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Reality Check:
The myth of unsustainable health funding
and what the Treasury figures actually show

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Summary

The decisions being made about the current and future funding of New Zealand's public health care system are based on two distorted claims:

1. Publicly-funded health spending has been increasing faster than national income for most of the last 60 years.

2. Health is the second-largest item of government spending and is growing as a proportion of both government spending and the economy.

This paper examines each claim in turn to unpick the prevailing thinking about public health care funding, and finds that:

- The assertion that health funding has been tracking at an unsustainable rate has been described by some economists as 'nonsense' and 'probably a result of bad arithmetic'.
- Contrary to the impressions created in Treasury graphs, the cost of our health services is not outpacing the country's ability to pay for them. Between 2009/10 and 2014/15, Vote Health's nominal operational expenditure increased by $1.8 billion, while over the same period nominal GDP will have increased by an estimated $48 billion.
- The fact that health is the second-largest item of government spending is not unusual internationally and is in the context of falling government spending overall.
- Vote Health's operational budgets have been falling as a proportion of GDP over recent years, from 6.56% in the 2009/10 to an estimated 5.99% in 2014/15 Budget allocations.
- In this year's Budget, Vote Health would have received an estimated additional $1.4 billion in operational funding if its allocation had matched the proportion of GDP of 2009/10.
- Vote Health's operational funding fell by a conservative estimate of half a billion dollars between 2009/10 and 2014/15, when taking into account increased costs and demographic changes.
- Treasury forecast further real falls in health funding of almost half a billion dollars per year, cumulative, between now and 2018.
- The decline in health funding reflects a general decline in government spending, while New Zealand is already among the most austere of government spenders in the OECD.

- International evidence shows reduced health spending that leads to reduced access to services can result in substantial hidden costs to the health system and the national economy.
- International evidence shows investing in health services – and public services generally – can have both short-term and long-term benefits for national economies.

Vote Health's operational budgets have been falling as a proportion of GDP over recent years.

It is time for a new discussion about sustainable health funding, based on a better understanding of the data and focused on providing the health services New Zealanders need.

Reality check:
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> *Health spending is not only large, it is also growing. Publicly-funded health spending has been increasing faster than national income for most of the last sixty years.*
>
> New Zealand Treasury, 2013[1]

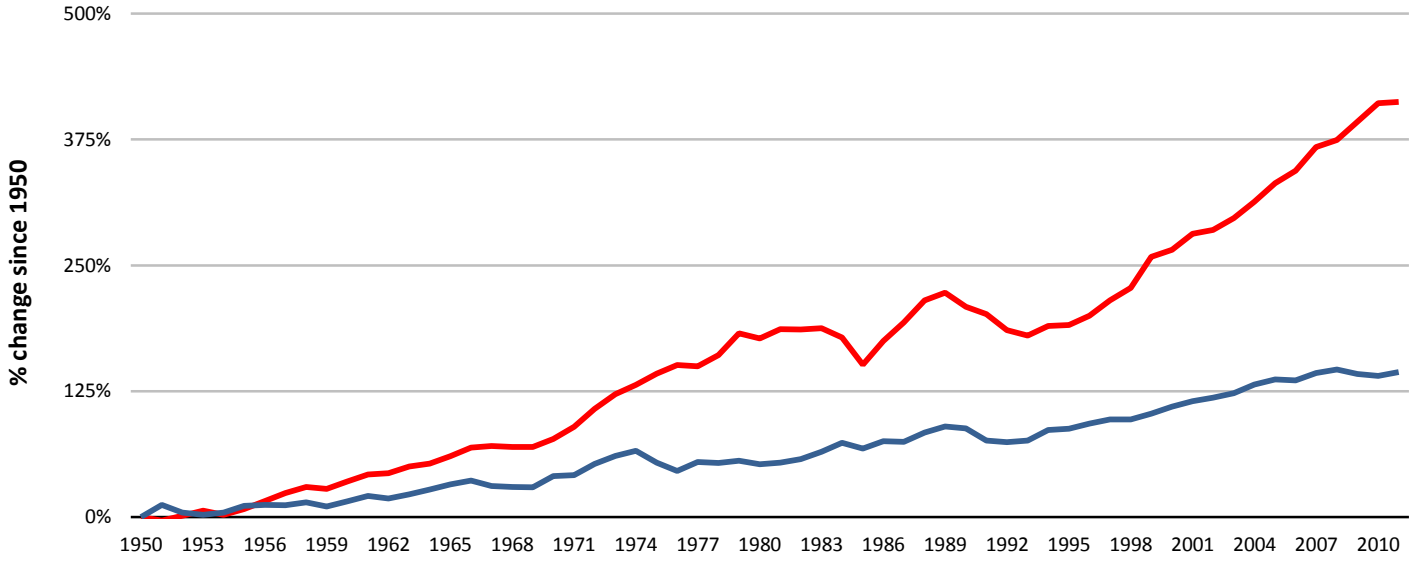
> *As a country we do not have the resources to continue spending increasing amounts on the public health and disability system at the rate at which we have.*
>
> Ministerial Review Group, 2009[2]

The above quotes reflect a familiar refrain promoted by various organisations such as the New Zealand Institute of Economic Research (NZIER) and Infometrics, as well as Treasury itself. Sector organisations such as the health insurance lobby group, the Health Funds Association, use these messages to advocate for greater use of the private sector. Sections of the media, too, have evidently bought the argument that health spending is unsustainable.

> *New Zealand is on the brink of a healthcare funding crisis that is threatening to bankrupt the Government.*
>
> The Press.[3]

While Treasury has produced a more measured analysis of health spending, as discussed further below, it is the statistics and graphs, such as Figure 1, which was presented to the ASMS National Executive in May this year, that tend to get the most airing (though Treasury has acknowledged 'there is considerable uncertainty around the assumptions underpinning these projections'[4]).

FIGURE 1: TREASURY'S GRAPH OF CROWN CORE HEALTH AND GDP, REAL GROWTH PER CAPITA



Source: Treasury, 2014

The text with the graph explains that: "Health spending is $14 billion a year, the second-largest item of government spending". And: "It is growing as a proportion of both government spending and the economy".

One might be forgiven for gaining an impression that health expenditure was an insatiable beast out of control. However, examination of the bigger picture, including data from Treasury itself, tells a different story.

Claim: Publicly-funded health spending has been increasing faster than national income for most of the last 60 years.

Reality Check:

By comparing percentages of different values (GDP and government health expenditure), Treasury's graph gives an impression that health expenditure is rapidly increasing at a rate that is overtaking the country's ability to afford it. However, GDP is currently approximately $231 billion, while Vote Health's total operating budget is approximately $14 billion. In absolute terms, a 1% increase in GDP is many times greater than a 1% increase in government health expenditure.

As an Australian health economist recently explained, the fear that the rising share of GDP spent on health will harm the economy or our standard of living, "is probably a result of bad arithmetic".

"It's entirely possible for spending on health to rise more rapidly than GDP and for the amount of non-health GDP to continue to rise. If GDP growth per capita [in Australia] fell to the annual average of 1.4% per annum, which occurred between 1970 and 1990, then by 2050 per capita GDP would rise by 65%. And if health expenditures rose to the US level of 17.7%, there would still be a 50% increase in non-health GDP per capita. The unsustainability myth is created by focusing on percentages and not on the absolute level of resources available."[5]

It is an argument echoed by a New Zealand economist, writing in the *New Zealand Medical Journal* in response to the 2009 Ministerial Review Group's claim that current health spending was unsustainable: "…detractors of the public health system argue that expenditure is unsustainable, and that unless something is done immediately, expenditure will balloon until every tax dollar is being devoted to health care. This is clearly nonsense. The same could be said about the trend in other expenditures which have seen phenomenal rise in the last 10 years, such as household services. No-one is

warning the country that unless something is done immediately, in 50 years we shall be spending every last dollar on nannies."[6]

The figures speak for themselves. Between 2009/10 and 2014/15, Vote Health's nominal operational expenditure increased by $1.8 billion, while nominal GDP will have increased by an estimated $48 billion. The increase in health expenditure has not made the country less able to afford health services. The country is actually wealthier.

In fact Vote Health's operational budgets have been *falling* as a proportion of GDP over recent years – an intentional policy move flagged by Treasury two years ago in a document dated June 2012, which shows Vote Health operating funding was projected to drop from an estimated 6.5% of GDP in 2010 to less than 6% in 2014.[7]

The latest available figures in Table 1 show Vote Health's Budget Day operational funding has decreased as a proportion of GDP, from 6.56% in the 2009/10 to an estimated 5.99% in 2014/15 Budget allocations.

TABLE 1:
VOTE HEALTH OPERATIONAL FUNDING AS A PROPORTION OF GDP

Year	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Total Operating Funding ($000)[1]	12,623,156	13,062,826	13,499,297	13,787,169	14,085,617	14,393,495
Nominal GDP for the year to June ($000)[2]	192,524,000	200,888,000	209,585,000	212,955,000	231,149,000	240,199,000
% of GDP	6.56%	6.50%	6.44%	6.47%	6.09%	5.99%

1. Estimated operating expenditure for total Vote Health on Budget Day (includes departmental, non-departmental and 'other' non-departmental). $49 million has been subtracted from the funding allocations for 2012/13 onwards to account for estimated DHB superannuation contributions such as to Kiwisaver, previously paid for by the State Services Commission (source: Ministry of Health, *Vote Health Four-year Budget Plan*, 8 February 2011).
2. *Pre-Election Fiscal and Economic Update 2014*, Treasury 19 August 2014. Figures for 2013/14 and 2014/15 are forecasts.

In this year's Budget, Vote Health would have received an estimated additional $1.4 billion in operational funding if its allocation had matched the proportion of GDP of 2009/10.

Instead, Vote Health's operational funding actually fell by half a billion dollars in real terms between 2009/10 and 2014/15 (Table 2). The decrease in fact is likely to be considerably higher because while the funding allocations for new government commitments and initiatives have been included, the actual costs have not been taken into account. Many of these commitments, which District Health Boards are required to deliver or purchase, have not been fully funded and are expected to be at least partly funded by 'efficiency savings'. A more detailed analysis of the net effect of the funding of new initiatives against anticipated 'savings' (many of them service cuts) is needed to gain a more complete understanding of the total funding shortfall.

The increase in health expenditure has not made the country less able to afford health services. The country is actually wealthier.

TABLE 2: REAL HEALTH FUNDING 2009/10 TO 2014/15 ($000)

Year	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Difference 09/10-14/15
Total operational funding ($000) [1]	12,623,156	13,062,826	13,499,297	13,787,169	14,085,617	14,393,495	
Real funding (2010 values) ($000)	12,623,156	12,599,176	12,506,297	12,472,561	12,321,219	12,121,859	**(501,297)**
Real annual increase/decrease ($000)	-	(23,980)	(92,879)	(33,736)	(151,342)	(199,360)	-
Inflation index*	100	103.68	107.94	110.54	114.32	118.74	**18.74%**

1. Budget Day operational funding for total Vote Health (includes departmental, non-departmental and 'other' non-departmental). $49 million has been subtracted from the funding allocations for 2012/13 onwards to account for estimated DHB superannuation contributions such as to Kiwisaver, previously paid for by the State Services Commission (source: Ministry of Health, *Vote Health Four-year Budget Plan*, 8 February 2011).

These estimates take into account increases in population and the ageing effect (ie, demographic changes), increases in prices, and increases in the average cost of a full-time equivalent (FTE) health service employee. Estimated increased costs from demographic changes, and the increased costs of an FTE employee were obtained from the Ministry of Health; non-personnel price increases, including increases in technology prices, are based on the Consumer Price Index. See Appendix for details on inflation adjustments.

The Government's trajectory is one of continuing spending cuts. A Treasury spreadsheet released with this year's Budget estimates 'real growth of health' for each year using CPI for all costs and its own calculation of demographic pressures. For 2014/15 Treasury is forecasting health to have a real growth of *negative* 2.3%, which on their figures represents a shortfall of $360 million.[8]

Over the June years their estimate of health funding shortfalls are as follows:[9]

TABLE 3: TREASURY ESTIMATES OF REAL FALLS IN HEALTH FUNDING AFTER COSTS AND POPULATION GROWTH

Year to June	2014	2015	2016	2017	2018
Percent	-0.6%	-2.3%	-3.7%	-3.6%	-3.1%
$million	-$82m	-$360m	-$587m	-$559m	-$488m

Source: Treasury, Fiscal Strategy Model, 2014 Budget

Treasury warned in the preparation for the 2013 Budget that such large cuts will require major changes to the health sector. If the next Government does not increase its funding of the sector significantly, we can expect much greater change to our health services even than those seen over the last five years. This could include "more targeted services and funding" which implies dropping some services, making some available only to certain groups, or introducing user charges.[10]

Claim: Health is the second-largest item of government spending and is growing as a proportion of both government spending and the economy.

Reality Check:

As explained above, the claim that health spending is growing faster than the economy has been untrue since 2009/10.

The fact that health is the second-largest item of government spending is not unusual internationally. Health spending is the next highest spending priority after "social protection" among most OECD countries.[11] Nor is the growth of health spending as a proportion of total government spending unusual.

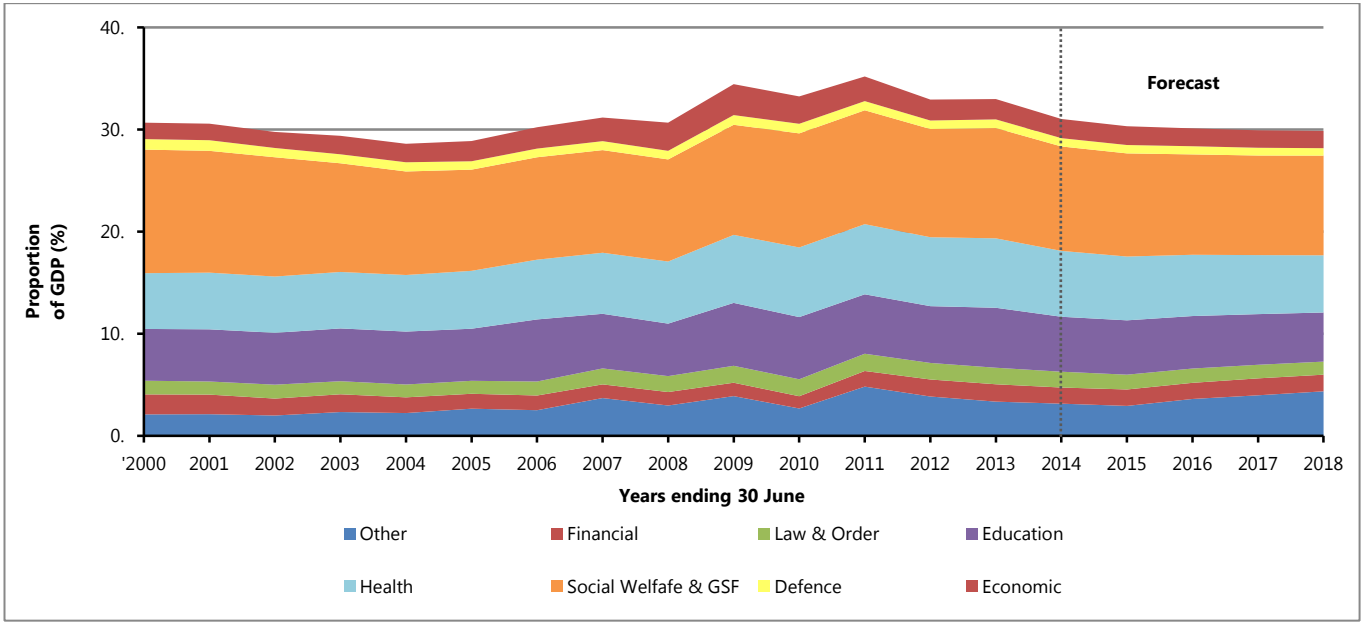
First, the proportion of one item of government spending is to some extent influenced by spending trends in other items. For example, if debt financing and social security spending is reduced, you would expect the proportion of some other items, such as health, to grow, as has been the case historically. Health expenditure will also be influenced by current government policy priorities and the general state of the economy.

Examining health expenditure growth as a proportion of GDP from 1950 to 2002, a Treasury Working Paper found expenditure as a percent of GDP rose steadily from the 1950s to about 1980, but then showed no consistent trend upwards or downwards.

> *The sharp fluctuations in growth rates mean that conclusions about historical trends in expenditure are extremely sensitive to the choice of period. If the whole period 1950/51- 2001/02, or the period since the early 1990s, is used, then expenditure as a percent of GDP appears to have been increasing steadily. If the period since the late 1970s is used, then expenditure as a percent of GDP appears to be roughly stable.*[12]

Secondly, like health expenditure, core government expenditure as a proportion of GDP has been falling in recent years. Figure 2 shows how it peaked in 2011 at around 35% but is forecast at 31% in 2014, with a further forecast drop to 29.9% by 2018. Finance Minister Bill English recently stated the intention was to see it drop to 25% within the next six to seven years. So while Vote Health may currently be growing as a proportion of total government expenditure, it is within a shrinking pot of government spending in relation to the country's economy.[13]

FIGURE 2: TRENDS IN THE PROPORTION OF CORE GOVERNMENT SPENDING PER GDP



Source: Treasury Budget Economic and Fiscal Updates 2005-2014

'Economic' aggregates 'Transport and Communications' and 'Economic and Industrial Services'.

'Other' aggregates 'Core Government Services,' 'Heritage, Culture and Recreation,' 'Primary Services,' 'Housing and Community Development,' Environmental Protection' and 'Other'.

International comparisons of health expenditure

New Zealand's general government spending as a proportion of GDP has been at the low end of OECD countries (Table 4).

The latest available OECD data show New Zealand's general government expenditure was 41.3% of GDP in 2012, putting this country in 24th position out of 31 countries.[14] The OECD average in 2012 was 45.6%.

In 2010/11, New Zealand's total health expenditure (including private expenditure) as a proportion of GDP (10%) was above the OECD average of 9.3%. However, the decline in New Zealand's Vote Health as a proportion of GDP since then, as shown in Table 4, comes at a time when health spending has started to rise again after stagnating or even falling in many OECD countries during the global financial crisis.[15]

TABLE 4: GENERAL PUBLIC SPENDING AS A SHARE OF GDP (2004-2007 AVERAGE)

Low (below 40%)		Medium (41-49%)		High (50% and above)	
South Korea	27.3%	Luxembourg	40.0%	Hungary	50.2%
Ireland	34.2%	Norway	42.2%	Austria	50.5%
US	36.7%	Poland	42.9%	Denmark	52.5%
Slovak Republic	36.9%	Iceland**	43.1%	France	52.9%
Japan	36.9%	OECD Avg.	43.6%	Sweden	54.4%
Spain	38.7%	Greece	43.6%		
New Zealand	38.9%	U.K.	43.9%		
Canada*	39.9%	Czech Republic	44.1%		
		Netherlands	45.5%		
		Germany	45.8%		
		Portugal	46.5%		
		Italy	48.1%		
		Finland	49.1%		
		Belgium	49.6%		

Source: OECD
*Canada: 2004.
**Iceland: 2004-2006 average.

New Zealand's total health expenditure per capita, when converted to a common currency[16] was below the average in 2011 ($3,172 against an average $3,379), placing New Zealand 20th out of 34 countries.[17]

Those figures aside, as Treasury points out, international comparisons of health spending only give a broad idea of how particular countries compare with others and should not be used to indicate an ideal level of health spending.

Discussion

The well documented challenges facing our health system, including increasing demand and growing public expectations, has policy-makers around the world searching for new ways to deliver services in more innovative and cost-effective ways. There have been major restructurings, targeting, and much talk about introducing new models of care (seemingly oblivious to the fact that new models of care have been evolving since health systems began).

Out of it all, the idea showing arguably the greatest potential to significantly improve the quality and cost-effectiveness of health services is for clinicians to be given the opportunity to lead the way, to use their experience and expertise to improve the effectiveness of the services they deliver. The idea of comprehensive clinical leadership has rapidly been gaining currency internationally and, where it has been allowed to develop sufficiently, has been shown to improve quality and access while remaining cost-efficient.

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While there are examples of clinical leadership improving the value of services in New Zealand, its development has been stymied by entrenched shortages of medical specialists, extensively documented in other ASMS publications. While specialists are stretched to meet day-to-day clinical needs, the idea of clinical leadership will remain largely just that, because effective clinical leadership requires the specialist's time.

FIGURE 3: PROJECT MANAGEMENT TRIANGLE

The position of the specialist can be illustrated simply in a version of the classic Project Management Triangle, where 'Scope' (the amount of work that needs to be done to meet increasing service demand), competes with 'Time' (to do that work), and 'Cost'. The triangle reflects the fact that the properties are interrelated. Increased scope typically means increased time and increased cost, a tight time constraint could mean increased costs and reduced scope, and a tight budget could mean increased time and reduced scope. Stretched between these three elements is a fourth – quality. Optimum quality (and cost-effectiveness) might be achieved when the other three properties are in reasonable balance.

Current policies are seeing tighter budgets *and* increasing scope (pressure to meet health targets and produce a faster turnaround of patients), leading to mounting pressure on the specialist's time, and on achieving good quality. Anecdotally, pressure on specialists' time is exacerbated by cuts to 'backroom' staff, which have had the effect of shifting 'backroom' work to the 'front-line'.

The trend in tightening budgets therefore not only prevents improvements in quality and cost effectiveness through clinical leadership but may have a negative impact on quality (which is not well measured) which can lead to considerable financial waste.

> *Poor quality care is expensive and adds significant cost to the health system.*
>
> Minister of Health, 2014[18]

In summary, reducing health budgets will, ironically, most likely lead to increased costs and prevent an opportunity to develop more cost-effective ways of delivering services.

Economic effects of cutting health budgets

The costs of ill health do not fall when the government reduces its health budget; they are simply shifted elsewhere. Reduced government spending means more health needs will have to be paid for privately, for those that can afford to, or remain unmet for those who cannot. Either way, the costs to the country will not be reduced; on the contrary, they are more likely to increase.

With respect to a greater use of the private sector, Treasury has acknowledged:

> *We do not currently see a clear case for moving away from a predominantly single-payer, tax-financed health system. Systems like ours are typically better at containing health spending and there is no one system that presents a clearly more efficient alternative.* [19]

And international evidence shows the cost of unmet health need, both to the health system and the wider economy, can be considerably higher than providing timely treatment.

Aside from the personal physical and social costs associated with unmet health needs, the scale of the hidden economic cost was indicated in a 2007 Canadian study, updating and expanding on an earlier study, concerning patients waiting for treatment longer than medically recommended for total joint replacement surgery, cataract surgery, coronary artery bypass graft (CABG) and MRI scans. [20]

The cost of unmet health need, both to the health system and the wider economy, can be considerably higher than providing timely treatment.

The study, which took account of lost productivity, caregiver costs and additional costs borne by the health system, estimated a conservative cumulative economic cost of $14.8 billion to the Canadian economy.

In other examples, timely cataract surgery has been found in a number of studies to reduce road accidents and hip fractures. A recent American study estimated the total net return on investment from timely cataract surgery, including benefits to the United States economy and savings in the health system, amounted to $123 billion over 13 years.[21]

With the increasing need for health services to become more cost-effective, the costs of delaying access to treatment, or not providing treatment, need to be factored into health service funding and resource decisions. The key question is not so much the frequently raised "Can we afford to provide this health service?" as "Can we afford *not* to provide this health service?"

Government investment in health services – and in public services generally – has also been shown to have significant benefits to a country's economy through the creation of jobs and income. A major study covering 25 European Union countries from 1995 to 2010 evaluated the economic effects of different types of government spending by estimating 'fiscal multipliers' (the extra income generated in the economy for each $1 dollar of government spending).[22]

It found that the multiplier for total government spending was 1.61, ranging from -9.8 for defence to 4.3 for health. These differences appear to be explained by varying degrees of absorption of government spending into the domestic economy. Defence was linked to significantly greater trade deficits whereas health and education had no effect on trade deficits.

The study results refute the view, held by the current New Zealand government, that government spending has a negative effect on economic growth. The study's authors say their results, together with other studies, corroborate existing evidence that historical prescriptions for austerity from international financial institutions have tended to exacerbate economic crises.

Second, there is a widespread consensus that investment in health and education contribute to economic growth in the long term, by creating a healthier, better educated, and therefore a more productive labour force. The study shows that in addition to their long-term benefits, such investments may actually have short-term, positive growth effects that make that recovery more likely.

To conclude, the evidence shows the way to achieve sustainable health funding – and stronger economic growth – is not through cutting back spending, which incurs substantial hidden costs, but through positive investment.

Appendix

Inflation adjusters from 2009/10

TABLE A: INCREASES IN NON-PERSONNEL PRICES (CPI)

In the absence of a public sector Health Price Index, the Consumer Price Index has been used a proxy for non-personnel health sector price increases.

	Annual % increase					
Year to June	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2013/14**	**2014/15**
Non-personnel price increases (CPI) [1]	-	3.1%*	1.0%	0.7%	1.6%	2.1%
Non-personnel costs as % of operating cost[2]	-	37.80%	37.83%	37.53%	37.62%	37.70%
Non-personnel cost increases as proportion of total operating costs	-	1.17%	0.38%	0.26%	0.60%	0.79%

Sources:

CPI rates: Statistics New Zealand and (for the 2014/15 forecast) ***Pre-Election Fiscal and Economic Update 2014*****, Treasury, August 2014. *Trimmed mean inflation, excluding the GST rise (in October 2010). Source: Statistics New Zealand.**

Non-personnel costs: DHB Consolidated Statements of Financial Performance, Ministry of Health (2013/14 and 2014/15 estimates based on average rates over previous years). The proportion of DHB non-personnel costs to total operating costs is used as a proxy for the publicly funded health sector as a whole.

TABLE B: INCREASES IN THE AVERAGE COST OF SALARIES AND WAGES PER FTE EMPLOYEE

This represents the increased cost of all salaries and wages, excluding the cost of any staffing increases. (The costs of staffing increases to cover demographic changes are factored into this analysis, but the costs of any staffing increases associated with new initiatives are not included.)

	Annual % increase					
Year[1]	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2013/14**	**2014/15**
Average cost increase of FTE employee	-	1.22%	3.61%	1.16%	2.0%	2.25%
Personnel cost as % of operating cost	-	62.20%	62.16%	62.47%	62.38%	62.30%
Cost of salaries & wages as proportion of total operating costs	-	+0.76%	+2.24%	+0.72%	+1.25%	1.40%

Source: Ministry of Health: DHBs' Annualised average consolidated cost per full-time equivalent (FTE) staff member, and DHBs' consolidated statements of financial performance. Trends in DHB personnel costs are used as a proxy for the publicly funded health sector as a whole.

1. Figures for 2013/14 and 2014/15 are estimates based on average increases over the previous three years.

TABLE C: INCREASES TO COVER POPULATION GROWTH AND THE AGEING EFFECT

These are cost adjustments estimated by the Ministry of Health.

	Annual % increase					
Year	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2013/14**	**2014/15**
Population and ageing effect	-	1.72%	1.45%	1.42%	1.54%	1.64%

Source: Ministry of Health

TABLE D: TOTAL INFLATION ADJUSTMENTS

Adjusters	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2013/14**	**2014/15**
Increase in non-personnel costs	-	1.17%	0.38%	0.26%	0.60%	0.79%
Increase in salaries & wages per FTE	-	0.76%	2.24%	0.72%	1.25%	1.40%
Total increase	-	1.93%	2.62%	0.98%	1.85%	2.19%
Population and ageing effect	-	1.72%	1.45%	1.42%	1.54%	1.64%
Total annual adjustment	-	3.68%	4.11%	2.41%	3.42%	3.87%
Inflation Index	100	103.68	107.94	110.54	114.32	118.74

Total annual percentage adjustments are obtained by multiplying the sum of the non-personnel and personnel increases by the population and ageing effect percentage.

For example: 2010/11: [(100+1.17+.76)x(100+1.72)%]-100 = 3.68

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