

An early pop-up mpox vaccine clinic

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ABSTRACT

Mpox, formerly known as monkeypox, emerged as a viral zoonotic disease in 2022. The World Health Organization (WHO) declared a global pandemic in July 2022. Through the U.S. Food and Drug Administration's emergency use authorization, JYNNEOS became the dominant vaccine for prevention of mpox. California leads the nation in the number of U.S. cases, and the outbreak created opportunities for a nurse practitioner-led pop-up vaccination clinic in Los Angeles County. Interprofessional teamwork with pharmacists and public health officials increased the number of individuals vaccinated. By November, the WHO released operational planning guidelines. Nurse practitioners can use these guidelines in anticipation of the next pandemic.

Keywords: Nurse practitioner; orthopoxvirus; vaccine; World Health Organization.

Journal of the American Association of Nurse Practitioners 35 (2023) 226–228, © 2023 American Association of Nurse Practitioners

DOI# 10.1097/JXX.0000000000000858

I was en route to my university on a Tuesday when I received a call from a friend who lived in the Coachella Valley. He was alarmed by the breaking news of “another gay cancer”—this time monkeypox. He wanted to know how he could get a vaccine given the national short supply because providers in his community were unable to obtain the vaccine. He knew I had coordinated a mass COVID-19 vaccination clinic for several months. He questioned if I had any vaccine. I told him I would check with our pharmacy. That one phone call started what would lead to my involvement in another public health emergency, even as the COVID-19 pandemic had yet to end.

I sent a message to the chief pharmacist. It was fortunate that she was intricately involved with the Los Angeles (LA) County Department of Public Health for COVID-19 activities. She told me she had 40 doses on order, would arrive on Friday, but no mechanism to distribute given that the university was between semesters. I asked if I could lead a mass vaccination clinic. She had hesitancy at first because the demand for the vaccine was higher in other parts of LA County than in far eastern LA County region. I had to assure her that the nurse practitioner (NP) team would get “doses in arms.” Any dose not

administered would have to be returned for redistribution to other high-need areas.

Announcements were made to the LGBTQ+ campus club and through point-to-point referrals. We received 40 doses initially. We had 4 days to set up and mobilize. Mobilization included NP staff training, computer access to the County's electronic records including medical screening guides, and gathering supplies. Over the weekend, I used the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) websites and PubMed for basic information to share with our medical staff and patients. Our administration success would also factor into future doses.

Tuesday through Thursday afternoons became pop-up mpox vaccine days. The pharmacy personnel handled registration, recorded lot numbers, and managed the thawing of the doses. Two NPs completed the County's medical screening process and administered the doses. Answering patient questions and providing education was the most time-intensive aspect of each visit. Fear, anxiety, and frustration were commonly reported. Our pop-up clinic was successful, and we were able to secure additional doses to meet our community's ongoing needs. Unknowingly, we were living what would mimic a WHO model.

Background

In 2022, the world held its breath as another viral zoonosis dominated headlines: monkeypox. Monkeypox, as it was known initially but is now called mpox because of stigma, is an orthopoxvirus. Mpox was first identified in 1958 in

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Received: 31 December 2022; **revised:** 31 January 2023; **accepted:** 20 February 2023

cynomolgus monkeys (Gessain et al., 2022). Early indications led clinicians to believe that humans were not susceptible, which was disproven in 1970. A 9-month-old boy is believed to have been the first fatality in the Democratic Republic of Congo. For the first 3 decades, all cases of mpox occurred in Africa. Although sporadic outbreaks in the United States, the United Kingdom, Israel, and Singapore happened over the years, the prevailing thought was that Africa bore the endemic burden (Gessain et al., 2022; WHO, 2022b). In May 2022, Europe began reporting an upsurge in cases of mpox, followed by other countries. Mpox was no longer an African burden but a worldwide burden. World Health Organization declared a global public health emergency on July 23, 2022.

Through mpox, we note that a disease endemic in one part of the world can rapidly spread around the globe. As of year-end 2022, the number of mpox cases in the United States was about 30,000 (CDC, 2022a). Every state reported at least one case, with most cases originating in California (>5,600). Worldwide, confirmed cases approached 84,000. Mortality remains relatively low; mpox is associated with 20 deaths in the United States (CDC, 2022a).

In a December viewpoint, authors Hazra and Cherabie (2022) note that classifying mpox as a sexually transmitted infection (STI) seems easy given its recent spread history but would be an error. The stigma of it as an STI offers unintended consequences and ignores the evolutionary history of the illness. More emphasis must be placed on destigmatizing mpox and educating our at-risk community members on protection. Other public health experts support naming mpox as an STI in hopes of more public health interventions, increased vaccination rates, testing, and treatment (Allan-Blitz, et al., 2002).

World health guidelines

I encourage all NPs to become familiar with the *WHO November 22 Operational Planning Guidelines* (WHO, 2022a). The guidelines provide a framework within which NPs can provide leadership in halting the spread of mpox. The guidelines are equally important for other conditions as well. The NPs' role is integral in stopping human-to-human transmission and protecting vulnerable groups at high risk. Nurse practitioner practice already aligns with WHO's model of emergency coordination, collaborative surveillance, community protection, and safe care based on risk assessments.

Emergency coordination and surveillance

An NP will find many activities and capacities under emergency coordination that can be implemented into their practice. For example, an NP can develop and operationalize a plan to consult with public health department officials. Consulting with public health officials ensures access to current and reliable information. For mpox, coordination is necessary for acquiring and administering vaccines to high-risk individuals.

Nurse practitioners are already aware of the value of surveillance and contact tracing programs. In terms of surveillance, querying electronic health records would be an important first step because examining patient panels could identify those with an elevated risk of mpox. Populations at high risk include male individuals who have sex with other male individuals and those who never received a vaccine for smallpox, most likely born after 1970. Early epidemiological data suggested that individuals with multiple sex partners are also at elevated risk, as are those with a compromised immune system (Gessain et al., 2022).

Nurse practitioners who identify cases in their practice environment may be asked to initiate contact tracing. Electronic health record templates must be examined to ensure that de-identified epidemiological information would be readily available to share with public health officials to compliment health department initiatives.

Community protection

Nurse practitioners are well-positioned to offer community protection interventions. Vaccination for mpox is perhaps the most notable intervention. Although the WHO does not recommend mass vaccination for the general public, NPs must remain aware of vaccine guidelines. Nurse practitioners will always want to follow the Advisory Committee on Immunization Practices guidelines for orthopoxviruses. Nurse practitioners should offer the vaccine to those at highest risk.

The U.S. Food and Drug Administration (FDA) has approved two vaccines (JYNNEOS and ACAM2000) that may be used to prevent the spread of mpox. For the 2022 outbreak through emergency use authorization, JYNNEOS became the main vaccine available (CDC, 2022b) to individuals over the age of 18 years. The vaccine has a high presumption of effectiveness, given that the vaccine was initially developed against smallpox. Nurse practitioners will encounter a two-dose vaccine administration schedule delivered over 4 weeks because the level of protection from a single dose is not well understood (CDC, 2022b). Peak immunity is thought to occur by the 14th day after the second dose. Notably, in August 2022, the FDA altered the traditional subcutaneous dose of 0.5 ml to a reduced dose of 0.1 ml intradermally (United States FDA, 2022). This action was taken to increase the number of doses at the national stockpile from 441,000 to more than 2.2 million (Dillinger, 2022). Nurse practitioners also contribute to community protection by participating in vaccine safety surveillance systems.

Infection control practices must be followed when mpox is suspected to disrupt transmission and spread. Suspected cases should be isolated and supportive treatment offered. Nurse practitioners would work with reference laboratories to review specimen collection and handling instructions. Laboratory results would be

promptly communicated to patients, and if positive, it would be reported to the local health department.

Safe care

Nurse practitioners are noted for caregiving and safe patient management. For mpox, NPs can be in a case management position. Nurse practitioners should be able to identify high-risk individuals and assess the burden on the local health department and the availability of vaccine supplies. For NPs in the direct care role, practice sites should examine current clinical guidelines to ensure that clients still receive comprehensive medical, psychosocial, and prudent care. The incubation phase (up to nearly 2 weeks) and prodromal phase (1–4 days) precedes skin eruptions, and the number of skin lesions is highly variable (Gessain et al., 2022). During the eruptive phase, patients may have pruritus and myalgia (Gessain et al., 2022), predisposing the need for hospitalization due to cellulitis and intractable pain. Frequent sites of cellulitis include the genital and perineal regions.

Summary

Nurse practitioners are facing another global health emergency. Nurse practitioners can use the WHO model to remain well-positioned to handle public health emergencies. As NPs, the authors hope that we avoid the stigma of identifying mpox solely as an STI.

Viewpoints shared are those of the writers and not the editorial team, AANP, or JAANP.

Competing interests: *The authors report no conflicts of interest.*

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