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Patient safety and the health transition: understanding and addressing the high level of lifestyle-related non-communicable diseases in the Pacific region

Introduction

The island states of the Pacific region have some of the world's highest rates of hypertension, cardiovascular disease, obesity and type 1 and 2 diabetes (Parry, 2010). Whilst this is an issue that has long been recognised by regional governments and overseas donor agencies, there has been relatively slow progress in tackling these health problems. In terms of patient safety regimes, this is partly because the context and drivers underpinning these trends are a complex mix of not only lifestyle choices but also lifestyle options. Shifting patterns of agriculture and diet are partly the result of changes to the physical environment, particularly among the low-lying atoll nations such as Kiribati and Tuvalu, which are facing challenging climatic conditions and related rise in sea level. This has resulted in a marked shift away from traditional practices of food production and consumption. Increased reliance on imported foodstuffs has tended to be dominated by processed foods with high levels of fat, sugar and salt. In addition, internal migration and urban drift from outer islands to capital islands has led to increased levels of population density, adding to pressure on cultivatable land. Other health-related factors include incidences of inadequate sanitation and more general inabilities of national governments to be able to provide suitable health and welfare infrastructure for their growing populations.

Improving patient safety in the Pacific region can be informed by initiatives from other parts of the world. For example, Jennifer Sancho has drawn on empirical data from the small island states of the Caribbean region to indicate how lessons learned there might be applied to Pacific islands facing similar patient safety challenges (Sancho, 1997). More broadly, the World Health Organization (WHO) has developed a Patient Safety Framework with a focus on Africa that can be referred to here in relation to the islands of the Pacific region (WHO, 2012). This framework approach will be used here to assess the extent to which Kiribati and Tuvalu are facing the challenges of an increasing prevalence on non-communicable diseases (NCDs) and other aspects of developing an effective patient safety regime. Recognizing that many developing countries face a shortage of medical technologies and appropriately trained clinicians, the WHO framework model places an emphasis on development partnerships. As with most partnerships this tends to be relatively asymmetrical and driven by the more dominant, donor partners of the industrialised world. This raises some questions in relation to the dynamics of such relationships, and the broader context of international trade and other forms of power. This analysis will consider the implications of such a dynamic, especially when many of the patient safety issues and concerns under consideration here can be linked to underlying international patterns and structures that have actively disadvantaged these island communities.

WHO's patient safety framework has three key target actions: 1) to strengthen health support systems and patient safety; 2) to build patient safety capacity and 3) to advocate and communicate for patient safety. To take these actions forward the framework consists of six steps. Beginning with the above partnership development, this is followed by a needs assessment, gap analysis, action planning, action and finally evaluation and review.

Mainstream media sources from outside of the Pacific region have largely focused on the environmental threats of sea-level rise and the potential consequences of complete inundation and the prospect of whole populations needing to migrate. Whilst this remains a real possibility for some of the more at risk communities in the region the immediate concern for Pacific islanders is to deal with their day-to-day experiences. The dominant narrative discourse on living on these islands has been variously described in terms of ‘vulnerability’, ‘resilience’ and now almost exclusively with regard to ‘adaptation’ to the apparent inevitability of climate change-induced challenges. From a patient safety perspective, health concerns need to be viewed as multi-faceted and with many inter-related factors coming into play. The political economy of health involves numerous stakeholders and influencing variables. These range from the environmental issues mentioned above through to individual patterns of behaviour via local, national and international actors – both public and private. In this chapter, patient safety will be looked at in its broadest sense. Meaning the whole population of the territories under consideration will be addressed, with awareness that for NCDs there are preventative measures that can be promoted. Ideally, future generations will be protected from becoming patients in need of treatment for NCDs.

Current policies to address patient safety among Pacific island communities are largely focused on the health of individuals, with a key aspect of this being attempts to address the lifestyle issues that have been linked to very high levels of non-communicable diseases (NCDs) in the region. This is seen as a priority area for both Pacific island governments but also, and crucially in terms of the funding of projects, international donor agencies. Individual patterns of behaviour are certainly one of the key elements of patient safety. However, lifestyle choices can only be fully understood and addressed if a more holistic assessment is made to put these choices in the context of the options available to individuals and communities.

Options and Choices

In most industrialised nations, medical literature and media coverage of NCDs has tended to focus on the lifestyle choices and behaviour of individuals (World Economic Forum, 2017). While this is undoubtedly a significant contributing factor in relation to the incidence of NCDs it is only one aspect of this issue. For some individuals and their wider communities the type of behaviour and the lifestyle choices open to them can be severely restricted. In the Pacific region, the communities inhabiting low-lying atolls have experienced a major transition from predominantly, and relatively isolated, subsistence economies to ones that are increasingly connected to, and dependent upon, external relations.

The island communities under consideration here have their own unique characteristics, but also share a very high incidence of NCDs. Both of these territories have experienced health and environmental transitions whereby, despite easier access to advanced medical information and practices, there are growing concerns around food and water insecurity and the impacts this has on opportunities to follow a healthy diet. Historically these island communities have always experienced periods of ‘feast and famine’ due to localised impacts such as droughts or crop damage caused by tropical storms. However, with greater connectivity and interaction with other territories the availability of some sort of food supply is now reasonably constant, apart from in the immediate aftermath of particularly devastating extreme weather events. What is now of more concern is the quality of imported foodstuffs. These, usually processed foods, feed into the obesity and diabetes crises experienced by these communities (Thow et. al. 2013). Some degree of personal responsibility has to be allowed for in terms of what amount of such foods, and carbonated drinks with very high sugar content, are consumed. Yet it would be a distortion of this situation, and therefore how to respond, if the broader context of these actions was not taken into account.

Many factors lead to the creation of food and water insecurity in these communities. Importantly it should be noted that in some of the outer islands of these territories the situation is very different with many people on these islands living much more ‘traditional’ lifestyles closer to subsistence, albeit with occasional but regular contact with the main, capital islands. The popular perception of Pacific islands is often one of relatively sparsely populated communities living some sort of idyllic Paradise existence. There are a small number of examples where there remains a relatively close proximity to this stereotype. However, for Kiribati and Tuvalu this is not the norm. Urban drift has meant that in each of these territories at least half of the overall population now live on their main, capital islands. In terms of population, density areas such as South Tarawa in Kiribati has one of the highest numbers of people per square kilometre in the world (UNFPA, 2014). These countries’ main islands are the seat of government, which is the largest employer in each of these territories. They also tend to be where the head offices of any private sector companies are based, plus the offices of overseas donor agencies. These capital islands also benefit from the highest level of investment in infrastructure and related services, including health services. This level of population pressure means that there is a corresponding loss in cultivatable land on these islands. Some households do still maintain small plots of land to grow vegetables, rear chickens and possibly pigs. Yet these methods of food production represent only a relatively small proportion of the regular household diet. Imported foodstuffs are bought in what are increasingly cash-based economies. This has implications for what type and quality of food individuals and families can afford to buy, with healthier options often being more expensive. Even where islanders are trying to maintain local food production this is not always possible due to rising sea-level, storm surges and the loss of freshwater resources.

The topography of these low-lying atolls means that they are subject to frequent flooding and seawater permeating through the base rock with saltwater intrusion and the salination of freshwater lenses (Woodroffe, 2008). This has implications for the traditional methods of root crop production, such as taro pits. Once saltwater enters and remains in these pits the crops begin to rot rather than reach maturity. Coastal erosion is also a problem when this undercuts the roots of coconut and pandanus trees, further depleting traditional sources of food. Under such circumstances, the shift to more ‘Western’ diets is understandable, given the significant decline in previous alternatives. This raises the question of where agency, and therefore responsibility, lies with regard to addressing and reversing current trends of increasing prevalence and related consequences of NCDs in these communities.

Agency and responsibility

As mentioned above, individuals do have some level of personal responsibility to minimize unhealthy patterns of behaviour and make the most of what health promotion initiatives are available to them. Yet with limited options on offer, this has to be taken into account when judging the choices individuals make. This leads to questioning where broader responsibility at the national, regional and even international level might lie. In the first instance, the Ministry of Health for each national jurisdiction has a degree of responsibility for the health and well-being of their territory’s citizens. In the context of the Pacific region, the extent of the NCD crisis has been acknowledged for some time with numerous national initiatives and the raising of this issue at the regional level. In June 2011, Pacific Ministers of Health met in Honiara, Solomon Islands and issued a communique highlighting the need for NCDs to be addressed as a priority issue. This initiative was reinforced at the 42nd meeting of the leaders of the Pacific Island Forum, held in Auckland, New Zealand shortly thereafter. Tackling NCDs was also one of the key issues discussed at the UN Conference on Small Island Developing States held in Apia, Samoa in 2014 (sids.2014.org). In June 2016 Tonga hosted a Pacific NCD summit meeting (Secretariat of the Pacific Community, 2016). This was a high-level event with a welcome by the King of Tonga and a keynote address from Helen Clark, Administrator of the UN Development Programme and former

Prime Minister of New Zealand. Such events illustrate how NCDs are now firmly established as a standing agenda item for Pacific governments and related donor agencies, as are the negative impacts of climate change. However, few reports and communiques from these meetings are explicit in making the connections between human-induced climate change, food security and patient safety.

In 2011, the Asian Development Bank (ADB), one of the major financial investors in the region, produced a report on food security and climate change in the Pacific (ADB, 2011). The tone of this report was, understandably given it was produced by the ADB, predominantly focused on the economic consequences of climate change, although social and environmental factors were noted. Changing patterns in Pacific diets were highlighted. Fresh fish being replaced by canned fish and corned beef; root crops, breadfruit and bananas replaced by white rice, bread and instant noodles and water and coconut water replaced by sweetened soft drinks. In terms of preparation, where food has traditionally been eaten raw, grilled or baked in an earth oven it is now often fried. The nutritional consequences of these changes in diet have had implications for the health of individuals, but there are also negative impacts on national economies. NCDs are highlighted as accounting for three quarters of all deaths across the Pacific region and between 40-60% of total healthcare expenditure. Whilst not explicitly discussing the issue of personal responsibility there is an interesting aspect to the ADB's report, and numerous similar considerations of the causes of and responses to NCDs in the Pacific region. For the ADB, and many other external institutions engaging with the region, their focus tends to be more on local events and, therefore, localised remedies. By highlighting the behaviour of individuals the implicit assumption is what is required is behavioural change to address the identified problem with this behaviour. There is an internal logic to this assessment and diagnosis. It does not deny the role of national governments and Ministries of Health in having some degree of responsibility towards promoting and maintain certain levels of public health. However, in terms of agency, the emphasis on individual behaviour suggests that individuals are predominantly responsible for the health of themselves and their dependents.

The World Health Organization has produced a Global Action Plan for the Prevention and Control of NCDs (WHO, 2013). This provided a model for a Western Pacific Regional Action Plan (WHOWPR, 2014). In line with the ADB report, both of these plans focus on individual behaviour, and from a largely economic perspective. The first table in the Western Pacific plan is entitled 'Very cost-effective interventions for the prevention and control of NCDs'. In this plan, cost-effectiveness is defined as generating 'an extra year of healthy life for a cost that falls below the average annual income or gross domestic product per person'. As an economic indicator, this cost can be highly variable as national economies may perform much better in one financial year compared to another. For the small island developing states considered here, they have relatively low GDP per capita. World Bank data for 2016 show this as USD 3,083 for Tuvalu and only USD 1,449 for Kiribati. Interestingly, the desired result of a 'healthy life' is not explicitly linked to GDP per capita in terms of would this person still be making an economic contribution to the national economy. The emphasis appears to be more on avoiding the health-related costs associated with NCDs. This table is also notable when looking at the 'Risk factor / disease' categories. None of them considers the broader risks associated with climate change, unequal trade relations et cetera.

The risk factors in the above action plan include – tobacco use; harmful use of alcohol; unhealthy diet; physical inactivity; cancer; cardiovascular diseases and diabetes. Each factor is linked to a range of policy options and potential interventions. The majority are aimed at altering individual behaviour, again placing the emphasis on the choices people make rather than the options available to them. Tobacco use interventions focus on health education campaigns; banning tobacco advertising, promotion and sponsorship; increasing excise taxes on tobacco products to make them less financially

attractive and to legislate to introduce smoke-free environments in indoor workplaces, public places and on public transport. Arguably some of these do focus on the context within which the decision to use tobacco products is taken, but the emphasis remains on altering individual patterns of behaviour. Similarly, the recommendations for tacking the harmful use of alcohol emphasize pricing policies to make alcoholic beverage increasingly expensive to purchase. This approach, as with taxation on tobacco products, also has the added benefit of contributing to the national exchequer. Should they choose to governments could ring-fence such revenue to be directed towards the provision of health services. If this were publicised it would have the combined benefits of raising both revenue and awareness of the negative consequences of excessive smoking and drinking.

Physical activity is simply addressed in terms of implementing public awareness campaigns. Whilst such initiatives are always to be welcomed they, again, often fail to address broader issues that have led to many islanders undertaking less strenuous activities than older generations. Subsistence lifestyles in Pacific island environments involve high levels of physical activity. Taro pits have to be dug, coconut trees are climbed, and canoes that were once paddled have often been replaced by boats with outboard motors. To recommend islanders visit their local gymnasium, should such a facility be available to them, overlooks the underlying causes of increased morbidity. There appears to be a missed opportunity here to both increase physical activity and return to more traditional methods of fishing and crop cultivation. Should such initiatives be undertaken this would clearly also have a positive impact on health, as it would encourage the return to a pre-Western-influenced diet. Changing land use because of colonial influence in the Pacific region has had far-reaching socio-economic and cultural impacts. McLennan and Ulijaszek (2014) highlight the ongoing significance that changes introduced by the British, French and other colonisers continue to have on contemporary Pacific island communities. While GDP per capita increased during the colonial period as more economic value was extracted from these territories, via activities such as mining or the production of copra, most of this wealth went overseas with little residual benefit for the local inhabitants. On the contrary, as their environment was often degraded and patterns of land use moved away from locally focussed subsistence activities, islanders began the process of reduced physical activity combined with increased reliance on the imported foodstuffs noted above. Health education activities will perhaps inevitably focus on encouraging individuals to undertake more physical activity. However, a more holistic, and therefore more inclusive and effective approach, should locate such activity within a much broader socio-economic and cultural context.

Individuals, communities and context

A deeper analysis of patient safety and health transition in these communities demonstrates that behavioural change, or the inability to do so, needs to be understood in relation to a myriad of complex factors and their inter-relations. Whereas Western, industrialised societies tend to place a greater emphasis on individualism, most Pacific island societies place greater emphasis on communal relationships and activities. Even with increased urbanisation and changes in traditional village life the cultural bonds, norms and values often continue to endure. For example, communal feasting and other attitudes towards food extend well beyond the nutritional value of what foodstuffs are on offer. There can be cultural significance in how much a community member contributes to a shared meal. The nutritional quality of what is provided is less of an issue than how far it can be shared among the group. Even if an individual knows that the food on offer will be low in nutrition but high in calories this has to be balanced against the social expectation of eating a reasonably large portion, or several portions, of what is being offered. Roger Haden (2009) has written about Pacific eating habits. Although predominantly a recipe book that tries to highlight the more traditional ingredients of Pacific island meals, he also provides some cultural context explaining how these communal meals represent far more than the consumption of food. Traditional food preparation, including the catching of fish or the

preparing of earth ovens, has been a communal activity. This also reinforced gendered roles and other forms of communal identity. Moving away from such communal activities has led to some elements of stress and strain within these communities. This is particularly evident in the urban areas where traditional patterns of land tenure and usage have been disrupted.

Any individuals and communities undergoing significant transitions will face challenges of adjustment and adaptation. Health transitions are influenced and informed by socio-economic and cultural considerations. In the case of the low-lying atolls of the Pacific region, these pressures are compounded by the potentially existential threat of mass relocation. Although not commonly considered in the context of mainstream approaches to NCDs the uncertainty and related stress associated with potential relocation is an under-researched field of study. Stress factors can lead to increased consumption of unhealthy foodstuffs, alcohol and tobacco. These are all key ingredients for the likelihood of contracting some form of NCD. In this respect, it is surprising that the Regional Action Plan for Prevention and Control of NCDs does not list stress and related behaviours as a major risk factor. Other studies have looked at the notable rise in mental disorders in the Pacific region. In a study published in 2015 Charlson, Diminic and Whiteford state that 'Major depressive disorder (MDD) is now responsible for the largest proportion of disability in the Pacific region.' (Charlson et al., 2015). They also cite research from Australia and the UK which indicates that 'men with mental disorders die, on average, 15 years earlier than the general population; women with mental disorders die, on average, 12 years earlier, commonly as a result of suicide or co-morbid physical health conditions'. The health conditions referred to here will almost certainly be linked to some form of NCDs. Clearly not all Pacific islanders will necessarily suffer from mental disorders because of changing socio-economic and cultural pressures. However, this is likely to be a contributing factor to some islanders adopting unhealthy lifestyles.

The importance of community affiliation and identity formation is particularly strong in Pacific island states. Arguably, similar dynamics of communalism exist around the world, but there are some particular aspects of life in Pacific island locations and societies that make such bonds all the more important. Historically, the low-lying atoll states of the Pacific region have been relatively isolated from the rest of the world. Even today, with generally reliable access to telecommunication networks, the physical distance from other states, the time taken and cost of travelling overseas and the generally homogenous nature of most of the societies under consideration here means that most residents continue to have a strong sense of their identity linked to their home territory. This identification with location is an issue not only in terms of national identity but also at the sub-national level. Most Pacific island states do not consist of a single island. More commonly, they are a collection of islands and atolls spread over large areas of the ocean. For example, someone from the island of Abaiang in Kiribati may still strongly identify themselves with their home island, even when they have been resident in the main island of Tarawa for many years. In some cases people born on the main island may identify with their outer island heritage, especially if they have visited members of their extended family that still live in the outer islands. Familial heritage ties remain strong, and often associated with very specific land area, despite increased internal re-location and overseas migration. Some individuals adjust and cope with relocation better than others do. This may partly be explained in terms of individual psychology and the extent to which relocation or migration was their preferred choice.

The movement of people is as old as the evolution of *Homo sapiens*. Pacific islanders have been referred to as the 'nomads' of the Pacific with a history of ocean-sailing vessels covering great distances between islands. The dominant narrative of these territories being seen as small island states can be challenged if they are thought of more as large oceanic states. That said, in the colonial and post-colonial era the focus has shifted more towards land-based issues. Sailing between islands for trading and cultural purposes has reduced dramatically as each of the island states, which are often colonial constructs in

terms of their international boundaries, are now tied into a much more extensive web of international patterns of trade. Even fishing, which has been a central feature of island life for many generations, has now been appropriated by external forces. While fishing revenue still accounts for a significant proportion of export earnings for many Pacific island states, they have limited capacity for deep-water fishing and most of this fishing is undertaken under licence by fleets from other states. As such, the island economies only see a very small percentage of the true value of their fish stocks. Such patterns of investment / exploitation by external actors illustrate the dilemma that many so-called 'developing' economies face. To what extent are these communities better off for engaging with the outside world? The increased incidence of NCDs is, if not entirely, predominantly associated with the introduction of external products and patterns of behaviour.

The dependency dilemma

World system theory and other dependency approaches to international development, as pioneered by authors such as Wallerstein and Frank, consider the cost and benefits of less powerful states engaging with the more powerful core economies (Wallerstein, 1979 and Frank, 1978). Given the contrast between the relatively contained, subsistence lifestyles of pre-colonial Pacific island communities and the contemporary external influences that now permeate, at least, the main urban centres of these islands, they are useful barometers for testing this hypothesis. Some benefits are readily identifiable, including in the healthcare sector. Immunisation programmes and various forms of technology transfer have undoubtedly saved and prolonged lives. Advances in telecommunications have enabled remote diagnosis and treatment and a range of e-health initiatives (Ishibashi, Y. et. al., 2011). Yet, as already made clear when it come to the prevalence and control of NCDs in these communities, the vast majority of products and associated behaviours that lead to NCDs have been introduced from outside of the region. This epitomises the dependency dilemma whereby individuals and communities wish to engage with the benefits of interconnectivity with the wider world, but also have to be aware and mindful of the potentially negative consequences of such contact.

Theoretically, Tuvalu and Kiribati are both fully independent political entities with sovereign control over clearly defined land and exclusive economic zones of maritime territory. They all have legal control of large-scale fisheries and potentially valuable seabed resources. Yet they are also among the most aid dependent nations. The World Bank reports that the Pacific islands receive significantly more overseas development assistance (ODA) than other regions of the world. Sub-Saharan Africa is often assumed to receive the bulk of such assistance, but in per capita terms, this region receives only USD 54, compared to USD 64 for the Caribbean and USD 469 for the Pacific islands region (Wilson, 2014). In part, this disparity can be explained by the practicalities and cost-effectiveness of aiding a relatively small population spread over a large area, albeit with some very dense concentrations of people on the capital islands. The nature of the aid also varies across regions with Sub-Saharan Africa's large land area requiring investment in large-scale road and rail infrastructure. Pacific islands do have some infrastructure needs in terms of maintenance of runways, port facilities and inter-island ferries, but not on the same scale as Africa. The focus in the Pacific is more on individual-orientated aid, such as promoting health and education. This is commendable, but given the ongoing rise in NCDs, this does raise the question of how effective this approach is. As a health initiative, there are elements of both curative and preventative approaches. In extreme cases of advanced diabetes toe, foot or lower leg amputations may be required. As an operative procedure, this is not something that could be satisfactorily undertaken in the remote outer islands that lack the required surgical facilities. In terms of dependency, it is clearly more beneficial for the individuals involved that their home governments have good relations with neighbouring states that can provide such facilities, albeit at a cost. Yet it would be far better if such conditions did not develop in the first instance, or if the signs of them were

detected and addressed at an earlier stage. Donor countries are now investing more heavily in health education campaigns in an attempt to focus on preventative measures. However, this still often fails to address the underlying issue which, regardless of how much information is available, remain at the root cause of many incidences of NCDs.

A study by Tin et. al. published in 2013 investigated the experience of a sample of Pacific islanders who had diabetes-related amputations and attempted to discover what earlier interventions could have prevented these procedures (Tin et. al., 2013). This is included in the dependency section as the results highlight both important aspects of the nature of the NCDs crisis and the fact that, once again, it is external actors who are driving this research agenda. In this group of respondents, the average length of time between being diagnosed with diabetes and eventual amputation was 10.5 years. The main reason for the eventual need for surgery was a delay in seeking treatment. One of the questions asked was how much information these patients had about foot care with only 11% saying they had insufficient knowledge about foot care. Increasing such knowledge from close to 80% to even higher than this should be an aspiration, but this suggests that health education programmes may not be a priority issue. People are generally aware of the dangers of a poor diet and consuming soft drinks with high sugar content, as they also appreciate the ill-effects of smoking and excessive drinking. The findings on delay in treatment is difficult to interpret as it is not completely clear if this means the respondents would have sought treatment had it been available, or if they simply failed to take advantage of what treatment was available to them? Whatever the answer it is apparent that treatment centres do need to be accessible and individuals with early diagnosis of diabetes should be taking up the treatment services available to them.

Dependency theory is relevant to NCDs in the Pacific region not so much in terms of the level of healthcare available via ODA and technology transfer, but by the way in which other forms of dependency limit and restrict islanders' options to adopt healthy lifestyles. As 'peripheral' economies, they are engaged in unequal and disadvantaging trade relations. Arguably, some export revenue is better than no export revenue, but it should be recognized that little of the true value of their resources, notably their fish stocks, finds its way into these nations' coffers. This, in turn, has implications for the ability of these governments to provide adequate health care and tackle the many factors noted above that influence Pacific islanders' behaviour in relation to adopting the healthiest lifestyles available to them. Having provided a broader theoretical and empirical context this analysis now focuses more closely on what is actually happening at the local level within each of these communities.

Patient Safety in Kiribati

Responsibility for healthcare provision in Kiribati lies with the Ministry of Health and Medical Services (www.health.gov.ki). The structure of this Ministry is divided between three key areas – Hospital (Curative) Services, Public Health Services and Nursing Services. Patient safety policies in Kiribati, as with many health services worldwide, tend to commit more resources to the curative rather than the preventative. This is not to say that preventative initiatives do not take place, such as campaigns based around No Tobacco Day or reducing intake of alcohol, but the highest rates of expenditure are geared towards the treatment of individuals once they are diagnosed with an illness or disease and are regarded as 'a patient'. Life expectancy in Kiribati is approximately sixty and it has the highest under-five mortality rate in the Pacific region. The leading causes of death are acute respiratory infections, wounds and sores, diarrhoeal diseases, cardiovascular disease and liver disease (www.savekiribati.com/health).

A key aspect of patient safety is the level of treatment that the government can provide. Recalling the WHO framework model a needs assessment and gap analysis for Kiribati demonstrates an inadequate

level of provision of trained clinicians. Nursing Services provide basic nurse training. This is a three-year programme with an intake of 25-30 students each year. Even assuming all of these students successfully complete their training this level of investment is not keeping pace with the growth in demand for qualified clinicians. Beyond this basic level of training further qualifications can be gained as either a hospital nurse or public health nurse. More specialist health training for I-Kiribati is available overseas and can be supported by international donors, usually Australia or New Zealand. As a proportion of a limited overseas aid budget, the numbers of such training scholarships are very small. It is more likely that trained medical staff from overseas will visit Kiribati for a temporary period. Whilst the majority of these are likely to originate from the main donor countries of Australia and New Zealand some have also come from other countries further afield, such as Cuba.

In terms of medical infrastructure Kiribati faces significant practical difficulties associated with its geography and the inability to provide adequate patient safety measures across the whole of a very spread out and diverse territory. Understandably, the key medical facilities are located in the main urban area of the main island of Tarawa. There are four hospitals, the largest of which, the Tungaru Central Hospital, has 120 bed spaces. This is where any visiting specialist medical practitioners would be based. The next largest hospital, the Southern Kiribati Hospital, has a capacity of only 40 beds. In the outer islands, there are a number of health centres with some qualified clinicians although, for anything more serious than minor illness or injuries, patients would need to be referred and transported to one of the main facilities. In this regard, patient safety is monitored and responded to in a centralised, top-down manner with the Ministry of Health coordinating national strategies and priorities. This demonstrates a certain level of bureaucratic and administrative competence but, at least in relation to NCDs, does not explain why their incidence continues to increase. To fully understand this situation a more holistic analysis is required looking at individual behaviours and the socio-economic and cultural contexts within which these take place.

Patient Safety in Tuvalu

Tuvalu operates a similar patient safety regime to Kiribati, only on a much smaller scale. There is only one hospital, the Princess Margaret hospital, based on the main island of Funafuti. In addition there are a further eight medical centres based on the outer islands. Nurses, rather than fully qualified doctors, staff these centres. Despite the relative shortage of trained clinicians, qualified health staff attend 98% of births and the same percentage of one-year olds are part of an immunisation programme. Although almost all of the population are using a treated water supply, only 83% have access to adequate sanitation facilities (commonwealthhealth.org, 2017). Tuvalu's Department of Pharmacy also trains nurses in the correct ordering and administration of required drugs and medicines. With a population of only approximately 10,000, compared with Kiribati's 100,000, there are fewer practical constraints to achieving close to universal patient safety and general healthcare provision. That said, the government of Tuvalu, and related donor agencies, are still facing an ongoing increase in the incidence of NCDs.

The current Strategic Health Plan for Tuvalu runs from 2009 to 2018 (Government of Tuvalu, 2009). This plan identifies a number of outcomes, strategies and performance indicators. A key focus of this plan is health administration in relation to patient safety. In particular, the plan questions the efficiency of the Tuvalu Medical Treatment Scheme, especially in relation to the high cost of referral rates for overseas treatment. Although much of this treatment is paid for as part of New Zealand's overseas development assistance to Tuvalu, the plan notes that such costs are a considerable drain on this budget and diverts funding from other potential development projects. The plan also notes that funding is, as with Kiribati, geared more towards curative treatments rather than more cost-effective preventative projects. As a patient safety issue, and in relation to how governments tend to operate, it is

understandable that there will be a more immediate focus on those issues that present themselves in terms of medical referrals and requests for curative treatment. Longer-term planning clearly exists in relation to major infrastructure projects, such as the development of ports or transport networks. But when it comes to preventative healthcare, especially when associated with types of behaviour where individuals are seen as having at least some degree of control, such initiatives appear to be given less priority.

The focus of Tuvalu's Strategic Health Plan in relation to patient safety includes some aspects of institutional development with regard to attempting to ensure appropriate policies and monitoring procedures are in place, and adequately funded. However, in relation to NCDs the focus remains largely on attempting to change individual patterns of behaviour. As noted above though many of the lifestyle behaviours adopted are drawn from a relatively limited set of options. This is particularly the case when considering diets. This illustrates a key difficulty for both Kiribati and Tuvalu as they attempt to promote patient safety policies. Both governments have clearly defined health strategies designed to tackle NCDs and other healthcare issues. Yet the level of NCDs and related healthcare costs continues to rise. In part this is due to the, albeit understandable, focus on curative rather than preventative measures. Underlying this though are socio-economic, environmental and cultural issues that work against health promotion initiatives. It is only by taking a broader, more holistic view of the context within which individual behaviour is determined that greater progress in this area of healthcare is likely to take place.

Conclusion

The patient safety regimes in the Pacific islands considered here have been broadly understood to include preventative measures that aim to avoid islanders needing to become patients requiring NCDs treatment. There has also been a recognition that the currently unhealthy behaviour patterns leading to an increase in NCDs needs to be placed within the context of seeing that some of the unhealthy choices being made are largely determined by the inaccessibility of healthier choices. In particular, this relates to the shift away from traditional forms of food production and the physical activities associated with such practices.

The regional and broader international community plays a significant role in how patient safety with regard to NCDs are experienced in the Pacific region. There are some significant positives in terms of the acknowledgement of NCDs as a crisis reaching epidemic proportions. The Regional Action Plan cited above does go some way towards addressing this problem. Donor agencies are also active in supporting initiatives to combat the rise and spread of NCDs. Yet, there are also more negative aspects of international relations that have had, and continue to have, negative impacts on these territories. Post-colonial attitudes and relations, notably with regard to patterns of trade, disadvantage these communities. The greenhouse gas emissions produced by the industrialised nations are contributing to the climate change and sea-level rise that is having a direct impact on the Pacific island nations maintaining food security. The narrative discourse of climate change negotiations highlights adaptation rather than mitigation. This suggests that the dominant international powers are placing less of a priority on cutting their emissions and more on expecting the communities suffering the greatest negative impacts from climate change to adapt to 'inevitable' sea-level rise and its consequences.

Preventing and controlling NCDs is a leading aspect of promoting patient safety in the Pacific region, and a growing issue worldwide. Most of the initiatives to date have tended to focus on challenging and altering individual patterns of behaviour. This analysis acknowledges that unhealthy behaviour does need to be addressed. However, it is also crucial that the choices individuals make are often made in

the face of limited options that are available to them. Some of these options can be influenced at the local level, but very many are subject to broader, systemic factors in the global political economy. Without an awareness and acknowledgement of this point, any initiatives that only focus on individual choices, without considering the range of options from which these choices are made, are unlikely to tackle the ongoing spread of NCDs in the Pacific region and elsewhere.

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