Tehran University of Medical Sciences

Nursing Practice Today

2024; Volume 11, No 4, pp. 301-305

Commentary

Modernising health and nursing workforces to prepare for future emergencies and disasters

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Introduction

Globally there is a deficit of over fifteen million health workers with this figure predicted to rise to eighteen million by 2030 (1). The health workforce gap will need to be addressed as the world moves into the new era of climate change, recognizing the impact this will have on the environment and health. As a result, the nursing and wider health workforce will need to be skilled and ready to manage complex situations, such as being prepared for emergency and disaster events and the associated care and public health actions (2).

As presented by the World Health Organization in their Global Strategy on Human Resources for Health Workforce 2030:

The health workforce also has an important role in contributing to the preparedness and response to emergencies and disasters, in particular through participation in national health emergency management systems, local leadership, and the provision of health services (1).

We can now draw from the COVID-19 pandemic experience to increase our knowledge and skills on what is required to create an efficient, and resilient future health workforce. The proposition here is to become confident with change and consider new pathways, such as a review of undergraduate curriculums for nurses and other health professionals, to have a greater scope of practice with disaster and emergency management. It is proposed that change starts with the tertiary education system, to provide opportunities to enhance nursing and health professionals' skills to practice in a variety of environments and with cv an all-hazards approach (3). Referred to as an integrated method addressing multiple types of emergencies and disasters, the all-hazards approach recognizes that health systems are generally faced with the same demands and challenges no matter what the disaster event is. This would ensure there is a baseline level of knowledge, which encompasses communicable disease outbreaks, and environmental disasters, including chemical, biological, nuclear, and radiological incidents. Educating health staff on the all-hazards emergency preparedness framework as presented by the World Health Organization can provide an understanding of a multisectoral response and prevent organizational silos when cross-collaboration is vital to the successful management of the disaster (3).

The second focus is to build workforce capacity through the implementation of non-health workers (such as health administration or security staff) as response team members in emergency or disaster events. With defined supportive roles and foundational training for disaster response, these staff can work alongside health professionals and increase workforce capacity. This model was successfully applied at the Centre for National Resilience (CNR) a large quarantine facility in Darwin, Australia during the COVID-19 pandemic. Through the implementation of a buddy system with health professionals and non-health staff working on the front line, this large quarantine service hosted over 30,000 residents in isolation and quarantine with no record of COVID-19 transmission between residents and staff (4).

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DOI: 10.18502/npt.v11i4.16809

Please cite this article as: Cookson-Butler E, Sheedy A. Modernising health and nursing workforces to prepare for future emergencies and disasters. Nursing Practice Today. 2024; 11(4):301-5.

Health curriculum and education change

Education can and should prepare health staff to provide universal and equitable access to health care for all (1). Recent events such as the COVID-19 pandemic and natural disasters have caught communities off guard and highlighted deficits in health services and workforces to respond effectively to disaster and emergency events (5). With reforms focussed on emergency and disaster inclusion in tertiary health education, health workforces can become equipped to protect the health care system and meet the needs of communities, the environment, and the SDG in such events. This, for example, can incorporate the introduction of a new standard of topics into the nursing and health curriculum based on the fundamentals of disaster and emergency response and management.

It is becoming evident that health workers need to be empowered with the responsive skills to work in a variety of environments and be equipped and prepared to respond to disasters. They must have the ability to provide public and primary health to support their community delivering better population health outcomes (1, 6). As presented in SDG Goal 3: Good Health and Wellbeing, "Health emergencies such as COVID-19 pose a global risk and have shown the critical need for preparedness" (2). COVID-19 revealed how sectorial maldistribution in relation to the spread of health staff, is a main challenge in health service provision, including those who have the skills and confidence required for an emergency and disaster response. Ensuring nurses and other health professionals have adequate preparedness in relation to all hazards would assist in meeting some of the SDG challenges communities and health workforces face.

The recommendation for change would primarily incorporate planning, preparedness, response, management, and recovery approaches required in all hazards. This would mean nurses are not just learning about responding to injuries and health but also about the logistics and wider interdisciplinary team response in an emergency. As evidenced in the COVID-19 response, there was reliance on nurses to be at the forefront of the response resulting in burnout and loss of resilience for many, consequently leaving the health system vulnerable (7). If a wider distribution of nurses were better prepared with skills and knowledge regarding all hazards, this may not have had such a negative impact.

As with many countries, Australia has a nursing course accreditation body that provides a mandatory level of standard requirements for all nursing courses, referred to as the Australian Nursing and Midwifery Accreditation Council (ANMAC) and this is the level where change would need to occur (8). Currently, the Australian nursing curriculum standards required for undergraduate nursing course delivery do not include any reference to emergencies and disasters. This would fit in ANMAC Standard 3 which presents the expectations for a program of study (course content requirements) and would ensure there is consistent and mandatory inclusion of this area in all nursing curriculums (8). This is particularly relevant given the reliance on the student and new graduate nurse as part of the emergency response during COVID-19 (9).

Nurses are accustomed to interdisciplinary collaboration in health care however in disaster and emergency response areas, there are often many different professionals involved from both health and non-health backgrounds. A nursing school in Portugal has incorporated disaster response training within its curriculum and presents how vital it is for nurses to have knowledge and expertise in this area given they are often essential participants in emergency and response teams (10). This addition to the nursing curriculum supports how versatile the nurse role is and its adaptiveness to meet challenges across teams within and external to the health sector.

On review of curriculum updates implemented in other parts of the world since the pandemic, India has introduced informatics to embrace the changes and innovations occurring in health, but they too have a lack of inclusion of disaster and emergency response (11, 12). It was also noted with the United Kingdom, that there is no referral to the inclusion of emergency and disaster nursing as a mandatory part of the curriculum, however, it does touch on major incident management (13). Although the

argument of health curriculums already being overcrowded regarding mandated content would challenge this new inclusion, with further education and training, nurses can present as more experienced leaders in an all-hazards approach.

Creating new workforce/health team structures

New workforce models need to be streamlined through policy and funding if countries are sincere about meeting SDG (1). Described as a multisectoral crisis, disaster events such as pandemics demonstrate the need for effective interdisciplinary collaboration (14). Investment in the health workforce to provide teams tailored to disaster management will contribute to resilience and health security and reduce vulnerabilities. This can strengthen health teams to prevent, prepare, respond, and recover from disasters (1). At the CNR, the workforce model incorporated training of administration (non-health trained) people to work in teams with nursing and other health professional staff, building the health capacity and response (4,5). Through interdisciplinary collaboration including a comprehensive orientation and a focus on health priorities, the health capacity and response of the workforce was built. This presented a novel approach to developing standardized training for non-health professionals working in health-supporting roles.

Bringing administration and traditionally non-health team members into health roles has been implemented in other spaces such as the model used across the African continent of the community health worker (15). The model practiced at CNR presents a different approach to the interdisciplinary team with non-health staff working side by side with health professionals to assist with care delivery. This increased staff numbers and staff safety which ultimately built resilience across the CNR team.

The creation of new workforce roles such as training security staff and administration officers in infection prevention and control measures to implement a buddy system (one health professional and one administrator) can enhance overall service safety, patient care, and team workload capacity. The buddy system was integral to the model of care at the CNR and incorporated non-health and health-professional collaboration to provide care for those in quarantine (16). With a clear division of tasks that could be carried out by non-health staff, there was an opportunity to diversify health workforces in times of emergency and disasters.

Other innovative approaches implemented with this dual workforce model included the identification of skills and knowledge of all staff (beyond the role they were employed for) to record their different areas of expertise. For example, bilingual staff for assistance with interpreters, information technology skills, health, and wellbeing coaches, etc. Recognized as the gold standard of quarantine service delivery, the CNR can attest to its success by additionally having senior staff seven days a week for support and guidance, a no-blame culture with approaches to troubleshooting issues with teams, and opportunities to learn from mistakes. This provided a psychologically safe environment increasing acceptance of all staff into the health team.

The implementation of non-health staff into emergency and disaster responses requires directed education, training, and ongoing support. One approach is training all health and non-health staff in the health workforce together on basic requirements, such as standard precautions with infection prevention and control (IPC) measures. As they will be working together, it makes sense that important aspects of IPC training and personal protective equipment activities are consistent with all staff (16). Increasing the non-health staff knowledge base additionally upskills them for future employment opportunities and may entice entry into training as a health professional.

It is recognized there will be challenges with introducing roles with a lack of experience in health such as resistance and fear of working in front-line environments. This reinforces the need for evidence-based education, and training with solid principles to

ensure staff receive the right information to keep them safe. Further consideration includes the wider financial investments required of health services to bring about these changes. There will also be external factors that will confound emergency and disaster responses and potentially disrupt teams, particularly for non-health staff whose wider health literacy and understanding of health systems may be lacking. During the pandemic external factors, or those outside the control of health teams were seen as weather/environmental events (heat waves and cyclones), Chief Health Officer Directions and government legislation, expectations from other pandemic response areas (such as border restriction teams), and staff behaviors external to the site putting them at risk of infection.

A high turnover of staff can be challenging to cement team dynamics, collaboration, and stability for the team's cohesiveness and to assist in avoiding burnout (17). Providing a psychologically safe work environment where staff are valued and respected, with daily communication provided by strong leadership will significantly contribute to retaining staff (18). A multicultural workforce, common in Australia, brings many different values and beliefs to the workplace. This can add complexities to the foundations of teams and their communication, impacting their team dynamics. A mutual understanding of roles and responsibilities and the workplace can focus staff on the job and away from differences, alleviating the challenges identified. The buddy system provided the capacity for deeper recognition, and an understanding of individual culture and the value it subsequently brings to a team.

There should not be a reliance on bringing nurses in from other jurisdictions and countries. As the health workforce is universal this potentially leads to shortages and distribution challenges in low-resource settings impacting the country's health system and access to health care. This leads to depriving one country of an effective health system to support another, leading to further problems, especially for an already low-resourced country. Therefore, it makes sense to grow local health workforces and implement new models of healthcare delivery, utilizing non-health staff in supportive roles whilst expanding skill sets to enhance retention (6).

Conclusion

Strategic planning to prepare a workforce that is resilient and sustainable is crucial[13]. We need to be ready to implement and embrace new workforce models, where non-health professionals are working in collaboration with nurses and health professionals. This can increase, understanding, and expand the team and workforce capacity. Recognizing additional skills brought to roles, and providing a psychologically safe work environment, will assist with retention and staff satisfaction. Whilst there are some recognized challenges with implementing new workforce models, providing education and training will support staff, and ensure teams are resilient and workforces are prepared to meet the everyday ongoing needs of the community during emergency responses and disasters.

The COVID-19 pandemic challenged health workforce resilience but also highlighted nurses as inventive and advanced in contributing to sustainable and resilient workforces during emergencies and disasters. It is now imperative to continue the momentum the pandemic created and focus our attention on how we can continue to strengthen the health workforce, recognizing the nurses and health professionals as a main contributor. However, for countries to be fully effective in responding to future emergencies including a resurging disease, they need the capacity to maintain an effective alert and response system to react quickly with health teams ready. Therefore, by including, planning, preparedness, response, and recovery using an all-hazards approach in nurse education there is a great opportunity to increase the health workforce's capacity and the resilience of teams to respond. Expanding this education and training to non-health professionals working in a health context or space will ensure there is a competent workforce ready and willing to support the

health of the nation in its hour of greatest need and beyond.

Conflicts of interest

The authors have no conflicts of interest to declare.

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