

ORIGINAL RESEARCH

COVID-19's Perceived Impact on Primary Care in New England: A Qualitative Study

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Background: COVID-19 impacted primary care delivery, as clinicians and practices implemented changes to respond to the pandemic while safely caring for patients. This study aimed to understand clinicians' perceptions of the positive and negative impacts of COVID-19 on primary care in New England.

Methods: This qualitative interview study was conducted from October through December 2020. Participants included 22 physicians and 2 nurse practitioners practicing primary care in New England. Data were thematically coded and analyzed deductively and inductively using content analysis.

Results: Through qualitative content analysis, 4 areas were identified in which clinicians perceived that COVID-19 impacted primary care: 1) bureaucracy, 2) leadership, 3) telemedicine and patient care, and 4) clinician work-life. Our findings suggest that the positive impacts of COVID-19 included changes in primary care delivery, new leadership opportunities for clinicians, flexible access to care for patients via telemedicine, and a better work-life balance for clinicians. Respondents identified negative impacts related to sustaining pandemic-inspired changes, the inability for some populations to access care via telemedicine, and the rapid implementation of telemedicine causing frustration for clinicians.

Conclusions: Understanding clinician perspectives on how primary care transformed to respond to COVID-19 helps to identify beneficial pandemic-related changes that should be sustained and ideas for improvement that will support patient care and clinician engagement. (J Am Board Fam Med 2022;35:265–273.)

Keywords: COVID-19, Health Services Accessibility, New England, Pandemics, Patient Care, Primary Health Care, Qualitative Research, Telemedicine, Work-Life Balance

Introduction

Primary care, which has been on the frontlines of COVID-19 care and prevention,¹ has endured demanding transformations in the past decade, which have been associated with increased workplace stress, job dissatisfaction, and burnout.^{2–5} The COVID-19 pandemic posed additional challenges to primary care: practices lost revenue as in-person visits were

restricted;⁶ financial challenges led to practice closures and layoffs or early retirement;⁷ and clinicians experienced the same mental toll that COVID-19 inflicted on their patients due to layoffs, financial stress, and general anxiety about the virus.⁸ The financial and mental health challenges faced by primary care during the pandemic⁹ exacerbated the pre-pandemic financial woes and burnout statistics,^{10,11} which threaten access to care throughout the United States, especially in underserved areas.^{12,13}

Primary care practices, along with the rest of the U.S. health system, struggled to keep pace with COVID-19. Primary care engaged in rapid transformation and role shifting: staffing hospitals during COVID-19 surges, providing testing at respiratory

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symptom clinics, treating patients with COVID-19, and managing acute, chronic, and preventive care virtually.^{7,14} Changes, in the form of innovations, collaborations, and improvements, were implemented and may last beyond the pandemic.¹⁵ The pandemic modified the organization and processes of primary care,^{15,16} but we do not know which changes will last, how they impacted clinicians, and if the changes had a positive or negative impact on primary care or clinicians' feelings of stress, burnout, or professional dissatisfaction.

As far as we know, there have been no systematic examinations of COVID-19's impact on primary care in the U.S. from the perspective of primary care clinicians. While the literature has highlighted the financial and mental health challenges experienced in primary care,⁶⁻⁸ and data are emerging on the rapid shift to telemedicine,¹⁷⁻¹⁹ it is unclear how clinicians perceived COVID-19's impact on primary care. The objective of this study is to analyze clinicians' perceptions of the positive and negative impacts of COVID-19 on primary care in New England.

Methods

Study Design

This study is based on data from a larger qualitative study designed to understand the changes to primary care clinicians' work practices during the COVID-19 pandemic. The semi-structured interview²⁰ protocol was constructed using emerging literature on the pandemic. The interview protocol addressed the following domains: background information about each clinician; changes in work since the emergence of COVID-19; perspectives about confidence and competence as a clinician during the pandemic; and the impact of telehealth (see Appendix for interview protocol). A panel of health services researchers and a primary care physician reviewed the interview protocol, and the questions were revised based on their feedback. This project received approval from the Institutional Review Board at Suffolk University and Harvard Medical School. We used COREQ guidelines for reporting qualitative research.

Study Setting, Participants, and Recruitment

Study participants were primary care clinicians in general internal medicine, family medicine, or pediatric practices. We recruited clinicians via the

Harvard Medical School Center for Primary Care Newsletter, which had ~7000 subscribers in summer 2020, and through snowball and convenience sampling techniques. The Center newsletter explained the study and directed interested participants to a website where they could schedule an interview. Given the recipients of the Center's Newsletter, participants were mainly primary care physicians practicing in the New England area. We excluded medical residents from our study.

Interview Procedures

The study PIs (ES and MB) had extensive expertise in conducting qualitative research in primary care settings, including developing interview protocols, conducting interviews, and analyzing interview data. Semi-structured interviews lasting approximately 30 minutes were conducted by 3 authors between October and December 2020. Participants provided verbal consent before being interviewed using the Zoom software platform. All interviews were conducted one-to-one by the study PIs with assistance from the study's research assistant. All interviews were recorded, transcribed verbatim, and de-identified. Participants received no compensation for their participation. Participants were recruited, and interviews were conducted until data saturation occurred.²¹⁻²³

Data Analysis

Deidentified transcripts were entered into NVivo12 qualitative data analysis software, and data were thematically indexed and coded following the principles of content analysis.²⁴⁻²⁶ The research team developed an initial codebook based on the interview guide and tested it with an initial set of interviews (deductive coding²⁷). The research team added emergent themes to the codebook (inductive coding²⁷) as the data analysis continued. The consensus was reached on the final codes and definitions through meetings between the research team. Using an iterative process, 2 of the authors independently coded each transcript in the data set using the final codebook and met weekly to review and reconcile coding decisions.

The research team was particularly interested in conducting a subanalysis focused on how clinicians perceived the positive and negative impacts of COVID-19 on primary care. For this subanalysis, the team identified a set of codes to extract from the main coded data set (ie, changes in work, the

impact of telemedicine) and further coded the data using positive and negative subcodes (eg, impact for patients, impact for clinicians). To ensure the quality of the analysis, the research team regularly met to discuss emergent themes and find relationships between recurrent themes and concepts. Finally, 3 senior physicians, representing internal medicine, family medicine, and pediatrics, practicing at Harvard Medical School-affiliated clinics, served as external reviewers and validated the analysis' overall findings.

Results

We interviewed 24 primary care clinicians, 22 physicians, and 2 nurse practitioners. Five participants were pediatricians, 9 practiced family medicine, and 10 practiced internal medicine, see Table 1. The average number of years in practice was 18, and the average number of sessions respondents saw patients per week was 5. The majority of respondents worked in academic or academic-affiliated practices, with 5 respondents working

in nonacademic practices. Eight respondents reported roles beyond being a primary care clinician, including roles within medical education, or serving in positions such as medical director or director of quality and safety within their practice.

Through thematic analysis, we identified 4 areas in which clinicians perceived that COVID-19 impacted primary care: 1) bureaucracy, 2) leadership, 3) telemedicine and patient care, and 4) clinician work-life. Table 2 summarizes the positive and negative impacts of these 4 themes. The analysis did not reveal a difference in COVID-19's impact based on specialty type (ie, family medicine, internal medicine, pediatrics), except where noted below.

Bureaucracy

According to respondents, COVID-19 had a positive impact on the bureaucracy that exists in health care organizations by eliminating barriers and facilitating the medical community working together without bureaucratic impediments. As 1 respondent said, "things that have been talked about for decades in terms of changing primary care, all of a sudden are on the table

Table 1. Sample Characteristics

| Clinician | Length of Time as PCP | Type of Medicine Practiced | Area Served |
|-----------|-----------------------|----------------------------|-------------|
| R1 | 10 years | Family | Urban |
| R2 | 5 years | Family | Urban |
| R3 | 8 years | Family | Urban |
| R4 | 6 years | Pediatrics | Urban |
| R5 | 36 years | Family | Urban |
| R6 | 3 years | Internal | Urban |
| R7 | 1 year | Family | Suburban |
| R8 | 53 years | Internal | Suburban |
| R9 | 20 years | Pediatrics | Urban |
| R10 | 42 years | Family | Suburban |
| R11 | 26 years | Internal | Suburban |
| R12 | 3 years | Pediatrics | Urban |
| R13 | 6 years | Internal | Urban |
| R14 | 7 years | Pediatrics | Urban |
| R15 | 34 years | Internal | Urban |
| R16 | 34 years | Internal | Urban |
| R17 | 16 years | Family | Urban |
| R18 | 7 years | Internal | Urban |
| R19 | 35 years | Pediatrics | Suburban |
| R20 | 30 years | Internal | Urban |
| R21 | 44 years | Internal | Urban |
| R22 | 2 years | Internal | Urban |
| R23 | 4 years | Family | Suburban |
| R24 | 6 years | Family | Urban |

Abbreviations: PCP, primary care physicians.

Table 2. Results Summary Table

| Theme | Positive Impact | Negative Impact |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bureaucracy | <ul style="list-style-type: none"> • Having fewer bureaucratic rules allowed for more initiatives to move forward • Local initiatives that had been on hold moved ahead • New ideas easily implemented in practices | <ul style="list-style-type: none"> • It was unclear how to sustain changes post-pandemic (sustainability) • There was anxiety that bureaucracy would return post-pandemic |
| Leadership | <ul style="list-style-type: none"> • There were opportunities to accept new leadership positions • Respondents led COVID-19 related operations • Respondents had opportunities to create and deliver trainings related to telemedicine | <ul style="list-style-type: none"> • Leaders needed to address burnout and resilience at a time when everyone was overwhelmed |
| Telemedicine and Patient Care | <ul style="list-style-type: none"> • Telemedicine was more efficient, flexible, accessible, and convenient for patients • Telemedicine allowed more frequent connection with patients • Telemedicine restored the importance of the patient interview • Telemedicine strengthened patient relationships via more relaxed virtual visits | <ul style="list-style-type: none"> • Not all populations can access telemedicine, so some patients were left behind • It was difficult to address social issues without the full team in the office and the ability to make warm hand-offs • It was difficult to build relationships with new patients • Virtual exam room was not ready for the transition to telehealth • There were inadequate diagnosis processes via telemedicine |
| Clinician Work-life | <ul style="list-style-type: none"> • Respondents found that telemedicine increased their work-life balance | <ul style="list-style-type: none"> • Some respondents found they had a higher level of exhaustion from telemedicine sessions • Respondents were frustrated and dissatisfied by the imperfect rollout of telehealth |

being pushed through quickly by people who I would say are forward thinkers”(R5). Further, there was agreement that “red tape” decreased early in the pandemic, and as 1 respondent reported, that reduced the “things that tend to [have a] stranglehold [on] innovation and medicine” (R3). Some respondents blamed primary care’s pre-pandemic slow pace of innovation on regulations and government, noting that things had shifted due to the pandemic: “because of COVID-19 the government said ‘do whatever you have to do. [We] do not care about regulations” (R17).

Several respondents mentioned they could implement local initiatives that were developed and “on hold” before the pandemic. As 1 respondent explained, their desire to operate a mobile child immunization unit suddenly moved ahead: “There was a lot of pushback previously to doing any sort of community-based care. It was not cost-effective, basically too time-consuming. We’ve [now] vaccinated over 2000 children using this van. So it is really important in keeping up routine childhood vaccinations” (R4). Another respondent reported

that their clinic succeeded in getting several community-based outreach initiatives launched, including neighborhood pop-up sites that perform various functions, such as COVID-19 testing, social determinants of health screening, and voter registration. Other respondents noted they got the opportunity to try new ideas, which increased their professional satisfaction.

The decrease in bureaucracy was viewed by respondents as an overwhelmingly positive impact of COVID-19. Respondents’ feared the return of pre-pandemic bureaucracy, saying they appreciated the flexibility to experiment without seeking formal approval. Further, while many respondents were satisfied with the pandemic’s ability to innovate, they were concerned about how to sustain the changes in the future.

Leadership

Respondents viewed the leadership opportunities created by COVID-19 as a positive impact of the pandemic. Some respondents reported that aspiring

leaders were able to take on new roles as systems worked to rapidly adapt to massive disruption, citing the scale and urgency of COVID-19 as a catalyst to lead. One respondent explained that his organization placed junior colleagues identified as emerging leaders into leadership roles as development opportunities and to decrease stress and burnout among senior leaders.

Respondents discussed having opportunities to lead new COVID-19 related operations. One respondent left her practice leadership role to direct a field hospital for 8 weeks and explained that other clinicians from the practice stepped up to cover her responsibilities and many staff members volunteered to join her in the field hospital. Other respondents noted they discovered opportunities to lead training for peers once they had mastered telemedicine or to lead the patient outreach and communication efforts about the availability and safety of in-person primary care visits.

Another respondent, who was new to a leadership role, noted a key part of being a leader during this time involved managing staff concerns. “Right after I started this leadership job, it was clear that I am the PC clinician of my staff. They come to me with concerns and worries, just like patients do, and my job is to address them. If I do not address those concerns, I failed completely” (R1). Relatedly, other respondents acknowledged that a challenge in accepting leadership roles, and a potential negative impact of the pandemic overall, was the leadership imperative to address burnout, resilience, and mindfulness with team members during a time that was overwhelming, with little space for respite.

Telemedicine and Patient Care

Respondents perceived the rapid implementation of telemedicine during the COVID-19 pandemic had distinct benefits for patients but also posed challenges. In terms of benefits, many respondents said that telemedicine was more efficient, flexible, accessible, and convenient for patients. As 1 respondent noted,

“Think about the societal benefit of not taking everyone’s time to drive in and check-in and wait for me. . . The net benefit is not just for me but for all of us. The net benefit is actually huge, just in terms of human hours that are saved. Patients recognize that [and] they’re like, well, this is so convenient. . . The barriers to accessing care are coming down for those people that are in a position to access it” (R2).

Respondents appreciated that telemedicine allowed them to connect more frequently with patients via shorter check-in calls or video visits and de-emphasized visit-based care. One respondent explained that they never felt good about a patient with limited sick time taking a half-day off work to attend a 15-minute office visit. Another noted that telemedicine increased continuity of care, explaining, “I have patients who really need to see me on a very regular basis who finally can because they do not have to be in person” (R11). Similarly, a respondent explained that the option for telemedicine visits made patients more willing to schedule follow-ups and that patients were visibly relieved when told the follow-up could be virtual. In addition, many respondents noted being unable to do home visits pre-pandemic but acknowledged that virtual home visits helped them learn about their patients. Pediatricians, in particular, valued the ability to observe children and families in a relaxed environment via virtual visits.

Several respondents explained that telemedicine restored the importance of making time to talk to patients. One respondent explained this as follows:

“In medicine, we have under-valued the patient interview, the discussion with the patient. In other words, we’re so rushed in some ways, and we jump to ordering a test, or we jump to sending a patient to a specialist, or we immediately prescribe a drug. And this is forcing healthcare professionals to say, look, there’s actually a lot of value I can bring from just looking at the patient, asking questions, listening to their answers, and watching how patients respond. We can be smart about how we do this and not just order tests” (R20).

Most respondents believed that telemedicine had strengthened their relationships with patients. As 1 respondent explained, “Really, if anything, I think that we’re building this new trusted relationship with patients to meet them where they are at and being allowed into their homes and getting a view of, you know, what is going on in their life in a more intimate way. . .” (R24). On the other hand, many noted it was difficult to establish relationships with new patients via telemedicine, and they struggled to build trust with those they had never met in the office.

Respondents noted that telemedicine systems during COVID-19 needed improvement, as everything a clinician needed for a virtual visit was not readily available due to the rapid transition to virtual care, and clinicians were frustrated by “clunky”

telehealth systems that kept changing. Respondents highlighted frustrations related to the inability to examine a patient physically and an inadequate process for diagnostic testing and follow-up. For example, some respondents thought that they were ordering more tests and referrals because of their inability to see patients in person, while others thought they might be ordering less because they had more time to talk via telemedicine and did not feel as rushed as they do during a typical 15-minute office visit. One respondent noted, "...there's maybe a little bit more diagnostic humility that comes with doing things via telehealth" (R16). Another respondent could cite examples of delayed or missed diagnoses during the pandemic that weighed heavily on their mind, but also noted that it was difficult to determine if the delayed or missed diagnosis was because the patient delayed care due to COVID-19 or received lower-quality care via telemedicine.

Respondents explained that care delivery via telemedicine was not ideal for all populations and speculated that patients unable to access telemedicine were likely receiving worse care or "being left behind" (R23) during the pandemic. Part of the perceived negative impact on patients was related to the shift in team-based care that happened in the rapid transition to telemedicine. Most respondents noted it was challenging to work in collaboration with others given the lack of co-located team members. For example, clinicians could not make in-person hand-offs between patients and the staff who address social issues, namely, social workers, patient navigators, or community health workers. One respondent noted, "It has increased the degree to which I am just in charge and have to deal with everything because we used to have team meetings... Now it is just me paging people when I need them. There's no one else thinking about the patient holistically anymore" (R6). Another respondent explained that the patient resource coordinator, who helped patients with unemployment, housing, and food insecurity issues, was working virtually and that it was difficult to assist patients with paperwork via phone.

Clinician Work-life

On a personal level, most respondents noted that the pandemic created a new work-life balance. Many respondents valued conducting telemedicine visits from their home, describing a newfound

balance of working at home and going into clinic. As 1 respondent reported,

"So I worked from home yesterday... I've consolidated my in-person visits to Mondays, Wednesdays, and Thursdays and what I have found by doing that, even if I have a Tuesday that is just packed with problems and patients and I don't get time to eat... even if that happens- at home, it's just so nice... I've been in my home for 25 years I've raised my kids there, and I never got to be home" (R11).

However, some noted a higher level of exhaustion from telemedicine visits. As 1 respondent said, "I personally find it more exhausting. After 1 session of telemedicine, I feel more exhausted than when I do a session of in-person visits" (R18). Another explained that they had a much lower no-show rate with telemedicine, which gave them less time to catch up on lab results or return patient phone calls, resulting in increased feelings of fatigue. Respondents were also frustrated and dissatisfied due to the challenges presented by telemedicine's rapid and imperfect rollout.

Discussion

This study identified the perceived impacts of COVID-19 on primary care reported by clinicians. Our findings suggest that positive impacts included less bureaucracy which facilitated changes in primary care delivery; clinicians accepting new leadership opportunities; more convenient and flexible access to care via telemedicine; improved relationships with existing patients; and better work-life balance for clinicians. In terms of negative impacts, clinicians were concerned about sustaining projects that were accelerated by decreased bureaucracy during COVID-19; clinicians who assumed pandemic leadership roles had to address staff burnout and resilience; and telehealth pitfalls in terms of not being accessible to all patients and increasing clinicians' feelings of frustration and exhaustion. Post-pandemic, these impacts will inform new norms of primary care delivery.

Telemedicine will be part of primary care in the future, and respondents acknowledged the benefits it provides in terms of convenience, continuity, and safety.¹⁷ It is interesting to note that our findings revealed that telemedicine restored the value of the patient interview and strengthened relationships, both of which are at the core of primary care.²⁸ Clinicians were aware of telemedicine's negative impacts, including challenges in accessing care:

patients with known digital access barriers (older, low-income, limited English proficiency, and minority individuals) struggled to access primary care via telemedicine.¹ Moving forward, practices will need to create processes that ensure equitable access to telemedicine visits, so health disparities are not further exacerbated. In addition, practices will need to continue to improve the virtual examination room to address clinicians' frustrations and make virtual care a seamless part of daily workflow. The Department of Veterans Affairs (VA) provides a model for this via their virtual integrated multisite patient aligned care team (V-IMPACT) telehealth hub, which provides team-based primary care in underserved areas.²⁹

Pre-pandemic studies discuss the difficulty physicians experience in responding to change and the impact of transformational changes on burnout.^{2,3,30} It is important to support primary care clinicians to cope with the stress and strains of working during a pandemic and beyond through balanced work scheduling and fostering collaborative working relationships with virtual teams.¹⁶ Given the high rates of burnout within primary care,^{10,11} the fact that many respondents mentioned a newfound work-life balance is worth considering as in-person care delivery becomes feasible and clinics return to in-person care. Clinicians appreciated working a blended schedule, which may provide a way to ameliorate burnout and increase physician engagement; blended schedules may be an attractive strategy for leaders struggling to retain clinicians.³¹ Our findings suggest that primary care clinicians appreciated taking on new leadership roles during the pandemic and that this improved their professional satisfaction. Post-pandemic, creating satisfying opportunities for primary care clinicians to lead may improve their work-life and engagement.³²

Our thematic analysis revealed that clinicians perceived some positive impacts during the rapid and disruptive change caused by COVID-19. The fear that respondents expressed regarding a post-pandemic return of bureaucracy might be categorized as "backsliding" (ie, return to business as usual);³³ this fear suggests that practice and health systems leaders should pause and conduct after-action reviews before changing course or returning to pre-pandemic operations.^{33,34} A rapid shift back to the way things were pre-COVID-19 may negatively impact morale, particularly if perceived positive impacts are eliminated. COVID-19 demonstrated the capacity of primary care to change, but improvements will need to be sustained with broader, system-level support and resources.

Limitations

One strength of the study is the number of interviews (n = 24) conducted with clinicians practicing in various primary care settings. However, our recruitment strategy was limited by the nature and reach of the Harvard Center for Primary Care's communication channels. Because the Center is oriented toward academic medicine, it is unsurprising that our sample skewed in that direction. Further, our participants were primarily based in urban and suburban academic settings in the Northeast and will make it difficult to generalize to all primary care in the U.S.

Conclusion

The COVID-19 pandemic revealed important lessons about primary care's ability to respond in a crisis, as clinicians accepted new roles and adopted new technologies and ways of working. Clinicians' perceptions of the pandemic's impact suggest ways to address stress, burnout, or professional dissatisfaction post-pandemic while ensuring primary care continues to achieve its' basic tenets. As the COVID-19 pandemic continues worldwide, it is important to understand how primary care responded, and how clinicians perceived the positive and negative impacts of COVID-19 as care delivery is designed in a post-COVID-19 world.

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Appendix. Interview Protocol

Section 1: BACKGROUND

1. To start, can you please tell me how long you have been a primary care provider?
2. What is your regular role(s) in your organization, and how long have you been in this role?
3. How many days or sessions per week do you see patients?

Section 2: THOUGHTS ABOUT CHANGES IN YOUR WORK AS a PRIMARY CARE PROVIDER SINCE the EMERGENCE OF COVID-19

4. How has the nature of your work as a primary care provider changed since COVID-19? (Could you provide us with examples of how your work has changed?
 - How have any changes brought about by COVID-19 affected how you work with your “usual” support staff?
 - What has helped you in adapting to the changes brought by COVID-19?
5. What challenges have you faced with your current day-to-day work since COVID-19 emerged?
6. What have you found to be positive aspects of your work or “silver linings” since the emergence of COVID-19?
7. What impact do you think COVID-19 will have on how you deliver primary care in the future?

Section 3: PERSPECTIVES ABOUT CONFIDENCE, COMPETENCE, NEED FOR NEW TRAINING

8. How have any changes in your work affected your confidence as a provider? (Has anything made you question your abilities as a physician?)

9. If you think about your professional competencies, are there any that you think need to be enhanced since the emergence of COVID-19? (e.g., management skills, communication with patients, technology skills)
10. Have you received new training or retraining since the emergence of COVID-19 to help you with telehealth options such as telemedicine, virtual care, etc.? (Please describe.)
 - What training do you think has been most effective?
 - Is there additional training you wish you had received?

Section 4: THOUGHTS ABOUT MOVING TO TELEHEALTH, REMOTE CARE, VIRTUAL CARE OPTIONS

11. How has the shift towards telemedicine (or other virtual care formats) affected your relationships with your patients? (Please describe.)
 - How do you think telemedicine and virtual care options have influenced “patient-centeredness”?
12. How do you feel about delivering care via telemedicine or other virtual care modalities? (Please describe.)
13. Do you have any concerns about the role of telemedicine and virtual primary care in the future?
14. What feedback, if any, have you received from patients about telehealth or remote care options?

Section 5: INTERVIEW CLOSURE AND FOLLOW UP

15. Is there anything else you would like to share about how your work has changed since the emergence of COVID-19?