Primary Care's Challenges and Responses in the Face of the COVID-19 Pandemic: Insights From AHRQ's Learning Community

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ABSTRACT

The COVID-19 pandemic dramatically disrupted health care systems and delivery in the United States. Despite emotional, psychological, logistical, and financial stress, primary care clinicians responded to the challenges that COVID-19 presented and continued to provide essential health services to their communities. As the lead federal agency for primary care research, the Agency for Healthcare Research and Quality (AHRQ) identified a need to engage and support primary care in responding to COVID-19. AHRQ initiated a learning community from December 2020-November 2021 to connect professionals and organizations that support primary care practices and clinicians. The learning community provided a forum for participants to share learning and peer support, better understand the stressors and challenges confronting practices, ascertain needs, and identify promising solutions in response to the pandemic. We identified challenges, responses, and innovations that emerged through learning community engagement, information sharing, and dialog. We categorized these across 5 domains that reflect core areas integral to primary care delivery: patient-centeredness, clinician and practice, systems and infrastructure, and community and public health; health equity was crosscutting across all domains. The engagement of the community to identify real-time response and innovation in the context of a global pandemic has provided valuable insights to inform future research and policy, improve primary care delivery, and ensure that the community is better prepared to respond and contribute to ongoing and future health challenges.

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BACKGROUND

The COVID-19 pandemic dramatically disrupted health care systems and delivery.[1-3] While much of the attention focused initially on high-acuity, critical care responses, primary care's role in providing necessary health care was also severely impacted.[4] From the onset, primary care clinicians responded to the challenge. Many practices rapidly transitioned to telehealth services to keep their staff and patients safe.[5] While some practices have slowly recovered from the unprecedented levels of financial stress due to limited in-person visits and diminished revenue early in the pandemic, others are still struggling.[6] The steep decline in patient volume and reimbursement particularly affected practices reliant on fee-for-service payment models, forcing layoffs, furloughs, and practice closures.[7-9]

Despite the challenges presented as a result of COVID-19, many practices and clinicians developed innovative solutions and continued to provide essential services to their communities.[8,10] Clinicians helped patients re-engage in care, obtain missed preventive services, manage chronic conditions, and address physical and mental health consequences from the pandemic, while facilitating COVID-19 vaccination efforts.[11] Despite primary care's central role as a trusted patient and community resource, there has been insufficient national attention on primary care's potential role in pandemic response.[8,10]

The Agency for Healthcare Research and Quality (AHRQ) is the lead federal agency for primary care research with a mission to generate evidence to improve health care quality and increase the uptake of evidence into practice. AHRQ convened a primary care learning community from December 2020-November 2021 to facilitate shared learning and peer support, understand the stressors and challenges confronting practices, and identify promising solutions within the context of the

COVID-19 pandemic. The learning community shared their experiences supporting practices and providing care on the frontlines as they endeavored to adopt and implement innovative approaches and care delivery models.

The paper draws from learning community members' experiences and contextualizes the community-identified challenges, response, and innovation with studies from the literature. We summarize the ideas generated through the learning community's response to the COVID-19 pandemic to highlight how primary care implemented innovative approaches. Finally, we discuss how our findings inform opportunities for primary care redesign and implications for future research and policy.

AHRQ'S PRIMARY CARE LEARNING COMMUNITY

The Agency for Healthcare Research and Quality brought together over 250 participants representing 41 states and over 200 primary care–related organizations. Learning community members represented a cross section of organizations engaged in delivering, researching, supporting, and advocating for primary care. Participants included clinicians and team members, researchers, policy makers, advocates, practice facilitators, and quality improvement professionals. The learning community consisted of 8 virtual sessions over 11 months of various formats, including speaker presentations and expert panels; each session included small and/or large group discussions where participants shared experiences in the field related to the session topic (Supplemental Appendix 1). Discussions covered a range of topics including telehealth use, addressing misinformation, public health and primary care integration, and clinician wellness.

Lessons Learned: Challenges, Responses, and Innovations in Primary Care

We categorized challenges, responses, and innovations using AHRQ's primary care research domains (Table 1) as an organizing framework: patient-centeredness, clinician and practice, systems and infrastructure, community and public health; we included health equity as a cross-cutting issue.[12] The advantages of using this framework are its comprehensiveness, the opportunity to uncover multilevel innovations within each domain, the latitude for intersectionality between domains, and the ease of transitioning observations to researchable questions.

Patient-Centeredness

Exacerbated Disparities

The COVID-19 pandemic raised awareness of sizable health inequities among racial/ethnic groups and other socioeconomically disadvantaged populations who faced higher rates of infection and death from COVID-19, were disproportionately affected by the economic crisis, and encountered challenges in accessing COVID-19 vaccinations.[13,14] Essential workers in low-wage jobs were at risk for exposure, worsening disparities. The pandemic exacerbated multiple factors contributing to health inequities, including limited access to health care, lack of insurance coverage, limited transportation to testing or vaccine appointments, income gaps, and discrimination.[13,14]

Epidemic of Unmet Behavioral Health Needs

There was an increasing need for behavioral health care during the pandemic and access to care was more challenging.[15,16] One panelist noted that "During the COVID-19 pandemic, mental health and substance abuse challenges have been magnified, all while the health systems have been over stretched." To address the psychosocial needs of their patients, many clinicians strived to increase behavioral health services by implementing integrated behavioral health and/or through improved referrals to external behavioral health clinicians.

Addressing Patients' Health-Related Social Needs

Practices addressed health-related social needs that contributed to widening health inequities during the pandemic. Some practices provided in-person home visits or deployed mobile units for patients and communities who were unable to visit offices.[17] Others addressed social needs by arranging delivery of household necessities and meals.[18] One rural family physician noted, "We connect patients every day to high quality primary and more advanced care regardless of their ability to pay and work to reduce barriers created by social determinants of health. Our public health partners are particularly helpful with the latter."

Building Trust

Primary care clinicians build ongoing relationships with patients, enabling them to serve as a trusted resource in communities deeply affected by the pandemic. While the politicization of mitigation measures challenged their role in building trust,[19] the learning community shared ways that clinicians strived to diffuse skepticism through educating patients and strategic communications.[20] One learning community participant shared that their organization was translating scientific information about COVID-19 to plain language so that it was understandable and meaningful for their patients. Another participant described how partnering with community leaders allowed them to quickly provide testing to many individuals identifying as Latina/Latino in their community.

Chronic Disease Management and Receipt of Recommended Preventive Services

Exacerbations of preexisting conditions resulted from delayed care seeking. An estimated one-third of patients delayed care for preventive services and chronic disease management, worsening patients' overall health and functional status. In response, practices innovated in tailoring patient outreach and virtual care, creating registries, and contacting patients via text messages.[18] One patient navigator shared that they expanded care coordination for patients who were underutilizing primary care with additional coordination for COVID-19 testing and vaccination appointments.

Acute and Chronic COVID-19 Care

Primary care clinicians diagnosed COVID-19, coordinated with specialists, managed patients with post-acute sequelae of COVID-19 symptoms, and provided patient education and reassurance when needed. One practice called and sent text messages reminding patients to monitor potential COVID-19 symptoms and follow social distancing guidelines; they also developed algorithms to prioritize care for high-risk patients.[21]

Table 1. COVID-19 Impact on Primary Care: Challenges, Response, and Innovation Identified in AHRQ's Learning Community

Challenges Presented by COVID-19	Primary Care's Response and Innovation
Patient-Centeredness: The provision of care that is respectful of individual patient preferences, needs, and values	
• Exacerbation of socioeconomic and health disparities	• Trusting relationships supporting vaccination efforts in underserved communities
• Marked increase in patient behavioral health needs	• Connecting patients with social services to offset lost wages and insurance
• Lack of patient access to in-person visits, routine chronic care, and recommended preventive services (increasing risk of delayed diagnoses)	• Expanded telehealth services for preventive services and management of chronic diseases as well as to meet psychosocial and behavioral health needs
• Increasing numbers of patients faced with COVID-19 related issues and both acute and chronic COVID-19 symptoms	• Development of algorithms to prioritize care for high-risk patients
	• Telephone and text message reminders for COVID-19 symptom assessment and monitoring
Clinician and Practice: The work of primary care clinicians and teams in practice settings committed to delivering high-quality primary care	
• Lost revenues and higher operating costs forced practices to close, limiting access and putting pressure on areas with existing workforce shortages	• Implementing telehealth allowed clinicians to continue to generate some revenue and eased access for many patients.
• Small, solo, and rural practices faced more resource constraints than those connected with a health system	• Smaller practices had to be particularly innovative to meet community needs with limited resources
• Crucial supplies (eg, masks, gowns, sanitizer) were in short supply.	• Practices reused supplies, found alternatives, and limited office visits
• Primary care practitioners and staff experienced heightened levels of burnout, with one-third of clinicians reporting high burnout and plans to leave primary care	• Mental health programs for health care workers provided support groups or individual sessions supported by federal grants.
	• Team-based care helped to reduce burnout by engaging more staff in the practice's common goal
Systems and Infrastructure: The broad health systems, organizations, policies, and structural components that support patients, clinicians, and practices	
• Telehealth rapidly increased, facilitating access for some while also exacerbating disparities	• Primary care practices adapted to the needs of their patients and practice sustainability by quickly setting up systems and learning to deliver care via telehealth – a process that otherwise may have taken years
• Some practices, particularly in rural communities, lacked the training and resources to implement telehealth	• Most practices now have the capacity for telehealth and are using it as an additional modality for providing primary care
• The steep decline in routine wellness and acute care visits within fee-for-service payment models made financial stability challenging for practices	• Alternative payment models allowed some practices to navigate financial uncertainty with volume fluctuations
• Increased telehealth visits did not offset revenue loss from decreased in-person visits	• Temporary changes to payment for telehealth, helped practices to continue providing care while being reimbursed for services at little or no cost to patients
	• Professional organizations assisted practices with gaining access to federal Provider Relief Funds
Community and Public Health: The organizational resources available within the community in which clinicians and practices are located including linkages with state and local public health agencies	
• There was variable engagement of primary care by public health agencies	• Primary care practices recognized the need to work with public health and community partners in a more aligned manner to address population health
• Rapidly evolving policies in response to COVID-19 were often disseminated without the input of primary care, challenging implementation	• Some FQHCs with deep community roots were able to align with state public health agencies
• Primary care was largely under-utilized and had an unclear role in vaccine administration in many states	• Primary care played an important role in educating patients, engaging in shared decision making and being a source of trust and reliable information and referral for assistance
• Some health system practices were involved in distribution, but small practices faced challenges with getting vaccines for staff and patients	• Primary care practices helped fill the gap with closure of mass vaccination sites and helped address disparities in vaccination

AHRQ = Agency for Healthcare Research and Quality; FQHC = federally qualified health center.

Clinician and Practice

Access and Care Delivery Innovation

Lockdown orders led many practices to dramatically limit the number of patients seen, reduce staff, and in some cases, close their practice.[6,22] Clinician and nursing shortages strained health systems, further exacerbating access barriers.[23] These challenges were particularly acute for small practices that do not have the same financial and technological resources as practices affiliated with a health system.[23,24] While some small, rural practices found creative ways to see patients, such as in their cars or homes,[18,25] many practices rapidly pivoted to telehealth visits to provide access to care, continue to generate revenue, and protect their workforce.[5,26,27] Practice facilitators shared how a major part of their role in the early days of the pandemic was helping practices launch telehealth and tailor their workflows for telehealth visits.

Clinician Burnout and Resilience

Primary care clinicians were already facing historic levels of burnout before the pandemic,[28-31] and COVID-19 exacerbated factors associated with burnout, including reduced income, higher operating expenses, and changes in care delivery.[32] One panelist summarized the challenge, "Right now we are seeing the great depletion in terms of energy, as people are really out of energy, burnout is rising at an unprecedented rate." Practices strived to reduce burnout by using telehealth to create time efficiencies[26]; increasing team-based care to[33] engage more staff in practice goals[34]; increasing communication and comradery within the practice[32]; and offering mental health programs to support clinicians, such as the University of Colorado's Past the Pandemic[35] and Columbia University's CopeColumbia.[36]

Systems and Infrastructure

Transition to Telehealth

As in-person visits precipitously declined, practices rapidly transitioned to telehealth to provide some access to care. One participant noted this rapid transformation, "Particularly for practices that were technologically challenged and received the practice facilitation on setup and billing and integration with behavioral health…telehealth was one of the big victories." The initiation required capital,[37] and while federal waivers and policy changes among commercial insurers facilitated telehealth, some telehealth reimbursement was lower than in-person visits.[26,38] Practices with more resources or a health system affiliation had an advantage in the transition, while those without these resources struggled.

Participants noted challenges that could exacerbate disparities for rural areas (lack of broadband), older adults (limited technical literacy), and underserved communities (lacking access to smartphones, tablets, and broadband); other studies have identified similar contributing factors.[39,40] A panelist reported that "one of the biggest successes is decreased no shows," more efficient patient visits, and increased flexibility with scheduling.

Financial Health of Practices

Participants voiced challenges with primary care operating within multiple, unpredictable payment streams and emphasized the importance of making value-based payment work better for primary care. Pandemic relief was not available to all primary care practices, resulting in a steep decline in revenue and causing some practices to go out of business.[24,41] Clinicians reported an increase in uncompensated care visits within a few months.[7,42] Primary care professional organizations assisted qualifying practices to access federal Provider Relief Funds.[43] Alternative payment models allowed some practices to navigate financial uncertainty with patient volume fluctuations.[18] However, these models are often only applicable for a subset of patients or coexist within a predominantly fee-for-service structure. Participants shared unifying efforts across primary care for new value-based financing models.[44]

Community and Public Health

Coordination Between Primary Care and Public Health

Public health and primary care systems have generally operated independently, and these functional silos impeded COVID-19 response. Participants reported lack of coordination between public health and primary care, as early pandemic response activities often did not incorporate primary care practices or clinicians, leaving practices without the information, supplies, or other resources to support their patients.

Learning community participants identified examples of effective coordination and partnerships, such as public health officials sharing information and resources with primary care practices on an ad hoc basis. Maryland leveraged the Maryland Primary Care Program to design an integrated response. The program is open to primary care practices to improve outcomes by coordinating care for patients across settings, which facilitated rapid implementation of point-of-care testing, vaccine distribution, treatment, and referrals. Another participant shared how their state's vaccine registry has been a valuable resource for informing primary care clinicians about their patients' vaccination status.

New Mexico's Health Extension Rural Offices are an intermediary between public health and primary care, often conveying information on public health guidance and addressing social determinants of health.[45] One panelist highlighted existing partnerships in Alabama between public health and primary care for addressing diabetes and heart disease that served as a foundation for COVID-19–related communication. Participants emphasized the importance of building and maintaining relationships, state-level leadership, and deliberate attention to finding alignment and common goals across primary care and public health organizations. As summarized by one panelist, "When you put public health and primary care together, it is a marriage made in heaven."

Vaccine Distribution, Education, and Building Community Trust

Primary care clinicians' relationships with their patients and shared decision-making experiences positioned them well to help patients dispel myths and misunderstandings.[46] Before COVID-19, primary care clinicians provided over 50% of routine vaccinations,[47] but many states did not include primary care in the planning for COVID-19 vaccine administration. The participants discussed barriers to incorporating primary care into the initial vaccine distribution, such as minimum doses and cold storage requirements, supply chain models, or not being affiliated with a health system.[48]

Participants discussed how leveraging trusted relationships may be one strategy for increasing vaccine confidence and vaccine uptake, particularly in underserved communities. Despite some practices' inability to provide initial vaccine doses, participants recognized their role in providing vaccine education and directing patients to vaccination sites. Participants noted the challenges of having patients ask for guidance without the capacity to provide the vaccination. Some reflected on the lost opportunity to build upon established patient trust with the initial focus on mass vaccination sites, especially among those hesitant to receive the vaccine. There are now federal resources available to support primary care to address disparities in vaccination.[49]

Participants also focused on the importance of relationships, "Sometimes it's basic stuff, like making eye contact … or reassuring people that someone [clinician] is there for them," and the role of community health workers to communicate and clarify trusted health information. These approaches included creating user-friendly graphics, engaging with faith-based organizations, and conducting town halls for patient education. The community also relayed that practice-based research networks and bootcamp methods[50] can serve as mechanisms to engage individuals outside of practices to support vaccine communication that was tailored to and resonated with local communities.

Health system–affiliated practices generally had more resources to support vaccination programs and logistics, but over time, more small practices responded. Some states provided practices with special freezers to meet the mRNA cooling requirements. Participants relayed how existing relationships between state and public health agencies facilitated rapid dissemination of guidance to federally qualified health centers (FQHC). Moreover, when vaccines became available, FQHCs were well prepared for vaccine distribution and administration to their patients.

Insights for Practice, Research and Policy

The Agency for Healthcare Research and Quality's primary care learning community convened leaders from a cross section of organizations engaged in delivering, researching, supporting, and advocating for primary care. It generated valuable insights into the challenges and responses of practices and clinicians in delivering care during a crisis. The pandemic threatened the viability of primary care practices in fundamental ways, but clinicians and practices responded and continued to meet patient needs in the face of these challenges. These innovations could be further tested to understand facilitators and barriers to implementation and their associated impact on health equity. The pandemic presents an opportunity to rethink how primary care is designed, delivered, and compensated to increase agility and better serve changing health needs.

Primary care plays a central role in improving access to care, including identifying, diagnosing, and treating patients with COVID-19 and post-acute sequelae of COVID, delivering ongoing care for chronic disease, diagnosing and managing behavioral health problems, and providing preventive services. Primary care clinicians' relationships with patients, their mutual respect, and understanding of patients' values and preferences could be leveraged in future public health responses. At critical moments during the pandemic, limited resources hindered its ability to maintain some of its core functions of first contact, continuity, comprehensiveness, and coordination.

The importance of primary care in addressing disparities, particularly those compounded by the pandemic, was highlighted. It is important to determine how primary care can best ensure that people who are medically underserved and/or socioeconomically disadvantaged continue to receive coordinated, quality care during crisis situations. Primary care and public health partnerships may help to address the long-term health and social effects of the pandemic and serve as models for more effective primary care and public health integration.

Although telehealth use expanded rapidly, research is needed on the types of visits and conditions best suited for virtual consultation and how to integrate telehealth with the core values of primary care. Addressing the needs of rural communities and medically underserved populations in the context of increased telehealth will be an important consideration.

In addition, concerns about primary care clinician and staff burnout have amplified during the pandemic. Understanding these factors associated with clinician and staff well-being will facilitate the identification of solutions to support primary care clinicians and teams to bolster resilience and well-being under crisis conditions. Primary care practices are facing unprecedented workforce challenges with recruitment and retention of clinicians and staff that will be important to address through innovation in payment and policy.

CONCLUSION

The learning community provided an opportunity for participants to exchange challenges, responses, and innovations highlighting primary care's pandemic response. The lessons learned will be used by AHRQ to inform future research and generate the evidence needed to help design adaptable models of primary care delivery and inform future pandemic response. These insights can inform future policy

and research priorities to provide the evidence on how to effectively support the primary care redesign to make it more resilient, equitable, and responsive to the evolving health needs of the public.

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Key words: primary care; primary care research; health system performance; health equity; COVID-19; SARS-CoV-2

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Supplemental materials

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