Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Editorial

Rising to the challenge: The emergency nursing response to COVID-19 in the Pacific

1. COVID-19 and the Pacific

COVID-19, the disease caused by the SARS-CoV-2 virus, was first recognised by the World Health Organization in December 2019 and declared a global pandemic on 11 March 2020. To date, 25 million cases have been reported with more than 850,000 lives lost globally [1]. As the outbreak enters its ninth month, only supportive therapies are available, and a strong focus remains on reducing community transmission through physical distancing and travel restrictions [2].

The effects of COVID-19 on healthcare delivery are global. The impact on low- and middle-income countries (LMICs) has been significant [3], with emergency departments (EDs) providing frontline care [4,5]. In many LMICs, EDs are characterised by a lack of resources such as suboptimal infrastructure, limited equipment and shortages of trained staff [6]. In such settings, emergency care capacity can be quickly overwhelmed, and there is little redundancy in the occurrence of surge events and disasters [5]. This places patients at risk of poor health outcomes, especially those with time-critical care needs.

Australia and New Zealand's closest Pacific neighbours include the Melanesian countries of Papua New Guinea (PNG), Solomon Islands, Vanuatu and Fiji. Emergency care systems across the region are fragile, and COVID-19 threatens to expose pre-existing vulnerabilities [4,10]. In this context, the pandemic has highlighted the challenges for emergency care delivery across the Pacific, where emergency medicine is an emerging specialty and overall emergency care capability is limited [10,11].

In contrast with many other regions, Melanesia has been relatively successful at containing the spread of COVID-19. Solomon Islands and Vanuatu remain free of the disease while Fiji has reported fewer than 30 cases. Approximately 500 patients have been infected in PNG [1], although limitations in testing capability may have led to under-reporting. Border closures appear to have been effective at limiting virus importation and halting community transmission [7].

At the same time, the region has been impacted by other challenges. Cyclone Harold, which struck Vanuatu, Solomon Islands and Fiji in the first week of April 2020, has created additional public health challenges. The cyclone destroyed thousands of homes and obstructed food and water supplies, impacting basic hygiene measures. Many health facilities were damaged, and there were disruptions to communications and infrastructure [8].

In 2020, governments and non-government organisations across the region have been forced to balance competing priorities in COVID-19 and cyclone response [8]. In Vanuatu, domestic travel and congregation restrictions have been lifted to assist cyclone relief efforts, and in Fiji, large numbers of displaced persons were accommodated in evacuation centres. While necessary, these interventions have compromised physical distancing recommendations and increased vulnerability to disease transmission [9].

In anticipation of a surge of patients with COVID-19, Melanesian EDs have used the '4S framework' (systems, space, supplies and staff) to guide their pandemic response [5]. Nurses are making an essential contribution to this effort.

2. Systems

Across Pacific emergency care settings, the capacity of systems and processes to effectively manage patient presentations and flow is varied [10]. Nursing staff are often omitted from health system planning and development in disaster situations [12], but recent reforms have facilitated greater nursing involvement in COVID-19 response [13].

In Fiji, nurses play a central role in strategy and systems strengthening as a result of recent training including the Major Incident Medical Management and Support course. Additionally, in late 2019, Fiji developed a surge capacity plan in response to the measles outbreak in neighbouring Samoa. This included capability to manage up to 20 infectious inpatients by opening a temporary hospital at a sports stadium (personal communication, M Sosefo, 6 May 2020). This preparatory work has been immensely valuable and largely transferable during the COVID-19 pandemic.

In Solomon Islands, nursing leaders have played an integral role in the planning and establishment of an independent COVID-19 screening area managed by emergency care staff, alongside an isolation ward managed by inpatient teams. This allows for separate flow of respiratory patients from others. The new process has improved communication between pre-hospital staff and emergency nurses and refined the movement of patients from ambulance arrival through to emergency via triage. Having an existing functional triage system, the Solomon Islands Triage Scale [13], meant that ED nursing staff were already familiar with triage systems and have been able to easily adapt to working in the COVID-19 triage centre.

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PNG has developed COVID-19 disaster plans in its capital Port Moresby, but many regional hospitals lack the same level of preparation. This is a challenge for many Melanesian countries, where trained emergency nurses are often concentrated in capital cities [14].

A shared challenge for Melanesian countries is asthma management. Issues include overuse of antibiotics and nebulisers, underuse of preventative therapy, and limited access to metered dose inhalers (MDIs) [15]. In many EDs, it is common for patients to visit 'asthma stations' within ED waiting rooms to self-administer nebulised medications. These patients bypass registration and clinical review, and routinely use shared equipment.

In the context of COVID-19, emergency care guidelines recommend avoidance of aerosol-generating procedures including nebulised medication [14]. Since pandemic responses were initiated, nebuliser use in Vanuatu has been widely replaced with MDIs (made from recycled plastic water bottles), and in Solomon Islands, nebulisers are only used for critically ill patients. It is hoped that this shift in practice continues beyond COVID-19, improving management of respiratory illnesses and minimising the risks of disease transmission.

3. Space

Limiting the transmission of COVID-19 relies on separating respiratory patients from others, including staff [3]. As in many parts of the world, countries across Melanesia face challenges relating to the lack of isolation rooms to manage exposure from COVID-19 patients, and inadequate spaces for donning and doffing personal protective equipment (PPE). A lack of staff change rooms has been an issue in Solomon Islands, Vanuatu and PNG, leaving staff feeling at risk of exposing their families on return home. In both Vanuatu and Solomon Islands, requests to allocate designated areas for staff to change were approved, and construction has been planned. Many EDs have established clearly defined isolation zones for suspected, probable or confirmed COVID-19 patients, although in PNG crowd control has been problematic despite education and visual cues. Guidance for Pacific ED nursing staff in relation to occupational clothing has also been produced [16].

4. Supplies

Global demand for PPE in emergency care settings during the COVID-19 pandemic has been unprecedented [17], and access to adequate PPE across Melanesian emergency care settings has been a shared challenge. Inadequate PPE has contributed to an increased sense of fear among nurses, especially in settings where it is only available to staff in designated COVID-19 areas [18]. In Fiji, nurses report wearing the same PPE for the entirety of a 12-h shift to conserve use, while in Solomon Islands, current reserves would be critically limited in the event of multiple positive cases. Similar supply issues have occurred in relation to cleaning products and hand sanitiser. In many departments, nursing management have addressed this with close oversight and daily auditing of supplies.

In Vanuatu, Solomon Islands and PNG, the longstanding re-use of oxygen masks in emergency care settings is widespread due to insufficient supply, adding to the risk of cross-contamination. Nursing staff are often required to clean the masks with the limited cleaning solutions available.

5. Staff

Despite the low overall case numbers of COVID-19 across Melanesia, increased planning and preparation to ensure safety of patients and staff increases the requirement for nursing staff in emergency care environments. As with many Pacific countries, nursing shortages are endemic as a result of migration, low wages and suboptimal working conditions [19].

With the arrival of Cyclone Harold, some nursing staff who were previously focussed on COVID-19 have had to transition their attention to cyclone response. This has diverted expertise away from pandemic preparations and response but has increased capacity to respond to cyclone-associated illness, injury and outbreaks of other infectious diseases, including dengue and leptospirosis.

Across the Pacific, very few ED nurses have been specifically or formally trained in emergency or critical care. Longstanding concerns around a lack of critical care capacity have been raised in relation to COVID-19 management across many Melanesian countries. In Solomon Islands, the decision has been made to avoid intubation despite ventilator availability, mainly due to a lack of sufficiently skilled staff. This is in keeping with a low-cost, essential care approach [20]. Despite this, each country has reported increased access to training, despite a historical lack of educational opportunities for nursing staff [21]. The uptake of this training has been high, and nurses report increases in confidence, knowledge and skill.

COVID-19 has added significant stress to pre-existing workplace pressures for Pacific nurses. Emergency care clinicians weigh up their own safety against their professional responsibilities during infectious disease outbreaks [18]. In Melanesia, staff fear for their own health, for the health of their families, and for their family's welfare if they die. These fears are particularly evident in relation to PPE, because the absence of masks and gowns is a visible reminder of the risk. This has prompted nurses in some Melanesian countries to state that they will only attend work if there is adequate PPE. In Solomon Islands and PNG, it has also been recognised that nurses are often the primary income earners for their families and are not generally eligible for compensation in the event of occupational-related death.

Efforts to alleviate anxiety have been addressed in many Melanesian countries. Morale boosting activities such as food sharing and photo taking have proven effective in some workplaces. In Fiji, accommodation is provided to ED nursing staff during their allocated shift cycle and the isolation period that follows. While such initiatives should be applauded, effects on wellbeing and mental health associated with extended stays away from family must be acknowledged and are yet to be formally addressed.

The dynamic nature of COVID-19 has increased the need for strong ED nursing leadership. Nurses are continually required to think critically and creatively to solve new problems, particularly during a pandemic [22]. While some countries have reported limited support from executive management, strong emergency care nursing leadership has been acknowledged. Involvement in systems strengthening has increased the confidence of Melanesian nursing leaders to work collaboratively with their medical colleagues to improve patient care. This is noteworthy, as nursing has traditionally been considered a lower order role within the medical model, particularly for women [23,24].

6. Conclusion

COVID-19 has brought new challenges for emergency care delivery across the Pacific, and response strategies have required significant planning, resourcefulness and leadership. In rising to the challenge of COVID-19, nurses have shown an outstanding ability to be dynamic, resilient and innovative. The critical role of nursing in the ED during disaster situations, as well as during routine care, is evident.

Within the challenges relating to systems, space, supplies and staff, there are examples of Melanesian EDs applying best-practice

responses despite significant resource limitations. Many of the successes, including increased confidence and knowledge among nursing staff, enhanced triage processes and improvements in asthma management, will have a positive impact on emergency care delivery beyond COVID-19. Nurses demonstrate the importance of their role in times of crisis. The COVID-19 pandemic will hopefully improve recognition and support for the nursing profession in the Pacific and increase the involvement of nurses in emergency care development across the region.

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