Exploring the Effect of COVID-19 on Graduate Nursing Education

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Abstract

Graduate nursing students are both nurses and adult learners. During the COVID-19 pandemic, many found themselves working on the frontlines while maintaining their studies and confronting challenges in their professional, educational, and personal lives. Changes in work environments, including redeployments, increased hours, and furloughs, challenged their work–study balance. The rapid pivot to virtual instruction allowed graduate nursing students to continue their coursework, but asynchronous delivery of course content increased their isolation and stress. Academic institutions supported graduate nursing students through innovations such as regular town hall meetings and flexible attendance policies, while the widespread closure of clinical learning sites became one of their biggest challenges. A minimum of 500 hours of supervised direct patient care is required to prepare a student to practice as a nurse practitioner, but there is no formal, financed clinical placement system for nurse practitioner students—leaving this clinical learning requirement particularly vulnerable to disruption during the pandemic. Some of the clinical learning alternatives employed included occupational health work, tele-precepting, and simulation. Since telehealth will be a part of the future of health care delivery, tele-precepting practices should be further developed, but simulation was underused and not an acceptable replacement for supervised direct patient care. A postpandemic future needs to limit gaps in the development of safe, competent health care providers by viewing graduate nursing students as essential workers and ensuring their access to the robust didactic and clinical learning opportunities that will best position them as leaders in health care.

COVID-19 has been a global tragedy that has presented enormous challenges for graduate nursing education and students. Nurses, in general, have cared for COVID patients despite inconsistent adoption of COVID-19 precautions among the general population, while facing staffing shortages and a lack of personal protective equipment (PPE). Nurse practitioner (NP) students are working, often full time, as nurses on the frontlines of the pandemic, while also progressing professionally by attending classes and completing clinical rotations. Recent estimates indicate that over 146,000 students are enrolled in master’s-level programs to become NPs.¹ The pandemic caused a turbulent transition from in-person classes to a virtual classroom. Finding clinical rotations and completing necessary clinical training hours has been more difficult during the COVID-19 crisis. At the same time, the recent shift to telehealth visits changed the dynamic of clinical sites and preceptor–student relationships.

The pandemic also caused disruptions to many nurses’ typical jobs as they were redeployed to alternative sites, such as field hospitals and makeshift COVID-19 intensive care units (ICUs). Redeployments, along with high death rates and increased exposure to the virus, led to compassion fatigue and fear among nurses.² Coping with these disruptions compelled NP students as well as academic institutions to develop creative responses to COVID-19. In this paper, we explore disruptions caused by COVID-19 to graduate nursing education, as well as subsequent responses, effective innovations, and lasting challenges in this continually evolving pandemic environment.

Graduate Nursing Students’ Pandemic Challenges

The focus of this paper is primarily on NP programs, although related experiences from other graduate nursing tracks are included where relevant. Graduate nursing students are a unique type of health professions student because most work as registered nurses (RNs) while in graduate school. They must carry out their RN role and responsibilities while simultaneously developing a new professional identity through academic and clinical learning. This has been a particularly challenging task during COVID-19.

NP students, like other graduate students, are adult learners. This designation is important to remember when examining graduate nursing programs, formats, and curricula. From early work on and through the subsequent evolution of adult learning theory, it has been observed that adult learners need self-efficacy, active engagement in learning, and meaningful participation for a successful learning experience.³–⁵ Adult learners need to have control over their learning and be self-directed.⁶ COVID-19 upset the delicate balance held by graduate nursing students because it altered several roles of these adult learners: academic, professional, and personal.

Academic challenges

COVID-19 posed a significant challenge to maintaining high-quality education for graduate nursing students as some traditional institutional policies and practices became suddenly obsolete in the face of the pandemic. New information emerged daily, guidelines changed frequently, and fear blanketed health care workers and the general population.

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Acad Med. 2022;97:S61–S65.
First published online November 23, 2021
doi: 10.1097/ACM.0000000000004537
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Impact of COVID-19 on Health Professions Learners
The pandemic required a quick and immediate pivot by both students and educators.

**Classroom challenges.** In an effort to continue classroom instruction and reduce the risk of transmission through recommended social distancing, academic institutions switched to virtual classrooms. While there has been a years-long trend toward online didactic education for nursing education, COVID-19 expedited that transition. A quick, thoughtful transition to online instruction was necessary for student success, and it was imperative to keep students actively engaged. Online teaching is not a new concept and there are many successful strategies for web-based curriculum design. However, the forced, rapid transition in March 2020 was challenging for students, professors, clinical site preceptors, and administrators. Students and faculty alike need flexibility, adaptation, and willingness to try a new pedagogy in the middle of the semester. In fact, one of the most challenging aspects of online learning is getting students to “embrace a new way of learning” because it requires organization, independence, and self-motivation. Without this adoption, students will be less successful and may become resentful. Undoubtedly, an online classroom is considerably different from a traditional classroom.

Despite the digital age in which we live, technology challenges frustrated students participating in online learning during the pandemic. Access to the Internet, bandwidth adequate for video conferencing and video playback, as well as proctored test taking suddenly became requirements for graduate studies. Furthermore, students had to become comfortable with multiple distance learning tools such as Zoom, Google Classroom, and similar systems. In many cases, there was little to no orientation or time for students (or faculty) to become comfortable with these tools that became necessary to their academic success. Graduate students who were already enrolled in a program with an online presence, either fully online or in a hybrid format, likely saw fewer challenges to the classroom environment as compared with in-person programs, although there is no current research on this perspective.

Student engagement is essential to adult learning, and the loss of the in-person connection proved to be a real challenge in distance learning during the pandemic. In some programs, courses were offered asynchronously or had delayed and flexible timelines for coursework. Many programs had minimal face-to-face synchronous instruction. Despite the flexibility of self-paced classes, graduate students as adult learners need meaningful interaction for effective learning. In many programs, it was the responsibility of students to seek out communication with faculty, which became another challenge during COVID-19 due to the numerous competing demands on NP students’ time.

**Clinical learning challenges.** The availability of clinical sites and preceptors for supervised direct patient care hours required for graduation and licensing was a significant and widespread challenge to graduate nursing education during COVID-19. One of the biggest disruptions to graduate nursing education: how to ensure students complete appropriate clinical hours required for graduation and licensure. Pre-pandemic, NP programs across the country required 500 to 700 hours of supervised direct patient care with a minimum number of hours in various competencies depending on degree track and program. As of mid-March 2020, clinical sites across the country closed and clinical placement agreements evaporated; NP students were confronted with a significant challenge that directly threatened their ability to complete their graduate programs.

Graduate nursing students who were able to maintain or secure clinical placements often experienced an ethical dilemma. While needing to obtain clinical experience and complete studies on time, students were facing the challenge of increased COVID-19 exposure. PPE was notoriously scarce at the beginning of the pandemic, patient volume was down, and many clinical sites were closed. Graduate nursing students experienced acute challenges, disadvantages, and risks due to their plan of study during COVID-19; some faced increased risk of exposure due to direct clinical care experience requirements, while others experienced disruption in their career progression caused by a deferred clinical placement.

COVID-19 introduced an ethical conflict between taking on increased risk and dealing with personal, educational, and professional ramifications due to a disruption in degree progression.

**Employment challenges**

COVID-19 emphasized nurses’ impact on providing high-quality, evidence-based care. In fact, Gallup polls have ranked nurses as the most honest and trusted professionals for the past 18 years. However, a survey of 32,000 nurses, conducted by the American Nurses Association in March and April of 2020 found that 87% feared going to work and 36% cared for an infectious patient without having adequate PPE. Combining these heightened patient care pressures with an ever-changing graduate school environment left many graduate student nurses desperate for support.

Graduate student nurses have an increased risk of exposure to COVID-19 because they risk exposure at both their places of work and through their academic clinical rotations. Additionally, some students experienced disruptions in their academic progression as a result of missed learning opportunities in the classroom and clinical settings due to quarantine requirements. Hospitals and health care facilities frequently changed regulations regarding COVID testing and employee return-to-work eligibility in cases of family or personal illness. Graduate nursing students struggled to stay current with policies as they balanced caring for patients, attending graduate school, and worrying about their own families.

Significant employment disruptions caused by COVID-19 made it more difficult for graduate nursing students to successfully meet academic expectations. Nurses in outpatient settings had their offices closed and were often redeployed to COVID-19 units, call centers, and ICUs. Redeployed nurses often received little to no orientation or training in their new settings. Additionally, nurses working in surgery centers were furloughed or had shifts canceled as elective procedures were postponed. These disruptions led to increased financial worry for those furloughed. Other nurses, specifically in ICU settings, were mandated to stay after their 12-hour...
shifts had finished.11 For graduate nursing students, this led to decreased study
and difficulty attending live virtual
classes. Some graduate nursing students
withheld from courses, took a leave of
absence, or failed or did not complete
classes due to COVID-19. Studies have
shown that even without a pandemic,
NP students are especially vulnerable to
disruption of their plans of study and may
experience delays in career progression
because of the nature of their profession
as RNs.5,9

**Personal challenges**

Emotional well-being, specifically as
impacted by COVID-19, is an ongoing
challenge that can affect self-efficacy and
the ability to be successful in an academic
environment.12 Graduate school nurses
are worried not only about their own
health and safety but also about that of
their loved ones. As Schutz and Shattell
wrote: "Nurses are part of society, too—
the COVID-19 pandemic has rapidly
interrupted our everyday lives. We do not
need to get sick to be rocked by a radical
change in reality. Uncertainty about the
future; fear for ourselves and our loved
ones; and stressful difficulties, such
as unemployment, unstable finances,
feelings of isolation, and loss are all
around us."

Changing home environments made
distance learning more challenging for
graduate nursing students during the
pandemic. Students who attended brick-and-mortar programs had to deal with a
quick pivot to online learning. Students
who, pre-pandemic, were enrolled
in online or hybrid programs and
acustomed to online distance learning
may have experienced fewer technology-
related disruptions to their education,
but they were subject to other personal
challenges. All graduate nursing students
experienced changes in their home
environments due to closures of schools,
daycares, and workplaces. Suddenly,
family members and roommates who
previously left their homes to go to school
or work were staying home, sharing
makeshift workspaces and Internet
connections. Graduate nursing students
with very young children no longer had
care, those with school-age children
suddenly had kids going to school online
from home, and those with spouses or
roommates had to adjust to new work-
from-home arrangements. Disruptions
to personal environments included
technology issues, such as access to
enough computers for the whole family,
adequate broadband to support all
devices, and quiet places to work or study.

**Effective Innovations and
Continuing Challenges**

As the COVID-19 landscape continues to
shift, there are both lasting challenges and
novel disruptions for graduate nursing
students. A comprehensive review and
analysis of educational innovations
during COVID-19 is needed to determine
effectiveness in teaching and learning
environments.5

**Innovations in the classroom**

To prevent a gap in the development of
safe, competent health care providers,
the institutional commitment and duty
to educate the next cohort of health care
professionals must be upheld in spite
of the challenges caused by COVID-
19.5 Examples of helpful program
and policy changes made during the
pandemic included expanded faculty
support of students, program extensions,
facilitation of smaller online student
tutorials, and night-time classes to
accommodate changes in student work
schedules. Frameworks such as "students
first," which was developed at the
George Washington School of Nursing,
helped institutions create a culture and
community that demonstrated student
support.13 Weekly town halls fostered
open communication and engagement
between students and faculty, provided
information about university policy
changes, and supplied up-to-date
COVID-19 information.13 Adaptations
to attendance policies, allowances for
excused absences, lowered passing
exam averages, and pass/fail options are
examples of other academic innovations
that supported graduate nursing students
during this challenging time.

In addition to institutional changes,
the structure of classroom content
delivery was forced through a rapid
transition to online content. While the
abrupt pivot from in-person education
to online classes was challenging, it
allowed for the continuation of courses
that were already in progress. For online
courses to be successful, they need to
be thoroughly planned in advance of
the course opening,1 but this was not an
option with the initial COVID lockdown
that was implemented in March 2020.
However, online instruction will remain
a part of the future of nursing education.5
Now, with more time to plan, faculty
can redesign courses and set student
expectations in hopes of lowering future
disruptions to student learning.

**Remaining challenges in the classroom**

There is no denying that COVID-19
caused significant disruption to the
classroom learning experiences of
graduate nursing students. For traditional
students accustomed to in-person
classes, the educational experience
has been very different from original
expectations. As the pandemic has
evolved and COVID-19 restrictions have
waxed and waned over the past year,
managing students' disappointments
with and disruptions to the didactic
learning components of graduate nursing
education remain dynamic challenges.
Online, asynchronous coursework is
devoid of live interaction and can be
counterproductive to adult learning
theory if not designed thoughtfully. Adult
learning theory requires students to be
self-motivated, which can be a lasting
challenge, particularly with increased
physical and emotional demands outside
of the classroom. Adult learners are most
successful when they can self-pace how
and when they learn; yet, they also need
to be actively engaged in the learning
process and have a sense of control over
their own destiny.4

The forced, hasty transition to online
learning in many programs reduced or
eliminated that level of control, which
can have a lasting impact on degree
progression. For most students, online
instruction was no longer optional;
instead, it became a requirement for
continuing their education.12 Online
learning can be lonely and solitary,
and it often lacks the informal, daily
collegiality and support found in
in-person programs.5 As the pandemic
continues and online learning becomes
an expected part of the graduate nursing
curriculum, faculty will need to gain
skills and confidence in planning online
courses. Also, students will need to
adjust their expectations and adapt their
learning styles to achieve academic
success. Online learning has a rightful
place in the future of graduate education
if done thoughtfully and appropriately,
maximizing student learning through meaningful engagement and purposeful development of collegial relationships among students and faculty.

Technology facilitated the continuation of graduate nursing education during COVID-19, but challenges with technology remain an ongoing issue. Computer and technology–related anxiety was a considerable disruption to classroom learning during COVID-19. Furthermore, inequities in access to technology is an ongoing disruption. Black and Latinx undergraduate students reported a decrease in perceived educational quality during the transition to online learning. It is important that issues related to diversity, equity, and inclusion are not neglected or overlooked in online education and warrant further research. Efforts to ensure equal access to technology, including hardware, software, Internet, and cloud-based programs, are a critical consideration for graduate nursing programs. As COVID-19 indelibly embedded the use of technology in graduate nursing education, programs must continue to invest in robust technology platforms, provide student orientation and instruction with ongoing support, and ensure that students develop the necessary skills to be successful in the virtual classroom.

Innovations in clinical experiences

As mentioned, disruption to clinical training rotations was a serious challenge caused by the COVID-19 pandemic. While many clinical sites were closed to students, graduate nursing students should be seen as essential workers because they can fill a health care need while completing clinical training hours. Creative graduate nursing student clinical training innovations emerged in telehealth, occupational health, community health partnerships, N95 fit testing, and care for the homeless. COVID-19 accelerated the use of telehealth and tele-precepting. In a position statement on March 23, 2020, the American Nurses Credentialing Center (ANCC) said that telehealth visits could be counted toward the minimum 500 hours of supervised direct patient care hours required to prepare a student to practice as an NP. Tele-precepting is a viable solution to meeting clinical training requirements as it improves students’ access to learning opportunities. Unfortunately, even with these innovations, clinical placements largely failed to meet pre-COVID expectations and many students experienced a delay in degree progression. In response, some institutions, like Simmons University in Boston, Massachusetts, designed an independent study that allows students to complete necessary clinical hours after the completion of the formal program.

Remaining challenges in clinical experiences

Cessation of clinical rotations for graduate nursing students posed serious challenges to meeting graduation requirements and becoming eligible to sit for national licensure exams. In the March 23, 2020, position statement, the ANCC reaffirmed the minimum requirement of 500 hours of supervised direct patient care experience to fully prepare a graduate nursing student to practice as an NP. Before the pandemic, many graduate nursing programs required more than the minimum 500 hours for NP students to graduate. Quickly, many graduate nursing programs temporarily reduced their graduation requirements to the minimum 500 hours; however, some students expressed concern over the quality and volume of clinical experiences in light of program changes, modified clinical sites, and reduced patient loads. While the reduction of hours was seen as necessary to allow students to graduate on time with the least disruption to their plan of study, the long-term effects and impact are unknown.

The pandemic exposed flaws in the clinical placement system for NP students. The process for finding clinical placements largely involves individual agreements with NPs that are typically arranged by the student, although some institutions assist with the placement process. In many cases, there is no preexisting agreement to host students and the obligation to precept a student is largely based on goodwill. This leaves precepting agreements particularly vulnerable to disruption. Yet, supervised direct patient care experience is a requirement for licensure as an advanced practice provider. In the case of COVID-19, there was widespread disruption to the clinical placements due to fear of exposure, increased health risks, lack of PPE, and redeployment or furlough of the NP preceptors. The NP clinical model is markedly different from other health care provider models. While all health professions education programs experienced disruptions, medical students returned earlier to providing direct patient care than NP students, likely due to the more robust, financed, and established system in place for medical student clinical training.

The effectiveness and utility of telehealth recognize it as a legitimate health care modality, as evidenced by the willingness of the Centers for Medicare & Medicaid Services to fully reimburse providers for telehealth visits as of March 2020. Telehealth will be a part of the future of health care. Telehealth should be part of graduate nursing school curricula so that future cohorts of providers are savvy about telehealth and are familiar with its potential to expand access to care. Along with the more widespread utilization of telehealth, an ongoing challenge remains the concept of tele-precepting and determining the most effective ways NP students can learn from and become proficient with this virtual health care setting.

Simulation is another potential response to the disruption of clinical placements that has not been effectively used. The ANCC included in its March 2020 position statement that simulation hours could not be used to complete the required minimum 500 hours of supervised direct patient care, but that it could be used in addition to the 500 hours on an as-needed basis. While simulation labs are not ideal for social distancing guidelines, web-based simulation is a possible solution. High-fidelity simulation positively influences NP student satisfaction and is successful at building the knowledge and skills required in the preparation of competent NPs; therefore, it is appropriate to use in graduate nursing education. The underutilization of simulation for clinical NP experience is a lasting challenge and was a missed opportunity during COVID-19 to reduce the disruption of required clinical learning.

Despite many institutions reducing their required supervised direct patient care clinical hours to match the ANCC’s 500-hour requirement, many students...
faced complete disruption to their clinical experience and did not or will not accrue enough hours to graduate on time. In response, some graduate nursing programs created a new course, often framed as an independent study, that does not have associated tuition costs and is added on after the completion of the usual plan of study. However, it is not a truly free option because there is a significant opportunity cost to students in terms of lost wages, childcare costs, and delayed professional role transition; and academic institutions have to absorb the associated program costs.

Lessons learned
COVID-19 has permanently changed the educational landscape for health care workers. Nursing education has a long tradition of adaptation to the constantly changing health care landscape, including the increasing complexity of health care as well as the changing needs of students. Online learning opens up opportunities for graduate nursing students that need to continue post-pandemic as long as they are thoughtfully designed to maximize adult learning potential and promote self-efficacy and engagement through a supported environment. Graduate students can work independently and need flexibility, but an overreliance on self-paced, asynchronous work during COVID-19 made students feel disconnected instead of actively engaged.

The near-complete closure of clinical sites to graduate nursing students was short-sighted and a critical lesson that more robust clinical placement relationships need to be developed for these students. Creative opportunities for supervised direct care clinical hours that view NP students as essential workers is a mindset that should continue post-pandemic. The National Organization of Nurse Practitioner Faculty has been calling for the inclusion of telehealth in the NP curriculum since 2018. Developing tele-precepting best practices is another important innovation, especially as telehealth visits are now considered an integral aspect of health care.

Conclusion
As we look forward to a postpandemic future, the initial acute response to COVID-19 has turned into a routine part of health care. The advent of widespread vaccination gives graduate nursing education time to harness the momentum from the past year and to use the challenges, disruptions, and innovations to craft a postpandemic future that better positions students, educators, and institutions to be leaders in the ever-evolving and increasingly complex health care environment.

Acknowledgments: The authors thank Tanya Cohn, PhD, MEd, RN, for her insightful comments as faculty advisor for this project.

Funding/Support: None reported.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

Previous presentations: Presented at the Josiah Macy Jr. Foundation Conference on COVID-19 and the Impact on Medical and Nursing Education.

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