



HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND

Kupu Taurangi Hauora o Aotearoa

December 2012

Describing the quality of New Zealand's health and disability services



December 2012 report on the New Zealand health quality and safety indicators



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1. Introduction

The Health Quality & Safety Commission is required under legislation to develop and publish regularly a set of indicators to drive improvement of the quality and safety of New Zealand's health and disability support services.

The Commission is committed to developing these indicators in a way that complements and builds on existing initiatives in New Zealand and internationally, and learns from and involves stakeholders and key experts in the field of quality measurement.

On our website, we have summarised the process we used to develop the indicator set, and the feedback we received during the stakeholder engagement process. The summary can be viewed here: www.hqsc.govt.nz/assets/Health-Quality-Evaluation/PR/HQSI-summary-2012.pdf.

We started the process using a relatively small set of indicators to test the framework. Over time, we expect that the indicator set will change, as definitions for existing indicators are refined, new indicators are added (reflecting priorities identified by the sector or determined through the Commission's work programme) and others are 'retired' as they become less relevant.

This is the first time the Commission has published these indicators.

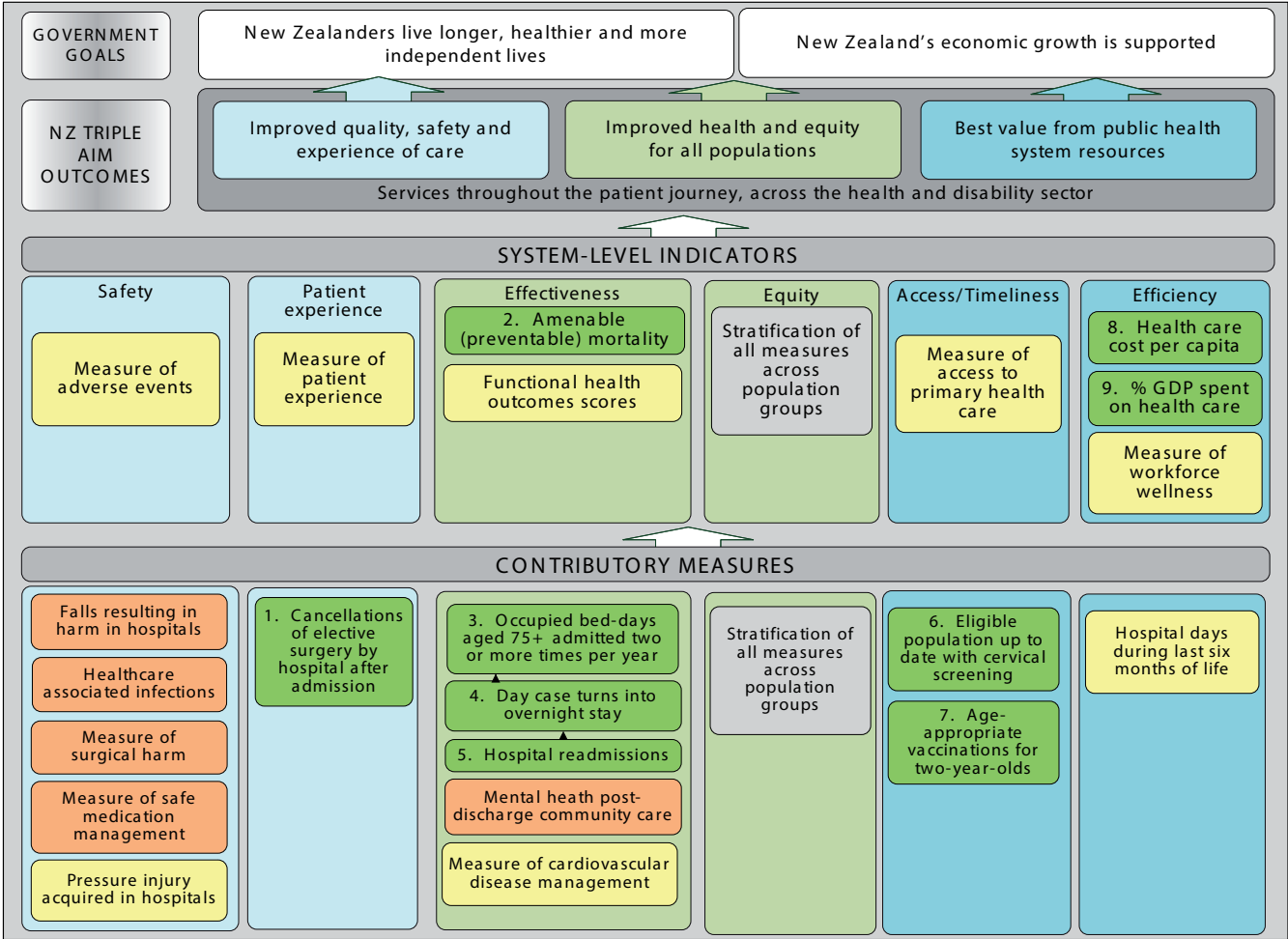
2. Indicators and measures

Figure 1 shows all system-level indicators and contributory measures grouped according to Triple Aim outcomes and quality domains. We acknowledge that, in the first instance, the indicators do not provide coverage across the entire scope of health care.

The key to colour-coding is as follows:

- Fast-track (green) – nine existing, defined and tested indicators identified for this publication.
- Under development (orange) – four areas that have been proposed as quality and safety markers for New Zealand. These involve processes and outcome measures that are designed to track and incentivise harm reduction in the areas of falls, healthcare associated infections, surgery and medication. Our expert advisory group identified these areas as being important potential fields for inclusion of contributory measures.
- Placeholders (yellow) – these are important areas that would require significant further work by the Commission during the next phase to develop indicators and derive data.

Figure 1: Health quality and safety indicators and measures for New Zealand



3. Results

This report provides a high-level summary of results for the nine identified indicators. Each indicator includes a graph and brief commentary.

For a fuller picture, we have developed an interactive presentation which is available on our website under Our Programmes in the Health Quality Evaluation section. The presentation provides more detailed information and further context, for example, extended time series, related and contextualising data, stratification by ethnic and socioeconomic groups and international comparators (often drawn from the OECD/Commonwealth Fund analysis).

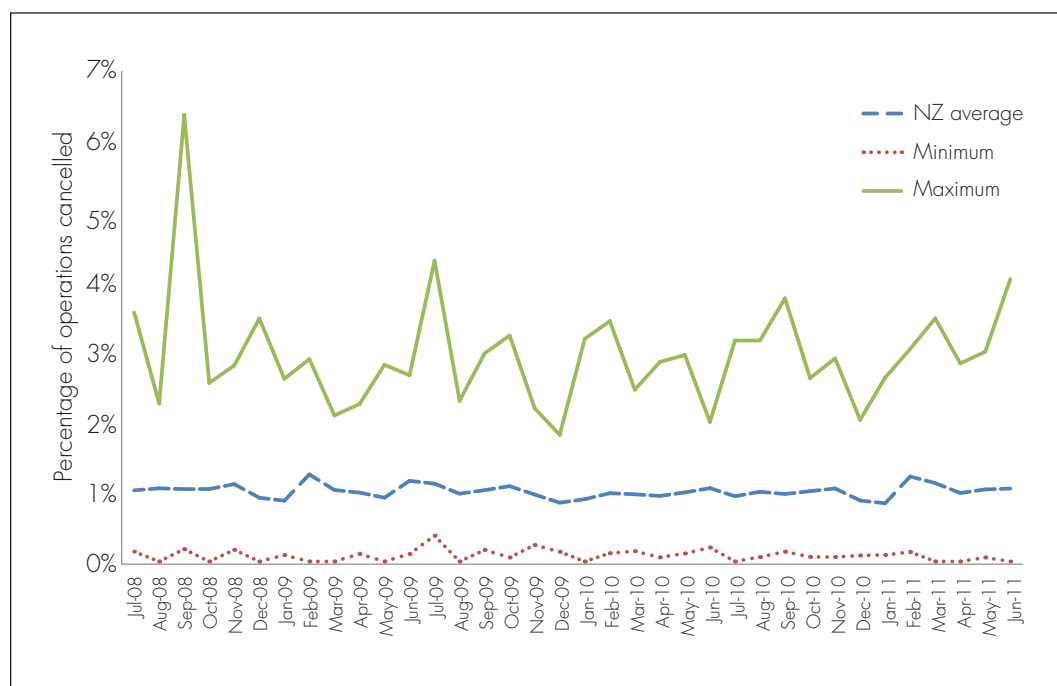
You can also find a definition standards document for each indicator on the Health Quality Measures NZ website www.hqmnz.org.nz.

3.1 Cancellations of elective surgery by hospital after admission

This indicator measures the percentage of elective surgery (excluding maternity surgery) cancelled by the hospital after the patient had been admitted. The results provide insights into how close the system is running to capacity and a measure of patient experience.

This indicator includes patients who were rebooked and admitted at a later date.

Figure 2: Percentage of elective surgery cancelled after admission, by month for 2008-11



Source: Health Quality & Safety Commission analysis of National Minimum Dataset (NMDS)

Around 1 percent of operations were cancelled after admission. This proportion has been relatively consistent across the country over the past four years. While this appears to be a small percentage of total operations, it amounts to some 5,000 cancellations per year and represents a significant level of resource and disruption to patients.

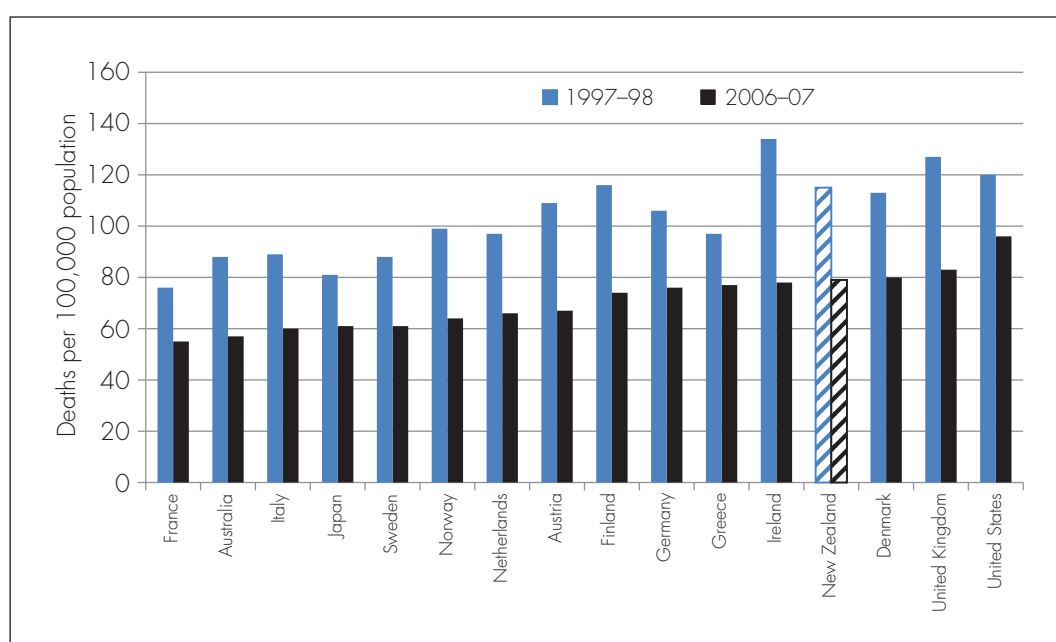
There is considerable regional variation, with a nine-fold difference between the highest four-year average level of cancellations (2.7 percent) and the lowest (0.3 percent).

The analysis above does not take into account the reasons for cancellations. It is reasonable to suspect that there is a seasonal impact on this indicator, with medical acute conditions likely to dominate during winter meaning that fewer beds are available for elective surgical cases, increasing the cancellation rate. However, our monthly view shows little evidence of this.

3.2 Deaths potentially avoidable through health care (amenable mortality)

This indicator is well-tested and accepted as a whole-of-system health outcome indicator. It shows the extent to which available treatments are applied to diagnosed conditions and shows the potential for gain in health outcomes. As an internationally calculated indicator, it should, in theory, allow international comparisons, although time spent collating consistent data sets slows down calculation (the most recent data available relate to 2006–07).

Figure 3: Age-standardised amenable mortality rates for people under 75 years, OECD countries



Source: Gay et al. 2011. *Mortality Amenable to Healthcare in 31 OECD Countries: Estimates and Methodological Issues*. OECD Health Working Papers, No 55. OECD Publishing.

New Zealand's rate of amenable mortality has fallen notably over the last 10 years. This fall mirrors the pattern seen in most high-income countries.

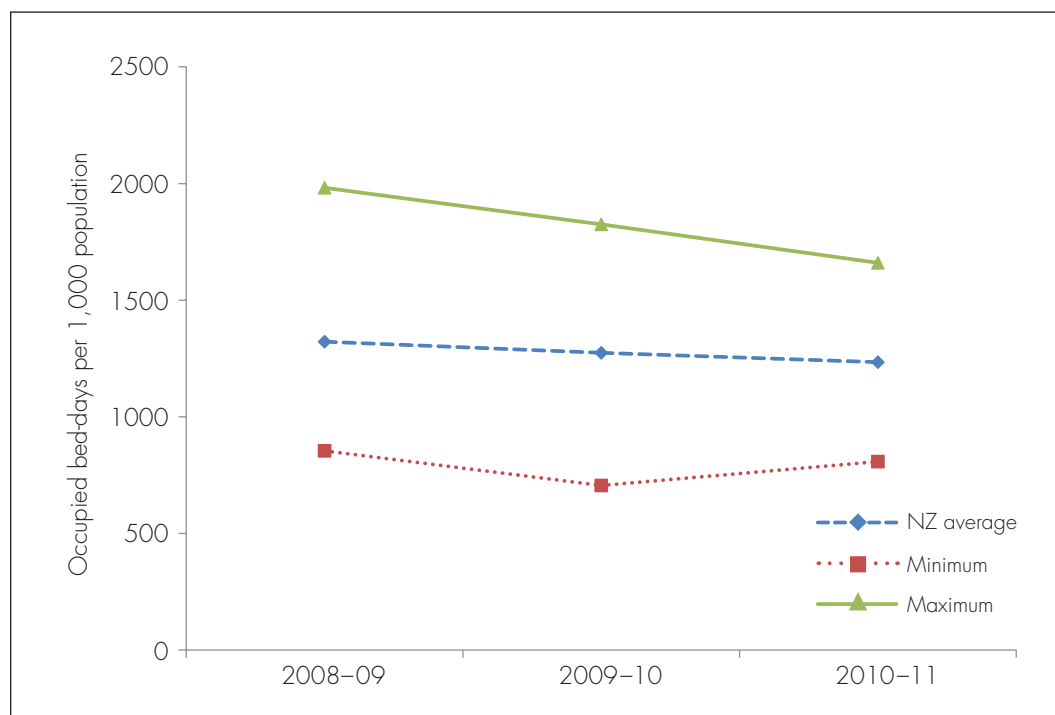
During this period New Zealand has had one of the higher mortality rates internationally, although it is not a particular outlier. For example, the amenable mortality rate here remained around 30-40 percent higher than in Australia between 1997 and 2007, even as the rate fell.

Our interactive presentation has more information on this complex subject, including more detailed time series and comparisons with the complementary measure of potential years of life lost. That measure looks at deaths of people under the age of 70 and calculates the total years of life lost through premature death. New Zealand has a relatively high number of years of life lost, consistent with its relatively high amenable mortality rate.

3.3 Occupied bed-days for older people admitted two or more times as an acute admission per year

This indicator is a useful proxy for the effectiveness of the integration of primary, acute and long-stay care. It illustrates effectiveness at avoiding unnecessary admissions and 'stepping down' to less intensive forms of care.

Figure 4: Occupied bed-days following acute admission for people aged 75 and over admitted two or more times as an acute admission per 1,000 population, by year for 2008-09 to 2010-11



Source: Health Quality & Safety Commission analysis of NMDS¹

Good integration of care services is an increasing priority for health systems in the developed world, and an area of particular concern for ageing populations. Poorly integrated care results in older people 'falling down the gaps' until the most urgent, intensive and expensive care – an acute admission to hospital – is required. A low number of occupied bed-days per capita and low regional variation are desirable.

Compared with the UK (the other country where there is a consistent time series for this indicator), New Zealand has around a 40 percent lower level of bed occupancy and considerably less regional variation. The variation that exists prompts the question, could this rate be improved further through widespread adoption of the integration practices seen in areas with the lowest rates?

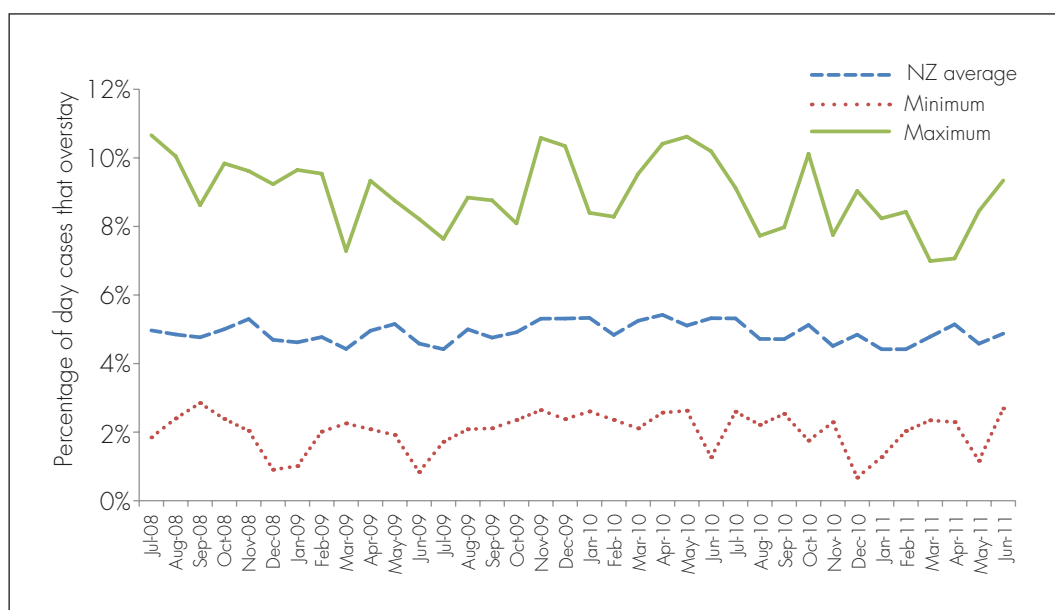
This indicator relates to ambulatory sensitive hospitalisations, a series of measures that the Commission will explore in the 2013 Atlas of Healthcare Variation.

¹ This version of the analysis defines 'older people' as all those aged 75 and over. We received very helpful feedback that a more useful indicator for New Zealand would also include Māori and Pacific peoples aged 55 and over. We have undertaken this analysis, which can be seen in the interactive presentation on our website, as part of a much broader suite of measures. The analysis shows that the precise definition chosen makes little difference to the patterns seen.

3.4 Planned day case turns into unplanned overnight stay

This indicator captures inconvenience to patients and disruption to planned hospital flow. The data may reflect an adverse incident in a procedure, unrealistic expectations about which patients are suitable for day-case surgery or some local factor. The indicator operates as a prompt for further enquiry and a measurement of quality and efficiency.

Figure 5: Day-case overstay rate, by month for 2008–11



Source: Health Quality & Safety Commission analysis of NMDS

Nationally, the proportion of day cases that turn into unplanned overnight stays has remained consistent over the past three years, equating to up to 10,000 people a year.

This indicator does not identify the reasons for overstay. There may be legitimate clinical reasons for keeping patients overnight, so the results should be interpreted with caution.

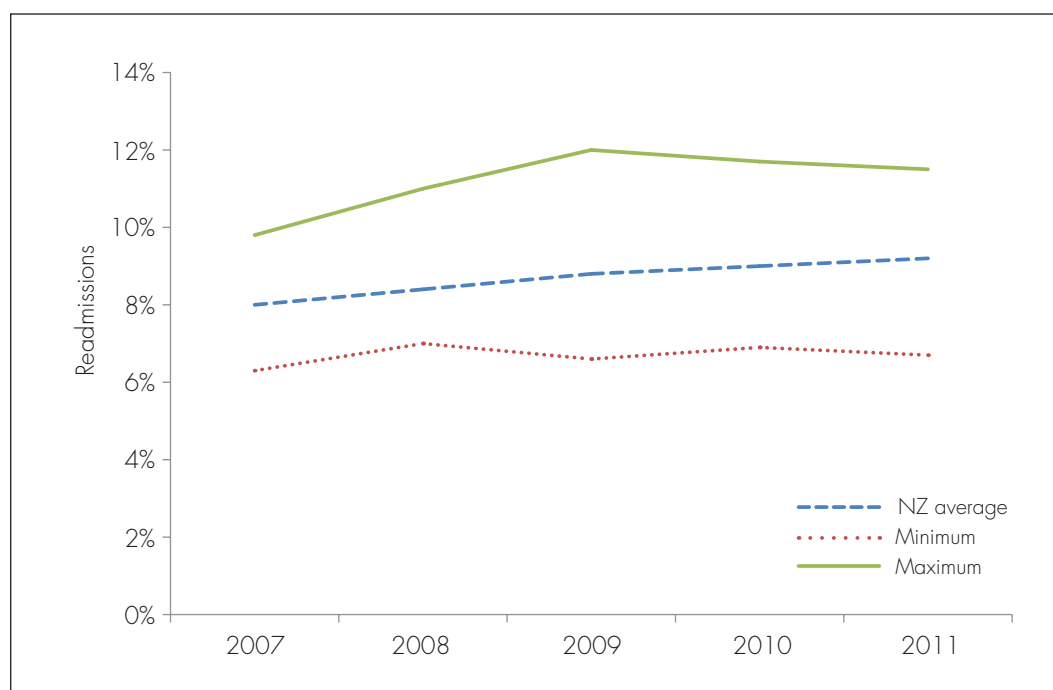
We anticipate variation in results between DHBs in relation to demographic or geographic factors; for example, in rural settings, a longer travel distance to hospital may affect a patient's ability to return home the same day.

We explore this indicator further in our interactive presentation, analysing the relationship between overall day-case rates and overstay rates. A plausible explanation for the variation in overstay rates is that those areas with a higher number of overstays had a higher day-case rate, but this is not in fact the case and there is no obvious relationship to be found.

3.5 Emergency readmission to hospital within 28 days of discharge

This indicator is a proxy of both the care received in hospitals and the coordination of care back to and within the outpatient setting. While some readmissions are part of planned care and are desirable, others may be an indication of a quality issue related to shortened length of stay and premature discharge, inadequate care, lack of patient adherence to the care regimen following discharge from hospital or poor integration of care.

Figure 6: Percentage of hospital admissions followed by an acute readmission within 28 days of discharge, by year for 2007-2011



Source: Health Quality & Safety Commission analysis of NMDS

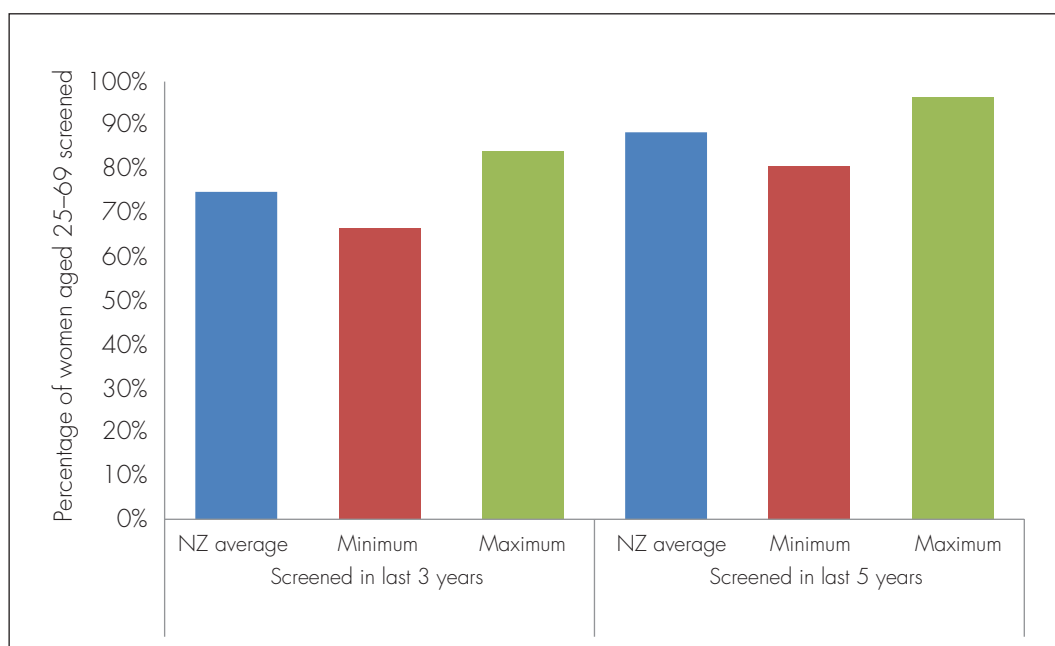
Readmission rates have consistently increased each year, rising from 8 percent in 2007 to 9.2 percent in 2011. England and Canada have similar rates and trends.

This is a fairly crude indicator that does not take into account the nature of unplanned readmission, or whether appropriate care available in the community may have prevented the need for readmission. It is likely to be influenced by demographic factors, such as the proportion of older people within a district population and by existing levels of co-morbidity. Further analysis available in our interactive presentation suggests that there is not, as is often supposed, a simple, direct link between higher readmission rates and shorter lengths of stay.

3.6 Eligible population up to date with cervical screening

This indicator provides insight into cervical cancer prevention and access to primary health care services. Effective screening programmes allow early detection and treatment of cervical precancer, lowering the rate of premature mortality among women.

Figure 7: Percentage of women aged 25–69 up to date with screening, March 2012



Source: National Screening Unit www.nsu.govt.nz/health-professionals/4949.aspx

The data for this indicator was collected and reported by the National Screening Unit, which is responsible for organising the Ministry of Health’s National Cervical Screening Programme. The programme includes health promotion, smear-taking, laboratory analysis of cervical smears, colposcopy and management of women with abnormal smear results.

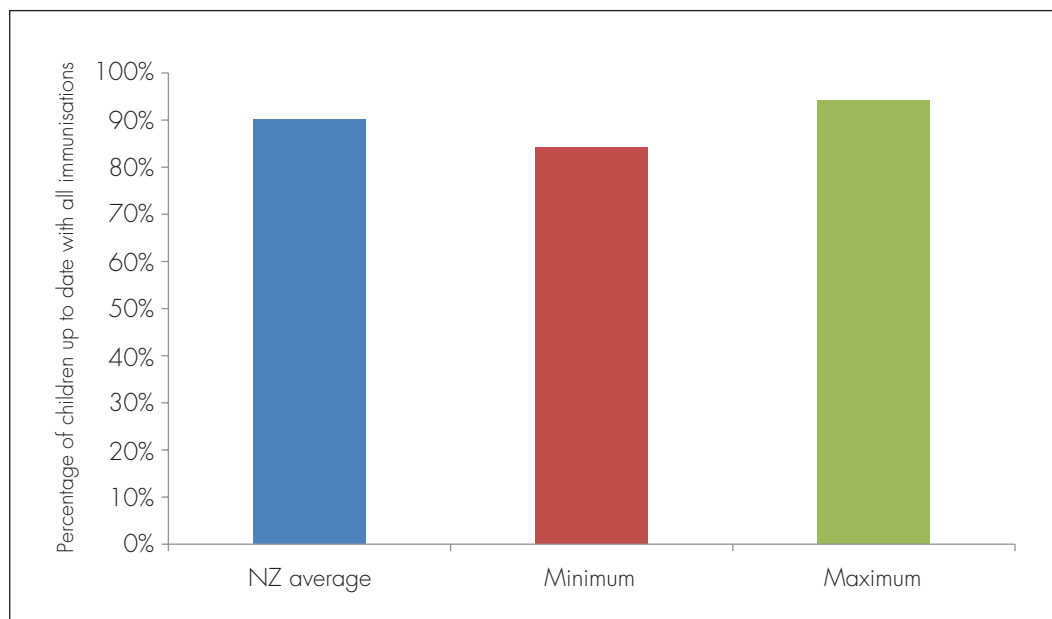
In New Zealand, approximately 160 women develop cervical cancer each year, and about 60 women die from it. Some groups have higher rates of cervical cancer, including women over 40, Maori, Pacific and Asian women, unscreened women and under-screened women.

The National Screening Unit estimates that without screening 1 in 90 women will develop cervical cancer and 1 in 200 women will die from it. In contrast, with screening 1 in 570 women will develop cervical cancer and 1 in 1,280 women will die from it.

3.7 Age-appropriate vaccinations for two-year-olds

This indicator on the effectiveness of immunisation programmes provides a perspective on public health programmes as well reflecting level of access to primary health care services. Children who receive the complete set of age-appropriate vaccinations are less likely to become ill from the associated diseases.

Figure 8: Percentage of two-year-olds who have received all age-appropriate vaccinations, September 2012



Source: Ministry of Health: www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-dhb-immunisation-data

The vaccinations that fall within the two-year-old group are for measles, mumps, rubella, diphtheria, tetanus, whooping cough, polio, hepatitis B, pneumococcus and *Haemophilus*.

High coverage is important to protect the health of both individuals and whole communities. It reduces the spread of disease to those who have not been vaccinated either by choice or because of medical reasons, such as children who are being treated for leukaemia.

Overall vaccination rates are relatively high. The most recent data suggest that around 90 percent of children have received the complete set of age-appropriate vaccinations at age two, and that regional variation is comparatively low.

3.8 Health care cost per capita (US\$ purchasing power parity per capita) and

3.9 Health care expenditure as a proportion of gross domestic product

We have combined these two indicators to give a more nuanced position on New Zealand health expenditure relative to the rest of the developed world. Note: data include both public and private health expenditure.

Figure 9: Health care cost per capita (US\$ adjusted for cost of living)

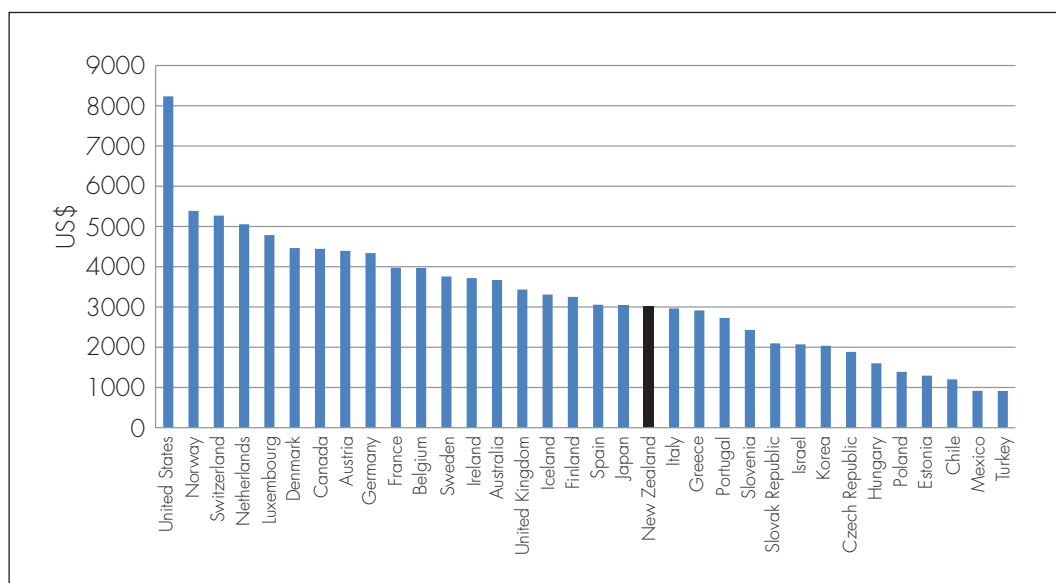
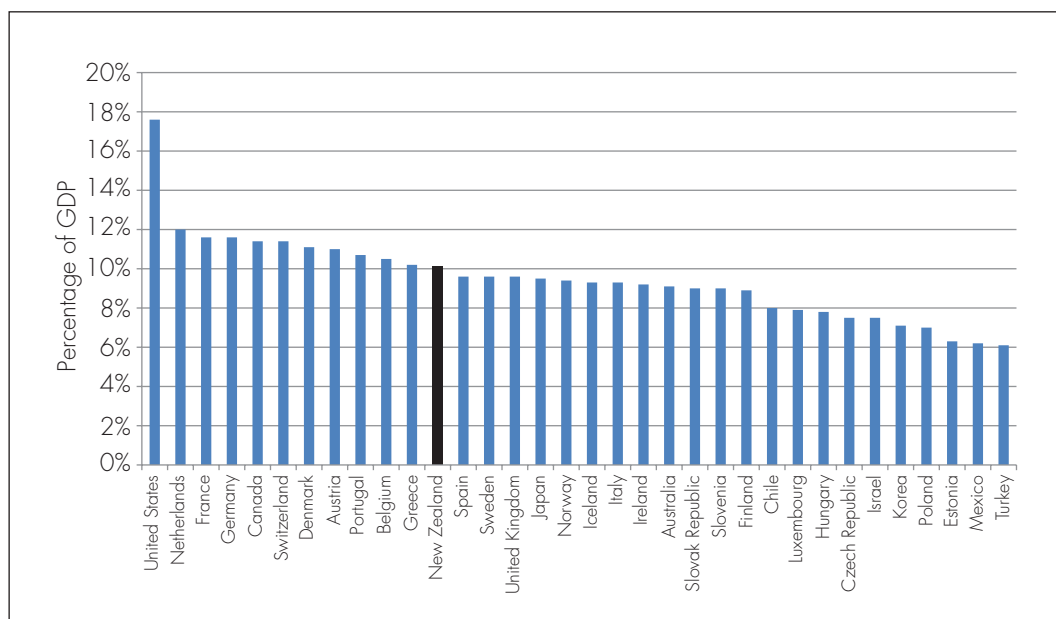


Figure 10: Health care expenditure as a percentage of gross domestic product



Source: www.oecd.org/document/16/0,3746,en_2649_37407_2085200_1_1_1_37407,00.html

New Zealand's results for these indicators are interesting. On the one hand, expenditure per capita is relatively low, with only accession countries from the former Soviet Bloc and a number of developing economies in the OECD list spending less on health care. On the other hand, as a proportion of gross domestic product, expenditure in New Zealand is relatively high. This indicates that while health care is relatively cheap here by international standards (and its quality generally comparable with the rest of the developed world), New Zealand is less able than many to spend more on health care.

There is no 'right' level of expenditure for health care. Greater expenditure does not necessarily drive better outcomes and lower expenditure does not necessarily equal greater efficiency.



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