

Population health in New Zealand 2000–2013: From determinants of health to targets

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Abstract

Objective: To determine how ‘population health’ has been understood in practice and policy and has influenced health system restructuring in New Zealand since 2000.

Methods: Interviews in 2007–2008 with managers, clinicians, government policy advisors and academics were undertaken to explore the relationships between population health, determinants of health, and health system restructuring. This was augmented by a review of major government health policies from 2009 to 2013 to establish which notions of population health were reflected.

Results: Population health shifted from a broad notion of health determinants to focus on a small number of quantifiable health targets driven by financial incentives. Meantime, an emphasis on ‘quality and safety’ impeded population health activities. District Health Board programmes to identify high risk individuals, by disease or hospital service utilisation, diverted attention from broader population health outcomes. District Health Boards were not held accountable for integrating a population health approach in service planning and did not initiate or lead intersectoral work. Community consultation was limited. Primary Health Organisations, although mandated to address population health, typically aligned with the small-business model of general practice making service integration difficult to achieve. In policy, ‘population health’ dropped from favour in the mid-2000s, although many documents, outside the health sector, carried forward these values.

Conclusion: A progressively narrower focus on a small number of health targets and on organisational processes undermined earlier policy intentions and health system restructuring that sought to improve broader population health outcomes.

Keywords

Population health, health system restructuring, health targets

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Introduction

Population health is a construct used to explore why some populations are healthier than others.¹ Health system restructuring has emphasised a shift from medical care to population health and primary health care in an attempt to reduce social exclusion and disparities in health.² In practice, a population health approach demands ‘an operational commitment to reducing inequalities ... (through) activities that influence the determinants of health’.³ ‘Determinants are often the underlying causes of illnesses and are key to understanding health disparities’⁴ and include, for example, income, education, employment, housing and neighbourhoods, health services and discrimination. The term ‘population health’ has displaced that of ‘public health’ and ‘health promotion’; the

ideas underlying these terms have roots in 19th-century public health radicalism,⁵ Latin American social medicine⁶ and social epidemiology^{7–9} – all traditions that have addressed the

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determinants of health.¹⁰ In New Zealand, the Treaty of Waitangi signed in 1840 guarantees the rights of Māori (as indigenous peoples) to land, water, forests, fisheries and other treasures, and to self-determination. The Treaty establishes a partnership of equals and clearly implies equity of determinants and outcomes of health.

In New Zealand, since the year 2000, health system restructuring has resulted in decentralisation to regional District Health Boards (DHBs) and Primary Health Organisations (PHOs). The Public Health & Disability Act 2000 requires DHBs to establish processes that enable Māori to participate in actions for Māori health improvement. Despite a strong focus on population health, there was an imperative to contain health-care spending strongly influenced by neo-liberal economics and politics. Internationally, other important drivers of health reform include a desire to shift services from institutions to primary health care, greater community participation in decision-making, concerns over inefficiencies in service delivery, and the ineffectiveness of medical interventions. This has led to improvement in a wide range of health indicators,¹¹ although the benefits have not accrued to everyone equally.¹²

The research presented in this article explores notions of 'population health' to determine whether the values of population health reflected the original intentions of a population health approach^{3,13} or had altered in over a decade of major restructuring within New Zealand health system institutions, organisations and services as a consequence of the complex and changing political environment. We use the term health system throughout this article to refer to all work funded and directed by the New Zealand Ministry of Health.

Methods

We interviewed expert informants between 2007 and 2008 and then reviewed selected New Zealand Government health policy documents from 2009 to 2013. Data were collected and analysed using qualitative description.^{14,15}

Participants were purposefully selected from the Ministry of Health, public or private health organisations or universities on the basis of their position as managers, clinicians, government policy advisors or academics. DHBs or PHOs that differed in population size, ethnic composition and geography were additional factors in selection. Participants' contact details were on public record. Participant information and consent forms were emailed to participants. A phone call 1 week later confirmed participation, answered any questions and set a time for interview. The interview questionnaire was emailed ahead of the interview so that participants had more time to consider their responses. Written informed consent was gained prior to the interview.

The study questionnaire was adapted from a 50-item instrument developed to investigate population health in the Canadian health system.¹⁶ After piloting, 17 items were removed because they contained terms not understood in the

New Zealand context. The final questionnaire comprised 33 items under five lead questions. These explored the following: the relationship between health system restructuring and health determinants, the role health systems have in population health, DHB participation in public policy, organisational changes to reflect a population health approach, and the relationship between health systems and community members.

Interviews of approximately 60min were conducted by author N.S.; all were face-to-face, except for one telephone interview and most were undertaken in the participant's workplace. All participants consented to their interview being recorded. Digital audio file names were coded to ensure anonymity after interview. Transcripts were re-read several times by N.S., T.K. and J.S.-B.; we sought interpretive validity, that is, low inference descriptions, which we recognised as notions of a population health approach. Transcripts were imported into software NVivo 8 to support inductive–deductive logic.¹⁷ Ethical approval was obtained from the Multi-Regional Ethics Committee (MEC/07/30/EXP).

We reviewed documents on the New Zealand Ministry of Health web site, following leads to other government agencies. The final search date was 4 April 2013. We used search terms 'population' and 'population health'. We sought to identify documents that reflected the values of population health, even using different language, to assess whether the original intentions of a population health approach had been retained. We reviewed all titles and abstracts, with further text searches as needed, for all documents presented under Publications from 2009 to 2013, a total of 403 documents.

Results

A total of 18 people were interviewed; a further 3 were unavailable at the time of interview. Of those interviewed, 12 were clinicians (medicine, nursing, pharmacy), 9 were managers, 12 were employed by health organisations (5 from DHBs, 4 from PHOs, 3 from Māori provider organisations), 2 from the Ministry of Health and 4 were academics. Eight were women and 5 were of Māori descent. The results are reported under the five lead questions, followed by the policy review.

What is the relationship between health system restructuring and action on health determinants?

A population health approach played a foundational role in government policy and subsequent health system restructuring, with all participants referencing major infrastructural changes, especially the establishment of DHBs and PHOs. These organisations focussed on local needs and populations, local solutions and community partnerships. Population health was not seen primarily as a means to reduce costs. Participants saw PHOs as a way to manage budgets more flexibly and offer a broader range of services than traditional general practice. A series of Ministry of Health policies

signalled a more comprehensive approach to health; however, participants saw this approach giving way to 'Health Targets' in 2007/2008 with DHBs directing considerable funding to support a limited number of health service goals. Aspirations for a broader population health approach were perceived as 'lost' from then on.

Cardiovascular disease (CVD) risk screening, Healthy Homes, and Healthy Eating Healthy Action were among a small number of programmes with protected funding, but overall population health funding was not ring-fenced. The majority of participants perceived that there had been little change, if any, in the health systems' emphasis from behavioural health determinants to social and environmental determinants. One participant said, '... it's just making that transition ... being brave [enough] to shift funding from one type of service provision to another'.

What role do health-care systems have in population health?

A population health approach varied from being a 'central driver' to being of lesser importance in determining DHB priorities. DHBs experienced political interference with funding directed to elective surgery and waiting lists. It was a challenge to get beyond planning that emphasised only health services. People with high clinical risks were targeted: 'DHBs have gotten right into this – they are doing lifestyle disease prevention within a population health focus'. Activities focussed on individuals' behaviour such as healthy eating and reducing weight, while little attention was paid to improving the wider social environment. '[They] cannot really see past a population as a group of individuals ... there are few collaborations like the "Lets Beat Diabetes Programme" which worked with McDonalds to replace sugar-containing soft drinks with sugar-free versions'.

Several participants commented on the use of Health Needs Assessments and District Annual Plans, the latter requiring 'sign off' by the Ministry of Health. They identified individuals with designated roles in public health data analysis with some DHBs having as many as six analysts, and others having none. Individuals and units with specialist public health knowledge were recognised as strong advocates for equity in service provision. In the main, however, there was a focus on hospital utilisation data and individual-level clinical data rather than population data. Health targets were identified as specific policy directives that incorporated a population health approach. Beyond the health targets there was more uncertainty, 'The whole thing is just really muddled'.

There was universal agreement that DHBs were not being held accountable for integrating a population health approach into service planning. The Ministry of Health was seen to be weak in managing DHBs:

We have had very crude incentives for DHBs that aren't performing ... we have looked at their financial performance,

we haven't looked at clinical performance or health gain ... if you don't do well financially we will penalise you by withholding payments until the end of the month instead of paying you in advance.

Key performance indicators and appointed board members were additional yet relatively ineffective mechanisms of accountability.

Population health was seen by some as apolitical compared to public health, which was inherently political. It was only when population health had implications for ethnic inequity that it was construed as political. Services tended to focus on populations with existing access, blind to those who did not or could not access services. Disparities by ethnicity, socio-economic status and geography, even in health care, were repeatedly seen to be beyond the responsibility of the health system and 'too hard for us'.

How are DHBs participating in healthy public policy?

DHBs did not usually initiate or lead work with other agencies. Examples of intersectoral activity included the following: strengthening families based on 'city communities', a forum where heads of major organisations in one locality met regularly over health-related issues, and regional councils collaborating around urban design and physical activity. There was widespread appreciation of the need for policy that supported such activities and a strong perception that 'we do this poorly as a country', inhibited by funding silos and protection of 'territory'.

DHBs were not seen to be in conflict with government by their involvement in healthy public policy. One view was that DHB and government goals were aligned, while noting that some DHBs would find it difficult to be at odds with government policy. Another view was that DHBs 'manage down', that is, locally, within their sphere of direct influence and therefore avoid conflict with government. Hospital care frequently diverted DHB attention away from population health.

There was concern that a new emphasis at government level on 'quality and safety' in the health system was impeding population health activities. This was because safety concerns were being implemented as 'do nothing wrong' in contrast to 'doing the right thing' (which might include population health), that errors were most importantly and controllably a hospital issue, and that DHBs were responsible for managing hospitals.

Opinions about the role of the DHB in health impact assessment ranged from DHBs having a central role to 'it's not our business'. In practice, DHBs prioritised 'the really important stuff' and so tended to focus on internal (often new) programme implementation. Some felt the DHB role was best limited to local issues. At national level, health impact assessment work supported various government agencies to identify the health

impact of their own policies. There was cynicism about the impact of the assessments; for example, ‘you identify the fast food outlets ... then what?’ There was a clear feeling that the health sector was learning from health impact assessments applied beyond the sector, for example, into regional plans for river and ground water use in an area where competing demands of agriculture and citizens outstrip supply.

Have health systems changed their organisational shape, staff policies, hiring practices or resource allocations to reflect the demands of a population health approach?

The Ministry of Health had established an internal Population Health Directorate, which had ‘shifted away from public health’. Participants noted that primary health care in the Ministry had taken a sum of individuals approach to population health rather than a whole of population approach. They recognised that DHBs operationalised a population health approach in funding and planning divisions, which now exerted great control over services. Cutting funding or withdrawing contracts for whole of population services to Māori providers, for example, had threatened some organisations’ sustainability.

A key distinction was made between DHB and PHO populations – PHOs are defined by an enrolled population, whereas DHBs have a geographic responsibility. The PHO ‘raison d’être is to look after populations’, which ‘they could and they should’ do, though this happened only ‘sometimes’. This required strong leadership, which was often constrained because PHOs had limited influence over general practices.

No change in general hiring practices had occurred despite programmes addressing the broader health determinants requiring staff with skills in community development, public policy and advocacy. One participant said, ‘I think we are still struggling to find people with that sort of background ... we had this wave of professional management ... to health from breweries and forestry companies ... they didn’t come from the right areas’. Participants also described difficulties in retaining staff because of the low value afforded to work on determinants of health. It was suggested that necessary skills existed within current staff, ‘we just have to liberate the people to use them’.

All participants agreed that medical services ‘swallow up’ precious resources for population health. PHOs are paid NZ\$2 per enrolled patient annually for population health activities, which could go into general practice-based exercise and nutrition programmes or ‘the bottom line’. Participants clearly thought that population health funding needed to be ring-fenced. Many DHB employees with responsibilities for population health also held clinical roles, and it was believed that acute care would take priority. Few examples were identified of funding being re-directed to population health programmes, such as Lets Beat Diabetes, Wellchild activities, or Pacific health promotion through

churches; the extent of these initiatives was limited and resourcing constrained. Even so, secondary care-based participants were concerned about resources being diverted to primary care: ‘there is a major tension with limited resources but the system has a reasonable level of democratic responsiveness ... (which) plays out in the headlines “DHB shuts down hospital cardiac service”’.

There were few inter-organisational relationships embodying a population health approach, including a ‘Healthy Housing’ partnership between a DHB and Housing New Zealand and a programme between the Ministries of Health and Social Development offering priority surgical operations for procedures that would get people off a Sickness Benefit. Progress with inter-professional relationships between PHO, pharmacy, nursing and midwifery was slow.

How has a population health approach changed the relationship between health systems and community members?

Despite DHBs being governed by boards of 10 elected members and 4 government-appointed members, participants reported that boards varied from genuinely representing the community to tokenistic. One participant suggested that the underlying reality may not be very different from previous unelected boards: ‘It is actually quite difficult for boards to get outside of the national policy’. Competency within boards was variable, and the education of board members was identified as a key action. Perennial complicating factors were the ‘single issue’ board person and the disproportionate influence of health professionals, especially medical specialists, on boards. Other examples of public input included ad hoc community consultations. At worst were examples of community people seconded to official panels to provide legitimacy to enforcement activities.

DHBs were obliged to consult their communities when developing their District Strategic Plan and District Annual Plan, but still over-emphasised secondary care utilisation. Some undertook this consultation merely as a matter of compliance while others were heavily influenced by public consultation. ‘Communities have a vested interest in the whole of the community getting better [pause] more a population health approach as opposed to having services for individuals to get better’. The most likely community influence was to emphasise ethnic inequalities.

Policy review

Searching on the term ‘population health’ found few documents. The term appeared to have dropped from favour although many documents carried forward notions of population health. Ministry of Health¹⁸ Annual Reports did not always mention population health. The 2011 report (p. 8) is the only one to explicitly refer to a broad role and the ‘important contributions that a central government department can make to

Table 1. Health targets as first introduced in 2007/2008, and nearest equivalent in 2012/2013.

2007/2008 (10 targets)	2012/2013 (6 targets)
Improving immunisation coverage	Increased immunisation
Improving oral health	
Improving elective services	Improved access to elective surgery
Reducing cancer waiting times	Shorter waits for cancer treatment
Reducing ambulatory sensitive (avoidable) hospital admissions	
Improving diabetes services	More heart and diabetes checks
Improving mental health services	
Improving nutrition, increasing physical activity, reducing obesity	
Reducing the harm caused by tobacco	Better help for smokers to quit
Reducing the percentage of the health budget spent on the Ministry of Health	Shorter stays in emergency departments

population health'. Other Annual Reports reflect a counting-individuals view, for example, the 2012 report (p. 179) notes that 'life expectancy, infant mortality, and the prevalence of disability are major indicators of the health status of the whole population'. The Population Health Directorate of the Ministry was described solely in terms of counting-individuals data management. The Directorate had developed the Leading for Outcomes Framework, which places determinants of health centrally, but this Framework quickly became invisible in Ministry publications. Documents with implicit population health values include the following: Whāia Te Ao Mārama: The Māori Disability Action Plan for Disability Support Services 2012 to 2017;¹⁹ Māori Provider Development Scheme (MPDS) 2012/2013 Purchasing Intentions²⁰ (and equivalent documents in 2009, 2010 and 2011); Faiva Ora National Pasifika Disability Plan 2010–2013²¹ and Ala Mo'ui: Pathways to Pacific Health and Wellbeing 2010–2014;²² Briefing to the Incoming Minister of Health 2011;²³ and Implementing the New Zealand Health Strategy 2012²⁴ (and equivalent documents from earlier years).

A shift by the Ministry of Health to measurement, targets and contracting is seen in the Better, Sooner, More Convenient discussion paper in 2007,²⁵ and Health Targets.²⁶ There were 10 health targets in the first year (2007/2008), reduced to 6 by 2011/2012 (Table 1). Percentage achievement for each target is reported nationally and by DHBs and PHOs who are in some cases paid, on the basis of their target scores. The 2012–2015 Ministry of Health²⁷ priorities are the following: health targets, shorter waiting times, clinical integration, older people and Whanau Ora.

At the highest level, the government has stated four main priorities: delivering Better Public Services within tight financial constraints, responsibly managing government's finances, rebuilding Canterbury (after the 2010 earthquake) and building a more competitive and productive economy. Better Public Services include 10 key Results; the Ministry of Health²⁷ is responsible for Result 3, Increase infant immunisation rates and reduce the incidence of rheumatic fever. The primary responsibility for the other 9 Results lies outside the Ministry of Health. The full list is as follows: Result 1, Reducing long-term welfare dependence; Results 2–4, Supporting vulnerable children; Results 5–6, Boosting skills and employment; Results 7–8, Reducing crime; Results 9–10, Improving interaction with government.

Discussion

Major health policies in New Zealand in 2000²⁸ and 2001¹³ explicitly built upon an understanding of population health within a health system that prioritised reducing inequalities in health and expected intersectoral collaboration and community engagement. Between 2000 and 2008, a population health approach, while central in policy, was variously understood by managers, clinicians, government policy advisors and academics. Views ranged from population health as the 'sum of the health of individuals' – where health was narrowly defined in terms of clinical conditions or need for health services – through to population health as synonymous with determinants of health. The latter is a property of a collective, implying that a population as a whole could be at risk and could be a unit of intervention. This is in line with traditional Māori 'public health systems', which left 'little place for individual indifference to the integrity of the collective entity'.²⁹ Participants acknowledged national policy that described population health within a framework of intersectoral action, community participation, equity and primary health care¹³ and unequivocally agreed that the health system had some part to play.³⁰ They recognised the impact of determinants on health in Māori, Pacific peoples and people on low incomes, but most prioritised the work of health systems as clinical services, a reductionist view of health exemplified by targets.

In a parallel development, New Zealand was caught up in the international concern about safety, quality and variation in health service provision. DHBs took up a range of quality improvement strategies such as Six Sigma, Lean and Model for Improvement. At a national level, the Quality Improvement Committee (formerly EpiQual) was established under the New Zealand Public Health and Disability Act 2000. Amended legislation in 2010 saw this committee replaced by The Health Quality and Safety Commission. Meantime, DHBs imported or adapted their own 'quality and safety' programmes, each with quantitative measurement at its core. In this environment, it is perhaps not surprising that government policies from 2009 to 2013 had sidelined any notion of

population health as ‘greater than the sum of individuals’ in favour of a functional shift to narrowly defined targets measured and managed by contracts. We are concerned that the ability of targets to focus provider attention is so powerful that it appears to eclipse attention to anything else. The potential for targets to distort behaviour is widely acknowledged.³¹ We note that a recent UK public enquiry found a culture obsessively focussed on targets, and financial balance led to the ‘appalling suffering of many patients’.³² A balanced approach to measurement and targets is outlined at the end of this discussion.

Quantitative measurement is not inherently opposed to a population health approach. Monitoring trends over time was clearly important and participants credited Health Needs Assessments with producing new information on disparities, especially for Māori, leading to real policy and practice changes. Nevertheless, recognition of disparities was impeded by incomplete reporting across DHBs.³³ Quantitative measures typically meant that Health Needs Assessments took a bio-medical view of health with limited input from consumers and communities about their needs. Although boards were to represent community interests, participants reflected with disappointment that they appeared unable to break free of the constraints of national policy, even as this policy became narrowly focussed on targets. DHBs were also limited in their capacity to implement broader health policy in their own services and the services they contracted from other providers.

DHBs often prioritised new programmes over existing programmes unless the latter could be ‘re-invented’ to attract funding, which was seen as unavoidable gaming. There was little funding available within the health system dedicated to address population health, such as Services to Improve Access (SIA) and Reduced Contingency Inequalities Funding (RCIF). Intersectoral collaborations were generally limited in scope, such as cardiovascular or diabetes screening at the local provider level. Inter-agency committees at government level had minimal control over the health sector budget while broader population health actions were undermined by those who saw poor population health as the result of ‘bad’ choices by individuals. These judgements were commonly overlaid by assumptions about lifestyle and cultural behaviours based on ethnicity and poverty. Broader notions of population health were evident in other areas of government, especially Māori health (Whanau Ora), employment, justice, education and social welfare.

Clinical risk stratification of enrolled PHO populations was a recurrent theme, compatible with a data-driven ‘population by numbers’ approach and outcomes focussed on hospital utilisation. It was commonly perceived that PHOs could not adequately address determinants of health within the dominant general practice business model. Furthermore, any attempts by DHBs to integrate health and social services along geographic, community or neighbourhood lines could be difficult because such natural groupings could include general practices from as many as five PHOs.

Mechanisms for sharing information about broader health concerns between DHBs and local council were poorly developed. DHBs did not commonly lead intersectoral activity and, like the rest of government, appeared limited in their vision by the 3-year national electoral cycle. DHB employees with population health skills were seen to be constrained by an environment adverse to conflict with Ministry, DHB and PHO practice. There was no recognition of the value of hiring people outside of the health sector with skills related to addressing the determinants of health, probably because those hirings could not see beyond their own understandings of population health.

We purposely sought the views of participants deeply knowledgeable about the health system because we assumed their views, and the views of others like them, were most likely to reflect and shape decision-making within the system. We acknowledge that others may have different and relevant views not represented here. For example, the general public in Canada placed a higher importance on specific health determinants – the physical environment and healthy child development – than did those inside the health system.³⁴

Clinical services consumed resources allocated, but not ring-fenced, to population health. Where resources had been re-directed to population health programmes like ‘Lets Beat Diabetes’, a focus on individual lifestyle behaviour was retained. Little funding was available to support community participation in health programmes, despite this being national policy. Community consultation was usually ad hoc advice rather than, for example, the systematic use of community panels. Consultation was often reduced to merely meeting the regulatory requirement of District Annual or Service Plans.

The Institute of Medicine³⁵ has stated that measurement and targets drive action and are a necessary but not sufficient condition for quality and safety improvement. There has been an explosion of targets internationally in the last decade. The optimum number of targets is not known. Smith and Busse³¹ cite examples of countries or regions with 100 and 84 targets, though suggest the number should be reduced. We have identified no system, apart from New Zealand, that uses only 6 targets driving national health system behaviour. More important than the number is the clear need for a single framework to conceptually coordinate the measurements within any one health system. Jacobson and Teutsch,³⁶ in work commissioned by the US National Quality Forum, identify candidate frameworks that measure and report three domains – total population health, determinants of health and health improvement activities. The health system is too complex for a simplistic approach with only 6 unrelated targets.

It seems plausible that a small number of health service targets could directly focus the health system on individual rather than population health, although the sequence could equally be the other way around. However, we have seen several cycles over several decades of emphasis on public/

population health followed by emphasis on individual health. It seems more likely that we are witnessing another cycle in the same sequence. In the current cycle, the emphasis on individual health is abetted by a remarkably small number of targets.

Strengths of this article are that we interviewed a wide range of people with senior roles and deep knowledge of the health-care system. The policy review further strengthened findings by assessing the impact on subsequent policy of the themes identified in the interviews. Limitations inherent in our qualitative methods include unanswered questions about the quantitative results of a focus on targets to the exclusion of determinants of health. This would require a different study. Our findings are specific to New Zealand; however, they raise issues that may be important in other countries. One feature of New Zealand is our 3-year electoral cycle in which changes of government can impact strongly on health service policy and direction. This relatively short electoral cycle may mean that issues are identified here before they become obvious elsewhere.

Conclusion

A narrow understanding of population health (that populations are the sum of individuals) has supplanted a broad understanding (that population health is greater than the sum of individuals). Values embedded in the narrow notion underpin current policies that mandate targets and contracting. Because of an inevitable tendency to focus on what is most easily and reliably measured, attention and funding has been diverted from addressing disparities, engaging community members in health decision-making, and including knowledge and skills from disciplines traditionally seen as 'outside' the health sector. By embracing a broader notion of population health, we can reduce the risk of higher disease burden, greater medical spending and widening disparities. We must find ways to sensitise and inform government in order to forge health policies that go beyond targets, quality improvement and restructuring health systems.

Declaration of conflicting interests

The authors declare no conflict of interest in preparing this article.

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