

BAY OF PLENTY DISTRICT HEALTH BOARD
MĀORI HEALTH PLAN
2013/14



Summary of Indicators¹

National Priorities	Indicators	Baseline Māori	(BOPDHB) Non Māori	Target
Data Quality	1 Ethnicity data accuracy	<i>Audit tool to be implemented in 2013</i>		
Access to care	2 Percentage of Māori enrolled in PHOs	92%	97%	100%
	3 ASH rates per 100,000 (Year to Q1 Sep 2012)	0-74 yr 4,103 0-4 yr 11,270 45-64 yr 4,003	1,935 7,352 1,340	3,707 10,141 3,671
Maternal health	4 Percentage of Māori infants fully and exclusively breastfed (for the 6 months ending Dec 2012)	6 weeks 60% 3 months 52% 6 months 23%	70% 57% 28%	74% 63% 27%
Cardiovascular disease and diabetes	5 Percentage of eligible Māori who have had their cardiovascular risk assessed within the past 5 years (to Q2 2012)	52%	67%	90%
	6 Acute coronary syndrome management	<i>See indicator action table (page 16)</i>		
Cancer	7 Breast screening rate (to 31 Dec 2012)	57%	69%	70%
	8 Cervical screening rate (to Sep 2012)	63%	84%	80%
Smoking	9 Percentage of hospitalised smokers provided with cessation advice (Feb 2013)	96%	96%	95%
	10 Percentage of smokers presenting to primary care provided with cessation advice	44%	44%	90%
Immunisation	11 Percentage of infants fully immunised by 8 months of age	83%	88%	90%
	12 Percentage of the population (>65 years) who received the seasonal influenza immunisation	62%	64%	75%
Rheumatic fever	13 Reduced acute rheumatic fever hospitalisations			Baseline & target data to be confirmed
Local Priorities				
Respiratory health	14 Asthma hospitalisation rate (0-14 years) (per 100k)	989	371	371
Access to services	15 Did-Not-Attend (DNA) outpatient appointments (Feb 2013)	6.4%	13.6%	5%
Oral health	16 Preschool dental clinic enrolments (Dec 2012)	44%	66%	70%

¹ Data is drawn from the BOPDHB Māori Health Plan performance monitoring dashboard report and the Ministry of Health's Māori Health Plan indicator summary provided March 2013. Baseline data sources are cited in the 'indicators' column. Rates are compared with non-Māori except where stated otherwise within the plan. Targets are to 30 June 2014 for the BOPDHB Māori population. National targets have been set by the Ministry of Health; local targets by BOPDHB. Rates for the Māori population were unavailable from DHB Shared Services (DHBSS). Rates in the High Needs population (Māori, Pacific, or NZDep quintile 5) have been used as a proxy. The non-Māori comparison group is based on the Total Population. ASH targets are specific to the local Māori population using MoH target criteria.

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Overview



This plan describes Bay of Plenty District Health Board's (BOPDHB) priorities in Māori health for the 2013-2014 year. This plan aligns with the requirements of the New Zealand Public Health and Disability Act (2000) which directs District Health Boards (DHBs) to reduce disparities and improve health outcomes for Māori. The format of this plan and the indicators listed within it follow the guidelines given in the 2013/2014 Operational Policy Framework. This plan aligns with the BOPDHB's Annual Plan (AP) and the Midland DHBs' Regional Services Plan.

The Māori Health Plans of the past two years provided a foundation for BOPDHB to identify the leading causes of mortality and morbidity for Māori in our area. The plans also provided a focus for the DHB to coordinate activity and improvements with stakeholders. The 2013-2014 Māori Health Plan seeks to continue the positive momentum achieved to date.

Over the coming year we will continue to take a population health approach on Māori health. We will continue to work with our partner organisations to address the primordial causes of health inequality, and work directly with our health sector stakeholders to address the indicators listed in this plan. As in the past, we will monitor progress through our Māori Health Plan Steering Group (MHSG); this quarterly forum comprises representatives from the various organisations involved in achieving the targets listed in this plan. The group includes representatives from primary care, secondary care, regional public health services, community providers, and the DHB.

We will refine our monitoring tools so that the DHB and stakeholders have timely, accurate, and relevant information on progress towards our shared targets. With regular performance monitoring and the engagement of key stakeholders we will seek to improve performance throughout the year. In addition, we will continue to learn from high performing organisations that have eliminated or reduced inequalities.

The targets and actions described in this plan align with the BOPDHB Annual Plan and the Midland Region Clinical Services Plan. The Māori Health Plan gives a one-year subset of actions and aspirational targets related to Māori health; longer term activities (2-5 years) to improve health for Māori and non-Māori are described in the 2013-2014 BOPDHB Annual Plan.

The methods used to determine the local indicators listed in this plan are summarised in Appendix A. Because the three local indicators listed in our previous plan remain significant areas of inequality, they have been retained for the 2013-2014 plan.

In addition to the Māori Health Plan Steering Group, quarterly performance results for the Māori Health Plan indicators will be disseminated to four key audiences. First, results will be submitted to the Board for review and discussion in the same manner that Annual Plan and Health Target results are presented. Second, quarterly performance reports will be reviewed by the DHB Runanga. Third, quarterly performance results will be presented at the DHB's executive management meetings. These three dissemination groups represent both operational and governance levels of the organisation. Fourth, the DHB's Māori Health Plan performance will be presented in the DHB's Annual Report.

Abbreviations

ABC	An approach to smoking cessation requiring health staff to ask, give brief advice, and facilitate cessation support.
AP	Annual Plan
ARF	Acute rheumatic fever
ASH	Ambulatory sensitive hospitalisation
BFHI	Baby friendly hospital initiative
BOP	Bay of Plenty
BOPDHB	Bay of Plenty District Health Board
CME	Continuing medical education
COPD	Chronic obstructive pulmonary disease
CVD	Cardiovascular disease
CVRA	Cardiovascular risk assessment
DAR	Diabetes annual review
DHB	District Health Board
DHBSS	DHB Shared Services
DMFT	Diseased, Missing, or Filled Teeth
DNA	Did not attend (used in the measurement of outpatient clinic attendance)
EBPHA	Eastern Bay Primary Health Alliance
ENT	Ear, nose and throat
GM	General Manager
HbA1C	Glycosylated haemoglobin
IGT	Impaired glucose tolerance
IHD	Ischaemic heart disease
ISDR	Indirectly standardised discharge rate
MHSG	Māori Health Steering Group
MOH	Ministry of Health
NCHOD	National Centre for Health Outcomes Development
NMO	Nga Mataapuna Oranga (Primary Health Organisation)
NSU	National Screening Unit
NZ	New Zealand
NZHS	New Zealand Health Survey
PHO	Primary Health Organisation
POPAG	Population Health Advisory Group
RR	Rate ratio
WBOPPHO	Western Bay of Plenty Primary Health Organisation

Māori Population: Profile and Health Needs

1. Geographic Distribution

- BOPDHB's population was estimated to be 214,000 in 2011.¹ At the 2006 Census 23% of BOPDHB's population, identified as Māori compared with 15% nationally;²
- BOPDHB comprises five territorial authorities. In 2006 the majority of the population were based in western areas; over 50% lived in Tauranga City with a tapering population count towards the east;
- Absolute numbers of Māori reflect the total population's pattern, tapering from west to east. However Māori make up a greater proportion of each district's population toward the east.¹⁵

Table 1. Bay of Plenty (BOP) population distribution by territorial authority as at the 2006 Census.¹⁵

District	Western BOP	Tauranga	Whakatane	Kawerau	Opotiki
Total Pop.	42,075	103,632	33,300	6,921	8,976
Māori (%)	16	16	40	59	54

2. Health Service Providers

Key health service providers in BOPDHB include:

- Two public hospitals; Tauranga (349 beds) and Whakatane (123 beds);¹⁶
- Three PHOs (which had enrolled 92% of the eligible Māori population and 98% of the non- Māori in September 2011);
- Multiple local and national non-profit and private health and social providers.

3. Iwi within BOPDHB

Multiple iwi lie within or across BOPDHB's borders including:

- Ngai Te Rangi
- Ngāti Ranginui
- Te Whānau ā Te Ēhutu
- Ngai Tai
- Ngāti Rangitīhi
- Te Whānau ā Apanui
- Ngāti Awa
- Ngāti Whakahemo
- Tūhoe
- Ngāti Mākino
- Ngāti Whakaue ki Maketū
- Tūwharetoa ki Kawerau
- Ngāti Manawa
- Ngāti Whare
- Waitahā
- Ngāti Pūkenga
- Tapuika
- Whakatōhea

4. Age Distribution of the Māori Population

- In 2006, BOPDHB's over-65 population was proportionately larger than the national average (15.9% vs. 12.3%). Other age categories are similar to the rest of the country;¹⁰
- The BOPDHB Māori population is skewed towards younger age groups with higher proportions in the 0-14 and 15-24 age groups, but fewer older adults and elderly:

Table 2. Age distribution of the BOPDHB population as at the 2006 Census.¹⁰

Age Group	0-14	15-24	25-44	45-64	65-74	75+
Māori (%)	36	16	26	17	4	1
Non-Māori (%)	18	10	25	28	10	9

5. Population Growth Projections

From 2006 to 2026 BOPDHB's Māori population will grow by a greater amount (35.5%) than the local non-Māori/non-Pacific population (21.5%), and the national Māori population (29.9%).¹⁰

6. Deprivation Distribution

BOPDHB had fewer people in the two least deprived NZDep categories compared with the national average, but had a slightly higher proportion in the three most deprived categories.¹⁰ Deprivation increases toward the east of the DHB where Māori make up more of the population.

7. Leading Causes of Avoidable Mortality and Hospitalisation

The leading causes of avoidable mortality and hospitalisation are ranked below. Similar issues ranked highly for Māori and European/Other populations locally and nationally.¹⁰

Table 3. Leading causes of avoidable mortality and hospitalisation for BOPDHB 2003-5.¹⁰

	Avoidable Mortality		Avoidable Hospitalisation	
	BOPDHB	NZ	BOPDHB	NZ
Māori	1 CVD – IHD	CVD – IHD	Respiratory infections	Respiratory infections
	2 Lung cancer	Lung cancer	Cellulitis	Cellulitis
	3 Road traffic injuries	Diabetes	Angina	Angina
	4 Diabetes	COPD	COPD	COPD
	5 COPD	Road traffic injuries	Asthma	Asthma
Other	1 CVD – IHD	CVD – IHD	Respiratory infections	Angina
	2 Lung cancer	Lung cancer	Angina	Respiratory infections
	3 Colorectal cancer	Colorectal cancer	Cellulitis	Cellulitis
	4 Suicide & self harm	Suicide & self harm	Road traffic injuries	Road traffic injuries
	5 Road traffic injuries	Road traffic injuries	Gastroenteritis	ENT infections

8. Health Service Utilisation

8.1 Primary Care – PHO Enrolment

In December 2011 the highest number of Māori were enrolled with Eastern Bay Primary Health Alliance (EBPHA) (20,919 people), followed by Western Bay of Plenty PHO (WBOPPHO) (16,952), and finally Ngā Matapuna Oranga PHO (NMO) (7,999 people).¹⁷

Table 4. Enrolled populations in BOPDHB PHOs as at December 2011.¹⁷

PHO	EBPHA	WBOPPHO	NMO
Total Enrolees	46,211	144,126	10,971
Māori	20,919	16,952	7,999
Māori (%)	45	12	73

8.2 Secondary Care – Emergency Department Utilisation

The 2006/7 New Zealand Health Survey (NZHS) did not show any difference in Emergency Department presentation rates between Māori and non-Māori (aged 15+ years) at a local or national level.¹⁰

8.3 Secondary Care – Elective Surgery

Age-standardised rates (per 100,000) for elective surgery discharges over 2005-7 are shown below (with 95% confidence intervals).¹⁰ BOPDHB had a higher rate than the national average. BOPDHB Māori had a higher elective surgery discharge rate than the local European/Other group, and a higher elective surgery discharge rate than Māori and non-Māori nationally.

Table 5. Average age standardised national and BOPDHB elective surgery public hospital discharge rates 2005-7 (95% CI).¹⁰

	Māori	Euro/Other	Total
BOPDHB	4694.3(4576.2-4814.6)	4137.5(4083.6-4192.0)	4225.1(4176.7-4273.9)
New	4316.8(4284.4-4349.3)	3567.6(3546.2-3579.2)	3549.8(3528.5-3559.9)

9. Social Determinants of Health

Māori experience poorer education, income, unemployment, and housing outcomes than non-Māori. A selection of BOPDHB and national figures are listed below:

Table 6. Summary BOPDHB and national social determinants of health for Māori and non-Māori at the 2006 Census.¹⁰

	BOPDHB		New Zealand	
	Māori	Non-Māori	Māori	Non-Māori
Gained Level 2 NCEA	41%	60%	42%	63%
Proportion on a low income (adults over 15 years)	27%	21%	24%	21%
Unemployment rate (adults over 15 years)	8.6%	3.6%	6.9%	3.3%
Proportion of adults who do not own their own home	64%	49%	66%	48%

National Indicators

Indicator 1: Accuracy of ethnicity reporting in PHO registers

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Greater accuracy of ethnicity data in PHO enrolment databases.</p>	<p>Assess the accuracy of ethnicity data in PHO databases using the Ministry of Health's ethnicity data auditing tool by 31 December 2013.</p> <p>Identify PHOs with low ethnicity data accuracy by January 2014.</p> <p>Implement initiatives to increase ethnicity data accuracy including:</p> <p>Standardise PHO enrolment forms in all three PHOs to incorporate the Ministry of Health's data collection protocols.</p> <p>Continuing medical education for general practice staff describing baseline and ethnicity data accuracy levels and targets.</p> <p>Reassess ethnicity data accuracy in a sample of clinics to measure improvements by May 2014.</p>	<p>Ethnicity data accuracy will increase as measured through implementation of the Ministry of Health's ethnicity data accuracy auditing tool.</p>	
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>Unknown</p>
		<p>Non-Māori</p>	<p>Unknown</p>
<p>Accurate ethnicity data is essential for the measurement of health outcomes, inequalities, and improvement over time. Several reports have demonstrated the misclassification of Māori health consumers in electronic databases.² The Ministry of Health's PHO ethnicity data auditing tool will enable BOPDHB to establish baseline ethnicity data accuracy and assess the level of intervention required to improve baseline levels. Current reporting only assesses the completeness of ethnicity data, not accuracy. In quarter 3 of 2012/13, only 1.76% of new NHI records created had an incomplete ethnicity field.³ Implementing the Ministry's ethnicity auditing tool will enable the <i>accuracy</i> of ethnicity data within the DHB to be improved.</p> <p>Progress on this indicator will be assessed through quarterly meetings of the MHSB.</p>		<p>Gap</p>	<p>Unknown</p>

² Bramley, D., & Latimer, S. (2007). The accuracy of ethnicity data in primary care. *The New Zealand medical journal*, 120(1264), U2779. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=emed8&AN=2007611852>

³ This measure refers to the total number of NHI records created with ethnicity of 'Not Stated' or 'Response Unidentifiable' per DHB per quarter divided by the total number of NHI records created per DHB per quarter.

Indicator 2: Percentage of Māori enrolled with PHOs

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Increased access for the Māori population to primary health care services.</p>	<p>Assess the current rate of PHO enrolment for Māori and non-Māori in BOPDHB by 31 July 2013. Enrolment to be categorised by age and geography (east vs. western Bay of Plenty) to identify where enrolment gaps are located, and to guide targeted interventions to increase enrolment.</p>	<p>There will be an increase from 92% to 100% of Māori who are enrolled with a PHO.</p>	
	<p>Engage with PHOs through the Māori Health Steering Group to identify PHOs with low Māori enrolment by August 2013. Focus initial interventions to increase enrolment on these organisations. Based on the categorisation activity outlined above, select from a range of actions to increase enrolment including:</p> <ul style="list-style-type: none"> - Mass media PHO enrolment promotion - Offer enrolment opportunities at community and sports events - Offer enrolment opportunities through schools, preschools. and kohanga - Promote enrolment in BOPDHB's delivery suites, neonatal units, and through midwives offering home delivery. 	<p>Inequalities in enrolment rates between Māori and non-Māori will be eliminated.</p>	
	<p>Implement selected targeted initiatives to increase enrolment for Māori in PHOs by September 2013. Monitor the impact of these initiatives quarterly.</p> <p>Work with neighbouring Midland DHBs and PHOs to accurately gauge enrolment levels and improve enrolment in border areas (e.g. Murupara).</p>		
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>92%</p>
		<p>Non-Māori</p>	<p>97%</p>
<p>PHO enrolment facilitates easier access to preventative health care for both adults and children. PHO enrolment enables affordable access to acute care, preventative management, and continuity of care. Progress on this indicator will be assessed through quarterly meetings of the MHSG. This forum will be used to monitor the activities outlined in the column above. The performance results generated each quarter will be compared with the rate of progress needed to achieve the indicator target of 100% enrolment. Where progress is insufficient we will seek to modify existing interventions or develop new interventions to increase enrolment.</p>		<p>Gap</p>	<p>5%</p>

Indicator 3: Ambulatory sensitive hospitalisation rate (0-4, 45-64, 0-74 years)

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful
<p>Reduced ambulatory sensitive hospitalisation (ASH) rates among all age groups: 0-4 years 45-64 years 0-74 years</p>	<p>Continue to fund contracts established with primary care and community providers which target ASH conditions highest in Māori. Include contract targets for Māori clients in particular. Conditions supported through current programmes which address conditions contributing high ASH rates for Māori include:</p> <ul style="list-style-type: none"> - Intravenous antibiotic administration for cellulitis in primary care (skin infections are one of the five leading causes of ASH for Māori); - Mobile dental services for children; - Asthma education and action plan development (for children and adults). <p>Audit the most recent ASH data to identify the current leading causes of ASH for Māori in the 0-4, 45-64, and 0-74 year age groups by condition, domicile, NZDep, and hospital location. Develop evidence based interventions targeted at Māori using the peer-reviewed literature, collaboration with leading DHBs, and attention to local needs. By November 2013.</p> <p>Provide continuing medical education training for primary care providers to raise awareness of inequalities in ASH. Training to outline current ASH rates by age group, location, drivers of ASH rates, and activities to reduce ASH rates. By December 2013.</p> <p>Identify services which have improved ASH rates in the leading DHBs around the country. Identify the two interventions likely to have the most impact on ASH rates in BOPDHB. Tailor these interventions to the Māori population before implementation and evaluation of their impact. By December 2013.</p> <p>ASH progress will be monitored through two means: first, performance indicators for new interventions will be developed and monitored monthly e.g. asthma admissions per month; second, the MHSG will oversee overall ASH rates. This group meets on a quarterly basis. This multidisciplinary group will track performance in each age group, and will provide guidance on new interventions.</p>	<p>ASH rates in all age groups will demonstrate movement towards the national rate for the total population in that age group. Over the 2013-14 year, ASH rates for Māori will approach the targets derived from the Ministry of Health ASH target formula as follows:</p> <p>0-4 years: 10,141/100,000/year</p> <p>45-64 years: 3,671/100,000/year</p> <p>0-74 years: 3,707/100,000/year</p>

Why is this outcome important:	Māori⁴	0-4 yrs	11,270
		45-64 yrs	4,003
		0-74 yrs	4,103
	Non-Māori	0-4 yrs	7,352
		45-64 yrs	1,340
		0-74 yrs	1,935
<p>ASH rates are a proxy measure for access to primary care services, preventative management, and the quality of care delivered. Ambulatory sensitive hospital admissions are preventable with the appropriate quantity and quality of primary care.</p> <p>BOPDHB has developed an ASH review group comprising representatives from primary care, secondary care, and the DHB. This group is responsible for analysing trends within ASH age groups to improve data accuracy, identify the conditions contributing the highest number of ASH, and developing generic and tailored interventions to improve ASH rates.</p>	Gap (Rate Ratio)	0-4 yrs	1.5
		45-64 yrs	3.0
		0-74 yrs	2.1

⁴ Indirectly standardised discharge ratios (ISDR) per 100,000 population. Calculated by the Ministry of Health; year ending September 2012.

Indicator 4: Full and exclusive breastfeeding rates at 6 weeks, 3 months, and 6 months

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful
<p>Higher rates of full and exclusive breastfeeding for Māori infants at 6 weeks, 3 months, and 6 months.</p>	<p>A range of structural and health service related barriers to breastfeeding for Māori women have been highlighted in recent research including: difficulty initiating/maintaining breastfeeding, insufficient education, lack of public/work spaces for breastfeeding, and the need to return to work.⁵ Activities aimed at addressing these issues for Māori in BOPDHB over 2013/14 include:</p> <ul style="list-style-type: none"> - Ongoing measurement of the proportion of mothers in different ethnic groups who are breastfeeding at discharge from BOPDHB delivery units (ongoing); - Measuring utilisation of lactation consultants by maternal ethnicity (by December 2013); - Identification and promotion of public spaces such as cafes which are supportive of breastfeeding. This information will be communicated to all mothers through antenatal education groups (ongoing). <p>The Māori Health Planning and Funding Team will obtain data for the most period from Plunket NZ and the Ministry of Health. Based on this data we will develop targeted interventions aimed at increasing breastfeeding in those age groups (6 weeks, 3 months, 6 months) with the highest need. By November 2013.</p> <p>The Māori Health Funding & Planning team will identify DHBs with high breastfeeding rates. The team will facilitate a Māori Health Excellence Seminar in collaboration with these DHBs and local stakeholders involved in promoting breastfeeding. Based on the information we gain from high performing organisations, we will develop interventions to improve breastfeeding in BOPDHB. These interventions will be tailored toward Māori in those age groups with the lowest rates. By November 2013.</p> <p>Breastfeeding rates and performance data for the activities listed above will be reviewed on a quarterly basis by the MHSG.</p>	<p>Māori infants will have attained breastfeeding rates consistent with the age-related targets set by the Ministry of Health (74% at 6 weeks, 63% at 3 months, 32% at 6 months).</p>

⁵ Glover M, et.al. (2007). Influences that affect Maori women breastfeeding. Breastfeeding Review. 15(2): 5-14.

Why is this outcome important:	Māori	6 weeks	60%
		3 months	52%
		6 months	23%
	Non-Māori	6 weeks	70%
		3 months	57%
		6 months	28%
The benefits of breastfeeding are unequivocal. Breastfeeding is associated with lower rates of infection in the perinatal period and infancy, and is associated with lower rates of hospital admission in childhood. ⁶	Gap	6 weeks	10%
		3 months	5%
		6 months	5%

⁶ Horta, B. et.al. (2007) Evidence on the long-term effects of breastfeeding: Systematic reviews and meta-analysis. Geneva. World Health Organization.

Indicator 5: Cardiovascular disease risk assessment rates (eligible population)

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Reduced cardiovascular disease mortality and morbidity through cardiovascular risk assessment (CVRA) and appropriate management.</p>	<p>Assist with reporting within all BOPDHB PHOs which shows CVRA performance by individual anonymised clinics. To be completed by August 2013.</p>	<p>Māori will have reached the national CVRA target of 90% by 30 June 2014.</p>	
	<p>The Māori Health Planning and Funding Team will facilitate documentation and sharing of the strategies employed by clinics with the highest rates of CVRA for Māori enrollees. These strategies will be shared through general practice continuing medical education events. By November 2013.</p>		
	<p>The Māori Health Planning and Funding Team will support PHOs which have clinics with very low CVRA rates for Māori. This support may include mentoring, support with data management, links with high-performing clinics, and shared recall system methods. Initiated by November 2013. Ongoing.</p> <p>Ongoing performance for this indicator will be conducted by the MHSB on a quarterly basis.</p>		
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>52%⁷</p>
		<p>Non-Māori</p>	<p>67%</p>
<p>Māori have more than twice the mortality rate of ischemic heart disease as non-Māori (rate ratio 2.25). Cardiovascular disease is the leading cause of mortality among Māori adults.⁸</p>		<p>Gap</p>	<p>15%</p>

⁷ Health Target data supplied by the Ministry of Health for the quarter ending December 2012 (Q2).

⁸ Robson B, Harris R. (eds). Hauora: Māori Standards of Health IV. A study of the years 2000–2005. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

Indicator 6: Acute Coronary Syndrome

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Reduced cardiovascular disease mortality and morbidity through better management of acute coronary syndrome (ACS).</p>	<p>We will implement the activities outlined in the BOPDHB Annual Plan which are aimed at addressing acute coronary syndrome. These activities listed in the Midland Cardiac Network 2012/13 Work Programme and are aimed at addressing the following goals:</p> <ul style="list-style-type: none"> • 90% of ACS patients receiving a risk assessment and classification within 24 hours of presenting; • 80% of patients requiring referral to Waikato hospital for angiography will be referred the day of admission; • 70% of high risk ACS patients receiving angiograms within three days of presenting; • 90% of non-high risk ACS patients undergoing further risk stratification tests within 72 hours of presenting; <p>Baseline performance results stratified by ethnicity for the measures listed above will be established. By August 2013.</p> <p>Performance reporting system for ACS measures (stratified by ethnicity) to be completed to enable quarterly reporting to the MHSG. By August 2013.</p> <p>Identification of DHBs with high ACS management performance for Māori to be identified. By September 2013</p> <p>Interventions which effectively improve ACS management for Māori to be identified. These will be derived from the peer-reviewed literature along with discussion with high-performing DHBs and the Ministry of Health Champion/advisor for this indicator. Interventions will be modified and implemented in BOPDHB to address gaps in our ACS management performance. By October 2013.</p> <p>Performance will be monitored on a quarterly basis by the MHSG in BOPDHB.</p>	<p>The results for Midland Cardiac Network 2012/13 Work Programme goals will be the same for both Māori and non-Māori.</p> <p>In parallel with the Midland Cardiac Network Programme BOPDHB will seek the following goals locally:</p> <p>70% of high risk Acute Coronary Syndrome patients accepted for coronary angiography have it within 3 days of admission (Day of admission=Day 0).</p> <p>95% of patients presenting with Acute Coronary Syndrome who undergo coronary angiography have completion of ANZACS QI ACS and Cath/PCI registry data collection within one month.</p>	
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>At the time of writing, data</p>
		<p>Non-Māori</p>	<p>were not available for this</p>

<p>Despite having higher mortality and morbidity from cardiovascular rates Māori have lower referral rates for tertiary cardiac services.⁹ Cardiovascular disease is the leading cause of mortality for Māori.</p>	Progress	<p>indicator by ethnic group.</p> <p>Total population results were:</p> <ul style="list-style-type: none"> - ACS patients receiving a risk assessment and classification within 24 hours of presenting: 67% - ACS patients receiving angiograms within three days of presenting: 75% - ACS patients undergoing further risk stratification tests within 72 hours: 86%
	Gap	

⁹ Tukuitonga, C. F., & Bindman, A. B. (2002). Ethnic and gender differences in the use of coronary artery revascularisation procedures in New Zealand. *N Z Med J*, 115(1152), 179–182.

Indicator 7: Breast screening rates (50-69 years)

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Lower breast cancer morbidity and mortality among Māori women through better utilisation of the national breast screening programme for women aged 50-69 years.</p>	<p>Continue to provide breast screening services along the screening pathway with a focus on equity i.e. health education, support to mammography services, support to additional investigation assessment, support to treatment and monitor screening rates by ethnicity. At each of these stages of service delivery we will provide screening rates stratified by ethnicity to relevant providers. Ongoing.</p>	<p>Screening rates for Māori women (50-69 years) in BOPDHB will have reached the national target of 70%.</p>	
	<p>Continue to work with Breast Screen Midland to monitor breast screening rates for Māori women in BOPDHB on a monthly basis. Monthly targets and interventions tailored to the monthly targets will be developed and reviewed throughout the year. This approach has helped to facilitate a 6% improvement in screening during the 2012/13 year. Ongoing.</p> <p>Compare screening performance in BOPDHB with other Midland DHBs to identify those with the highest rates. Learn effective interventions from high-performing DHBs and implement similar service delivery models in BOPDHB. Performed quarterly through review of Midland performance data by the MHSG.</p>		
	<p>Work with Breastscreen Midland to continually refine the invitation and service delivery pathway. Continue to obtain and implement health promotion and service innovations from the leading regional screening providers in the country. Ongoing.</p> <p>Performance data for this indicator will be monitored by the MHSG on a quarterly basis.</p>		
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>57%</p>
		<p>Non-Māori</p>	<p>69%</p>
<p>Cancer is one of the leading causes of mortality and morbidity for Māori women. Breast screening rates for Māori women have lagged behind those of non-Māori in BOPDHB and nationally.</p>		<p>Gap</p>	<p>12%</p> <p>Note: these baseline data are for the 50-69 year age group.</p>

Indicator 8: Cervical screening rates (25-69 years)

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Lower cervical cancer morbidity and mortality among Māori women through better utilisation of the national cervical screening programme for women aged 25-69 years.</p>	<p>GP CME sessions to be delivered in local PHOs to outline inequalities in screening rates and promote a focus on the Māori population (the non-Māori population has already reached the national target in BOPDHB) By November 2013.</p> <p>Toi Te Ora – Regional Public Health Service to work with PHOs in BOPDHB to optimise the quality of collection, analysis, and reporting of cervical screening data. Ongoing.</p> <p>Toi Te Ora to provide monthly reports to independent service providers indicating the proportion of clients which are overdue. Ongoing.</p> <p>Continue to provide cervical screening services along the screening pathway i.e. education, cervical smear taking, and support to colposcopy services. Ongoing.</p> <p>BOPDHB cervical screening champion to facilitate mainstream responsiveness by working with the PHOs within BOPDHB to identify and support practices with low cervical screening rates for Māori women. Link these clinics with those which have high rates to facilitate performance improvement. By October 2013.</p> <p>Continue to support Māori health providers with specialist cervical screening contracts in order to support appropriate service provision and screening among high needs groups. Ongoing.</p> <p>Performance will be monitored through quarterly performance reviews by the MHSG. Shorter term performance will be tracked by the DHB champion for this indicator.</p>	<p>Cervical screening rates for Māori women will have reached the national target of 80% by 30 June 2014.</p>	
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>63%</p>
		<p>Non-Māori</p>	<p>84%</p>
<p>Māori women have almost twice the rate of cervical cancer registrations as non-Māori women (rate ratio 1.89), but have over three times the cervical cancer mortality of non-Māori women (rate ratio 3.10).¹⁰</p>		<p>Gap</p>	<p>21%</p> <p>Note: these baseline data are for the 25-69 year age group.</p>

¹⁰ Robson B, Harris R. (eds). Hauora: Māori Standards of Health IV. A study of the years 2000–2005. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

Indicator 9: Percentage of hospitalised smokers provided with cessation advice

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful
<p>Reduced smoking prevalence, morbidity, and mortality among the Māori population in BOPDHB.</p>	<p>Continue to deliver tobacco cessation training to relevant hospital-based staff. Maintain an equity focus to the training by providing smoking epidemiology in BOPDHB by ethnicity, and educating staff on equity principles. Ongoing.</p>	<p>The Health Target smoking cessation advice provision in secondary care target of 95% will continue to be attained. At least 95% of current smokers who are Māori will be provided with cessation advice whilst in BOPDHB's hospitals.</p>
	<p>Continue to refine the cessation advice and follow-up pathway with primary care providers to ensure that integrated ongoing cessation support is provided beyond the hospital environment. Track cessation service use by ethnicity. Ongoing.</p>	
	<p>Continue to deliver ongoing cessation support reporting stratified by ethnicity to ensure that inequalities do not develop in cessation advice provision. Ongoing.</p> <p>Where cessation advice provision drops below targeted levels we will audit cessation provision by ward and service to determine where service gaps lie. Ongoing.</p> <p>BOPDHB consistently reaches the Health Target goal for this indicator and there are no inequalities between Māori and non-Māori in this indicator in BOPDHB hospitals.</p> <p>Regional public health unit and DHB communications department to develop and target health promotion messages and initiatives towards pregnant Maori women who smoke. Regional public health unit to continue with existing health promotion work directed towards pregnant Maori women. By October 2013.</p> <p>Implement a smoking cessation education and promotion programme in the eastern Bay of Plenty through BOPDHB maternity services by October 2013.</p> <p>Implement smoking cessation education and policy changes in partnership with local councils and schools in alignment with the objectives of Smokefree 2025. By November 2013. Note that the DHB and Regional Public Health Unit have a wider strategy related to Smokefree 2025 which cannot be summarised completely in the Maori Health Plan. This plan describes activities over the 2013-14 year linked specifically to the smoking cessation</p>	

	<p>indicators of the Maori Health Plan as required by the OF 2013. For a more complete description of the DHB's Smokefree 2025 strategy readers should consult the BOPDHB Smoking Cessation Champion or Regional Public Health Unit.</p> <p>Performance on this indicator will be monitored by the MHSG on a quarterly basis. The relevant indicator champion will review performance results on a monthly basis.</p>		
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>96%</p>
		<p>Non-Māori</p>	<p>96%</p>
<p>Lung cancer is one of the leading causes of avoidable mortality for both Māori and non-Māori nationally and within BOPDHB. Tobacco use causes and exacerbates respiratory illness. Respiratory conditions are one of the leading causes of avoidable hospital admission throughout the country.¹¹</p>	<p>Gap</p>	<p>0%</p>	

Indicator 10: Percentage of smokers enrolled in a PHO provided with cessation advice

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful
<p>Reduced smoking prevalence, morbidity, and mortality among the Māori population in BOPDHB.</p>	<p>Audit the accuracy of coding in primary care databases to ensure that baseline and performance data for Māori and non-Māori are accurate. Use this information to guide improvements in the accuracy of primary care ethnicity data. By November 2013.</p> <p>Facilitate the sharing of best practice ethnicity coding and cessation provision procedures between clinics with the highest performance results and others. By December 2013.</p>	<p>The Health Target for smoking cessation advice provision of 90% will be attained for Māori.</p> <p>In combination with the actions listed here we will use an iterative approach to increase smoking cessation advice provision in line with the following quarterly projections for smoking cessation advice provision:</p> <p>Q1 60%</p> <p>Q2 70%</p> <p>Q3 80%</p> <p>Q4 90%</p>
	<p>Redirect GP champion to provide smoking cessation training for GPs and nurses with a focus on equity. By October 2013.</p>	
	<p>Incorporate coding and cessation advice provision measures into relevant contracts with primary care providers with specific targets for the Māori population. By October 2013 (if</p>	

¹¹ Ministry of Health. (2008). *Bay of Plenty District Health Board: Health Needs Assessment*. Wellington: Ministry of Health.

	<p>contract considered for renewal).</p> <p>Track the number of smokers referred to smoking cessation services (after the provision of smoking cessation advice). Quarterly.</p> <p>Track primary care smoking cessation provision data on a quarterly basis. Review performance data with the Māori Health Steering Group in order to make continual improvement throughout the year.</p>		
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>44%</p>
		<p>Non-Māori</p>	<p>44%</p>
<p>Lung cancer is one of the leading causes of avoidable mortality for both Māori and non-Māori nationally and within BOPDHB. Tobacco use causes and exacerbates respiratory illness. Respiratory conditions are one of the leading causes of avoidable hospital admission throughout the country.¹²</p>		<p>Gap</p>	<p>0%</p>

¹² Ibid.

Indicator 11: Percentage of infants fully immunised by eight months of age

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful				
<p>Reduced immunisation-preventable morbidity and mortality.</p>	<p>In collaboration with primary care stakeholders and Māori health providers develop systems for seamless handover of mother and child as they move from antenatal and birth maternity care, to general practice and to Well Child Tamariki Ora services. Monitor development of this project through the MHSG. By December 2013.</p>	<p>90% of Māori infants will be fully immunised by eight months of age by July 2014.</p>				
	<p>Maintain an immunisation steering group that includes all the relevant stakeholders for the DHB's immunisation services including Māori health providers, the Public Health Unit, and primary care. Ongoing.</p>					
	<p>Implement a pre-calling system at 5 months of age focused on infants who have been late for immunisations at 6 weeks, or 3 months. By November 2013.</p>					
	<p>Deliver immunisation promotion media through the DHB communications department and local newspapers on a quarterly basis. Quarterly.</p> <p>Track 6 week and 3 month immunisation data to identify Māori infants who receive these immunisations late. Refer these infants to outreach and pre-calling pathways to remediate late immunisation. By November 2013.</p>					
<p>Continue to emphasise a focus on inequalities in the immunisation steering group and any other relevant forum which is focused on improving immunisation results. Ongoing.</p> <p>DHB Immunisation Champion to review immunisation performance data monthly. Ongoing.</p> <p>Review quarterly immunisation results for Māori infants in collaboration with PHO partners in the Māori Health Steering Group. Develop remedial interventions where inequalities are evident. Ongoing.</p>	<table border="1"> <tr> <td data-bbox="948 1756 1110 1798">Māori¹³</td> <td data-bbox="1110 1756 1441 1798">82%</td> </tr> <tr> <td data-bbox="948 1798 1110 1834">Non-Māori</td> <td data-bbox="1110 1798 1441 1834">84%</td> </tr> </table>		Māori¹³	82%	Non-Māori	84%
Māori¹³	82%					
Non-Māori	84%					
Why is this outcome important:						

¹³ Ministry of Health, Quarter 2 (Oct-Dec) 2012 Health Target result.

<p>Immunisation is associated with lower rates of childhood infection and fewer hospital admissions. Immunisation provides opportunities for primary care to interact with families on a regular basis and provide preventative care and health education.</p>	<p>Gap</p>	<p>2%</p>
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Indicator 12: Seasonal influenza immunisation rates (65 years and over)

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Reduced influenza morbidity through increased seasonal influenza vaccination rates in the eligible population (65 years and over).</p>	<p>Promote the seasonal influenza vaccination to Māori through the BOPDHB Communications Department, local newspapers, and initiatives implemented by Toi Te Ora – Regional Public Health Service. January to April 2014.</p>	<p>75% of Māori in the eligible population will have received the seasonal influenza vaccination in the period January to July 2014.</p>	
	<p>Work with primary care providers via PHOs to advocate for seasonal influenza immunisation for the Māori population. Encourage clinics to identify the eligible Māori population and invite this group to be immunised. January to July 2014.</p>		
	<p>Work with DHBSS to gain quarterly reporting of seasonal influenza vaccination rates by ethnic group (Māori and non-Māori). By November 2013.</p>		
	<p>Facilitate vaccination rate feedback by ethnic group to PHOs and other key stakeholders involved in the vaccination pathway. January to July 2014.</p> <p>Work with PHOs to provide monthly immunisation performance feedback to GP clinics during March-July 2014.</p> <p>Work with koroua/kuia health service providers to focus on immunisation for the over 65 year age group. Use the BOPDHB communications department to engage with koroua/kuia using culturally appropriate media. January to July 2014.</p>		
<p>Why is this outcome important:</p>	<p>Māori</p>	<p>62%</p>	
	<p>Non-Māori</p>	<p>64%</p>	
<p>Vaccination is associated with reduced morbidity, hospital admissions, and mortality due to influenza. The eligible population (over 65 years) covered by the national influenza vaccination programme is particularly vulnerable to the impact of seasonal influenza.</p>	<p>Gap</p>	<p>2%</p>	

Indicator 13: Reduction in rheumatic fever rates

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful		
<p>A two-thirds reduction in Acute Rheumatic Fever cases by June 2017. For 2013/14, the target is for hospitalisation rates for acute rheumatic fever to be 10% lower than the average over the last 3 years (measured by National Minimum Data Set).</p>	<p>Maintain a register of rheumatic fever cases across Lakes and Bay of Plenty DHBs. The register will enable integration of case management by paediatricians, Medical Officers of Health, primary care providers, and nursing services. Ongoing.</p>	<p>Hospitalisation rates for acute rheumatic fever will be 10% lower than the average over the last 3 years.</p>		
	<p>Continue to work with the housing policy and home insulation and heating sectors, private businesses, charitable trusts, and Toi Te Ora- Public Health Services to develop effective healthy homes programmes. These programmes will aim to contribute to reduced household crowding and warmer dryer homes. Ongoing.</p>			
	<p>Continue to work with primary care providers, PHOs, and both permanent and locum general practitioners to ensure that rheumatic fever prevention and management guidelines are supported and implemented. Ongoing.</p>	<p>Area</p>	<p>Number</p>	<p>Rate</p>
	<p>Continue to measure levels of successful secondary prophylaxis and monitor progress towards targets. Six-monthly.</p>	<p>Bay of Plenty DHB</p>	<p>7</p>	<p>3.4</p>
	<p>Midland region</p>	<p>32</p>	<p>3.8</p>	
	<p>New Zealand</p>	<p>168</p>	<p>3.7</p>	
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>To be supplied</p>	
		<p>Non-Māori</p>	<p>To be supplied</p>	
<p>The incidence of rheumatic fever is higher for Māori children at a national level, but particularly high within BOPDHB. Rheumatic fever can be reduced through a range of primordial and primary prevention measures, Secondary prevention can be improved through better case management to ensure secondary prophylaxis is delivered in a timely manner.</p>		<p>Gap</p>	<p>To be determined</p>	

Local Indicators

Indicator 14: Asthma hospitalisation rate (0-14 years)

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Lower hospitalisation rate for Māori with asthma aged 0-14 years.</p>	<p>Convert indirectly standardised discharge rates for asthma hospitalisations into monthly and quarterly hospitalisation targets. Performance monitoring to be provided to PHOs and clinics. To be completed by August 2013.</p>	<p>The asthma hospitalisation rate for Māori aged 0-14 years will be reduced to that of non-Māori.</p>	
	<p>Provide baseline and quarterly asthma hospitalisation figures to PHOs at quarterly Māori Health Steering Group meetings. Ongoing.</p>		
	<p>Prioritise the reduction in asthma hospitalisations among youth with the ASH working groups. Ongoing.</p> <p>Facilitate education sessions for primary care staff on asthma action plan development, acute and long-term management, and performance improvement. Ongoing.</p>		
<p>Why is this outcome important:</p>		<p>Māori</p>	<p>989/100,000/year</p>
		<p>Non-Māori</p>	<p>371/100,000/year</p>
<p>The hospitalisation rate (2005-7) for BOPDHB Māori with asthma (0-14 years) was almost three times that of the European/Other group (989/100,000 vs. 371/100,000 per year). The rate for BOPDHB Māori is almost 40% higher than Māori nationally. Poor asthma management in children has significant economic and social costs for individuals, families, and society due to absences from school or work, and medical management costs.¹⁴</p>		<p>Gap</p>	<p>The hospitalisation rate for Māori with asthma is 2.7 times that of non-Māori</p>

¹⁴ Ibid (page 17)

Indicator 15: Did-Not-Attend (DNA) rate for outpatient appointments

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
<p>Lower did-not-attend (DNA) rates for outpatient appointments for Māori.</p>	<p>Refine data collection systems to provide monthly DNA reports by ethnicity, service, and hospital location. By August 2013.</p>	<p>The DNA rate for outpatient appointments for Māori will reach the national target of 5%.</p>	
	<p>Work with the Ministry of Health to identify DNA rates for all DHBs in the country. Rank DNA performance and work with the leading DHBs to identify interventions which have led to low DNA rates. By December 2013.</p>		
	<p>Identify services, hospitals, and locations within BOPDHB with the highest DNA rates. Tailor specific interventions to lower DNA rates within these groups. By December 2013.</p> <p>Continue to monitor impacts on the DNA rate by ethnicity, service, and location throughout the year. Ongoing.</p>		
	<p>Share performance improvement data, interventions, and results among BOPDHB stakeholders and other DHBs.</p>		
<p>Why is this outcome important:</p>		<p>Māori¹⁵</p>	<p>13.6%</p>
		<p>Non-Māori</p>	<p>6.4%</p>
<p>Despite higher incidence and higher morbidity for a range of conditions Māori do not access secondary elective services at a level proportional to need. Māori have had significantly higher DNA rates from outpatient appointments in recent years. Reducing the outpatient DNA rate will help to increase access to services.¹⁶</p>		<p>Gap</p>	<p>7.2%</p>

¹⁵ BOPDHB DNA Results, February 2013.

¹⁶ Ibid (page 17)

Indicator 16: Preschool dental clinic enrolment rates

Outcome we want to achieve	What we are planning to do to achieve it	How we will know if we have been successful	
Improved oral health outcomes for Māori children.	Work with Tamariki Ora Well Child providers to develop pathways to identify candidates for enrolment. Ongoing.	70% of Māori preschool children will be enrolled in a dental clinic.	
	Develop oral health education and enrolment information for parents and families. To be continually refined based on client needs and feedback. Ongoing.		
	Continue to monitor preschool dental clinic enrolment on a monthly basis. Report these results to the Māori Health Steering Group. Identify best practice approaches to improve performance through contact with high-performing DHBs. Arrange a seminar with representatives from high-performing DHBs. Identify systems improvements which can be implemented at BOPDHB to increase enrolment rates.		
Why is this outcome important:		Māori¹⁷	44%
		Non-Māori	66%
Oral health outcomes for Māori children have been poor. Māori children have had lower rates of preschool dental clinic enrolment, higher numbers of missing or filled teeth, and lower numbers of caries free teeth. Oral health conditions are a leading cause of ambulatory sensitive hospitalisations in BOPDHB. ¹⁸ Preschool dental clinic enrolment provides an early intervention opportunity to provide education, health promotion, and case management if required.		Gap	12%

¹⁷ December 2012 dental enrolment rates.

¹⁸ Ibid (page 17)

Appendix A – Methodology for Local Indicator Selection

Local indicators were developed through a five-step process involving:

1. Identification of information sources;
2. Identification of leading health issues;
3. Ranking health issues;
4. Scoring the leading health issues;
5. Review and finalisation

1. Identification of Information Sources

External Information Sources

The most useful source of health needs information was a 2008 Health Needs Assessment completed by the MOH. This document provided epidemiological summaries for a range of conditions stratified by age, gender, and ethnicity. Health service utilisation was also presented.

Internal Information Sources

Epidemiological and service utilisation reports were gathered from Toi Te Ora – Public Health Service, Funding and Planning, and the DHB's Population Health Advisory Group (PoPAG).

2. Identification of Leading Health Issues

Health conditions and service utilisation issues were collected in a spreadsheet if they met the following criteria:

- a) A statistically significant difference between Māori and non-Māori outcomes was present;
- b) There were high inequalities between Māori and non-Māori in BOPDHB (a rate ratio of 1.2 or greater was used) – indicating worse health outcomes for Māori compared with non-Māori within the DHB;
- c) There were high inequalities between Māori in BOPDHB and Māori nationally (a rate ratio of 1.2 or greater was used) – indicating worse health outcomes for Māori in BOPDHB than Māori in the rest of the country.

3. Ranking Health Issues

Rate ratios between Māori and non-Māori on BOPDHB were calculated. The list of health conditions and service utilisation options were then ranked based on the size of the rate ratio – this gave a measure of inequality within BOPDHB.

4. Scoring Health Issues

The issues with the highest rate ratios were scored against a list of indicator selection [criteria](#) developed by the National Centre for Health Outcomes Development ([NCHOD](#)).

5. Review and Finalisation

The highest scoring options were reviewed by a public health physician from the regional public health unit, before a set of three condition related indicators were finalised with the DHB's PoPAG and the General Manager Māori Health.

Appendix B – Rationale for Local Indicators

Appendix B summarises the rationale for BOPDHB’s local indicators. The process for local indicator selection was described in Appendix A.

Local Priority	Indicator	Rationale
Respiratory health	14 Asthma hospitalisation rate (0-14 years)	<ol style="list-style-type: none"> 1. The hospitalisation rate (2005-7) for BOPDHB Māori with asthma (0-14 years) was almost three times that of the European/Other group (989/100,000 vs. 371/100,000 per year). (10) 2. The rate for BOPDHB Māori is almost 40% higher than Māori nationally. (10) 3. Poor asthma management in children has significant economic and social costs for individuals, families, and society due to absences from school or work, and medical management costs. (23)
Access to services	15 Did-Not-Attend (DNA) rate for outpatient appointments	<ol style="list-style-type: none"> 1. Outpatient DNA rates at BOPDHB for July-December 2011 were 17.06% for Māori vs. 4.78% for non- Māori. (1) 2. Higher disease burden coupled with higher DNA rates will result in ongoing unmet health need.
Oral health	16 Preschool dental clinic enrolment rates	<ol style="list-style-type: none"> 1. The mean number of Decayed, Missing, or Filled Teeth (DMFT) for Māori children in Year 8 in BOPDHB in 2006 (non-fluoridated areas) was 3.5 compared with 1.9 for non-Māori/non-Pacific children. These are higher than national DMFT scores of 2.8 and 1.6 respectively. Fluoridated areas have the same ethnic inequalities. (10) 2. 21% of Māori children in Year 8 (2006) were caries-free compared with 38% of non-Māori/non-Pacific children (non-fluoridated areas). These levels are lower than national scores of 28% and 44% respectively. Fluoridated areas have the same ethnic inequalities. (10)

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