



B.29 [16k]

District health boards' response to asset management requirements since 2009





District health boards' response to asset management requirements since 2009

Presented to the House of
Representatives under section 20 of
the Public Audit Act 2001.

June 2016

ISBN 978-0-478-44240-3

Contents

Auditor-General’s overview	3
Our recommendations	6
Part 1 – Introduction	7
Purpose and objective of this report	7
District health board asset management roles and responsibilities	7
The context for our report	8
How we did our work	12
Our expectations of DHB asset management	13
Structure of this report	15
Part 2 – Our previous work on asset management in the health sector	16
From 2009 to 2011: Putting service levels at the centre of asset management planning requirements	16
In 2012 and 2013: District health board asset management from a health and public sector perspective	18
From 2012 to 2015: Asset management from the perspective of financial statement information	20
Part 3 – Managing buildings and clinical equipment to maintain health services	23
What do we know about the condition and remaining useful lives of existing buildings and clinical equipment?	24
How is asset performance measured?	28
How is asset management information captured and integrated with financial information?	31
Who gets information about the condition and performance of assets?	33
How do district health boards assess their own current asset management practice?	34
Part 4 – Asset investment decision-making	41
How do funding arrangements for DHBs deal with capital investment decisions?	41
Managing capital expenditure	46
Figures	
1 – Population of regional council areas in 2013 and projected population in 2043	10
2 – Census percentage change in age groups by district health board, 2006-2013	11
3 – Major influences on the health systems and what needs to happen for asset management to support the Health Strategy Update	14
4 – Health asset classes by value, 2008-2018	25
5 – Through-life of buildings and clinical equipment, by district health board	26
6 – Asset performance dimensions that district health boards most commonly measure	29
7 – Case study 1: The Productive Operating Theatre	31
8 – Information Systems Maturity Index	32
9 – District health board self-assessments of asset management maturity for current practices and the target maturity state	35
10 – Characteristics of intermediate and advanced asset management for the aspects of weakest current practice and largest gap to target maturity for district health boards	36
11 – Case study 2: Auckland District Health Board’s asset management practices	38
12 – Capital expenditure by district health board, 2008/09 to 2014/15	42
13 – 10-year forecast capital expenditure, by district health board	43
14 – Capital expenditure measures by district health board, 2008/09 to 2014/15	47
15 – Average capital expenditure to depreciation for district health boards compared with local authorities and tertiary education institutions, 2008/09 to 2014/15	48
16 – Average actual to budgeted capital expenditure for district health boards compared with local authorities and tertiary education institutions, 2008/09 to 2014/15	50
17 – Average net operating cash flow to capital expenditure for district health boards compared to local authorities and tertiary education institutions, 2008/09 to 2014/15	52

Auditor-General's overview

All of us will have contact with the services of a district health board (DHB) at some time in our lives, many of us at numerous times throughout our lives. We depend on health services and expect them to be available to us when and where we need them.

Physical assets (such as hospital buildings and clinical equipment) are integral to the health services DHBs deliver. Sound management of DHBs' physical assets is critical to New Zealand's future, as well as to each of us individually. In 2015, DHBs had \$5.7 billion invested in physical assets and were planning more than \$6 billion of capital expenditure during the next 10 years.

We first reported on DHB asset management in 2009/10. DHBs produced asset management plans in 2009 in response to the Ministry of Health's requirements for DHBs to document their approach to asset management in asset management plans. In *Managing public assets* (2013), we looked at asset management practices in 340 public entities. Health assets had some of the lowest condition ratings of all public sector assets. Therefore, we decided that it was important to keep a focus on DHBs' asset management.

Throughout the focus we have had on DHB asset management, we have expected each DHB to:

- know how well its mix of assets meets its service delivery needs now, and in the future;
- understand, respond to, and manage demand for its assets and the related risks;
- ensure that there are good links between its asset management planning and its other service and financial planning, with clear responsibility for planning and for having an up-to-date documented plan; and
- have information about its assets and their condition that is reliable enough to support its planning for long-term service delivery.

Because DHBs are part of our national health system, we have also expected to see the same knowledge, linking, and understanding at levels appropriate for effective regional and national planning.

Societal and technological changes continue to be major influences on the health system. These influences are a significant challenge in managing pressure on health services and budgets. We have illustrated in this report what we think needs to happen for asset management to put delivery of service to people today and in the future at the core.

The results of our work for this report show that:

- About two-thirds of DHBs are unlikely to have substantively updated their asset management plans since 2009.
- DHBs tend not to specify the levels of service they expect from their assets. As a result, reporting on asset performance is generally weak.
- Many DHBs have asset management information systems with advanced functionality but often do not use the full range of that functionality.
- DHBs generally do not systematically collect, maintain, analyse, and use asset information – such as about age, condition, and performance – particularly for clinical equipment.
- More than half of the DHBs do not regularly reconcile the information held in their asset management and financial information systems.
- There is limited reporting to governors and senior managers about asset performance and condition.

We looked at measures of capital expenditure management drawn from DHBs' financial statements from 2008/09 to 2014/15. It is important to note that the quality of the underlying asset management information can have a significant effect on these financial measures.

For all the seven years we reviewed, fewer than half of the DHBs had indicators at levels that I would characterise as representing good financial and asset management. For instance:

- There has been sizeable over-budgeting or underspending of capital, suggesting that DHBs might not be investing the capital needed to continue to deliver their services in the future.
- Almost half of DHBs' capital expenditure is funded externally rather than from operating cash flows, indicating that DHBs rely heavily on funding from the Crown to renew or replace assets.
- It appears that some DHBs are renewing or replacing assets over time but that others are not.

These results lead me to question how well positioned DHBs are to support future service delivery.

Our audit work since 2009 shows a sector strongly focused on delivering short-term results within a challenging operating environment and financial constraints. But I am concerned that DHB asset management does not seem to have gained much traction in this time.

The public health system faces serious challenges from a rising demand for services and for access to better technologies, exacerbated by an ageing population. To deal with these challenges, the health sector and each DHB will need to take a longer-term perspective on health services and the associated capital investment and asset management.

I expect each DHB to give more attention in the future to its management of the assets we all depend on for health services. I have been reassured by the number of DHBs that, in commenting on the draft of this report, told me of their commitment to good asset management and what they are doing to improve it. My auditors will continue to monitor DHBs' asset management.

I would like to see more effort made to identify, share, and implement lessons from the leaders of DHB asset management. DHB asset management practitioners told me that the Health Asset Management Improvement Group, formed in 2015, aims to do this.

I also expect the Ministry of Health and the Treasury to provide support to help DHBs to improve their asset management practices. I have been assured that this will be done by implementing the 2015 Cabinet Office Circular on *Investment Management and Asset Performance in the State Services*. My Office will keep an active interest in that implementation.



Lyn Provost
Controller and Auditor-General

3 June 2016

Our recommendations

We recommend that each DHB:

- understand, respond to, and manage demand for its assets and the related risks (Recommendation 1);
- know how well its mix of assets meets its service delivery needs, now and in the future (Recommendation 2);
- has reliable information about its assets and their condition that supports its planning for long-term service delivery (Recommendation 3); and
- link its asset management planning to its other service and financial planning. (Recommendation 5).

We recommend that the Ministry of Health and the Treasury:

- provide support to help DHBs to improve their asset management practices, including making more effort to identify, share, and implement the lessons from the leaders of DHB asset management (Recommendation 4); and
- review the interaction of service, funding, and asset planning, with the aim of providing incentives for DHBs to balance short-term results with longer-term service and asset management needs (Recommendation 6).

Introduction

Purpose and objective of this report

- 1.1 The Ministry of Health (the Ministry) required district health boards (DHBs) to prepare asset management plans in 2009. At that time, our auditors looked at how DHBs responded to the requirements. Since then, we have reported concerns about whether DHBs have the asset management information they need to support the delivery of health services that depend on assets.
- 1.2 In this report, we describe the results of the work we have carried out in response to our concerns. We looked at the 20 DHBs collectively to provide an overview of the state of DHB assets and the approach that DHBs are taking to managing them.
- 1.3 We took this approach because DHBs are the providers and purchasers for most public health services, which must operate as a national network of health services. However, because the circumstances and practices of DHBs vary, not every finding or comment we make applies to every DHB.

District health board asset management roles and responsibilities

- 1.4 DHBs have primary responsibility for making decisions about capital investment and asset management.
- 1.5 DHBs are grouped into four regions – Northern, Midland, Central, and the South Island. The DHBs in each region have established regional capital committees to guide regional capital investment.
- 1.6 Nationally, until March 2016, the National Health Board, supported by the Ministry, was responsible for matters such as funding and monitoring DHBs, overseeing their planning, and providing guidance on which services should be planned, funded, and provided nationally, regionally, and within each district.¹
- 1.7 A specialist Capital Investment Committee is responsible for a centrally led process for the national prioritisation and allocation of capital investment in the health sector in future years.
- 1.8 The Treasury and the Ministry require DHBs to prepare 10-year capital intentions for projects worth \$10 million and or more (\$500,000 for projects related to information and communication technology (IT)). Preparing these intentions includes obtaining endorsement from regional capital committees and the Capital Investment Committee, and approval from the DHB's Board and the Ministers of Health and Finance for capital expenditure proposals.

1 On 18 March 2016, Health Minister Hon Dr Jonathan Coleman announced that the National Health Board and National Health Committee would be disestablished and their functions streamlined into the Ministry of Health. See <https://www.beehive.govt.nz/release/changes-health-advisory-committees>.

- 1.9 DHBs are also required to comply with the Treasury's Better Business Cases process and the Capital Investment Committee's Capital Assessment Guidelines for:
- all capital investments in fixed assets that require Crown equity or new debt support;
 - investment projects or programmes totalling \$10 million or 20% of total assets, whichever is lesser; and
 - investments that could strategically affect the performance of DHBs or investments that the State Services Commission has identified are of high risk.²

The context for our report

How societal and technological changes affect asset management in the health sector

- 1.10 During the period we were writing this report, the Ministry was leading an update of the Minister of Health's health strategy. The Ministry published a consultation draft – *Update of the New Zealand Health Strategy: All New Zealanders live well, stay well, get well: Consultation draft* (the Health Strategy Update) – and our references in this report are to the consultation draft. The updated strategy was published in April 2016.
- 1.11 The Health Strategy Update says that global challenges are shaping, and will continue to shape, New Zealanders' experience of health services.³ The Health Strategy Update identifies the following challenges:
- providing health and social services to increasing numbers of older people who are living longer;
 - a growing burden of long-term health conditions, such as heart disease, diabetes, depression, and dementia;
 - how to afford new technologies and drugs, and meet rising expectations;
 - a highly mobile global workforce;
 - the emergence of new infections and antibiotic resistance; and
 - the health and social consequences of climate change.
- 1.12 Good information for decision-making is becoming increasingly important for the health system, which faces rapid technological development alongside increased and changing demands from New Zealand's ageing and urbanising population.
- 1.13 DHBs have significant physical assets, mainly buildings and clinical equipment. These are significant because they are needed to provide critical health services

² See Ministry of Health (2105), *Operational Policy Framework 16/17*, section 12.30.

³ Ministry of Health (2015), *Update of the New Zealand Health Strategy: All New Zealanders live well, stay well, get well: Consultation draft*, page 5.

and because of their high monetary value. DHBs' physical assets were valued at \$5.7 billion as at 30 June 2015.

How technology is changing health service delivery and asset needs

- 1.14 As part of preparing the Health Strategy Update, the Ministry commissioned an independent review of capability and capacity within the health system. This review emphasised the effect of digital technology on New Zealand consumers and the health system:
- By 2025 the majority of the world's population will in one generation have gone from having virtually no access to unfiltered information to accessing most of the world's information through a device that fits in the palm of their hand. Further, all 13-year olds and younger are mostly digital natives and do not know a world without the Internet and its connected devices. This change will have profound and likely positive effects on the New Zealand health system, the roles of providers (both organisations and individual providers), and on the knowledge and demands of our consumers. Digital technology will change health institutions of all sizes and in all sectors from within and without. The most significant impact of the spread of communication technologies will be the way they help re-allocate the concentration of power away from the traditional power brokers in the system (i.e. DHBs, provider groups, individual providers), to consumers.*
- 1.15 One theme (Smart system) of five strategic themes in the Health Strategy Update consultation draft was about:
- information being reliable, accurate, and available at the point of care;
 - individual online health records that people are able to access and contribute to;
 - data and smart information systems that improve evidence-based decisions, management reporting, and clinical audit;
 - standardised technology that allows us to easily make efficient changes; and
 - being able to take advantage of opportunities of new and emerging technologies.⁴
- 1.16 The Deloitte Centre for Health Solutions sees technology as a means of integrating hospital and community care, with hospital doctors and nurses running clinics and delivering care in the community and primary care staff providing services to community and specialist hospitals.
- 1.17 How health services are delivered affects the assets needed for these services. Overall, technology is expected to make contact between doctors and patients

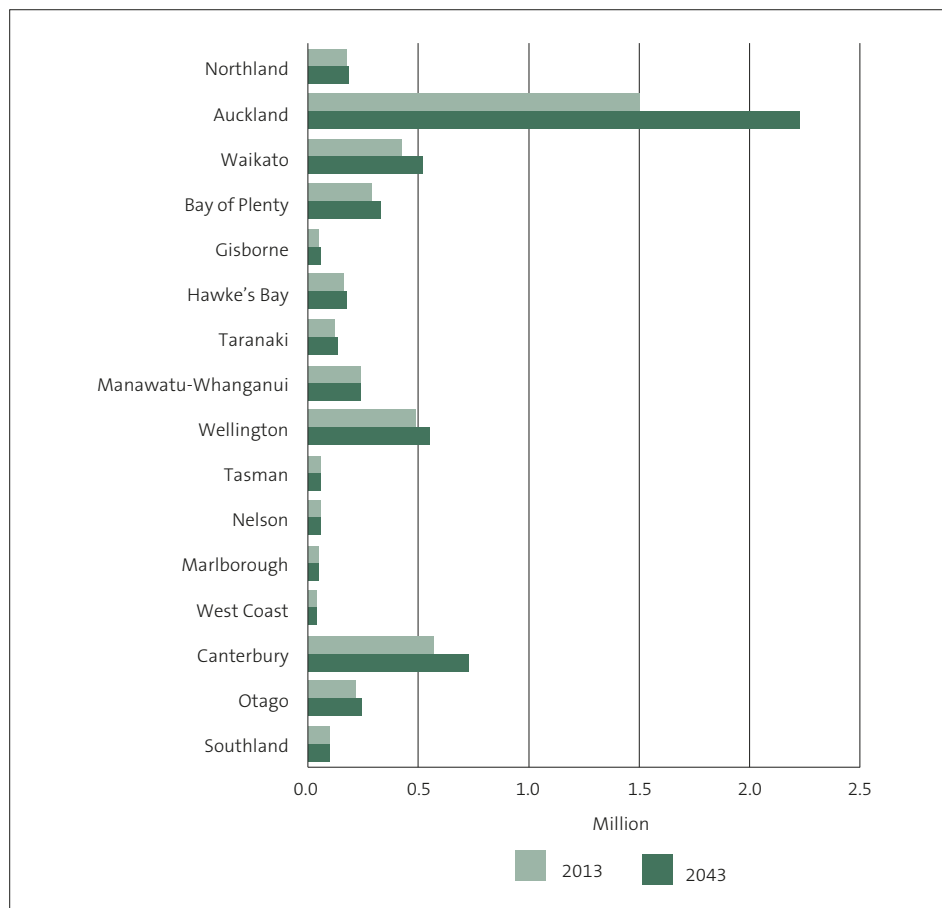
⁴ Ministry of Health (2015), *Update of the New Zealand Health Strategy: All New Zealanders live well, stay well, get well: Consultation draft*, page 24.

more virtual. It will also make more specialist complex and acute care possible, which will require more sophisticated equipment and facilities.

How social change is affecting health service delivery and asset needs

1.18 Figure 1 shows the 2013 Census results for the 16 regional council areas of New Zealand. All regions will have more people in 2043 than in 2013 to varying degrees.

Figure 1
Population of regional council areas in 2013 and projected population in 2043

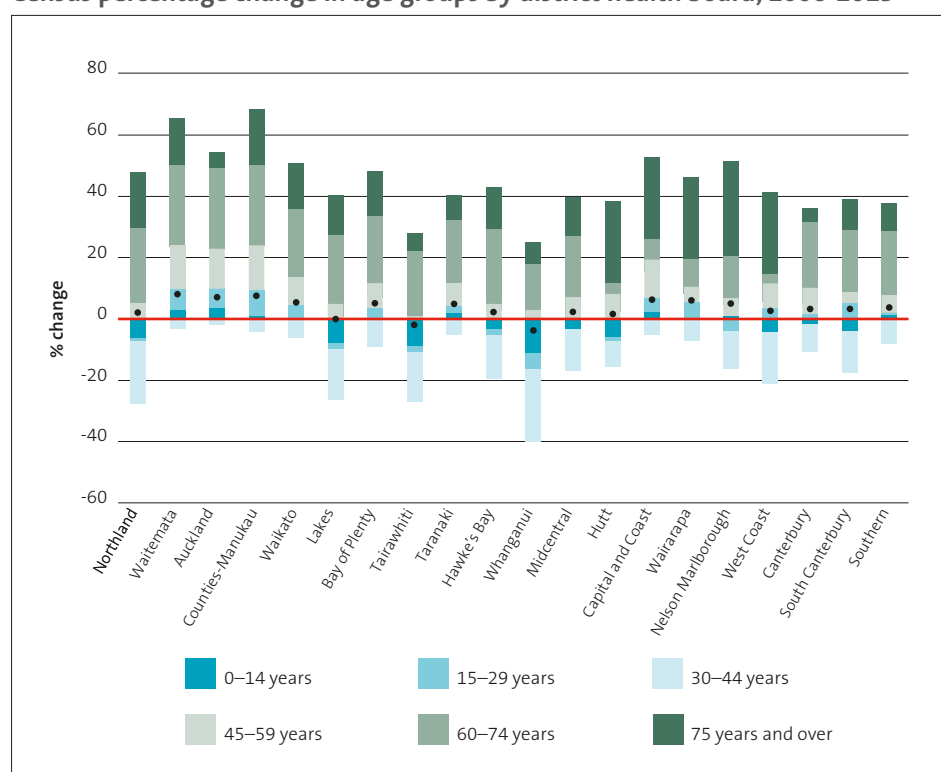


Source: Statistics New Zealand

1.19 *The Thirty Year New Zealand Infrastructure Plan 2015*⁵ forecasts that, between 2013 and 2043, the West Coast, Southland, Gisborne, and Manawatu-Wanganui regions will have the lowest rate of population growth at 1%. In contrast, Auckland's population is expected to grow by 33% during this period.

- 1.20 Generally, the number and percentage of people at older ages is expected to increase throughout the country. Even for areas with growing populations, the growth rate will slow during the projection period, as the population ages and deaths increase relative to births. However, Statistics New Zealand says that there will be considerable variation between areas, largely because of each area's current population age structure and different fertility and migration patterns.⁶
- 1.21 Because different age groups have different needs from public health services, future scenarios of population change matter for each DHB and for DHB services regionally and nationally. It is interesting to compare the overall percentage change with the percentage change by age group between the 2006 Census and the 2013 Census in each DHB district.
- 1.22 Figure 2 shows that populations in every DHB are getting older (the green blocks above the red line). Populations are also “hollowing out” in terms of younger people (the blue blocks below the red line), particularly people aged 30-44. The movements for each age group are stacked in a single bar for each DHB and do not indicate the total overall population change.

Figure 2
Census percentage change in age groups by district health board, 2006-2013



Source: Statistics New Zealand, 2013 Census district health board tables

- 1.23 The total populations in each region grew where the black dot is above the red (zero) line and reduced where the dot is below the red line. The coloured bars in Figure 2 show the percentage change in age composition for each DHB. Between 2006 and 2013, the change in population groups was largest for those aged 60 and over. The population growth in other age groups has fallen in all DHBs for those aged 30-44, and in many DHBs for those aged 0-14.
- 1.24 DHBs need to use sound asset management principles when planning their operating and capital expenditure on health services. Effective asset management begins with a good understanding of the DHB's population, current asset base, and future service needs – and a sound asset management plan that supports future service delivery.

How we did our work

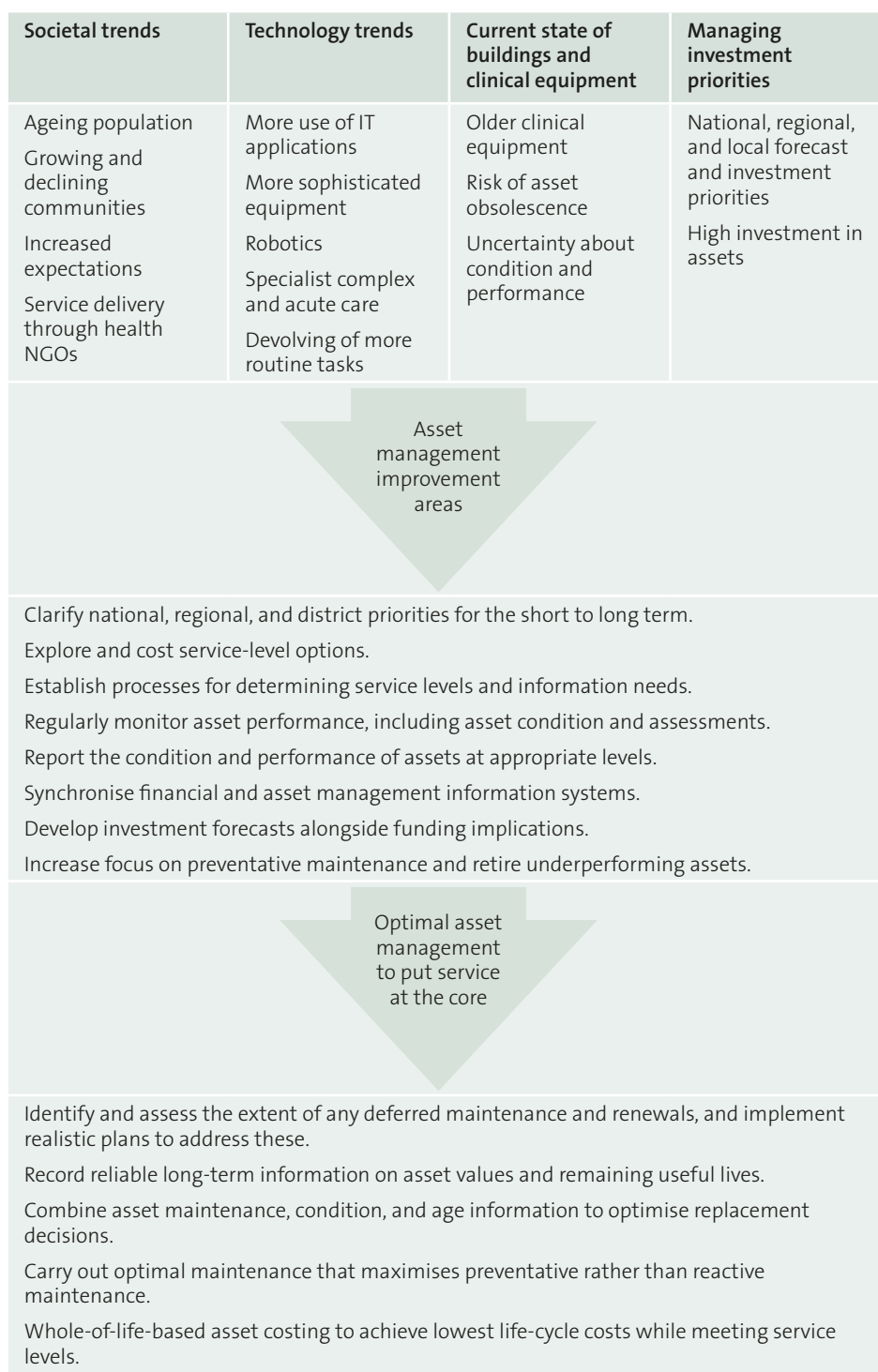
- 1.25 To inform our work, we analysed all DHBs' reported financial results and forecasts that were relevant to how they manage their assets.
- 1.26 As part of our 2013/14 annual audits, we collected and analysed specific information about how DHBs manage two classes of assets: their buildings and clinical equipment.
- 1.27 Our auditors applied a set of standard asset management questions to record information about the condition, performance information, financial forecasts, valuations, and management information systems for these classes of assets.
- 1.28 DHBs have other asset classes as well as buildings and clinical equipment, such as IT assets. We chose to focus on the buildings and clinical equipment used to deliver services in hospitals operated by DHBs. As a whole, these assets are intended to provide an ongoing service, even if individual assets or components within them are replaced or upgraded.
- 1.29 These assets make up a large proportion of each DHB's balance sheet. Property, plant, and equipment, which includes buildings and clinical equipment, makes up 78% of DHBs' total assets. Buildings are mainly the various hospitals each DHB provides services from. Clinical equipment is used for diagnosis or to provide medical procedures to treat disease or for rehabilitation. Clinical equipment does not include implantable, disposable, or single-use medical devices.

- 1.30 We analysed information from recent initiatives to improve asset management that the Ministry and the Treasury provided to us. This information included the results of:
- asset management maturity self-assessments completed in 2014 by all DHBs using a Treasury Asset Management Maturity Assessment Tool; and
 - expert review of nine of the asset management maturity self-assessments that the Ministry and the Treasury commissioned from Architecture, Engineering, Construction, Operations, and Management (AECOM), a large international company that specialises in asset management.
- 1.31 We held a workshop on the findings underpinning this report in September 2015. DHB asset and financial management practitioners and advisers, and representatives from the Treasury and the Ministry, attended this workshop.

Our expectations of DHB asset management

- 1.32 An integrated approach to service levels, assets, and financing within and between DHBs is becoming increasingly important.
- 1.33 To plan and manage their investments in their health assets, DHBs need to anticipate wider societal and technological changes. Investments also need to support the delivery of health services as they adapt to these changes. This is putting pressure on the health budgets of governments around the world.
- 1.34 We expected each DHB to:
- knows how well its mix of assets meets its service delivery needs, now and in the future;
 - understands, responds to, and manages demand for its assets and the risks related to them;
 - has reliable information about its assets and their condition that supports its planning, for long-term service delivery; and
 - links its asset management planning to its other service and financial planning.
- 1.35 Because DHBs are part of our national health system, we also expected to see the same knowledge, linking, and understanding at levels appropriate for regional and national planning.
- 1.36 Figure 3 shows the major influences on the health system and where asset management needs to manage and support effectively the intentions of the Health Strategy Update.

Figure 3
Major influences on the health systems and what needs to happen for asset management to support the Health Strategy Update



Structure of this report

1.37 The rest of this report has the following structure:

- Part 2 sets out the work we have done on DHB asset management since 2009 and the results of this work.
- Part 3 sets out the results of our analysis of the specific information we collected about building and clinical equipment, and of the other information we looked at about how DHBs manage their assets.
- Part 4 sets out our analysis of financial statements in DHBs' annual reports and what these statements tell us about how DHBs manage their capital expenditure.

2

Our previous work on asset management in the health sector

- 2.1 In this Part, we set out the work we have reported to Parliament on DHB asset management since 2009.
- 2.2 This information in this Part is primarily drawn from the following reports of the Auditor-General to Parliament:
- *Health sector: Results of the 2012/13 audits*, May 2014;
 - *Regional services planning in the health sector*, November 2013;
 - *Managing public assets*, June 2013;
 - *Health sector: Results of the 2011/12 audits*, April 2013;
 - *Health sector: Results of the 2010/11 audits*, March 2012; and
 - *Central government: Results of the 2009/10 audits (Volume 2)*, March 2011.
- 2.3 As a result of our ongoing work in the sector, we remain concerned about whether:
- appropriate levels of service drive asset management planning;
 - asset management planning is integrated with financial and service forecasts and intentions to meet the needs of each DHB's population; and
 - asset management information is maintained and updated to reflect the current asset base (asset type, age, size, location, performance, monitoring and condition, maintenance history, and cost) and to improve the asset management life-cycle approaches when making decisions about asset management.⁷

From 2009 to 2011: Putting service levels at the centre of asset management planning requirements

- 2.4 In 2009, the Ministry required DHBs to formally document their approach to asset management in an asset management plan. In response to that requirement, all DHBs produced an asset management plan in 2009. At the same time, regional asset management plans were also produced.
- 2.5 As part of our 2008/09 and 2009/10 annual audits of DHBs, we looked at each DHB's asset management plan. Most plans met or largely met the Ministry's requirements.

⁷ The *International Infrastructure Management Manual* (2011 edition) defines life-cycle as "the time interval that commences with the identification of the need for an asset and terminates with the decommissioning of the asset or any liabilities thereafter". It defines life-cycle asset management as encompassing "all asset management strategies and practices associated with an asset or group of assets that result in the lowest life cycle cost".

- 2.6 However, we had concerns about whether plans were up to date and connected to the service and financial intentions of DHBs. Our auditors' recommendations to DHBs on their asset management planning included:
- ensuring that appropriate levels of service drive asset management planning;
 - ensuring that asset management plans contain financial forecasts;
 - updating asset management plans to reflect the current asset base and planned hospital redevelopments;
 - reviewing asset information for asset type, age, size, location, performance, monitoring and condition, maintenance history, and cost; and
 - improving the asset management life-cycle approaches when making decisions about asset management.
- 2.7 After our 2010/11 audits, we looked for evidence that DHBs had changed their practices in response to our auditors' recommendations. There were discernible improvements in some DHBs (Auckland, MidCentral, Capital and Coast, and Hutt Valley DHBs). However, most DHBs had not improved how they plan to manage their assets.
- 2.8 Few DHBs documented their policy on the level of sophistication they seek for their asset management practices, in proportion to the scale and risk of their assets, to support their services effectively.
- 2.9 Links between asset management planning and DHBs' other service and financial planning were variable. Many still relied on planning from 2009, and the links between the assets, models of care, demand for health services, and outcomes sought were typically either not documented or out of date.
- 2.10 Most asset management plans provided a summary of assets owned. This typically focused on the age and a description of assets, without information about their condition and performance. The approach to managing risk or dealing with disaster was not clear.
- 2.11 We concluded that two factors typically hampered asset management planning:
- DHBs held information on different assets in separate systems – for example, buildings information held separately from clinical equipment and vehicle information – making it difficult to consider asset management planning as a whole.
 - Most DHBs' data contained information about equipment that had been fully depreciated and was beyond the end of its (theoretical) useful life but that remained in use, which suggested that DHBs did not have a good knowledge of the condition of their assets.

- 2.12 Overall, the plans did not put intended service levels at the heart of asset management planning. They focused on capital planning rather than considering all the types of expenditure needed on the assets. Also, some plans did not set out a sustainable approach to funding the work the assets needed.
- 2.13 We recommended that links between asset management plans and other planning needed to be strengthened – in particular, planning cycles needed to be better aligned.
- 2.14 We considered that there was scope for the Ministry to:
- encourage and support DHBs to see asset management planning as a core part of their service and financial planning, and to produce regional “joined-up” asset management plans; and
 - ensure that business cases for capital investment are fully integrated with service planning for the individual DHB, between DHBs, throughout a region, and nationally.
- 2.15 Amendments to the New Zealand Public Health and Disability Act 2000 in 2010 and 2011, and new regulations under the Act, brought new DHB planning requirements into force from 1 June 2011. The amendments and regulations:
- created a National Health Board, supported by specialist advisory committees, to deal with matters such as workforce, information services, and capital investment;
 - required DHBs to plan sub-regionally or regionally;
 - required DHBs to put in place the governance and support arrangements to deliver those plans; and
 - gave the Minister of Health the power to direct DHBs on matters to do with delivering regional services.

In 2012 and 2013: District health board asset management from a health and public sector perspective

- 2.16 In 2012, the Capital Investment Committee asked each region to agree a list of intended capital spending for the next 10 years, based on a notional budget for each region. The Capital Investment Committee is a specialist committee that advises the Minister of Health on capital funding for all projects that cost more than \$10 million, regardless of the source of funding Health. Slow progress on a National Asset Management Plan and gaps in the base information from DHBs and private health-care providers made it difficult for the Capital Investment Committee to prioritise spending.

- 2.17 A National Asset Management Plan has been in draft form since 2012. The Ministry told us that an annual update was now part of its work plan, but the Capital Investment Committee reported difficulty with agreeing a long-term capital plan. The Capital Investment Committee's difficulties included setting priorities for investment without a long-term service plan for health.
- 2.18 In June 2013, we published *Managing public assets*, which reported information about the asset management practices of 340 public entities (those owning assets worth more than \$2 million). This included all DHBs. We gathered information about how regularly the public entities reported information about the condition of their assets to decision-makers, the extent of deferred maintenance or deferred renewals,⁸ and whether the entities had asset management plans.
- 2.19 Ninety percent of DHBs checked the condition of their buildings regularly and had documented information on their significant assets and on the maintenance and/or renewal profiles for their buildings. However, health assets had some of the lowest condition ratings in the public sector, and only 80% of DHBs were actually carrying out their planned maintenance and renewal of buildings.
- 2.20 We published *Regional services planning in the health sector* in November 2013. In that report, we said that there are big demands on capital for major repairs to buildings that are beyond their useful life, to upgrade them to meet seismic standards and support modern standards of care.
- 2.21 We reported that capital investment in buildings based on regional services planning was at an early stage. Capital expenditure planning often took place before service planning. We saw and were told of tensions between getting on with these repairs and waiting to decide the best use of assets arising from new ways of working (based on clinical pathways and new models of care).
- 2.22 The regional capital committees were beginning to understand the full range of assets held throughout their regions. However, the links to capital planning were not clear, and the committees were not yet influencing or setting priorities for major investment in buildings based on regional services planning. Occasionally, the regions agreed collective priorities, but, in our view, the regional lists looked more like a summation of the separate DHB plans.
- 2.23 We concluded that, overall, meeting the needs of all agencies involved in preparing and approving business cases is difficult and that the needs of decision-makers are not always well met. Too few people have the skills for preparing robust business cases, and the unpredictable availability of capital funding makes it difficult to set up core capacity. This means that decision-makers rely heavily on consultants, advisors, and experts.

⁸ Renewals is the replacement or refurbishment of existing assets.

- 2.24 National capital funding cuts across regions, complicating the process of making regional decisions. There were concerns that DHBs could not afford their share of the capital needed for all these projects and initiatives, and that regional plans did not always reflect the effects of the national initiatives.

From 2012 to 2015: Asset management from the perspective of financial statement information

- 2.25 As part of our annual audits for 2011/12, we followed up on our recommendations (see paragraph 2.6) to individual DHBs. We reported that nine DHBs still needed to update their asset management plans. We recommended that three other DHBs improve their asset management plans.
- 2.26 We also looked at DHB asset management through the lens of financial statement results. We reported the total deficit, for all DHBs, from 2006/07 to 2011/12, including a breakdown by the four regions. The Central and South Island Regions had increasing deficit levels.
- 2.27 During this period, the Canterbury earthquakes affected Canterbury DHB, damaging facilities and disrupting services, displacing sections of the population, and affecting residents' health needs. Canterbury DHB recognised in its financial statements impairments of its buildings and equipment of \$33.8 million in 2010/11 and \$14.3 million in 2011/12. The DHB also identified \$28.9 million of specific additional costs as a result of the earthquakes.
- 2.28 Other DHB buildings were recorded as impaired or potentially impaired after DHBs considered their compliance with building codes and the seismic strength of their buildings. Examples included:
- Hutt Valley DHB – a potential impairment of \$21 million, with uncertainties about the carrying value of certain buildings because of seismic-strengthening issues;
 - Nelson Marlborough DHB – \$6.4 million impairment, mainly because of low seismic-strength assessment; and
 - West Coast DHB – impairment of \$2.6 million for buildings that are earthquake-prone.
- 2.29 We noted trends of increasing total assets, liabilities, and debt accompanied by consistently negative levels of retained earnings. As a result, we concluded that some indications of risk might warrant further consideration. These indications included:
- the negative levels of retained earnings as a result of deficits incurred in previous years;

- some DHBs' (apparently) limited financial ability to respond to unexpected events in the medium term by using their own financial resources – for example, on average, current assets cover only 59% of current liabilities;
 - the consistent underspending against budget for capital expenditure; and
 - the reasonably high variability of results throughout the health sector, suggesting inconsistency in the financial ability of some DHBs to manage potential short-, medium-, and longer-term financial risks.
- 2.30 With increasing and repeated evidence of a range of issues in asset management in the health sector since 2009, we repeated our financial analysis in our reporting on the results of our 2012/13 audits.⁹ We have updated this analysis for this report so that it covers the seven-year period from 2008/09 to 2014/15.
- 2.31 For all the seven years we reviewed, fewer than half of the DHBs had indicators at levels that would represent good financial and asset management. There are sizeable over-budgeting or underspending of capital, low levels of working capital, and moderate to high liabilities compared to assets.
- 2.32 Depreciation is an accounting estimate of the consumption of, or the cost of using up, an asset. We looked at whether DHBs were likely to be underinvesting in their assets by comparing capital expenditure to depreciation. Because there had been significant capital investment in recent years, with several hospital redevelopments, we expected a result of more than 100% (of capital expenditure over depreciation). Capital expenditure includes not only replacing existing assets but also spending on new assets, and the health sector has high capital needs.
- 2.33 The comparison resulted in an average of 100% to 150%, indicating a low to moderate risk of underinvestment in DHBs' capital assets. However, without good information about the split between capital expenditure on renewals and on new capital assets, the extent of underinvestment in replacement capital expenditure is clouded.
- 2.34 Our auditors also reported that many DHBs still did not have up-to-date asset management plans and that more than half of the DHBs needed to update or improve their asset management practices. Some were delaying carrying out this work until regional asset management plans and a national asset management plan had been developed.
- 2.35 In reporting our 2012/13 audits, we said that DHBs were working to improve their financial performance and to “live within their means” by focusing on delivering short-term results, particularly in planning and budgeting for operational activities. However, we warned that many of the longer-term results also suggested that the adequacy and alignment of financial resources might limit the

9 Controller and Auditor-General (2014), *Health sector: Results of the 2012/13 audits*, Part 4.

ability of DHBs to respond to unexpected events or exploit future opportunities without recourse to the Crown.

- 2.36 The sector trends we noted in 2010/11 of increasing total assets, liabilities, and debt have continued during the time that DHBs have been required to have asset management plans. There have also been consistently negative levels of retained earnings, suggesting there is little money available from operating surpluses to reinvest in DHB assets.

Managing buildings and clinical equipment to maintain health services

3

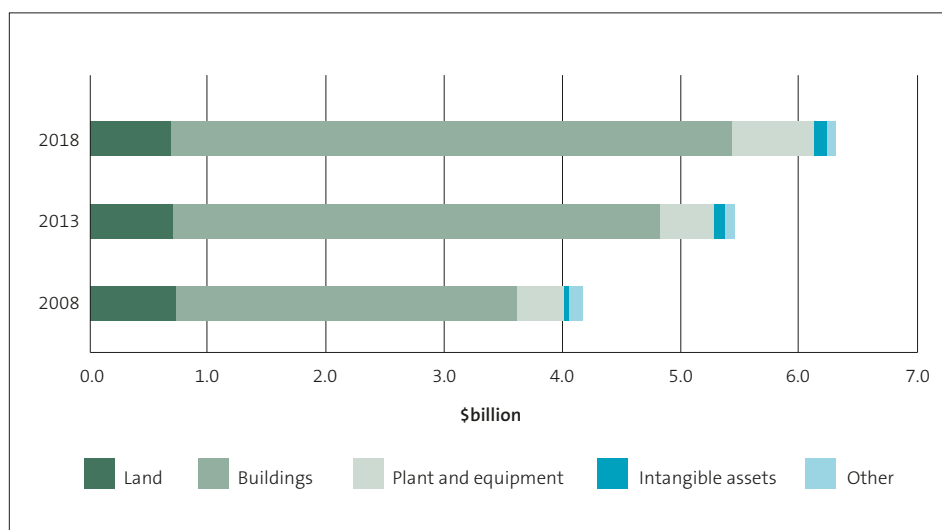
- 3.1 In this Part, we set out the results of our analysis of the specific information about building and clinical equipment asset management we collected as part of our 2013/14 audits of DHBs. For each of these two classes of assets as a whole, we discuss:
- their age and condition;
 - their levels of service for, and the performance;
 - the management information systems used; and
 - performance information reporting.
- 3.2 We also present the results of the self-assessments that all DHBs carried out at the request of the Ministry and the Treasury in 2014 and of Architecture, Engineering, Construction, Operations, and Management's (AECOM's) review of nine of these self-assessments.
- 3.3 The results of our work on asset management practices showed that:
- Levels of service for assets tend not to be well defined, which means that reporting of asset performance is generally weak.
 - Many DHBs have asset management information systems with advanced functionality but often do not use this functionality.
 - DHBs generally do not systematically collect, maintain, analyse, and use asset information – such as about age, condition, and performance, particularly for clinical equipment.
 - More than half of the DHBs do not regularly reconcile their asset management and financial information.
 - There is limited reporting to governors and senior managers about asset performance and condition.
 - Based on AECOM's review, up to two-thirds of DHBs might not have substantively updated their asset management plans since 2009, when asset management requirements were introduced.
- 3.4 This raises questions about how well DHBs are positioned to support future service delivery and financial decision-making.
- 3.5 Our results are reinforced by the DHBs' self-assessments. These self-assessments suggest that DHBs could improve many aspects of their asset management with moderate effort. The weakest aspects of current practice, and the aspects with the largest gaps between current practice and target maturity, are those assessing how well asset management is integrated and embedded into the DHB's overall processes and practices.

What do we know about the condition and remaining useful lives of existing buildings and clinical equipment?

- 3.6 Effective asset management means knowing the condition of assets, their likely remaining useful lives, and the potential for critical assets to fail. Knowing and planning for asset management needs can make a significant difference to the financial operations and likely future costs of a DHB.
- 3.7 Most DHBs gather information about the condition of their assets, especially critical assets. However, there are wide variations in how formally and regularly they assess and report this information. Only 12 DHBs have formal approaches to recording asset condition in an asset management information system (AMIS).
- 3.8 Asset revaluations are important for asset management because they necessarily include reassessing the best estimate of an asset's remaining useful life. Regularly reassessing the remaining useful lives of assets helps to forecast and plan asset replacements and renewals. Assessments of the remaining useful life of an asset can change over time, and assets can be impaired (such as those of the Canterbury DHB because of the Canterbury earthquakes) or become obsolete.
- 3.9 Even where information is available, DHBs do not always use it well – for example, to update asset management forecasts and expectations. The practice of regularly updating asset management plans did not seem to be well embedded in DHBs. Many asset management plans have not been substantively reviewed since 2009.
- 3.10 Overall, DHBs appear to have better asset management information for buildings than for clinical equipment. DHBs carry out regular revaluations (at least every five years) to determine the fair value of their building assets. Thirteen DHBs have buildings that are less than halfway through their useful lives.
- 3.11 Clinical equipment is valued on the basis of historical cost. DHB asset and financial management practitioners told us that the useful lives of many clinical equipment assets would not be reassessed from the initial expected life that was assigned when the assets were acquired, even though actual lives might have exceeded initial expected lives.

3.12 Figure 4 shows that buildings make up most of DHBs' assets.

Figure 4
 Health asset classes by value, 2008-2018



Source: The Treasury, 2014 Investment Statement, page 59. The 2018 values are forecast.

3.13 Our auditors estimated that buildings that are currently valued at \$24 million have remained in use past the end of their theoretical useful lives. Figure 4 shows that this represents a small proportion of the total value of DHBs' building assets.

3.14 Clinical equipment is included in plant and equipment. Figure 4 shows that, in 2013, plant and equipment made up less than \$500 million of DHBs' total assets. Our auditors estimated that more than \$300 million of clinical equipment has remained in use past the end of its theoretical useful life. Figure 5 shows the through-life¹⁰ of buildings and clinical equipment by DHBs.

¹⁰ The through-life is the proportion of the expected total useful life of an asset that has already been consumed.

Figure 5
Through-life of buildings and clinical equipment, by district health board

District Health Board	Through-life of buildings (%)	Through-life of clinical equipment (%)
Northern Region		
Auckland	34	73
Counties Manukau	11	79
Northland	38	83
Waitemata	42	69
Midland Region		
Bay of Plenty	41	64
Lakes	35	66
Tairāwhiti	40	53
Taranaki	68	76
Waikato	7	66
Central Region		
Capital and Coast	42	68
Hawke's Bay	66	53
Hutt Valley	41	66
MidCentral	53	66
Wairarapa	24	67
Whanganui	40	69
South Island Region		
Canterbury	69	76
Nelson Marlborough	42	68
South Canterbury	58	76
Southern	64	65
West Coast	84	72

Note: Through-life of buildings is calculated as 100% less the age profile of depreciated replacement cost divided by replacement cost. The replacement cost may apply to different years as the revaluation process takes place at least every three years. [More complicated than previously]

- 3.15 Overall, clinical equipment appears to be a long way through its useful life. No DHB has clinical equipment that is less than halfway through its useful life, and several DHBs have clinical equipment more than 75% through its useful life.
- 3.16 These results do not mean that DHBs are not investing in clinical equipment on an ongoing basis. Nor does it mean, given the changes outlined in Part 1 about the effect of technology on health assets that existing clinical assets should be

replaced on a like for like basis. However, as an asset class, the average age of clinical equipment appears to be increasing. This means that DHBs will need to plan how to keep delivering services for many clinical equipment assets reaching the end of their useful lives in the medium term. It might also mean that DHBs are not regularly reassessing the useful lives of clinical equipment and so might be depreciating clinical equipment assets too quickly.

- 3.17 In commenting on the draft of the report, some DHBs noted that the lack of up-to-date information about the useful life of their assets did not mean that they lacked a good knowledge of the condition of their assets. They observed that assets will often be suitable and safe for use beyond their initial useful life.
- 3.18 We agree with this observation. We consider that it reinforces the need to maintain good information about the actual performance and lives of assets. This allows DHBs to make practical and realistic plans for renewing and replacing those assets. It also allows them to plan for and manage the associated funding implications.
- 3.19 Our concern is that, at present, it is not clear that all DHBs are maintaining this information. DHBs need to improve their information about, and understanding of, these assets to manage the performance, maintenance, and eventual renewal or replacement of the assets.
- 3.20 Given the nature and range of clinical equipment assets, it might not be as cost-effective or useful to reassess their useful lives as it is for buildings. However, we consider that DHBs should reassess the useful lives of high-value and critical individual assets or of networks of assets.

Recommendation 1

We recommend that each DHB understand, respond to, and manage demand for its assets and the related risks.

Recommendation 2

We recommend that each DHB know how well its mix of assets meets its service delivery needs now, and in the future.

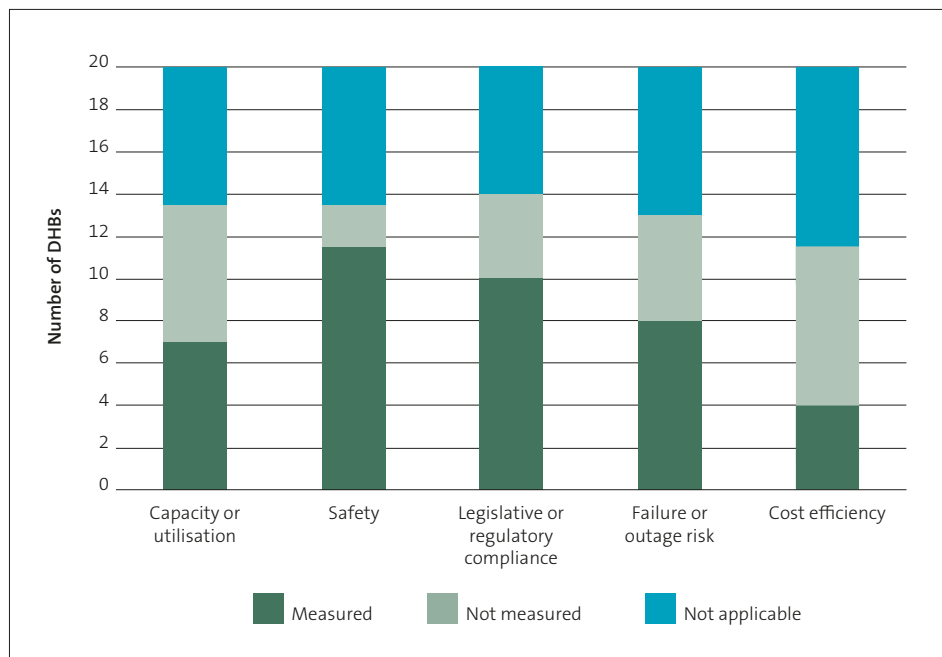
How is asset performance measured?

- 3.21 Asset performance relates to the ability of the asset to provide the agreed levels of service or service standards. In other words, is the asset “fit for purpose”?
- 3.22 Measuring asset performance involves three elements:
- agreeing on and defining the service required from using the asset;
 - regularly comparing the actual performance of the asset with the defined service standards; and
 - reporting this performance to the people responsible for decision-making.
- 3.23 DHBs should know what measures and targets about the performance of their critical assets are important to them, then monitor and report that performance regularly. As well as having asset management teams that monitor the performance of assets, DHBs do other kinds of monitoring – for example, clinical departments check that equipment meets clinical standards and have warrants of fitness that they are operating safely.
- 3.24 DHB asset and financial management practitioners and advisors told us that, although quite specific and demanding specifications are set when assets are purchased or commissioned, this rigour is often not maintained in monitoring the ongoing performance of assets.
- 3.25 Only half of the DHBs have systems for recording asset performance information about buildings, and 11 have systems for recording information about clinical equipment.
- 3.26 We looked at whether DHBs measured performance in what we considered would likely be important dimensions for health-related assets. The dimensions we reviewed were:
- capacity or utilisation;
 - safety;
 - legislative or regulatory compliance;
 - risk of asset failure or outages; and
 - cost efficiency.
- 3.27 Figure 6 sets out the five dimensions of asset management that DHBs most commonly measure. It shows that “not applicable” responses have the least variation. This reflects that not all DHBs have systems for recording asset performance. Asset managers of DHBs without systems for measuring and

monitoring assets tend to rely on clinical departments to alert them to asset performance concerns or issues.

3.28 On average, the DHBs that use systems to record asset performance measure seven performance dimensions (for both building and clinical assets). The two most commonly measured dimensions are safety and legislative or regulatory compliance.

Figure 6
Asset performance dimensions that district health boards most commonly measure



Note: Some sections in Figure 6 are not whole numbers because the numbers are an average of DHBs' performance in respect of buildings and their performance in respect of clinical assets.

- 3.29 We looked at DHBs' annual reports since 2010 to see what sort of performance measures and targets they include that would give readers an understanding of the services and results related to assets. Although we found limited information of this nature, some DHBs include information about operating theatre use.
- 3.30 Operating theatres are one of the most service-intensive and expensive assets in a typical major hospital. One DHB estimated that it costs an average of \$1,121 each hour to operate a theatre, excluding the cost of surgical personnel.
- 3.31 In the past, the Ministry required DHBs to report operating theatre use in their annual reports, but it no longer does so. Some DHBs have continued reporting operating theatre use, but others have not. In 2013, 14 DHBs reported operating theatre use.
- 3.32 We looked at publicly available information, primarily DHB annual reports from 2010 to 2014, to see what they said about the measurement of, monitoring of, and results achieved in operating theatre use.
- 3.33 Where results were reported, the rates for operating theatre use between 2010 and 2014 look impressive:
- The average operating theatre use was 85% of the time, and the rates ranged from 72% to 99%.
 - The rates were usually very close to the "base" or budgeted use and generally increased during the period.
- 3.34 There are catches. The principal issue is that the rates are for "resourced" use of the theatre (in other words, staff resource is assigned to the theatre). It does not include theatre sessions not allocated because of planned leave or maintenance. There also appeared to be some differences in how DHBs assessed "use".
- 3.35 One of the important aspects of measuring performance is the trend over time, so we are surprised that the Ministry did not maintain its expectation that DHBs report the measure.

- 3.36 Figure 7 describes another initiative described in the annual reports we reviewed, the Productive Operating Theatre.

Figure 7

Case study 1: The Productive Operating Theatre

The Productive Operating Theatre (TPOT) had its genesis in a series of improvement programmes from the National Health Service in the United Kingdom. One New Zealand DHB described it as “one of a series of programmes aimed to improve patient satisfaction and outcomes, staff work satisfaction, and efficiency in theatres. The key result areas include reduction in cost of consumables, stable nursing and support workforce, reduced turnaround times, and improved on-time starting and finishing of theatre sessions.”

For DHBs that have introduced TPOT programmes, the information reported indicates that there have been significant benefits to the efficient running of operating theatres. The DHB annual reports mentioned some of the initiatives:

- dedicated theatre nurses;
- changes to theatre schedules;
- ensuring that theatre sessions start on time;
- reduced turnaround times;
- taking steps to reduce cancellation rates;
- using a “minor procedures” room to free up theatres;
- for a proposed new hospital development, trialling a “mock” theatre to help refine surgical care processes and aid the design process; and
- developing better systems, including enhanced IT capability.

From the reports we reviewed, not only were theatres better used but there were also improvements in staff culture and morale. Staff were involved in the changes and unnecessary work flows were reduced. The initiative underscores that managing the performance of an asset usually involves managing the condition and availability of the physical asset and managing its use.

However, to sustain improvements, it is necessary to measure theatre use on an ongoing basis and to maintain and extend the TPOT initiatives. We realise that health professionals have many demands on their time. Nevertheless, this seems to us to be an initiative worthy of increased effort. It provides the multiple benefits of using expensive operating theatres better, better and more satisfying work practices, and more operations for patients.

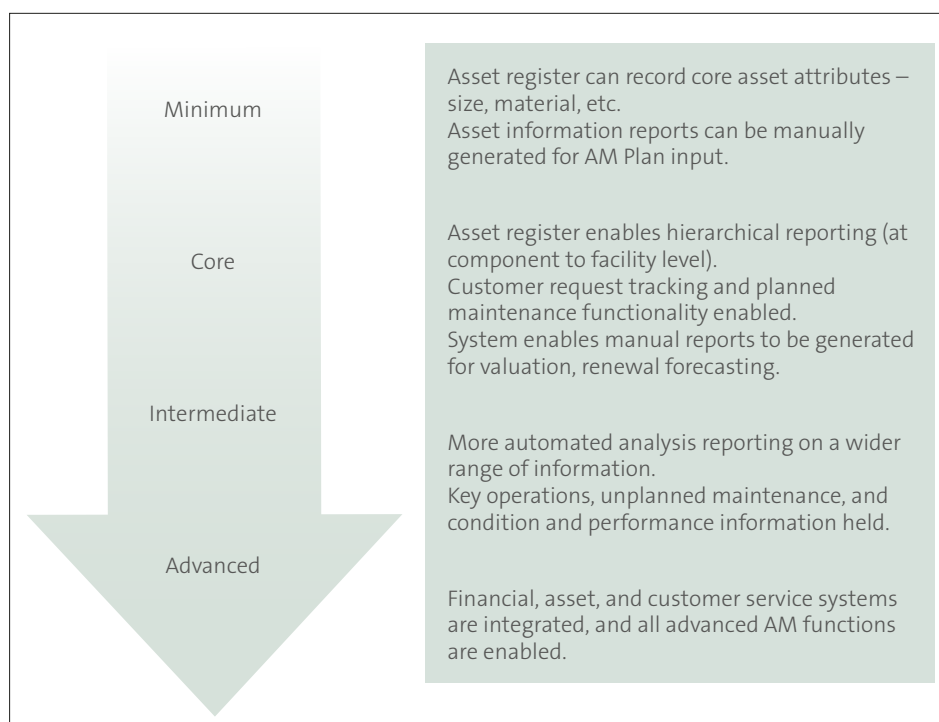
- 3.37 Since the Crown Entities Act 2004 was amended in 2013, the Ministry’s annual planning guidance has advised DHBs to include information about asset performance (availability, use, functionality, and condition) and management of assets in annual plans.

How is asset management information captured and integrated with financial information?

- 3.38 For entities with complex networks of assets, a formal AMIS is an important tool for dealing with the amount of information and analysis needed to support those assets.

- 3.39 Asset managers use an AMIS to help determine whether to maintain, renew, or replace (through new capital investment) assets. An AMIS can help justify the level and funding of asset-related spending.
- 3.40 The basic features of an AMIS provide essential information about assets. The features include the asset register, financial information, maintenance work recording, condition assessments, a record of which assets are critical, and a record of customer service requests. Advanced functions can include maintenance planning, asset performance, deterioration modelling, life-cycle cost optimisation, work management, risk management, and inventory control.
- 3.41 Figure 8 shows the Information Systems Maturity Index, which describes the range of AMIS functionality from minimum to advanced.

Figure 8
Information Systems Maturity Index



Source: NAMS (2011), *International Infrastructure Management Manual*, page 4/28.

- 3.42 Nearly two-thirds of DHBs use an external proprietary AMIS with extensive functionality for their clinical equipment and buildings assets. Only two DHBs do not use a formal AMIS.
- 3.43 Most DHBs use the core functions of their AMIS (most commonly, the asset register, basic financial information, and maintenance work recording), but a third did not use all the available functionality. For instance, recording performance information is a function available in most of the various proprietary AMIS that DHBs use. However, only about half of the DHBs use a formal system to record asset performance.
- 3.44 The ability to easily integrate and reconcile the AMIS with the DHB's financial management information system (FMIS) is also important for managing DHB assets and for planning and managing capital expenditure. Easily integrating and reconciling asset and financial information can help DHBs to optimise their decisions about the best mix and timing of asset maintenance, renewal, and replacement options based on the benefits, costs, and the DHB's needs and risks.
- 3.45 Most DHBs have separate information systems for managing their assets and for managing their finances. Nine perform regular reconciliations of their AMIS and FMIS. Others do not reconcile their AMIS and FMIS, using their FMIS for asset information even though their AMIS has more sophisticated functionality.

Who gets information about the condition and performance of assets?

- 3.46 Almost three-quarters of DHBs report asset condition on some basis, generally "by exception as issues arise" to the asset manager. By comparison, reporting asset performance is patchy. Only five DHBs (which use formal systems for performance) record and report building and clinical asset performance regularly. Information on asset performance monitoring is often generated by the asset/facilities team or a third-party contractor responding to the service requests of the day-to-day clinical users of equipment and facilities.
- 3.47 The Board of a DHB or a subcommittee tends to receive reporting of only high-level asset management matters or on a "by exception" basis about major issues (such as asset failures).
- 3.48 The extent of reporting based on "response to service request" and "by exception as issues arise" suggests that DHBs could take a more managed and integrated approach to asset performance, use, condition, and future-needs forecasting.

- 3.49 DHB asset management practitioners told us that the limited visibility of asset performance and condition can sometimes mean that senior levels of DHB governance and management might not appreciate how important asset management is to efficient service delivery.
- 3.50 Many different professional staff and services need to be co-ordinated to make effective use of both staff and assets. One asset manager told us that dealing with asset information about clinical equipment in particular is difficult because there tends to be no clear point of accountability and responsibility for that information.
- 3.51 DHBs should work to integrate assets with other information (such as financial or service performance information), and asset, financial, and clinical managers should share information for longer-term forecasting and service planning, as well as for day-to-day service delivery.

Recommendation 3

We recommend that each DHB has reliable information about its assets and their condition that supports its planning for long term service delivery.

How do district health boards assess their own current asset management practice?

- 3.52 The Treasury and the Ministry have been working to improve the asset management practice maturity of DHBs. In 2014, all DHBs assessed their “current practices” and “appropriate practice” targets against 17 aspects of asset management maturity.¹¹ The Ministry selected nine DHBs’ self-assessments for expert review by AECOM.¹²
- 3.53 The current practice state of each aspect and the target maturity state was assessed and scored out of 100. The scores were put in bands as follows:
- aware: 0-20;
 - minimum: 25-40;
 - core: 45-60;
 - intermediate: 65-80; and
 - advanced: 85-100.

11 The 17 aspects of asset management maturity the self-assessments covered were asset management policy and strategy, levels of service and performance management, demand forecasting, asset register data, asset condition assessment, risk management, decision-making, operational planning and reporting, maintenance planning, capital investment strategies, financial and funding strategies, asset management teams, asset management plans, information systems, service delivery models, quality management, and improvement planning.

12 AECOM selected Northland, Auckland, Counties Manukau, Waikato, Wairarapa, Capital and Coast, Nelson Marlborough, West Coast, and Southern DHBs for review.

- 3.54 There were variations between self-assessments and the expert-reviewed assessments prepared by AECOM. For instance, the average gap between the current practice and target maturity for all DHBs for all aspects was 29.5, or a two-band gap between practice and target maturity. However, the gaps between practice and target maturity were greater for DHBs reviewed by AECOM than for those that assessed themselves.
- 3.55 Figure 9 shows the strongest and weakest aspects of current asset management practice and the aspects with the smallest and largest gaps between current practice and the target maturity state.

Figure 9
District health board self-assessments of asset management maturity for current practices and the target maturity state

Current practice score		Current practice to target maturity	
Strongest aspects (> 60: Intermediate)	Weakest aspects (< 50: Core)	Smallest gap (< 20)	Largest gap (> 30)
Service delivery models	Financial and funding strategies	Decision-making	Improvement planning
Asset register data	Asset management policy and strategy	Asset management plans	Levels of service and performance management
Decision-making	Quality management	Demand forecasting	Asset management policy and strategy
Demand forecasting	Asset management plans	Capital investment strategies	Asset management teams
	Asset management teams	Operational planning and reporting	
	Improvement planning	Information systems	

- 3.56 The Ministry and the Treasury identified several common issues, challenges, and trends from AECOM's report. These include:
- Although staff were committed and well intentioned, there was a general lack of knowledge about comprehensive asset management principles.
 - AECOM was not convinced that there was a good level of understanding of the longer-term expenditure profile or planning to accommodate the increased expenditure needs as assets deteriorate.
 - Although future population and demographic changes and forecast health service needs were generally understood, optimising the location of service provision was less well understood and the implications for facilities and equipment tended to be short term and reactive.

- DHBs used a large variety of IT systems, but there was little integration between systems and manual reconciliation of asset information.
 - Maintenance planning for facilities was generally reactive.
- 3.57 AECOM also reported that all DHBs expressed a desire for the Ministry to play a greater role in facilitating asset management and best practice information-sharing, providing guidelines and tools, and setting clear directional expectations.
- 3.58 The assessments identify many similar areas to those we have expressed concern about in this report. DHB self-assessments suggest that they could improve many aspects with moderate effort. However, three aspects appear on both the list of weakest aspects and of largest gaps. These aspects relate to how well asset management is integrated and embedded into the processes and practices of DHB management. We set out how AECOM describes intermediate and advanced practice for these aspects in Figure 10.

Figure 10
Characteristics of intermediate and advanced asset management for the aspects of weakest current practice and largest gap to target maturity for district health boards

	Intermediate	Advanced
Asset management policy and strategy	Expectations of each business activity are supported by action plans, resources, responsibilities, and time frames. Asset management policy and strategy is reviewed and adopted by the Executive Team each year.	Asset management policy and strategy is fully integrated into the organisation's business processes and subject to defined audit, review, and updating procedures.
Asset management teams	All staff in the organisation understand their role in relation to asset management, it is defined in their job descriptions, and they receive training aligned to their roles. A person on the Executive Team has responsibility for delivering the asset management policy and strategy.	There is strong leadership of the asset management functions throughout the organisation. There is a formal asset management capability management programme. The cost-effectiveness of the asset management structure has been formally reviewed.

Improvement planning	There is formal monitoring and reporting on the improvement programme to the Executive Team. Project briefs have been developed for all key improvement actions. Resources have been allocated to the improvement actions.	There is evidence that agreed improvement plans have delivered the expected business benefits.
----------------------	--	--

- 3.59 Decision-making appears in Figure 9 on both the strongest aspect and the smallest gap list. AECOM describes the maturity bands as:
- Intermediate: Formal decision-making and prioritisation techniques are applied to all operational and capital asset programmes within each main budget category/business unit. Formal decision-making techniques are applied to major projects and programmes. Critical assumptions and estimates are tested for sensitivity to results.
 - Advanced: As for Intermediate, plus the decision-making framework enables projects and programmes to be optimised throughout the business. Formal risk-based sensitivity analysis is carried out.
- 3.60 Good asset management practice emphasises that best results are achieved when all the aspects are collectively operating at a strong enough level for the nature of the assets involved and the service delivery challenges facing the organisation. This raises questions about how effective the contribution of good decision-making about assets can be if asset management is not well integrated and embedded into the processes of each DHB.
- 3.61 Figure 11 describes the practices of Auckland DHB that resulted in it achieving good overall results in AECOM's review of asset management maturity assessments.

Figure 11
Case study 2: Auckland District Health Board's asset management practices

This case study discusses Auckland DHB's asset management practices and provides some reflections about how it has strengthened its asset management in recent years.

Auckland DHB says that the support for, and expectations from, the Ministry for capital expenditure information were a useful prompt to improve its asset management. In response, Auckland DHB decided to develop its internal asset management capability.

It brought the preparation of the DHB asset management plan and capital expenditure forecasting in-house (rather than relying on external providers). A formal asset management working group made up of members from the Facilities, Clinical Equipment, Information, and Finance functions was involved in Auckland DHB's asset management maturity self-assessments.

Co-ordinated capital and asset management planning was put in place to ensure a whole-of-DHB perspective for all asset classes (buildings, clinical equipment, IT/IM, and other assets) and between service groups, to look after existing assets and their replacement, as well as planning for new assets to meet growth. Affordability of capital in terms of both operational cost impact and financing requirements, is assessed centrally within the DHB to ensure that financial sustainability is not compromised.

Auckland DHB attributes its strong asset management to good capability within the Facilities team, engagement of the Facilities team with key staff within services, and a management structure that reinforces integration and engagement.

This management structure is based on single-point accountability at service-group level. Clinical leaders are appointed as directors responsible for each directorate, supported by general managers, finance personnel, and human resources personnel. Directors are responsible for managing assets within their portfolios, planning for their replacement, and identifying any capacity increases required. A Capital Asset Management and Planning Committee, made up of all the directorate leaders, takes responsibility for investment decision-making, prioritising capital expenditure, and monitoring asset management improvement initiatives throughout the DHB.

Particular aspects of Auckland DHB's asset management planning that AECOM assessed as strengths in its expert review are described below.

Demand forecasting: Demand drivers are identified, analysed, and documented. Health services needs are assessed and effects on assets and facilities are identified and projected through models, including a bed model based on the Ministry's demand model, a theatre model based on a contracted analysis, and space modelling. Further modelling work is required to inform factors such as service demand, capacity, and models of care changes to inform facility and capital requirements. Auckland DHB has recently begun developing a Clinical Services Plan to better inform its future capacity requirements and the scope and timing of capital investments.

Decision-making: Auckland DHB developed a comprehensive Investment Manual jointly with Waitemata DHB to provide a (national and regional) system view of capital planning and funding for the DHB sector as well as detailed district capital processes and business case development guidelines. The manual defines thresholds for analytical rigour and approval, and an options analysis framework. The Capital Asset Management and Planning Committee prioritises major projects by using a risk framework tied to service outcomes. Although the prioritisation process tends to be short term and driven by financial affordability, improvement to medium- to long-term plans is intended.

Maintenance planning: Detailed maintenance and equipment certification programmes are in place, as are disaster response/recovery plans for facilities. Operating and maintenance plans have been prepared for all systems and are routinely required as part of the technical information on completed capital works. A vehicle maintenance contract is in place. Forensic root cause analysis is carried out on all significant plant failures and renewals planning factors in maintenance activity and costs, although the optimal blend of reactive versus planned or prescriptive versus performance maintenance is not specifically assessed.

Capital investment strategies: Capital projects are identified and prioritised using a prioritisation tool. The Capital Investment Manual describes approval thresholds and the degree of justification required. Limitations include the lack of a clinical services plan and a level-of-service framework to systematically identify what the project needs to deliver. The Asset Management Plan is used for forecasting capital expenditure, limited by available cash. Capital expenditure bids and intentions are submitted by all services and informed by various sources.

Information systems: A mix of systems is used, although these have limited inter-connectivity. Auckland DHB uses a proprietary AMIS for building and plant assets and for about 18,500 items of clinical equipment. Information is not held centrally for a large number of assets, where maintenance is provided by contractors (for example, radiology and laboratories).

Service delivery models: Auckland DHB has found in the past that a fully contracted-out service delivery model to one maintenance service provider does not provide good value for money. It uses a blend of internal and external maintenance contracts. The Facilities team carries out routine clinical equipment servicing and facility repairs and maintenance. Larger or more specialised works are contracted out, generally using open market procurement. Standard contracts and formal tendering process are in accordance with central government guidance.

Getting traction on asset management improvement initiatives

- 3.62 Although there has been an emphasis on improving asset management since 2009 and practice within individual DHBs has been strengthened, our audit work suggests that initiatives during the last decade have improved DHBs' overall asset management to only a limited extent.
- 3.63 In our audit work on DHBs' management of buildings and clinical equipment, we found that many DHBs had last updated their asset management plans in 2009.
- 3.64 Participants in our workshop considered that initiatives now under way might help achieve change. One such initiative is the Health Asset Management Improvement Group, which was formed in 2015 to support DHBs in improving their asset management maturity.
- 3.65 Some participants also pointed to the Ministry's Health Strategy Update work and new requirements set out in Cabinet Office Circular CO 15/5 *Investment Management and Asset Performance in the State Services* as increasing focus on asset management.

- 3.66 The participants noted that initiatives to improve asset management will need to:
- develop consistent health-asset metadata for all DHBs and others involved in DHBs' asset management planning and decision-making to use;
 - build more robust cases for funding changes based on good information;
 - use information to co-ordinate and communicate the overall plan, picture, and consequences;
 - look at spatial planning needs to understand and manage future demand and the resulting asset needs; and
 - clarify national and regional planning intentions and funding envelopes to allow district responses to develop.
- 3.67 In 2015, the Ministry updated its Operational Policy Framework to incorporate the Treasury's capital assessment guidance and the Cabinet's Capital Asset Management policy. Under these changes, DHBs are now required to do formal asset management planning. This means that they must prepare an asset management plan that shows planned asset replacement and the expected financing arrangements, including the use of cash generated from operations. Asset management plans must address:
- strategic asset management;
 - strategic asset financing;
 - facilities and major equipment; and
 - Information Services Strategic Plan.¹³
- 3.68 Asset management plans must be maintained as a "live document" and kept up to date. Components of the asset management plan will be required as part of Annual Plans, Regional Service Plans, and business case development. There are currently no expectations to provide the asset management plans to the Ministry.
- 3.69 We consider that these requirements are an important opportunity for DHBs to improve their asset management information and planning. We expect each DHB, the Ministry, the Capital Investment Committee, and regional capital committees to use them to improve DHBs' asset management.

Recommendation 4

We recommend that the Ministry of Health and the Treasury provide support to help DHBs to improve their asset management practices, including making more effort to identify, share, and implement the lessons from the leaders of DHB asset management.

13 See Cabinet Office Circular CO 15(5), *Investment Management and Asset Performance in the State Services*, <http://www.dpmc.govt.nz/cabinet/circulars/co15/5>, and the Treasury's information about investment management (and asset management) at <http://www.treasury.govt.nz/statesector/investmentmanagement>.

Asset investment decision-making

- 4.1 In this Part, we set out:
- how funding arrangements for DHBs deal with capital investment decisions; and
 - what financial statements tell us about management of capital expenditure.
- 4.2 Many factors can influence the results of the financial measures we assessed – in particular, the quality of the underlying asset management information. Therefore, we consider that each DHB should examine this financial analysis further, along with the improvements in asset management information we described in Figure 3.
- 4.3 We found that, for all DHBs¹⁴ since 2009:
- Capital expenditure is more than depreciation but is highly variable between DHBs. This suggests that, although some DHBs are renewing or replacing their existing asset bases as they are consumed over time, others are not.
 - Actual capital expenditure is less than budget. This suggests that DHBs might not be carrying out the capital expenditure needed to deliver their services in the future and to maximise the useful life of their assets.
 - Almost half of DHBs' capital expenditure is funded externally (through Crown debt or equity) rather than internally through DHBs' net operating cash flows, indicating that DHBs rely heavily on funding from the Crown to replace and renew assets.

How do funding arrangements for DHBs deal with capital investment decisions?

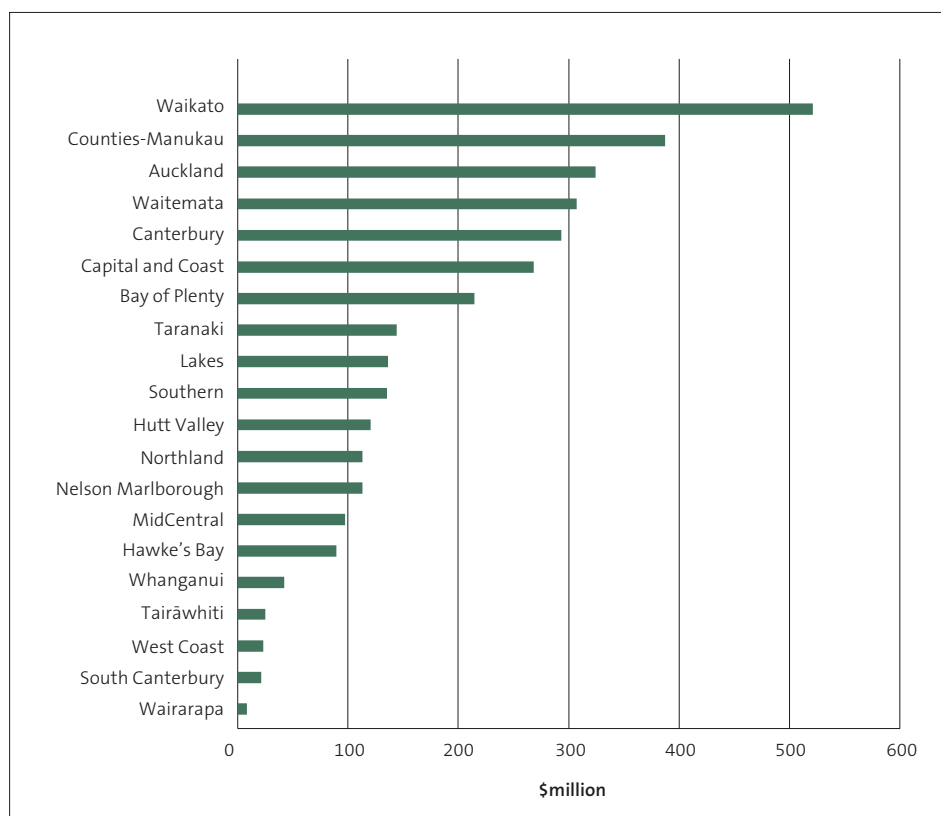
- 4.4 A population-based funding formula has been used since 2003 to determine the share of funding to be allocated to each DHB.
- 4.5 Under section 41 of the New Zealand Public Health and Disability Act 2000 and section 51 of the Crown Entities Act 2004, every DHB must operate in a financially responsible manner. They must:
- endeavour to cover all their annual costs (including cost of capital) from their net annual income;
 - prudently manage their assets and liabilities;
 - endeavour to ensure their long-term financial viability; and
 - act as a successful going concern.
- 4.6 Under its Operational Policy Framework, the Ministry requires each DHB to operate within the total funding agreed through the Annual Plan process and ensure that it is not overcommitting itself. If it appears likely that a DHB will run a deficit or be unable to meet its cash flow commitments at any time, the DHB

¹⁴ The financial statement analysis in this section uses parent data and excludes Otago and Southland DHBs, which were merged into Southern DHB in 2010.

must immediately advise the Ministry. DHBs are advised to be aware that deficit support funding will be provided only where the DHB cannot fund its deficits from its own balance sheet. There are constraints on how this funding can be applied.¹⁵

- 4.7 Additional funding is provided within Vote Health for debt or equity for DHBs or health sector Crown agencies to cover new investments or balance sheet reconfiguration, or to invest in specific health-sector assets. In 2015/16, this multi-year appropriation was \$768 million.
- 4.8 Capital expenditure by all 20 DHBs from 2008/09 to 2014/15 has been nearly \$3.4 billion. Figure 12 shows that most of this expenditure has occurred in Waikato and the greater Auckland area and, to a lesser extent, in Canterbury.

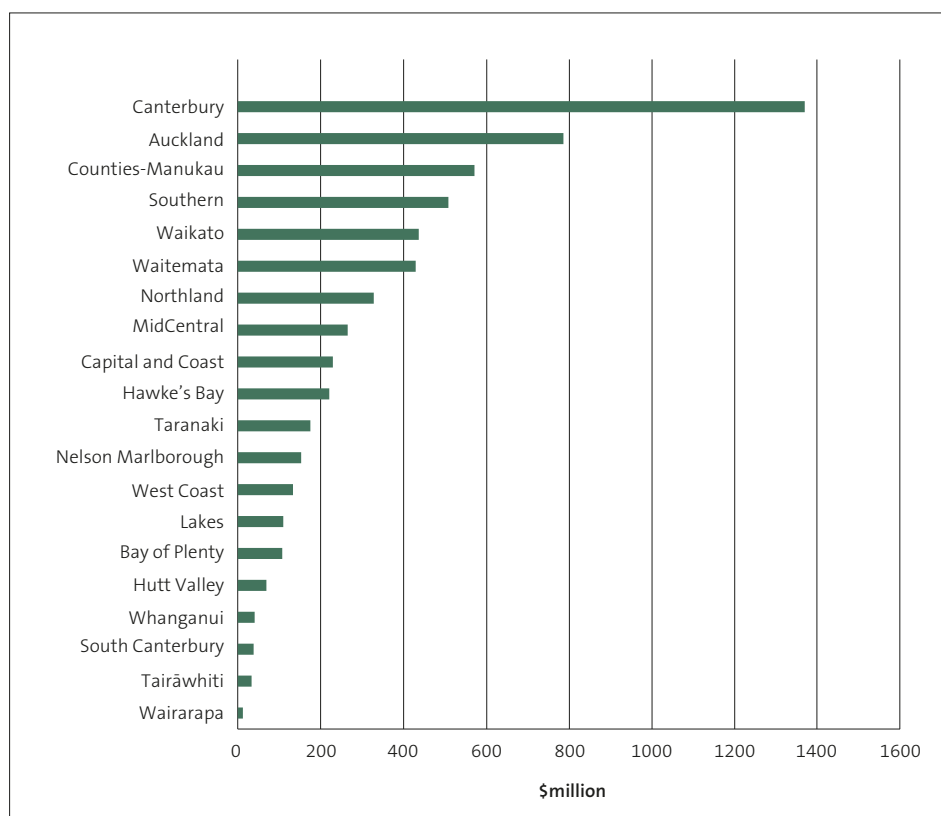
Figure 12
Capital expenditure by district health board, 2008/09 to 2014/15



4.9 Proposed capital investment in all 20 DHBs for the next 10 years is forecast to be more than \$6 billion. More than a third of this expenditure is forecast to be spent in the high-growth Auckland and Waikato areas and 23% in the Canterbury area. The Treasury's *Ten-Year Capital Intentions Plan 2014/15* says that "capital prioritisation will need to be made in years 5-10 to balance the needs of the growing population in the Northern Region with the need for replacement of some South Island and Auckland Region facilities".¹⁶

4.10 Figure 13 shows forecast capital expenditure by DHB over the next 10 years from 2014/15 to 2023/24.

Figure 13
10-year forecast capital expenditure, by district health board



16 See <http://www.infrastructure.govt.nz/plan/2015>.

- 4.11 In commenting on the draft of this report, several DHBs expressed concern that 10-year forecasts are likely to be understated. They said that, historically, DHBs planned their capital expenditure three to five years ahead but are now planning 10 years ahead. This change in approach means that new needs are being identified when forecasts are made.
- 4.12 The Health Strategy Update and the two independent reviews carried out as part of the update noted the following:
- *There is a lack of visibility of results that makes it hard to prioritise funding or take into account long term, cross-sectoral benefits from investment.*
 - *Service mix and design changes are too slow to address changes in demand. Often our funding and contracting arrangements embed the status quo, instead of allowing us to work differently.¹⁷*
 - *DHBs often operate in regional and financial isolation, rather than jointly within a New Zealand-wide system, focused on long-term health outcomes.*
 - *Boards and executives are primarily held accountable for their DHB “working within their financial means” while meeting the Government’s priority KPIs (in primary and secondary care). There is a lack of incentives to support improved performance in other DHBs, especially those nearby in terms of geography or care specialties.*
 - *Enabling infrastructure issues which impact the whole system are often negotiated with each of the 20 individual DHBs. Decisions are then made based on the short-term fiscal impact on each of the DHBs, rather than for a national whole-of-system benefit.¹⁸*
- 4.13 In our previous reports to Parliament on the results of our audits in the health sector, we have noted that DHBs were working to improve their financial performance by seeking efficiency and productivity gains in clinical and support services.¹⁹
- 4.14 During our 2014/15 annual audits, we observed that some DHBs seem overly focused on achieving a particular bottom-line result. Our auditors noted that DHBs are managing their financial results carefully with the objective of reporting close to break-even or budgeted surplus or deficits. DHBs need to approach

17 Ministry of Health (2015), *Update of the New Zealand Health Strategy: All New Zealanders live well, stay well, get well: Consultation draft*, page 7. See also Ministry of Health (2015), *From Cost to Sustainable Value: An Independent Review of Health Funding in New Zealand*, commissioned by the Director-General of Health, page 15.

18 Suckling, Connolly, Mueller, and Russell (2015), *The New Zealand Health System: Independent Capability and Capacity Review*.

19 Office of the Auditor-General, *Health Sector: Results of the 2011/12 audits*, part 5, and *Health Sector: Results of the 2012/13 audits*, part 4.

the cut-offs for financial year-end final balances and amounts, and valuation assumptions consistently, without bias to the desired year-end result.²⁰

- 4.15 Our 2013 report *Regional services planning in the health sector* identified issues in major investment planning (see paragraphs 2.20-2.24). We reported that:
- Regional capital committees do not generally appear to be influencing or setting priorities for major investment in buildings based on regional services planning. Regional lists continue to look more like a summation of the separate DHB plans.
 - Intended capital spending for the next 10 years, based on a notional budget for each region, is now included in the Treasury's Ten-Year Capital Intentions Plan. However, the effects of these initiatives on operational and capital maintenance and renewal costs are not always reflected in DHB funding.
- 4.16 In our work for this report, we saw no evidence that the situation we described in our 2013 report had significantly changed. Therefore, we looked at three capital expenditure measures in DHBs' financial statements for the past seven years to see what they might suggest about how DHBs are managing capital expenditure:
- We looked at capital expenditure to depreciation as a proxy for what DHBs need to spend each year to renew or replace their existing asset base as it is consumed over time. We expected capital expenditure to be at, or greater than, 100% of depreciation.
 - We looked at actual to budgeted capital expenditure because DHBs should forecast and spend the capital expenditure needed to continue to deliver their services and to optimise the useful life of their assets. We expected actual expenditure to be within +/-10% of budgeted capital expenditure.
 - We looked at net operating cash flows to capital expenditure as an indication of the extent to which DHBs are able to fund their asset reinvestment (including building the financial reserves to replace and renew assets) internally rather than through Crown debt or equity. As discussed in paragraphs 4.5 and 4.6, DHBs are expected to operate in a financially responsible manner, so this ratio should be at, or greater than, 100%. However, as noted in paragraph 4.7, additional funding is provided within Vote Health, including for investments in specific health-sector assets.
- 4.17 We looked at these measures in two ways:
- the aggregate result, since the Ministry required DHBs to document their approach to asset management in asset management plans, from 2008/09 to 2014/15; and
 - the overall result in these measures for DHBs compared to two other types of public sector entities: local authorities and tertiary education institutions.

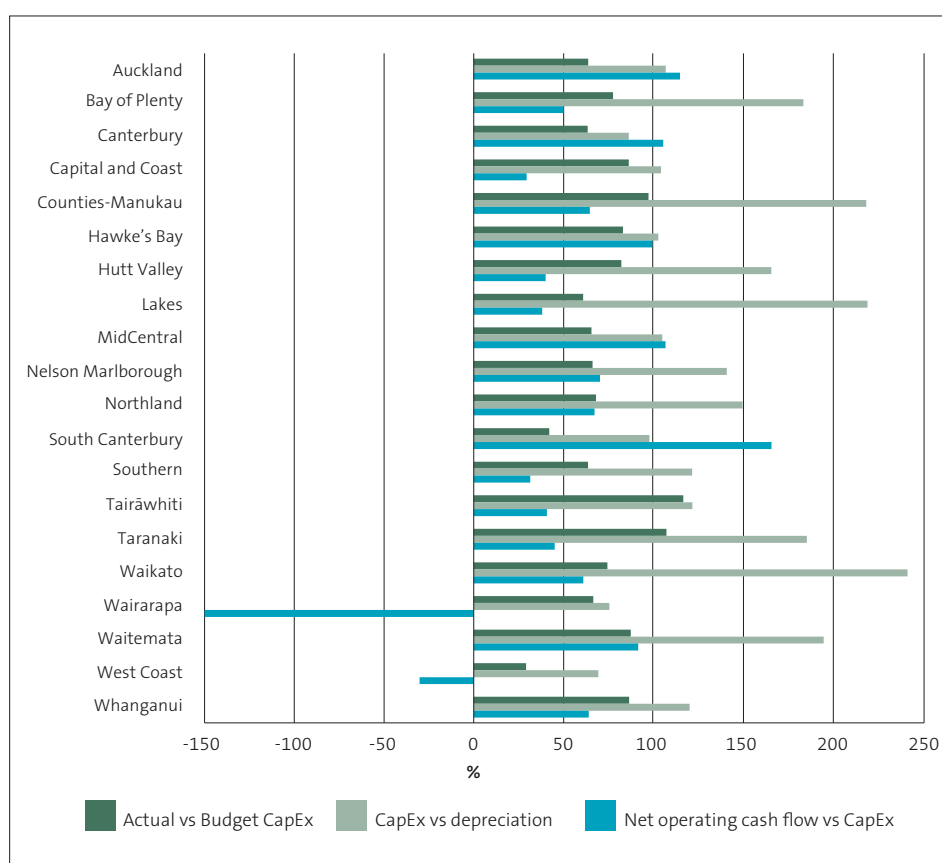
20 Address by the Auditor-General to the Health Sector Finance Workshop, 20 October 2015.

- 4.18 We looked at the measures in aggregate because it removes the fluctuations that occur between years and between DHBs, to focus on the overall result for DHB asset management.
- 4.19 Although local authorities and tertiary education institutions have different purposes, natures, and responsibilities than DHBs, they also share some similarities that mean it is useful to compare. These similarities are that they manage both building and specialist equipment assets to deliver public services, elections are used to appoint some or all of the governing body members, and they rely on rate or taxpayer funding as a major source of revenue.

Managing capital expenditure

- 4.20 Figure 14 shows that, on average, for all DHBs:
- capital expenditure is more than depreciation (the average is 140%) but is highly variable between DHBs;
 - actual capital expenditure is less than budget (the average is 74%); and
 - just over half of all capital expenditure is funded internally through DHB net operating cash flows (the average is 55%), rather than externally.
- 4.21 Figure 14 also shows that the results for the three measures are quite variable by DHB.
- 4.22 Counties Manukau, Taranaki, and Waitemata DHBs were in the first five of all 20 DHBs for two or more of these measures.
- 4.23 West Coast, Wairarapa, Capital and Coast, Lakes, and Southern DHBs were in the bottom five for two or more these measures.
- 4.24 West Coast, Wairarapa, and Capital and Coast DHBs also had letters of support for each of the past five years. Letters of support are letters from the Ministers of Health and Finance to the governors of DHBs in financial difficulties to provide assurance that the DHBs remain a going concern.
- 4.25 These three DHBs were included in the nine DHBs whose asset management maturity self-assessments were reviewed by AECOM. They received average or better ratings compared to the other six AECOM reviewed, suggesting no obvious relationship between the maturity of their asset management practice and capital expenditure management.

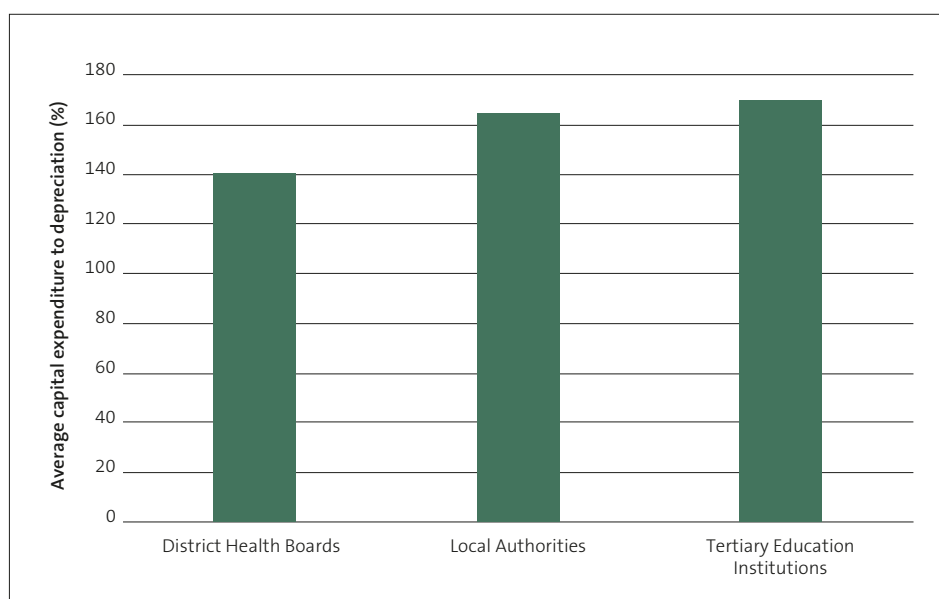
Figure 14
Capital expenditure measures by district health board, 2008/09 to 2014/15



Capital expenditure to depreciation

- 4.26 Depreciation is an accounting estimate of the consumption of, or the cost of using up, an asset. It is relatively uniform compared to capital expenditure, which can be more variable from year to year depending on what asset renewals and/or replacements are needed. Comparing the two over time can indicate whether enough is being spent on renewing the existing asset base.
- 4.27 Capital expenditure above depreciation (100% or more) might suggest that DHBs are spending enough to renew the existing asset base. However, as Figure 15 shows, DHBs have lower percentages of capital expenditure to depreciation than local authorities and tertiary education institutions.

Figure 15
Average capital expenditure to depreciation for district health boards compared with local authorities and tertiary education institutions, 2008/09 to 2014/15



- 4.28 There is also considerable variability in the relationship between capital expenditure and depreciation between individual DHBs (see Figure 14). This variability indicates that different DHBs have very different asset circumstances (for instance, age and condition).
- 4.29 The usefulness of capital expenditure to depreciation as an indicator is stronger when information about the age, remaining useful life, and likely replacement cost is reliable. In paragraph 3.11, we noted that clinical equipment is valued at historical cost and appears to be a long way through its useful life. This could mean that clinical equipment is not being maintained and replaced, and that information about its useful life is not being kept up to date.
- 4.30 Capital expenditure that is more than depreciation suggests additional reinvestment above the consumption of existing assets. However, in some circumstances, such as where depreciation is based on the assets' historical cost, capital expenditure might need to be 150% or more to suggest reinvestment above consumption.

- 4.31 Lower capital expenditure compared to depreciation – for instance, by West Coast²¹ and Wairarapa DHBs – suggests reinvestment below the consumption of existing assets. Underspensing on renewals by DHBs over time could affect the level of service that they can provide in the future.
- 4.32 Figure 12 shows that, between 2008/09 and 2014/15, major capital expenditure has occurred in the Waikato, Waitemata, Auckland, Counties Manukau, and Canterbury DHBs. Christchurch hospital facilities damaged by the Canterbury earthquakes are now being redeveloped. (We have reported separately on the governance of the Canterbury DHB Acute Services Rebuild in our report *Governance and accountability for three Christchurch rebuild projects*.)²²
- 4.33 We tried to analyse capital expenditure by category (renewals or replacement) to understand where any capital underspending might be and what effect it might have. Renewals expenditure is important because it allows services to continue to be delivered from asset investments that have already been made.
- 4.34 Although most DHBs told us that they categorise renewals separately from new assets, we could not obtain enough evidence to support the categorisation of 15 DHBs.
- 4.35 For the five whose categorisation we could obtain evidence of, for buildings, capital expenditure is about 40% for renewal of existing assets and 60% for new assets. For clinical equipment, capital expenditure is around 75% for renewal of existing assets and 25% for new assets. Although this is only five of the 20 DHBs, the results support our analysis in Part 3, which suggests that clinical equipment is a long way through its useful life and that there has been limited investment in clinical equipment for some years.

Actual to budget capital expenditure

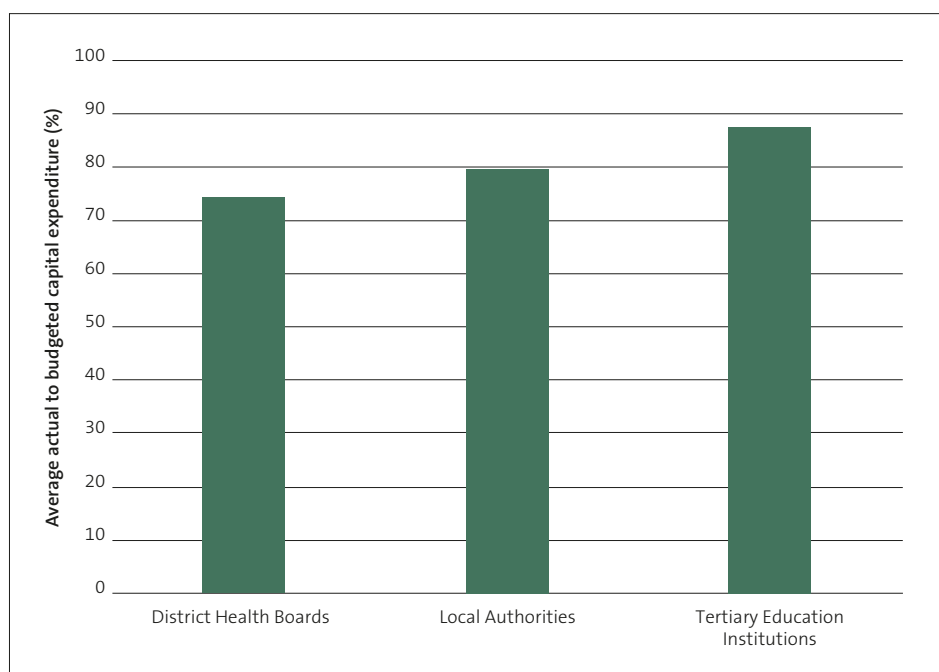
- 4.36 From 2008/09 to 2014/15, DHBs collectively spent \$1.180 billion less on capital expenditure than budgeted. On average, the actual to budgeted capital expenditure for DHBs is 74%.
- 4.37 DHBs and the Ministry told us there are various reasons for the differences between forecast and actual capital expenditure. These reasons can include:
- aspirational budgeting and/or poor planning, such as being too optimistic about timing;
 - reprioritising capital expenditure in response to other priorities and events; and
 - getting better contract rates than those budgeted for.

21 West Coast DHB is preparing to rebuild the Grey Base Hospital in Greymouth.

22 See <http://www.oag.govt.nz/2015/christchurch-projects>.

4.38 Figure 16 shows that the difference between actual and budgeted capital expenditure is greater for DHBs than it is for tertiary education institutions and local authorities.

Figure 16
Average actual to budgeted capital expenditure for district health boards compared with local authorities and tertiary education institutions*, 2008/09 to 2014/15



* For the TEI data, no parent budget data was available for Auckland University and UCOL, so we used group numbers.

4.39 As with the relationship of capital expenditure to depreciation, the average actual to budgeted capital expenditure by DHBs is highly variable (see Figure 14).

4.40 In some DHBs, the effect of significant capital rebuild programmes can be seen in the relationship between actual and budgeted capital expenditure. Auckland, Canterbury, and South Canterbury DHBs have lower-than-average actual to budgeted capital expenditure (less than 65%). However, other DHBs with large rebuild programmes (Waitemata, Counties Manukau, and Capital and Coast) achieved higher actual to budgeted results (more than 85%).

4.41 These results suggests that DHBs might be able to share practices and experience to improve the delivery of rebuild projects.

- 4.42 Results for DHBs that were not carrying out significant rebuilds were very mixed. Taranaki and Tairāwhiti DHBs spent more on capital than they budgeted, while West Coast DHB had the lowest relationship (under 30%). Very low results merit further exploration by the DHBs concerned and the Ministry.
- 4.43 The Ministry has reviewed the Waikato and Canterbury DHBs, to explore and discuss the financial and management consequences of significant building redevelopments for DHBs.²³
- 4.44 PwC's *Canterbury DHB: Stage One Financial Review* to the Ministry was high level and intended to be further refined in a Stage Two Financial Review. But the review makes clear that Canterbury DHB's capital-driven costs (capital charge, interest, and depreciation) are significant drivers of its bottom-line financial performance. These costs are forecast to increase by about 85% during the next six years. As a result, PwC considered specific analysis "absolutely critical" to understand the interrelationship between:
- capital spend, timing of the spend and how it is accounted for;
 - equity and revenue injections from the Crown;
 - any debt drawdowns;
 - interest and capital charges; and
 - depreciation run-off.²⁴
- 4.45 Although Canterbury DHB's capital programme is unique in its scale, understanding the interrelationship of these factors will be important for other DHBs managing large capital projects.

Net cash flows from operations to capital expenditure

- 4.46 Given the Operational Policy Framework expectation that each DHB operate within agreed funding (see paragraph 4.6), we looked at net operating cash flows to capital expenditure to see whether DHBs are building up enough financial reserves to replace and renew assets.
- 4.47 The cash that remains after all operating expenses are paid (net cash flows from operations) is a DHB's first, and most controllable, funding option for investing in its assets. External funding sources are primarily Crown funding for major projects (as discussed in paragraphs 4.6 and 4.7) and loans. They can also include reserves generated by DHBs that are held by the Crown and community fundraising.
- 4.48 The proportion of net operating cash flow to capital expenditure can indicate how closely operational activities are co-ordinated with asset investments and the

²³ Ministry of Health (2014), *Review of opportunities for the incoming chief executive*, and PwC (2015), *Canterbury DHB: Stage One Financial Review, Report to the Ministry of Health*.

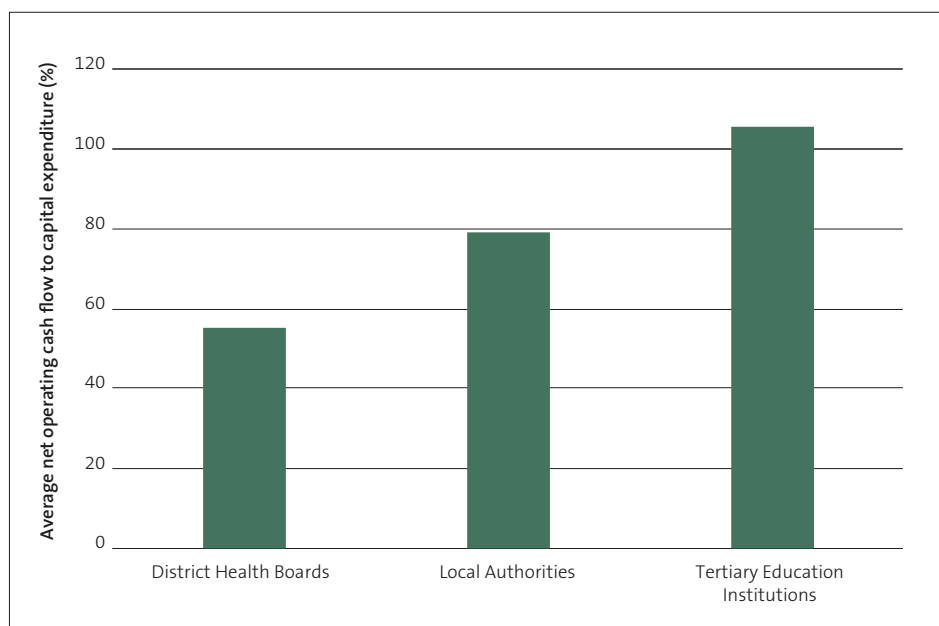
²⁴ PwC (2015), *Canterbury DHB: Stage One Financial Review, Report to the Ministry of Health*, page 14.

level of control the DHB has over the funding of its asset investment plans. A low proportion indicates less potential co-ordination and less direct control. A high proportion indicates the reverse.

4.49 Although DHBs use internal sources of funding to pay for capital expenditure, our analysis showed that, between 2008/09 and 2014/15, internal funding from net operating cash flows covered only 55% of DHBs' total capital investment needs.

4.50 Figure 17 shows that other asset-intensive sectors have significantly more internal funding. This allows the entities to cover more of their total capital expenditure needs.

Figure 17
Average net operating cash flow to capital expenditure for district health boards compared to local authorities and tertiary education institutions, 2008/09 to 2014/15



4.51 Using depreciation as a proxy for how much is being consumed, our analysis also showed that 12 of the 20 DHBs (60%) did not have enough internally generated funds to cover their renewal spending needs. This compares with 22 out of 78 local government entities (28%) and one out of 29 tertiary education institutions (3%).

Other factors affecting capital expenditure decisions

- 4.52 We explored several factors from the information about asset management that we collected for this report, to see whether any of these were correlated with a DHB's level of capital expenditure per dollar value of assets. These factors were the results of DHBs' self-assessed asset management maturity, the age of assets, and the value of assets. We found little relationship between the level of capital expenditure per dollar value of assets and the above factors, which is consistent with the observation we made in paragraphs 4.24 and 4.25 about the asset management maturity of the three DHBs that have received letters of support for the past five years. However, we considered that there should have been some correlation between at least the age of the asset and the level of capital expenditure per dollar value of assets.
- 4.53 We also looked at DHBs' ability to forecast and prepare to fund their own capital expenditure needs by looking at the correlation of asset management factors with the extent of internal funding available for capital expenditure. We thought we might, for instance, see a correlation between older assets and increasing ratios of net operating cash flow to capital expenditure as DHBs build up financial reserves in preparation for replacing or renewing older assets. We did not find any significant relationships.
- 4.54 We discussed the three capital expenditure relationships and the results of our analysis of the specific information we collected about building and clinical equipment at a workshop with DHB asset and finance management practitioners and advisers, and staff of the Ministry and the Treasury.
- 4.55 Their comments echoed many of the concerns identified by the two independent reviews and the Health Strategy Update. This suggests that the concerns these reviews identified also affect DHB asset planning, management, and decision-making.
- 4.56 DHB asset and finance management practitioners confirmed that immediate financial and operational imperatives sometimes dominate decision-making. This creates incentives to defer capital expenditure:
- Budgeted capital expenditure can be diverted to short-term operational expenditure.
 - New and well-maintained assets generally have a higher value than older assets and so incur additional operational expenses (such as depreciation expense and capital charges). By not incurring capital expenditure, these operational expenses can be avoided in the short term.

- DHBs often need to accumulate cash reserves over several years to fund major capital needs. However, in generating surpluses, DHBs can be publicly perceived as failing to provide the fullest possible extent of service to the public. The Ministry has noted that, in the past, some DHBs have “banked” surpluses to build up reserves for major capital projects.²⁵
- The nature of assets needed for health services are changing (as discussed in Part 2). New capital expenditure needs (for example, through the HBL initiative) need to be accommodated within existing capital expenditure budgets. We reported separately on the results of our inquiry into Health Benefits Limited in October 2015.

Recommendation 5

We recommend that each DHB link its asset management planning to its other service and financial planning.

Recommendation 6

We recommend that the Ministry of Health and the Treasury review the interaction of service, funding, and asset planning, with the aim of providing incentives for DHBs to balance short-term results with longer-term service and asset management needs.

²⁵ See, for instance, Ministry of Health (2014), *Review of opportunities for the incoming chief executive*, pages 8 and 25-26.

Publications by the Auditor-General

Other publications issued by the Auditor-General recently have been:

- Education for Māori: Using information to improve Māori educational success
- Immigration New Zealand: Supporting new migrants to settle and work – Progress in responding to the Auditor-General’s recommendations
- Effectiveness and efficiency of arrangements to repair pipes and roads in Christchurch – follow-up audit
- Response to query about Housing New Zealand’s procurement processes
- Reflections from our audits: *Governance and accountability*
- Draft annual plan 2016/17
- Local government: Results of the 2014/15 audits
- Department of Conservation: Prioritising and partnering to manage biodiversity – Progress in responding to the Auditor-General’s recommendations
- Public sector accountability through raising concerns
- A review of public sector financial assets and how they are managed and governed
- Improving financial reporting in the public sector
- Principles for effectively co-governing natural resources
- Governance and accountability for three Christchurch rebuild projects
- Central government: Results of the 2014/15 audits
- Delivering scheduled services to patients – Progress in responding to the Auditor-General’s recommendation

Website

All these reports, and many of our earlier reports, are available in HTML and PDF format on our website – www.oag.govt.nz.

Notification of new reports

We offer facilities on our website for people to be notified when new reports and public statements are added to the website. The home page has links to our RSS feed, Twitter account, Facebook page, and email subscribers service.

Sustainable publishing

The Office of the Auditor-General has a policy of sustainable publishing practices. This report is printed on environmentally responsible paper stocks manufactured under the environmental management system standard AS/NZS ISO 14001:2004 using Elemental Chlorine Free (ECF) pulp sourced from sustainable well-managed forests. Processes for manufacture include use of vegetable-based inks and water-based sealants, with disposal and/or recycling of waste materials according to best business practices.

Office of the Auditor-General
PO Box 3928, Wellington 6140

Telephone: (04) 917 1500
Facsimile: (04) 917 1549

Email: reports@oag.govt.nz
Website: www.oag.govt.nz