



Lessons from COVID

Reshaping the Future Of Nursing Education

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During the pandemic of 2020, nurses and other health professionals have been praised for their bravery and commitment to the care of their patients. These frontline workers in their identifiable protective uniforms work long hours in hospitals, long-term care facilities, schools, day care centers and community-based clinics. No practicing nurse or physician learned how to care for or treat patients with COVID-19 while in school. They rely on teamwork and the support of colleagues because there are few COVID-19 protocols, rubrics or evidence to guide practice.

How does the appearance and spread of the coronavirus affect patient care, the nursing workforce and nursing education? As health care providers learn more about caring for patients who have the coronavirus, we have to be thinking about the immediate and long-term impact of COVID-19 on students, faculties and the curricula in universities that prepare baccalaureate degree nurses, advanced practice nurses, clinical leaders, administrators, researchers and others. While this pandemic will end, the virus and others like it are part of our future.

COVID-19 is everywhere. It ignores age, gender, sexual identity, race, religion, occupation, career trajectory, socioeconomic status, political party or geography. We no longer live a linear life because our realities and world have been rearranged. When we recall 2020, we will describe a “lifequake.”¹

What have nurses learned during the pandemic that will guide them into the future? The question is timely because most nurses studied and began to practice under a medical model entrenched in American health care and based on the idea that people went to doctors or nurse practitioners to

be diagnosed and treated. Patients left their providers’ offices knowing the names of their illnesses and armed with treatment plans. Cooperation or compliance with treatment plans may have created difficulties, but there was little ambiguity around the illness that caused their symptoms or their treatment options. Compare this familiar scenario with the symptoms, diagnosis and treatment of COVID-19.

HARD TO PIN DOWN

The coronavirus is as mysterious as it is ubiquitous and contagious. There are no simple or certain symptoms. People with COVID-19 report a wide range of mild to severe symptoms that appear 2-14 days after exposure to the virus and include fever, chills, cough, shortness of breath, difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting and diarrhea. People who are asymptomatic can spread the virus.

Clinicians ask themselves does my patient, who has tested positive for COVID-19, have a respiratory, cardiac, neurological, renal, vascular,



or a multi-system disease? Will it be acute or will she or he have lingering symptoms and become a “long hauler?” Do I need to admit this patient? Does my patient need an ICU bed or a ventilator?

Testing remains a problem in the United States. There are many opinions about when, whom, where and how we test for COVID-19. Do we test people with symptoms or known exposure? Do we test asymptomatic people or high-risk groups, persons who are over 65, those in nursing homes, long-term care facilities or prisons, those who are racial or ethnic minorities, health care providers, first responders, transportation workers and those who work in grocery stores? What type of testing are we using? How long does it take to learn test results? Delays in reporting facilitate viral spread.

Gaps in the testing chain are significant because there are no specific treatments or a vaccine for COVID-19. The medically oriented disease model is inadequate in guiding the practice of health care professionals. Lacking timely diagnostic data and treatment options, scientists, virologists, the Centers for Disease Control and Prevention, and state and federal governments study the virus, compare global and national studies, invest in vaccine development, or purchase and distribute ventilators and protective equipment. Scientists and public health officials recommend wearing masks, social distancing, hand washing, and avoiding crowds and crowded places. They tell people over age 50, those with compromised immune systems and people with chronic diseases to stay at home. Another indicator of how the virus has mystified the experts is seen in the multiple revisions to the CDC’s recommendations about COVID-19.

CARE PROVIDERS AT RISK

The Kaiser Family Foundation, which has been tracking COVID-19 infections in U.S. health care workers, estimates that 1,226 health care workers had died from the virus into September, 74 of whom were nurses. An outsized proportion of those who have died were born outside the United States, many from the Philippines. A study by *Kaiser Health News* and *The Guardian* called “Lost on the Frontline,” profiled 209 health care workers who have died in the line of duty. Many of those care providers died during April, 2020, and had lived in New York or New Jersey.²

RESPONDING TO “NOVEL” ILLNESS

Because the virus is novel, doctors and nurses learn from past clinical experiences, whether their own or from colleagues or in the literature. No living nurse practiced during the Spanish influenza. Some health providers remember a strange lung infection, *Pneumocystis carinii* pneumonia (PCP) that appeared in five healthy gay men in Los Angeles in 1981. In December of that year, PCP appeared in IV drug users. Around the same time, other young men in California and

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New York became ill with an aggressive cancer, Kaposi sarcoma. By the end of 1981, there were 270 reported cases of what was described as a severe immune deficiency and 121 gay men had died of the disease.³

I recall the early days, when bedside nurses and other providers did not know their patients’ HIV status. No record of test results appeared on medical records. Universal precautions were normative for all patients because the exact mechanism of disease transmission was unknown. Nurses wore gloves and were told to assume that every patient was HIV positive. They carefully observed the appearance of patients admitted to medical units and also witnessed the behaviors of the admitting physicians. It was a very unsettling time.

My most frightening memory occurred when I was a dean of nursing. Early in 1982, one of our junior nursing students accidentally pierced her finger with a needle that had been used in a spinal puncture. The resident physician, who performed the lumbar puncture, had left the equipment on the patient’s bed. No one knew that the spinal tap needle was in the bed sheets. The patient later tested positive for HIV/AIDs, which was then a fatal disease. By September 1983, the CDC identified the major routes of spread, ruling out transmission by casual contact, food, water, air or surfaces. At the end of 1983, the CDC published its first set of recommended precautions for health care workers to prevent AIDS transmission. By



then, the number of AIDS cases in the USA had risen to 3,064 and 1,292 people had died.⁴

Our student was the first subject to be enrolled in an National Institutes of Health study of exposed health care workers. Tested throughout her academic program and followed by NIH researchers during her early years in practice, she never tested positive. There is still no vaccine for HIV/AIDS, but retroviral treatments have enabled people to live. Thirty-four million people are living with HIV/AIDS globally, which is considered as a chronic disease. The HIV/AIDS epidemic highlighted the vulnerability of nurses and other health care providers.

Six months into the COVID-19 pandemic, the virus is still “novel.” While we know its primary mode of transmission, the science is undeveloped. Lacking treatment or a vaccine, public health authorities emphasize testing and isolation of persons who have tested positive and those awaiting test results. However, there is disagreement between public health experts and those who wish to limit testing. Testing has been politicized because of the epidemic’s impact on the economy and the November election.

Briefings from the Coronavirus Task Force are infrequent. Nevertheless, daily and often conflicting advice comes from the White House, the CDC, other federal agencies, the governors and the media. The CDC changes its recommendations without explanations. The lack of transparency and clarity makes people question whether preventive strategies are worth the inconvenience and effort. Trust is eroded.

CHANGE TO MEET STUDENTS’ NEEDS

For decades, curriculum theorists like Ralph Tyler have said that the objectives as well as instructional and evaluation strategies that characterize the curriculum flow from the needs of students, the needs of society, and what subject specialists say is important in the discipline.⁵ Today and in the future, nurses, students of nursing and faculty need an in-depth understanding of public health nursing and the epidemiology of infectious diseases. Faculty need to reinvest in public health nursing and expand their knowledge beyond the communicable diseases of childhood, immunization schedules, and reviews of the health promotion and treatment components of the Affordable Care Act of 2010 or the Ryan-White Comprehensive AIDS Resources Emergency Care Act of 1990.

The eradication of smallpox in Somalia in 1979 gave false assurance that epidemics were in the past. The American health care system felt secure in its ability to manage infectious disease and became complacent. Hospitals, the major employers of professional nurses, invested in high technology medicine and focused on enhancing their diagnostic and treatment capabilities.⁶ Health providers and health systems relied more on antibiotics than on sanitation to limit the spread of hospital-acquired infections. Nursing school curricula, state licensing and professional certification examinations followed the medical model’s emphasis on the diagnosis, treatment and care of seriously ill people in acute care hospitals.

Faculty and schools of nursing emphasized care of sick people and acute care practice. Faculty decisions significantly reduced the number of graduate programs in public health nursing and limited undergraduate courses and clinical experiences in public health. The CDC and state public health departments suffered budget cuts and lost staff. Local public health agencies outsourced programs to the private sector. It became increasingly difficult to find a position in public health. When nursing’s professional associations adopted their LACE (licensure, accreditation, certification and education) document, they excluded public health nurses in their classification of advanced practice nurses.⁷

A POST-PANDEMIC PLAN OF STUDY

The public health component of nursing curricula needs re-examination and innovative change. Undergraduate students need to re-engage in clinical immersion within communities and focus on population health. While the medical model addresses care of very sick individuals, public health speaks to prevention and emphasizes factors that influence population health and well-being over a lifetime. Public health promotes personal and communal behavior that enhances wellness. Simulation scenarios and case studies offer creative opportunities to teach and practice precautionary behaviors specific to the bacteria or viruses’ mode of transmission. Students need to practice the selection of appropriate isolation procedures, hand washing and gowning techniques.

Population health received increased attention when health determinants became the building blocks of *Healthy People 2000*. The following

graphic expresses the health determinants identified in *Healthy People 2020* that differ from those identified 20 years ago in *Healthy People 2000*.⁸



In 2020, the Centers for Disease Control and Prevention named five influences on health: neighborhood and the built environment; economic stability; education; social and community context; and health and health care. *Healthy People 2020* provides a compressive framework to guide the public health nursing curriculum.

FOCUSING ON HEALTH INFLUENCES

■ Neighborhoods and the Built Environment

The *Determinants of Health 2020* describe the qualities of neighborhoods where people live, work and play, identifying zip codes as indicators of economic stability and population health. Neighborhoods differ around the country and change over time. Some neighborhoods have retained their ethnic, racial and/or religious identities. Many cities have a Chinatown, a Little Italy or a Little Havana. The cultural, ethnic, racial and religious roots of communities affect population health.

Some neighborhoods bear marks of their past, witnessing to better times. For example, vacant lots were once the sites of steel mills, haunting symbols of what used to be. Many workers in the old mill and mine towns still suffer from diseases they acquired in their former workplaces. Others can only find low-paying jobs in communities that once were middle class. College towns, on the other hand, have more transient populations, and the health of the community reflects the age and behavior of students. In some communities, hospitals and academic health centers are

the city's largest employers. Although the major work of these institutions is health care and education, they influence the local economy and can be major forces in improving public health.

Driving around neighborhoods is an inexpensive way of carrying out public health community assessments. Faculty and students identify upper-, middle- and lower-class neighborhoods. They assess built neighborhoods, counting supermarkets, banks, grocery stores, bars and libraries. They can ask questions about the neighborhood as, how often is the library open and does it have a children's section? Students can look for trees, gardens, flowers, playgrounds, littered empty lots and broken concrete sidewalks, and count the numbers of single-family homes vs. large apartment complexes. They can visit bookstores, bowling alleys, gas stations, diners and fast-food places and ask residents where they shop or receive health care.

■ Economic Stability

As described above, windshield assessments provide glimpses into the economic stability of local communities. They allow students to compare one community to another. Data enable students to determine the average price of houses and rental apartments. They can note the number and types of cars parked in garages or on streets and check the availability of public transportation and determine if residents work close to home or travel to work. Poverty affects health status and health care outcomes. One major indication of economic stability is turnover in a community. How often does the neighborhood change? What is the average tenure of residents? Another indi-

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cator is the amount of money that states spend on public health. For example, Pennsylvania, the state where I live, spent an average \$13 per person on public health in 2019, and ranked 45th in the list of states and the District of Columbia.⁹

■ Education

Education is a way out of poverty. It is also an important indicator of health. When parents are educated, the economic life of families improves;



the educational level of parents is also associated with the academic success of their children. Zip codes are important in evaluating the quality of education in communities. Quality can be measured by student-teacher ratios and the presence of counselors, physical education instructors, music and art teachers and school nurses who run active programs. Students in good schools score higher on standardized tests and have lower absentee and truancy rates. Fewer students in good schools drop out; the majority finish school, enter the job market or enroll in college or trade school. Nursing students can learn what databases report the quality of schools in communities and in the state.

■ Social and Community Context

What is the health of the people in the community and how do social factors influence population health? Identified factors that influence health include age, family structure, work status, living arrangements and safety. The age of the community's residents is a significant predictor of population health. Americans are aging, and it is not surprising that chronic disease affects 6 out of 10 Americans. Chronic illnesses, which are the leading causes of death, cost on average \$3.5 trillion a year. Chronic illnesses are exaggerated by poor nutrition, excessive consumption of alcohol, use of tobacco and decreased physical activity

Relationships are important; family members and friends positively influence health. How many people in the community live alone or are part of a family? How many residents are single parents? What percentage of residents are employed? What is the average individual and/or family income? Are there community centers for early childhood development? Is housing adequate, affordable and safe? Is the community organized and do residents work together to improve the well-being of the community?

The social context of the community is a public health blueprint. Students of nursing can learn from observing local communities, talking to residents and examining data systems. Infections like the COVID virus affect people where they live and work. Some households are crowded and social distancing is difficult if not impossible. There are still communities in the United States where there is no running water in homes. Some communities are food deserts. Food insecurity

and hunger negatively affect health. Other neighborhoods have been neglected and allowed to deteriorate. When crime and violence mar a community, people are afraid to leave their homes to walk in their neighborhoods.

■ Health and Health Care

Geographical maldistribution of health providers limits access to health care and mental health services especially in rural communities. Although physicians and nurses raised in rural communities are more likely to return home to practice, access to specialists and hospitals remains limited.¹⁰ Telehealth helps when there is dependable internet access. Access to primary care providers is the backbone of health care delivery in rural America, where people live far from each other and trips to physicians and hospitals are costly

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and time consuming. Health literacy is especially important in rural areas because individuals need to be informed about their illnesses and treatment plans and become partners in managing their health.

CORONAVIRUS — WHAT WE'RE LEARNING

What have nurse educators learned in a COVID world? COVID-19 has provided evidence that pandemics can occur and that global travel and trade make everyone vulnerable. Because faculty want to prepare nurses to provide quality care to their patients, the evidence supports a new approach to public health nursing and population health. Faculty need resources, development, administrative support and time to reform the curriculum.

COVID-19 also opens a new area for nursing research, evidence-based practice and scholarly investigation. There are gaps in the nursing literature about population health and prevention. Public health also involves the study of social justice and its impact on practice. Faculty and students need to engage in honest dialogues about their implicit biases and the role that health disparities, diversity, racial injustice and violence have on health and human flourishing. Lastly, nurses

must advocate for a more robust public health system at all levels of government. They must be at policy tables. Although nurses are receiving accolades for their care of people with COVID-19, they were not the faces of the Coronavirus Task Force or visible leaders in the FDA, Homeland Security, NIH or the CDC. That needs to change.

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NOTES

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JOURNAL OF THE CATHOLIC HEALTH ASSOCIATION OF THE UNITED STATES

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HEALTH PROGRESS®

Reprinted from *Health Progress*, Fall 2020

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