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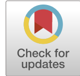
The Response to a Pandemic at Columbia University Irving Medical Center's Department of Obstetrics and Gynecology



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ABSTRACT

The rapid evolution of the COVID-19 pandemic in New York City during the spring of 2020 challenged the Department of Obstetrics and Gynecology at Columbia University Irving Medical Center to rely on its core values to respond effectively. In particular, five core values, "5 C's," were engaged: Communication; Collaboration; Continuity; Community; and Culture. Beginning on March 11, 2020, the Department of Ob/Gyn used these values to navigate an unprecedented public health crisis, continuing to deliver care to the women and families of New York City, to protecting and supporting its team, and to sharing its lessons learned with the national and international women's health community.

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Introduction

On Wednesday, March 11, 2020 at 3:38 PM, the Department of Obstetrics and Gynecology (Ob/Gyn) at Columbia University Irving Medical Center (CUIMC) sent out its first department-wide email about the "rapidly evolving" COVID-19 situation. This email covered four topics: 1) that we would immediately commence a daily departmental call at 4:30 PM; 2) that CUIMC had set up a website, hotline, and email address to provide COVID-19-specific resources; 3) that we were in the process of transitioning as many appointments as appropriate to telehealth; and 4) that patients presenting with COVID-19 symptoms should be masked and isolated and then sent home to quarantine or to the Emergency Department. While we knew enough on March 11 to send out such an email, the fluidity of the COVID-19 crisis – in what we began to refer to as "the epicenter of the epicenter" of Washington Heights in northern Manhattan – challenged our department to evolve faster over the next few weeks than we could have ever imagined on that first day in mid-March.

Reflecting back, it is hard to pinpoint exactly why the department sprung into an "all hands on deck" response mode on March 11, especially since we had yet to have one of our patients test positive for SARS-CoV-2. But an April article in the publication, WIRED, provides some helpful historical context.[1] According to WIRED, March 11 was the "day everything changed" and when the "coronavirus pandemic seemed to crystalize in the national consciousness."[2] In support of this conclusion, WIRED cites events of that day, including the World Health Organization's declaration that COVID-19 had become a "global pandemic," the count of United States coronavirus cases crossing 1000, and the Dow Jones Industrial Average's entrance into "bear" territory after falling 1465 points.[3] We note these larger events on the national and global stage because while our department's experience of

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the early months of the COVID-19 pandemic was inherently quite local, it was affected and guided by factors outside of our immediate control. Our job, as we saw it, was to control what we could to ensure the safety and well-being of our Ob/Gyn patients, faculty, and staff in what was truly an unprecedented time.

Undoubtedly, an important academic inquiry over the coming months and years will be to assess American preparedness for and the response to the COVID-19 pandemic. This inquiry is not only important to understand how our systems could have done better, but to prepare for potential future waves of widespread infection and to develop a "pandemic playbook." While the Department of Ob/Gyn at Columbia did not have such a playbook at the ready on March 11, what we did have was a track record in "5 C's:" Communication; Collaboration; Continuity; Community; and Culture. Each of these values was essential to our department's ability to rapidly evolve to meet the challenges of the rapidly evolving COVID-19 situation.

Communication

Over the past four years, the Department of Ob/Gyn at CUIMC has increased its internal and external communications efforts. These efforts have included emails to the department that share important updates and announcements, a departmental Twitter account, and a website with enhanced functionality. Each of these platforms has been critical during the COVID-19 pandemic to share information quickly with our own team and with Ob/Gyn teams across the country. While departmental emails used to be sent weekly, for the majority of the last couple of months, they have been sent daily with information relevant to the operations of the department, the medical center/hospital, and New York State.

Since March, our department has hosted a page on our website with "Provider Resources" to share our policies, guidelines, and case studies with a broader audience.[4] We also distribute this information via our Twitter account, which has a predominantly provider-facing following. An area that we hope to improve upon is mass email communication with our patients. Our department provides care to over 80,000 unique patients each year, and we currently do not have a platform to easily and securely communicate both global and targeted updates to each of them. The COVID-19 pandemic has highlighted the need for such a platform beyond our team's communication with patients via telephone and electronic medical record (EMR).

By far the most innovative and important communication tool of the past few months has been our daily department-wide call at 4:30 PM. This call takes place on zoom and has an attendance of between 150 and 180 people per day. Everyone in the department is invited – doctors, nurses, medical assistants, practice operations staff, and information technology, finance, and human resources staff. During the first month of the pandemic, the call was held seven days per week. The agenda includes updates from the three authors of this article, from each of the directors of the inpatient services, from the practice managers of each of the outpatient practices, and from other members of the administrative team. In addition, twice weekly, a member of our Maternal Fetal Medicine team shares data and trends about the number of positive COVID-19 patients on our service. This data sharing has not only been of great interest to members of our team, but also helped the entire department to appreciate early on in the pandemic the high percentage of asymptomatic COVID-19 patients that we were encountering. This awareness enhanced our ability to engage in infection prevention and control efforts.

Collaboration

Multidisciplinary collaboration has long been a key strategy of our department to clinically manage the most complex fetal cases at our Center for Prenatal Pediatrics and maternal cases at our Mothers Center. On the operations front, our team recently underwent what we all thought would be the most collaboratively-demanding, ground-shaking event of 2020: a conversion to the EMR, Epic. Unlike our preparation for COVID-19, our preparation for the Epic migration began over two years prior to the conversion on February 1, 2020. The Epic conversion brought together teams and divisions that had previously operated in silos and – with the imprint of all of that collaborative work (along with the exhaustion) still fresh in our memories on March 11 – provided a familiar framework for working together effectively.

Collaborative work took on new meaning as our IT group prepared over 500 people in the department to work from home, our gynecologic surgeons prepared to assist with cesarean deliveries on our labor and delivery units, and we consolidated two inpatient obstetric units into one to provide more space for COVID-19 intensive care units (ICUs) across the NewYork-Presbyterian (NYP) hospital system. On this same consolidated unit, our team also created an OB-ICU with strong collaboration from a number of other services across NYP, including anesthesia, critical care, pediatrics, nursing, respiratory therapy, and pharmacy, so that we could manage our more acute COVID-19 antepartum, intrapartum, and postpartum patients. Building on the work of the New York State Safe Motherhood Initiative over the last seven years, our team collaborated with leaders at other hospitals across the state to identify strategies and share information about managing obstetric patients that were at risk of decompensation due to SARS-CoV-2 infection. Members of the department also supported teams across the country through participation in the Perinatal Quality Collaboratives of other states as they began to anticipate and prepare for the virus spread.

Our department also created two task forces to address redeployment of faculty and staff and to manage the influx of donations and requests for additional personal protective equipment (PPE). These task forces brought together faculty and staff from across the department to advocate not only for their own areas of practice, but to think broadly about the needs of the department and the medical center. As the infection and hospitalization rates began to steady in New York at the end of April, task forces at the departmental and institutional level shifted their focus to how to "restart" or

"reimagine" care delivery, preparing for the next phase of our COVID-19 pandemic response.

Continuity

Continuity of care is a key aim of our department as we strive to improve women's health. As we began discussions on how to "restart" at the end of April, we took a moment to recognize that our department had managed to provide continuity of care to our patients through a pandemic, including management of over 800 deliveries with 20% of them of mothers that had tested positive for COVID-19. Between the week of March 9th and March 16th, we increased our video visit delivery by over 1000%, shifting 60% of our non-ultrasound obstetric care to telehealth. During the week of March 23rd, our department surpassed the number of video visits we did in the year 2019 in one day. Making telehealth an effective tool to provide continuity of care required significant time and effort from administrative and practice staff, ensuring patients and providers could connect and that patients received the proper follow up. It was also a sharp learning curve for the majority of our doctors who had not previously delivered care via telehealth.

The conversion in February to Epic, which includes a telehealth platform, was an integral part of our ability to ramp up telehealth to connect with our patients as they and we responded to New York State stay-at-home orders. While none of our outpatient practices closed for more than a day or two at a time, we saw our video visit volume surpass the number of in-person visits on March 23rd. It was nearly a month later that in-person visits overtook video visits again. Combining in-person and video visit data, we maintained the vast majority of our obstetric volume, including 70% of our ultrasound visits, but the department as a whole maintained only 54% of its total normal visit volume between March 9th and April 29th. This drop was largely due to the significant reduction in-person visits to our reproductive endocrinology, gynecologic oncology, and gynecologic specialty surgery practices despite their significant ramp up in telehealth encounters.

Community

Over the past five years, our department has worked hard to build community internally so as to better serve our patient community. Specific efforts have included leadership retreats, faculty, fellow, and resident retreats, staff appreciation days, and a medical humanities program called "Artful OBservation," which brings the department together for cultural events in New York City. Undoubtedly, some of the good will and relationships formed as a result of these efforts were mobilized as we came together to respond to the COVID-19 pandemic in Washington Heights, one of the hardest-hit neighborhoods in New York City. Notably, in these first months of the pandemic, we began to directly observe the significant and disparate impact of COVID-19 on Latino and Black communities.

On March 13th, two days after we began our departmental calls and emails, our first patient tested positive for SARS-CoV-2. While we knew it was only a matter of time, our first positive patient symbolized a significant heightening in our level of concern for the community we serve, as well as for our departmental community. In fact, shortly thereafter, we would face the extremely challenging situation of two initially asymptomatic, but ultimately COVID-19-positive patients becoming severely symptomatic during/after delivery.[5] These patients recovered well, but without universal testing or appropriate PPE at that time, at least thirty of our team members were exposed.[6] As a result of these events and others, at least twenty of our providers developed symptoms of the virus, some quite severe and debilitating. While we are extremely fortunate that none of the members of our department succumbed to the virus, at least twenty close family members of our team did – and still our team worked tirelessly to serve our larger community, so hard hit by the virus.

Beyond an opportunity to share key updates, our 4:30 PM calls became a time to come together as a community – to share in the joy of new babies born to members of our team or to mourn the loss of a senior faculty member from a tragic accident. We quickly began our series of "Ob/Gyn Dispatches During COVID-19,"[7] having a member of the department write for our website and read aloud their experience on each call. We also had a number of celebrity guests join our calls. They sang, read poems, and offered kind words of gratitude, inspiration, and encouragement. In addition, our Columbia Women's Health Care Council began the Ob/Gyn COVID-19 Relief Fund, which raised over $75,000 to provide meals, transportation, group support sessions, and work-from-home technology for our team members. Along with these more fundamental efforts to support the team during this challenging time, the sharing of words and experiences crystalized the sentiment that, in each of our own ways, the department had "gone to war" against COVID-19 together.

Culture

Organizational culture is built over a long period of time and does not change quickly.[8] While March 11th brought many swift changes in our operations, one thing that it could not bring was an opportunity to change our departmental culture. Our culture – the habits, emotions, and reactions of our team – was well ingrained by that point and poised to either support or hinder our departmental response to COVID-19. Especially in the early days of the departmental response, as we struggled with a shortage of PPE and testing capability, transparency and humility around the "rapidly evolving" COVID-19 situation were key. This situation was uncomfortable for everyone, and compassion for each other as we all navigated our "new normal" of professional and family demands was critical. However, the severity of the crisis in the community we serve required constant vigilance and accountability by

our team. This intensity was exhausting and many felt understandably overwhelmed by the “COVID mountain,” but our culture of excellence and commitment to service prevailed.

Given the depth of our early experience with COVID-19, our department took the lead in publishing case studies and commentaries to help inform other obstetric providers and practices.[9] Our teams cared for patients under unprecedented circumstances and simultaneously collected the data and wrote the articles to show just how unprecedented a time it was. This too was a part of our culture that could not have been created on the spot. The will and infrastructure to do this kind of work, albeit not usually so quickly, was well embedded and ready to be activated. While COVID-19 presented unique opportunities to leverage new technologies and ways of working, it has been our culture that has carried us through.

The rapid evolution of the COVID-19 pandemic in New York City during the spring of 2020 challenged the Department of Ob/Gyn to rely on its core values to respond effectively. These values of communication, collaboration, continuity, community, and culture provided an invaluable structure as we sought to care for our patients and protect our team during an unprecedented time. In hindsight, March 11th was not just the day that we began our 4:30 PM calls or that the WHO declared a global pandemic, it was the day that our department committed itself to serve our patients and each other in ways that we could not have previously ever imagined.

Disclosure statement

Dena Goffman: Dena Goffman served on a preeclampsia advisory board for Roche Diagnostics.

Mary D’Alton: Dr. D’Alton has had a leadership role in ACOG II’s Safe Motherhood Initiative, which has received unrestricted funding from Merck for Mothers and serves on the board of March for Moms.

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