

8. Current Services (Scenario 1)

This section describes how the different cases respond to the health treatments and services currently provided. The Health Funding Authority report, *Diabetes 2000*, outlines a diabetes implementation plan, which actively promotes the need for increased services for people with diabetes. This report stated that “health promotion, early detection, effective treatment, and knowledge are all essential support for people with diabetes”⁹⁰. *Diabetes 2000* is used as the basis for describing the current services scenario, or the “Status Quo”.

Key points of the HFA *Diabetes 2000* Implementation Plan are:

- Increasing diabetes funding by \$5 million annually per year (from 1999/2000)
- Targeting extra funding at reducing barriers (cost, poor access, and lack of choice) to high quality routine care for those at highest risk (Maori, Pacific Island people and low socio-economic groups)
- Involving patients and clinicians in diabetes teams to monitor diabetes services and make recommendations
- Increasing allied diabetes services in primary care and Maori and Pacific Island provider organisations who are prepared to maintain active diabetes registers and present information
- Ensuring culturally appropriate services for Maori and Pacific people
- Developing guidelines for diabetes services and a clinical indicator framework to monitor how well services are meeting the health needs of people with diabetes
- Building strong feedback links with diabetes organisations
- Negotiating with primary care organisations and teams for an annual review and individual treatment plan for every person with diabetes, with the aim to make this service free to Community service cardholders (at least). This review will be used to detect complications early, and update the diabetes register used to monitor the impact of diabetes in local communities
- Increasing the number of people with diabetes that have eye screening examinations, and monitoring increased access using information from diabetes registers
- Implementing pilot studies for health promotion and primary screening targeted at high-risk groups.

Some of the above proposals seen as important will not be possible without significant increased investment in workforce development covering a range core competencies related to diabetes. This is especially important at the implementation of quality services delivered in the regions. The newly appointed Ministry of Health Workforce Authority Committee 2001 will need to address how many new diabetes specialists, diabetes nurse educators, diabetes dieticians, diabetes podiatrists and so on need to be trained. The timeframes for training are as long as 3 to 10 years, depending on the speciality.

⁹⁰ Diabetes 2000 report, HFA, pg. 3

The HFA initiatives are a first step towards appropriate measures, but do not provide sufficient services to ensure that all these with diabetes are receiving the care they need to effectively manage their condition. Further, the initiatives do not provide full coverage to capture those with undiagnosed diabetes or IGT.

8.1 Current Services

In general, each person with diagnosed diabetes should have access to publicly-provided health services ⁹¹ listed in the following table, some of which are administered by general practitioners and practice nurses.

Table 24: Services which those with diagnosed diabetes are entitled to access in 2001

Service	Availability
Medical centre visits	\$15 subsidy per visit for CSC and HUC holders One free annual review per year “get checked”
Specialist visits (diabetologist, physicians, ophthalmologists, renal physicians, surgeons) essential as needed	As referred by GP – no cost to patient Given current shortages of specialist clinicians, many patients will have to wait to get appointments or travel outside their region or pay privately.
Eye Screening (a minimum of every 2 years is essential)	Not available in some areas such as Wairarapa, East Coast, West Coast, South Island. Currently services are inadequately resourced so rationing and gate keeping limit access.
Self Monitoring equipment Free in most OECD countries	Diabetes NZ contract to supply glucose meters, strips at a reduced cost and free of charge to all CSC card users or HUC holders. There is a small direct cost to those without CSC or HUC cards.
Diabetes health education (20 hours minimum to be effective)	Limited availability – as referred by GP Rationing is used for all services.
Dietitian	Limited availability – as referred by GP, waiting lists are usual and some areas of NZ have no dietitian
Foot –care	Limited number of podiatrists Rationing is used for all service.
Support Groups	Diabetes New Zealand – Annual membership fee \$20 per person, managed by volunteer support groups in 36 regions throughout New Zealand.

Although the above services exist, there are large gaps between entitlement and access. The gap is though to be far greater in New Zealand than in Australia or the UK. Interestingly, the

⁹¹ People with diabetes who have had medical insurance cover and later develop diabetes may be covered but only up to a certain age, and will generally enjoy a more efficient level of services as needed. If diabetes is a prior condition, however, it is commonly excluded from medical insurance coverage or the cost of the coverage is prohibitively high.

gap between access and entitlement also appears to be greater in New Zealand than in the United States even though the United States health services are not fully government-funded.

In comparison with Australia, New Zealand's services are accessed by a very low proportion of those with diagnosed diabetes:

- Eye screening
- Podiatry
- Diabetic screening
- Diabetic education
- Screening for early kidney involvement

8.2 The Nature of Current Service Provision

The next section describes the services delivered in more detail and highlights some service delivery gaps.

(a) Medical Centre Visits

This includes GP visits, secondary care diabetes clinics (“diabetes clinics”) and other qualified health professionals. Many Pacific Island people will use alternative health providers as their first reference point, but these tend to be privately provided at a personal cost rather than being provided by the government. While there are health clinics funded by the government that focus on Maori and Pacific Island people, these have not been established nation-wide. For example, there is currently no clinic specially focusing on Pacific peoples in the some major areas of New Zealand. Anecdotal evidence suggests that these clinics are very well supported by Pacific Island people with diabetes and are preferred in general over their regular GP. The Ministry of Health does not fund interpreter costs and other language related costs or transportation costs could reduce barriers for ethnic minorities with diabetes to access services.

Table 25: Access to Specialist Diabetes Nursing

	Mean Hrs per week per 1000 patients for NZ ⁹²	Range of mean hours per week per 1000 patients for each region	UK recommendations ⁹³ (not adjusted for NZ prevalence)
Specialist nursing	25.3	13.3-57.1	32+

Sources: NZ, Drury, Cutfield 2000; UK, British Diabetic Association

⁹² Ministry of Health.

⁹³ British Diabetic Association, 1999.

The above table compares the mean hours per week spent on providing services for 1000 patients with diabetes by specialist nurses. These comparisons indicate that the mean hours spent per 1000 patients in New Zealand per week are 75% of the UK recommendations. Specialist nurses are the majority of especially funded diabetes professionals in New Zealand. Even so, there is a shortage. Further, there are large regional vacancies and trained and qualified Maori and Pacific Island diabetes nurses and educators are in particularly short supply.

(b) Specialist visits

Specialists qualified to treat people with diabetes undergo special training after completing an intensive internal medicine specialisation as a physician. Most patients see specialists at hospitals after the referral of their GP and so these costs are generally fully covered by some health funding. Some people with diabetes may use their own funding to pay for specialist visits privately or may be covered by medical insurance, but this is not typical.

At present there is a recognised shortage of specialist practitioners in the following areas:

- Diabetologists
- Podiatry

New Zealand is currently operating with fewer diabetologists per capita than Australia. At December 1999, Australia had 226 diabetologists for a population base of 18.7 million. This equates to 12.2 diabetologists per million⁹⁴. In contrast, New Zealand has 42 diabetologists for a population base at that time of 3.8 million people. This equates to 10.1 diabetologist per million. A large majority of the 42 diabetologists working in New Zealand only see people with diabetes on a part-time basis, perhaps designating 1 or 2 sessions per week for diabetes services (20% of their time). Others are heavily committed in acute general admitting services within internal medicine. In rural areas, the distances prevent seeing as many per day. In contrast, most Australian diabetologists are dedicated to patients with diabetes on a full time basis.

In late 1999, a study was undertaken by members of the National Diabetes Working Group⁹⁵. The table below shows the estimated mean number of hours spent with diabetic patients each week per 1000 patients for diabetes specialists (excluding podiatry and nutrition).

⁹⁴ Bent O, 1999.

⁹⁵ Drury P, Cutfield R, 1997; Drury P, Cutfield R, 2000.

Table 26: Hours Specialists spend per week

	Mean Hrs per week per 1000 patients for NZ	Range of mean hours per week per 1000 patients for each region	UK recommendations ⁹⁶ (not adjusted for NZ prevalence)
Specialist medical (diabetologists, ophthalmologists, nephrologists, cardiologists etc)	4.1	0 - 7.4	22+

Sources: NZ, Drury, Cutfield 2000; UK, British Diabetic Association, 1999

The table indicates that in some regions there is a severe shortage of specialist care available to people with diabetes, with the average representing less than 20% of the UK recommendations for physician time. In particular, there are no diabetologists working in the central North Island region including Rotorua where there are large Maori communities. These shortages have an impact on reducing specialist access for people with diabetes. For example, those who qualify for dialysis in the East Coast region must travel to Wellington with their family to live there to receive education on how to effectively use dialysis in the home.

There are a number of internal medicine departments in the Australia and UK who do research and training headed by a professor as Chair in Diabetes Studies (currently the 7 in the UK are projected to increase to 12 next year who have well-staffed departments capable of workforce training. In comparison New Zealand has only 1 or 2 professors working in Diabetes Studies).

(c) Eye Screening

Fundus screening in New Zealand is almost entirely provided by hospitals. There is also a small number of screening procedures available through special arrangements with optometrists. Most hospitals use eye departments to run these services and one or two have mobile services⁹⁷. Currently, eye screening is purchased on a sporadic basis by the Ministry of Health and some regions are without any funding for eye screening as the local publicly-funded health agencies do not provide it. Canterbury provides an example of the mismatch between current services and specialists’ recommendations: If all people with diagnosed diabetes had eye screening, this could only be done once every 7 years. Most specialists recommend 2 years minimum gap between screening to pick up problems early enough to prevent more severe complications. Some other areas which have a district health board (West Coast of South Island) have no facilities for mobile camera eye screening.

The Ministry of Health aims to increase funding, purchasing services which enable 70% of all people with diagnosed diabetes to have eye checks. The current level of services across New Zealand is totally unacceptable by International Diabetes Federation Guidelines.

⁹⁶ British Diabetic Association, 1999.

⁹⁷ *Diabetes 2000*.

(d) Self Monitoring Equipment

Self monitoring equipment includes items such as lancets, testing strips and blood glucose meters. These are used by proactive people with diabetes who have received instructions on their use and who want to stay well. They require these people to monitor glucose levels often several times daily, weekly and so on.

Although the costs are not high, the combination of the costs and the time involved to use this equipment is perceived to be a barrier to people regularly monitoring their blood glucose levels which is currently essential to maintain normoglycaemia. Diabetes NZ operates a supply scheme offering less expensive monitoring equipment.

(e) Diabetes Health Education

Public hospitals provide diabetes education and case management by multi-disciplinary teams in hospital or community-based settings. Currently education services are available on an as needed basis within the tight limits of the available resources. This level of discretionary resourcing by hospitals has led to inadequacies in the general distribution of funding for education and management of diabetes⁹⁸. Education is not provided as an annual entitlement to people with diabetes although there is clear evidence that it supports the management of diabetes.

It is widely accepted by Blue Cross, Blue Shield (private insurance providers in the US) that buying 20 hours of education at diagnosis for all people with diabetes improves outcomes and can delay or reduce complications (and costs).

(f) Dietitians

This service is also funded from public hospitals. Standards are laid down by EASD⁹⁹. There is currently a shortage of dietitians working in the health sectors focusing on people with diabetes. Access varies greatly between regions, from 1.7 hours per 1000 patients to 15.7 hours per 1000 patients. The mean hours throughout the country are 7.7 per 1000 patients which is considerably below the minimum 12 hours recommended by the British Diabetic Association.

⁹⁸ *Diabetes 2000.*

⁹⁹ Diabetes & Nutrition Group of the EASD, 1995.

Table 27: Access to dietitians by people with diabetes

	Mean Hrs per week per 1000 patients for NZ	Range of mean hours per week per 1000 patients for each region	UK recommendations ¹⁰⁰ (not adjusted for NZ prevalence)
Diabetes Dietitian	7.7	1.7-15.7	12

Sources: NZ, Drury, Cutfield 2000; UK, British Diabetic Association, 1999

Although the above table indicates that there is at least some access to a dietitian in each region, the actual experience of people with diabetes in many areas is that there is no access at all. At the time of this study, the following areas there are reported to have inadequate numbers of funded dietitians trained to work in diabetes:

- Northland Health
- Waitemata Health
- Auckland Healthcare
- Healthcare Hawkes Bay
- Good Health Wanganui
- Mid Central Health
- Hutt Valley Health
- Wairarapa Health
- Marlborough Health

(g) Footcare (podiatry services)

Footcare is generally only privately provided in the community. Footcare for people with diabetes, however, a complication which potentially has medical consequences consistent with services provided through public hospitals. There is currently a shortage of podiatrists in New Zealand and there is **no specialised diabetes training** for podiatrists. This leads to inadequate services in many areas and in the following regions there are inadequate podiatry services:

- Northland Health
- Waitemata Health
- Auckland Healthcare
- South Auckland Healthcare
- Western Bay Healthcare
- Healthcare Hawkes Bay
- Good Health Wanganui
- Mid Central Health
- Hutt Valley Health
- Wairarapa Health
- Marlborough Health

¹⁰⁰ British Diabetic Association, 1999.

Table 28: Access to podiatry services by people with diabetes

	Mean Hrs per week per 1000 patients for NZ	Range of mean hours per week per 1000 patients for each region	UK recommendations ¹⁰¹ (not adjusted for NZ prevalence)
Podiatry	2.6	0-13.2	16

Sources: NZ, Drury, Cutfield 2000; UK, British Diabetic Association, 1999

Podiatry services average 2.6 hours per week per 1000 people with diabetes in New Zealand. There is a huge regional variation of between 0 and 13.2 hours.

Currently, publicly provided podiatry services in New Zealand are only 17% of the recommended guidelines suggested by UK recommendations. There are no specialised diabetes certificates for podiatrists which means that when they do treat people with diabetes, there is a risk that the treatment may not meet all their needs.

Diabetes podiatrists need to be attached to ALL major diabetes teams as early foot treatment can save foot and leg amputations (the latter may cost as much as \$40,000 per hospital stay). Yearly review by a trained podiatrist in Sydney was shown to be very cost-effective.

(h) Support Groups

Diabetes New Zealand is a consumer support organisation. It plays an active role in providing support for 12,000 members and their families, 36 member societies and for those health professionals involved with diabetes, namely to:

- increase the general public's awareness of the disorder so that the incidence of undiagnosed diabetes is reduced
- support all people with diabetes in their day to day management and control
- support research in the treatment, prevention and cure of diabetes.

Diabetes New Zealand provides a well organised and efficient Diabetes Supply Scheme, facility for people with diabetes to purchase medical, nutritional and educational materials at favourable prices.

It should be noted that Diabetes New Zealand has extensive reach in the community, with the establishment of local Diabetes Societies, where diabetes health professionals participate on an honorary basis to give updates, workshops and lectures.

¹⁰¹ British Diabetic Association, 1999.

8.3 Current Access is Limited

The table below draws together the discussion above. The range of services required by people with diabetes does exist in New Zealand. Nevertheless, availability and access to the range of services is inadequate compared to the recommendations of the British Diabetic Association. This means that those with diagnosed diabetes are not getting sufficient access. It also explains why there are so many others with undiagnosed diabetes who may present for the first time with complications of the years of high blood sugar.

Table 29: Comparisons of services for people with diabetes in New Zealand with recommended levels (British Diabetic Association)

Diabetes Specialists	20%
Ophthalmologists/ Eye Specialists for eye screening and treatment	known to be very inadequate in some areas
Diabetes Health Educator	70%
Podiatry (Foot Care) Services	17%
Dietitians (Food Specialist Teachers)	50%

8.4 Implications for Future Health Spending

If current services remain structured in the same way, there is strong evidence that the number of people with diabetes will increase and will develop costly complications from their disease. By 2021/22, an estimated 32,382 people with diabetes will be suffering from severe complications like heart disease, stroke, kidney failure or limb amputation.

Table 30: Number of patients with severe complications in Scenario 1

Current Services – Scenario 1	Year 1	Year 5	Year 10	Year 15	Year 20
Number of patients with severe complications	2001/02	2006/07	2011/12	2016/17	2021/22
Diagnosed	3,135	6,585	10,891	16,155	22,531
Undiagnosed	1,568	3,164	5,068	7,283	9,851
Total	4,703	9,749	15,960	23,438	32,382

Source: PricewaterhouseCoopers estimate based on Diabetes 2000 projection of number of those diagnosed with diabetes.

The total cost of direct hospital health care will escalate rapidly over the next 20 years as more and more people develop severe complications. The total cost to Vote Health for people with Type 2 diabetes is probably conservative as the number of people with diagnosed diabetes does not take into consideration the implications of the Ministry of Health projections of an increase in obesity.

The cost for severe complication heart disease, stroke, kidney failure or limb amputation is the main cost driver for the model. People with diabetes who remain undiagnosed are more likely to develop complications and to develop them sooner than those who are diagnosed. This is because undiagnosed people are unlikely to manage their blood sugar level. The longer blood sugar levels go unmanaged, the greater is the potential for tissue damage. So the longer a person with diabetes remains undiagnosed, the greater the build up in tissue damage leading to complications and the more costly it will be to treat that person in the long run.

Table 31: Estimated total annual cost of Type 2 diabetes to Vote Health

Total Cost of Type 2 diabetes to Vote health	Year 1 (\$m)	Year 5 (\$m)	Year 10 (\$m)	Year 15 (\$m)	Year 20 (\$m)
Current Services – Scenario 1	247	398	588	809	1,066

8.5 Conclusion

The results of the Current Services Scenario indicate that the longer a current rationed service approach is followed, the higher the long term cost of diabetes will be. Our model estimates that in today’s value terms, the current services will total an estimated \$1,066 million in 2021 compared with \$247 million, a nearly 5-fold increase. Our model is based on the assumption that these are in today’s comparable dollars. This means that diabetes services will move from around 3% of Vote Health to 10 to 12%. Unless there is an increase in the overall Vote, this means that the additional diabetic services will crowd out other health services.