

Ensuring COVID-related innovation is sustained

A renewed sense of hope and optimism has been generated as nurses anticipate the pandemic will abate. The International Year of the Nurse and Midwife in 2020 was cruel and challenging. Within the tragedy of COVID-19, nurses have consistently led with innovations and reforms to prepare for, overcome and recover from the death, and devastation of this pandemic. In excess of 1,500 nurses and 7,000 healthcare workers have died and more than 3 million healthcare workers have been infected (The International Council of Nurses, 2020). This is heartbreaking as many of these infections and deaths were preventable. As the linchpin in the healthcare system with close and constant proximity to patients (Nayna Schwerdtle et al., 2020), our impact on outcomes is indisputable. Nurses will again lead in this next phase of the pandemic, as programs for vaccination are initiated and scaled across the globe.

There is no doubt that non-pharmaceutical interventions, which were adopted and implemented by the community, have mitigated the burden of COVID-19 and frequently curtailed the spread of the virus. Nurses were instrumental in both community and patient education campaigns about physical distancing, the use of face masks in and out of the healthcare setting, and hand hygiene. Nurses also advocated for the importance of testing and contact tracing, as well as the need for self-isolation while waiting for test results. Vaccination provides the hope that with the sustained use of these measures, we can look to a future of focused containment. Sustained use of non-pharmaceutical interventions in combination with vaccination will reduce the threshold required for herd immunity. This threshold varies according to the virus reproductive number (R_0) and the number of doses necessary to achieve immunity. Estimates indicate that a threshold of 67% equates to 5.3 billion does of a single-dose or 12 to 16 billion for a multi-dose vaccine (Frederiksen et al., 2020). Nursing will lead this challenge in both immunization and ensuring vaccine equity.

With vaccination campaigns, we will have time and autonomy to continue to educate and encourage our communities to achieve global adequacy in protecting the health of all people in developed and developing nations. Greater risk will persist for vulnerable groups during the long haul of subsequent waves, healthcare system recovery and ongoing vaccination roll-out. Access to vaccines for those who are displaced, are in remote or logistically challenging locations, or those who simply cannot afford the financial burden of immunization must be advocated for. Nurses will be at the forefront of reducing inequities in healthcare and safeguarding future health protection (Purba, 2020).

Considering the need for sustained efforts for virus containment in addition to vaccination programs, nurses are adjusting and adapting to the 'new COVID normal'. As the pandemic took hold, system-based changes were developed, tested, shared, implemented, scaled, and some have been sustained. Examples include new systems of patient flow, and increased telehealth, and remote care capabilities, many of these services have been nurse led. On the cusp of changes that will be realized through successful vaccination, we have an opportunity to reflect and assess on how we have managed the ongoing presence of the virus over the last year, and the implications of this for the future of ambulatory and acute care in particular. In being pushed to capacity there are new systems and practices related to 'the new normal' that will be here to stay for some time that nurses can, and should, advocate to sustain.

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Changes in healthcare associated with the pandemic have been numerous and varied. The management of patient flow underwent complete revision to accommodate pandemic preparation, avoidance, and support, particularly in acute and critical care. Globally, outpatient, community-based and acute care services were severely restricted. Waiting lists for elective surgery lengthened and dramatic increases are expected in cancer diagnoses and the severity of presentations associated with cardiovascular disease over the coming months (Allahwala et al., 2020). Emergency departments (ED) created 'hot' zones for suspected/confirmed COVID cases and as the pandemic took hold there was an exponential reduction in ED presentations. Visiting hours were suspended or time limited and, in many centers, visitors were (and continue to be) prohibited. Exceptions to these restrictions have been only for the most vulnerable patients; pediatric, birthing mothers, those in palliative care, and those with special needs related to dementia, disability, or mental health.

Personal protective equipment (PPE) initially varied in availability and is now a permanent component of nurses' everyday workplace armor. All nurses involved in direct patient care were in crisis management mode and those in the profession that may not have had a clinical role stepped up to support their colleagues, including retired nurses and pre-registration students. Staff were redeployed to maximize available resources in surge planning, especially in the context of increased demand for critical care services (Minissian et al., 2020).

As COVID-specific units were opened, alternating teams were not unusual and a means of accommodating increased demand in the setting of staff needing to furlough, working overtime, and working long stretches of shifts to facilitate periods of isolation between shifts. Many clinical nurses were isolated from family, required to stay in quarantined accommodation, and physically distanced in the workplace.

These swift circumstances required coordinated responses and a complete reimagining and often redesign of care delivery. Social media were important for the sharing of novel ways of innovating and adapting. Nurses were sharing photos of storage rooms full of iPads in the ICU, or infusion pumps with extension tubing with quote like *genius!*. The diffusion of innovation and adoption of new systems and practices have been rapid. Globally, social media have been important to promote and engage with new ways of working.


Fundamental to the adoption of changes was technology for new models of care, primarily in the form of telehealth or structured remote care, often delivered by nurses. These new ways of caring for patients required new skills and expertise to be developed. Caring for patients in a clinic, versus over the phone with a set of vital signs was a different experience. In developed nations, there was an exponential increase in the use of telehealth, digitization of prescriptions and pharmacy dispensing, online education, and modes of communication such as face timing or applications that enabled real-time discussion with digital connectivity within workplace zones, for staff to staff communication and for patient to family communication facilitated by staff (Budd et al., 2020). It was not unusual for nurses to fulfill the role of a consistent conduit between dying patients and their family at home. Remote communication tools, when used effectively, did positively impact patient and family outcomes. However, the stress of supporting patients and family severely impacted nurses' resilience and mental health (Rahman & Plummer, 2020).

These options are by and large person centered and have been well received. The advantages of telehealth for patients are well established. What had not previously been explored were the implications of nurses needing to physically distance as much as possible while at the workplace, or to work from home. In critical care units, makeshift solutions such as cable and tubing extensions (Aziz et al., 2020) reduced the requirement for direct physical contact between nurses and a patient or medical device, which reduced risk of contamination and use of PPE. Remote control of medical devices will likely become part of the new COVID normal as medical technologies catch up with this unexpected need.

Anecdotally, a range of benefits for patients and nurses continues to emerge. Increased rates of hand hygiene compliance, reduced rates of splash related eye injury, zero tolerance of working if unwell, psychosocial supports, flexible workplace arrangements, and, in maternity services, reduced numbers of visitors interrupting mother-baby bonding are positive outcomes linked to the new COVID normal. A competent workforce was crucial in responding to this pandemic. We rallied together during the pandemic surge and as 'the new normal' settles in, those who came back and those who

have been most affected may leave. Community recognition of the urgent need for aged care reform, improved understanding of the requirement for and efficacy of nurse engagement in public health interventions, and a media spotlight on what nurses' work involves (Mohammed et al., 2021) are outcomes the profession has been advocating for many years. As we reset from the pandemic, nurses need to use these to advocate for, and leverage, change to improve outcomes. The future looks bright and ensuring we sustain COVID-related health system innovation will certainly add some sparkle.

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