

Diabetes in the Bay of Plenty

The Ministry of Health report, Diabetes Policy Model, predicts 10% of adult New Zealanders will have type 2 diabetes by 2028 and there will be nearly half a million diabetes sufferers by 2036. The Bay of Plenty District Health Board's (BOPDHB) Diabetes Service is using technology and innovation to combat the disease locally.



The Tauranga-based BOPDHB Diabetes Service Team. From left: Isabel Raiman, Miranda McDonald Brown, Kaye Boyd, Maureen Alleyne, Leigh Shaw and Rose Fifield.

What is diabetes?

Diabetes is the result of the body not creating enough insulin to keep blood glucose (sugar) levels in the normal range. Everyone needs some glucose in their blood, but if it is too high it can damage your body over time.

Some of the signs and symptoms of diabetes present as: always being tired, craving extra liquids, frequent urination, numbness and tingling of feet, always hungry and unexplained weight loss.

There are three main types of diabetes.

Type 1 diabetes

Type 1 diabetes is an auto-immune condition where the body attacks the cells within it that make insulin. The result is that the body does not produce any insulin.

Type 1 diabetes cannot be prevented but it can be managed through a combination of medication, healthy food choices and exercise.



Type 2 diabetes

In type 2 diabetes, either the body does not produce enough insulin, or the cells in the body do not recognise the insulin that is present. The end result is the same: high levels of glucose in your blood.

It is the most common form of diabetes making up around 90% of diabetes sufferers. While type 2 diabetes cannot be cured, it can be managed (especially through diet and exercise) so that people can live active and healthy lives.

Gestational diabetes

Gestational diabetes is when pregnant women, who have never had diabetes before, have high blood glucose levels during pregnancy. High blood glucose occurs because the mother cannot produce enough insulin (a pregnant woman's insulin needs are two to three times normal adult requirements).

Gestational diabetes is temporary and usually disappears after pregnancy. However, a woman who has had gestational diabetes has an increased risk (50-60%) of developing type 2 diabetes in the future. Therefore they should be tested for type 2 diabetes each year.

From January 2013 to December 2013 there were 115 pregnancies with gestational diabetes in the BOPDHB district. This year's figures show that figure had already been exceeded by 1 September (122 diagnosed) with a third of the year still to run.

BOPDHB Diabetes Service

The BOPDHB Diabetes Service is based at Tauranga and Whakatāne hospitals and provides specialist medical, nursing, podiatric and dietetic assessment, treatment and care. This ensures management of the diabetes

and promotes self-management where possible.

The service consists of seven part-time diabetes nurses (two based in the Eastern Bay and five in the Western Bay), one specialist podiatrist, two endocrinologists and two dieticians.

What is a nurse practitioner?

Nurse practitioner Isabel Raiman heads up the Diabetes Service. Nurse practitioners are expert nurses who work within a specific area of practice incorporating advanced knowledge and skills. They are able to prescribe medicines within their specific area of practice. They also demonstrate leadership as consultants, educators, managers and researchers, and actively participate in professional activities, and in local and national policy development.

Isabel is one of only three diabetes specialty nurse practitioners in New Zealand.

“One of the advantages of the nurse practitioner role is that I can look after a patient's whole episode of care,” says Isabel. “I can do the first consult, prescribe and then follow up their diabetes management and liaise with the primary care providers to help integrate their diabetes care.

“The role is also about mentoring, developing and training other staff. There is a research element as well, being up with the latest advances in your specialty, as well as looking to develop services and service quality for patients.”

BOPDHB Diabetes Service innovations

Pharmac-funded insulin pumps education services

Just over a year ago the Pharmaceutical Management Agency (Pharmac) – the New Zealand Government agency that decides on behalf of DHBs which medicines and related products are subsidised/funded – made the decision to fund insulin pumps for patients who fulfilled qualification criteria.

“A lot of people have qualified,” said Isabel. “This is great and we have developed education services to get them going on the insulin pumps. It has really grown and the insulin pumps have given improved diabetes control for many. It’s really changed some people’s quality of life.”

The service’s youngest patient on an insulin pump is just three years old.



A Pharmac-funded insulin pump.

Eastern Bay Gestational Diabetes Clinic

With the surge in gestational diabetes, and with a well-established service in the Western Bay, the need for an Eastern Bay clinic was identified.

This was established in December 2013 and located in the Whakatāne Hospital maternity

clinic. The clinic – run by nurse practitioner Isabel Raiman together with a Whakatāne midwife and a dietician – takes place every Friday.

“We expect gestational diabetes to resolve after birth, so we invite the mothers back three months later and check them,” says Isabel. “We give them dietary advice, lifestyle advice, information about getting back to their ideal weight, exercise, and getting checked annually.

“Having this dedicated clinic means people are more aware and more likely to come.”

Research suggests babies of mothers that have had gestational diabetes are at higher risk of being overweight and developing diabetes as well.

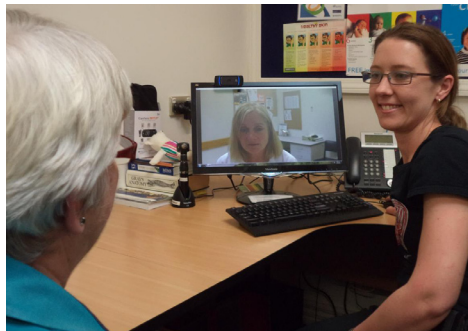
“If we don’t control this properly we’re potentially setting up the next generation,” says Isabel. “I feel very strongly about education for the new mothers ensuring their children exercise and have a reduced sugar intake. It’s all about the holistic approach, looking at the bigger picture.”

Telehealth

A recent innovation which has the potential to be of huge benefit to diabetes patients, especially those in more remote locations, is telehealth. Telehealth is the use of telecommunications technologies to support long-distance clinical healthcare. This includes patient consultations via video link.

Diabetes nurse-led telehealth clinics have become a routine feature at Opotiki’s Church Street Surgery where cases are discussed via weekly video links with Isabel Raiman, in Tauranga.

“They might get some complex cases on which they need more advice,” says Isabel. “So rather than referring them and the patient having to go to Whakatāne to see someone we will have a telehealth consultation.



Nurse practitioner Isabel Raiman (on screen) and registered nurse Ellen Walker (right) conduct a telehealth consultation with a patient.

“Sometimes people are working, or there might be some anxiety about going to hospital to see someone they haven’t met before, or the patient can’t afford to make the journey. If it’s too difficult the patient won’t go and telehealth is all about improving access to services.

“It started three months ago, has been really successful and we’re looking at expanding it, making it more multi-disciplinary so including, for example, dieticians and podiatrists.”

Ellen Walker, Registered Nurse at the Church Street Surgery, said telehealth had already shown its worth.

“In one case, a complex diagnosis led to timely and appropriate treatment,” says Ellen, “whilst in another – an older lady – found her telehealth experience so good that she is asking for the dieticians to do the same.

“Telehealth has enabled Isabel to become a sustainable part of our Church Street team for only a few moments in her busy week,

without making the 270km round trip. We are thrilled with the quality and excited about the potential.”

The future

Despite predictions for the rapid rise of diabetes in the years to come Isabel Raiman remains positive about the future.

“There’s a lot of research going into managing diabetes and in New Zealand we have the funded insulin pumps,” says Isabel. “We have new technology being developed all the time, such as a potential artificial pancreas, and new and different ways of monitoring blood glucose, making it simpler for patients.

“I’ve been working in diabetes for over 25 years and there have been a lot of changes for the better in that time. Locally there are some great success stories with bariatric surgery and there’s some great work going on with childhood diabetes as well.”

The BOPDHB Diabetes Service currently looks after 110 children, with the youngest just 19 months old.

“Looking forward I think what we really need locally is a Diabetes Centre, so that there is a one-stop shop for people, an office and clinic area where we are all together. It’s a team approach. We need to be accessible and visible and to be integrated with our primary care colleagues.”

The BOPDHB Diabetes Service can be contacted on (07) 579 8765.