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Assessing the Design and Capability of Our Public Health System in a Covid and Post-Covid New Zealand

Abstract

New Zealand's public health response to Covid-19, while effective thus far, has raised questions about our country's public health capability and capacity, our ability to respond to public health challenges, and our ability to protect Māori communities from bearing the brunt of inequitable outcomes. The aims of this article are to identify and discuss some of the challenges that

face New Zealand's state-mandated public health institutions, and to explore criteria for assessing the capability of these institutions. There is no universal standard approach to the design of public health institutions, systems and structures; a variety of different configurations would work in any context and their effectiveness is strongly influenced by national history, and the prevailing policy and political culture. In order to assess the ability of our public health institutions to effectively respond to a diverse array of challenges, we propose a capability framework consisting of ten key elements.

Keywords public health, capability, New Zealand, health system, Covid-19

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The aims of public health are to protect, sustain and improve the health and wellbeing of whole populations or defined groups within communities. It focuses on preventing avoidable disease, injury, disability and death, while promoting and maximising a healthy and sustainable environment for current and future generations (Committee of Inquiry into the Future Development of the Public Health Function, 1988; Public Health Association of Australia, 2018). Paradoxically, the successes of public health are often marked by invisibility or absence, such as the absence of smallpox and polio, or the absence of health inequities.

In New Zealand, public health has a fundamental role in achieving Māori health gains and, more broadly, health equity objectives for all groups in society (for a definition of equity see Ministry of Health, 2019; New Zealand Health and Disability System Review, 2019). The contemporary and historical experience of Māori with pandemics, and infectious diseases in general, is shocking and forms a crucial part of the context for the public health response to Covid-19 (Health Quality and Safety Commission, 2019; Rice and Bryder, 2005; Simpson et al., 2017).

New Zealand's public health response to Covid-19, while effective thus far, has raised questions about our country's public health capability and capacity (Baker et al., 2020), the technical capacity to control Covid-19 after the lockdown measures have been relaxed (Verrall, 2020), and our ability to respond to public health challenges in general (Baker et al., 2020; Partridge, 2020). Also questioned has been our ability to protect Māori communities from bearing the brunt of inequitable outcomes (Jones, 2020; King et al., 2020).

Modern threats to public health go beyond new and emerging infectious diseases, and include a wide range of commercial products that may harm health (for example, poor quality food and water, alcohol, tobacco, guns), and the conditions in which people live, work and play that shape their opportunities for health (Commission on the Social Determinants of Health, 2008). With an understanding that good health is not evenly distributed across populations, public health aims to address inequities, injustices and denials of

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human rights, which so often explain large variations in health outcomes locally, nationally and globally (United Kingdom Public Health Association, 2020).

Now is a good time to review the design of our public health infrastructure. In this article we identify and discuss some of the challenges that face our state-mandated public health institutions, and suggest a

framework for assessing the capability of these institutions.

Challenges facing our public health system *Debate about the core functions of public health*

Resilient public health systems are needed globally and within each country. However, the reality consists of fragmented, variable and incomplete public health services and functions, with little common understanding of what a good public health service looks like (Lomazzi, 2016).

Internationally, frameworks have been developed to provide a common vocabulary for public health and a common understanding of the essential components of a highly effective public health system (Centre for Disease Control and Prevention, 1994; Lomazzi, 2016; Williams, Garbutt and Peters, 2015; World Health Organization Regional Office for Europe, 2015). In New Zealand, the Public Health Clinical Network established a framework for New Zealand which consists of five core functions: health assessment and surveillance; public health capacity development; health promotion; health protection; and preventive interventions (Williams, Garbutt and Peters, 2015). At an international level, the World Federation of Public Health Associations in collaboration with the World Health Organization (WHO) developed a Global Charter for the Public's Health in 2016 in an attempt to generate consensus regarding the essential elements of a comprehensive public health system (Lomazzi, 2016). The charter brought together the best of existing models into a framework that can be applied globally and within individual countries, whether low, middle or high-income, to assess comprehensiveness, capacity and performance. It sets out the three core services (protection, promotion and prevention) and four enabler functions (governance, capacity, information and advocacy).

The key difference between the New Zealand Public Health Clinical Network model and the global charter is that the global charter includes two additional components: governance and advocacy. Governance functions are described as incorporating: public health legislation; health and cross-sector policy; strategy;

financing; organisation; and assurance – transparency, accountability and audit. The advocacy functions incorporate: leadership and ethics; health equity; social mobilisation and solidarity; education of the public; a people-centred approach; voluntary community sector engagement; communications; and sustainable development. Governance and advocacy are critical functions, and we recommend that they be explicitly included in New Zealand's set of core functions.

Under-resourcing and outsourcing of public health services

During the period 2005–10, partly in response to a meningococcal outbreak, spending in Vote Health on prevention and public health services grew 9.9% per year, 1.9 percentage points above the growth of the rest of the sector (Ministry of Health, 2012). From 2010 to 2018, when the global financial crisis dominated public life, public health purchasing shrank by 50% in actual dollars, and from 3.6% to 2.1% of Vote Health expenditure (Treasury, 2015, 2019).

The capacity and capability of the Ministry of Health itself relative to the rest of the sector shrank in this latter period, with the loss of institutional thought leadership in Māori health with the dismantling of the Public Health and Māori directorates, and the loss of public health analytical capacity with the demise of the Public Health Directorate and its Public Health Intelligence section. This latter function has been outsourced partly to universities (see, for example, Massey University, 2020) and to international consulting firms, which are playing an increasing role in the Ministry of Health's policy and strategy leadership (see, for example, PwC New Zealand, 2020; EY, 2020).

The low status and low bargaining power of public health within health organisations

A number of factors drive the under-resourcing of public health. Within health services themselves, public health is a poor relation. Hospitals dominate the sector (World Health Organization, 2008), as well as the public's perception of which part of the health sector has most impact. Much of the public and political

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discourse around Covid-19 preparedness has tended to centre on ICU bed numbers, personal protective equipment and ventilator availability; less on the readiness of the public health response, despite no health service in the world having the surge capacity in its hospitals to treat the exponential growth of afflicted persons.

Government's difficulty maintaining a sufficient focus on public health

Governments' ability to maintain sufficient focus on and skills and resources for public health is a challenge. This is particularly so when years and sometimes decades separate major crises and, in the absence of a crisis, there is societal memory loss of infectious diseases and their consequences, resulting in waning support for public health.

The tension between public health approaches and some current political movements

Support for this quintessential public good is strongly influenced by broader considerations of the role of government (Rashbrooke, 2018). In the 1840s Virchow argued that 'politics is nothing but medicine on a grand scale' (Mackenbach, 2009). When public health engages in politics it encounters stiff resistance in modern democracies from the rise in populism and the widespread acceptance of neo-liberalism. Populism seeks to divide society and politics into two antagonistic camps – one being 'true' or 'authentic', the other being elitist (Moore, 2017), parasitical, undeserving if poor, foreign and against the interests or lifestyle of the majority. Neo-liberalism seeks to reduce the size of the state and support private enterprise in a minimally regulated environment (Mutman, 2017). Public health is a science-based and expert-led discipline, hence a target for being characterised as elitist by populists; it is quintessentially 'public', and uses regulation as a tool, an anathema to neo-liberals. Not surprisingly, the politics of populism and neo-liberalism often converge in their negative characterisation of public health, such as calling it the 'nanny state' (Crampton, Hoek and Beaglehole, 2011).

The well-resourced opposition to public health from commercial interests whose products and services are threatened by public health activity

The interests of commercial organisations that produce and market products such as health-damaging food, tobacco and alcohol are in opposition to the objectives of public health. The tension between these opposing interests is mediated through our democratic processes, which are vulnerable to the highly-resourced lobbying and influence of large commercial entities (Swinburn et al., 2019). Within the context of the political movements referred to above and Westminster-style politics, public health has a continuing struggle to implement effective policies that promote population health.

Institutional racism

New Zealand's constitutional arrangements, its state institutions and its laws and policies arise out of a context of

Table 1: Framework for assessing the capability of the public health system in New Zealand

Capability	Explanation
Government mandated power to protect public health	In order for the health of the public to be protected, the system must have a legislative, regulatory and resourcing framework that enables effective public health intelligence capacity, policy development and implementation.
Ability and capacity to give effect to te Tiriti o Waitangi, and address institutional racism	In order to effectively achieve both Tiriti commitments and health equity goals for Māori, Māori public health leadership, expertise, decision making and involvement must be built into public health functions at all levels of the system. There is a need for expert Māori leadership to be involved in governance and management to review and, where necessary, realign existing public health programmes in terms of their criteria, funding and implementation, to develop and support new Māori-specific health promotion and prevention programmes, and to lead Māori workforce development.
Ability and capacity to exercise central leadership	The system must have a critical mass of population health expertise at the centre to provide free and frank advice to government, lead strategy and public health workforce development, carry out statutory functions, and, when necessary, direct public health policies and purchasing responses.
Ability and capacity to build and maintain public legitimacy	In order for public health to be effective it needs to address the health priorities and concerns of citizens, particularly the most marginalised. Public participation in public health systems and structures needs to be a fundamental part of the design. Public health must conduct itself in a transparent and accountable manner, independent of vested interests. It needs to strive to ensure that its activities remain connected with the concerns of ordinary citizens.
Ability and capacity to maintain strong international links	New Zealand supports international treaties and agreements that have significance for public health. As has been demonstrated during the Covid-19 pandemic, international cooperation, or lack thereof, bears heavily on the capacity of nations to respond to major public health threats. A commitment to meeting global responsibilities is crucial.
Ability and capacity to work across sectors	To work effectively, public health must engage with other sectors, nationally and locally. Given that in large part the social, economic and commercial determinants of health are primarily influenced by social and economic policy settings that are not in the control of the health sector, central public health leadership must be embedded within the machinery of government (for example, the Treasury's wellbeing focus in the Living Standards Framework: Treasury, 2020) in order to influence multiple policy agencies – as, similarly, public health leaders in, for example, NGOs and universities are supported and encouraged to work across social policy sectors.
Ability and capacity to provide public-facing thought leadership	The system must have the capability to produce independent, authoritative public health research, reports and policy think pieces in order to inform the public and the policy community. This must include the ability and capacity to bridge the gap between citizens and the science of public health. The thought leadership function should in part be exercised from within the system's central leadership structure, but, we argue, there is in addition a need for authoritative public-facing advice that is independent of government. A variety of institutional arrangements currently contribute to the fulfilment of this function – for example, universities and NGOs – and it could be strengthened with an independent statutory authority (for example, an officer of Parliament or independent commission).
Ability and capacity to effectively respond to public health threats at the national, regional and local levels	The system must have a coherent, coordinated, synergistic set of structures at central, regional and local levels, with clear leadership and accountabilities. The capacity of the public health system to behave as an integrated whole is crucial in responding to national threats to the public health. A modest level of inbuilt redundancy and planning for surge capacity are important elements.
Ability and capacity to influence the strategy and operations of the entire health delivery system	In order for population health gains to be achieved in a systematic way and for health equity objectives to be achieved, public health intelligence and public health strategies must drive all levels of planning and commissioning of the health system. In practice this means that expert public health input is required at governance, management and operational levels throughout the system.
Ability and capacity to provide comprehensive and timely public health information to inform action	In order to be effective, public health should provide a stewardship role over the health information system, protecting its status as a public good. This requires a well-integrated, publicly accessible system for the ongoing collection, analysis, interpretation and dissemination of information/data/analyses to assess health and disease trends, threats, risk factors and influences to inform action.

settler colonialism (Palmer and Butler, 2018). One of the underlying ideologies of colonisation, white supremacy, and consequential institutional racism has in many respects served to relegate and denigrate te Tiriti o Waitangi and crush aspects of Māori wellbeing. In order to be effective, public health agencies have to systematically theorise and dismantle the institutional racism that exists in the policymaking process at all levels within the health system (Came, 2014; Came, McCreanor and Manson, 2019). As things currently stand, there is a lack of awareness, expertise and drive within state institutions to effectively address institutional racism and greater focus and effort are required to bring about transformation.

A framework for assessing public health capability

The Covid-19 pandemic and the likelihood of future similar national and international calamities, along with the immense public health challenges associated with global climate change, health inequities, and the social, economic and commercial determinants of health (Bixby et al., 2019; Swinburn et al., 2019), together point to the need for a framework for assessing the capability of our public health infrastructure and institutional arrangements. The WHO joint external evaluation process assesses countries' capacities to respond to public health threats (as part of the implementation of the international health regulations), but, while extremely comprehensive, it only scrutinises certain aspects of public health (World Health Organization, 2005).

A recipe book approach is not possible, as there is no agreed industry-standard

blueprint for core public health infrastructure. Different institutional arrangements have been demonstrated to be effective, or not, in different political, country and cultural settings (see, for example, Community and Public Health, Canterbury District Health Board, 2019; Boswell, Cairney and St Denny, 2019; New Zealand Health and Disability System Review, 2019), and views vary considerably as to the optimal configuration of institutions and services (Baker et al., 2020; Kriebel, 1996; Skegg, 2019). In any event, the extraordinary challenge that the Covid-19 experience delivered to the New Zealand health system has reinforced the value of a critical mass of public health institutional capacity and capability at the centre of our health system to exercise public health leadership and stewardship.

Informed by international examples, the history, strengths and weaknesses of our current system, and local circumstances, we propose the ten key elements as a capability framework for the government's public health institutions in New Zealand (Table 1).

Conclusion

Covid-19 has thrown public health into the spotlight, and in New Zealand we have witnessed public health science leading political decision making. The challenge now is for successive governments to maintain a focus on building and maintaining strong public health infrastructure so that New Zealand is able to respond effectively to its Tiriti o Waitangi commitments, the equity agenda, the slow burning epidemics (for example, obesity and tobacco harm), and future public health threats and emergencies.

There is no universal, standard approach to the design of public health institutions, systems and structures; a variety of different configurations would work in any context and their effectiveness is strongly influenced by national history, and the prevailing policy and political culture. Nevertheless, it is essential that we assess the capability of our public health system to respond to this diverse array of challenges; to this end we have summarised the core functions of public health and suggested a capability framework to guide the design of our state-manated public health institutions.

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