Doing diabetes on the Coast

– the development of the West Coast Integrated Diabetes Service

Carol Atmore

Correspondence to: carol.atmore@westcoastdhb.org.nz

Carol Atmore *grew up in the Eastern Bay of Plenty. She completed her medical training at the University of Otago in 1989 and gained her FRNZCGP in 2000. She has lived and worked on the West Coast on and off since 1990, including stints over the hill (Christchurch), over the ditch (Whakatane) and overseas (Sydney and Wales). She works part-time as a general practitioner for a West Coast DHB–owned general practice in Greymouth and part-time as the GP Liaison person for the West Coast, working at improving the primary care–secondary care interface in the region.*

Introduction

The West Coast of the South Island stretches from Karamea to Haast, about the distance from Auckland to Wellington. Only 31 000 people live in this large, rugged area. When combined with the low socioeconomic status and high deprivation of the region[1] and also with the lowest ratio of GPs to population in the country,[2] the provision of consistent high quality health care in the region is a challenge.

In 2004, diabetes services on the West Coast were fragmented and did not maximise resource use. Diabetes care and annual diabetes checks were provided both in general practice and by the hospital-based Diabetes Clinic. In that year, 55% of the expected 903 people with diabetes on the West Coast had an annual review with their general practice team and 38% had a review at the hospital clinic. As there was no central diabetes database in the region, it was not known if these groups overlapped. Anecdotally, some people were having two annual reviews in the same week, with two sets of laboratory tests. Others were declining their general practice–based annual review, because they were being seen at the hospital clinic.

There was no regionally agreed guideline about diabetes management, or who should be accessing the secondary care diabetes clinics. Patients did not always receive a consistent message and the service provided was not uniform across the region. Some areas had a high turnover of general practitioners, which led to problems of continuity of care. As no ophthalmologist-led dilated fundoscopy or retinal photography service was provided on the West Coast, the majority of people with diabetes who were being seen by the hospital-based diabetes clinic waited at least two years to receive dilated fundoscopy by the physician.

People newly diagnosed with diabetes were generally, but not universally, referred to the diabetes nurse specialists and dieticians for education and information. The West Coast–wide Maori health provider arranged disease state management through a community-based nurse. The services she provided were not well known to the health provider community and there were limited linkages with other health care providers.

Podiatry services were limited and there was a lack of clarity in the community regarding podiatry access for people with diabetes.

Consumers commented that the messages being provided by the primary and secondary sectors were not always consistent.

Community pharmacists provided a great deal of support, information and advice to patients regarding their medication use. With the low ratio of general practitioners to patients across the West Coast, the expertise of the community pharmacists was not being fully utilised.

A West Coast Primary Health Organisation (WCPHO) sponsored mobile retinal screening service was being planned for the West Coast. This provided an opportunity for a service redesign, as the need to attend the hospital diabetes service for fundoscopy would be removed. It was proposed to develop an integrated diabetes service across the West Coast that provided consistent care regardless of location and encouraged the appropriate use of primary and secondary services.

Methods

The WCPHO was approached and agreed to sponsor the West Coast Integrated Diabetes Service (WCIDS)

working party for a twelve month period from November 2004. The group consisted of secondary and primary care clinicians (doctors and nurses), the local diabetes societies, community pharmacy, Maori consumers, the local Maori health provider and West Coast DHB management.

The aim of the working party was to review the existing service provision for people with diabetes in the region, to formulate a new look service that would meet the needs of the geographically large and isolated rural community and to implement the principles of chronic disease management. International literature was considered and group members outlined their 'ideal service' for the West Coast. These elements were combined and refined through community and provider consultation into the final service plan.

It was envisaged that, over time, the chronic disease management principles established in the diabetes programme would be expanded to incorporate the management of other chronic illnesses on the West Coast.

The working party consulted with the providers of services as there would be a need for them to alter the way they provided their services and there was widespread support for the changes put forward in the plan. Patients would be encouraged to take a greater part in managing their own health in the future and consultation with the consumers of diabetes services and local Maori revealed support for this direction towards greater self-management.

Some changes suggested in the new service required a change in the way things were being done traditionally. The GP Liaison Officer undertook the work to initiate these changes. The GP Liaison Officer was funded initially by the WCPHO and West Coast District Health Board (WCDHB), then latterly by the WCDHB solely. The WCDHB also contracted the services of a Chronic Conditions Management project manager, who also helped in the design and implementation of the service, for twelve months from mid-2005.

Other aspects of the new service required new development and implementation. The WCPHO agreed to fund those new aspects of the service.

The effectiveness of the programme would be evaluated in terms of acceptability to consumers and providers and improvements in measures of diabetes management over a two year period (2006–2007). This would be done through a patient[3] and provider[4] survey assessing care provided from a Chronic Conditions Management perspective in 2005 and 2008 and comparing the 2005 Annual Diabetes Review data for the West Coast with the 2007 Annual Diabetes Review data.

Results

The WCIDSwas launched in November 2005. The new service is outlined in Figure 1. The main changes from the existing services were:

- Stratification of the intensity of care provided based on clinical need. Ongoing care would be provided in primary care for the majority of people with well-controlled diabetes, whilst shared care with secondary services would be provided for people with poorly controlled diabetes or complex health problems and for children and adolescents.
- Implementation locally of agreed protocols for diabetes management based on the New Zealand Guidelines for Diabetes Management.[5]
- A common initial programme for all patients newly diagnosed with diabetes on the West Coast, including dietician and diabetes nurse specialist referral.
- Mobile retinal screening services would be provided at three locations across the region.
- Publicly provided podiatry services, following clear guidelines that would be widely known within the primary care community, would be provided for people with high risk feet.
- The use of a patient-held record that all providers could contribute to, to enhance the patient's self-management role.
- The inclusion of patients with poorly controlled diabetes in the CarePlus Program.
- The involvement of community pharmacists as an integral part of the health care team through implementing funded annual reviews for patients on hypoglycaemic medication, focusing side-effects and compliance issues.
- Offering the involvement of the Maori Disease State management nurse in the service for those people who would prefer this.
- The establishment of a group-based diet and exercise self-management course. All people with newly diagnosed diabetes would be encouraged to attend and all people with diabetes would be encouraged to attend the course as a 'refresher' every five years.
- The feasibility of holding specialist diabetes clinics in primary care settings would be investigated and implemented if appropriate.
- A greater emphasis would be placed on provider education in diabetes management.
- A regional diabetes database would be established to improve information gathering and sharing, as clinically appropriate, and to monitor the outcomes of the programme. Patient consent for this would need to be gained. This could be based upon the current WCPHO diabetes database.

The MacColl Institute of Healthcare Innovation, Group Health Cooperative's Assessment of Chronic Illness Care[4] questionnaire was sent to all providers as a postal survey over late 2005–early 2006. The companion Patient Assessment of Chronic Illness Care[3] questionnaire was administered by phone, postal and face-to-face surveys during the same time to a quar-

ter of the people known to have diabetes. These will be repeated early in 2008 to assess whether the service redesign has brought about an improvement in the quality of care provided from a chronic conditions management perspective. As mentioned previously, the Annual Diabetes Review database will be used to assess the effectiveness of the programme by comparing 2005 with 2007 data on the process of providing diabetes care and on the outcome measures recorded.

At this midpoint through the implementation phase, people with well-controlled diabetes are being discharged from the hospital diabetes clinics to receive care from their primary care team. Re-referral for specific problems is easily achieved. The initial 'package of care' for people with newly diagnosed diabetes appears to be working well.

Provider education and dissemination of the New Zealand Guidelines Group's *Management of Type 2 Diabetes* guidelines has been held for the whole primary care team, including pharmacists, practice nurses and GPs, by the local physician who has a particular interest in diabetes. A Flinders Self-Management Support Training weekend has also been held on the West Coast, with GPs, practice nurses, community nurses and disease nurse specialists attending. This was jointly funded by the WCPHO and WCDHB.

The mobile retinal screening service is well established and appears to be functioning well.

There are now clear disseminated guidelines outlining who qualifies for publicly funded podiatry services. There is a discrepancy around the sensation loss needed to 'qualify' as a high risk foot between the New Zealand Guidelines Group's 2003 guidelines and the Ministry of Health's service specifications, so our guidelines reflect the Ministry funding position, rather than the national guideline.

The WCPHO agreed to fund patient-held records for all people with diabetes. These were developed during 2006 in consultation with providers and consumers, taking ideas from other patient-held records, such as those developed by Counties Manukau District Health Board. They were first used late in 2006 and will also be used for people with other chronic conditions. They include information about the person's social situation and medical problems, medication information, and goals. In addition to a place for the patient to write questions or notes for their health care providers, there is a place for health care providers to write to each other. Although there is patient and provider enthusiasm for the concept, the initial filling-in of the record is a time consuming process and the record is being revised to minimise the amount of handwriting needed for those using MedTech practice management software.

Good chronic illness care ...comprises components of self-management support, delivery system design, decision support, clinical information systems, working within the wider community and the health system

The initial plan was to fund an annual pharmacy review for qualifying patients for the two year period. It was then recognised that, as this would be a new style of service delivery, it was worthwhile evaluating the effectiveness of the review service. The subsequent design of a study protocol and gaining ethics committee approval has delayed the implementation of this aspect of the plan. It is hoped that a study of its effectiveness will begin early in 2007.

The WCPHO-funded diet and exercise self-management programme is still being developed and has yet to be implemented. This has been largely due to limited manpower, and it is hoped that this will be implemented during 2007.

Ongoing staffing and organisational issues at some general practices is reflected in the variation across different practices in participation in the Annual Diabetes Review. The WCPHO has included the Annual Diabetes Review figures as a performance indicator for its Performance Management Program, to encourage practices to participate.

The integrated diabetes database for the West Coast remains to be instituted at this stage. The WCDHB has implemented a new patient management system that has the potential to interact with primary care databases but manpower and other priorities continue to delay further discussions on this aspect.

Discussion

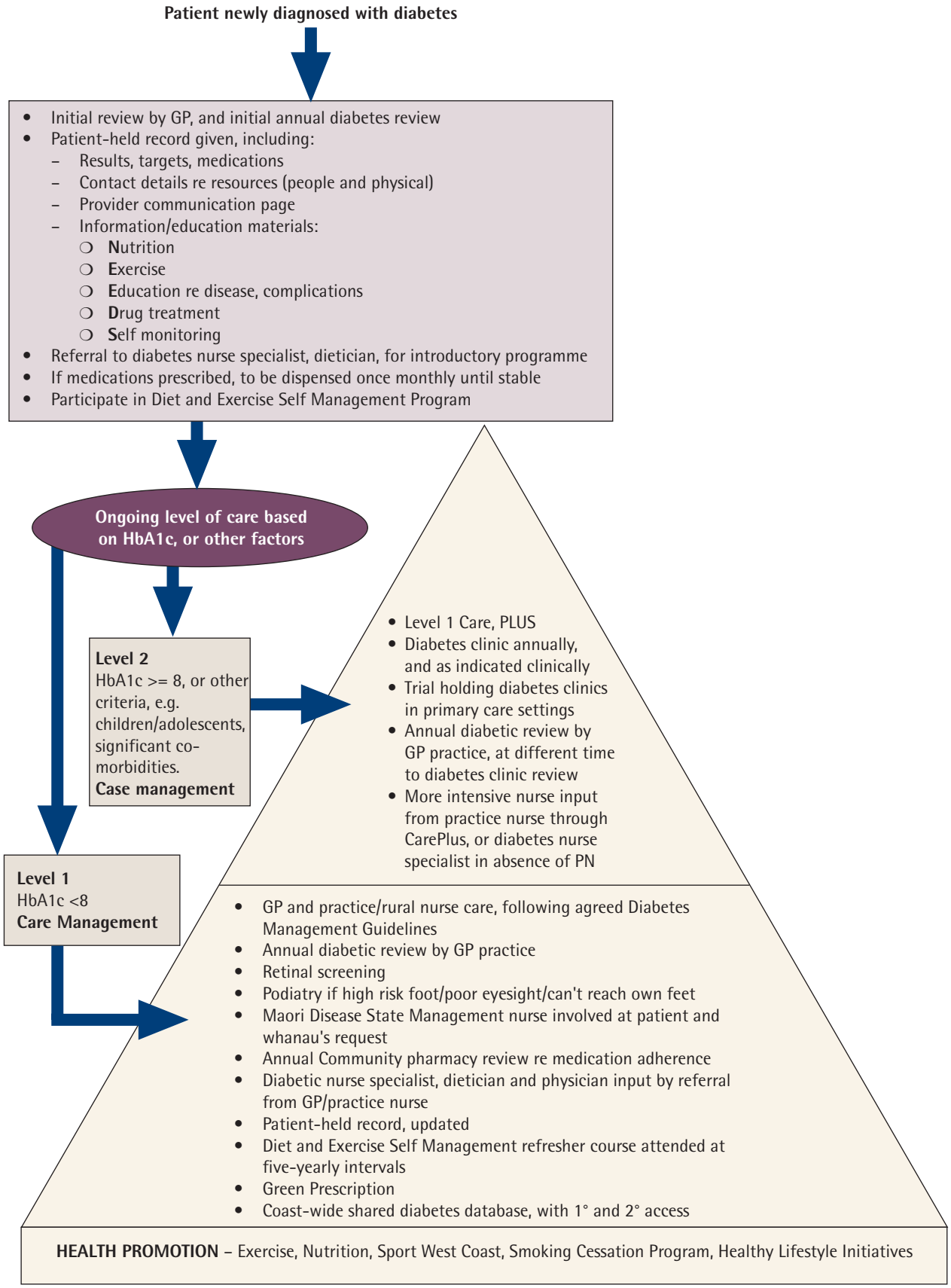
Reducing the incidence and impact of diabetes in New Zealand is one of the 13 priority health objectives in *'The New Zealand Health Strategy'*.[6] An integrated approach to diabetes service provision is congruent with the 'The Primary Care Strategy'[7] key directions for primary health care.

The concept of chronic disease management is changing the way health care services are delivered around the world.[8] Chronic disease management has been described as *'A system of coordinated healthcare interventions and communications for populations with long-term conditions in which patent self-care is significant.'*[9]

Wagner's Chronic Care Model[8] describes the interacting system components that are important for providing good chronic illness care. It comprises components of self-management support, delivery system design, decision support, clinical information systems, working within the wider community and the health system. Active patient and health provider involvement within this health care environment activates the success of the model.

Figure 1.

West Coast Integrated Diabetes Service Plan



Service provision that involves collaborative planning and delivery of services between the primary and secondary sector, with appropriate IT support, and community input, has been shown to be effective overseas, such as in a large American Health Management Organisation[10] and in urban New Zealand in the Counties-Manukau series of projects.[11,12] We are interested in seeing how well these principles apply to our geographically very large area (8.5% of New Zealand's land mass) with such a small population (less than 1 000 people with diabetes).

The WCIDS has created a framework to co-ordinate and standardise diabetes care in our region. The strength of the process has been in its collaborative nature, including primary and secondary providers, the funders, consumers and Maori at all stages of the process. This has led to strong buy-in from these various participant groups.

The implementation of this diabetes service framework is where the challenge now lies. Workload factors are influencing the ability of those implementing the programme and providing the services, particularly in primary care, to embed some of the changes outlined in the plan.

The nature of the West Coast community provides a unique opportunity to plan and implement such a programme. Because of the small number of providers it was relatively easy to reach consensus and buy-in to changes. The local diabetes societies have enthusiastic members who have contributed significantly to this plan. The local physician with responsibility for diabetes has also been very supportive of the project. The WCIDS working party became the revitalised Local Diabetes Team in 2005 and continues to monitor the progress of the service implementation.

The same smallness that has enabled good progress to be made is a two-edged sword. The ability to implement aspects of the programme as described is more person-dependant, rather than system-dependant, as may be the case in a larger region or organisation. Key personnel changes and absences have had a significant impact on some aspects of the service implementation and provision. It is also reflected in different general practices' ability to provide high levels of annual diabetes review coverage during periods of understaffing.

These unique aspects of the West Coast community may somewhat limit the applicability of our service redesign to other areas. Despite that, the principles of collaboration and frequent consultation during the development of a service are universal in gaining successful buy-in from the community of providers, and the wider community at large.

The true test of the service's effectiveness will be when the results of the survey and annual diabetes review data are compared in 2008. These will be reported on and will inform any further changes to the system that may be required. We will then see if we have met the goal of the service; that the service would allow people to receive the right care by the right person at the right place at the right time.

Acknowledgements

The author would like to thank the following for their commitment to this project: Members of the WCIDS working party and Local Diabetes Team – Norma Devlin, Paul Holt, Karen Blake, Bev Manera, Julie Kilkelly, Peter MacIntosh, Dickie Dewes, Andrew Mitchell, Patricia Stanley, Kathy Hines, Gary Coghlan, Alisa McKenzie, Cath Giles, Donna McBrydie, Jason Tuhuru and Fiona Doolan-Noble (the Chronic Conditions Management project worker for the WCDHB 2005–06); The West Coast PHO and West Coast DHB for funding the project; and to Professor Don Beaven for so enthusiastically being involved in the service's launch.

Competing interests

The author is employed by West Coast DHB as a GP and GP Liaison Officer and is an elected Board member of West Coast DHB.

References

1. West Coast District Health Board, District Annual Plan 2005/2006. West Coast DHB, July 2005.
2. New Zealand Health Workforce Statistics 2003, at URL http://www.nzhis.govt.nz/stats/genpracstats.html. Accessed 9 January 2007.
3. Improving chronic illness care. The patient assessment of chronic illness care. At URL http://www.improvingchroniccare.org/tools/pacic.htm. Accessed 9 January 2007.
4. Improving chronic illness care. The assessment of chronic illness care. At URL http://www.improvingchroniccare.org/tools/acic.html. Accessed 9 January 2007.
5. New Zealand Guidelines Group. Management of Type 2 Diabetes, December 2003. at URL http://www.nzgg.org.nz/guidelines/0036/Diabetes_full_text.pdf. Accessed 9 January 2007.
6. Ministry of Health. The New Zealand Health Strategy. Wellington: Ministry of Health; December 2000.
7. Ministry of Health. The Primary Health Care Strategy. Wellington: Ministry of Health; February 2001.
8. Epping-Jordan JE, Pruitt SD, Bengoa R, Wagner EH. Improving the quality of health care for chronic conditions. Qual Saf Health Care 2004; 13:299-305.
9. Clinicians, services and commissioning in chronic disease management in the NHS. The need for coordinated management programmes. Report of a joint working party of the Royal College of Physicians of London, the Royal College of General Practitioners and the NHS Alliance. Publications Unit of the Royal College of Physicians, 2004.
10. McCullough DK, Price MJ, Hindmarsh M et al. A population-based approach to diabetes management in a primary care setting: Early results and lessons learned. ACP Online. At URL: http://www.acponline.org/ecp/qugsep98/population.htm. Accessed 11/11/04.
11. Wellingham J, Tracey J, Rea H, Gribben B. The development and implementation of the Chronic Care Management Programme in Counties Manukau. N Z Med J 2003; 116(1169):327.
12. Clarke D, Howells J, Wellingham J, Gribben B. Integrating healthcare: the Counties Manukau experience. N Z Med J 2003; 116(1190):325.