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THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND
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CENTRE FOR HEALTH SERVICES
RESEARCH AND POLICY

Let's Beat Diabetes Population-Level KPIs: Summary of Interim Baseline Report II

**Dr Rob McNeill, Dr Janet Clinton, Dr Paul Brown, Dr Pod Perkins,
Sarah Appleton and Faith Mahony**

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Overview

This report presents the work completed in establishing population-level baseline key performance indicators for the evaluation of Let's Beat Diabetes. The first interim report, presented in June 2006, provided many of the baseline indicators for risk factors and complications. This report focuses more on indicators for diabetes monitoring and diabetes-related mortality. Specifically, this report includes four separate documents:

- This document, which outlines the progress to date and provides a summary of future work to inform the baseline indicators.
- A literature review of the epidemiology of Type II diabetes in New Zealand.
- The results of a study using the Mortality Collection and National Minimum Data Set to more accurately estimate the rate of diabetes-related deaths in New Zealand, and in each DHB area.
- The results of a study using the Labs Data to estimate the level of Type II diabetes screening activity in New Zealand, and in each DHB area.

Summary of Progress in Establishing Baseline Data

Table 1 to

Table 5 below provide a summary of the proposed indicators and progress in establishing baseline data for each indicator. In the previous report it was shown that the evaluation team had made good progress for the indicators measuring the extent of complications and some progress for the indicators measuring risk factors, but little progress in indicators for monitoring of glucose (screening and management) and disease progression or mortality indicators. The current report has filled in some of these gaps by analysing data to inform indicators for screening and monitoring of glucose, and has also conducted an extensive analysis of mortality and hospital data to inform indicators for diabetes-related mortality. Further work is needed to refine some of the new and innovative analyses that have been conducted, but it is clear from this initial work that these indicators will be useful for the evaluation of LBD.

Table 1: Summary of proposed risk factors indicators and progress in establishing baseline data.

Indicator Category	Indicator	Definition	Analysis Completed	Future Analysis	Progress
Risk Factors	Obesity	Prevalence of Obesity and Mean BMI in the Population	NZHS 2002/03 and National Nutrition Survey 1997 Published research	NZHS 2006/07, Baseline Survey Existing reports and other research	Data adequate as long as Baseline Survey is repeated
	Physical Activity	Prevalence of physically active individuals and attitudes/beliefs incompatible with increasing activity among the population	NZHS 1996/97 and 2002/03 Published research	NZHS 2006/07, Baseline Survey Existing reports and other research	Data adequate as long as Baseline Survey is repeated
	Smoking	Prevalence of smokers and attitudes/beliefs incompatible with stopping smoking among the population	NZHS 1996/97 and 2002/03 Published research	NZHS 2006/07, Baseline Survey Existing reports and other research	Data adequate as long as Baseline Survey is repeated
	Diet	Prevalence of healthy fruit, vegetable, and fat consumption and attitudes/beliefs incompatible with increasing healthy diet among the population	NZHS 2002/03 and National Nutrition Survey 1997 Published research	National Nutrition Survey 2007, NZHS 2006/07 Children Nutrition Survey and Existing reports and other research	Data adequate as long as Baseline Survey is repeated
	Hypertension	Prevalence of hypertension among the target population	NZHS 1996/97 and 2002/03 and National Nutrition Survey 1997 Published research	NZHS 2006/07, National Nutrition Survey 2007 and Existing reports and other research	No regional or sub-group analysis possible
	Hypercholesterolemia	Prevalence of hypercholesterolemia among the population	NZHS 2002/03 and National Nutrition Survey 1997 Published research	NZHS 2006/07, National Nutrition Survey 2007 and Existing reports and other research	No regional or sub-group analysis possible

Table 2: Summary of ‘proposed screening and diagnosis’ indicators and the progress expected in establishing baseline data.

Indicator Category	Indicator	Definition	Analysis Completed	Future Analysis	Gaps Identified
Diabetes: Screening & Diagnosis	Diabetes Screening	Frequency of oral glucose tolerance testing in the population	Labs Data	Baseline Established	Proxy indicators only
	Diabetes (Prevalence)	Prevalence of diabetes among the population	NZHS 1996/97 and 2002/03 NMDS Labs Data Published research	NZHS 2006/07 NMDS CCM/Get Checked Existing reports and other research	Proxy indicators only
	Diabetes (Incidence)	Incidence of diabetes among the population	NZHS 1996/97 and 2002/03 NMDS CCM Labs Data	NZHS 2006/07 NMDS CCM/Get Checked Existing reports and other research	Proxy indicators only
	Undiagnosed diabetes	Prevalence of undiagnosed diabetes among the population	None Published research	Baseline Survey Occasional Surveys, reports and Published research	Relies entirely on Baseline Survey screening add-on
	Impaired Glucose Tolerance (IGT) and Impaired Fasting Glucose (IFG)	Prevalence of IGT and IFG among the population	NMDS Published research	NMDS Existing reports and other research	Data not adequate
	Gestational Diabetes Mellitus	Prevalence of GDM among the population	NMDS Published research	NMDS Existing reports and other research	Proxy indicators only

Table 3: Summary of proposed Monitoring and management indicators and progress in establishing baseline data.

Indicator Category	Indicator	Definition	Analysis Completed	Future Analysis	Gaps Identified
Diabetes: Monitoring and Management	Glycemic control	Mean glycated haemoglobin for people with diabetes	Published research DHB reports	CCM/Get Checked	Proxy indicators only
		Frequency of testing for glycated haemoglobin	Published research DHB reports Labs Data	CCM/Get Checked	Proxy indicators only
	Lipid profile	Percentage of diabetes patients who perform annual testing for lipid profile	Published research	CCM	Relies almost entirely on CCM data No regional or sub-group analysis possible

Table 4: Summary of proposed complications indicators and progress in establishing baseline data

Indicator Category	Indicator	Definition	Analysis Completed	Future Analysis	Gaps Identified
Complications: Monitoring and Management	Blood pressure	Percentage of diabetes patients who were examined for blood pressure at least annually	Published research	CCM	Relies almost entirely on CCM data No regional or sub-group analysis possible
	Dilated eye examination	Percentage of diabetes patients who perform biannually dilated eye examination	Published research DHB reports	CCM Retinal Screening Database	Relies almost entirely on CCM data No regional or sub-group analysis possible
	Micro-albuminuria	Percentage of diabetes patients who perform annual testing for micro-albuminuria	Published research	CCM	Relies almost entirely on CCM data No regional or sub-group analysis possible
	Foot examination	Percentage of diabetes patients who perform annual foot examination	Published research	CCM	Relies almost entirely on CCM data No regional or sub-group analysis possible
	Eye complications	Proportion of retinopathy among people with diabetes	NMDS Published research	CCM Retinal Screening Database	Data adequate
		Proportion of cataract among people with diabetes	NMDS	CCM Retinal Screening Database	Data adequate
		Proportion of glaucoma among people with diabetes	NMDS	CCM Retinal Screening Database	Data adequate
		Proportion of blindness among people with diabetes	NMDS Published research	CCM Retinal Screening Database	Data adequate
	End stage renal failure	Proportion of end stage renal failure among people with diabetes	NMDS	Baseline Established	Data adequate
		Proportion of people with diabetes among end stage renal failure patients	NMDS	Baseline Established	Data adequate
	Stroke	Proportion of stroke among people with diabetes	NMDS	Baseline Established	Data adequate
	Coronary heart disease	Incidence of Coronary heart incidences in people with diabetes	NMDS	Baseline Established	Data adequate

Indicator Category	Indicator	Definition	Analysis Completed	Future Analysis	Gaps Identified
	Lower limb amputation	Proportion of lower limb amputation among people with diabetes	NMDS	Baseline Established	Data adequate
	End stage renal failure	Proportion of hospital discharges with co diagnosis of diabetes and end stage renal failure among all hospital discharges	NMDS	Baseline Established	Data adequate
	Coronary heart disease	Proportion of hospital discharges with co diagnosis of diabetes and coronary heart disease among all hospital discharges	NMDS	Baseline Established	Data adequate
	Stroke	Proportion of hospital discharges with co diagnosis of diabetes and stroke among all hospital discharges	NMDS	Baseline Established	Data adequate

Table 5 Summary of proposed related deaths indicators and progress in establishing baseline data

Category	Indicator	Definition	Progress	Future Analysis	Gaps Identified
Diabetes-Related Deaths	Disease specific mortality	Rate of deaths where diabetes is the primary cause.	NMDS Mortality Collection	Baseline Established	Data adequate
	Mortality rate for coronary and stroke among people with diabetes	Rate of deaths from coronary or stroke among people with diabetes	NMDS Mortality Collection	Baseline Established	Data adequate

Future Analysis

Some analysis, which was intended to have been presented in this report, has yet to be completed due to delays in obtaining data. This includes:

- **CMDHB Baseline Survey** – The survey was originally scheduled to have been completed by the end of 2006, but was delayed for various reasons outside the control of the evaluation team. It is now almost complete and the University are expecting to receive a cleaned set of data from Counties Manukau DHB or Phoenix Research in the near future. The survey will inform indicators for risk factors, screening, and diabetes prevalence. It is envisaged that the results of the survey and their suitability for informing the indicators will now be presented in the June 2007 report.
- **CCM and Get Checked** – Although we have reported enrolment numbers in CCM in the previous report, a full analysis of the CCM data has yet to be completed. Recent discussions with the CCM manager and others who have been using this data have provided a better understanding of the indicators that this data might inform, especially around disease management. The evaluation team are receiving new extract from the CCM database in the next few weeks and expect to be able to present the complete findings from this in the June 2007 report. The evaluation team have also been in discussion with Sandy Dawson and others who have worked with the national Get Checked data, and it may be possible to use Get Checked data from other regions to assess whether any changes in Counties Manukau are the result of LBD, or just a nationwide trend. The evaluation team will continue to discuss this with the programme team and others to come to some agreement about how best to use the Get Checked data.

Some new sources of data have also been identified, which might provide suitable data for filling the gaps in some of the indicator categories. These include:

- **AIMHI schools data:** AIMHI (Achievement in Multi Cultural High Schools) is a group of nine decile one urban secondary schools where a large proportion of the schools' student population come from Maori and Pacific Island backgrounds. One part of AIMHI has involved measurement of BMIs for all year 9 students in these schools and this data may be useful for informing indicators of obesity.
- **Household Economic Survey:** It is a national survey conducted by Statistics New Zealand at 3 years intervals. The first survey was conducted on March 1998 and the last one available online is in the year ended 30 June, 2004. It provides valuable information on household income and expenditure. It may be possible to use this data to inform indicators for dietary changes, using consumption of certain food groups in the analysis.
- **Diabetes Project Trust:** The Diabetes Projects Trust was set up in 1991. It has a strong relationship with Counties Manukau District Health Board. It emphasises partnership with the community to achieve better health for present and future generations. It provides valuable information through its DCSS Audit which is a special service it provides free for General Practitioners in South and West Auckland, funded by the District Health Board. It also has a lot of different activities related to prevention and management of diabetes. It may be possible to access their data to inform indicators for diabetes management.
- **CMDHB Retinal Screening Database:** It may be possible to access the retinal screening database to inform indicators for diabetes management.