Uo mo aso uma, a o uso mo aso vale: Lessons from Aotearoa Physiotherapists Responding to Disasters within the Pacific

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ABSTRACT

Disasters can have sudden and devastating impacts on the health systems in the Pacific region, many parts of which are in a precarious state. The region is increasingly recognised as being prone to disasters such as those caused by climate change or epidemics. Physiotherapists have been identified as vital members of the interprofessional health team that responds to such catastrophic events. Despite this, in the Pacific region little is known about the nature of physiotherapists' involvement and the multifaceted roles physiotherapists play in responding to disasters. This clinical commentary contains 1) an evaluation of the relevant literature sourced to describe the current knowledge base; and 2) a commentary on the experiences gained from physiotherapists' response to the Samoa measles outbreak in 2019. Outcomes from the commentary have formed the basis of recommendations for the role the physiotherapy profession in Aotearoa New Zealand could have in responding to future potential disasters in the wider Pacific region.

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INTRODUCTION

The United Nations Office for Disaster Risk Reduction (UNDRR) defines a disaster as "a serious disruption of functioning of a community or a society causing widespread human, material, economic or environmental losses, which exceeds its ability to cope using its own resources" (United Nations, 2009). This definition encompasses any cause of a disaster, whether it be through natural causes such as earthquakes, floods, and volcanic eruptions or man-made causes such as acts of violence or pandemics of transmittable diseases, such as the SARS-CoV-2 virus (COVID-19) that is currently impacting the world. UNDRR's definition of disaster mandates the involvement of local and international health professionals in providing humanitarian assistance during periods of societal disruption.

Since World War I, physiotherapists have played a critical role in providing physical rehabilitation during global conflicts and disasters, and were focused initially on the provision of physiotherapy on an individual level (Linker, 2005). The role of physiotherapists in disasters has evolved and expanded immensely since the early 1900s and now incorporates the planning and provision of skilled services at an individual, community, and governmental level (Lathia et al., 2020). The professional enactment of this role has conversely shaped the profession itself and positioned physiotherapists "the primary providers of orthodox physical rehabilitation" (Nicholls, 2017, p. 3).

Physiotherapists continue to be involved in humanitarian support efforts in response to disasters through multiple avenues, including non-governmental organisations such as the International Committee of the Red Cross and governmental bodies such as emergency medical teams. There is a growing awareness, both within and beyond the profession, of the multidimensional and essential roles physiotherapists perform before, during, and long after disasters. From within the profession, these roles have been mandated by World Physiotherapy (World Physiotherapy, 2019) and have been echoed and strengthened within the region by the Asia-Western Pacific (AWP) regional organisation of World Physiotherapy (Skinner, 2006).

Regional context: The relationship between Aotearoa New Zealand and the Pacific

Aotearoa New Zealand has a historical and enduring cultural and political connection to the wider Pacific region. Pacific peoples come from the 22 Pacific Island countries and territories and comprise distinct populations with diverse political structures, socioeconomic status, language, and cultures spanned across the largest ocean in the world. The Pacific Island countries and territories, excluding Australia and Aotearoa New Zealand, comprise almost 13.6 million people (United Nations, 2022). There are also approximately 382,000 people who identify as Pacific living in Aotearoa New Zealand (Ministry for Pacific Peoples, 2020). Thus, Aotearoa New Zealand is geographically a Pacific nation, as are its territories Tokelau and the Ross Dependency, and the self-governing associated states of the Cook Islands and Niue. The association with Pacific peoples dates back to the earliest settlement of Aotearoa New

Zealand by Polynesians, who were the inventive sea-faring ancestors of the Māori, the Indigenous people of Aotearoa New Zealand (Ministry for Culture and Heritage, 2021). This history reveals a shared genealogy between Māori and Pacific peoples (Salesa, 2017). The country's political history in the Pacific links to Aotearoa New Zealand's administration of some of the Pacific islands (Ministry for Culture and Heritage, 2020). These diplomatic relationships have endured as exemplified in Aotearoa New Zealand's Treaty of Friendship with Samoa signed in 1962 (New Zealand Ministry of Foreign Affairs and Trade, 1962).

In general, Pacific peoples in Aotearoa New Zealand continue to maintain strong social, spiritual, and familial links to their Pacific Island countries of heritage. Pacific peoples in Aotearoa New Zealand traditionally support family in the Pacific Islands through the sending of remittances and other material donations, as well as through accommodating and assisting with the settlement of new arrivals from the Pacific (Schanzel et al., 2014; Enari & Viliamu Jameson, 2021). The increasingly significant size of the Pacific population in Aotearoa New Zealand, the shared history between Aotearoa New Zealand and the Pacific Islands, and the ongoing sense of responsibility to the Pacific region, mean that the health and wellbeing of Aotearoa New Zealand will always be linked to the health status of Pacific peoples (New Zealand College of Public Health Medicine, 2019). This is particularly true in the city of Tāmaki Makaurau/Auckland, a city that hosts over 63% of the country's Pacific population (Ministry for Pacific Peoples, 2020).

Over 180,000 of these Pacific people identify as being Samoan, making this group the single largest subgroup of Pacific peoples living in Aotearoa New Zealand (Stats New Zealand, 2018). This group is estimated to grow to between 220,000 to 240,000 by 2025 (Ministry for Pacific Peoples, 2020). Despite the majority (66%) of the Pacific population being born in Aotearoa New Zealand (Ministry of Health, 2020), enduring cultural values remain shared among Pacific groups. These values include the importance of family, collectivism and communitarianism, spirituality, reciprocity, and respect (Ministry of Health, 2020). In the Samoan context, these values underpin the phenomenon that is known as *fa'asamoa* – the defining rituals, practices, and attitudes of Samoan culture, and include the foundational values of *fa'aaloalo* (humility) and *alofa* (love) (Ioane & Tudor, 2017).

Weaving these cultural contexts, world views, and understandings of holistic health and wellbeing (all of which are tightly linked to family, community, and the environment) into the delivery of health services is recognised to be fundamental to quality care for Pacific peoples (Ministry of Health, 2008). It is also recognised that a culturally responsive workforce will have a greater ability to meet Pacific peoples' needs and improve health outcomes by translating cultural practices, concepts, and diverse world views into high-quality, evidence-informed health services (Pacific Perspectives Limited, 2019). A culturally responsive health workforce that delivers high-quality health services during a period of societal crisis elicits the Samoan saying: "O uo mo aso uma, a o uso mo aso vale", which translates to "friends for all seasons and kin in moments of crisis" (Efi, 2007). Such responses are of particular importance for the physiotherapy profession to take note of as only 1% of registered physiotherapists identifies as being Pacific (Physiotherapy Board of New Zealand, 2022). Furthermore, the sense of kinship described above affirms the United Nations Universal Declaration of Human Rights Article 1 to "act towards one another in a spirit of brotherhood" (United Nations, 1948) and provides the overarching theme for this commentary.

The literature reviewed in this commentary was instigated by the primary author's (LOS) involvement in an emergency medical team during the measles epidemic in Samoa in 2019. An exploration of the links in the publications between the physiotherapy profession in Aotearoa New Zealand and its involvement in responding to disasters within the Pacific region was then undertaken.

The aims of this clinical commentary were 1) to review the published literature supporting the role of physiotherapists in disasters, with a particular emphasis on their role within the Pacific region; and 2) to identify the roles of Aotearoa New Zealand-based physiotherapists in the management of disasters that have occurred within the Pacific region, utilising the response to the 2019–2020 measles epidemic in Samoa as a case example. The key outcome intended was to highlight potential opportunities Aotearoa New Zealand-based physiotherapists have in responding to and participating in disaster responses within the wider Pacific region.

METHODS

Articles for review were sourced through an electronic search of the following databases: MedLine, PubMed, Scopus, Web of Science, CINAHL, and Cochrane Library. Search terms included "disaster", "hurricane", "tsunami", "earthquake", "flood", "pacific", "oceania", "physiotherap*", "physical therap*", and "rehabilitation". Articles were restricted to those published since 2010 and written in the English language. Abstracts were read by LOS to determine appropriateness and the references of included articles were searched for other relevant articles. Searches of the grey literature were employed to locate other articles, reports, policies, and guidelines through search engine websites such as Google.

FINDINGS

History of physiotherapists' involvement in disaster management

Findings from the literature searched indicated there was a growing consensus around the indispensable roles physiotherapists play as the principal provider of physical rehabilitation. These roles span the entire "disaster continuum", from preparation to response and on to recovery, and have been recognised through a comprehensive report entitled "The role of physical therapists in disaster management" (World Confederation of Physical Therapy [WCPT] 2016). In the report, the WCPT, now known as World Physiotherapy, detailed the role of the physiotherapist at each phase along the disaster continuum, as outlined in Table 1.

In the *response* phase of a disaster, intervention by the physiotherapist is required as early as possible. Lathia and colleagues (2020) noted that the "early rehabilitation of traumatic injuries is a crucial element of the acute medical

Table 1

Roles of Physiotherapists Preparing for Disasters

Physiotherapists' roles
1. Increasing their awareness of the likely consequences of disasters – in terms of impact on services and infrastructure, injuries, disease, psychological impacts, and social impacts.
2. Lobbying governments and non-governmental organisations and institutions to be prepared for disasters and to include physical therapists in their planning.
3. Playing a lead role in advocating for and ensuring the inclusion of all vulnerable groups in emergency preparedness.
4. Contributing to disaster risk reduction efforts and reducing the vulnerability of populations by providing effective development programmes.

Note. Adapted from "The role of physical therapists in disaster management" (WCPT, 2016, p. 21).

response" (p. 2). Global health authorities, including the World Health Organization (WHO), continue to emphasise that medical rehabilitation should be initiated acutely during the emergency disaster response and should be continued in the community over a longer term (Kahn et al., 2019).

In its report on disaster management, the WCPT outlined the skills commonly required by the physiotherapist to be included in the rehabilitation of people with the following conditions: fractures, spinal cord injury, amputation, brain injury, burns, soft tissue injury, and nerve injury; and stated that respiratory management is likely to be required for people in disasters involving tsunami or floods (WCPT, 2016). The role of the physiotherapist is not limited only to the direct provision of rehabilitation following a diaster but can also include assessment, coordination, psycho-social support, and advocacy. As noted by Nixon and colleagues (2010) following the Haiti earthquakes in 2010, physiotherapists often operate in communities with poor resources, limited health infrastructure, and at times no local rehabilitation profession. Thus, strong clinical expertise, communication, coordination, leadership, and collaboration skills have been identified to be essential competencies for physiotherapists operating in disaster settings during the response phase (Cassady et al., 2014; Nepal Physiotherapy Association, 2015).

Importantly, the WCPT (2016), acknowledges that rehabilitation in humanitarian disasters is best provided by experienced local providers. Local providers have an understanding of the cultural-political history that has led to the current health system, are readily able to navigate this system during disaster responses, and can communicate effectively with other health care workers and patients during periods of societal distress. An interesting qualitative study by Canadian physiotherapists who had worked in foreign resource-poor countries highlighted the importance of being aware of subjects that are relevant to global health, as well as being adept at managing challenges to communication, such as differences in language, by using translators, utilising non-verbal techniques, and learning the local language (Cassady et. al., 2014).

For the *recovery* phase, WCPT (2016) recognises that physiotherapists form a key link between disaster response and recovery, and should play a role in rehabilitation capacity building, as well as planning of service delivery, accessibility, and inclusion. This involves providing professional skill development opportunities for local services on topics where a learning need has been identified, with the aim to "build back better" (World Physiotherapy, 2016, p. 6). Again, the importance of locally led recovery initiatives is encouraged in order to serve the long-term health outcomes of the local people.

Beyond the profession, other organisations such as the International Committee of the Red Cross have also acknowledged both the general and specialised skill sets of physiotherapists in providing rehabilitation. These organisations have ensured that rehabilitation is a required component of "medical" responses to disasters (United Nations, 2009; Skelton & Harvey, 2015; Sphere Association, 2018; International Committee of the Red Cross, 2022). They have also ensured that physiotherapists are integrated as essential team members in specially trained emergency medical teams, who provide international humanitarian medical support on behalf of foreign governments (Skelton & Harvey, 2015; World Health Organization, 2016; Sphere Association, 2018; Ministry of Health, 2021; World Health Organization, 2021). Physiotherapists have also been recognised as being able to optimise positive post-surgical outcomes as part of best practice recommendations for surgical responses in disasters (Chackungal et al., 2011). This ability was aligned with a growing awareness that improvements in international medical responses led to a reduction in mortality following a disaster with a consequent increase in impairment and rehabilitation needs (Landry et al., 2010; Khan et al., 2015; Sheppard & Landry, 2016).

The vast skill set physiotherapists have extends beyond conventional roles in managing the victims of a disaster to include the provision of physiotherapy services to fellow disaster response workers, as well as education and professional development opportunities for local health professional staff, as noted during the 2015 earthquakes in Nepal (Nepal Physiotherapy Association, 2015). Additionally, a patient-centred and collaborative approach is important, through attentive listening to the patients' experiences and working with colleagues to ensure a high level of psychological support is available for patients, as observed during the 2011 Christchurch earthquakes (Mulligan et al., 2015).

Role of physiotherapists in disasters in the Pacific region

Little has been specifically documented around the role of physiotherapists in disaster responses in the Pacific region, despite the recognised increasing frequency and impact of natural disasters (Enari & Viliamu Jameson, 2021) and infectious disease epidemics (Mishra et al., 2007; Morand et al., 2014). Examples of recent disasters in the region include the 2009 tsunami in Samoa (Leong-Newell et al., 2012); 2011 Christchurch earthquakes (Ardagh et al., 2012; Mulligan et al., 2015); 2019 measles epidemic in Samoa (Isaacs, 2020; Thornton, 2020); 2019 eruption of Whakaari/White Island (Cuthberson et al., 2020); and the Hunga Tonga-Hunga Ha'apai eruption in December 2021 (Burki, 2022).

As summarised in Table 2, of the five disasters listed above that have occured in the region in the past 13 years, 12 articles describing the rehabilitative response to the disaster have been published. However, when reviewed more closely, only three of the 12 articles mentioned physiotherapy specifically. One article was a reflection on the need for respiratory physiotherapy following the 2009 tsunami in Samoa (Leong-Newell et al., 2012); the second was an insightful qualitative study about local physiotherapists who were involved with rehabilitation efforts during and after the Christchurch earthquakes (Mulligan et al., 2015); and the third was an article that only briefly mentioned the assistance given by physiotherapists at the National Burns Centre following the Whakaari/White Island eruption (Baker et al., 2021).

A Pacific case: Samoa measles epidemic and the Samoan Physiotherapists' Network

In recent years, Samoa has been experiencing declining measles, mumps, and rubella (MMR) immunisation rates. By 2018 the rates had dropped to 28% of infants having received their second MMR dose down from 77% recorded in 2017 (Dyer, 2019). These rates were well below the WHO's target of 95% coverage required to attain herd immunity (Health Navigator, 2022) at the onset of the measles outbreak in 2019. This fall in vaccination rate was contrary to the WHO's efforts towards "measles elimination" (World Health Organization, 2015, p. 2) but reflected the global trend of measles vaccine coverage plateauing coupled with subsequent outbreaks (MacDonald et al., 2020). This decline in vaccination rate was compounded by a period of suspension of the national MMR immunisation programme following two paediatric deaths as a result of the babies mistakenly being injected with muscle relaxants rather than the MMR vaccinations (Dyer, 2019; Jackson & Lyons, 2019; Thornton, 2020). An immediate recall of all MMR vaccines was ordered following these deaths, in the period July 2018 through to April 2019. This series of events created public mistrust surrounding vaccinations (Hooper, 2020). The risk of obtaining the virus was heightened by such factors as unrestricted travel between Samoa and other measles-affected countries (Craig, Heywood, & Worth, 2020). These elements set the scene for the widespread measles outbreak that occured in Samoa in 2019 after the virus was transferred by a single passenger from Aotearoa New Zealand (Isaacs, 2020; Kaspar et al., 2020).

The subsequent measles epidemic that occurred in Samoa caused a state of emergency to be declared on 15 November 2019, which was withdrawn towards the end of December 2019. It infected over 5,700 Samoans (up to 3% of the population) and claimed 83 lives (Macintyre et al., 2020; World Health Organization, 2020). The majority (87%) of these fatalities were children under the age of four years (Craig, Heywood, & Worth, 2020; Duckor-Jones, 2020). The mortalities were attributed to secondary complications from

Table 2

Summary of Articles Published on Disasters

Reference(s)	Disaster event	Country	Year	Relevance to physiotherapy
Leong-Newell et al. (2012) [a]	Tsunami	Samoa	2009	Need for respiratory physiotherapy.
Ardagh et al. (2012) Goldstraw et al. (2012) Mulligan et al. (2015) [a] Nunnerley et al. (2015)	Earthquakes	Aotearoa New Zealand (Christchurch)	2011	Role of physiotherapy in psychosocial support. Role of physiotherapy in rehabilitation for older adults.
Cuthberson et al. (2020) Baker et al. (2021) [a]	Volcanic eruption	Aotearoa New Zealand (Whakaari/White Island)	2019	Mention the assistance of physiotherapists working at the National Burns Centre during the response. No detail on what that assistance entailed.
Craig et al. (2020) Isaacs (2020) Schnirring (2019) Thornton (2020)	Measles outbreak	Samoa	2020	No mention of physiotherapy or rehabilitation.
Burki (2022)	Volcanic eruption	Tonga	2021	No mention of physiotherapy or rehabilitation.

Note. This table summarises articles published on disasters that have occurred in the Pacific region since 2009, including those that outline the relevance of physiotherapy input and reference the physiotherapists' contribution(s).

[a] Articles specifically refer to physiotherapist involvement.

the measles infections such as pneumonia and multi-organ failure, rather than the measles infections themselves. During this outbreak, the Samoan Prime Minister requested the assistance of Samoan health professionals living in Aotearoa New Zealand and Australia to support the overwhelmed local health service (New Zealand Ministry of Foreign Affairs and Trade, 2019). The manager of allied health in Samoa, who was also a physiotherapist by profession, reported at the time that the Samoan service was already receiving some support from physiotherapists who were part of emergency medical teams from the United Kingdom, Israel, and Japan. The manager made a strong request for additional support from Aotearoa New Zealand-based physiotherapists, in particular those with experience in acute respiratory management and paediatrics, as well as a conversational level of Samoan language ability. At the end of one of the manager's early emails in her call for help she wrote, "Malo lava fa'afetai le loto nuu, manaomia lava outou e Samoa!!", meaning "Thank you for your heart for our country, Samoa desperately needs you!!" (E. Pouesi-Young, personal communication, December 17, 2019).

In response to this call, the primary author (LOS) contacted Aotearoa New Zealand-based physiotherapists of Samoan descent and established the Samoan Physiotherapists' Network (SPN). Subsequently, three physiotherapists from within the network offered to volunteer their clinical and professional services in Samoa between December 2019 and March 2020.

The SPN received generous funding support through donations from individuals, student groups, church groups, and Pacific Island Community Trusts, as well as secretariat support from the office of the Associate Dean (Pacific) of Health Sciences at the University of Otago, Professor Faumuina Fa'afetai Sopoaga. Professor Sopoaga led a medical response team of Samoan physicians based in Aotearoa New Zealand (University of Otago, 2019) and encouraged the primary author in his co-ordination of the SPN (F. Sopoaga, personal communication, December 17, 2019). This support enabled the SPN to liaise with the Samoan health registering body to secure temporary practising certificates, which subsequently resulted in the deployment to Samoa at the end of 2019 three Aotearoa New Zealand registered physiotherapists spanning a period of three and a half weeks in total. These three physiotherapists worked alongside the international emergency medical teams on a rostered basis to provide respiratory assessments and treatments for patients needing acute management in the intensive care unit, and paediatric and adult wards, as well as musculoskeletal and neurological rehabilitation in the outpatient department at Tupua Tamasese Meaole II Hospital in Moto'otua, Apia, the capital of Samoa. The SPN physiotherapists were very well received and there were many highlights including the camaraderie established among local and overseas staff; provision of professional development sessions to the local Samoan team of physiotherapists and wider allied health staff; and the emotional contribution from being able to relieve local physiotherapists of their duties so they could celebrate the New Year's holidays with their families. The two local physiotherapists reported that these were their first days they had had off work in eight weeks.

DISCUSSION

Learnings and clinical implications from the Samoan measles response

There are several relevant reflections that arose as a consequence of being involved in providing services during the Samoa measles epidemic. First, it is clear that Aotearoa New Zealand-based physiotherapists can have an important role in helping Pacific neighbours. The SPN physiotherapists provided an ideal solution to the acute health workforce needs during the disaster response and recovery phases. In Aotearoa New Zealand there is a pool of around 6,000 registered, practising physiotherapists who are "experienced local providers" (Physiotherapy Board of New Zealand, 2022), who could be contacted to provide a neighbouring workforce solution in the Pacific in response to a potential future disaster. Physiotherapists who may volunteer could be mobilised swiftly and relatively inexpensively.

Second, the expectations of Aotearoa New Zealand-based physiotherapists to demonstrate reflective competence in their understanding of the principles of Te Tiriti o Waitangi (Physiotherapy Board of New Zealand, 2018b), as well as the likely familiarity in working with Pacific peoples living in Aotearoa New Zealand, further enriches Aotearoa New Zealand-based physiotherapists with nuanced cultural and communication skills when working with Pacific peoples in times of heightened anxiety, such as within disaster settings. As noted by the Samoan manager of allied health, it was these culturally responsive skills coupled with the relevant clinical expertise that were desperately needed during the measles epidemic. As demonstrated by the SPN, Pacific physiotherapists living in Aotearoa New Zealand who have a command of their native languages could and should play a leading role in future disaster management efforts in the Pacific.

The SPN physiotherapists successfully demonstrated the critical role physiotherapists have in the acute phase of a disaster response, in particular during the measles outbreak, in the acute management of both paediatric and adult cases with respiratory conditions that were secondary complications of the measles. Physiotherapists also have an important role in preparing patients for discharge from the hospital back into the community and in ongoing community rehabilitation (WCPT 2016; Kahn et al., 2019).

WCPT (2016) encourages physiotherapists from any location in the world who have an interest in providing humanitarian support to indicate their interest through direct contact with a local aid agency. For Aotearoa New Zealand-based physiotherapists, this could involve applying to the New Zealand Medical Assistance Team (NZMAT) or the Pacific Medical Assistance Team (PACMAT) (Pasifika Medical Association, 2020). The NZMAT team is coordinated by the Ministry of Health and is deployed by the Ministry of Foreign Affairs and Trade to assist with disaster responses in the Pacific region. Potential benefits from working within the NZMAT include providing rehabilitation within a co-ordinated team with pre-determined reporting lines, receiving specialised training, and entering into an agreement with the therapists' employer to ensure NZMAT deployments are paid at the standard working hourly rate (Ministry of Health,

2021; New Zealand Medical Assistance Team, 2021). The paid deployment could be an attractive option for members of the SPN and other volunteer groups, as the SPN members who volunteered in the Samoan measles response used annual leave from their employment to provide this vital humanitarian support. In a similar way, PACMAT also coordinates and deploys emergency medical teams during disasters within the Pacific region, though this is coordinated by the Pasifika Medical Association in consultation with the Ministry of Foreign Affairs and Trade (Pasifika Medical Association, 2020).

Physiotherapists have a role in disseminating and promoting public health messages (Cassady et al., 2014; Physiotherapy Board of New Zealand, 2018b). This is of particular importance during pandemics or disasters as a consequence of transmittable diseases, such as in the measles outbreak in Samoa. In the latter event, health education included providing advice to parents about the urgency of seeking medical attention if children were demonstrating symptoms; providing education on the efficacy of vaccinations for measles and other transmittable illnesses; and providing reassurance and education on the benefit of hospital-level care alongside traditional healing practices.

Professional capacity-building implications

There is great potential and scope for physiotherapists in Aotearoa New Zealand to work more closely with and build the capacity of physiotherapy services in the Pacific. In the future, this could encompass things such as providing locum clinical cover; sharing expertise and professional development opportunities that focus on developing local skill capacity and service planning in the Pacific; and strongly advocating potential benefits for Pacific people to governments and funding bodies in order to resource such services. Recent advances in digital technologies could further facilitate these initiatives. Strength and support for such initiatives to benefit our Pacific neighbours should be promoted by Physiotherapy New Zealand, the voice of the physiotherapy profession in Aotearoa New Zealand and member organisation of the AWP region of World Physiotherapy (Skinner, 2006).

In 2021 the Pasifika Physiotherapists' Association was reestablished and the SPN group merged with it. This group of Aotearoa New Zealand-based physiotherapists of Pacific descent could play a leading role in establishing formal relationships with physiotherapy services in the Pacific, to provide culturally nuanced expertise in co-developing tailored disaster readiness plans in local languages and by building local skill capacity. There may also be a role in advocating for innovative solutions not only in the initial response phase but also in the provision of medium- to long-term rehabilitation following a disaster. This would help ensure health gains established in the response phase are sustained and meaningfully translated into the resumption of family and community roles.

Clinical implications

There is little documentation on or published accounts of the involvement of physiotherapists in the provision of health services surrounding disasters in the Pacific region. Of the literature searched within the past 13 years, only three published articles had a specific reference to physiotherapy in disaster management within the Pacific region. However, it is widely accepted that physiotherapists are integral members of interdisciplinary health teams that respond to disasters. A recent local example was following the 2019 eruption of Whakaari/White island volcano, where physiotherapists across Aotearoa New Zealand were actively involved in the acute and long-term rehabilitation of people injured in this disaster. Yet, to date, only one article made mention of the physiotherapists' contribution in the following brief acknowledgement: "Additionally, we received allied health assistance for occupational therapy and physiotherapy. We were exceedingly grateful to receive so many offers of assistance and would have struggled to manage the huge workload without our friends and colleagues help" (Baker et al., 2021, p. 8). This disparity between the active clinical response during the disaster and the published account of physiotherapists' contributions highlights the gap in recognition of physiotherapists alongside the importance of documenting such clinical experiences in order to benefit the ongoing learning of the local, regional, and global profession.

There is potential for the development of a working group or subgroup associated with PNZ that focuses on disaster management policies, procedures, and initiatives. Potential aims for such a group could be to: 1) create a network of those with interests in providing their skills and expertise to contribute to disaster management activities in the Pacific region; 2) increase the awareness of a range of recognised pathways that may lead to involvement in disaster responses; and 3) promote more publications around the contributions of Aotearoa New Zealand-based physiotherapists in disaster settings in the Pacific region.

COVID-19

Besides the measles epidemic in Samoa, the current COVID-19 pandemic has reiterated the precarious status of the health systems in the Pacific (Craig, Heywood, & Hall, 2020). For Samoa, this is particularly concerning as it is well known that non-communicable diseases are prevalent – one in four adults has Type II diabetes mellitus and over half of the adult population is obese (Lin et al., 2016) – placing the nation at disproportionately higher risk of mortality associated with comorbidities. It is for this reason that the Samoan government was among the first to close its borders to international travel following announcement of the global pandemic in 2020 (Thornton, 2020). COVID-19 thus remains a serious risk to the health and wellbeing for people living in the Pacific islands. This risk further highlights the imminent importance of Aotearoa New Zealand-based health professionals being prepared to provide clinical support within the region by enlisting with local emergency response teams using the NZMAT and PACMAT application processes (Pasifika Medical Association, 2020; Ministry of Health, 2021; New Zealand Medical Assistance Team, 2021).

CONCLUSION

The physiotherapy profession would benefit from more information on the experiences of physiotherapists who have contributed to disaster management and/or are actively participating in disaster responses within the Pacific region. Such examples would provide contextual insight into the opportunities, barriers, and challenges surrounding the provision of support from physiotherapists during and after disasters.

The information would also enable physiotherapists to learn more about the value of contributing to disaster management, irrespective of their clinical area(s) of expertise. A key feature of all disaster management is to work with the local community and this highlights the unique importance of the physiotherapist demonstrating cultural knowledge and culturally safe skills in working alongside people of the Pacific region. Such knowledge strengthens physiotherapists' ability to perform their critical and multifactorial roles in disaster responses and long-term recovery (International Federation of Red Cross and Red Cross Societies, 2012; Cassady et al., 2014; Skelton & Harvey, 2015; Physiotherapy Board of New Zealand, 2018a).

In Samoa there is a saying: "O uo mo aso uma, a o uso mo aso vale", which means "friends for all seasons and kin in moments of crisis" (Efi, 2007). It is this sense of kinship in the midst of profound hardship that has been repeatedly demonstrated by the physiotherapy profession since the early 1900s, and the same sense that was shared during the Samoa measles epidemic of 2019–2020 among Samoan physiotherapists based in Aotearoa New Zealand. This sense of connection should also guide the efforts of physiotherapy colleagues in actual and potential disaster responses within the Pacific region in the future.

KEY POINTS

1. Physiotherapists play vital and multifaceted roles in disaster planning, response, and recovery.
2. Physiotherapists in Aotearoa New Zealand provide a skilled and equipped workforce that could respond to disasters in the Pacific region swiftly and appropriately.
3. Physiotherapists of Pacific descent should play a leading role in coordinating and delivering physiotherapy responses to disasters in the Pacific region.
4. Involvement of physiotherapists in disasters should be documented in order to promote and further inform physiotherapists about disaster management and clinical responses.

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No funding was received for this project. LOS is the current Chair of the Pasifika Physiotherapists Association Inc. and coordinated the Samoa Physiotherapists' Network as described in the manuscript. The authors are not aware of other conflicts of interest related to this article.

PERMISSIONS

None.

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CONTRIBUTIONS OF AUTHORS

The primary author (LOS) undertook all the analysis of the data and drafting of the manuscript. The secondary author provided advice during the initial development of the manuscript, contributed to the writing of the manuscript and approved the final draft.

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