



# Care pathways for long-term conditions: Using type 2 diabetes as an example

*A care pathway is a tool that enables practitioners to provide better health care and better patient outcomes at a lower cost. A diabetes care pathway helps guide decisions and timing for diagnosis, interventions, appropriate follow-up, escalation of treatment and referral to secondary care. This introduction to care pathways places the concept of a pathway in the context of managing long-term conditions, and highlights the difference between a care pathway and a care plan.*

Over 208,000 people in New Zealand have been diagnosed with diabetes.<sup>1</sup> In 2011, on average 50 people were newly diagnosed with diabetes every day, with up to 100,000 more people believed to have undiagnosed diabetes.<sup>1</sup> Diabetes is strongly associated with ethnicity – the prevalence of type 2 diabetes is three times higher in Māori and Pacific peoples than in New Zealand Europeans.<sup>2</sup> Also of concern is the rapid rise in prevalence of diabetes within the South Asian population. Between 2002/3 and 2006/7 there was a four-fold increase in the number of South Asian people receiving treatment for diabetes.<sup>3</sup> As the number of people with diabetes continues to grow, practices must consider how they will manage their limited resources to provide care for this patient population. An evidence-based, risk adjusted approach to early detection and structuring care, i.e. a care pathway, can help to ensure that management is sustainable into the future.

## What is a care pathway?

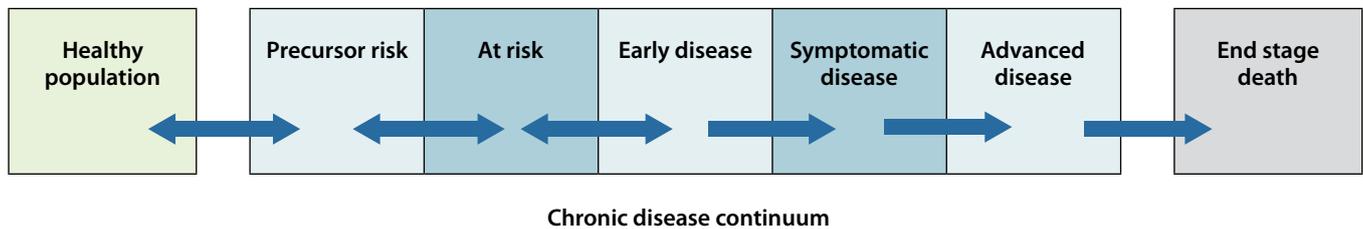
A care pathway is, at its simplest, a set of management guidelines, usually in the form of a flow chart, applied to a group of patients with the same condition. It is a tool used to improve the quality of healthcare by recommending a recognised best practice approach at a certain stage of a disease or condition. At its most complex, a care pathway can act as a fully integrated information system, guiding and monitoring a patient's journey of care between health professionals and across sectors.

## Applying care pathways to long-term conditions

When care pathways are applied to long-term conditions they provide primary care clinicians guidance on:

- When to make an intervention
- Lifestyle reinforcement
- Therapeutic changes
- Checking for and monitoring complications
- Referral to other health professionals
- Intensity and content of follow-up

It is important for clinicians to have an understanding of the stages of a long-term condition (Figure 1) and how this is representative of their practice population. The type of support an individual patient requires changes as they move from one



**Figure 1:** Stages of a long-term condition

stage to another. Those furthest along are seen more often, have lower thresholds for referral and require more intensive management. Care pathways guide the specific detailed interventions needed at each point as the patient progresses over time, from precursor risk through to advanced disease and then palliative care.

People identified as being at high risk of complications should receive more intensive intervention and follow-up, e.g. a single annual diabetes check up is not sufficient to properly manage a person with several risk factors for diabetes complications, such as poor glycaemic control, raised blood pressure and signs of kidney damage represented by an elevated urine albumin creatinine ratio.

The volume of patients at the different stages of a long-term condition is often represented as a pyramid (Figure 2). The number of patients with precursor risk and established risk factors is considerably greater (the bottom of the pyramid) than the number with multiple complications from advanced disease (top of the pyramid). When the numbers of patients at each stage are identified in a practice, the implications of how their needs are to be met and how services can be delivered become clearer. Care pathways have to take into account the type of care that can be provided by practices for the expected numbers of patients at any particular stage. For example, the greatest need is in providing support for self-management, therefore group work may be a more practical solution than providing one-to-one care. More intensive clinical care should be focused on patients who need monitoring for complications and therapeutic changes.

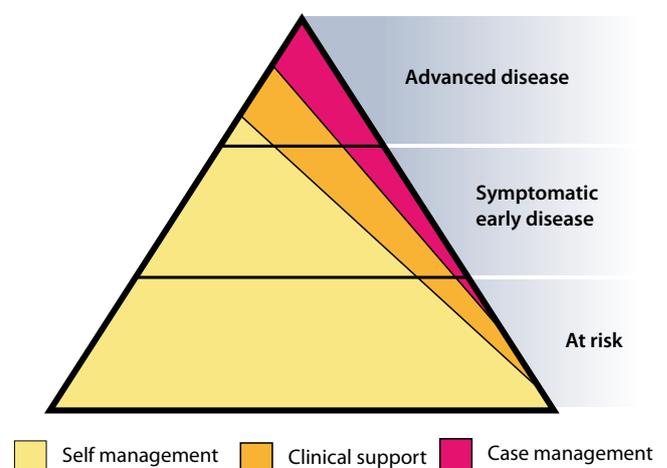
**How effective are care pathways?**

The implementation of a care pathway has been shown to reduce the variability in clinical practice, reduce healthcare costs and improve patient outcomes.<sup>4,5</sup>

A Cochrane systematic review of care pathway implementation found that for every 18 people treated on a care pathway, one serious complication would be prevented. For hospital care, healthcare pathways were shown to reduce length of stay, the incidence of hospital-acquired pneumonia and the cost of care.<sup>4</sup>

**A care pathway is different from a patient's care plan**

A care pathway represents the ideal way to manage a patient population with a specific problem or long-term condition. A care plan is for an individual. The care pathway provides recommendations which should be included and enacted within a care plan. Care plans promote self-management



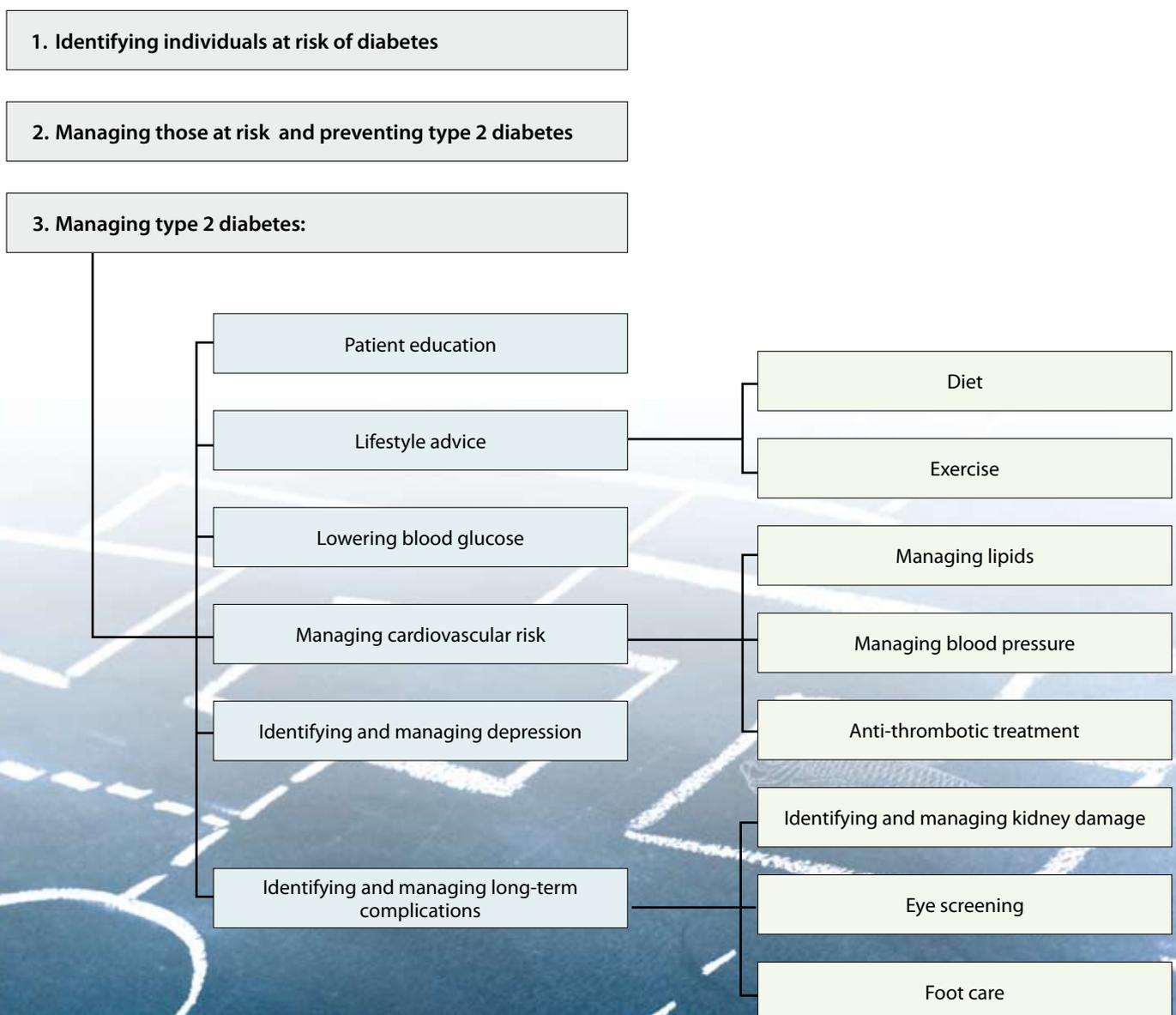
**Figure 2:** Representation of the volume of patients at each stage of a long-term condition

by encouraging patients to take an active role in their own care. Care plans are useful in educating patients about their condition, and include their individual clinical circumstances, their risk-factors, co-morbidities and management, as recommended by the care pathway. The patient's care plan will change as their risks change and complications occur, as opposed to the pathway which is a rigid overview of recommendations and only changes with the evidence. Care pathways and care plans, when combined, provide patients with an individualised best practice approach for their care and are increasingly recognised as being an essential element for improved outcomes for long-term conditions.

### Will pathways reduce clinical judgment and individual choice?

Clinical judgement and individual patient preference remain of paramount importance. Choice should not be reduced by the use of a care pathway. For example, currently the usual recommendation for a target HbA<sub>1c</sub> in a person with type 2 diabetes is 50 – 55 mmol/mol, however, in an elderly person this target level of control may be individualised, due to the complexities and increased risks associated with hypoglycaemia in this age group. Care pathways are not about standardising care for every individual. The setting of agreed individual targets within a care plan allows for flexibility and achievable goal setting.

## The type 2 diabetes care pathway



## The two indicators for diabetes are still funded

Most DHBs have yet to release details on their approach to the Diabetes Care Improvement Package (DCIP). The two PHO Performance Programme (PPP) Indicators for diabetes, “Diabetes detection” and “Diabetes annual review”, remain as funded indicators and will, for now, continue under any new DCIP programmes. Funding will be allocated for the total and the high needs groups; the high needs group for both indicators includes Māori and Pacific peoples and people living in NZDep decile 9 and 10 socioeconomic areas. The two indicators represent 16.5% of the total allocated PPP funding.<sup>6</sup>

In some regions, free annual check-ups are no longer available for all patients. This is likely to make meeting the annual diabetes review indicators significantly more difficult, however, by working with patients and communicating the need for regular review and highlighting the risks of not doing so, general practice can continue to provide consistent, high-quality care to all people with diabetes.

### Diabetes Detection

The PPP Indicator for Diabetes detection is measured as the percentage of the population estimated to have diabetes that has been diagnosed with diabetes.

The programme’s goal is for: at least 90% of the people aged 15 – 79 years who would be expected to have diabetes to be coded as having diabetes.

The indicator accounts for 7.5% of the annual PPP funding; 2.5% for the total population and 5% for the high needs group.

 For further information on diagnosing diabetes, see: “The new role of HbA<sub>1c</sub> in diagnosing type 2 diabetes”, BPI 42 (Feb, 2012).

### Diabetes Annual Review

The PPP Indicator for Diabetes annual review is the percentage of people with diabetes who have had an annual check-up.

The programme’s goal is for: at least 90% of people aged 15 – 79 years with diabetes to have a record of a Diabetes Annual Review during the reporting period.

The indicator accounts for 9% of the annual PPP funding; 3% for the total population and 6% for the high needs group.

 For further information on how to perform a diabetes annual review, see: “Diabetes follow-up: what are the PHO Performance Programme goals and how are they best achieved?”, BPI 39 (Oct, 2011).

## References

1. District Health Boards New Zealand. National summary of PHO performance as at 1 July 2012. DHBNZ; 2012. Available from: [www.dhbshareservices.health.nz/Site/Current-Issues/Performance-Results-Dec-2011.aspx](http://www.dhbshareservices.health.nz/Site/Current-Issues/Performance-Results-Dec-2011.aspx) (Accessed Oct, 2012).
2. Ministry of Health (MoH). Diabetes in New Zealand: models and forecasts 1996-2011. MoH: Wellington, New Zealand; 2002. Available from: [www.health.govt.nz](http://www.health.govt.nz) (Accessed Oct, 2012).
3. Scragg, R. Asian Health in Aotearoa in 2006 - 2007: trends since 2002-2003. Auckland: Northern DHB Support Agency, 2010.
4. Rotter T, Kinsman L, James E, et al. Clinical pathways: effects on professional practice, patient outcomes, length of stay and hospital costs. *Cochrane Database Syst Rev* 2010;(3):CD006632.
5. Giorda CB. The role of the care model in modifying prognosis in diabetes. *Nutr Metab Cardiovas* 2012;In Press, Corrected Proof.
6. DHBNZ. PHO Performance Programme. Indicator definitions. Version 5.5 . 2012. Available from: [www.dhbnz.org.nz/Site/SIG/pho/Operational-Documents.aspx](http://www.dhbnz.org.nz/Site/SIG/pho/Operational-Documents.aspx) (Accessed Oct, 2012).