent meetings held among and across teams to ensure agreement about emergent themes. For this analysis, two team members (MJD/EES) used data from two common codes of the full dataset (i.e., teams, relationships with colleagues) to identify and characterize sub-codes related to teamwork in primary care.

RESULTS

We interviewed 42 PCPs from 30 primary care practices affiliated with 6 AMCs and 8 non-academic healthcare organizations. Table 1 describes the characteristics of the respondents including their gender, specialty, affiliation, years in practice, and geographic location.

Across interviewees and states, we characterized four themes related to PCPs' perspectives about the impact of

Table 1 Study participant characteristics

Characteristic	State		Total
	Massachusetts	Ohio	
	(N=22)	(N=20)	(N=42)
Gender, N (%)			
Female	10 (45.5)	11 (55.0)	21 (50.0)
Physician specialty, N (%)			
Family and community medicine	8 (36.4)	13 (65.0)	21 (50.0)
General and internal medicine	9 (40.9)	6 (30.0)	15 (35.7)
Pediatrics	5 (22.7)	1 (5.0)	6 (14.3)
Practice affiliation, N (%)			
Academic medical center	15 (68.2)	20 (100.0)	35 (83.3)
Community health center	2 (9.1)	–	2 (4.8)
Community hospital	2 (9.1)	–	2 (4.8)
Other*	3 (13.6)	–	3 (7.1)
Years in practice, average (range)	18 (2–36)	16 (3–41)	17 (2–41)

*Includes one direct primary care practice (n=1) and two not-for-profit health systems (n=2)

COVID-19 on primary care teamwork (Table 2): (1) staff members’ roles were repurposed to support telemedicine; (2) PCPs felt disconnected from staff; (3) PCPs had difficulty communicating with staff; and (4) many PCPs were demoralized during the pandemic. Since PCP perspectives were similar regardless of geography and practice setting, we report our findings from MA and OH in the aggregate.

Table 2 Qualitative themes and illustrative quotations from interviews

Themes	Illustrative quotations
Repurposed: Physicians describing the changing roles and responsibilities of staff to support telemedicine	<p>“There’s been issues with some of our staff being deployed to other locations, so we’re having staff doing work that either they wouldn’t ordinarily do or is an overload of what their typical responsibilities are because they’re having to cover for other people...So everybody’s kind of shifted in other ways and pulled and kind of stretched a little bit...” (GIM, 10 years in practice)</p> <p>“And so we had to repurpose [staff] to doing kind of virtual rooming processes prior to us seeing them and trying to get whether it be paperwork and rating scales filled out or whether it be [a] vital from home measurements and whatever else done.” (GIM, 7 years in practice)</p>
Disconnected: Physicians describing how being detached from other staff members effects team continuity	<p>“I did not go into this field because I like to work in isolation. This is a collaborative project. I need to have a team because my MA (medical assistant) hears things that I wouldn’t hear and I hear things that my MA wouldn’t hear[...] [T]his is a collaborative affair and I’m completely alone and isolated in my dining room and house and community.” (GIM, 21 years in practice)</p> <p>“So just things like that where kind of the erosion of that cohesion of a team now became a lot more disjointed, I guess.” (FM, 15 years in practice)</p>
Difficulty Communicating: Physicians describing the challenges of communicating with staff	<p>“So the support staff has trouble communicating with me, and I have trouble communicating with them.” (FM, 10 years in practice)</p> <p>“[...] I missed that communication. I mean, I still sign out patients, I call them my colleagues on the phone, etc. But it just was much more fluid. So, I mean, basically I missed the office environment.” (Pediatrics, 35 years in practice)</p>
Demoralized: Physicians describing the impact of COVID-19 on physician and staff morale	<p>“[The COVID-19 pandemic] has affected just morale in general because we just don’t have enough people to help us and those people that are here are some of our best, [...] you know, they can only do so much, like no one can be on 100% all the time. And so, you just see morale issues.” (FM, 1 year in practice)</p> <p>“And so, our workforce is dramatically being impacted, I would say, by [workforce hospitalizations] and it is adversely affecting our ability to deliver high quality care...” (FM, 5 years in practice)</p>

Repurposing of Roles to Support Telemedicine

Physicians relied heavily on telemedicine during the early phases of the pandemic resulting in expanded roles for medical assistants (MAs) and other primary care staff who needed to help patients engage with telemedicine. Interviewees elaborated on the new responsibilities of MAs and nurses in preparing patients for virtual visits, which prior to the COVID-19 pandemic, rarely occurred:

So the medical assistant, what they'll do is call the patient, prime them for the visit, review their medication list with them and then there's a way in the chart that the medical assistant can denote that this patient is ready to begin the visit and then that lets me know, I can shoot them the invitation to the telemedicine visit. (FM, 5 years in practice)

Roles of MAs were repurposed to facilitate the virtual rooming process and to provide technology support to patients. These roles were in addition to existing responsibilities essential to primary care delivery. There was general agreement that this repurposing of staff roles was fundamental to implementing virtual visits while PCPs were working offsite during the early part of the COVID-19 pandemic.

Disconnection from Staff

While stay-at-home orders were in place, physicians were unable to work side-by-side and maintain usual lines of communication with their staff. As one PCP noted: “With virtual

health, I'm kind of by myself. We do a lot of sending out messages and stuff but still not that visual contact, we all kind of felt separated from each other." (FM, 35 years in practice) The physical separation between PCPs and staff also made it difficult to maintain work relationships essential for delivering team-based care. For example, two PCPs explained how being separated from their team made it "incredibly challenging" to know what was going on with patients and made them feel "on [their] own" in the physical absence of staff.

A major drawback of PCP and staff separation was that physicians could not interact or consult with other team members as they did before the pandemic—resulting in a more individualized care experience:

So primarily me and my patient interact really in a different way than having the rest of the care team integrated. I think we went from a really good, robust care team working together to take care of patients and being able to bounce things off people quickly to more of an individualized [manner where] me and my patient [were] working together without the medical assistant, or the nurse, or other folks. (FM, 15 years in practice)

Another physician described how telemedicine altered how healthcare providers engaged with each other: "People realize that this was going to be the system for holding [it] all together because you can't just run upstairs. You can't just pick up the phone, we are now dispersed." (Pediatrics, 6 years in practice)

Communication Challenges

Electronic modes of communication via electronic health records, voice messages, and/or text messaging replaced synchronous in-person conversations between PCPs and staff. These modes of communication were less useful when team members wanted to interact to respond to emergent patient care needs:

We've had to move to a lot more electronic conversations...with staff. And so it's changed the dynamic of the quick simple conversation as you pass someone [in] the hallway [... it] requires [a] phone call or a text message, which is often more time consuming and challenging, and so [it is] all together harder to make on the fly changes. (GIM, 7 years in practice)

Some physicians noted the disadvantages of not having face-to-face communication and having to switch to virtual platforms to communicate with patients. One PCP described the impact of not having these face-to-face encounters: "...and now that whole chain is kind of broken and so they're missing a lot of those interactions. I miss that too because sometimes I find out [a] bunch of information that I might need because they'll [the patient] tell the MA something[...] And so sometimes that's really helpful." (FM, 23 years in practice) Another

PCP commented on the difficulties of communicating with staff in their practice: "So there's something going on with the call with a patient that I need resolved right away, it's not always immediately obvious to me how to connect to that [staff] person[...]" (FM, 17 years in practice) Despite these challenges, asynchronous communication was reportedly important to help coordinate day-to-day work activities.

Demoralization of PCPs

Physicians remarked about the impact the pandemic had on the morale of their staff. For example, some staff were redeployed to hospital units to help manage the surge of COVID-19 patients and others had to pick up shifts to cover for the redeployed co-workers, as well as co-workers who were sick. One participant explained the potential ramifications of the situation:

And, as people are dropping out sick, as people are struggling one way or another, morale takes [a] really big hit. And so what we are really struggling with now in a pretty profound way is, I think, [a] devastatingly low level of morale, to the point of which my medical director was overheard the other day saying that he feels like this is the end of our practice. (FM, 5 years in practice)

One participant described how staff turnover also increased anxiety within practices, especially for long-serving staff members: "And then you also are losing members of your clinical team and can't really, you know, replace them. And so I think it's creating just a lot of angst." (GIM, 10 years in practice) Isolation also contributed to a poorer work environment, such that physicians, staff, and patients could not have simultaneous conversations critical to the delivery of coordinated care: "But definitely the mood was much more negative because...they're physically isolated from us and from their families and from their patients and from each other because they're all having to sit far apart from each other so they can't even have that usual conversation." (GIM, 21 years in practice) Overall, with fewer PCPs working in person, morale decreased as some staff had to work harder to continue providing in-person primary care during the pandemic.

DISCUSSION

Effective teamwork is an essential component of high-quality and efficient primary care delivery. However, there has not been a systematic investigation into how the COVID-19 pandemic, and the subsequent uptake of telemedicine, affected primary care teamwork. Our findings suggest that the pandemic disrupted teamwork, and the rapid shift to telemedicine altered previously defined roles of staff, with both resulting in fractured connectedness and communications between PCPs and their staff. While the scope of our study did not address the

impact of these changes on patient outcomes, our findings suggest that the COVID-19 pandemic had a negative impact on physician and staff morale. These findings were consistent across interviewees from two states up until December of 2020. Despite PCPs having transitioned back to delivering in-person care, our findings highlight the challenges facing PCPs during a time when practices were in flux. As primary care leaders consider sustaining and potentially expanding the use of telemedicine, they should also think about implementing strategies that will foster PCP-staff connectedness and teamwork as the practice undergoes such changes.

During the early months of the pandemic, participants described a lack of clear roles and responsibilities as primary care teams learned to function in a virtual office. This required greater coordination as described by participants, but it also highlighted the challenges of clarifying the roles of physicians and staff in delivering telemedicine. In the context of COVID-19 and the rapid shift to telemedicine, optimal task delegation or team-based models have yet to be explicitly defined and operationalized, which may continue to hinder team functioning. Technology challenges notwithstanding, it is likely more tailored training, resources, and strategies to support the delivery of team-based telemedicine will be necessary to ensure primary care practices do not lose the pre-pandemic momentum many have made during their transformation into high-performing primary care teams.²⁵

Previous research shows that co-location and ongoing communication are critical components of high-performing primary care practices.²⁵ Daily check-ins and team huddles provide opportunities for physicians and staff to communicate and ensure PCPs and staff members are aware of upcoming patient visits.²⁶ But despite the availability and increased use of technology to maintain communication, we found that the lack of co-location and team continuity negatively affected PCP and staff morale. Like other research,⁴ physicians in our study described feeling demoralized as stay-at-home orders and virtual visits posed challenges to interdisciplinary teamwork. Thus, our findings suggest that PCP-staff separation inhibited healthcare providers from working together and it may have had negative downstream effects—that is, it contributed to lower physician and staff morale. Organizational approaches to advance physician and staff well-being, for example, soliciting feedback from physicians regarding the practice environment, should consider addressing the communication needs and workflow challenges of staff as the pandemic has continued in order to improve teamwork and prevent the exacerbation of physician and staff burnout.^{18,27}

Our findings also suggest that the implementation of video visits and the development of separate clinical workspaces may also affect care team processes. New workflows that accommodate telemedicine should provide opportunities for physicians and staff to collaborate with each other and to encourage the sharing of best practices to support telemedicine use.²⁸ This may include expanding the use of asynchronous communication tools (e.g., secure messaging and electronic

triaging systems) and ensuring staff are appropriately trained to use such systems to maintain communication between physicians and staff. More research is warranted to investigate how physicians and staff use telemedicine to optimize teamwork and foster communication in order to provide insights about the design and implementation of telemedicine workflows. Because PCPs in our study were employed at different primary care practices, it is possible that other practice characteristics could have influenced our findings, but more research at the organization level is needed to better understand these relationships.

Although we capture the perspectives of PCPs across two states, our study has limitations. First, we interviewed participants at a single point in time at which some PCPs were transitioning back to delivering in-person care, so participant accounts may suffer from recall bias. As hybrid models of in-person care and telemedicine emerge,²⁹ understanding the impact of these new care models on PCPs and teamwork is an area for future research. Second, we did not include primary care staff in our study given that many nurses and MAs were extremely busy at that time delivering in-person care during the pandemic. Further examination of staff perspectives on the impact of telemedicine and primary care teamwork could uncover additional themes that were not identified in this research. Third, we did not ask participants about their experiences using telemedicine prior to the pandemic which could have influenced participants' perspectives about the advantages and disadvantages of virtual care on team functioning. Fourth, as most respondents worked in academic, or academic-affiliated, practices, it is possible that the experiences of physicians from other practice types may differ with respect to the impacts of COVID-19 due to variability in factors such as patient panel characteristics, telemedicine infrastructure, and/or access to resources such as staff. Finally, due to the time-sensitive nature of this research, we did not interview patients to understand if and how their interactions with PCPs and staff were affected by using telemedicine.

CONCLUSION

The COVID-19 pandemic and its associated increased use of telemedicine have revealed both challenges and opportunities to improve team functioning. As practices consider augmenting in-person care with virtual visits, it will be important to examine how these new workflows engage PCPs and staff to ensure the delivery of high-quality team-based care. Also, an important element reported by physicians is the impact of the absence of face-to-face interactions with their colleagues on morale. Future studies should focus on the more relational and emotional aspects of practice changes.

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Declarations:

Conflict of interest: The authors declare that they do not have a conflict of interest.

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