



A pandemic playbook for residency programs in the COVID-19 era: Lessons learned from ObGyn programs at the epicenter

ObGyn education leaders from 5 academic medical centers within the epicenter of the COVID-19 pandemic summarize best practices based on their experience that can apply to many residency training programs

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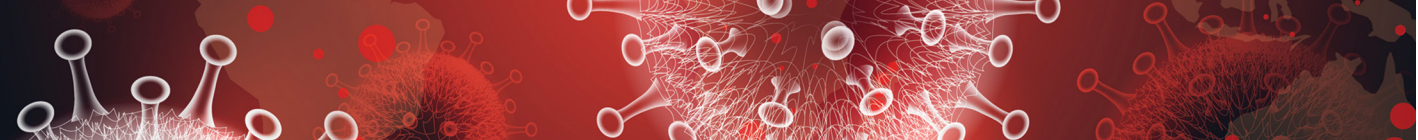
The 2020 pandemic of coronavirus disease 2019 (COVID-19) has presented significant challenges to the health care workforce.^{1,2} As New York City and its environs became the epicenter of the pandemic in the United States, we continued to care for our patients while simultaneously maintaining the education and well-being of our residents.³ Keeping this balance significantly strained resources and presented new challenges for education and service in residency education. What first emerged as an acute emergency has become a chronic disruption in the clinical learning environment. Programs are working to respond to the critical patient needs while ensuring continued progress toward training goals.

Since pregnancy is one condition for which healthy patients continued to require both outpatient visits and inpatient hospitalization, volume was not anticipated to be significantly decreased on our units. Thus, our ObGyn residency programs sought to expeditiously restructure our workforce and educational methods to address the demands of the pandemic. We were aided in our efforts by the Accreditation Council for Graduate Medical Education (ACGME)

Extraordinary Circumstances policy. Our institutions were deemed to be functioning at Stage 3 Pandemic Emergency Status, a state in which “the increase in volume and/or severity of illness creates an extraordinary circumstance where routine care, education, and delivery must be reconfigured to focus only on patient care.”⁴

As of May 18, 2020, 26% of residency and fellowship programs in the United States were under Stage 3 COVID-19 Pandemic Emergency Status.⁵ Accordingly, our patient care delivery and educational processes were reconfigured within the context of Stage 3 Status, governed by the overriding principles of ensuring appropriate resources and training, adhering to work hour limits, providing adequate supervision, and credentialing fellows to function in our core specialty.

As ObGyn education leaders from 5 academic medical centers within the COVID-19 epicenter, we present a summary of best practices, based on our experiences, for each of the 4 categories of Stage 3 Status outlined by the ACGME. In an era of globalization, we must learn from pandemics, a call made after the Ebola outbreak in 2015.⁶ We recognize that this type of disruption could



happen again with a possible second wave of COVID-19 or another emerging disease.⁷ Thus, we emphasize “lessons learned” that are applicable to a wide range of residency training programs facing various clinical crises.

Ensuring adequate resources and training

Within the context of Stage 3 Status, residency programs have the flexibility to increase residents’ availability in the clinical care setting. However, programs must ensure the safety of both patients and residents.

Measures to decrease risk of infection

One critical resource needed to protect patients and residents is personal protective equipment (PPE). Online instruction and in-person training were used to educate residents and staff on appropriate techniques for donning, doffing, and conserving PPE. Surgical teams were limited to 1 surgeon and 1 resident in each case. In an effort to limit direct contact with COVID-19 infected patients, the number of health care providers rounding on inpatients was restricted, and phone or video conversations were used for communication.

The workforce was modified to decrease exposure to infection and maintain a reserve of healthy residents who were working from home—anticipating that some residents would become ill and this reserve would be called for duty. Similar to other specialties, our programs organized the workforce by arranging residents into teams in which residents worked a number of shifts in a row.⁸⁻¹² Regular block schedules were disrupted and non-core rotations were deferred.

As surgeries were canceled and outpatient visits curtailed, many rotations required less resident coverage. Residents were re-assigned from rotations where clinical work was suspended to accommodate increased staffing needs in other areas, while accounting for residents who were ill or on leave for postexposure quarantine. Typically, residents worked 12-hour shifts for 3 to 6 days followed by several days off or days working remotely. This team-based strategy decreased the number of residents exposed to COVID-19 at one time, provided time for recuperation, encouraged camaraderie, and enabled residents working remotely to coordinate care and participate in telehealth without direct patient contact.

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To minimize high-risk exposure of pregnant residents or residents with underlying health conditions, these residents also worked remotely. Similar to other specialties, it was important to determine essential resident duties and enlist assistance from other clinicians, such as fellows, nurse practitioners, physician assistants, and midwives.

To protect residents and patients, maximizing testing of patients for COVID-19 was an important strategy. Based on early experience at 1 center with patients who were initially asymptomatic but later developed symptoms and tested positive for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), universal testing was implemented and endorsed by the New York State COVID-19 Maternity Task Force.¹³ Notably, 87.9% of patients who were positive for SARS-CoV-2 at the time of admission had no symptoms of COVID-19 at presentation. Because the asymptomatic carrier rate appears to be high in obstetric patients, testing of patients is paramount.^{3,14} Finally, suspending visitation (except for 1 support person) also was instrumental in decreasing the risk of infection to residents.¹³

Resources for residents with COVID-19

This pandemic placed residency program directors in an unusual situation as frontline caregivers for their own residents. It was imperative to track residents with physical symptoms, conduct testing when possible, and follow the course of residents with confirmed or suspected COVID-19. As serious illness and death have been reported among otherwise healthy young people, we ensured that our homebound residents were frequently monitored.¹⁵ At several of our centers, residents with COVID-19 from any program who chose to separate from their families were provided with alternative housing accommodations. In addition, some of our graduate medical education offices identified specific physicians to care for residents with COVID-19 who did not require hospitalization.

Deployment to other specialties

Several hospitals in the United States redeployed residents because of staffing shortages in high-impact settings.¹² It was important for ObGyns to emphasize that the labor and delivery unit functions as the emergency ward for pregnant women, and that ObGyn residents possess skills specific to the care of these patients.

For our departments, we highlighted that external redeployment could adversely affect our workforce restructuring and, ultimately, patient care. We focused efforts on internal deployment or reassignment as much as possible. Some faculty and fellows in nonobstetric subspecialty areas were redirected to provide care on our inpatient obstetric services.

Educating residents

To maintain educational efforts with social distancing, we used videoconferencing to preserve the protected didactic education time that existed for our residents before the pandemic. This regularly scheduled, nonclinical time also was utilized to instruct residents on the rapidly changing clinical guidelines and to disseminate information about new institutional policies and procedures, ensuring that residents were adequately prepared for their new clinical work.

Work hour requirements

The ACGME requires that work hour limitations remain unchanged during Stage 3 Pandemic Emergency Status. As the pandemic presented new challenges and stressors for residents inside and outside the workplace, ensuring adequate time off to rest and recover was critical for maintaining the resident workforce's health and wellness.

Thus, our workforce restructuring plans accounted for work hour limitations. As detailed above, the restructuring was accomplished by cohorting residents into small teams that remained unchanged for several weeks. Most shifts were limited to 12 hours, residents continued to be assigned at least 1 day off each week, and daily schedules were structured to ensure at least 10 hours off

between shifts. Time spent working remotely was included in work hour calculations.

In addition, residents on “jeopardy” who were available for those who needed to be removed from direct patient care were given at least 1 day off per week in which they could not be pulled for clinical duty. Finally, prolonged inpatient assignments were limited; after these assignments, residents were given increased time for rest and recuperation.

Ensuring adequate supervision

The expectation during Stage 3 Pandemic Emergency Status is that residents, with adequate supervision, provide care that is appropriate for their level of training. To adequately and safely supervise residents, faculty needed training to remain well informed about the clinical care of COVID-19 patients. This was accomplished through frequent communication and consultation with colleagues in infectious disease, occupational health, and guidance from national organizations, such as the American College of Obstetricians and Gynecologists and the Centers for Disease Control and Prevention, and information from our state health departments.

Faculty members were trained in safe donning and doffing of PPE and infection control strategies to ensure they could safely oversee and train residents in these practices. Faculty schedules were significantly altered to ensure an adequate workforce and adequate resident supervision. Faculty efforts were focused on areas of critical need—in our case inpatient obstetrics—with a smaller workforce assigned to outpatient services and inpatient gynecology and gynecologic oncology. Many ObGyn subspecialist faculty were redeployed to general ObGyn inpatient units, thus permitting appropriate resident supervision at all times. In the outpatient setting, faculty adjusted to the changing demands and learned to conduct and supervise telehealth visits.

Finally, for those whose residents were deployed to other services (for example, internal medicine, emergency medicine,

or critical care), supervision became paramount. We checked in with our deployed residents daily to be sure that their supervision on those services was adequate. Considering the extreme complexity, rapidly changing understanding of the disease, and often tragic patient outcomes, it was essential to ensure appropriate support and supervision on “off service” deployment.

Fellows functioning in core specialty

Anticipating the increased need for clinicians on the obstetric services, fellows in subspecialty areas were granted emergency privileges to act as attending faculty in the core specialty, supervising residents and providing patient care. On the other hand, some of those fellows, primarily in gynecologic oncology, were externally redeployed out of core specialty to internal medicine and critical care units. Careful consideration of the fellows’ needs for supervision and support in these roles was essential, and similar support measures that were put in place for our residents were offered to fellows.

In conclusion

The COVID-19 pandemic has presented diverse and complex challenges to the entire health care workforce. Because this crisis is widespread and likely will be lengthy, a sustained and organized response is required.¹⁶ We have highlighted unique challenges specific to residency programs and presented collective best practices from our experiences in ObGyn navigating these obstacles, which are applicable to many other programs.

The flexibility and relief afforded by the ACGME Stage 3 Pandemic Emergency Status designation allowed us to meet the needs of the surge of patients that required care while we maintained our educational framework and tenets of providing adequate resources and training, working within the confines of safe work hours, ensuring proper supervision, and granting attending privileges to fellows in their core specialty. ●

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