

Implementation of an onboard COVID-19 vaccination programme: a university partnership to vaccinate seafarers

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ABSTRACT

Background: The coronavirus disease 2019 (COVID-19) pandemic caused many seafarers to be stranded on their ships due to lack of access to a vaccine and fear of contracting the COVID-19 virus limiting their ability to work on the ship. Once COVID-19 vaccinations were available, a lack of access to the vaccine continued to exist in the underserved seafarer population. This lack of access to the COVID-19 vaccine meant that seafarers were sometimes unable to leave their ships for months beyond their original contracts.

Materials and methods: The University of South Florida (USF) College of Nursing collaborated with the USF Morsani Colleges of Medicine and Pharmacy in the development and implementation of an onboard COVID-19 vaccination programme at the request of the Port of Tampa Ministries.

Results: In 6 months, 1237 seafarers from 30 countries and 5 continents received the COVID-19 vaccination as a result of this programme.

Conclusions: Partnership between a commercial port and a College of Nursing at a local university enabled hundreds of seafarers to be vaccinated against COVID-19. This programme serves as a model for industry and academic partnerships that can have a global impact on health and wellness.

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Key words: seafarers, health and wellness, COVID-19 vaccinations, maritime industry, industry and academic collaboration, onboard vaccinations

INTRODUCTION

The coronavirus disease 2019 (COVID-19) global pandemic was first recognized in the Spring of 2020 by the World Health Organization [1]. The designation of global extended to those persons inland and at sea. As such, the maritime industry was uniquely affected due to the nature of the work. Seafarers often hail from a different country than the flag under which the ship sails. Additionally, the ships transport goods between even more countries. Thus, these standard operating conditions unintentionally created unforeseen barriers once the global pandemic was declared. When seafarers become sick or injured on board, there are few options for treatment at sea [2, 3], ships' officers, even with the help of telemedicine, have limited medical equip-

ment and medicines on board. Additionally, depression can be high even in the best of times, due to loneliness, stress, fatigue, insomnia, separation from families, repetitive food, and others. During the COVID-19 pandemic, many seafarers were denied shore leave and were often unable to return home, leaving some seafarers stranded on a ship for more than a year. These practices prevented seafarers from accessing important services such as health care and communication with families [4]. Some countries restricted air flights to and from countries with outbreaks, and many seafarers could not leave when their contract expired [3].

When the COVID-19 vaccines became available in spring of 2021, the leadership at the Port of Tampa requested that faculty at the College of Nursing (CON) at the University of

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South Florida (USF) in Tampa, Florida, partner with them on a vaccination drive. Plans were made to invite employees and eligible family members to register for a vaccination event at the Port, and over 100 vaccinations were given. Although cruise lines were not running, the Port stayed active with cargo ships and tankers that regularly dock at the Port of Tampa. These events solidified the partnership between the Port of Tampa and the CON, and created a path for expansion. The purpose of this article is to describe how that expansion served to meet the needs of seafarers who docked at the Port of Tampa during the pandemic, once a vaccine became available.

The non-profit Port of Tampa Ministries operates a Seafarer's Centre that is purely donation based. This invaluable entity offers shore respite and services for seafarers within the Port of Tampa. During the aforementioned vaccination drive in the spring of 2021, the Port of Tampa Ministries Chaplain (cleric) approached the USF CON faculty regarding the plight of the seafarers on cargo ships in port who were not allowed to leave the ships due to issues with access to the vaccines. The Chaplain described that many seafarers were effectively ship-bound for up to and over a 12-month span in some cases. Only those seafarers who had been vaccinated against COVID-19 could take shore-leave or disembark in their home ports; however, most were not vaccinated as very few agencies provided this service on board. Thus, seafarers were caught in a vicious cycle that could be interpreted as a violation of the 2006 Maritime Labour Convention [5]. Armed with this information, a partnership between the Port of Tampa and the USF CON was formed that enabled hundreds of seafarers to be vaccinated against COVID-19.

MATERIALS AND METHODS

Once the dilemma was fully understood, the USF CON faculty collaborated with the USF Morsani College of Medicine (MCOM) and devised a plan. The USF CON faculty had already received a small internal nursing alumni-funded 'Leaders in Care' grant that provided initial operational resources, such as computer equipment, printers, paper, ink, labels, and backpacks. Faculty time was donated by USF CON. Additionally, MCOM provided the single-dose Janssen COVID-19 vaccine, injection supplies, emergency kit, and record reconciliation with the Florida Department of Health. The USF College of Pharmacy (COP) dispensed the vaccines to the USF CON faculty that were responsible for dosing and administration of the vaccine. Additionally, the USF COP provided temperature-controlled containers for transportation of the vaccine complete with time logs, medication administration, and medication reconciliation forms.

Next, the Port of Tampa Ministries Chaplain monitored the cargo and container ships that were scheduled to be

in port and reached out to the Captains of those vessels to offer onboard COVID-19 vaccination services free of charge. The Chaplain communicated this information to the USF CON faculty regarding the expected dates, number of ships, and number of vaccinations needed. Secured space was provided in the Seafarer's Centre for the USF CON faculty to store equipment and supplies, vaccine preparation, storing and stocking the backpacks. Based on the number of vaccinations requested, the CON faculty obtained the vaccines via MCOM in conjunction with the COP, and transported them in a cooler to the Seafarers Centre at the Port. Once the vaccines were prepared and the supplies readied, the Port of Tampa Ministries Chaplain transported the USF CON faculty to each ship and accompanied them on board for vaccine administration. More often than not, the Chaplain brought a volunteer that carried gear and assisted with paperwork completion by the seafarers. Transportation Worker Identification Credential (TWIC[®]) access was crucial to board the ships, and provided by the Port Chaplain, an employee of the Port. It should be noted that all appropriate clearances, port passes, safety training, and port badge identifications were obtained by the USF CON faculty prior to the implementation of the onboard COVID-19 vaccinations project. All members of the vaccination team employed appropriate safety precautions and wore safety vests, masks, goggles, gloves, hardhats, non-slip soled shoes, and port identification. Three USF CON faculty members along with alumni volunteers and graduate students rotated vaccination shifts from implementation of the onboard COVID-19 vaccination project in June, 2021, through December, 2021. All three USF CON faculty members were advanced practice, doctorally prepared nurses.

Once admitted though multiple security clearance checkpoints, the team boarded the ships and set up a vaccination station in an area designated by the Captain or First Officer. If needed, a translator was identified by the Captain, and that person was available until the team left the ship. Vaccine administration station locations included officer's mess, dining halls, infirmaries, conference rooms, leisure/multi-purpose rooms, and even the bridge in one case. Seafarers completed standard vaccination administration and consent forms and the USF CON faculty reviewed the forms with the seafarers and determined eligibility to receive the vaccine. When feasible, the USF CON faculty reviewed the common side effects in a group, but always asked each individual if they had any questions as privately as possible. Common questions included, "Can I take a shower?" and "When can I go back to work?". There were also occasional questions about compatibility with medications. All questions were answered to their satisfaction. After COVID-19 vaccination, the seafarers were monitored by the USF CON faculty for a period of no

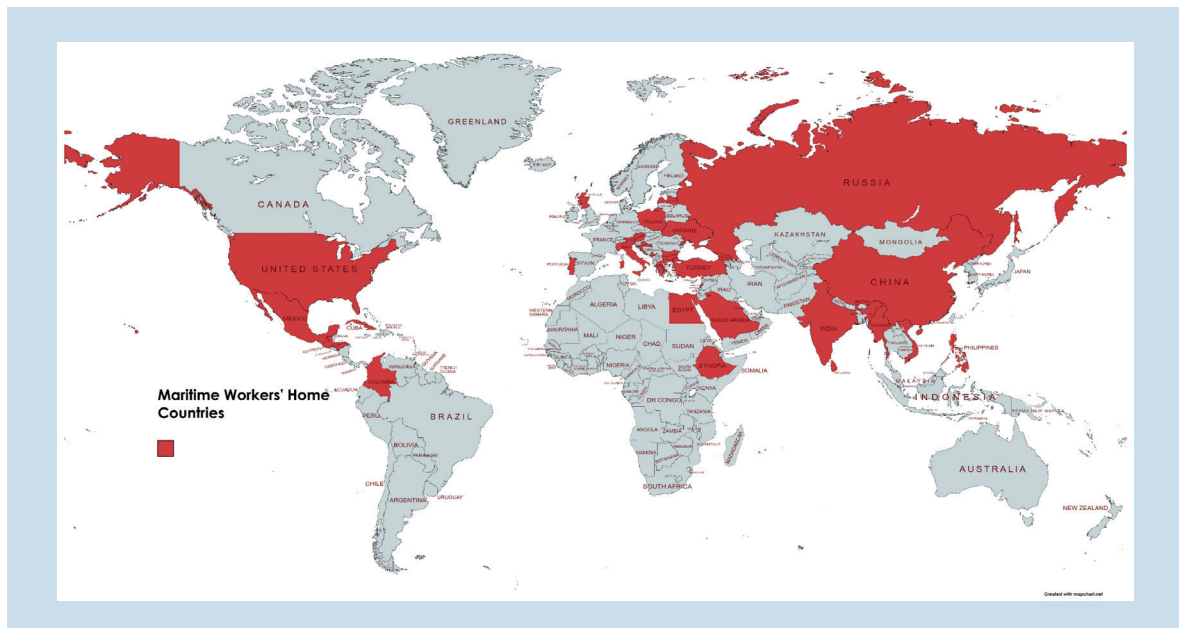


Figure 1. Maritime workers' home countries

less than 15 minutes. Vaccinated seafarers were provided an official Centres for Disease Control and Prevention (CDC) COVID-19 vaccination card which was also stamped and signed by the USF CON faculty. In most cases, the USF CON faculty stamped and signed the "yellow fever" vaccine card also that is carried by many seafarers. Each Captain or First Officer was provided with a log of vaccinated seafarers. All used medical supplies were removed from the ships by the USF CON faculty and disposed of in compliance with the Occupational Safety and Health Administration (OSHA) regulations. Upon returning to the Seafarers Centre, the USF CON faculty logged the vaccination information into a spreadsheet provided by the Florida Department of Health, which was submitted to them within 24 hours. Unused vaccine doses and signed consents were returned to the MCOM at the end of every day.

RESULTS

In the almost 6 month time span from June, 2021, through mid-December, 2021, the USF CON faculty administered 1237 COVID-19 vaccinations to seafarers. Of those, all but two vaccine recipients self-identified as male. These seafarers hailed from 30 different countries located across five continents (Fig. 1).

Of all the vaccinations administered, no adverse events or reactions were observed or reported. One seafarer with a history of injection-induced vasovagal syncope was monitored for an additional 15 minutes without incident.

Anecdotally, the majority of seafarers were outwardly appreciative and profusely thanked the team, took pictures

(with permission), offered food and beverages, and were, in some cases, visibly emotional. Most were very knowledgeable about the vaccine, and all were anxious to get it.

DISCUSSION

It is important to note that the USF CON faculty also marketed this opportunity to graduate nursing students and nursing alumni. All of the students and alumni who participated were advanced practice nurses, and their participation helped streamline and shorten the time that was spent on board. The student/alumni prepared and administered the vaccine while the faculty completed the participant spreadsheet, collected consents, and stamped vaccination cards. Students earned valuable clinical hours during a time when many clinical sites were closed due to the pandemic. The time spent obtaining, preparing, administering, and logging the vaccines was the most costly part of the programme, often consuming 6–8 hours a day for team members.

The majority of this effort was conducted in the hot, humid and often rainy conditions of Florida. Students and alumni were screened for being able-bodied not only due to the weather conditions, but the multiple flights of steep stairs and precarious gangways. Occasionally, the team requested that the seafarers meet them at the bottom of the gangway for a tailgate vaccination when it was not reasonable for the nurses to board the ship. What might be determined to be safe for seafarers is not always safe for nurses who are not used to the conditions.

A styrofoam cooler was used with cold water bottles to keep the temperature of the vaccine within the recom-

mended guidelines, and was monitored continuously with an internal thermometer. Care was taken to place the cooler in an air-conditioned vehicle during transport and away from direct sunlight. Vaccine doses were never discarded due to temperature failure, but were occasionally discarded when the team was unable to board the ship in a timely manner due to required inspections, or early ship departure.

Most of the seafarers spoke enough English to converse with the team, and their sense of humour was enjoyed. The team often remarked on the seafarer's camaraderie and the leadership of the Captains, who were often the first to roll up their sleeves. The Captain on the very first ship that was boarded recommended that a stamp be used for the vaccine cards, which was ordered right away. The stamp included the vaccine name, dose, and USF Health Clinic identification, and the nurse added the date, and their signature. The stamp was used on both the CDC COVID-19 vaccination cards and the yellow fever cards that were not laminated.

The Janssen COVID-19 vaccine was chosen for this programme because it only required one dose. It is also very easy to prepare because it does not need to be reconstituted, and can be transported in a cooler for up to 12 hours. The only drawback is that once it is drawn up in a syringe, it must be used within 2 hours. Therefore, when more than one ship was to be boarded in a day, the nurse prepared the vaccine after they boarded the ship. The team was never on a ship more than 90 minutes, because the most vaccinations administered on any ship was 20. Occasionally, second doses and booster vaccinations of the Pfizer vaccine were given to seafarers who were eligible. These were planned in advance, and the seafarers were required to provide their vaccine cards as proof of eligibility. Pfizer vaccines were prepared by the pharmacy at the MCOM. Because of the short window, Pfizer vaccines were planned for the first ship to be boarded.

During the first few months of the programme, seafarers that received an initial dose of vaccine elsewhere and needed the second dose were unable to receive that follow-up vaccination unless the original dose was Pfizer. This changed after the International Maritime Health Association released an interim position paper in September 2021, 'Vaccination of Seafarers Against COVID-19' [6]. This position paper paved the way for the use of different brands of COVID-19 vaccine to complete the recommended series. Thus, the team was able to complete the series for many seafarers in the fall of 2021.

CONCLUSIONS

The far-reaching outcome of this project is proof that collaboration between industry and academia can have global impact. When approached, the CON faculty appreciated the

need and responded with a measured, thoughtful approach that can serve as a model for future collaborations. When health and wellness are involved, industry should look no further than their own backyards for an academic partnership that positively affects change. At the time of this article, the supplies, vaccine, and faculty time are still being donated by USF CON, MCOM, and COP. University of South Florida Health remains steadfast in their commitment to the programme as long as the need exists.

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