



NATIONAL ADVISORY COMMITTEE  
ON HEALTH AND DISABILITY

HUNGA KAITITIRO I TE HAUORA O TE TANGATA

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Incorporating the Public Health Advisory Committee  
Te Rōpū Tohutohu i te Hauora Tūmatanui

# **District Health Board decision-making about new health interventions:**

## **A Background Paper**

**January 2006**

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The National Advisory Committee on Health and Disability (the National Health Committee, NHC) is an independent committee appointed by, and reporting directly to, the New Zealand Minister of Health.

The National Health Committee is required to provide an independent assessment of the quality and mix of services that should, in the committee's opinion, be publicly funded. It also advises the Minister on measures that would deliver the greatest benefit to the health of the population and groups of the population, with particular regard to groups at risk or disadvantage. More detail about the committee's role and work are available on its website [www.nhc.govt.nz](http://www.nhc.govt.nz).

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## **1. PURPOSE OF THIS BACKGROUND PAPER**

This background paper summarises the information that was collected by the National Health Committee (NHC) to inform its May 2005 report to the Minister of Health *Decision-Making about New Health Interventions*<sup>1</sup>. This paper provides greater detail about points that are summarised in the NHC's advice, and it should, ideally, be read in conjunction with the May 2005 report.

The information contained in this document was collected in meetings during 2004 with clinical staff, funding and planning staff, and managers at Hutt Valley, Counties-Manukau, Northland, Southland, and Canterbury District Health Boards (DHBs). These DHBs were chosen as they differed in the services they provide, the ethnic composition of their populations, their relationships with neighbouring DHBs, and their setting (i.e. urban or rural). The experiences of staff from shared service agencies and individuals at other DHBs who expressed interest in the project are also included in this background paper.

The objectives of the meetings in 2004 were to find out how DHBs made decisions about adopting new health interventions, and the extent to which evidence and information, particularly health technology assessment (HTA) information, was used in these processes. At the interviews, formal and informal decision-making processes were discussed, as well as the factors that impacted on decision-making, the criteria used, use of HTA information and evidence, and the issues that arose from decision-making processes.

The views summarised in this document are not necessarily the official views of the DHB for which the individuals work, or of the National Health Committee. This document provides a snapshot of how decision-making occurs in DHBs, and the issues that arise from this. The document does not attempt to exhaustively define all the ways in which decision-making currently occurs in all DHBs.

The willingness with which the interviewees discussed their views of the decision-making processes was highly appreciated. It is only through their openness that a clear picture has been developed of current decision-making processes for the adoption of new interventions and the issues associated with these.

### **The National Health Committee's work on new health interventions**

The National Health Committee's work on new health interventions was initiated in 2001. The NHC started its project on (what was at that stage called) New Technology Assessment because it was concerned that New Zealand did not have a systematic process for assessing new interventions before they were introduced into the health system.

The NHC believed that the absence of such a process could create extra costs for the publicly funded health and disability system, and place patients at unnecessary risk of experiencing unsafe or ineffective interventions. The NHC was also concerned that

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<sup>1</sup> The National Health Committee's report is available on the NHC's website: [www.nhc.govt.nz](http://www.nhc.govt.nz). Copies are available by phoning (04) 496 2277 or emailing [moh@wickliffe.co.nz](mailto:moh@wickliffe.co.nz) (HP 4113).

health resources would be unnecessarily wasted if a number of different DHBs duplicated the assessment of the same new interventions. The NHC was aware that other countries had developed HTA capacity to attempt to address similar issues. In particular, structured processes had been established in some countries to ensure that HTA information was included in decision-making about new health interventions and to achieve the efficient introduction of beneficial new health interventions.

The NHC's project aimed to recommend ways in which decisions about the introduction of new interventions could be improved. This would ensure the publicly funded health and disability system introduced interventions that are efficient, safe and acceptable, in a consistent fashion across the sector.

In 2002, the NHC produced a discussion document<sup>1</sup> that identified the processes that health agencies (Health Funding Authority<sup>2</sup>, Ministry of Health, PHARMAC<sup>3</sup>, and ACC) had used, and were using, to decide whether to introduce new health interventions. The discussion document proposed possible changes about which respondents to the document were generally supportive. Many submissions noted that greater detail was needed on how the proposed new arrangements would work.

In November 2002, the NHC held a workshop with a range of stakeholders to clarify these details. The workshop revealed a variety of perspectives about how to improve HTA in New Zealand. The workshop participants suggested that as a first step, a web-based clearinghouse might be an appropriate avenue through which information about new technologies could be stored and shared. However, scoping work carried out on the clearinghouse proposal in 2003 indicated that there was little agreement about the function of such a website, who its audience should be, and how it should be funded. As a result, the NHC decided greater clarity was needed about the context in which decisions about new interventions are made.

In 2004, the NHC's focus shifted to district health board decision-making. This shift reflected changes that had occurred in the structure of the health sector since the project had been initiated. Under this new structure DHBs, and not central decision-makers, make the majority of decisions about the funding of new interventions. It was therefore considered essential to gather information about district health board processes and their use of HTA to ensure that any recommendations for change were grounded in the decision-making reality of the DHB environment.

The NHC decided that the best way to gather this information was to interview DHB decision-makers about decision-making processes and their use of information and evidence. This background report contains the information collected in these interviews.

## **Contents of this background paper**

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<sup>2</sup> Disestablished in 2001 with the establishment of District Health Boards.

<sup>3</sup> PHARMAC, the Pharmaceutical Management Agency of New Zealand, is a crown entity directly responsible to the Minister of Health.

The next section of the paper, Section 2, defines what is meant by the terms ‘health interventions’ and ‘health technology assessment’, and explains which health interventions the NHC considers to be ‘new’.

The information collected from interviews has been divided into four sections. Section 3 describes the range of factors that influence decisions by DHBs, including the political and social context, structure of the health sector, the DHB environment, clinical practice, the development of new interventions, the influence of suppliers, planning for the future, and the public/private interface.

Section 4 contains information on the decision-making processes that either impact on DHB decision-making, or that DHBs use to determine which new interventions will be adopted. These include national and regional decision-making processes and formal and informal hospital decision-making processes. Section 4 also identifies the stakeholders who are not involved in hospital-level decision-making processes.

Section 5 describes the ways in which evidence is used in district health boards’ decision-making processes. Interviewees’ views about evidence-based medicine are detailed and the section also describes the problems associated with getting adequate evidence, sources of information and evidence about new interventions, information produced by New Zealand agencies, and the use of HTA in DHB decision-making.

Section 6 includes information about when explicit criteria are used in decision-making processes and describes the criteria that are considered most regularly.

The key points that came out of the meetings with DHB decision-makers and assisted the NHC in developing its advice to the Minister of Health are summarised in Section 7. A more detailed analysis of these issues can be found on pages 15 – 19 of the NHC’s report *Decision-Making about New Health Interventions* published in May 2005.

## 2. DEFINITIONS

### Health interventions

Health interventions can include ‘drugs, devices, procedures and the organisational and support systems within which health care is delivered’.<sup>ii</sup>

Internationally, the term ‘health technology’ is often used to refer to this range of interventions. However, the term ‘health interventions’ was used for this project because it reflects the breadth of health care approaches being considered. This term also avoids the tendency to focus only on devices (e.g. a laparoscope), and encompasses other interventions (e.g. a screening programme, or new clinical practice).

### ‘New’ health interventions

The NHC decided to use a broad definition of ‘new’ to gain a comprehensive understanding of how health interventions are introduced. The vast majority of new interventions are improvements on existing techniques, devices, pharmaceuticals, or infrastructure. Only a small proportion of interventions are entirely new ways of doing things.

In examining the assessment and adoption of interventions, the term ‘new’ has included consideration of the following:

- innovative or emerging interventions that have not been adopted in New Zealand (e.g. positron emission tomography scanning<sup>4</sup>)
- the introduction of an intervention into a specific health service in New Zealand (i.e. the intervention may be available in another DHB or part of the health service such as private hospitals or tertiary hospitals, but be new to the health provider in question)
- changes to devices or the way an intervention is performed, often referred to as technology creep (e.g. minor modifications to orthopaedic devices or the move from bare metal stents to ‘drug eluting’ stents in interventional cardiology)
- transfer of interventions from one area of care to another, for instance from secondary to primary care (e.g. specialist diabetes clinics being held in the primary health care setting)
- the use of an intervention for a new purpose (e.g. use of cancer treatments for patients with rheumatoid arthritis).

The specific decision-making processes around the adoption of the various categories of new health interventions can differ, but there are common themes and issues associated with their assessment and introduction.

### Health technology assessment

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<sup>4</sup> Tomography scanning is a nuclear medicine medical imaging technique that produces a three-dimensional image or map of functional processes in the body.

Health technology assessment is one source of information that can be used to inform decisions about new health interventions. HTA involves the evaluation of an intervention through the production, synthesis, and/or systematic review of a range of scientific and non-scientific evidence. The types of information about an intervention that can be used include:

- safety
- efficacy
- cost and cost-effectiveness
- health services impacts
- ethical considerations
- broad social impacts.

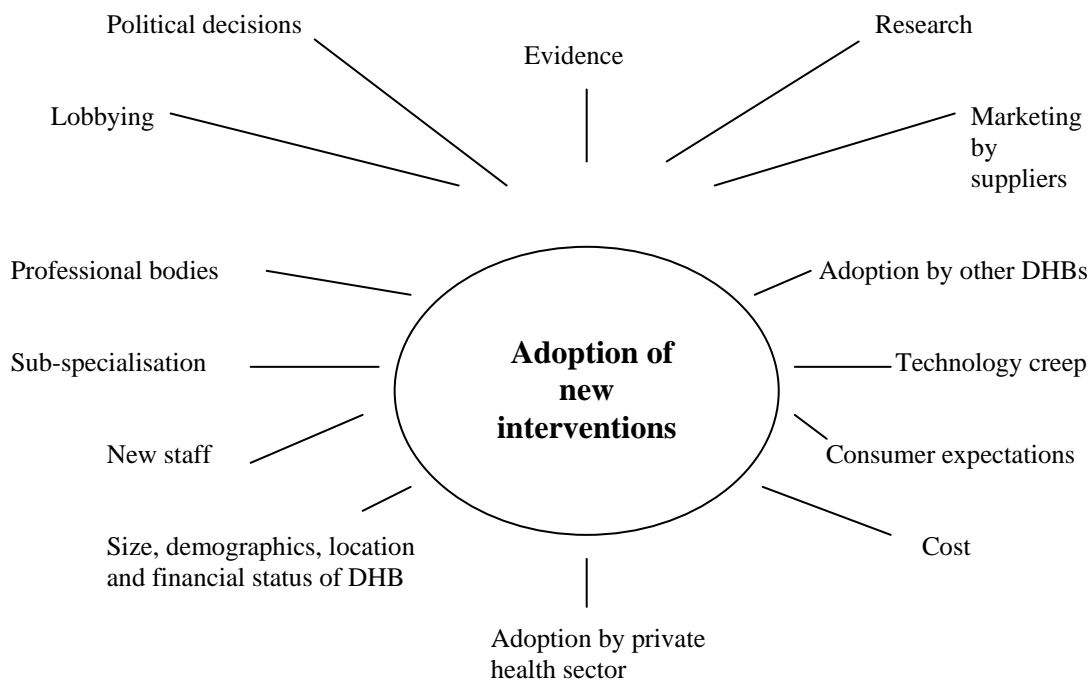
HTA is a prioritisation tool that recognises the limited quantity of health resources and aims to assist health funders to identify the interventions that will achieve the best health outcomes for their investment.

### 3. FACTORS INFLUENCING DECISIONS BY DISTRICT HEALTH BOARDS

The information gathered from interviews with district health board (DHB) staff indicates that DHBs' decisions about the adoption of interventions are made in an extremely complex environment. In addition to cost and evidence, a wide variety of factors influence DHBs' decisions about new health interventions. These include political factors, funding constraints, risk minimisation and the sub-specialisation of medicine. Use of health technology assessment (HTA) or other sources of evidence tends to be only a small component of the decision.

The diagram below illustrates the wide range of factors that influence decision-making.

Figure 1: Factors influencing DHB decision-making about new health interventions



From the interviews, it is clear that decisions about health interventions (particularly in secondary and tertiary care) tend to be made, or be highly influenced by, clinicians. This reflects the traditional approach of Western medicine where clinicians are seen as having specific expertise about health care provision and being the appropriate people to make decisions about the health services that patients receive. For a variety of reasons there is growing interest in these decisions among politicians, policy-makers, managers, advocacy groups and the general public.

#### Political and social context

While decisions about whether to adopt a new intervention are generally made at the DHB level, nationally generated priorities have a significant impact on DHB decision-making. This is often due to the financial or workforce implications of these national priorities, for which there are opportunity costs<sup>5</sup> at a local level.

A number of people identified that Ministry of Health strategies are generally not accompanied by the additional resources needed for their implementation and these either have to be redirected from existing allocations (which may include funding new interventions) or the implementation of the new strategy is hindered by inadequate resources.

The political context in which DHBs operate also has an influence on decisions about new health interventions. This includes both nationwide political decisions and politics at a DHB level. The policies of the government of the day can determine the priority that DHBs give to particular areas of health care, which in turn influences what health interventions are funded.

Lobbying by interest groups can also influence local and national decision-making. Lobby groups may represent the interests of health consumers or health providers. An example given was when, in 2004, the New Zealand Orthopaedics Association ran a national public relations campaign to increase government spending on orthopaedic services. In that same year, Arthritis New Zealand began a series of advertisements, calling for the government to recognise arthritis as a serious public health issue. This included a focus on the health effects of waiting times for access to treatment and medications.

### ***Local politics and priorities***

The comment was made that there are local interests within DHBs that have to be managed. It was pointed out that elected board members often have specific interests or agendas that they are committed to seeing furthered, for instance retaining local services or representing a specific interest group. Also, board members' wishes to be re-elected may have an influence on decision-making. Local representation is a strength of the DHB structure and potentially an avenue for local and consumer input. However, it can also mean that priority is given to developing or supporting services for which there is little evidence of effectiveness, but for which the community perceives a need. An alternative point of view is that community input into priority setting enables wider perspectives, such as the benefits of local health facilities to the community, to be taken into account.

A number of DHB staff talked about the 'squeaky wheel' effect - referring to the influence that highly vocal patients or advocacy groups can have on the decision-making process. Examples were given of the media highlighting the plight of an individual requiring a high cost intervention, either as a human-interest story, or as an example of the health system being uncaring or unresponsive. These examples illustrate the challenges that DHBs face in negotiating the tensions between the wish to provide best health care to individual patients, and meeting the health needs of a

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<sup>5</sup> See glossary, page 61.

population by using finite resources to provide the greatest benefit to the greatest number of people.

Occasionally new interventions are introduced through funding provided by service groups and charitable foundations. This may be in response to media publicity or requests from health professionals. In these cases, the introduction may not reflect the priorities of the health service receiving the intervention and there may not be evidence of benefit.

### *Consumer expectations*

The growth of the health consumer movement has created an expectation that patients and consumer advocates will have greater input into health decision-making. In this environment, consumers are less willing to accept that clinicians will necessarily make the best decisions. The expectation of greater involvement in decision-making has been reinforced by the increasing availability of information about interventions, particularly through the internet. Patients and consumer groups can now readily access on-line information about new and emerging interventions that previously would have been only available through medical journals. Some medical specialists commented that patients who know what is available in other DHBs or overseas might pressure the clinician who is treating them to provide them with the same intervention.

Some clinicians expressed concern about the potential conflict between making information on new interventions available to patients and providing quality care in a setting of constrained resources. In referring to a 2004 ruling<sup>6</sup> by the Health and Disability Commissioner, some clinicians felt they were under more pressure from patients to consider interventions for which they didn't feel there was strong evidence.

A number of people described the tendency for both the public and also health professionals to believe that 'new' health interventions are intrinsically better than those that are currently available. This can create conflict between patients and health care providers, particularly when there is little proven benefit from a new (high cost) intervention.

In discussions with DHB staff, a variety of views were expressed about whether patient expectations differ between rural and urban areas. Some pointed out that in high deprivation rural areas, communities and consumers are focussed on having their basic health needs addressed and therefore patients are less interested in new health interventions. The comment was also made that the priority in rural areas is on maintaining existing services and that any additional interventions are considered to be an added bonus.

On the other hand, some DHB staff felt that expectations were high in rural areas and that it was easier to gauge community preferences in a small community than in urban areas. In one DHB, it was felt that development of a 'world-class' facility had addressed community expectations for improved health interventions.

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<sup>6</sup> Case 02HDC18414 where it was ruled that a New Zealand doctor was obliged to inform his patient of a treatment that was not, according to mainstream neurological opinion in New Zealand, a realistic treatment option, and that was available in the private health system in Australia.

### ***Policy and health planning***

The other groups with a growing interest in decisions about new health interventions are policy-makers and managers. This results from concern about the potential of new health interventions to increase health care costs. A greater focus on explicit prioritisation processes<sup>7</sup>, rather than ad-hoc decision-making, means that health policy-makers and managers are promoting more transparent decision-making processes.

In discussions with DHB planning and funding staff, prioritisation was generally seen as a political process requiring a public mandate. It was therefore seen as best fitting with the role of elected boards (such as DHBs) or by central government, rather than with clinicians. Several people, including clinicians, commented that it was important to have a process that allows consumers and the general public to contribute to the debate so that their values are reflected in decisions.

The comment was made that when a new intervention is being considered, it is rarely compared to other interventions in different service areas that aim to address the same health issue, for instance, comparing a drug with health promotion approaches.

A number of respondents commented that while it is very hard to disinvest (cease funding services that have historically been funded), disinvestment is often the prerequisite to having the resources to fund new interventions. A frequent comment was that in DHBs, prioritisation often occurs at the margins (for instance decisions about small pools of funding) rather than around baseline funding. One of the reasons for this is what is already being provided tends not to be negotiable when funding decisions are being made.

### ***Regulation and risk***

New Zealand has had the ability to be very open to some new technologies because there is currently no pre-market registration process for devices<sup>8</sup>. However external factors like occupational health and safety (OSH) requirements and risk reduction policies within hospitals can affect what interventions are funded or provided. One clinician commented that health providers' fears of breaching OSH requirements and the Code of Health and Disability Services Consumers' Rights are driving increased costs. It was also pointed out that clinicians might face medical and legal risks if they decide not to introduce a new intervention and a patient dies as a result.

In the area of pharmaceuticals, PHARMAC imposes constraints on DHB purchases. (These are discussed in Section 4: Current decision-making processes.)

### **Structure of the health sector**

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<sup>7</sup> For a discussion of prioritisation processes see *Prioritising Health Services: A background paper for the National Health Committee*. National Health Committee, October 2004.

<sup>8</sup> Under the proposed Trans-Tasman Therapeutic Products Agency, all devices for sale in New Zealand will be required to be registered.

A number of those interviewed mentioned the recent rate of change in the health sector. It was noted that earlier health structures based on competition between health service providers had resulted in poor relationships but that these were gradually improving.

Many of those interviewed pointed out that, with 21 DHBs, it was extremely difficult to get national consistency of decision-making about new health interventions. Some commented that national consistency runs counter to the philosophy of DHBs providing services to meet the particular health needs of their local communities. The need for greater collaboration and decision-making, on a regional or national basis, for specific interventions was a constant theme.

Some arrangements established in previous health structures, such as the MAPO (Māori co-purchasing agencies) in the northern region, continue to have an influence on health decision-making. However, it was clear from discussions with DHB staff that the impacts on Māori health are rarely considered in hospital decision-making about new health interventions (see Section 6: Criteria for District Health Board Decision-making).

### ***DHB boundaries/collaboration***

Most of those interviewed considered that better collaboration between DHBs would improve decision-making about new interventions. Collaboration between DHBs in both information sharing and decision-making appears to be increasing, although some felt this was occurring in an absence of formal structures. The comment was made that there is a genuine desire by DHBs to work together, but that they are waiting for the Minister of Health to indicate that DHBs should make this a priority.

Examples were provided of instances where DHBs share information (eg the range of laboratory tests to undertake, computer systems, benchmarking of staff) and where information sharing does not occur (eg criteria for decisions about funding high-cost pharmaceuticals). It was noted that DHBs tend to work closely with DHBs with similar characteristics (size, demographics) and these are not necessarily the adjacent DHBs.

A number of occupational groups have formal or informal networks across DHBs. These include chief medical advisors, hospital laboratories, hospital pharmacy managers and product evaluators. Among the topics discussed by these networks are new or emerging interventions, experiences with new interventions and how to get greater consistency in decisions about new interventions.

A number of people referred to the ‘domino effect’, where an intervention is funded by one hospital and other hospitals follow suit and adopt it too. However, in the examples provided, such as drug eluting stents<sup>9</sup> and anti-TNF therapy<sup>10</sup>, it appeared

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<sup>9</sup> Drug eluting stents are devices that are used in the treatment of coronary heart disease. They are inserted into narrowed coronary arteries to improve the blood flow. Drug eluting stents differ from bare metal stents in that they are coated with a drug that is gradually released into the local tissue to inhibit the development of scar tissue that can reduce the effectiveness of the stent.

<sup>10</sup> Anti-TNF therapy is a drug that is used in the treatment of people with rheumatoid arthritis.

that the pressure was for other DHBs to consider adopting the intervention rather than necessarily deciding to do so.

An issue raised by tertiary hospitals is that the financial savings from the introduction of new interventions only benefit a DHB if a patient stays in the same geographical area. In addition, hospitals with high levels of tertiary and quaternary services tend to get many informal requests for second opinions from other DHBs, for which they are not recompensed.

### *Inter-district flows*

In recognition that not all DHBs can or should provide the same services, a system of inter-district flows (IDFs) has been established. This enables a patient to be treated in another DHB and the cost of this to be met by the DHB that s/he originates from. In this situation, the decision about the intervention that a patient receives is made by one DHB, while funding for the treatment is provided by a different DHB.

A number of staff in the rural DHBs commented that meeting the cost of the interventions staff in hospitals in other DHBs had decided to provide for their patients was becoming increasingly difficult. Examples given were of DHBs having to meet the on-going cost of funding high cost medications for patients who had been treated in a tertiary hospital in another DHB. The rural DHBs pointed out that they were not advised in advance about these prescriptions and had no budget for them. In some cases, the tertiary hospital had been approached to meet the cost (as in the past) but would not agree to this. Staff in the smaller DHBs thought that they should have a role in the decision-making process as they have to bear the cost of the decisions made by larger DHBs.

It was suggested that the Population-Based Funding Formula (PBFF) and inter-district flows could create both incentives and disincentives for DHBs to work together. Under the PBFF, DHBs are responsible for a population of a particular size with specific characteristics and have the opportunity to use their funding to do what is best for the health of this community. This creates an incentive for DHBs to hang on to cases and treat as many patients as possible locally so that they can retain the funding for these services.

On the other hand, these policies enable DHBs to take charge of what happens to their patients. This includes entering into agreements with other DHBs to ensure that the desired services are provided. For instance, one rural DHB has set up formal arrangements for ear, nose and throat services with another DHB (which includes provision of some services locally) and for urology with a different adjacent DHB. This approach also benefits the providing DHB, which can find it difficult to estimate usage of a service by patients from other DHBs, particularly when trying to decide whether to introduce a new intervention or sub-speciality.

Some hospital staff in rural areas mentioned that the tertiary hospital holding the regional contract for a speciality was no longer able to provide services to patients referred by the rural hospital. In addition, rural patients were remaining on waiting lists much longer than those from the DHB region where the services were provided.

As a result, rural hospitals were wondering if they would need to expand the range of interventions they provided.

### **The DHB environment**

The characteristics of a DHB and its internal structure can influence whether a new intervention is adopted and determine the processes used to make decisions about this. (Informal and formal decision-making processes are described in detail in section 4.)

#### ***DHB characteristics***

DHB characteristics that can influence decisions about new interventions include hospital size, the demographics of the population, whether tertiary care is provided, the existing infrastructure and the DHB's financial status.

DHBs with dispersed rural populations have different technology requirements from DHBs in urban areas. Rural DHBs tend not to offer tertiary services, which is the area of medicine where many new clinical interventions are being developed. However, dispersed populations can create opportunities for the use of new information technology in health care provision. Examples of this include the use of tele-medicine in regional centres for virtual diagnosis.

The type of services provided by rural hospitals and the wide range of procedures undertaken by an individual clinician, mean that rural clinicians tend to be generalists rather than specialists. It was pointed out that clinicians who work in rural areas are generally attracted by lifestyle factors and tend not to be interested in being at the cutting edge of new health interventions, but this is not universal.

A number of those interviewed considered that in provincial hospitals realigning services to increase efficiency is more common than funding new interventions. Such decisions are driven by new evidence that things can be done better and include consideration of new ways of working, such as delivering services alongside community providers.

The size of a hospital determines what decision-making processes are likely to be effective. It was identified that in a big hospital achieving consensus between all clinicians in a service can be difficult. Many felt that decision-making processes in smaller hospitals are more robust and easier to operate. Reasons given were the smaller number of people involved, the high turnover of staff (particularly locums) which means that there is constant questioning of decisions, and a desire by clinicians to make choices to ensure that their clinical practice is not seen as second-class.

A frequent comment was that in a small hospital everyone knows each other and therefore it is easier to keep track of which interventions people are using, and to approach people personally if it appears that processes are not being followed. However, one of the difficulties small hospitals may face in relation to adopting new interventions is lack of opportunity to learn new procedures and keep up-to-date with current practice. In some areas, clinicians from tertiary DHBs visit rural hospitals to undertake complex procedures and up-skill local staff to address this problem.

District health boards are required to operate within the funding provided to them. Some DHBs have inherited financial deficits from the health services that were operating previously in their area. It was pointed out that giving priority to reducing a deficit means that decisions made within a DHB are not necessarily able to reflect strategic priorities. Preoccupation with the deficit may impact on the adoption of new interventions and can also make it difficult for the DHB to meet regional and national responsibilities. An alternative point of view was that being short of resources encourages hospitals to develop robust systems and processes, so that the use of available resources is controlled.

### ***Internal DHB structures***

The funder-provider split has been maintained to some degree within DHBs, through the creation of 'funding and planning' and 'provider' arms. DHBs also fund other providers, particularly community-based initiatives. While most issues relate specifically to hospitals, some are pertinent to other providers funded by DHBs.

Generally, the planning and funding team is responsible for developing local accountability documents, establishing and monitoring contracts with small and large providers (including the provider arm of the DHB), monitoring contracts with providers and ensuring community consultation. The nature of the relationship between this team and the provider arm, which includes the hospital(s) and other services provided by the DHB, varies between DHBs. While explicit prioritisation of the local services is the role of the planning and funding team, decisions about new interventions are generally made within the provider arm. (This is discussed in more detail in Section 4).

The likelihood of a new technical intervention being adopted depends in part on the budget size and allocations within each speciality. If a new technical intervention becomes available in a speciality where staffing is the main budget item, there is less leeway to fund it than in a speciality where a high proportion of the budget is already allocated to technical interventions and therefore trade-offs between these can occur. Similarly, if a speciality has a small budget, a new high-cost intervention is unlikely to be funded.

It can be difficult for a hospital to realise potential savings from the introduction of a new intervention. For instance, if an intervention results in early discharge or quicker procedures, in most cases another patient will fill the empty bed or operating theatre so there is no overall saving to the hospital. Rather, the intervention enables the hospital to increase its capacity to meet healthcare needs. Also, as fixed costs associated with running an institution make up most of hospital expenditure, an empty bed or operating theatre will have little impact on reducing the hospital budget.

### ***Hospital/community care interface***

The topic of silo funding was regularly raised when discussing moving health interventions from hospitals to community settings. A number of people commented that resource allocation is generally driven by the secondary and tertiary sectors. One of the barriers identified in setting up new community interventions was the need to

continue funding the existing level of hospital services at the same time as funding a new community initiative. Several people commented that while it was assumed that new community initiatives would reduce hospital costs, hospitals were not prepared to reduce their budget until this was proven. On the other hand, funders want real-time savings and are reluctant to invest now for future pay-offs.

It was also suggested that clinical specialists with a vested interest in maintaining existing service arrangements could prevent the adoption of new community-based interventions, even when the evidence supports the community-based approach.

The implications of differences in funding arrangements for interventions in the primary and secondary and/or tertiary sectors were also raised. One example given was of new vacuum dressings used in hospital wards to reduce healing time of wounds, which are more expensive than other dressings. Cost becomes a barrier to their continued use when an older person is discharged to a rest home, where total cost for care is capped. This means that less effective dressings are used, increasing the potential for future readmissions and primary care support. The comment was made that while resources currently allocated to residential care for older people could be used in different ways, services arrangements prevent this. In some areas “ageing in place” pilots have been set up to investigate how to make services more flexible.

Several people commented that the route by which new technology is adopted varies between primary and hospital-level care. In addition, it was noted that new diagnostic techniques are usually available first to hospital clinicians, and are shifted to general practitioners over time.

### **Clinical practice**

As will be discussed in section 4, clinicians, in particular hospital-based doctors, play a key role in informal and formal decision-making about new health interventions. Sub-specialisation within tertiary and secondary medicine is growing and is one of the factors strongly influencing the uptake of new health interventions. Several people suggested health professionals are defined according to the procedures they conduct and the technology they use. Technology therefore plays a big part in professional identities and scopes of practice.

Clinicians’ personal views about new interventions are diverse. Some clinicians are up-to-date with the latest literature and are eager to introduce new interventions; others are more conservative and prefer to continue using the interventions they are familiar with. Many people commented that where and when clinicians were trained influences what they think is the best technology for their patients and that young clinicians are often keener to adopt new interventions than more established staff. Some clinicians in tertiary hospitals were of the view that it is difficult for managers to convince medical staff that they don’t need to use the most expensive device.

Examples were given of newly appointed clinicians introducing new technologies without these being scrutinised. It was reported that new clinical staff often expect that they will be able to practice all the procedures in which they have experience, even those not currently provided in the hospital. In some instances this occurs when young clinicians return from training and sub-specialising overseas. As a result, hospitals can find that a new service or intervention is being provided without an

explicit decision to do so. Many people reflected that introducing a new sub-speciality or intervention could create an immediate demand that was not previously apparent.

It was pointed out that medical specialists rotate between DHBs and expect to use the technologies they are accustomed to. Some may not be willing to use what is in place if it differs from what they are familiar with. Also, locum consultants may expect to use the interventions they want, even if these differ from the established processes and procedures in the setting in which they are working. A senior clinician in a rural hospital indicated that to address this situation controls had been introduced around locums performing new procedures.

Hospitals may provide the latest equipment or the opportunity to practice a new sub-speciality in order to attract new staff. This is particularly likely when a hospital is facing recruitment difficulties. It was mentioned that having 'state of the art' technology in the hospital encourages recruitment and retention.

Some DHBs have introduced processes to reduce the risk of unexpected sub-specialisation and adoption of new interventions through recruitment. (These are outlined in section 4.) In addition, one hospital indicated that it usually checks which procedures potential employees are intending to provide. It views new equipment as the 'tools of the trade' for clinicians and therefore allocates money to the purchase of new technology for incoming clinicians.

International adoption of a new intervention and the pressure for continuing professional development of clinicians in New Zealand can also increase the pressure for particular interventions to be introduced. The suggestion was made that lack of adoption of new interventions creates disincentives for clinicians to practise in New Zealand. When there are a limited number of people who can perform a procedure, it can be difficult for the DHB to turn down potential employees on the basis they might introduce or require new expensive technologies.

Pressure from peers also influences clinicians' decisions about which interventions to use. This is a factor both in the uptake of new interventions and in deterring clinicians from using interventions for which the evidence is lacking.

### *Clinical outcomes*

Individual differences between patients were identified as a factor influencing the adoptions of new interventions. It was pointed out that some patients might experience greater benefits from old technologies, while others are more suited to a new one. In addition, the effect of an intervention on an individual patient can differ considerably to the response demonstrated by the population group on which the intervention was trialled. Another issue was that when a patient is responding well to a pharmaceutical but this is changed because of non-clinical factors, such supply or cost, this could negatively impact on the patient's health.

A clinician often faces the dilemma of wanting to provide an individual patient with what is best for them, but because of the high cost of the intervention this will result in a reduction in the resources available to provide services to other patients. A range

of views was expressed on the role of a clinician as an advocate for patients. It was suggested that a few clinicians consider that their role is purely to advocate for what they believe is best for their patients and therefore ignore hospital criteria restricting the availability of devices or pharmaceuticals. It appears that most try to balance patients' requirements and hospital resources.

### ***Role of professional bodies***

Professional bodies often provide advice and recommendations to their members about which new interventions should be used and specify minimum standards of care. Some assess and review technology and procedures. There were diverging views as to whether these guidelines result in increased costs. On the one hand, it was suggested that the limited budgets of DHBs were taken into account in developing the guidelines. On the other hand, dictating minimum requirements for interventions might result in an increase in costs. Two professional bodies most frequently mentioned.

- The New Zealand Orthopaedics Association recommends a price band for devices. As clinicians use different procedures, it does not specify which device to use.
- The Royal Australasian College of Surgeons recommends what techniques and technology surgeons use. The College also holds meetings to share information and trains new registrars. While the College states that other surgeons should not use procedures being trialled, the comment was made that not all surgeons abide by this directive.

### **Development of new interventions**

It was suggested that the rate at which new interventions for diagnosis and treatment of disease are being developed is accelerating. This development is driven both by commercial imperatives and the individual clinician's desire to improve patient outcomes. While a number of concerns were identified about the health technology industry, the view was also expressed that it is a positive contributor, as without its commercial imperatives many interventions would not have been developed.

The vast majority of new interventions are improvements on existing techniques, devices, pharmaceuticals or infrastructure. Only a small proportion are new ways of doing things. For instance, most decisions around introducing a new laboratory test relate to a newer version of an existing test rather than a completely new test.

People stated that one path for the development of a new intervention is through collaboration between clinicians and commercial companies. In some areas of medicine, such as surgery, a clinician may have an idea for a new intervention and hand-make the prototype. If use of the new device is considered successful it may be manufactured commercially. Over time, some of these devices are shown to be effective and others are not.

Many New Zealand hospitals are involved in international or local research trials. (How this affects decision-making about new interventions is covered in Section 5.)

The nature of new interventions differs between the areas of medicine or health care. Some areas rely more on technology (eg radiography) while for others infrastructure or procedures are critical. For instance, general surgery is based around anaesthetic and surgical techniques and post-operative recovery. This means that new procedures evolve over time as the surgeon tries to achieve the best for his or her patient. As a result, the development of new interventions is often evolutionary rather than explicit.

Much of the discussion about the development of new interventions focused on technology. It was pointed out that processes for determining models of service delivery are much less clear-cut and depend on the will of health planners and funders to try alternative approaches. The comment was made that the development of Māori models of service delivery had been hindered by the misconception that Māori providers are not as effective as mainstream providers.

The imperatives of the commercial environment in which most new health interventions are developed mean that there is only a short period of time during which developers and manufacturers can make money from a new drug or device before the next innovation comes along. This is particularly true of medical devices. It was suggested that these are generally superseded after about 18 months.

Several people pointed out that companies producing interventions have a continued interest in seeing their use expand. For example, a device that is developed to improve outcomes for complicated cases may also have benefit for more routine cases. In this instance, the supplier might fund a trial to provide the evidence for expanding its use. Technologies developed in one area of medicine are often subsequently applied to other areas, for instance stents. It was suggested that one driver of this is the patenting laws that, in the first instance, restrict the production of the device to the originating company. By finding a slightly different use for an intervention, another company can manufacture it.

Another trend in wider utilisation of existing interventions is the movement of procedures developed for diagnosis into the area of treatment. The most common example given was radiology, which started as a diagnostic tool and is increasingly being used for treatment.

A number of people talked about how commercial imperatives influence what interventions are developed and when this occurs. For instance, it was suggested that if companies were not making enough money from a product, they would withdraw it from the market and replace it with a more expensive one. Another example was that different suppliers create different versions of a new intervention where the components cannot be used interchangeably with components developed by other companies. An industry view is that as the device market is highly competitive, companies cannot afford to develop and sell poor quality or ineffective interventions, and as a result the quality of devices is guaranteed.

The potential for ‘technology creep’ in new areas of care was mentioned. An example of this is the development of services previously provided in hospital settings now provided in the community. Another example relates to general practitioner treatment of cellulitis. There was a tendency for general practitioners to prescribe intravenous

rather than oral drugs, as this was perceived as the better option for all patients even though this was not supported by the evidence.

A number of people pointed out that the cost of a new technology decreases over time as it becomes more widely available. Often hospitals are unable to afford new technologies when they are first marketed and therefore wait for the price to drop to an affordable level.

### **Influence of suppliers**

Many of those spoken with described how in the past suppliers of medical technology were overt in trying to influence hospitals and their staff to buy their products. The general view was that while there is evidence that suppliers and their representatives still actively promote their products, the methods they use are more subtle.

A number of people commented that representatives from equipment companies put pressure on clinicians to use the interventions through, for instance, providing sweeteners. These create conflicts of interest for clinicians. Equipment companies also provide scholarships for young registrars to train overseas. The scholarships are administered by professional organisations such as the New Zealand Orthopaedics Association who ensure separation between the manufacturer and the beneficiary.

There are also instances where the health technology industry funds health services. The example was given of a pharmaceutical company that markets a product that can only be prescribed if a bone-density scan indicates that the product is appropriate. In this situation the company may fund a bone scanner to enable the prerequisite test to be carried out. Instances were also given of the medical industry funding clinics, for instance providing the initial funding to establish a heart failure clinic. There was a range of views about these practices. On the one hand it was seen as a way of providing a service that would not otherwise be funded. On the other hand, concern was also expressed that commercial incentives might compromise decisions about the use of interventions, for instance the pharmaceuticals, being used.

### **Public/private interface**

In New Zealand, the private health sector provides a limited but growing range of health services. In particular, elective surgery services and long-term care for older people are both areas of growth. Often new interventions are introduced into the private sector before the public sector. At times the technology available in private hospitals is more up-to-date than in the public health system.

A range of views was expressed about the impact of the private sector on the funding and the use of new interventions. It was generally agreed that clinicians adopt new interventions more rapidly in the private sector. Some clinicians said this was because the private sector places less emphasis on cost-effectiveness.

There was no consensus as to the extent to which the adoption of new interventions in the private sector influences their uptake in the public health system. Many clinicians,

particularly surgeons, work within both the public and private health sectors, often working half the time in each sector.<sup>iii</sup> The point was made that clinicians may encourage the adoption of new interventions in the public sector, because they become accustomed to providing the intervention in the private sector. In addition, one clinician reported that when a clinician introduces a new intervention in the private sector, they could be pressured to also advocate for its introduction in the public sector so that public patients have the opportunity to experience the benefits. The clinician's concern was that many specialists working in private hospitals introduce emerging interventions by claiming that they will improve health outcomes before the evidence is clear, and that these same interventions are being taken up in the public health system.

Private health sector representatives thought that health insurers needed to be more rigorous when deciding which interventions they would meet the costs of. Smaller insurers tend to follow the larger companies decisions about what to fund and it appears that the "domino effect" is even more pronounced in the private market as consumers choose which insurer to join with on the basis of the procedures it will fund.

Some clinicians felt that the variation in the availability of procedures between the two sectors creates tensions. The example was given of stomach stapling which is available privately in Wellington through Wakefield Hospital. However, public patients, if their case has sufficient priority, are sent to Auckland where they receive an older intervention that costs less. This was seen as inequitable.

The alternative point of view was that the private sector takes pressure off the public sector by making treatments available in another setting. It was noted, however, that private hospitals require backup from the public sector when things go wrong and, for instance, intensive care services can be needed.

New interventions also provide opportunities for collaboration between publicly funded and private health services. One example mentioned was planning to build a new clinic that would provide public and privately funded services on the same site. The Ministry of Health has established protocols (contained in the 2005-2006 Operational Policy Framework<sup>iv</sup>) for the provision of privately funded services in public facilities that set out the parameters under which DHBs can be involved in such collaborations.

## **Planning for the future**

Consideration of the future shape of health care and health interventions is another factor in decision-making about what health interventions to purchase, and is necessary given the rapid pace at which new interventions are becoming available. Considering likely future requirements is particularly important when new facilities are being planned, such as a new hospital or community-based clinic.

An example raised by several people was the need to plan for the future health care needs of people with diabetes. This includes anticipating the level of renal services

that might be required as a result of the current diabetes epidemic, as well as how the needs of people with diabetes in rural areas might be best met.

Not only are the nature and types of interventions being used for health care changing, but the ways in which health services are provided are also evolving. Two areas of significant impact are the growth of biotechnology (for instance, assisted reproduction and genetic technology) and increasing focus on the provision of services in the community. The movement of the delivery of secondary care services to the primary health care setting has the potential to increase access to health care and reduce health costs. In parallel is the creation of 'hospital at home' options being developed in light of the ageing population and the current policy focus on ageing in place. These initiatives are also likely to provide a new niche for technology creep.

#### **4. CURRENT DECISION-MAKING PROCESSES**

As described in Section 3, many factors can impact on decisions about the adoption of new interventions. Processes have been established in a number of decision-making arenas in an attempt to ensure that choices about which health interventions are well informed are made according to explicit criteria. This section describes some of the national, regional and district health board decision-making processes. It also describes the circumstances in which an intervention is likely to be considered by a formal process, and the informal decision-making practices that occur in the absence of formal processes.

##### **National and regional decision-making processes**

In some instances, decision-making processes vested outside the district health board (DHB) impact on what new interventions are adopted. These processes may include directly funding the intervention a patient receives, overriding the DHB's decision about what interventions to adopt, or determining the interventions the DHB can choose to fund.

##### ***Government and ministerial decisions***

As discussed in Section 3, government and ministerial decisions can determine which interventions DHBs will fund.

##### ***The Special High Cost Treatment Pool***

The Special High-Cost Treatment Pool (the Pool) is an allocation of funding that the Ministry of Health has available to purchase one-off treatments. DHBs apply to this fund on behalf of patients who need treatment that is not available in New Zealand's publicly funded health system. The Ministry of Health's Clinical Advisor responsible for the Pool considers applications from specialists and determines which patients will receive funding for special high-cost treatments.

The Pool was established to promote the use of cost-effective procedures, and to ensure fair access across the country by applying established criteria consistently to all applications. The Pool removes the responsibility for DHBs to decide whether or not they will fund interventions, managing the financial risk that highly specialised procedures might pose to DHBs. In addition, the Pool provides a mechanism for funding procedures that require further evaluation or costing analysis before they are devolved to DHB contracts. Examples of these treatments include deep brain stimulation, epilepsy surgery, and simultaneous pancreas and kidney transplants.

##### ***PHARMAC***

In some instances, hospital decisions about which pharmaceutical can be prescribed will be affected by PHARMAC's policies.

If a clinician in a public hospital wants to prescribe a pharmaceutical that is not included on the Pharmaceutical Schedule to a patient who is about to be discharged,

they must obtain permission from PHARMAC under the Hospital Exceptional Circumstances (HEC) process. The funding for the pharmaceutical comes out of the hospital's budget. PHARMAC's HEC process attempts to ensure the hospital is making the most cost-effective decision when choosing to fund a pharmaceutical for a patient, compared to the next best alternative treatment or outcome. A varying group of three clinicians, out of a panel of six, considers the HEC applications against the criteria of cost-effectiveness within a 48-hour turnaround time.

In addition, PHARMAC negotiates contracts with pharmaceutical companies for the supply of certain hospital pharmaceuticals. Most pharmaceuticals for which contracts have been negotiated are used in high volumes by DHBs. These contracts may impact on hospital decision-making as they reduce the price of some common pharmaceuticals and can include restrictions to one or more brands of the same chemical entity (i.e. sole supply) within DHBs. District health boards do, however, have the option of contravening the restriction and making a penalty payment as a result.

District health board staff have different viewpoints about PHARMAC's role in approving HEC and negotiating contracts for hospital pharmaceuticals. Some believe that PHARMAC's policies have resulted in too conservative an approach to adopting new pharmaceuticals, in particular high-cost drugs. Other decision-makers believe that PHARMAC's contracting policies are resulting in the discontinuation of specific pharmaceuticals and the creation of monopolies. An alternative point of view is that the combination of PHARMAC's decision-making processes and the processes of the hospital medicines committees result in good evidence-based decisions.

### ***Capital expenditure and regional and national service planning processes***

The Ministry of Health's Capital Investment Framework (CIF) guides district health board decision-making about investment in capital, which can include the purchase of new interventions such as new radiology equipment. It aims to ensure that health capital spending is managed within the budget allocated and that DHBs are operating in a financially responsible manner. The CIF is also designed to promote consideration of the objectives of the *New Zealand Health Strategy* and the *New Zealand Disability Strategy* in decisions about capital expenditure.

The CIF consists of an annual capital allocation round, regional capital committees, health development initiatives for regional service planning and asset management planning. The latter three provide DHBs with opportunities to collaborate locally and regionally to ensure that the greatest health gain from capital expenditure is achieved. This includes the potential for DHBs to prioritise and agree on the allocation of health services within their region, and identify the capital implications that result from these decisions. The CIF also provides for peer review to improve the quality of capital expenditure decisions.

Many DHB regions take advantage of these opportunities to collaborate on health service planning and have initiated regional service planning to various degrees of development and success. However, there is currently no mandated and clearly integrated formal process for regional and national service planning. By default, decisions made by DHBs through the capital process often determine the services that

will be provided, their location, and who will receive them. Regional capital committees are mandated to ensure that regional analysis of asset management plans is conducted and to produce a regional capital plan. There is not, however, a corresponding set of regional structures responsible for making (the often challenging) decisions to ensure optimal service configuration is achieved. The various committees that perform this function are not currently coordinated through a national structure with appropriate analytical and evidential support.

For an individual district health board, the CIF means that any board decision<sup>11</sup> about a capital purchase which is over a certain amount (specified by the regional capital committee, and usually between \$250,000 and \$500,000) is informed by, and considered in the context of, the region's health service priorities. District health boards have to participate in this decision-making process regardless of whether or not they have the money to fund the capital purchase from their budget.

One interviewee commented that the requirement for DHBs to seek regional input into decisions for capital expenditure is gradually breaking down the competitive isolation that developed in the 1990s.

The Ministry of Health is currently working together with District Health Boards New Zealand (DHBNZ) and DHBs to finalise a new framework for regional and national collaborative decision-making in two related areas:

- (i) new health interventions (including a new method of delivering an existing treatment)
- (ii) service reconfiguration (including introduction of a new service, cessation of a service, service expansion, quality change, change of providers).

This new framework is to assist DHBs and the Ministry of Health with health service changes that require a collective decision and to ensure that individual DHBs are not inappropriately compromised by the decisions of other DHBs or the Ministry. The new framework seeks to support and build on existing DHB structures to ensure that decisions are made by the appropriate body at the appropriate level (local, regional or national), with the appropriate analytical support.

The new framework intends to assist by providing:

- horizon scanning for new interventions, service changes and potential disinvestments
- a clear format for writing a 'proposal for change' or a full business case
- a process for developing and consulting on a case for change
- assistance with the analytical support and access to evidence required to develop a credible case for change
- clear decision-making steps and responsibilities
- an annual decision-cycle linked to the District Annual Plan (DAP) round that enables proposals to be prioritised and funding sources identified.

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<sup>11</sup> The hospital-based capital expenditure committees initially consider decisions about prospective capital items at a DHB level. If approved, these decisions are referred to the Board for the final decision. Further details of these committees are provided in the section on "formal hospital decision-making".

### ***Other regional DHB decision-making***

In addition to the regional collaboration that occurs through the CIF, shared support agencies are developing regional service evaluation and development programmes, to create business strategies. The decisions that some individual DHBs make about new health interventions are made in the context of this planning process.

Some district health boards jointly analyse specific medical consumables with other district health boards. This is being achieved through informal networks between DHBs. Bulk purchasing of medical supplies is also being organised at a regional level and requires DHBs to reach agreement on their preferred equipment and supplier. One health practitioner at a rural DHB commented that the differences between DHBs in preferences for new interventions mean that DHBs will only ever be able to coordinate the purchase of approximately 50 percent of their equipment.

### **DHB decision-making processes**

District health boards are responsible for ensuring that the population within a specific geographical area is provided with publicly funded health and disability support services. As already noted on page 17, this is managed through two divisions within the DHBs identified as the funder arm and the provider arm.

The funder arm of the DHB receives funding from the government based on the population in its region. It spends this funding to meet the health needs of its population by contracting with a range of providers for health services.

Some of these providers are also owned by the DHB. These are generally hospitals, but can include other bodies such as Needs Assessment/Service Coordination (NASC) agencies. Together, these DHB-owned providers are known as the provider arm of the DHB.

While most decision-making processes for new health interventions are based within hospital structures (the provider arm), the funding arm of the DHB is responsible for funding community interventions.

In addition, wider DHB processes can impact on decision-making about new interventions. Through the district strategic planning processes, DHBs decide on the health priorities for their population and which services (including new interventions) to allocate funding. One person commented that because the DHB must meet the targets identified in its District Annual Plan, (agreed to by the Minister of Health), it cannot respond flexibly to opportunities for investing in new interventions that arise throughout the financial year.

### **Formal hospital decision-making processes**

Hospitals have established a number of explicit processes to attempt to improve decision-making about which new health interventions should be adopted and, to the extent that is possible, minimise the impact of some of the factors identified in Section

3. While the titles of the committees or panels differ between hospitals, they share similar roles. The committees are generally made up of representatives of senior clinicians and hospital managers. Few committees have nurse representation.

All the committees or panels that are described below, require a DHB staff member to apply to the committee when they want to introduce an intervention that previously has not been used in the hospital, and in the case of credentialing, by the particular individual. In most cases, the decision-making panel will require a business case and/or evidence supporting the application. Many people reported that prior to the establishment of decision-making processes within hospitals, new interventions were sometimes adopted on a whim and in the absence of strong evidence. A number of decision-makers commented that the existence of the process in itself improves decision-making because people do not request the introduction of new interventions that are not supported by a strong case. Several people pointed out this is why most applications that go to the committees are generally approved, not because the committees merely rubber-stamp applications.

In general, senior medical staff within hospitals perceive the committees as necessary to ensuring that good decisions are made. Some, however, regarded the processes as an unnecessary encroachment on their decision-making authority. The ease with which senior staff can, if they wish, avoid processes that are not well embedded was raised as an issue. This problem appears to be more significant in the larger tertiary hospitals where there is more staff and people have less knowledge of what their peers are doing. Processes that require committee sign-off before an intervention is funded are more robust and make it difficult for clinicians to subvert them. One clinician reflected that these processes require individuals to consider factors that should already be taken into account in decision-making, and therefore should not be seen as an unnecessary layer of bureaucracy. Some committees were acutely aware of the time delays that can be caused by formal processes and actively streamlined their processes.

Many clinicians emphasised that, even in the presence of a decision-making process, a new intervention was more likely to be introduced if it had a strong advocate in the hospital. A clinician's personal passion for the use of a new intervention was seen as a key factor in its adoption. Some managers and clinicians expressed concern that clinicians who support their requests with a strong, sophisticated business case were more likely to have their request approved than others who were less adept at 'selling' their proposal. Others thought that people who 'shouted the loudest' got what they wanted regardless of the merits of their proposal. One practitioner commented that where the individual doctor or the service making the request had significant clout, the formal process was less likely to be properly followed.

A further issue identified by people involved in these committees is a lack of resources to support their activities. Some committees rely on the goodwill of those clinicians interested in seeing improved decision-making processes but this requires balancing their commitment to these activities with their other work.

### *Assets and Capital Committee*

All hospitals have an assets and capital committee (or an equivalent) that determines the priorities for the hospital's capital expenditure. This committee considers applications for capital expenditure over a certain amount from all the service areas within the hospital and attempts to prioritise what should be funded. Each service area must make a case for its capital bid and prioritise its requests.

Some services (such as radiology) that use very expensive technology feel they are disadvantaged by the hospital's capital process. Other services are able to regularly purchase new technology from within their own service budgets, whereas the requests for expensive equipment have to be prioritised against those from all other areas of the hospital and, as a result, may miss out on funding over successive years.

Managers often commented that the assets and capital committee process provides a good opportunity to educate clinical members of the committee about the competing demands on the capital budget and gain an understanding about the difficulties of identifying priorities.

### ***Credentialing committee***

Most hospitals have a credentialing committee that oversees the credentialing of senior medical staff and, in some instances, examines incremental improvements in new health interventions. The credentialing process defines the clinical responsibilities of the practitioner and monitors their competence within a given scope of practice.

Credentialing of new staff generally occurs when they first arrive at the hospital. As discussed in Section 3, some hospitals find out after recruiting a clinician that s/he wants to carry out new procedures that the hospital does not rate as a priority. In an attempt to better control this occurrence, one hospital is considering strengthening credentialing processes during the job application phase.

Clinicians expressed a range of views about credentialing. Some regard credentialing as an essential component of the quality improvement initiative while others view it as an onerous process that limits their activities. One manager thought that some clinicians were using the credentialing process to avoid performing functions that they were qualified to provide, but that they didn't want to carry out because they considered them too risky.

### ***Clinical board***

Some hospitals have a clinical board, the specific role of which differs between hospitals. The functions of the clinical boards include examining research proposals, overseeing credentialing (where there is no credentialing committee) and approving clinical policy. In some instances clinical boards are also responsible for risk management and through this process identify the risks that arise from the introduction of new interventions for which there is no conclusive evidence.

### ***New interventions committee***

Some hospitals providing tertiary services have committees that consider requests from clinicians to fund or carry out a new intervention. These committees recommend to the hospital's general manager whether the request be supported or not.

One example was given of a committee in a tertiary hospital that specifically considered applications from the hospital's surgical services. This committee examines emerging procedures and the technology required to support these procedures. Applicants are required to make a case for why the new procedure should be performed and any associated technology required. The committee considers whether the proposed intervention is an improvement on what has been used to date, the evidence for outcomes of the proposed procedure, and the process for evaluation and feedback to ensure that the procedure can be monitored after introduction. The committee does not consider cost as the general manager of surgical services has the responsibility for signing off on the funding. However, a surgical area bringing the application has to be confident that its budget can fund the change. This process is able to identify all new surgical interventions because a clinician is unable to buy new equipment unless it has been approved.

Another new interventions committee was established in Christchurch Hospital as a result of concerns about the cost implications of decisions about cardiology interventions. The aim of establishing the committee was to develop a professional arm to guide the decision-making process. The panel considers applications for new interventions, focussing in particular on the evidence of outcomes and value for money. A comparison of any new proposal with the intervention/s that are currently being offered is an important part of this process.

Applicants and the panel have access to technical support from the Clinical Decision Support Unit (CDSU) (described in Section 5). Applicants can request summaries of evidence from the CDSU to support their application. The panel can also ask the CDSU to check that the evidence advanced in an application is representative of the evidence that exists on that new intervention. When the evidence for a new intervention is unclear, the panel may recommend a trial to determine whether it should be introduced. There is no process to ensure that all decisions are referred to the panel for consideration and new interventions have been introduced in the hospital without being considered by the panel.

### ***Hospital medicines committee and the preferred medicines list***

Most hospitals have a medicines committee (or similarly named group) that, among other activities, determines the pharmaceuticals that hospital staff can use and the circumstances in which they can be used. This information is recorded in the hospital's drug formulary or preferred medicines list. This list helps prescribers decide which pharmaceutical/s to prescribe and assists the management of the hospital's pharmaceutical budget by identifying the most cost-effective options. Some hospitals also provide guidelines for the management of common medical conditions (although these are not developed solely by medicines committees).

In most hospitals a wide range of clinicians are involved in the decision-making process that determines what is included on the formulary or list. Their involvement ensures that clinicians' expertise in pharmaceutical treatments is taken into account in

decision-making. Staff spoken to commented that where clinicians are involved in the decision-making process they are more likely to comply with the formulary or list when choosing and using pharmaceuticals.

Clinicians and pharmacy managers identified the advantages of a rigorous process that closely examines new pharmaceuticals that manufacturers want introduced in the hospital. This is particularly important for clinicians working in the hospital who have trialled a pharmaceutical and feel compelled to advocate for its introduction, despite their reservations about its appropriateness. It also reduces the likelihood that clinicians' conflicts of interest would influence a decision.

Approaches to the use of the formulary or list differ between hospitals. In some hospitals, compliance with the list is compulsory and any variations in use must be authorised by the medicines committee. This ensures that all decisions about pharmaceuticals used in the hospital are scrutinised according to the committee's criteria. Other hospitals have more permissive arrangements. In some, senior clinicians can prescribe one-off pharmaceuticals that are not covered by the list. Others allow all prescribers to determine whether or not they use drugs on the list. In hospitals where adherence to the list is not compulsory, there is a risk that decision-making will be less consistent. However, in the hospitals visited, high compliance rates were being achieved.

One mechanism that prescribers can use to provide pharmaceuticals that are not on the hospital's formulary or preferred medicines list to patients is through enrolling patients in clinical trials. Both clinicians and managers described this as a common practice that enables patients to receive pharmaceuticals that the hospital has decided not to fund. However, when supply ceases at the conclusion of the trial, hospitals can come under pressure to fund the pharmaceuticals to ensure that patients continue to receive them.

Some hospital medicines committees establish criteria and consider requests for funding high-cost treatments within the hospital. Due to the large amounts of money involved and the implications of not providing these drugs, the decisions create dilemmas for clinicians and DHBs that are made more difficult when the evidence for their effectiveness is unclear.

In some hospitals, medicines committees consider applications to PHARMAC for Hospital Exceptional Circumstances (HEC) process (see PHARMAC section, page 26). As clinicians are able to apply directly to PHARMAC for HEC approval, this can cause problems when the hospital or service area doesn't have the resources available to fund the treatment. In these situations, hospital managers have to choose between either exceeding their budget, or denying funding for a pharmaceutical that PHARMAC has approved for use for a specific patient. As one manager commented: "It is a very brave person who refuses to fund a pharmaceutical that has received HEC approval". In most instances the pharmaceutical is funded and money is reallocated from other areas to cover the cost.

In response to this problem, a number of hospitals have introduced a policy of ensuring that the hospital's medicines committee signs off all HEC applications before they are forwarded to PHARMAC. This ensures that the cost implications of

any request are considered before PHARMAC's approval is sought. The process relies on clinician compliance as individual practitioners can approach PHARMAC directly. Interestingly, in 2004 most tertiary hospitals (i.e. those likely to confront the issue of funding high-cost interventions more regularly) had not implemented this in-house process.

### ***Hospital consumable products committees and Product Evaluation Health New Zealand (PEHNZ)***

A number of DHBs in New Zealand have consumable products committees. These committees provide a transparent process for making decisions about consumables (and some other hospital items that don't qualify for scrutiny under the capital expenditure process) and aim to achieve greater consistency in the use of products within the hospital. The committees use Product Evaluation Health New Zealand (PEHNZ), a health intervention assessment process, to help identify the safest, most cost-effective and acceptable product.

In hospitals using the PEHNZ process, hospital product evaluators liaise with the supply company when they receive requests from other hospital staff for new consumables or equipment. The consumable products committee requests and reviews the application (which includes a product evaluation form and any trial evidence) from the supplier.

The committee may decide that an evaluation is needed to compare the proposed new intervention with what is already being used in the hospital. The evaluation process tests the product to ensure that it does what the supplier promises, and gauges user preference. It also provides an opportunity to find out if there are unidentified problems in using the equipment. The consumables committee will then determine whether a new product should be introduced on the basis of the trial information, the results of the evaluation and, if possible, experiences other DHBs have had using the product.

Practitioners' comments about their consumables committee's processes varied. Some recognised the process as an important mechanism in ensuring the hospital is purchasing the best and most cost-effective new products. Others were resistant to what they believed was a time consuming process that lacks transparency and seeks to unnecessarily limit their choice. The hospital's ability to enforce the process is determined in part by size and also by the robustness of the process. Those involved in the consumables committee process believe that it avoids wasted resources.

### **When is a formal decision-making process used to consider an intervention?**

The existence of hospital committees means that decisions about the introduction of certain types of health interventions receive more scrutiny than others. The health interventions that are most likely to be subject to a decision-making process include:

- expensive interventions that are considered through the hospital's capital process
- groundbreaking and therefore visible interventions
- new pharmaceuticals.

Health interventions that are rarely considered in formal decision-making processes are those that are:

- incremental changes to existing interventions not recognised as being innovative
- introduced without the requirement for any immediate expenditure
- already being used in another service area in the hospital
- purchased to replace existing interventions that have become outdated (excluding major capital items)
- considered and approved by a professional body, such as the Royal Australasian College of Surgeons
- low-cost and/or purchased as they are needed rather than in bulk (although over time, the budget impact of these interventions can be as significant as interventions that are individually more expensive).

### **Informal decision-making processes**

Some decisions about funding new interventions are implicit and are made without recourse to any formal decision-making process. The informal decision-making that occurs in the absence of any formal process depends on the governance model within the DHB, the culture of the DHB, the relationships between the clinicians and managers, and the performance of the service. The influence that these factors have on the informal decision-making process varies between DHBs.

As mentioned in Section 3, clinicians have the primary role in the decision-making process about which new interventions to fund because they have the expertise in and are responsible for determining the most appropriate treatment for the patient. Clinicians tend to discuss proposals for changing interventions within their service group.

Hospital managers also have a key role in the decision-making process. Managers have a series of delegated financial limits and have to authorise funding for new interventions within these. A number of managers commented on the increasingly budget-conscious and responsible attitudes expressed by the clinicians they work with. Very few clinicians thought that they could fund any intervention for a patient regardless of the cost of the intervention itself and the impact on the rest of the hospital.

The extent to which clinicians discuss decisions with managers depends in part on the type of intervention being funded. Both clinicians and managers noted this is less likely to occur for lower cost interventions and incremental changes in practice. Another clinician commented that where the intervention is particularly specialised and expensive, such as in the case of oncology drugs, the clinician alone makes the decision. This demonstrates the variation in approaches across different DHBs. One manager commented that perceived clinical risk is the 'tipping point' in decision-making. Managers indicated that as they want to protect themselves if things go wrong with a patient, they follow the advice of clinicians.

Many managers and clinicians commented that good relationships between senior medical staff and managers are an essential prerequisite for honest and open discussions about the introduction of new interventions. A medical speciality or

service is more likely to receive support for funding if it is committed to reducing overall costs and to working with management. The manager's trust in the clinician to make reasonable requests was also identified as an important factor in developing good decision-making relationships.

Managers emphasised that they would never consider making a decision about funding a new intervention without clinical input. In some DHBs, managers and clinicians reported having robust discussions about the introduction of most new interventions that led to consensus decision-making taking into account criteria such as cost-effectiveness. This approach is not uniform throughout all DHBs. One clinician reported that the hospital service managers would never consider questioning a clinician on the grounds on which s/he had decided to use a new intervention. Another commented that managers in general feel very vulnerable and that many clinicians feel they do not have a good relationship with their direct managers or the hospital manager.

The comment was made by some managers that clinical decision-making is not proactive, but is rather a reactive process that is initiated when a patient presents with a condition that requires a new approach. Managers stated that they relied on the evidence of improved outcomes provided by clinicians and were aware that this evidence could be selectively presented in order to gain the manager's support. Some managers thought that a source of independent information that provided a summary of the evidence on an intervention would allow more honest discussion between managers and clinicians.

Both clinicians and managers reported that clinicians might be reluctant to involve managers in decision-making because they believe managers have little experience. This is largely attributed to the relatively high turnover of managers, compared with clinicians who often work in the same position for much longer periods and feel like they are constantly bringing new managers 'up to speed'.

Clinicians discussed the difficulty of refusing a patient a certain treatment if it couldn't be funded due to the limited service budget. Some clinicians pass decision-making responsibility to the manager in instances where the clinician feels compromised about providing the clinically best treatment for the patient. In these instances managers said they found it hard to say "no" to requests for high-cost interventions and were likely to seek advice from the chief medical advisor. The individuals who make the final decisions reported experiencing considerable pressure and uncertainty about making difficult decisions in the absence of explicit criteria.

Clinicians who were responsible for final decision-making about high-cost interventions were concerned about the potential inequalities that arise when DHBs respond to similar patient circumstances with different decisions. Some hospitals are more flexible than others, resulting in variation in response to the issue across DHBs and within the same DHB when management changes.

## **Who is not involved in the hospital-level decision-making process?**

Generally clinicians and hospital managers have the responsibility for the decision-making process about new interventions, and other groups have a limited role, if they feature at all.

### ***The planning and funding team***

As discussed earlier in this section, the DHB planning and funding team determines which contracts the DHB. However, the planning and funding team is generally not involved in decision-making about which interventions the provider arm funds.

Planning and funding staff demonstrated an eagerness to be involved in hospital decision-making about the funding of new interventions to ensure that the DHB's priorities and the wider DHB view were considered in the process.

### ***Nursing staff***

Clinicians and nurses both noted that decisions about new health interventions are largely medically driven and that nurses are generally not involved in the decision-making process but their work is affected by clinical decisions.

A small proportion of formal hospital decision-making processes take nursing perspectives into account. Practitioners involved in these processes emphasise the importance of making decisions that don't adversely impact nurses' already stretched workloads and/or make it difficult for nurses to do their work.

Nursing perspectives often differ from those of clinicians or managers. It was suggested that nursing perspectives could add value to decision-making in the areas of ethics of caring, capacity, ability of staff to cope with change, and identifying the down-stream effects of decisions.

### ***The public***

District health board staff commented that there is very little public consultation about new interventions. Members of the public are not directly involved in decision-making about specific new interventions. However, consumers can, and do, exercise limited influence on decisions about some new interventions through their role on the boards, in DHB sub-committees, and through requesting specific interventions from clinicians.

## **5. USE OF EVIDENCE IN DISTRICT HEALTH BOARD DECISION-MAKING**

From discussions in District Health Boards (DHBs) it is clear that there are a variety of views among staff about evidence-based medicine and a considerable range of sources and types of evidence are used.

### **Views about evidence-based medicine**

Most, but not all, clinicians were of the view that evidence is a key factor in decision-making about new interventions and that the ideal level of evidence is a randomised controlled trial (RCT) between the established approach and a new intervention. Not all clinicians considered that basing decision-making on formal sources of evidence was important.

It was suggested that there is cynicism among some clinicians about evidence-based medicine on two grounds. Firstly, many clinical procedures are undertaken for which there is no evidence. Secondly, the view of some clinicians is that they know best, irrespective of what the evidence says. One comment was that for clinicians, evidence-based medicine 'inspires yawns'.

Most managers in hospitals (provider arms) thought that identifying and assessing evidence was a role for clinicians. Managers frequently stated that without clinical training in the relevant speciality and skills in assessing evidence, it is difficult for them to assess alternative interventions - for instance, whether to purchase a more powerful CT scanner or an MRI scanner. However some managers, particularly in planning and funding teams, did have expertise in assessing evidence and were comfortable using this in decision-making about community interventions.

There was a range of views about the level of evidence needed. One view was that without data from randomised controlled trials (RCTs) it was an uphill battle to get sufficient evidence for a treatment. Evidence was generally seen as another tool in negotiating the conflicting claims of competing groups and interests. In this way it provides a basis for managers and clinicians to have a conversation using tangible information about whether to fund a new intervention.

The comment was made that political factors impact on the extent to which evidence is taken into account. A number of DHB staff pointed out that many national decisions about funding new interventions are not based on evidence. Examples given included extending breast screening to women under 50 years, and the funding of interferon for multiple sclerosis. People commented that if they were going to be expected to make decisions informed by evidence, health decision-makers in the government and public services should also have do this. It was considered that too often it is the 'squeaky wheel' that gets attention, rather than decisions being evidence-based (see Section 3 for description of the influence of political factors on decision-making).

### **The problems associated with getting adequate evidence**

A number of people commented that evidence that is available is not perfect, and that evidence, by itself, does not make decisions. A number of issues that make accessing and using evidence were identified.

A frequent comment was that the quality of the analysis of available evidence is dependent on the critical appraisal skills of those involved. Concern was expressed that the majority of clinicians have very little training in, and are not particularly skilled at, reading research studies critically. It was suggested that clinicians might think the evidence on which they are basing their decisions is strong, when this is not the case. The difficulty in finding time to access and read through all the relevant information was also mentioned. It was pointed out that as it is often difficult for individual doctors to form a position on what interventions should be used, they tend to make these assessments with their colleagues, for instance within a service group.

### *Limitations of available evidence*

The pace of technological development means that new interventions often enter the market before long-term studies are available to determine whether they are more effective than existing therapies and/or cost-effectiveness studies have been undertaken. For instance, drug-eluting stents<sup>12</sup> for cardiac surgery were regularly raised as an example of a new intervention that DHBs were trying to decide whether or not to adopt. Clinicians in New Zealand hold differing views about their effectiveness and the Australian Medical Services Advisory Committee (MSAC)<sup>13</sup> took until November 2004 to make recommendations about their use.<sup>v</sup>

The ways in which the available evidence influences a decision about whether or not to fund a new intervention will depend on the circumstances of the individual patient. The effects of interventions that are trialled on groups of people are described in terms of averages. However, there is considerable variation within population groups in responses to an intervention. As a result decision-makers may choose to fund a new intervention, which has not been demonstrated to be effective for a population group, for an individual who has not responded to any other intervention. This is particularly so in circumstances when the individual is likely to die. In this instance, even treatment with a low probability of success is likely to be advocated, especially if the patient is young.

It was suggested that because the establishment of evidence takes time, decisions are often pragmatic and based on the evidence available. However, for many new interventions (developed for use in hospitals or in the community) the evidence is vague, even when trials have been completed. A funding and planning manager commented that for many community interventions there is very little evidence and in

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<sup>12</sup> See page 15 for definition

<sup>13</sup> MSAC is an independent committee which was established to provide advice to the Commonwealth Minister of Health and Aging on the strength of evidence available on new and existing medical technologies and procedures in terms of their safety, effectiveness and cost-effectiveness. This advice helps to inform Australian government decisions about which medical services should receive public funding.

the end it often comes down to making the most well informed decision for the situation under consideration<sup>14</sup>.

Orthopaedic devices were often cited as an example of where evidence is never timely. Generally the long-term effectiveness of these devices can only be established once they have reached their expected lifespan, which is around 15 to 20 years. However, by this time they are likely to have been superseded by new devices. Several orthopaedic surgeons emphasised the value of device registers for collecting comprehensive information about the effectiveness of implants over time.

People interviewed thought that in many instances New Zealand is a late adopter of new interventions. For example, staff in one DHB reported that the use of perioperative beta blockers<sup>15</sup> in anaesthetic surgery was discussed in the literature for 10 years before it was decided to adopt this approach. A number of people commented that the fact that New Zealand tends to be a later adopter is an advantage in instances where international evidence finds that a clinical intervention is ineffective.

The comment was made that the real cost of many new technologies is not known until they are being used. At this point, however, it is hard to disinvest even if there is no evidence of cost-effectiveness, or unexpected downstream costs have been identified. It was also pointed out that once a new intervention has been introduced and used for a time, it becomes harder to justify running a RCT to gain evidence about effectiveness, even if there are differences of views about this among clinicians. This is because those who believe the intervention is superior to other treatment options consider that it would be unethical to offer another treatment to a control group.

The effect of publication bias was also mentioned. This is the bias that results from studies with positive results being more likely to be published than those in which no effect is shown. The Cochrane Collaboration, which is used by some clinicians, does however include unpublished trials on its database.

Several people commented that economic analysis on its own is not sufficient to make decisions about new interventions, as it does not include clinical data on effectiveness of the intervention and potential downstream effects. It was also pointed out that there are limitations in using cost-effectiveness for prioritising the enhanced quality of life that interventions may provide to patients, as clinical trials don't always use quality of life measures.

Clinicians from a range of medical specialities pointed out that the kinds of evidence that are possible vary between areas of medicine and health care. For instance in

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<sup>14</sup> Developing an evidence base for community interventions and public health is an issue that is being considered internationally. For instance in the UK, the Health Development Agency of the National Health Services (NHS) has set up a data-base of evidence on public health interventions.<sup>14</sup> ([www.hda-online.org.uk](http://www.hda-online.org.uk)).

<sup>15</sup> Beta-blockers "block" the effects of adrenaline on the body's beta receptors. This slows the nerve impulses that travel through the heart, and as a result, the heart does not have to work as hard because it needs less blood and oxygen. Perioperative (preoperative) treatment with beta-blockers is widely advocated to prevent post-operative cardiovascular complications.

some areas of surgery, RCTs are difficult to carry out because blinding is not possible, interventions are expensive and the small number of potential participants means it can take a long time to enrol enough people in a study. Another example given was that in general medicine it is more difficult to obtain outcome data than in surgery. This is because general medicine is not as technically intensive as some other clinical areas and the interventions are often about improving quality of life (e.g. interventions to reduce the effects of arthritis) rather than preventing mortality.

Many of those spoken with expressed concern about the difficulties in comparing interventions for which different levels of evidence are available. It was suggested that decision-making is easier in a clinical setting where there are more research trials and trade-offs are more obvious. For instance, the level of evidence required to carry out high-tech operations is not available for primary health and public health initiatives. This makes it difficult to determine the trade-offs between heart bypass operations and prevention campaigns.

In regard to community initiatives, the comment was made that the way in which interventions are implemented in community settings is critical. Provider structure, continuing medical education and relationships between professionals can determine the quality of service delivery. However, there is not enough evidence to know how or whether an intervention will be effective in the context of a particular provider or with certain co-morbidities.

Concerns were raised around there being a lack of 'acceptable evidence' available to 'mainstream' decision-makers. An example highlighted is a lack of evidence-based research on Māori models of care and service delivery. One reason for this gap is the limited number of Māori researchers to do this work. It was suggested that one of the reasons why it is difficult to get alternative approaches on the agenda is the status that is associated with the knowledge and expertise of clinicians and the preoccupation with a narrow range of evidence (in particular, RCTs). One example mentioned was marae-based cervical screening. While marae-based approaches have proved successful with smoking cessation, clinicians were reportedly reluctant to adopt a similar intervention for cervical screening.

### **Sources of information and evidence about new interventions**

The main sources of information and evidence accessed by DHB staff were international journals, conferences, professional bodies, advice from colleagues (including those in other DHBs), overseas evidence-based databases, local research trials and companies developing or marketing new interventions.

Clinicians commented that it was not difficult to find evidence-based information about new interventions, although this does require active searching. Mention was made of undertaking specific literature reviews and actively searching to find out if others have done an assessment of the same intervention.

The alternative point of view was that necessary evidence was lacking in the information that was easily accessible. It was considered that an independent source of evidence about the cost-effectiveness of new interventions was required to enable

managers and clinicians to have an honest conversation about whether they should be introduced. It was pointed out that time is often a constraint as relevant information tends to be needed rapidly to assist clinical decision-making.

### *Research studies and trials*

Data from international studies was a common source of evidence. People reported that the big tertiary health centres in the USA constantly publish papers and are a good source of information. It was also noted that often clinicians base their evidence on a single study. It was suggested that this might be reasonable when the changes to an intervention are small, but is not adequate for more significant changes.

As well as seeking evidence from international studies, a range of multi-centre trials takes place in New Zealand hospitals. Results from these studies are often reported back to professional bodies and in this way contribute to information about treatments.

Concern was expressed about the limitations of determining the effectiveness of a new intervention from early trials. It was pointed out that the clinician or researcher who develops a new intervention is likely to get good results initially, but that the reported efficacy will decrease as it is rolled out and others undertake the intervention in a setting in which variables are not controlled for.

Several clinicians commented that there are situations where neither “yes” nor “no” is the right answer to the question of whether to adopt an intervention. It was suggested that in these cases the best approach is introduce the intervention on a restricted basis as part of a limited trial and gather more data. Conducting local trials to establish whether an intervention is applicable to New Zealand was also mentioned. The example was given of laparoscopic surgery for malignancy, which was started and then stopped, as it was too time-consuming. A number of hospitals also employ a product evaluator whose role includes setting up trials of new equipment (see Section 4 for more information).

A number of people talked about the applicability of overseas research to New Zealand. It was noted that there is very limited research on specific population groups in New Zealand, in particular Māori and Pacific peoples. This was seen partly as a result of the New Zealand’s small population size. Most clinicians spoken with felt that enough international information was available to generalise the results to New Zealand. However, some planning and funding staff warned that care needs to be taken in interpreting results into the New Zealand setting, particularly in the area of primary care and community-based initiatives.

### *Conferences*

A significant source that clinicians reported receiving evidence from are the national and international conferences in speciality areas that are held regularly. Clinicians in rural hospitals appeared to have greater difficulty getting to conferences than their urban colleagues. This was because of problems arranging coverage while they were away at the conference.

### ***Professional Bodies***

Professional bodies are a source of evidence, and information about the assessment of new interventions, for clinicians. Two examples mentioned were the Australian Safety and Efficacy Register of New Interventional Procedures - Surgical (ASERNIP-S). ASERNIP-S provides evaluations of new surgical procedures, including safety and efficacy recommendations and any conditions that apply to the use of the procedure. The Royal Australasian College of Surgeons and ASERNIP-S has also produced guidelines for hospitals and health services to use when assessing, approving and introducing new surgical procedures.

### ***Colleagues***

Colleagues within the same hospital and in other DHBs were both identified as sources of information about evidence. As indicated previously, managers in hospitals generally rely on clinicians (in particular clinical directors) for clinical information about effectiveness and cost effectiveness.

Approaches for seeking information from other DHBs included contacting counterparts in similar DHBs (for example, product evaluators and pharmacy managers). Staff in tertiary hospitals indicated that they would contact the major tertiary hospitals (in particular Auckland) to find out their position on funding a new intervention, including the reasons why they had decided not to fund an intervention.

A Chief Medical Advisor from a rural hospital commented s/he they did not look to other DHBs for information about new interventions, but rather worked on the basis that if there had been a major development s/he would have heard about it through journals or patients. One rural clinician mentioned that he was part of a journal club in which clinicians discussed articles published in professional journals to keep an eye on emerging interventions. It was reported that planning and funding teams had good networks around the country that provided opportunities to pool information and learn from other DHBs.

### **Overseas HTA and evidence-based databases**

Most of the DHB staff spoken with had not heard about health technology assessment (HTA). Those who were aware of it often indicated they used one of more of the following overseas sources:

- National Institute of Clinical Excellence (NICE), UK
- Food and Drug Administration (FDA), USA
- Medical Services Advisory Committee (MSAC), Australia
- Cochrane Collaboration (on-line).

Some hospitals provide staff with easy access to evidence databases, in particular the Cochrane Collaboration. One reason given for this was to enable staff to collate evidence for applications to decision-making committees (see Section 4 for information about these committees). The view of one Chief Medical Advisor was that access to international HTA information is not straightforward as it is only partially indexed and most information has to be sought from other sources. Other

comments were that it is difficult to find economic analyses of new interventions and that no one publishes HTAs of interventions that are already established. A number of people suggested that given the amount of health technology assessment being done overseas, there is no need to ‘reinvent the wheel’ in New Zealand.

### **Information produced by New Zealand agencies**

Three New Zealand agencies that produce HTA information used by DHBs are PHARMAC (the Pharmaceutical Management Agency), New Zealand Health Technology Assessment (NZHTA) and EPIQ (Effective Practice, Informatics & Quality Improvement). In addition, the New Zealand Guidelines Group (NZGG) produces clinical guidelines, particularly for primary care. Canterbury DHB in collaboration with Christchurch School of Medicine has set up the Clinical Decisions Support Unit and the Canterbury Drug Information Service.

### ***PHARMAC***

Over the past two years PHARMAC has been operating a trial of an assessment process for new hospital pharmaceuticals, the Hospital Pharmaceutical Assessment Process (HPAP). This process involves concurrent (or as near as possible) national assessment of new pharmaceuticals that public hospitals are assessing. However, it is not compulsory for hospitals to implement the recommendations.

The HPAP was intended to promote benefits through:

- facilitating the introduction of economic analysis into hospital assessments for pharmaceuticals
- reducing duplication of work
- promoting dialogue between DHBs
- facilitating review
- improving of the consistency and quality of assessments
- improving consistency of access to pharmaceuticals<sup>16</sup>.

PHARMAC has recently undertaken a review of the HPAP and is considering several options with regards to the future of the HPAP. The main findings of the review are listed below.

- Most DHBs considered the HPAP to be useful and had referred to PHARMAC’s assessments when reviewing a pharmaceutical. There was some indication that the assessments had affected funding decisions.
- It is unlikely that the HPAP had improved national consistency of access to new hospital pharmaceuticals.
- The majority of DHBs considered that the HPAP had reduced duplication of work and facilitated review. However communication between DHBs had not improved, despite the establishment of several communication channels.
- The majority of DHBs considered PHARMAC’s assessments to be sufficiently rigorous and that the HPAP had improved the consistency and quality of

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<sup>16</sup> further information on the HPAP process can be found on the PHARMAC website:  
[http://www.pharmac.govt.nz/hospital\\_strategy.asp](http://www.pharmac.govt.nz/hospital_strategy.asp)

assessments. There was some indication that the assessments need to be timelier, particularly for larger DHBs.

Most hospital pharmacists spoken to during the NHC interviews were not positive about the value of HPAP information and some commented that clinicians were not following its recommendations. Many felt that it covered pharmaceuticals about which comparable information was widely available or that were already in use in DHBs. However, some appreciated its value as an independent source of information about pharmaceuticals. A hospital pharmacist commented that the information had been useful for their medicines committee, particularly as they had no capacity locally to undertake an economic assessment.

### *New Zealand Health Technology Assessment (NZHTA)*

The New Zealand Health Technology Assessment (NZHTA) unit is located in the Christchurch School of Medicine and Health Sciences, University of Otago. NZHTA was founded in 1997 and has produced evidence-based reviews for groups both in New Zealand and internationally including: the Ministry of Health, Accident Compensation Corporation, New Zealand Guidelines Group, and New Zealand College of General Practitioners; and, in Australia, the Medicare Services Advisory Committee. NZHTA is a member of the International Network of Agencies of Health Technology Assessment.

NZHTA provides evidence-based, systematic reviews of the literature examining interventions, procedures and devices, diagnostic tests and policies that aim to have an impact on health. NZHTA has routine dissemination processes in place for each topic. Key criteria considered in each review are determined in conjunction with the group commissioning the work but can include the safety, effectiveness, equity and cost-effectiveness of the intervention. In determining the research questions with the client, NZHTA specifically considers a comparison between the new intervention and the intervention used most frequently in routine practice.

NZHTA has access to a wide range of literature sources through its international networks, including databases on systematic reviews, and is recognised as having internationally leading literature search capabilities. NZHTA is able to provide outputs in a form that meets the needs of the commissioning group. The NZHTA's routine outputs include:

- systematic reviews
- abbreviated versions of systematic reviews
- horizon scanning reports, which examine technologies in development that could have important effects on health care in the future
- results of literature searches
- overviews of the material included in literature searches.

In interviews with DHB staff many commented that they had not heard of NZHTA, but some had experience in using its services. The general comment was that it is too academic and produces large documents that DHB staff do not have time to analyse. It was also pointed out that information from NZHTA has to be put into a regional and local context to be useful to clinicians and managers.

Some people felt that NZHTA provides a really good service and produces valuable information. It was suggested that it was more likely to be used by regional services (such as Shared Service Agencies) than in DHBs. A planning and funding staff member made particular mention of the NZHTA report *Interventions to improve youth physical and mental health*, because it provided a broader landscape view, rather than just comparing two alternative interventions.

It was suggested that if there were a greater variation in the type of report produced this would make NZHTA's service more relevant to DHBs. It was pointed out that sometimes DHB staff want direction about options, but other times just need information on the landscape.

### ***New Zealand Guidelines Group (NZGG)***

The NZGG provides DHBs with evidence-based best practice guidelines on topics of major health importance (including asthma, cardiovascular disease and type-2 diabetes). In addition to the development of full guidelines, shorter guideline summaries, consumer resources, and website links have also been developed to support the detailed full documents. NZGG co-ordinates experts from the guidelines teams to explain the new guidelines advice at conferences and seminars that DHB staff attend.

NZGG conducts systematic reviews of evidence on topics including fertility services such as PSA testing<sup>17</sup> and the effectiveness of high dose brachytherapy for the treatment of prostate cancer. These reviews inform decision-makers decisions about whether or not to fund an intervention, or to recommend an intervention be funded.

NZGG's website contains information about evidence-based practice for DHBs, practitioners and consumers, as well as many trusted links to evidence-based sites.

In collaboration with NZHTA and the NZ Cochrane centre, NZGG produces the Evidence-based Healthcare Bulletin - an electronic bulletin that is sent out about nine times a year to all DHBs and is circulated on DHB intranets. The Bulletin summarises the latest interesting evidence-based news from New Zealand and the English-speaking world.

NZGG also currently provides training in guideline development, and also commissions workshops and seminars on evidence-based practice topics by notable experts.

Generally those who were asked about the New Zealand Guidelines Group found the guidelines it produces useful. The comment was made that the guidelines are adopted more quickly in the primary sector than other areas of clinical practice.

Some saw the large numbers of guidelines that have been produced as a barrier. General practitioners can only take in and retain a certain amount of information and it is easier to do this for conditions which patients present with regularly. It was also

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<sup>17</sup> A blood test that measures the level of Prostate Specific Antigen in the blood that is the first step in a process for diagnosing prostate cancer

pointed out that general practitioners are reluctant to look up a guideline every time they see a patient.

Specific mention was made about the guidelines on the *Management of Type 2 diabetes*, which included separate chapters on Māori and on Pacific perspectives. The comment was made that this had been really useful because they provided guidance on how to approach different population groups. It was suggested that regular inclusion of sections about providing care to population groups with high health needs would assist in advising clinicians in understanding the complexity of service provision.

It was also suggested that more focus needs to be given to the implementation of the guidelines. In addition to continuing medical education, mechanisms suggested were one-on-one facilitation and electronic procedures like hot word and templates.

### ***Clinical Decision Support Unit, Christchurch***

The Clinical Decision Support Unit (CDSU) provides evidence-based information and advice to support decision-making about health interventions in both the funder and provider arms of Canterbury DHB. Christchurch School of Medicine and Canterbury DHB jointly fund the Unit.

The CDSU provides HTA reviews and, when requested, advice on whether the evidence reviewed suggests that an intervention should be funded (for instance by the Christchurch panel that considers new interventions, see page 32). In response to requests from the DHB, the CDSU is able to rapidly provide technically sound (but not 'gold standard') reviews and advice.

The CDSU gains a binding agreement from those for whom it is conducting a review or providing advice, to ensure that the results of the review will be taken into account in the decision-making process. This is to avoid the situation where the results of the CDSU's review are only being used when it supports the decision that those requesting the review would like to see made.

### ***The Christchurch Drug Information Service***

The Christchurch Drug Information Service provides independent evidence-based information about pharmaceuticals to health professionals, including doctors, pharmacists, nurses and midwives. The service aims to promote the safe, rational, efficacious and economic use of drugs.

Patient-specific drug information is provided to health practitioners, on such subjects as drug availability, contraindications/precautions, adverse drug reactions and drug interactions. The service responds to drug information enquiries either verbally over the phone, or in writing. The information collected by the service also informs the development of the preferred medicines list.

## *EPIQ, University of Auckland*

EPIQ (Effective Practice, Informatics and Quality Improvement) is a collaboration of academics, clinicians and other health professionals. It was established in 2002 to support effective evidence-based practice and quality improvement initiatives in the health and disability support sectors. EPIQ conducts research and provides training and consultancy services.

### *Other sources*

In one DHB visited, an independent review team of academics and health professionals had been formed to gather information, consult and provide advice on options for health service provision in a specific location. This team was required to take an evidence-based approach, consider community and clinical points of view, identify current and future opportunities and recommend an implementation process.

### **Use of HTA in District Health Board decision-making**

While a lot of evidence-based information is used in decision-making by DHBs, this is often only from one or a few studies, rather than through accessing or developing HTA information. As noted earlier in this section, many clinicians rely on overseas conferences, journals and professional organisations to find out about new interventions. Most clinicians spoken with considered that sufficient information about new interventions was available and accessible. However, those who actively seek and use HTA information tended to express concern about the lack of emphasis on HTA within New Zealand.

A regular comment was the lack of capacity and capability within DHBs to undertake economic analyses or compile health technology assessments. While some DHBs do have expertise in these areas, these staff tend to be based in the planning and funding teams or in regional Shared Service Agencies (SSAs) and are unlikely to have the capacity to do this alongside their other work priorities. The exception is the Canterbury DHB, which, along with the Christchurch School of Medicine, has put considerable staff time and resources into establishing a capacity to do HTA and develop clinical guidelines.

One clinician commented that if DHBs are going to share information about new interventions, for instance through a central database of assessments and decisions, the criteria for evaluation need to be clear and care needs to be taken to ensure that what is presented is accurate.

## **6. CRITERIA FOR DISTRICT HEALTH BOARD DECISION-MAKING**

### **Principles for HTA**

In its 2002 discussion paper on new technology assessment, the National Health Committee proposed that the five HFA prioritisation principles would be suitable to guide decisions on whether to adopt a new technology. These principles are:

1. effectiveness
2. cost
3. equity
4. Māori health
5. acceptability<sup>i</sup>

In interviews with DHB staff, questions were asked about what criteria are currently used in decisions about new health interventions. The following section identifies the situations in which criteria are used, describes the criteria that are currently in use, and discusses why some of the above principles are rarely considered.

### **When are criteria used?**

Explicit criteria are not used in all decisions about adopting new interventions. Decisions in the planning and funding arm of the DHB are usually made according to an established set of explicit criteria. The application of criteria to decision-making is less consistent, however, in the provider arm. Criteria are more likely to be explicitly considered in formal decision-making processes. In informal decision-making processes the costs and benefits of funding new technologies are sometimes never explicitly identified. When criteria are used, they often differ according to the values and priorities of the people involved in the process, for instance the clinical head of the speciality and service manager.

There were differing views about whether the same criteria should be applied to decisions in both arms of a DHB. Some district health board staff classified decisions about the funding of new interventions as prioritisation decisions, and thought the criteria used in the planning and funding arm should be applied. Others felt that new interventions were primarily a clinical and resource issue. One clinician explicitly stated that different decisions occurring in different parts of the DHB (such as capital expenditure and service planning) should be made according to different criteria.

### **Current criteria**

#### *Effectiveness*

The definition of effectiveness used by the HFA was “the extent to which the service produces desired outcomes. A highly effective service produces more of these outcomes”<sup>1</sup>. Effectiveness was one of the two most frequently mentioned criteria, the other being cost.

In considering effectiveness, decision-makers wanted to know if there was ‘grade A’ evidence for the intervention’s ability to improve outcomes. The discussion in Section 5 identified that evidence that a new intervention will improve patient outcomes is not necessarily clear. As a result, satisfying this criterion is not always straightforward. Decision-makers were more willing to approve an intervention that wasn’t backed by strong evidence when it was the last option for a patient who hadn’t responded to alternative treatments. When there is not an extensive body of evidence for some interventions such as community-based programmes, the results of evaluations inform decisions to continue or cease funding.

Decision-makers also considered the number of people a new intervention is likely to benefit. In some circumstances, the ability of a new intervention to improve outcomes for a large number of people increased the likelihood that it would be funded. Very high cost interventions were more likely to be funded if only a small number of people satisfied the eligibility criteria.

Decision-makers mentioned considering the ability of a new intervention to increase the overall effectiveness of health services. Proposals for new interventions that could streamline services and enable more rapid treatment and earlier discharge of patients were well regarded. For instance, this criterion was taken into account in a decision about funding an MRI scanner which enabled a hospital to achieve accurate patient diagnosis more rapidly, allowing for greater through-put of patients.

Safety was considered under the umbrella of effectiveness. Decision-makers were conscious of the tenet of “first do no harm”. Evidence of adverse outcomes, complication rates and the likelihood of readmission were taken into account when deciding whether or not to fund an intervention.

### *Cost*

The HFA defined cost as “the total economic cost of the service”.<sup>1</sup> The cost of a new intervention was viewed as an important decision-making criterion that determined both the scrutiny the intervention received, and whether it was likely to be funded.

Some decision-makers thought that the cheapest (effective) intervention available should be funded. Several clinicians noted that the costs of new interventions are continually increasing, and some thought the costs of various new interventions were prohibitive.

Many new interventions have ongoing costs that are not included in the purchase price. These include the costs of pharmaceutical treatment required after the use of an intervention, and maintenance costs. In some cases, such as the purchase of an MRI scanner, the ongoing costs are much greater than the purchase price of the technology. Clinicians and managers commented that these ongoing costs should be taken into account but are often overlooked in decision-making.

When calculating cost, decision-makers indicated that they took into account associated services that suppliers provide. These services included education and training for the staff in how to use the intervention, and training for equipment maintainers. In addition, some suppliers allowed the hospital to trial equipment at no cost.

Some decision-makers considered the financial impact of their decisions on other areas of the hospital and health system. However, as discussed in Section 3, there were few incentives to take these factors into account when deciding whether to fund an intervention. Services are generally funded in silos and operate within constrained budgets. This encourages decisions to fund the cheapest intervention possible for the service rather than those that reduce costs in other areas of the hospital or the health sector. Both clinicians and managers expressed frustration at the lack of mechanisms through which services can be compensated for decisions that incur greater expense to the specific service than the alternatives, but reduce overall costs to the hospital.

DHB staff also felt constrained that hospitals could not be compensated for decisions that incurred significant costs to the publicly funded health sector but saved other areas of the government considerable amounts of money. One example was the decision to fund a high-cost pharmaceutical that, among other benefits, would enable an individual to retain paid employment, when without it they would have to rely on income support.

A counter-argument provided was that the government determines, through the Budget, how resources are allocated to the various government sectors, and that DHB decision-makers should focus on the management of their allocated budgets and not be considering the wider opportunity costs when deciding on an intervention for a patient. While some decision-makers stated they did consider wider opportunity costs in decision-making, there was an awareness that this could lead to inequitable treatment.

### ***Balancing effectiveness and cost***

Cost and effectiveness were rarely considered in isolation from one another. While most clinicians and managers were cognisant of both factors, it was noted that clinicians were generally more concerned with risk-benefit, and managers with cost-effectiveness. One manager commented that while cost is important, clinical imperatives usually have greater weight. This reflects the tendency (described in Section 4) for managers to defer to clinical judgement in decision-making.

Decisions about high-cost interventions pose the greatest difficulties for clinicians and managers. In these cases, clinicians' desire to provide the most effective treatment for the individual patient must be balanced against the high financial cost to the service. As discussed in Section 4, the absence of explicit criteria with guidance on how these should be weighted and the absence of a defensible process for considering these decisions create great uncertainty and stress for staff that have to decide on a course of action. One senior clinician commented that over time, the amount of money that services are prepared to spend on high-cost pharmaceuticals for individual patients

has increased. It was reported that this change has ‘crept in’ rather than being the result of any explicit decision.

### ***Equity and Māori health***

The HFA defined the principle of ‘equity’ as “the extent to which the service reduces disparities in health status”.<sup>1</sup> ‘Māori health’ was defined as “whether the service is consistent with the Treaty of Waitangi and encourages participation in providing and using services”.<sup>1</sup>

There was little consideration of either equity or Māori health in decisions made in the provider arms of district health boards. When clinicians and managers did mention equity issues, it was to express concern about the lack of equity in what was available between different DHB regions, and the potential for the introduction of an intervention in one DHB to result in regional inequities in access. While regional inequities in access exist, further research would be required to determine whether they contribute to disparities in health status.

From the information gathered in interviews there was a strong impression that clinicians and managers didn’t consider equity in the context of reducing disparities in the health status between different ethnic and socio-economic population groups. Clinicians’ comments about ethnic differences were focussed on the physical differences between population groups and the correlation of ethnicity with particular physical characteristics, such as average body weight. The clinicians interviewed did not demonstrate any awareness of the inverse care law – that is, new interventions tend to benefit those who have the best health and can increase inequalities as a result.

In contrast, staff in the funding and planning teams of DHBs were aware that adopting a new health intervention that improved outcomes had the potential to increase inequities between different ethnic and socio-economic population groups. Several funding and planning staff members mentioned that they used the equity lens<sup>18</sup>, produced by the Ministry of Health and the Wellington School of Medicine, in decision-making. Both the *New Zealand Health Strategy* and DHB strategic plans also focus on equity, and were also used to guide decision-making in the funder arm.

In addition, some DHBs had established links (and in one case had achieved active collaboration with) Māori providers and consumers that informed their decision-making. Equity and Māori health were identified as a key issue for rural DHBs spoken with. In one DHB the MAPO worked closely with the planning and funding arm and attended corporate management meetings. Another rural DHB decided not to fund a community-based diabetes programme that would cater for part of the region’s population, because an equivalent programme was not available to a different population group that had a higher incidence of diabetes.

The comment was made that cognisance and understanding of government priorities to reduce health inequalities and improve Māori health had not travelled very far into the provider arm of the health sector.

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<sup>18</sup> [A Health Equity Assessment Tool \(Equity Lens\) for Tackling Inequalities in Health](#). Ministry of Health, 2004

As decisions about new health interventions are generally seen as clinical ones and are located in the provider arm, staff in funding and planning teams felt that they had few opportunities to influence the equity aspects of decision-making about new health interventions. As a result, some funding and planning staff were concerned that decisions being made in the provider arm were not reflecting the DHB's priorities to the extent that they could. Some thought that it would take some time for clinical culture to take equity and Māori health into account in decision-making.

One funding and planning staff member felt that decision-makers needed to take the criteria of equity and Māori health into account when considering who will access and benefit from a new intervention. Decisions comparing two classes of intervention were seen by one funding and planning staff member as an important opportunity to take into account equity and cultural appropriateness. The comment was made that it is difficult to get the clinical culture to accommodate Māori and Pacific health data when decisions are being made about service provision. Consideration of equity and Māori health was not seen to be necessary, however, when decision-makers were determining which specific pieces of technology to fund, as it was thought these work equally well for people from different ethnic and socio-economic population groups.

### *Acceptability*

As with the criteria of equity and Māori health, the consideration given to the HFA's definition of acceptability, 'whether the service is consistent with the values and expectations of New Zealanders'<sup>i</sup>, differed between the funder and provider arms of the DHB.

Interviewees in the planning and funding arm regularly raised the issue of consultation and consumer-input into decision-making. All DHB funder-arms consult with their populations when developing their district strategic plans. Through the consultation process, the funding and planning teams can ensure that their decisions are guided by the values and expectations of the people in their communities. One planning and funding team member commented that in making decisions, the team genuinely considered the many points of view that had been raised in the consultation process.

By contrast, the criterion of acceptability was rarely taken into account in the formal and informal decision-making processes that occurred in hospitals. One service manager stated that when decision-makers considered two alternative systems for treatment delivery, they took into account which system would best suit the patient (e.g. where one treatment is easier for the patient to self-administer when they return to the community). It was thought that considering this criterion resulted in increased compliance and better patient outcomes. Some clinicians and managers indicated that the criterion of acceptability should receive greater consideration in decisions about which interventions to provide.

As discussed in Section 3, consumers have more access than in the past to information about treatments and have become more assertive about requesting specific interventions. In this regard, clinicians are increasingly being confronted by the 'values and expectations' of their individual patients.

### *Other criteria considered*

Decision-makers considered a number of other criteria in the decision-making process, including:

- the acceptability of a new intervention to clinicians
- other DHB's decisions about new interventions
- overseas practice
- whether the adoption of one intervention will enable other interventions to be removed (for instance from the pharmaceutical formulary)
- the number of other alternatives available (hospitals were eager to limit the number of alternative interventions that clinicians could use, without compromising the quality of service)
- the necessity of the purchase (the application of this criterion in the capital-expenditure process sees less-urgent applications being accorded a lower priority and often being deferred until the following year)
- the quality of the proposal for the post-adoption evaluation of a new intervention (this is a component of some formal process and decision-makers saw this as an important way of ensuring that the effects of an intervention were monitored after its introduction and that continued use was based on its performance)
- the availability of support for repairing and servicing the intervention (this was particularly important for rural DHBs as they were often located far from such support)
- precedents (this included precedents that have already been set by prior decisions when determining whether to fund an intervention, as well as the precedent that a decision would set and the expectations it would create)
- volume and transport costs and whether the lab, in the case of lab tests, was technically capable of providing the test.
- service delivery and work force requirements (rather than looking at equipment in isolation).

## **7. KEY POINTS ARISING FROM DISTRICT HEALTH BOARD DECISION-MAKING ARRANGEMENTS**

The following section provides a summary of the key points that the National Health Committee identified from its interviews with DHB decision-makers. These key points informed the NHC's development of its advice to the Minister of Health. A more detailed summary can be found on pages 15 –19 of the May 2005 report *Decision-Making about New Health Interventions*.

### **The decision-making environment**

District health boards' decisions about the adoption of interventions are made in an extremely complex environment. A wide variety of factors influence decision-making including consumer expectations, political decisions, sub-specialisation, marketing by suppliers, evidence, and adoption by the private health sector. Some factors are beyond the control of DHBs, while appropriate decision-making processes can influence others.

The speed at which clinical practice is changing and new interventions are emerging also impact significantly on the assessment and adoption of new interventions.

### **Decision-makers**

Both clinicians and managers believe that within hospitals, the adoption of new health interventions is currently primarily a clinical decision. Generally these decisions are made solely on the basis of improving care within a clinical speciality.

For a variety of reasons, there is growing interest in these decisions and how they are made, from patients and consumer advocates, managers, funders and policy makers.

District health boards' strategic plans take a community-wide perspective and include goals such as improving overall health status and reducing inequalities in health. Funding a new intervention may benefit a group of the population that already has good access to health services while denying other groups access to interventions that may improve their health (often referred to as the 'inverse care law').<sup>vi</sup> Funding new interventions can therefore increase health inequalities.

### **Decision-making processes**

Hospitals use a mix of explicit (formal) and implicit (informal) processes in deciding whether to adopt new interventions. Without explicit processes, decisions may be driven by personalities or personal preferences, or be at odds with the DHB's priorities.

A variety of formal processes have been set up in hospitals to improve consistency and quality in decision-making about the adoption of new interventions. Some of these processes are not particularly robust, or are easy to avoid. Their effectiveness is generally dependent on the buy-in and personal commitment of senior clinicians.

Within hospitals in particular, decisions tend to be made within clinical specialities. As a result, little consideration is given to the impact that adopting an intervention may have on other areas of care, to what extent the intervention will improve health outcomes, or whether using the funding elsewhere in the health services could have greater benefits.

### **Decision-making criteria**

Hospital processes generally used criteria such as clinical effectiveness and cost, but did not take account of wider factors like equity, Māori health and acceptability. This means that the interests of other key players, such as funders or consumers, may not be taken into account. Also, as decisions about new interventions tend to be made in the context of a medical speciality, they are usually based on historical patterns of service provision rather than in response to the identified health needs of a district health board's community.

### **Decision-making and prioritisation**

From the information, gathered it appears that most decisions within hospitals about the adoption of new health interventions are not seen or treated as if they are related to prioritisation processes. As a consequence, these decisions may be inconsistent with a DHB's priorities and potentially increase inequalities. On the other hand, decisions that planning and funding teams make about new interventions - for instance, contracts for new community-based programmes - are more likely to take account of the DHB's priorities. However, these interventions tend to account for only a small portion of the DHB's budget.

### **Inter-relationships between District Health Boards**

Decisions that one DHB makes about adopting new interventions have the potential to influence some or all other DHBs. If one DHB decides to fund a clinical intervention then other DHBs often feel that they should follow suit.

Smaller DHBs are particularly affected by decisions made by those DHBs providing tertiary and specialist services to their populations. Increased costs are borne by smaller DHBs through inter-district flows<sup>19</sup> and the ongoing care they are required to provide to patients whose treatment has been initiated in tertiary hospitals.

Lack of consistency in decision-making between DHBs was also a constant theme in the interviews. Many felt that there is a need for more co-ordinated planning and decision-making, either regionally or nationally - particularly for high-cost tertiary and quaternary services and the interventions associated with these.

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<sup>19</sup> Reimbursements that DHBs pay for the services that are provided to their populations by other DHBs.

## **Use of evidence and health technology assessment information**

The NHC found that there is very little use of health technology assessment information in formal DHB decision-making processes. Interviews with DHB staff showed that while evidence may be sought as part of the decision-making process, it is only one factor influencing decisions about the adoption of new interventions.

Only one DHB generates its own HTA information. In other DHBs clinical staff access existing HTA information from New Zealand or overseas. While most formal DHB decision-making processes about new interventions require some evidence of effectiveness, in reality this means decisions are often based on one or two articles from reputable journals or clinical trials, rather than a synthesis of all available evidence and information.

DHB staff commented that there was no obvious avenue through which to easily access relevant HTA information that has been generated in New Zealand, or from the immense pool of information that exists overseas, or to share results of reviews done and decisions made by other DHBs.

In evidence-based medicine, there is a hierarchy of research designs, of which randomised controlled trials (RCTs) are considered the most rigorous. However in some areas such as community interventions, disability technology, and areas of surgery, RCTs are neither feasible nor appropriate. This can make it both difficult to compare different types of interventions, and less likely that interventions will be funded for which 'gold standard' evidence is not available.

Assessing the quality of research studies and trials is a skilled task and can be time-consuming. Often decision-makers do not have the skills or time to interpret and assess the quality of evidence on which they are basing their decisions. In addition, there is frequently inadequate expertise and/or capacity within DHBs to interpret economic analyses.

## GLOSSARY

**Blinding:** Used in medical experiments, 'blinding' ensure that the patient and/or the person administering the treatment and/or the trial evaluators are 'blind to' (don't know) which treatment is allocated to whom. It is used to avoid the comparison of treatments being distorted, which can happen if the patient, the person administering the treatment and those evaluating it know which treatment is being allocated.

Sometimes the experimental set-up of a clinical trial is referred to as double-blind, that is, neither the patient nor those treating and evaluating their condition are aware (they are 'blind' as to) which treatment a particular patient is allocated. A double-blind study is regarded as the most scientifically acceptable option.

**Cost-effectiveness:** The comparison of the relative expenditure (costs) and outcomes (effects) associated with two or more courses of action.

**Effectiveness:** The capability of, or success in, achieving a given goal. The focus of effectiveness is the achievement as such, not the resources spent, so not anything that is effective has to be efficient, but anything that is efficient also has to be effective.

**Efficacy:** The ability to produce an effect, usually a specifically desired effect. For example, an efficacious vaccine has the ability to prevent or cure a specific illness. In medicine a distinction is often drawn between 'efficacy' and 'effectiveness'. Whereas efficacy may be shown in clinical trials, effectiveness is demonstrated in practice.

**Efficiency:** The capability of acting or producing effectively with a minimum of waste, expense, or unnecessary effort.

**Economic analysis:** A systematic approach whereby the benefits and costs of a proposed intervention, treatment or service are analysed and compared to an alternative. The alternative, called 'the counterfactual', may be some other proposal, doing nothing, or continuing with the status quo. The aim is usually to provide information that may be used as an input into a decision on whether or not to proceed with the proposal.

**Opportunity cost:** A term used in economics, to mean "the cost of something in terms of an opportunity foregone" (and the benefits that could be received from that opportunity), or "the most valuable foregone alternative". The application of the concept of opportunity cost looks for "the hidden cost of any and every individual economic decision".

**Prioritisation:** The process of assessing the relative importance or value of health service interventions and programmes against agreed principles or criteria, such as benefits and cost.

It involves the comparison of different needs, and considers service priorities at the margin, evaluates the costs of meeting needs, and ranks needs in preference order.

**Publication bias:** Also called the positive outcome bias, is typically the tendency for researchers to publish experimental results that have a positive result (found something), while consequently not publishing findings that have a negative result (found that something did not happen).

**Randomised controlled trials (RCT):** A form of clinical trial, or scientific procedure used in the testing of the efficacy of medicines or medical procedures. This method is seen as being more objective and robust than many other types of trials.

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