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## COVID-19 vaccination clinics: meeting clinical hours and improving nursing students' skills

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### ABSTRACT

**Background:** As 2020 drew to an end and the country was looking forward to 2021, the University of Texas Medical Branch School of Nursing was presented with the challenge of administering large quantities of COVID-19 vaccines. As the vaccines became more readily available, staff skilled in intramuscular injections (IM) were needed at multiple locations to administer the vaccinations.

**Method:** The school of nursing faculty recognized this as an opportunity for nursing students to gain clinical experience by substituting one virtual clinical day with one day at the in-person vaccine clinic. A comprehensive implementation plan was developed in collaboration with leadership from across the health system.

**Results:** The students were able to increase confidence in IM injection skills while helping the community by administering life-saving doses of vaccine to patients and Galveston county residents.

**Conclusions:** Vaccination clinic participation proved to be a worthwhile experience for the nursing students and faculty.

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"We are living in unprecedented times." These words have been spoken millions of times since March 2020 when COVID-19 was declared a pandemic by the World Health Organization (WHO) (World Health Organization, 2020). In response, Operation Warp Speed (OWS) in partnership with the Department of Health and Human Services, the Department of Defense, and the private sector set a goal to rapidly develop a COVID vaccine that was safe and effective. Additionally, the aim was to develop a vaccine for the public under a Food and Drug Administration (FDA) emergency use authorization by the end of 2020. The third goal of OWS was to produce and distribute 300 million doses of the vaccine by the middle of 2021 (Slaoui & Hepburn, 2020). Healthcare workers and members of the public were challenged to remain flexible, as the vaccine pipeline developed and changed often. As these goals were in the process of being met, additional challenges were identified. These included the hurdles of mass production and distribution, affordability of the vaccine, allocation and prioritization of who should receive the first

doses, and physical deployment of the vaccine to communities (Wouters et al., 2021). The US government sought to deliver mass quantities to the individual states in a short period of time. However, as the vaccine distribution began, some counties faced issues of disorganization, inadequate staffing, and management of the administration sites. These challenges were evident, particularly as small clinics evolved into larger hubs for vaccine administration to meet the overwhelming demand (Carr, 2021). The main purpose of this paper is to share the implementation process and our experience of working with community partners and our academic faculty, students, and staff to coordinate and implement pop-up COVID-19 vaccination clinics staffed by registered nurses and students. We hope that our shared experiences can serve as lessons learned for other departments or schools of nursing (SON) teams who are interested in implementing similar programs at their institutions.

### Call to Service

As 2020 progressed, multiple pharmaceutical companies developed and conducted clinical trials for COVID-19 vaccines and therapeutics. On December 11, 2020, Pfizer's vaccine was the first to receive emergency use authorization (EUA) by the FDA. This was quickly followed by Moderna's vaccine that received EUA on December 18, 2020, and Johnson & Johnson's vaccine, EUA received on February 27, 2021 (FDA, 2020; FDA, 2020; FDA, 2021). Vaccine distribution posed many logistics challenges in the beginning,

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including obtaining an adequate supply of each vaccine and obtaining space in facilities with freezers to store the vaccine at ultra-cold temperatures (as low as  $-112$  to  $-174^{\circ}\text{F}$ ). Another challenge was locating large enough sites to accommodate social distancing and allow adequate numbers of additional people to help with scheduling, registration, administering the vaccine, and monitoring the patients for possible post-vaccine side effects (Carr, 2021; Wouters, 2021). Initially, the SON faculty assisted Student Health Services with COVID-19 testing to screen students before attending any on-campus activities. When the vaccines were more readily available, staff skilled in intramuscular injections (IM) were needed to assist with vaccinations at multiple locations for Employee Health, Ambulatory Care and Student Health clinics. They were also volunteering at the local county vaccination hubs. Requests for student and faculty assistance were organized through the SON Office of the Vice Dean.

This call for student assistance prompted the SON BSN Adult Health II course coordinator to review the course objectives and clinical requirements. She found 112.5 hours of clinical time available and worked with faculty, staff and students to allocate a portion of that time to the vaccination efforts. Prior to the pandemic, students completing the clinical portion of the course had faculty supervision in the inpatient setting for two 12-hour shifts per week for five weeks total. With the onset of the pandemic, plans changed to partially replace clinical experiences in the program with virtual clinical activities. As clinical facilities began to reopen, student placements for direct clinical experiences were planned for spring semester 2021, including one 12-hour in-person shift followed by one virtual clinical day for the second day each week to meet the overall hour requirements for clinical experiences.

## Coordination

In February 2021, the American Association of Colleges of Nursing (AACN) in conjunction with the National League for Nursing (NLN) published a commitment to support SON faculty and students in the effort to vaccinate the US population (AACN/NLN, 2021). The nursing students were prepared to administer COVID-19 vaccinations through course laboratory experiences where they received instruction. They practiced IM injection skills in the lab and were able to refresh their skills and gain more experience administering IM vaccinations at the COVID-19 clinics. Vaccination skills included reconstitution, injection site location identification, vaccine administration, and patient education regarding possible side effects. Hence, the students eligible to administer vaccines were nursing students who are at least in their second semester (who had completed the IM injection skill module) during the first semester. As mentioned, the SON BSN Adult Health II faculty decided to balance face-to-face and virtual clinical hours due to the social distancing requirements to limit COVID-19 exposure. The faculty suggested that students substitute one virtual clinical day with the in-person vaccine clinic. This plan was approved by the Department Chair for Undergraduate Programs and Vice Dean of Academic Affairs for the SON Academic Administration and was implemented shortly after.

The employee health supervisor, SON academic administration, the SON BSN Adult Health II's course coordinator, and faculty collaborated to develop a comprehensive implementation plan. The course coordinator was required to ensure students, clinical faculty, and vaccination clinics knew the expectations and skill level of the students and any changes that were made to the plan. The employee health supervisor developed an online sign-up process to provide vaccination clinics locations, times, and spots that needed to be filled. The vaccination clinics were geographically wide-spread and only allowed a maximum of four students at each location. An Adult Health II clinical group is typically ten students to one faculty. Since it would be difficult for clinical faculty to be at multiple locations to

supervise students, it was determined that the clinical faculty would be at only one of the vaccination clinics each day, while registered nurses at the other vaccination clinics would supervise the students at the remaining sites. A "COVID-19 Vaccination Clinic Attestation Form" was also developed for nursing students that certified students were present and participated in the vaccination clinic. It also helped the Adult Health II faculty identify the resource nurse on-site. The students were responsible to print the attestation, have it signed by the supervising registered nurse and submit it online, to receive credit for the clinical day.

Once the logistics were determined, the course coordinator communicated the vaccination clinic plan to the clinical faculty and students. The students were assigned to various vaccination clinic sites during one of the virtual clinical days. The vaccination clinic schedule and the attestation were shared with the clinical faculty and students. The students were also required to refresh their IM skills by watching the skills video from the Adult Health I prerequisite. The students were instructed to report to the registered nurse at the assigned vaccination clinic for their assignments. The students' role included preparing the vaccine, disinfecting the injection site with an alcohol pad, administering and documenting the vaccine, monitoring the individuals' post-vaccination responses, and sanitizing the seat and table in between each person receiving their vaccine.

## Student response

Many students vocalized their excitement to be "a part of history." Even with the many changes and challenges they faced during this semester, they rose to the occasion to actively and energetically participate in a COVID-19 vaccination clinic. Students worked in various roles and had the opportunity to participate in each area of the vaccination clinic. They also provided patient education on the possible adverse effects and when to return for their second dose.

Not only did the students become more comfortable with administering IM injections, but they were able to improve their assessment skills while evaluating for allergies and monitoring the patients. Students also contributed to the quality improvement of the flow of the clinic. When they saw something that was potentially problematic, slow or inefficient, they would vocalize it and then implement a solution into motion. For example, to avoid over-crowding, the students used tape on the ground to add six-foot distance markers on the ground while patients waited to enter the building. The students verbalized satisfaction and enjoyment with their clinical experience time in the COVID-19 vaccination clinic. One student even stated that it was a "unique and remarkable experience." Many were asking if they could return another day on their own time. Student comments included, "I felt like part of the team, and I was contributing to the community," "I became very confident in the reconstitution of the vaccine," "I loved when my patient said I did a great job – she didn't feel a thing!" and "I am so thankful to be a student nurse here and to have been given the opportunity to participate in this monumental event."

## Implementation Challenges and Solutions

There were several challenges in coordinating this effort. The request for nursing students to assist with vaccination administration was made after the semester started, requiring faculty to plan and change the clinical schedule. Another challenge was halting the planning process due to real-time limitations in vaccine availability. Frequent changes to the vaccination locations also added to the complexity. Finally, the faculty had to make further changes when the county's request was made to have students assist at the large vaccine administration hubs. Faculty and student nurses had to be flexible and actively involved for several weeks; living, learning, and

giving during unprecedented times. Overall, this proved to be a worthwhile experience for the nursing students to improve IM injection skills while helping the community by administering life-saving doses of vaccine to county residents.

The pandemic encouraged and pushed nursing faculty to identify creative methods to meet the clinical objectives. As clinical placements continue to be limited, it is important for nursing faculty to be innovative and collaborative to ensure students are provided robust clinical experiences.

#### Declaration of Competing Interest

The authors have no financial or personal interest to disclose.

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