Entry - Primary Care / NGO Initiative

Excellence in Innovation

The Hawke's Bay health system is transforming service delivery in ways which require us to think and work differently, to innovate and continuously improve. This award recognises those initiatives which have significantly changed the way we work with patients, their whanau, within our teams and with others.

Title	The "PIPI"* Study – practice nurses preventing progression of prediabetes
Synopsis of entry	There is an urgent need to implement effective diabetes prevention strategies to reduce the individual and social burden of diabetes. In NZ the prevalence of diabetes is 7% and the prevalence of prediabetes is 26%. Although diabetes can be prevented through lifestyle changes, the prevalence of diabetes continues to grow worldwide. Health Hawke's Bay – General Practice partnered with the University of Otago; and Sport Hawke's Bay (The Partnership) to develop, implement and evaluate a novel structured dietary intervention programme to prevent those with prediabetes progressing to diabetes. The pilot project was based on the understanding of the important relationships practice nurses have with their patients, the internationally recognised lack of nutrition training for many health professionals and the need to effectively implement diabetes prevention clinical trial evidence into the real world setting of primary care.

*Prediabetes Intervention Package in Primary Care

	The practice nurse delivered intervention package facilitated effective contextualised dietary advice to patients with prediabetes.
Names of organisation/s	Health Hawke's Bay PHO – General Practice University of Otago Sport Hawke's Bay
Contact person	Trish Freer – Health Programmes Manager Health Hawke's Bay Kirsten Coppell – University of Otago
Email	Trish@healthhb.co.nz kirsten.coppell@otago.ac.nz
Phone	06 871 5655 03 470 9074
CEO	Liz Stockley Signature: Date: 08/08/16

Your Organisation	Health Hawke's Bay (HHB) is the region's single Primary Health Organisation, covering a population of over 150,000. Together 'Our Health" with HBDHB and HHB share the same vision and values of providing 'excellent health services working in partnership to improve the health and wellbeing of our people and to reduce health inequalities within our community.' HHB have 28 member general practices across the Bay from Wairoa, through to Central Hawke's Bay. Our funding is based on our population makeup and is intended to support: providing care and treatment when people are ill: helping people stay healthy: reaching out to those groups in our community who have poor health or are most vulnerable and missing out on primary health care. HHB developed a collaborative relationship with Edgar Diabetes and Obesity Research (EDOR), University of Otago (Kirsten Coppell, Joanna Norton, Kiri Sharp) to develop a primary care-based initiative for preventing progression of prediabetes to diabetes. EDOR aims to reduce the prevalence, and improve the management of diabetes and obesity by finding new ways to prevent and treat these conditions. Also partnered Sport Hawke's Bay to deliver the prediabetes intervention. SHB is a regional sports trust that promotes and supports sport and active recreation.

Excellence in Innovation	Diabetes (7%) and prediabetes (26%) are common in New Zealanders aged 15 years and over. The individual and social costs of diabetes are high with for example, PHARMAC's annual expenditure on diabetes medicines and blood glucose monitoring together being $66M in the year to June 2015. No published studies have demonstrated effective practice nurse delivered nutrition education for those with prediabetes. This background was the impetus for the drive to make a difference, and implement and test a prediabetes nutrition intervention to encourage weight loss and prevent diabetes, its complications and associated costs. **We developed and implemented a 'prediabetes intervention package'.** Recently diagnosed prediabetes patients were offered dedicated protected time with their practice nurse, who provided structured nutritional advice for the management of prediabetes. The intervention was implemented at four intervention sites in Napier, and the outcome was compared with four control sites delivering 'usual care' in Hastings. Patient Management Systems were used to identify eligible patients. For this pilot, the eligibility criteria were recently diagnosed prediabetes (defined as HbA1c 41–49mmol/mol), non-pregnant adults aged <70 years, not prescribed Metformin, body mass index >25kg/m^2. To determine the effect of the intervention it was necessary to recruit 84 intervention patients and 84 control patients. Changes in weight and HbA1c at 6 months were the key outcome measures. A process evaluation was undertaken. **Intervention:** The focus of the intervention was to provide patients and their family/whānau with an understanding of the principles of healthy eating, so they were empowered and able to make sensible dietary choices. An understanding of the mixture of personal, inter-personal and environmental influences on patients' eating choices and dietary patterns was an important component of providing effective dietary advice.The pragmatic intervention package, has six components; 1. Health professional training and support – Practice nurses attended a 6-hour intensive training course on the nutritional management of prediabetes. This included brief dietary assessments and their interpretation, internal and external factors affecting food choices, culture, behaviour change,

	and effective communication of dietary information. The course was delivered by the University of Otago collaborators and supported by a local dietitian. A 2-hour update and case study discussion was delivered 6 months later. 2. Individual patient education. All intervention patients were offered an initial 30-minute dietary assessment and goal setting session with their practice nurse. They were asked to complete a brief validated 'Starting the Conversation' dietary assessment on arrival, prior to their appointment. Patients were encouraged to bring family/whānau members to their appointments. Routine baseline bloods were taken. Weight, height, waist circumference and blood pressure were recorded. Patients were invited to follow up sessions at 3-4 weeks, 3 months and 6 months, each time brief targeted dietary advice and support was provided. 3. Goals setting and key messages. Three individually tailored dietary goals determined in consultation with the practice nurse and participant were incorporated into the general practice patient management systems. These messages facilitated opportunistic targeted advice and support by GPs, thus reinforcing information provided at practice nurse dietary consultations. The goals/messages were reviewed and updated accordingly at follow up practice nurse appointments. 4. Nutritionally support primary care environment. Appropriate dietary information was provided in pamphlets, magazines and posters in general practice waiting areas. 5. Community-based group education. Patients were referred to community group education sessions at the 3 week follow-up nurse appointment. These six 1-1.5 hour sessions, provided by Sport Hawke's Bay, included education on food label reading and provided an opportunity for peer group support. 6. Written resources. The main patient resource used was the Diabetes NZ patient booklet, 'Diabetes and healthy food choices'. This resource was first published more than 10 years ago and is rated highly. We built on the established trust and relationships that patients have with their practice nurse. The training programme empowered practice nurses to provide individual patient-specific dietary advice that

	considered the wider context of patients' lives. Patients considered their nurse to be a trusted valuable source of dietary information and support. *"It was her encouragement, it's the way she encouraged me, how she uplifted me. I'm so grateful... So I think having the right people at the forefront there, just to open you up, you know, and acknowledging where I am at." (Pt 8, Pacific woman)*
Benefits and results	The process evaluation confirmed the feasibility and acceptability of practice nurses providing structured dietary advice to patients with prediabetes in busy primary care. There was good participation from men (52%) and Maori (31%). Baseline data demonstrated that body mass index was high (34.3kg/m^2) and diabetes-associated co-morbidities were common: hypertension (50%), dyslipidaemia (40%), gout (16%), ischaemic heart disease (10%). Overall participation in the programme was good with only ten (12%) participants attending the baseline appointment only. When 6 month measures from intervention (n=67) and control participants (n=66), were compared, the proportion of each group whose HbA1c decreased at 6 months differed. Almost three-quarters (70.1%) of intervention participants had lowered their HbA1c level compared with half (49.2%) of the control participants. More than twice as many control participants (27) increased their HbA1c level compared with intervention participants (12). Eight control practice participants progressed to diabetes compared with four at intervention practices. There was a statistically significant difference in weight between the two groups: overall mean *weight gain* of 0.9kg among control patients compared with a mean *weight loss* of 1.3kg among intervention patients. In the **process evaluation** eleven practice nurses and 20 patients were interviewed. **What worked well for practice nurses?** The implementation process of the actual study and intervention package flowed well. Good communication was noted between health service providers and the researchers, and there was very good support. Practice nurses reported positively on their training sessions, and feeling empowered to provide appropriate and accessible dietary advice for their patients with prediabetes. **What worked well for patients?**

	Patients valued the enhanced relationships with their practice nurse and group education facilitator. They: • highly valued the opportunity to attend 1:1 nurse sessions, and they felt accountable to the nurses, • liked the simplicity of the approach that focused on reviewable simple achievable dietary goals, • liked the clarity of information and resources, • learnt how to read food labels. This was very popular. *"Just by talking with them (nurses) it makes you want to motivate yourself, you know. You realise that they're not doing it for them, they're doing it for you." (Pt 9, Māori man)*
Future plans	Firstly, we plan to extend the programme to include, in the first instance, the four control practices, while the four intervention practices are continuing to provide this service under business as usual. Further, as the structured dietary approach is relatively generic, practice nurses at the intervention practices have, without prompting, extended the structured dietary intervention to other patients who need similar guidance and support, for example, people with excess weight (but still normal glucose levels). In June this year, and based on the work we have undertaken to date, we are successful recipients of Health Research Council project funding. This will enable us to further extend the project, enabling the collection of a wider set of data and the involvement of more general practices in Hawke's Bay. A key learning is that this project has highlighted that many patients have a lot going on their lives, and this has to be taken into consideration when providing dietary advice. We are grateful to have received funding from the Ministry of Health, the Hawke's Bay Medical Research Foundation and the NZ Society for the Study of Diabetes to develop, implement and evaluate this project. <u>Appendix – A Patient Story:</u> "**Sent:** Wednesday, 13 July 2016 3:30 PM **To:** Faye Milner <Faye@healthhb.co.nz> **Subject:** pipi

	Hello. Letting you know I will not be attending "the outcomes " event as I have a prior commitment. I would like to let you know that I have had a very positive outcome from the project, am keeping my weight down and am avoiding sugar like the plague. Please thank all involved on my behalf. Regards,…"