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Reflections From Family Medicine Residents on Training During the COVID-19 Pandemic

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BACKGROUND AND OBJECTIVES: Given their broad scope of training, family medicine residents were uniquely situated to care for the American public throughout the COVID-19 pandemic, yet little has been written about their experiences. The objective of this report is to capture the diversity of experiences and contributions of family medicine residents across the United States to the care of the American public during the COVID-19 pandemic.

METHODS: Investigators recruited resident interviewees from four residencies throughout the United States via convenience sample. These residencies represented a diversity of geography, rurality, and structure (hospital based vs community based). Investigators conducted 30 to 60-minute, semistructured interviews with family medicine residents. Interviews were recorded and examined for themes.

RESULTS: Three major themes emerged through the interview process. First, family medicine residents were a critical component of the inpatient response to COVID-19 in a variety of geographies from urban centers to rural towns to Native American reservations. Second, family medicine residents continued to provide expanded outpatient care to include telehealth, immunization clinics, and public health campaigns to meet the needs of the community. Finally, not only did these residents have an immense impact in the response to COVID-19, but the pandemic also had an immense impact on them, both personally and professionally.

CONCLUSIONS: The story of family medicine contributions to the care of the public during COVID-19 reflects the history of COVID-19 in the United States, and the critical role trainees and family medicine physicians have in the US health care system.

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The COVID-19 pandemic required medical trainees to serve on the front lines in caring for the American public throughout the pandemic. Given the broad scope of training in family medicine residency, trainees in family medicine residency programs were uniquely situated to contribute to the overall medical efforts during the pandemic. Family medicine is the second largest specialty in the United States and spans inpatient and outpatient medicine, and includes the care of children, adults, and pregnant patients. With this robust skill set and more than 741 active residency programs, family medicine residents made and continue to make considerable contributions to the care of the American public through all stages and settings of the COVID-19 pandemic.[1]

There are studies focused on the impact of the pandemic on resident well-being, including on family medicine residents.[2,3] However, none of these have chronicled the contributions, experiences, and stories of individual family medicine residents. The objective of this report is to capture the diversity of experiences and contributions of family medicine residents across the country to the care of the American public during the COVID-19 pandemic.

Methods

We recruited trainees from four different residencies within the United States. These residencies were chosen to represent a diversity of geography, rurality, and structure (hospital based vs community based). Once a framework was implemented for selection of residents using the geographic and structural criteria outlined, we identified residencies via a convenience sample of our informal networks as well as

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input from key staff at the Association of Family Medicine Residency Directors (AFMRD). The AFMRD provided contact information for 10 residency program directors based on a request from the authors for geographic, rural vs urban, and structural diversity. One of the 10 program directors responded to our recruiting efforts. Using an interview guide, we conducted 30 to 60-minute semistructured interviews. Using a phenomenology methodology, the interview guide focused on each resident's experiences during the pandemic, their efforts to care for their communities, and how the pandemic impacted them as individuals. The themes of inpatient care, outpatient care, and burnout were developed a priori and embedded in the interview guide. Interviews took place between November 19, 2021 and December 16, 2021. Interviews were audio-recorded and were then analyzed based on the emerging themes of inpatient care, outpatient care, and burnout.

The final themes were decided by consensus after both authors reviewed the data. We organized stories from the interviewees based on this thematic schema. We confirmed quotations used in the report with the interviewees for accuracy. Interviewees agreed to have identifying information shared, and so their residency program and year of residency at the time of their interview are included, but their names are identified as Residents, A, B, C, and D. The American Academy of Family Physicians Institutional Review Board approved this study.

Results

Working in the Wards and Intensive Care Units

Seattle, Washington. On January 20, 2020, the Centers for Disease Control and Prevention (CDC) announced the first laboratory-confirmed case of COVID-19 in the United States in a patient in Everett, Washington, a town in the greater Seattle metro area.[4] By the end of February, Washington state confirmed the first fatality in the United States from COVID-19, and until mid-March, Washington had the highest number of confirmed cases in the country.

It was during this time that Resident A was training as a second-year family medicine resident at the University of Washington in Seattle. Resident A explained that the predominant mood in Seattle was that of uncertainty:

> I remember being in Seattle, the first major city to be hit by COVID, at first there were no protocols to go by. There was just a Google doc that was being updated every five minutes.

As the case numbers increased, the University of Washington created hospital floors and intensive care units (ICU)s dedicated to caring exclusively for patients with COVID-19. Like many of her coresidents, Resident A volunteered her time to serve in one of the COVID-19 ICUs.

> I worked in the COVID-19 ICU for one week, I was doing night shifts. I remember I showed up at 6 pm, and I had to pronounce a patient dead at 615 pm. That was my first day.

New York, New York. By March of 2020, the focus of the COVID-19 pandemic shifted to New York City. From March until May of 2020, approximately 200,000 cases of COVID-19 were reported to the NYC Department of Health and Mental Hygiene.

Among the New York City Boroughs, the Bronx was consistently the hardest hit by COVID-19.[5] It was under these circumstances that Resident B, then an intern at the Montefiore Family and Social Medicine Residency Program, found herself on the front lines serving the country's most impacted community.

> COVID came and we had to rise to the challenge. Before there was this mentality that your residency was at least in large part about your educational journey, and then this happened and it was like wow, I'm really needed as a doctor now. I had to trust myself in a way I didn't have to yet in my training.

During the surge of March and April of 2020, Montefiore's Family Medicine Inpatient Service served entirely as a COVID-19 unit, where every patient on the floor was primarily managed by family medicine.

> As horrifying as the surge was, and it was, it felt we were really on a team. It felt like we all had the same goal and there wasn't so much focus on your performance individually or anxiety about how you're doing, which was previously a big part of intern year. It was about taking care of this community. (Resident B)

Resident B shared that the unit she worked on would typically have approximately 30 patients at a time, all of whom had COVID.

> I took care of 12 COVID-positive patients per day, every day, from March through June or July. It was just an everyday onslaught, it's hard to illustrate.

Resident B explained that not only was every day a confrontation with the COVID-19 virus, but also a confrontation with the impact of systemic racism.[6-8]

> I had eight patients die under my care, most of whom were Black or Latina. A lot of time people's families were not in America, and I would do FaceTime or WhatsApp with families so they can say goodbye remotely.

These circumstances took a toll on Resident B and her coresidents.

> During the surge two-thirds of our residents were Black…they were seeing people who disproportionately looked like their grandmas and grandpas die, and not being able to give them the care they needed, and that's just the truth.

Navajo Nation

Shiprock, New Mexico. Native and tribal communities have been disproportionately burdened by COVID-19. Native Americans were hospitalized at twice the rate and died from COVID-19 at three times the rate of White Americans.[9] This stressed a health care system serving Native peoples that already suffered from glaring health care inequities, reflected by the fact that the Indian Health Service has a budget per capita approximately half the size of Medicaid and one-third the size of Medicare.[10]

To help address this inequity, months after her time in the University of Washington COVID-19 ICU, Resident A served as a family physician for the Navajo Nation at Shiprock, New Mexico.

> At that point numbers were going down generally, but Navajo Nation was one of the most heavily impacted communities by COVID. There, one-third don't have electricity or running water. Through connection and family, they lift each other up. That's how it spread like wildfire. It wasn't just one person and one disease at that point, it was a family matter. (Resident A)

Resident A remembers taking care of multiple family members in the same hospital room, at times having to rapidly adjust a patient's supplemental oxygen as their family member, also a patient, had to watch.

> COVID touched every single person. Everyone knew someone personally who died from COVID on Navajo nation.

Flagstaff, Arizona. Whereas Residents A and B had some of their residency training prior to the onset of the pandemic, Resident C had only ever known pandemic conditions. Resident C is a family medicine resident at the North Country Healthcare Family Medicine Residency in Flagstaff, Arizona. She is one of four residents in the inaugural class of her residency program, working predominantly in a community health center serving the 70,000-person community of Flagstaff. She started her residency training in the summer of 2020.

> My whole training has been colored by COVID-19. I had an online medical school COVID graduation, and as soon as I got to residency I felt like we were boots on the ground, we were needed now.... There was no 'here's how to figure out certain things.' It was just go.

Resident C estimated that at least 50% of her inpatient time has centered around taking care of patients with COVID-19, and because of this she's had less exposure to certain elements of medical care that are considered bread and butter, recalling she treated her first patient for a heart attack 3 months into her residency training. She shared that even basic lessons like learning how to talk to family members of hospitalized patients were fundamentally different because of the pandemic.

> A large part of training is supposed to focus on how to talk to families in the room about their loved one's care. We never learned how to address the mom or child or spouse in the room. We learned how to make phone calls.

An always-lingering concern among health care providers including family medicine residents was the impact of their service on personal safety, with variable access to personal protective equipment (PPE) to stay safe.[11]

> I remember walking into my first COVID-19 positive room, and that was terrifying for me. I had a newborn at home and I wanted to minimize exposure for her…I didn't know how to gown appropriately yet. After watching donning and doffing videos for 30 minutes, I walked in. (Resident D, a recent graduate of the University of Colorado Family Medicine Residency).

Lack of PPE was also a concern for many residents.

> There was almost no PPE in the beginning for family medicine residents and residents across the hospital. Montefiore was publicly not getting the PPE it needed. (Resident B)

> People were wearing New York Yankees ponchos and using it as PPE. (Resident B)

To address PPE shortages, Resident B and her coresidents across specialties needed to think of creative community-oriented solutions to getting the PPE they needed.

> There was this huge effort by residents to obtain masks from the community. From artists, from local companies, and community members. We created a distribution schedule to give masks to the residents who needed them most.

The house staff at Montefiore collectively distributed over 1,000 masks.

Beyond the Hospital: Family Medicine Residents in the Clinic and Community

During natural disasters, exacerbations of underlying chronic diseases historically make up a significant portion of the overall disease burden.[12] To facilitate the required ongoing access to health care, the United States saw a dramatic rise in the use of videoconferencing software to connect patients and providers virtually, ushering in a new age of telemedicine in health care.[13] Family medicine residents were tasked

with navigating how to be a primary care doctor to their patients under historic pandemic circumstances with new technology.

Resident D remembers several months during the pandemic where as many as 90% of his patient visits were virtual.

> We were trying to find new ways to reach patients as best we can, and although seeing patients virtually was not ideal, it was a testament to the healthcare system that we were able to go from seeing no patients virtually to 80%-90% of visits in a matter of weeks.

Despite the advantages of telemedicine, residents found some limitations.

> We struggled in broader panel management in 2020-2021 as COVID was surging…. Some of our patients fell through the cracks. (Resident D)

Resident D worked at a University-based residency clinic, where before the pandemic his panel largely consisted of underserved and racially diverse elderly patients with multiple chronic conditions, but the patients he saw during the early stages of telemedicine didn't reflect his patient panel in the same way.

> We saw a shift toward patients who were able to operate phones or Zoom…we were seeing patients that were generally younger and had less comorbidity. (Resident D)

Resident A, whose panel before the pandemic had a large representation from communities with limited English proficiency, had similar experiences with telemedicine in Seattle.

> People with limited access to health literacy, limited access to technology, limited access to English, took a hit. I definitely felt that the patients we were seeing on telemedicine, they were white, middle class individuals, who were tech savvy themselves. I definitely saw a drop in my limited English proficiency patients. (Resident A)

Although telemedicine rose in many areas of the country, some family medicine residents continued to see patients mostly in person, but continued to see shifts in how primary care was delivered.

> I saw at most ten telemedicine patients throughout the year, because my residency supported in person visits. Our clinic had a curbside clinic for acute same day visits, but rarely did the residents work this clinic, which absolutely impacted our ability to see acute visits. (Resident C)

Resident A was still in Shiprock, New Mexico when the Food and Drug Administration (FDA) granted Emergency Use Authorization for the Pfizer and Moderna mRNA vaccines. There she had the opportunity to work at mass drive-through vaccination sites at Navajo nation community centers.

> People think vaccines come out of the bottle and you just give it, but there's a person each step of the way. Diluting it, refrigerating it, making sure they're used by the end of the day. (Resident A)

As vials of vaccine were being distributed throughout the country, so too was the vast amount of information and misinformation about the vaccine. Americans considering whether or not to get vaccinated identified their personal doctor as their most-trusted source of information, more so than the CDC, the FDA, their local health department, the president, or the director of the National Institute of Allergy and Infectious Disease and Chief Medical Advisor to the President, Dr Anthony Fauci.[14]

> We're valuable as family medicine physicians because people value our opinions and trust us. We're used to seeing vaccine hesitancy in primary care but this came at a new level. This far in I'm encouraged that there are patients who have questions about the vaccine and I answer their concerns and they later get the vaccine. I think that speaks to the importance of a relationship with a family medicine doctor. (Resident D)

Much like physicians all around the country, family medicine residents have tried a number of strategies to convince people to get the vaccine.

> My approach is asking what the patient's understanding of the vaccine is, their understanding of the illness, and I also want to know specifically why they do not want the vaccine. (Resident C)

Despite these efforts, convincing people to get the vaccine continues to be an everyday struggle. Family medicine residents found a diversity of reasons for why people are hesitant. Resident B at Montefiore Family Medicine, for example, found that vaccine misinformation was borne out of a mistrust that the field of medicine earned with its history of racism.

> There's a lot of misinformation about vaccines. In our community there's so much mistrust toward medicine, which makes sense, because Black and Brown people have been murdered in the service of advancing medical research. It's tricky to talk to patients about this, because not being Black or Brown myself, I understand why patients may be hesitant to take my advice. (Resident B)

Family medicine residents were engaged in public health messaging efforts even before the vaccine was in circulation. In the early months of the pandemic in the US, Resident A and a colleague in the University of Washington Emergency Medicine Residency came to realize there were

two pandemics going on. One was COVID-19 and the other was misinformation about COVID-19.

> During the beginning stages of the pandemic, when so much was up in the air, there was so much misinformation in both the medical and non medical community alike. (Resident A)

To help address this, the two residents created the Instagram account frontline.covid19, that focused on sharing the experiences of health care providers in Seattle.

> We wanted to create a real-world, real-time snapshot of what was going on in our institution, and create a connected network of medical providers. (Resident A).

The Toll Taken

Approximately 2 years into the pandemic, compassion fatigue, emotional exhaustion, and burnout are continuing to impact health care providers, and family medicine residents are no exception.[15,16]

For Resident C, combatting vaccine hesitancy and misinformation proved to be the greatest source of burnout.

> We didn't sign up to risk our lives. We are not firefighters or police officers. We are health care providers. Now we are asking the public to help by getting the vaccine and when they're not it feels like a slap in the face. (Resident C)

As chief resident, it was a large portion of Resident D's job to support his coresidents through the burnout that was creeping in.

> It was my goal to advocate for my coresidents to make sure they had the education and training and personal time they need while supporting the needs of the health care system. That was always a difficult balance. (Resident D)

As is the case for many Americans, the social isolation associated with living and working during COVID-19 was the largest source of burnout for Resident A.

> Interpersonal bonding took a big hit. We used to have all in-person didactics that were now virtual. That definitely impacted how frequently we can see each other and support each other. (Resident A)

Limitations

Given that there are over 15,000 family medicine residents at more than 400 residencies in the United States, we cannot claim that the stories and experiences of the four residents in this report are generalizable to all family medicine residents during the pandemic. Additionally, since only one resident was interviewed from each of their respective residency programs, we cannot conclude that one resident's experience is generalizable to the experiences of all residents in the same program. Yet, the residencies chosen were from different regions in the United States, represented rural and urban programs, as well as academic affiliated vs community-based settings. Additionally, to provide context to the experiences of each resident, interviewees allowed for identifying information (eg, program name and location) to be shared. We appreciated this openness from respondents, but it may result in bias in what interviewees chose to share or what not to share, given the lack of complete anonymity. We did not include respondent names in the manuscript to help maintain anonymity. Lastly, the first author and interviewer conducting this study is a family physician who underwent residency training during the COVID-19 pandemic. This shared identity with the respondents has the potential to introduce bias.

Discussion

The contributions of family medicine residents to the care of the American public during COVID-19 were and continue to be profound, heterogeneous, and occur in all health care settings and in the community. Family medicine residents have taken care of patients with COVID-19 in hospital ICUs and wards, in major academic medical centers and in community hospitals, in person in the clinic and via telemedicine, have administered vaccines themselves and served on the front lines of educating the public about vaccination and COVID-19. Family medicine residents have taken care of patients with COVID-19 in America's hardest-hit cities, on Native American reservations, and in smaller towns and cities throughout the country. As it has for the rest of America, COVID-19 has taken a toll on family medicine residents. In many ways, the story of family medicine contributions to the care of the public during COVID-19 reflects the history of COVID-19 in the United States generally, and the critical role trainees and family physicians play in the US health care system.

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CONFLICT DISCLOSURE: Jonathan Staloff is a current family medicine resident writing about the experiences of other family medicine residents, and so shares an identity with the studied population. There are no financial conflicts of interest to disclose for any of the authors.

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