

Indicators for the Well Child / Tamariki Ora Quality Improvement Framework

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Introduction

Background

Well Child / Tamariki Ora (WCTO) is a free health service offered to all New Zealand children from birth to five years. Its aim is to support families/whānau to maximise their child's developmental potential and health status, establishing a strong foundation for ongoing healthy development.

The 2007/08 review and the 2012 quality reviews of the WCTO programme identified variable clinical practice, service quality and health outcomes, and recommended that an evidence-based quality framework be developed to ensure the programme consistently achieves its aims.

In response, the Ministry of Health, in partnership with sector expert advisors, developed the WCTO Quality Improvement Framework, drawing on New Zealand and international research. The Framework has three high-level aims, which focus on family/whānau experience, population health, and best value for the health system's resources. The Framework also sets quality indicators to monitor health system performance.

The Framework and quality indicators provide a mechanism to drive improvement in the delivery of WCTO services. Ultimately, they aim to support the WCTO programme to ensure all children and their families/whānau achieve their health and wellbeing potential.

Development of the quality indicators

The aim of the quality indicators is to monitor and promote quality improvement across WCTO providers without creating an additional reporting burden. As such, the quality indicators are a subset of potential measures drawn from existing data collections and reporting mechanisms.

The quality indicators are broadly grouped to reflect the three high-level aims of the Framework:

- universal access
- equitable outcomes
- continuous quality improvement.

All quality indicators will be reported on by region, ethnicity and deprivation quintile where possible, and the results will be published six-monthly.

As information collection improves and the WCTO programme evolves, indicators may be added or changed. The Ministry of Health will review the quality indicators at least every three years.

Quality indicator targets

Targets for the quality indicators reflect national targets set by other monitoring frameworks and processes, including health targets, district health board (DHB) non-financial performance monitoring and 'Better Public Service' key result areas.

Where there is no existing target, new three-year targets have been agreed by the expert advisory group to best reflect the objectives of the Framework. New targets are staged to reflect that improvements will be realised over time. Interim targets to be achieved by December 2014 are set at 90 percent of the three-year targets.

To promote equity, the target for each quality indicator is the same across all ethnic groups, deprivation quintiles and DHB regions

How to use this document

Regular monitoring is an essential part of quality improvement. The quality indicators presented here enable WCTO providers, DHBs and other stakeholders to review local performance, identify quality improvement priorities, and monitor progress in improving the uptake, timeliness and quality of WCTO and related child health services over time.

The quality indicators do not stand alone: they are part of a whole-system approach to quality improvement that includes:

- standards (the WCTO Quality Improvement Framework)
- monitoring (quality indicator reports)
- support for collaboration and planning quality improvement priorities (DHB-led local WCTO quality improvement programmes)
- support for learning and sharing best practice (via the Child and Youth Compass and other tools and resources).

Indicators 1–10: Access

Aim 1 of the WCTO Quality Improvement Framework is **improved safety and quality experience for the child and family/whānau**. This can be measured, to some degree, by the uptake of and continued engagement with services, as families will be more likely to access and remain involved with acceptable, high-quality services that address barriers to access for families. It is expected that in addition to these indicators, DHBs and WCTO providers will consider other ways to monitor quality experience, such as through the use of consumer surveys or parent focus groups.

Indicators 1–10 measure access rates, with or without consideration of timeliness, across a range of universal and specialist services that contribute to improved outcomes for children. The inclusion of this broad range of services as indicators reflects the role of WCTO in assessing and supporting the health and developmental needs of a growing family. The core roles of WCTO are to:

- facilitate a family's timely engagement with health services such as primary care, immunisation and oral health
- support referral to specialist services, where required
- support child development by discussing the importance of children participating in high-quality early childhood education.

Summary of results for this period

National

The data for this period highlights the progress made towards the immunisation health target and the B4 School Check programme, although there are number of opportunities for further improvement. Two indicators (Indicator 2: Families/ whānau are referred from their LMC to a WCTO provider and Indicator 6: Immunisations are up to date at eight months) meet the 2014 targets at this time. The remaining eight indicators have not yet met their 2014 targets, and two of these (Indicator 1: Newborns are enrolled with a primary health organisation (PHO) by three months of age, and Indicator 5: Children are enrolled with child oral health services) are significantly lower than the targets for this period, currently sitting at 66 percent and 63 percent, respectively.

By region

All DHB regions met two or more of the 2014 targets with Wairarapa meeting five of 10 2014 targets and South Canterbury meeting four 2016 targets. Fifteen DHBs met the 2014 and 2016 targets for Indicator 8: Children under six have access to free primary care, which addresses a critical barrier to access for many families. Only one DHB met the 2014 target for Indicator 5: Children are enrolled with child oral health services (Whanganui at 92 percent), performing significantly higher than the national average of 63 percent.

By deprivation

A number of indicators are not currently available by New Zealand Deprivation Index (NZDep) quintile or ethnicity. Indicator 4: Four-year-olds receive a B4 School Check, and Indicator 8: Children under six have access to free primary care, show similar or better performance for

children living in areas of high deprivation, at 80 percent and 99 percent, respectively, compared with 80 percent and 97 percent for all children. This is likely to be a result of the explicit focus on higher-need populations by the B4 School Check programme and the Free Primary Care for Under-sixes initiatives.

Rates for Indicator 6: Immunisations are up to date by eight months, and Indicator 7: Children participate in early childhood education, are lower for children living in areas of high deprivation. Strategies to improve access to universal services for families in areas of high deprivation should be considered to ensure WCTO and other services do not perpetuate or worsen inequalities in child health due to inequity in access to services.

By ethnicity

Seventeen of 20 regions met their 2016 target for Indicator 8: Children under six have access to free primary care, among Māori, and 16 of 20 regions achieved the 2016 target for Pacific families.

Results for Indicator 4: Four-year-olds receive a B4 School Check, are similar among Māori and Pacific peoples (at 71 percent and 70 percent, respectively), but these results are significantly lower than the rate for all other ethnicities (86 percent). This is partly due to lower overall B4 School Check coverage for a number of regions with large Māori and Pacific populations, but providers should consider strategies to ensure equitable access to the B4 School Check.

Rates for Indicator 5: Children are enrolled with child oral health services, are not currently available by ethnicity, but based on the burden of decay and anecdotal evidence it is thought that enrolment and attendance rates are lower for Māori and Pacific peoples, and therefore the role of WCTO in supporting families to engage with oral health services should be a key focus to improve oral health outcomes for Māori and Pacific families.

For Māori, a number of indicators show lower access and uptake compared to the total population, including lower rates for Indicator 7: Children participate in early childhood education (92 percent versus 96 percent), and Indicator 6: Immunisations are up to date by eight months (84 percent versus 95 percent). Less than two-thirds of Māori infants were enrolled with primary care by three months of age, and this falls as low as 51 percent in some regions. Early enrolment with primary care is an important driver of timely immunisation, and timely access to primary care can reduce demand on emergency departments and secondary care. WCTO has an important role in this area, and improvement activities should be prioritised because improving engagement with primary care will have a positive impact on a number of other indicators across the Framework.

Rates for Indicator 6: Immunisations are up to date by eight months, for Pacific children are higher than for any other population group, and at 92 percent nationally already meet the 2014 target. Seven regions have reached 100 percent immunisation coverage for Pacific children at eight months, which is a significant achievement. The Pacific rate for Indicator 1: Newborns are enrolled with a PHO by three months of age, is higher than for other groups at 70 percent, but is still significantly lower than the 2014 target, with some regions having very low uptake (44 percent). Pacific children also have lower rates for Indicator 7: Children participate in early childhood education (89 percent, versus 92 percent for Māori and 96 percent for the total population). Regions with large Pacific populations should focus on reviewing access rates and prioritise improvements that support access for Pacific families.

WCTO Quality Improvement Framework

Indicator 1

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Newborns are enrolled with a primary health organisation (PHO) by three months of age ¹
Target by December 2014:	88 percent
Target by June 2016:	98 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	66% (60–78)	N/A	65% (51–89)	70% (36–160)

Figure 1: Newborns enrolled with a PHO by three months, total New Zealand

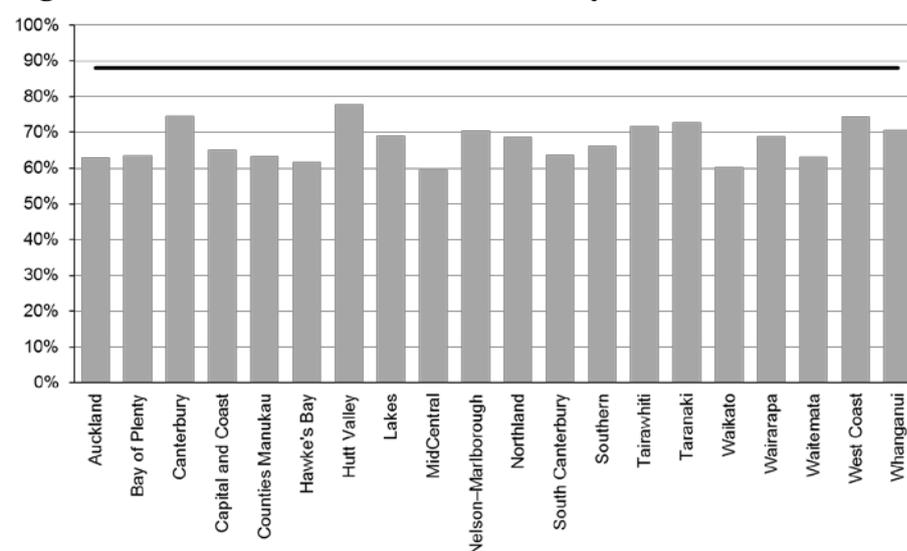
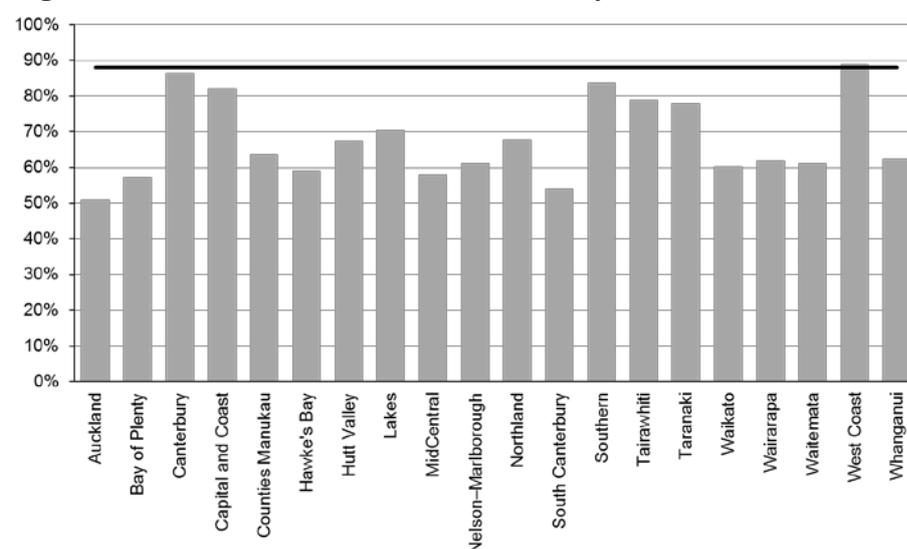
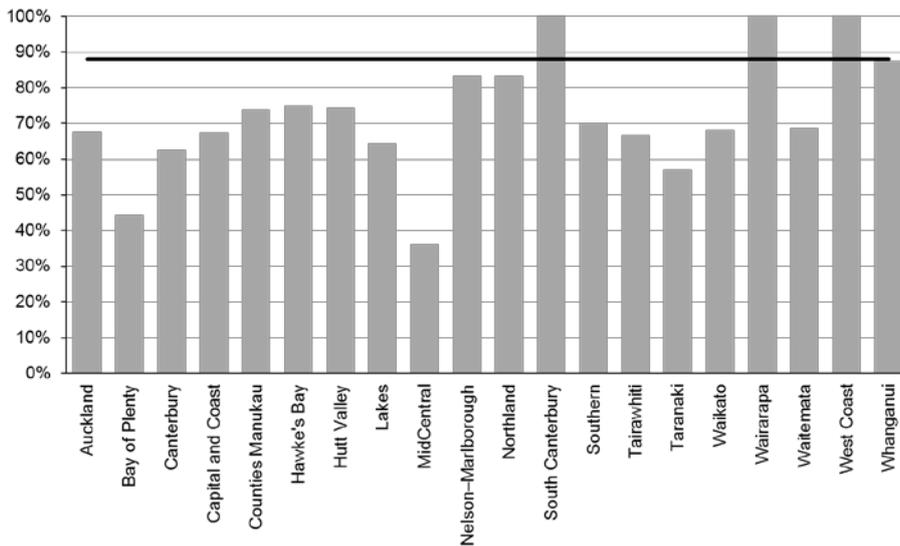


Figure 2: Newborns enrolled with a PHO by three months, Māori



¹ Indicator 1 was designed to measure enrolment with a general practice by two weeks of age. This data was not available at the time of writing, and so enrolment with a PHO by three months of age has been used as an interim measure.

Figure 3: Newborns enrolled with a PHO by three months, Pacific



Data notes

- Data on enrolment with a general practice by two weeks of age was not available at the time of writing. Enrolment with a PHO by three months of age has been used as an interim measure.
- Data is not currently available by NZDep.
- Time period: births between 19 November 2012 and 19 February 2013.
- Excludes overseas DHB and undefined DHB.
- Numerator: enrolments of infants under three months with a PHO.
- Denominator: births reported to the National Immunisation Register (NIR) (source: NIR).

WCTO Quality Improvement Framework

Indicator 2

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Families are referred from their lead maternity carer (LMC) to a WCTO provider
Target by December 2014:	88 percent
Target by June 2016:	98 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	97% (79–100)	97% (91–100)	97% (88–100)	97% (88–100)

Figure 4: Referral from LMC to WCTO, total New Zealand

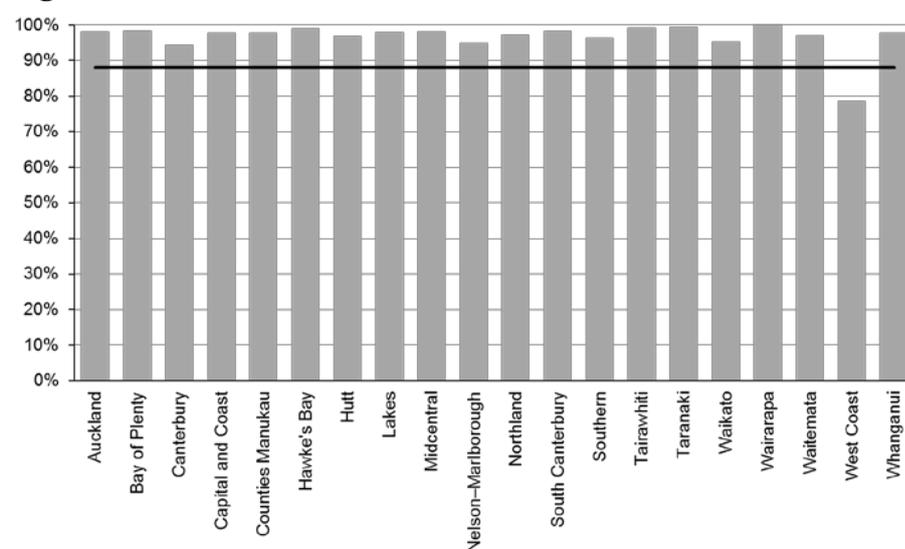


Figure 5: Referral from LMC to WCTO, high deprivation

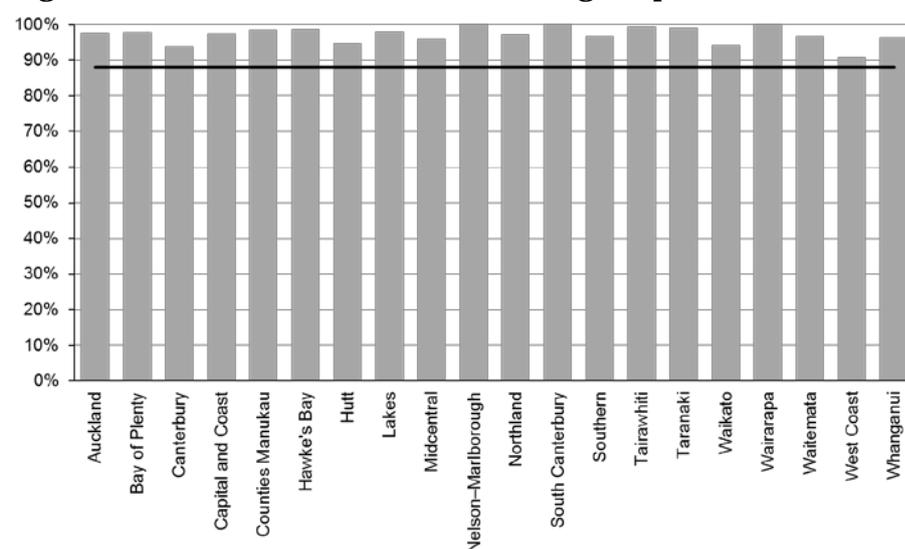


Figure 6: Referral from LMC to WCTO, Māori

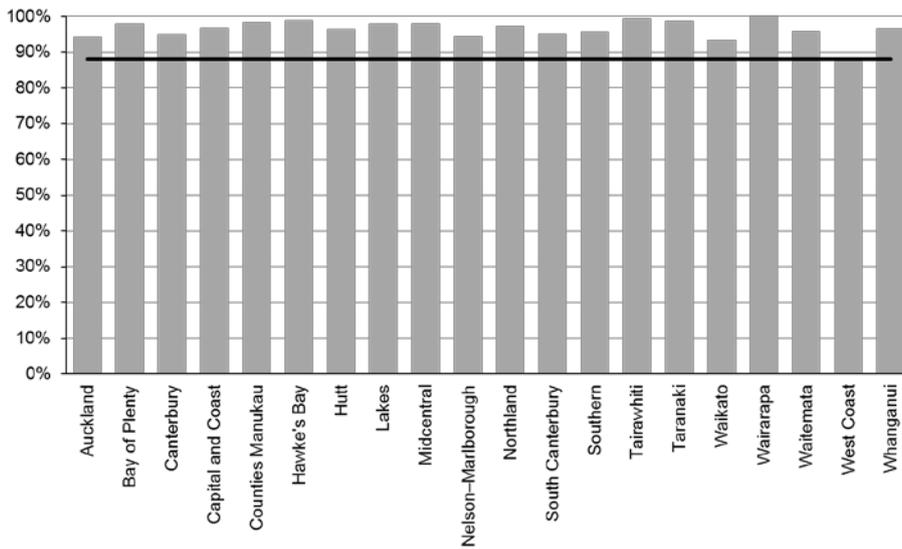
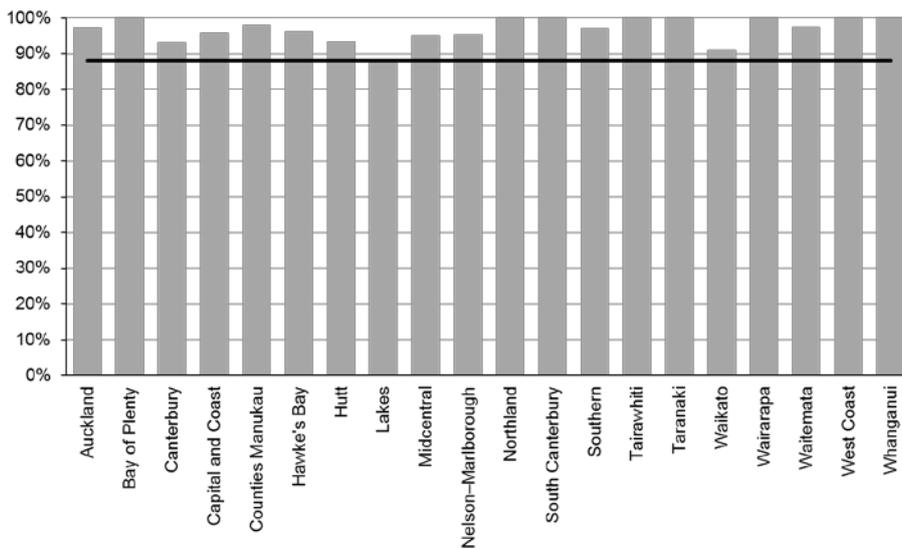


Figure 7: Referral from LMC to WCTO, Pacific peoples



Data notes

- Time period: births between 1 July 2012 and 31 December 2012.
- The data excludes overseas DHB and undefined DHB.
- Numerator: LMC referral to WCTO = Y (source: National Maternity Collection (MAT)).
- Denominator: LMC referral to WCTO = Y or N (source, MAT).

WCTO Quality Improvement Framework

Indicator 3

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Infants receive all WCTO core contacts in their first year
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	74% (51-82)	66% (49-81)	65% (49-78)	65% (55-82)

Figure 8: Core WCTO contacts 1–5 received, total New Zealand

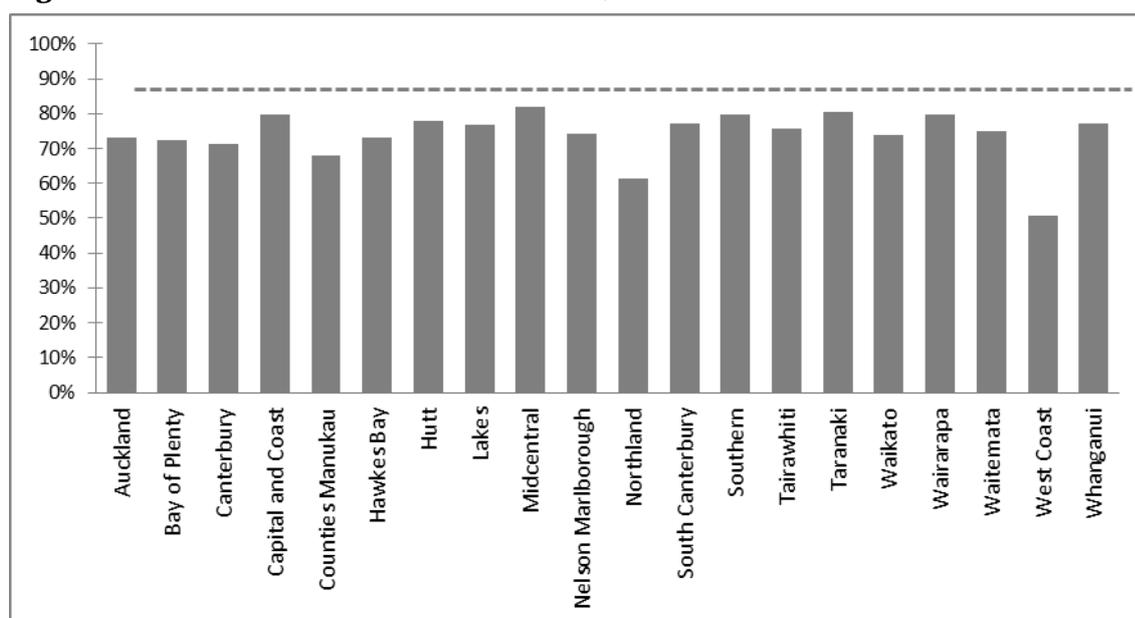


Figure 9: Core WCTO contacts 1–5 received, high deprivation

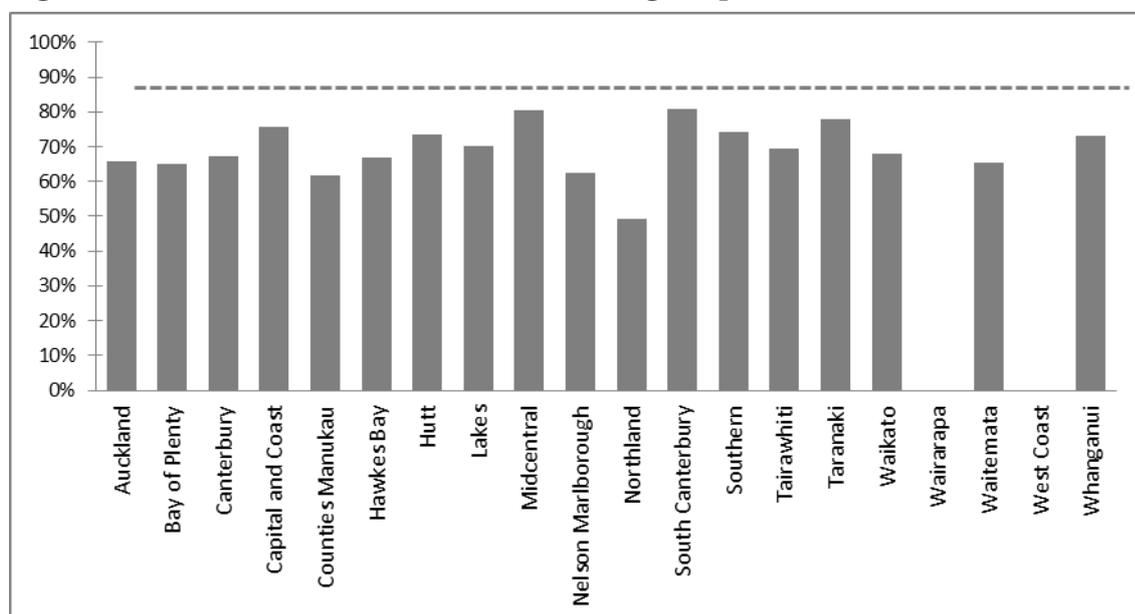


Figure 10: Core WCTO contacts 1–5 received, Māori

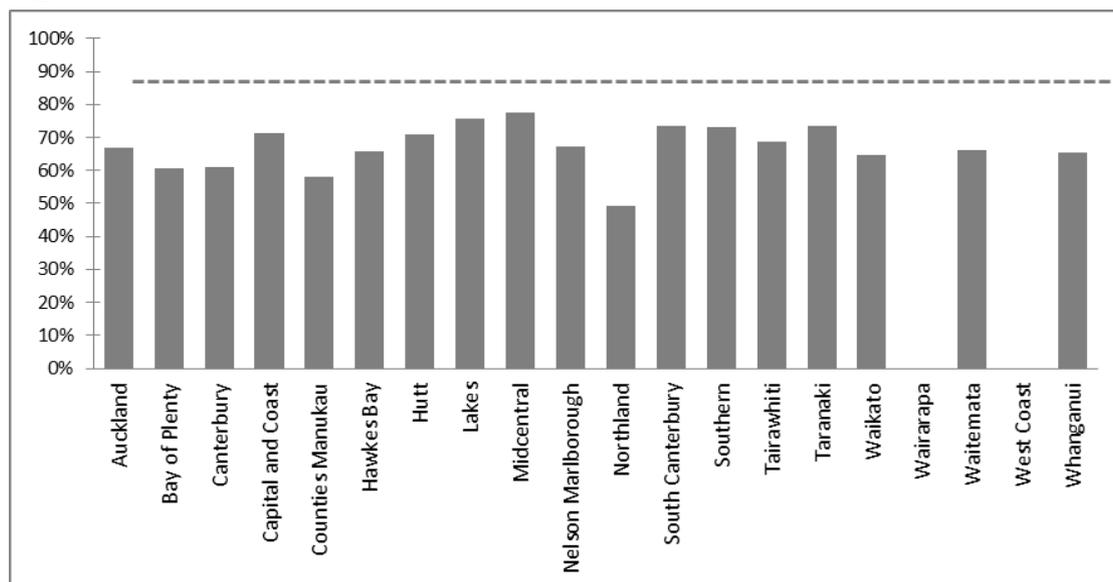
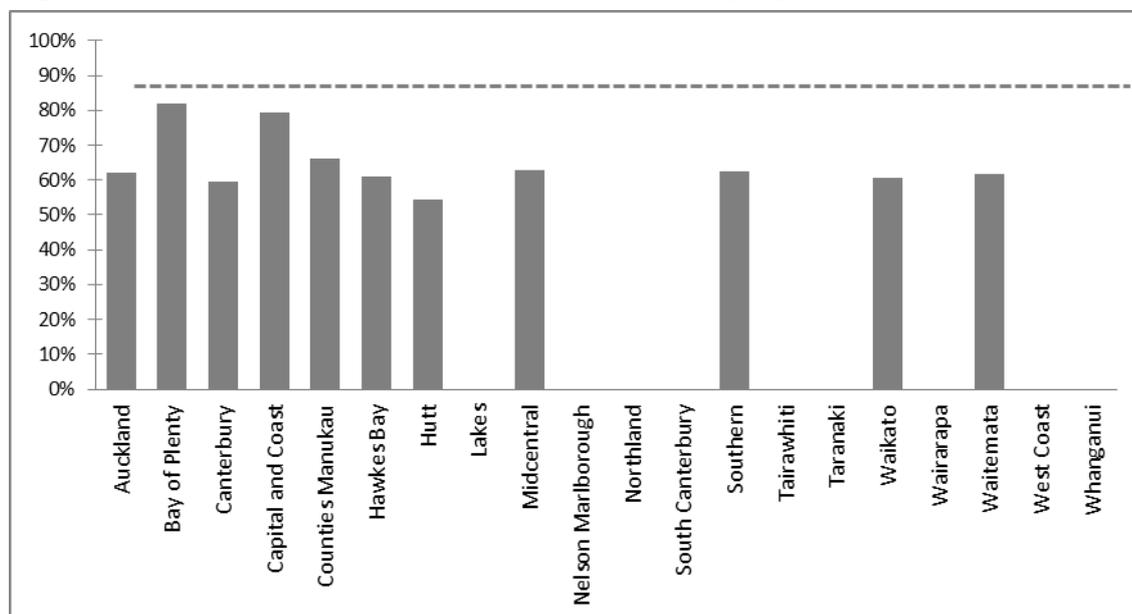


Figure 11: Core WCTO contacts 1–5 received, Pacific peoples



Data notes

- No bar on graph = fewer than 25 children in that population.
- Time period: births between 1 July 2012 and 31 December 2012.
- Excludes overseas DHB and undefined DHB.
- Numerator: number of infants where contact was able to be made by 6 weeks and who received all 5 contacts (source: Plunket).
- Denominator: number of infants where contact was able to be made by 6 weeks, who reached Core 6 age (13m4w1d) (source: Plunket).

WCTO Quality Improvement Framework

Indicator 4

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Four-year-olds receive a B4 School Check
Target by December 2014:	90 percent
Target by June 2016:	90 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	80% (68–118)	80% (59–171)	71% (51–103)	68% (54–111)

Figure 12: Children receive a B4 School Check, total New Zealand

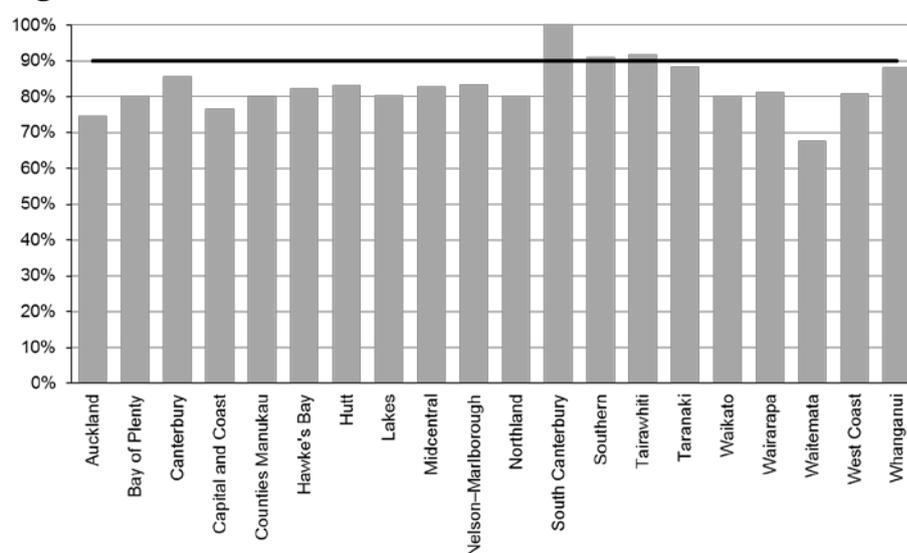


Figure 13: Children receive a B4 School Check, high deprivation

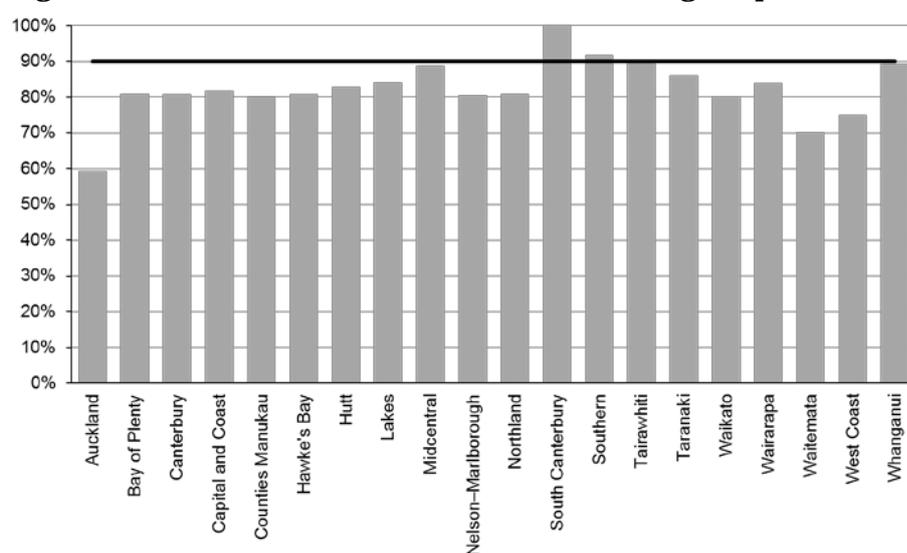


Figure 14: Children receive a B4 School Check, Māori

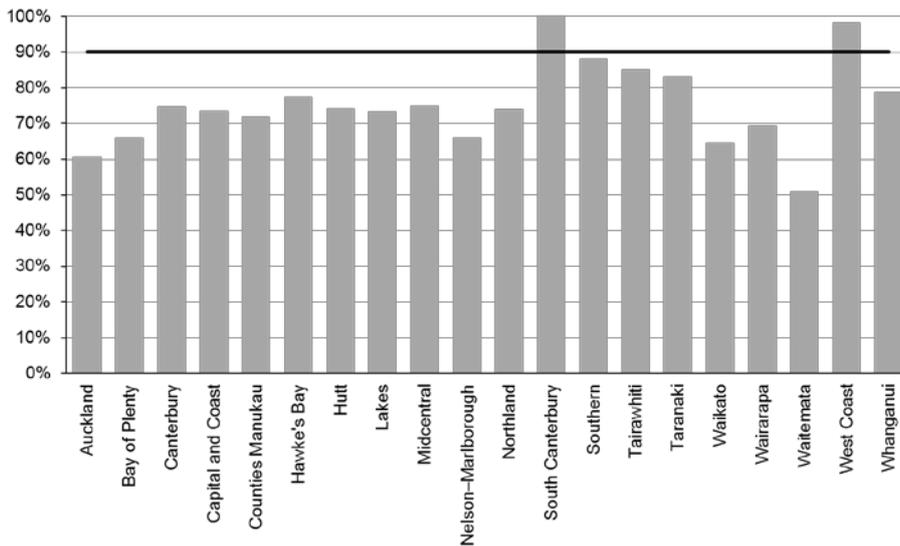
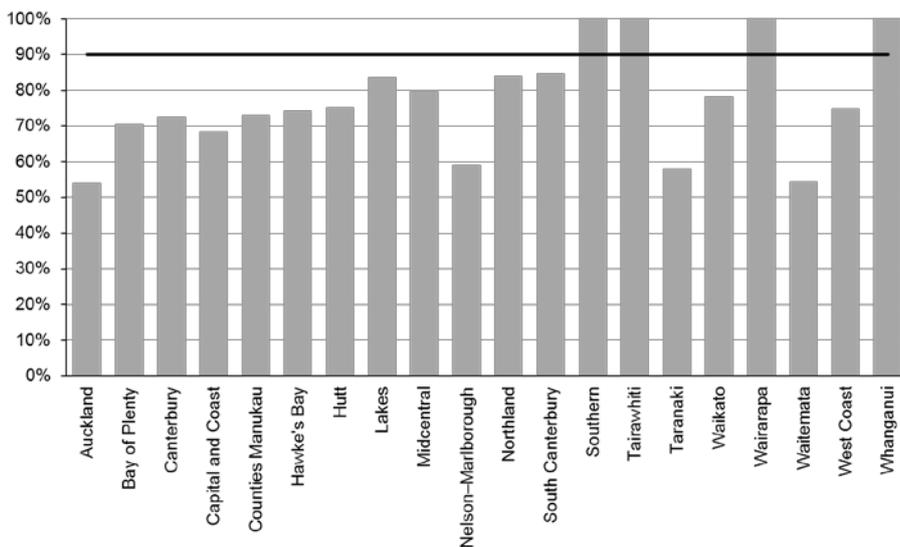


Figure 15: Children receive a B4 School Check, Pacific peoples



Data notes

- Time period: checks between July 2012 and June 2013.
- DHB is DHB of service.
- Numerator: number of completed B4 School Checks (source: B4 School Checks).
- Denominator: number of children eligible for a B4 School Check (source: PHO).

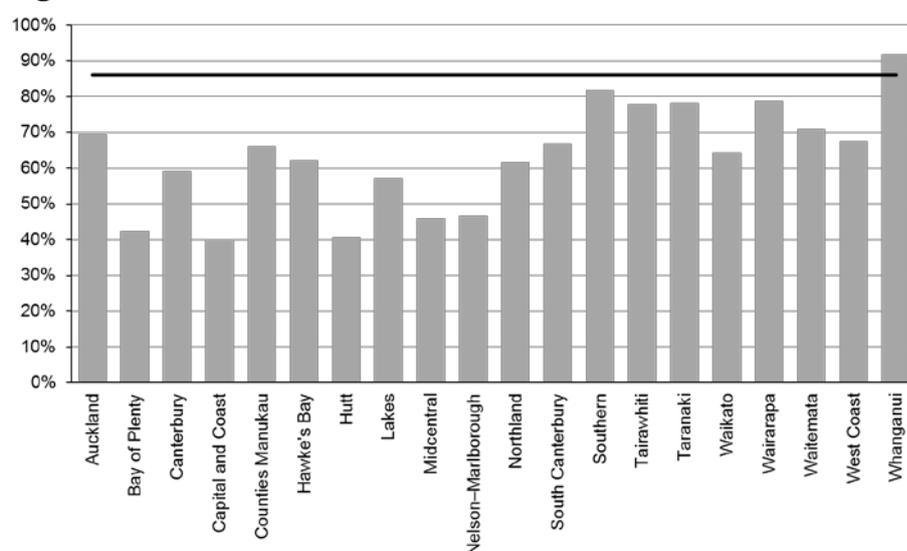
WCTO Quality Improvement Framework

Indicator 5

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Children are enrolled with child oral health services
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	63% (40–92)	N/A	N/A	N/A

Figure 16: Preschool children enrolled with oral health services, total New Zealand



Data notes

- Data is currently available by ethnicity or deprivation quintile.
- Time period: number of preschool children enrolled in 2011.
- Numerator: number of children under five enrolled with oral health services (source: community oral health services).
- Denominator: number of children aged under five (source: PHO).

WCTO Quality Improvement Framework

Indicator 6

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Immunisations are up to date by eight months
Target by December 2014:	95 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	90% (83–96)	87% (77–96)	84% (76–100)	92% (85–100)

Figure 17: Fully immunised by eight months, total New Zealand

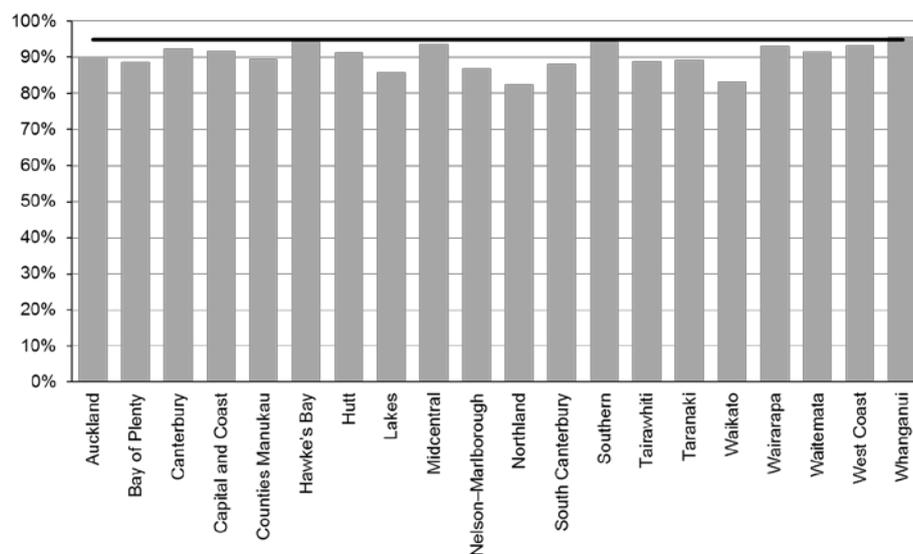


Figure 18: Fully immunised by eight months, high deprivation

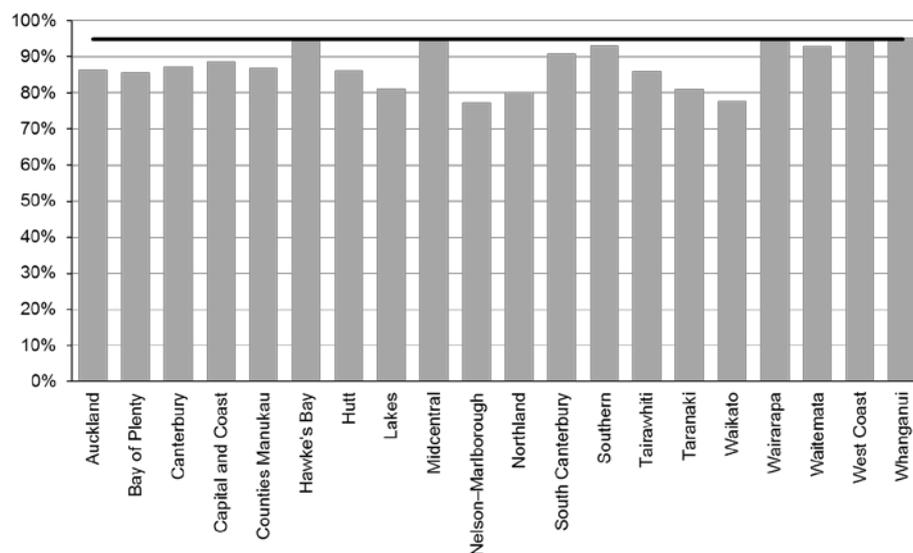


Figure 19: Fully immunised by eight months, Māori

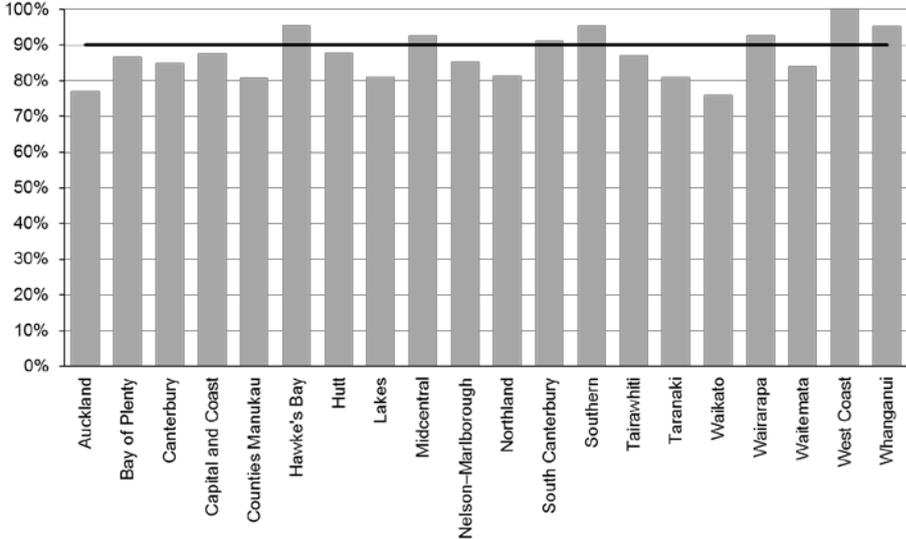
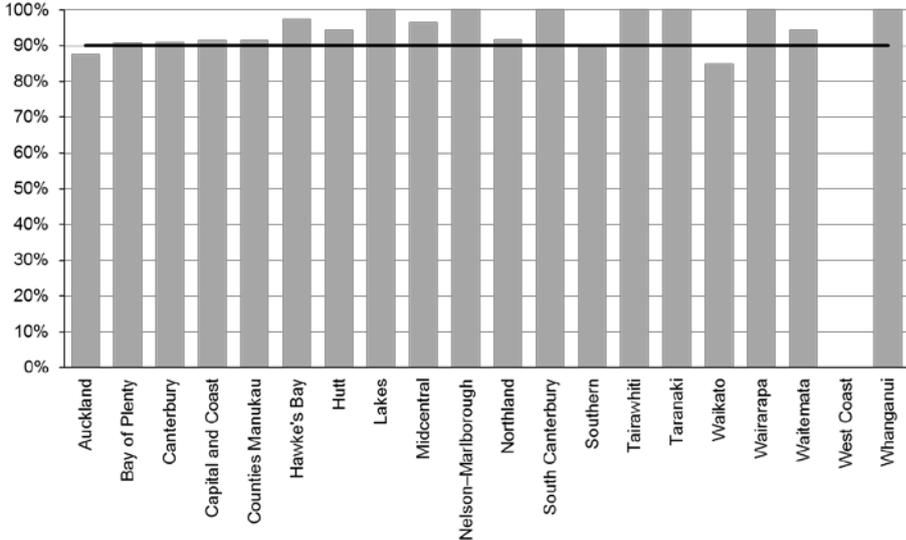


Figure 20: Fully immunised by eight months, Pacific peoples



Data notes

- Time period: 1 April 2013 to 30 June 2013.
- No bar indicates data withheld to protect privacy (less than 10 children).
- Excludes overseas DHB and undefined DHB.
- Numerator: number of eight-month-old infants up to date for age (source: NIR).
- Denominator: number of eight-month-old infants (source: NIR).

WCTO Quality Improvement Framework

Indicator 7

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Children participate in early childhood education (ECE)
Target by December 2014:	98 percent
Target by June 2016:	98 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	96% (90–98)	88% (81–100)	92% (87–98)	89% (85–100)

Figure 21: Prior participation in ECE, total New Zealand

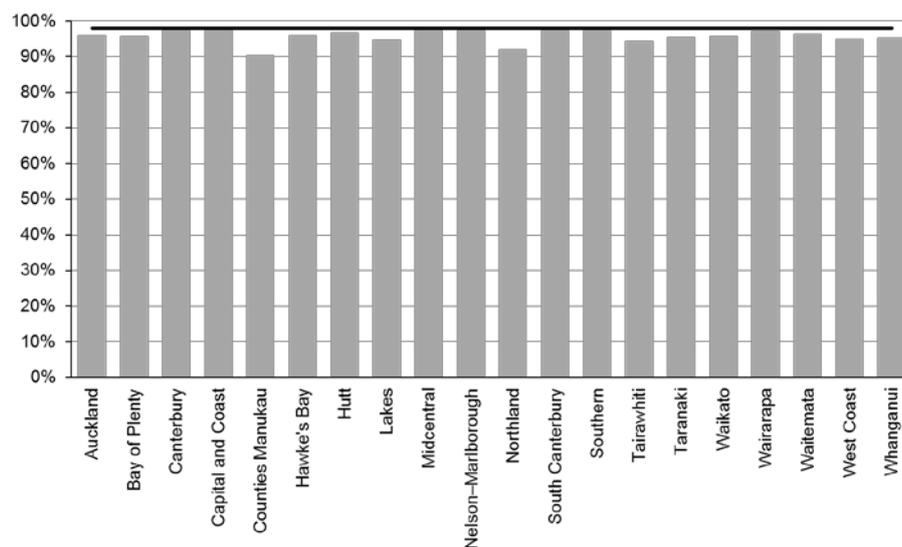


Figure 22: Prior participation in ECE, high deprivation

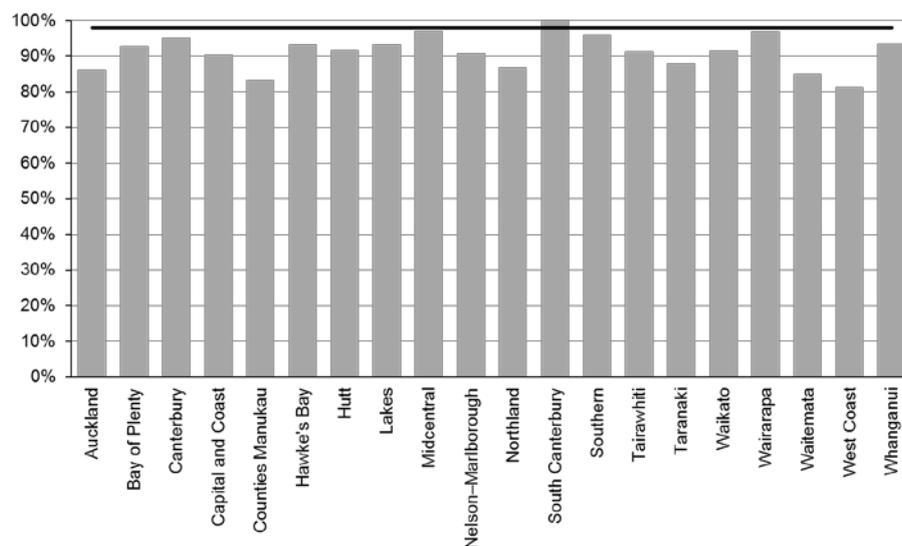


Figure 23: Prior participation in ECE, Māori

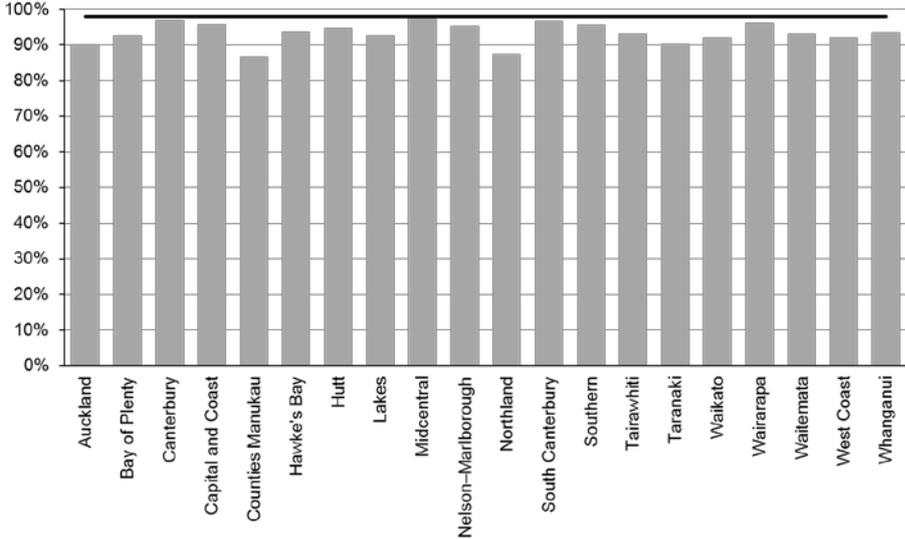
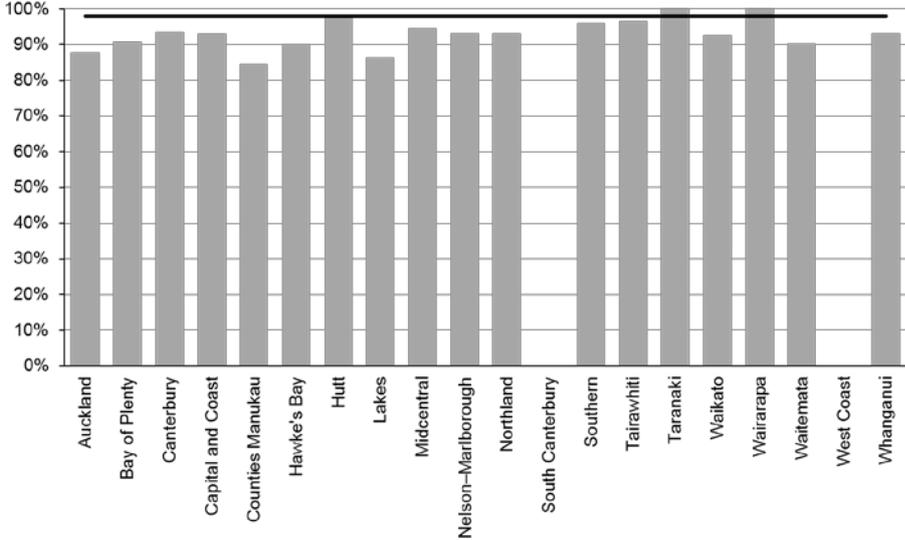


Figure 24: Prior participation in ECE, Pacific peoples



Data notes

- No bar on graph = no children in this category.
- Time period: children starting school during the 12 months to June 2013.
- High deprivation: children attending a Ministry of Education decile 1 or 2 school.
- Numerator: number of children starting school who have participated in ECE (ENROL).
- Denominator: number of children starting school (ENROL).

WCTO Quality Improvement Framework

Indicator 8

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Children under six have access to free primary care
Target by December 2014:	98 percent
Target by June 2016:	100 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	97% (87–100)	99% (90–100)	99% (87–100)	99% (89–100)

Figure 25: Children under-six access to free primary care, total New Zealand

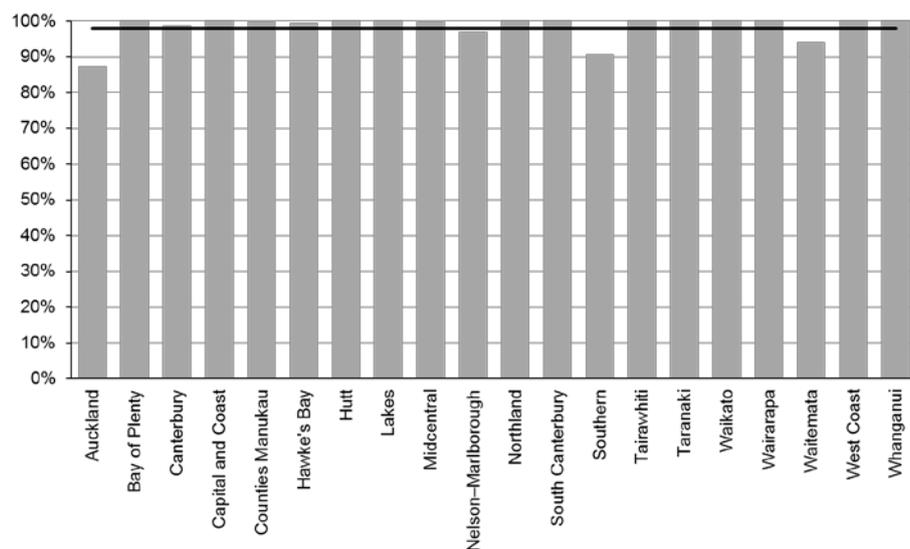


Figure 26: Under-six access to free primary care, high deprivation

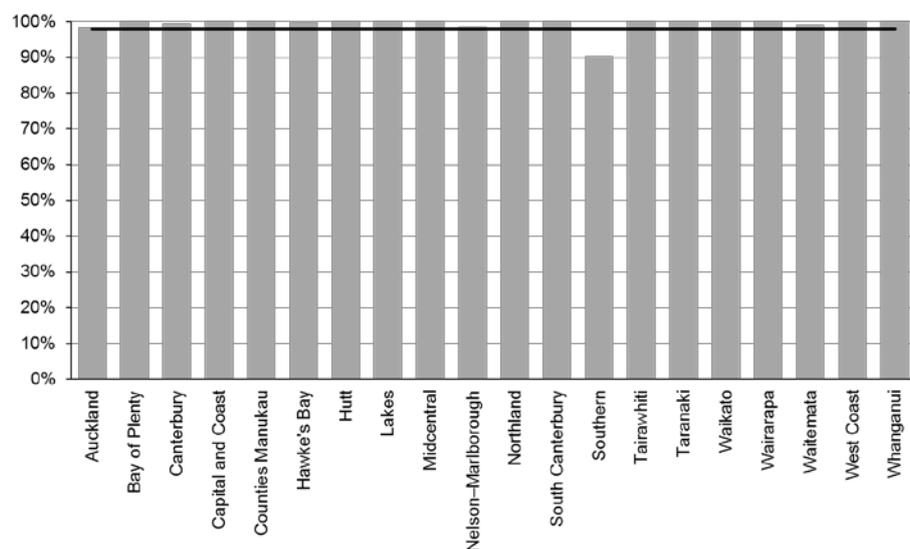


Figure 27: Under-six access to free primary care, Māori

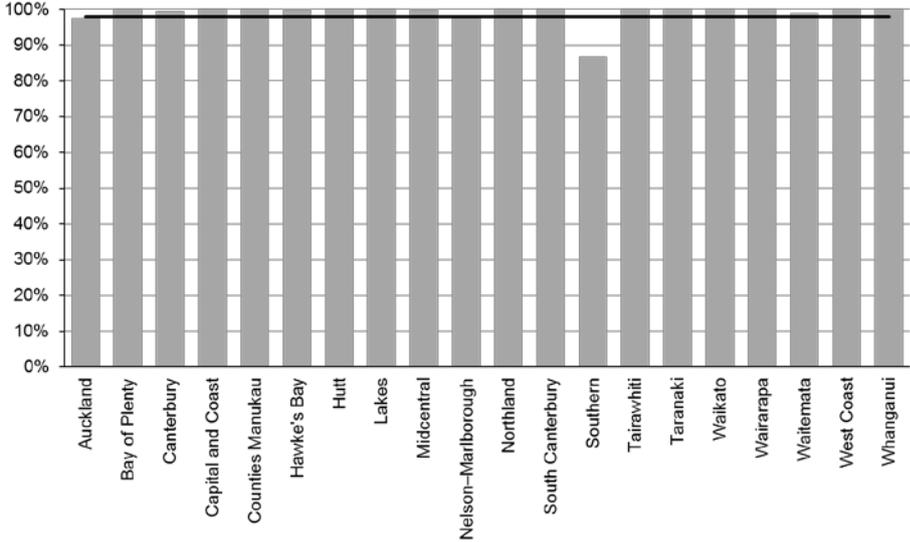
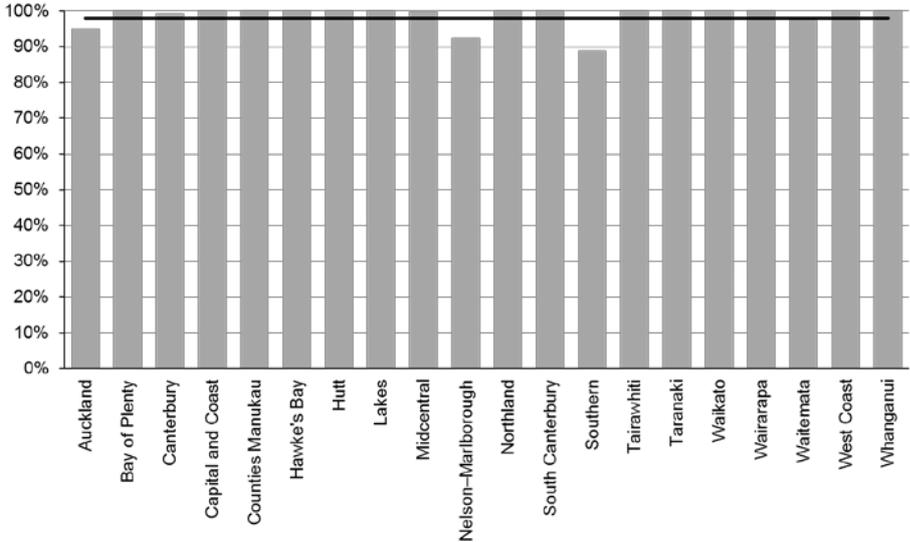


Figure 28: Under-six access to free primary care, Pacific peoples



Data notes

- Time period: year to 1 July 2013.
- Numerator: number of children under six enrolled with a PHO delivering free primary care for under-sixes (source: PHO).
- Denominator: number of children under six enrolled with a PHO (source: PHO).

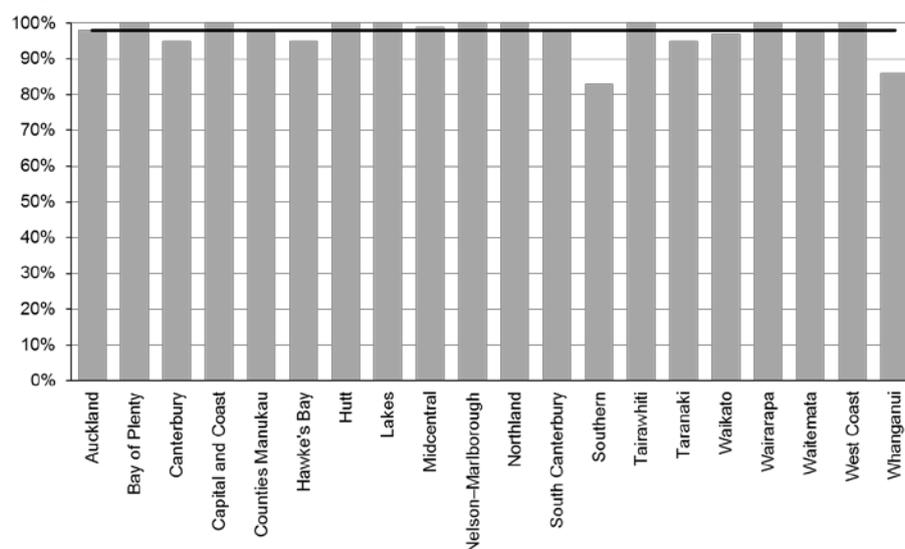
WCTO Quality Improvement Framework

Indicator 9

Standard:	All children and families have access to primary care, WCTO services (including the B4 School Check) and early childhood education
Indicator:	Children under six have access to free after-hours primary care
Target by December 2014:	98 percent
Target by June 2016:	100 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	97% (83–100)	N/A	N/A	N/A

Figure 29: Under-six access to free after-hours primary care, total New Zealand



Data notes

- Time period: year to 1 May 2013.
- Data is not available by ethnicity or NZDep decile.
- Numerator: number of children under six enrolled with a PHO delivering free after-hours primary care for under sixes (source: PHO).
- Denominator: number of children under six enrolled with a PHO (source: PHO).

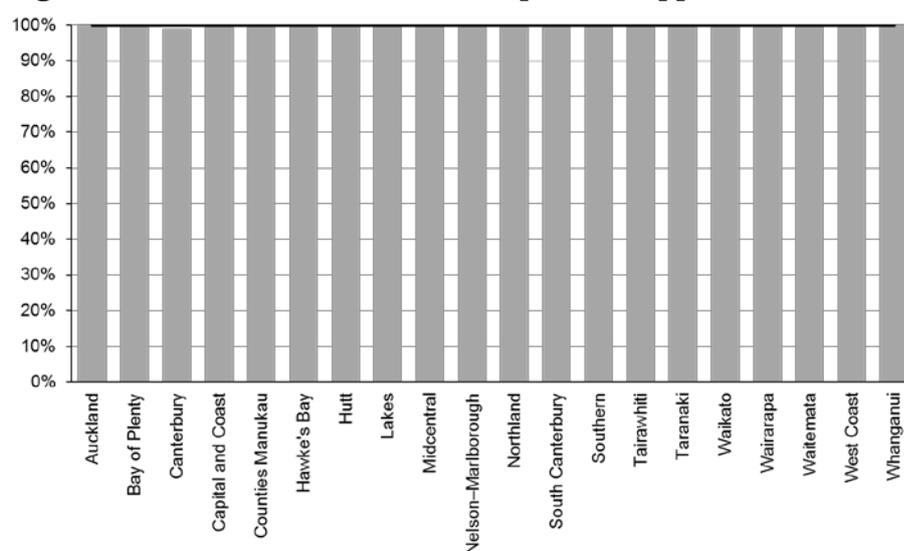
WCTO Quality Improvement Framework

Indicator 10

Standard:	All children and families have access to specialist and other referred services, where required, in a timely manner
Indicator:	Children are seen promptly following referral to specialist services
Target by December 2014:	100 percent within five months of referral
Target by June 2016:	100 percent within four months of referral

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	100% (79–100)	N/A	N/A	N/A

Figure 30: Paediatric medicine first specialist appointment received within five months



Data notes

- Time period: snapshot for July 2013.
- DHB is DHB of service.
- Data is not available by NZDep score or by ethnicity.
- The data presented is for any referral to DHB paediatric medicine (any age).
- Numerator: number waiting longer than five months (source: DHB ESPI reporting).
- Denominator: total number waiting at end of month (source: DHB ESPI reporting).

Indicators 11–20: Outcomes

Aim 2 of the WCTO Quality Improvement Framework is **improved health and equity for all populations**. This can be measured by improved child and family/whānau health and wellbeing outcomes. It is expected that in addition to these indicators, DHBs and WCTO providers will consider other measures of family/whānau health and wellbeing that can be monitored through national or local data sources.

Indicators 11–20 measure health outcomes across a range of domains. This set is not exhaustive, but instead aims to measure a range of infant and child physical health (nutrition and healthy weight, oral health), mental health (strengths and difficulties questionnaire) and family health (smoking status) outcomes. It is expected that additional health and wellbeing outcome measures will be added as new data becomes available.

These indicators reflect the core roles of WCTO in promoting and supporting physical health, mental wellbeing, healthy families and healthy home environments. Achieving improvements in these indicators will require a cross-sector response and a multi-faceted approach, and improvements may not be seen in the short term. However, monitoring health and wellbeing outcomes is important because it shows where WCTO services are working well and where WCTO is working together with the wider health sector to achieve the best outcomes for families and whānau.

Summary of results for this period

National

Data for this period shows good overall outcomes for a number of indicators in relation to the 2014 and 2016 targets. Across all population groups, three of 10 indicators meet the 2016 targets and a further five meet the 2014 targets. At a whole-of-population level the focus should be on maintaining the current performance and targeting indicators, such as Indicator 17: Burden of dental decay is minimised, which have room for improvement.

By region

There is significant regional variation in rates of breastfeeding at the four age points, with rates for Indicator 11: Infants are exclusively or fully breastfed at two weeks, ranging from 74 percent to 91 percent, and rates for Indicator 14: Infants are receiving breast milk at six months of age, ranging from 55 percent to 74 percent by region for the total population.

A number of regions show good performance across the full range of indicators, with three (Nelson–Marlborough, Wairarapa and Waitemata) achieving all 2014 targets. DHBs and WCTO providers, including primary maternity providers, should review the characteristics of higher-performing regions and identify success factors that could be applied locally.

By deprivation

Oral health data (Indicators 16 and 17) is not available by NZDep quintile at this time. Other indicators show generally poorer rates for children living in areas of high deprivation, with lower national rates and fewer DHBs meeting 2014 or 2016 targets. In particular, fewer women are smoke free at two weeks postnatal (76 percent, compared with 87 percent nationally), fewer infants are exclusively or fully breastfed (76 percent versus 79 percent nationally at two weeks and 73 percent versus 76 percent nationally at six weeks) and fewer children are a healthy weight at four years (69 percent versus 77 percent nationally).

By ethnicity

Outcomes for Māori and Pacific families are significantly poorer across a range of indicators. For Māori, maternal tobacco use is significantly higher than the total population, with only 65 percent of women smoke free at two weeks postnatal. Nationally, Māori infants have the lowest rates of exclusive or full breastfeeding at six weeks (71 percent), exclusive or full breastfeeding at three months (44 percent) and any breastfeeding at six months (55 percent).

Indicator 16: Children are caries free at five years, shows significant rates of decay for Māori children (only 41 percent of children are caries free at age five) and a higher burden of decay where decay occurs, Māori children with dental decay have on average 5.1 decayed, missing or filled teeth (DMFT) by age five. There are also significant disparities in oral health for Pacific infants and children, with only 35 percent of children caries free at five years. No regions met the 2014 target for Indicator 16 for Pacific children, and there is significant variation by region (20 percent to 57 percent). Only two regions (Taranaki and West Coast) achieved 2014 and 2016 targets for Indicator 17: Burden of dental decay is minimised, for Pacific children. The WCTO programme therefore has an important role in the assessment and support of oral health at core and additional contacts, and through referral to oral health services, to minimise the inequitable burden of poor oral health among Māori and Pacific children.

Fewer Pacific children are a healthy weight at four (59 percent, versus 72 percent for Māori and 83 percent for all other ethnic groups), although further research is required on the use of the body mass index (BMI) scale to assess growth for Pacific children.

WCTO Quality Improvement Framework

Indicator 11

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Infants are exclusively or fully breastfed at two weeks
Target by December 2014:	72 percent
Target by June 2016:	80 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	79% (74–91)	76% (66–85)	77% (60–90)	77% (64–100)

Figure 31: Exclusively or fully breastfed at two weeks, total New Zealand

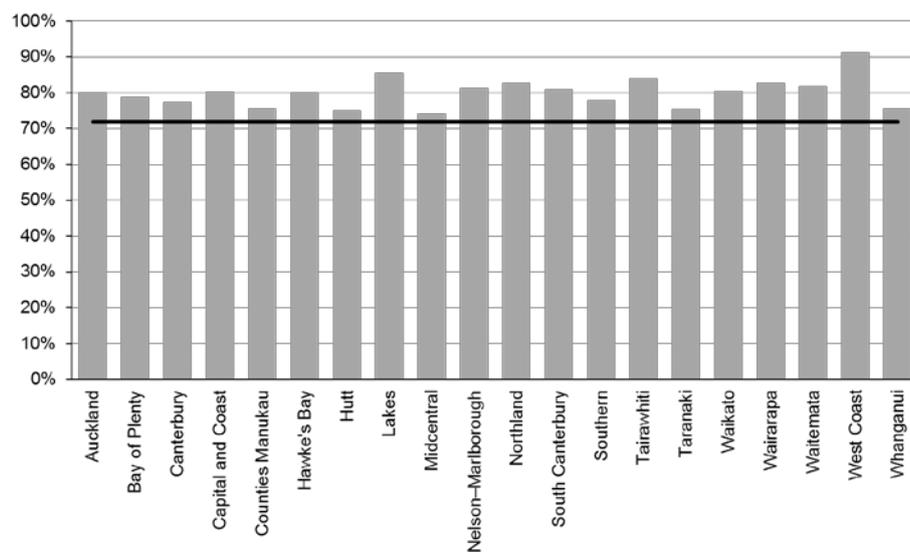


Figure 32: Exclusively or fully breastfed at two weeks, high deprivation

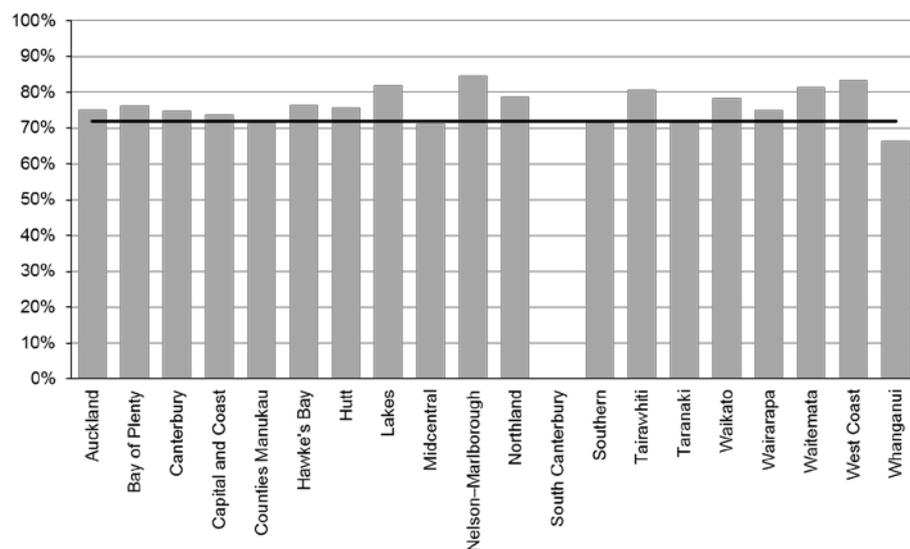


Figure 33: Exclusively or fully breastfed at two weeks, Māori

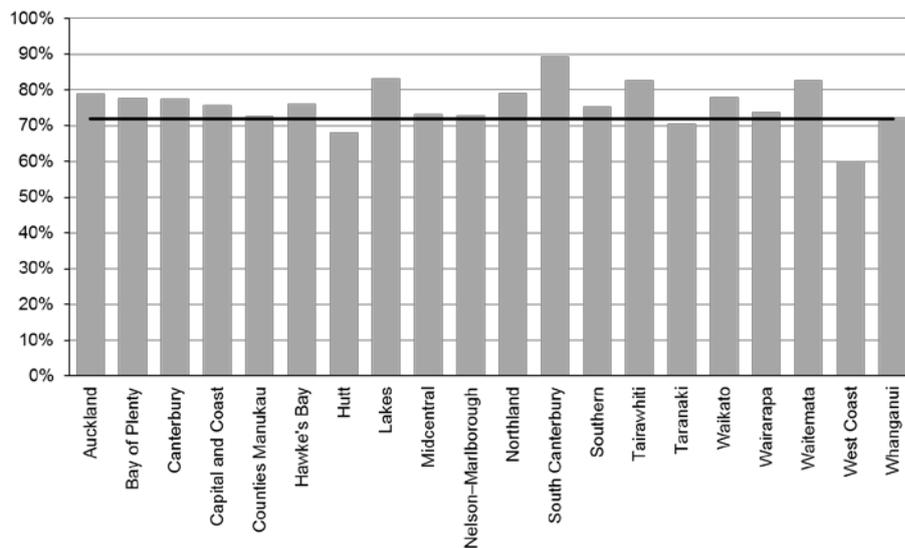
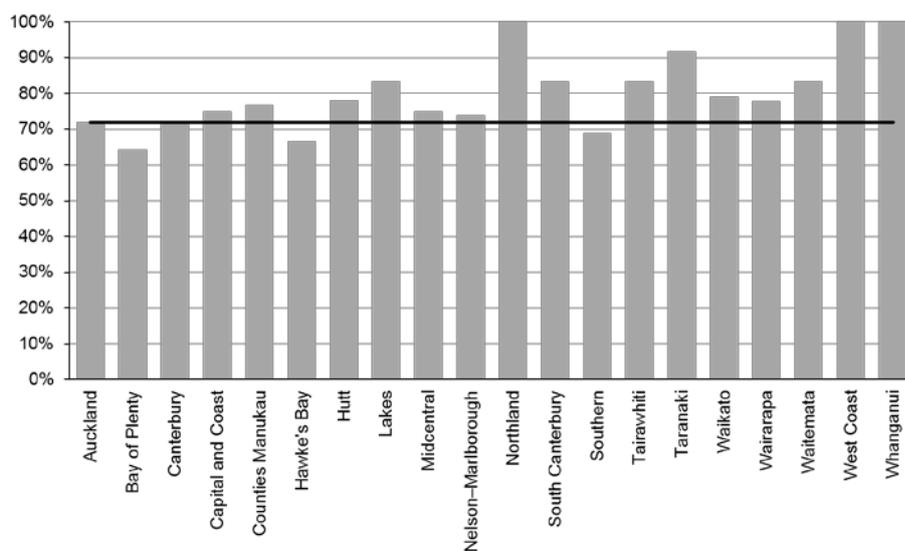


Figure 34: Exclusively or fully breastfed at two weeks, Pacific peoples



Data notes

- No bar on graph = no infants in this category.
- Time period: babies born between July 2012 and December 2012.
- Excludes overseas DHB and undefined DHB.
- Numerator: breastfeeding at two weeks = exclusive or fully (source, MAT).
- Denominator: breastfeeding at two weeks = not null (source, MAT).

WCTO Quality Improvement Framework

Indicator 12

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Infants are exclusively or fully breastfed on discharge from lead maternity carer (LMC) care
Target by December 2014:	68 percent
Target by June 2016:	75 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	76% (67–86)	73% (0–86)	71% (57–80)	77% (50–100)

Figure 35: Exclusively or fully breastfed at LMC discharge, total New Zealand

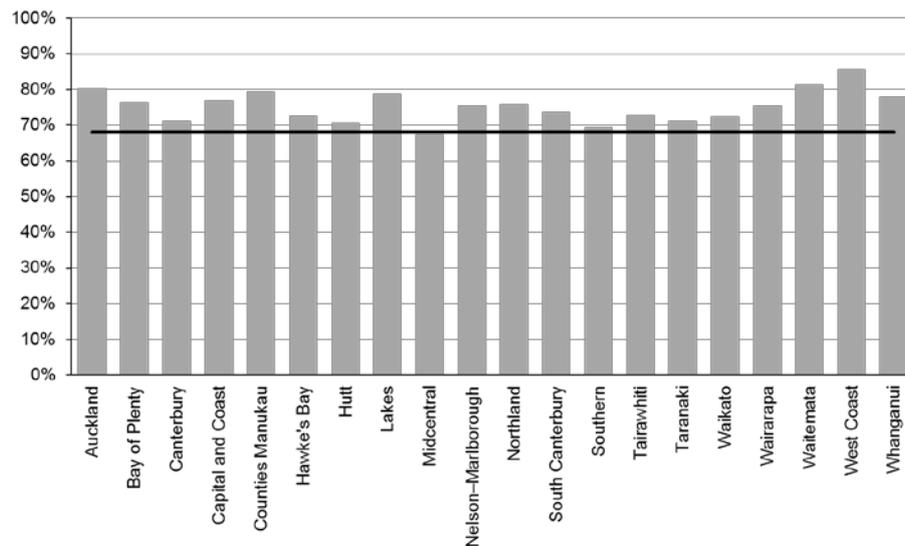


Figure 36: Exclusively or fully breastfed at LMC discharge, high deprivation

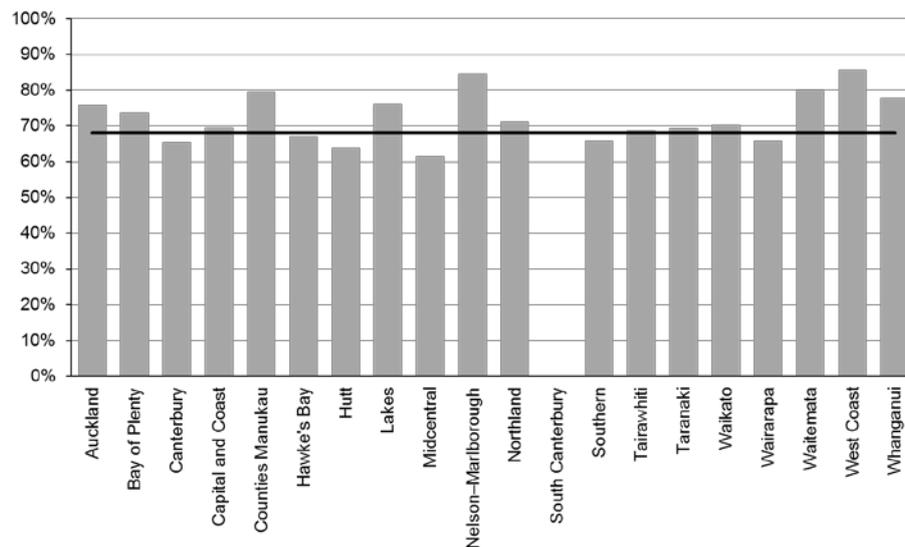


Figure 37: Exclusively or fully breastfed at LMC discharge, Māori

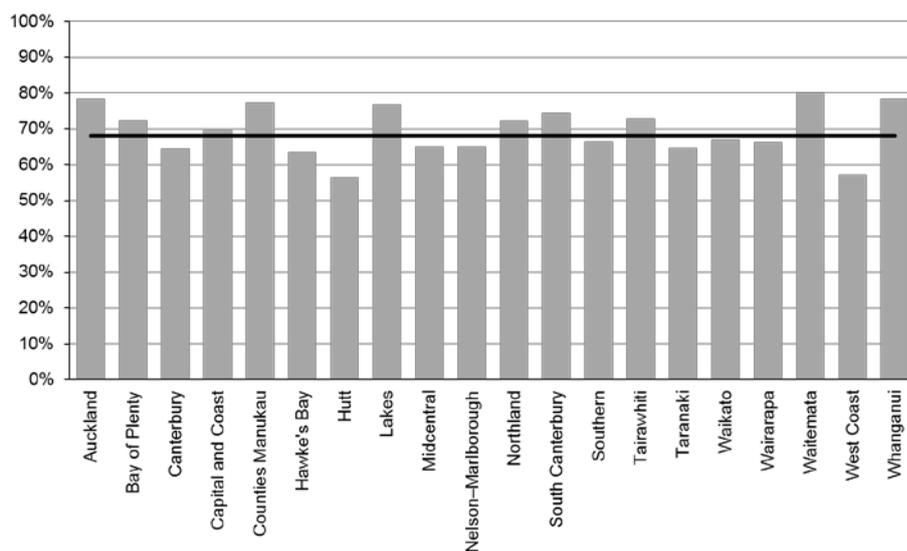
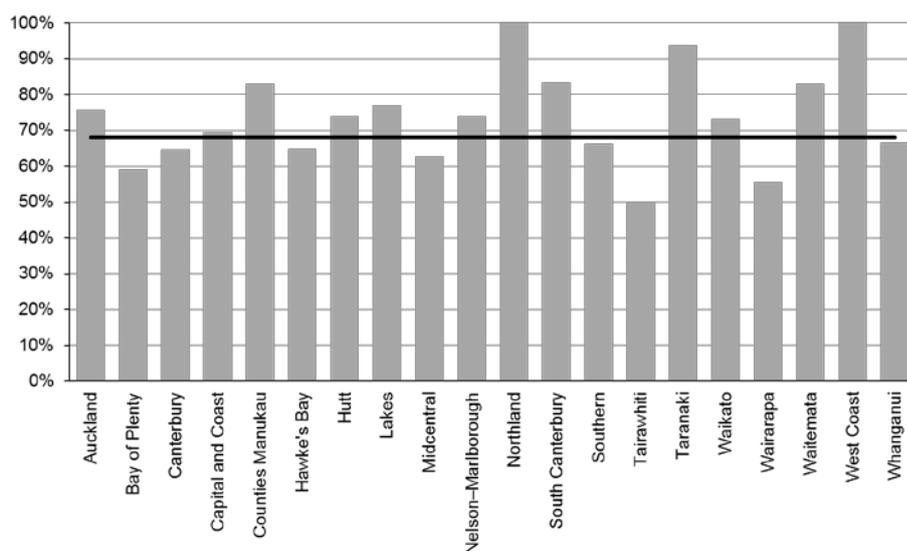


Figure 38: Exclusively or fully breastfed at LMC discharge, Pacific peoples



Data notes

- No bar on graph = no infants in this category.
- Time period: babies born between July 2012 and December 2012.
- Excludes overseas DHB and undefined DHB.
- Numerator: breastfeeding at discharge = exclusive or fully (source, MAT).
- Denominator: breastfeeding at discharge = not null (source, MAT).

WCTO Quality Improvement Framework

Indicator 13

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Infants are exclusively or fully breastfed at three months of age
Target by December 2014:	54 percent
Target by June 2016:	60 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	55% (45–64)	44% (36–69)	43% (34–57)	48% (39–61)

Figure 39: Exclusively or fully breastfed at three months, total New Zealand

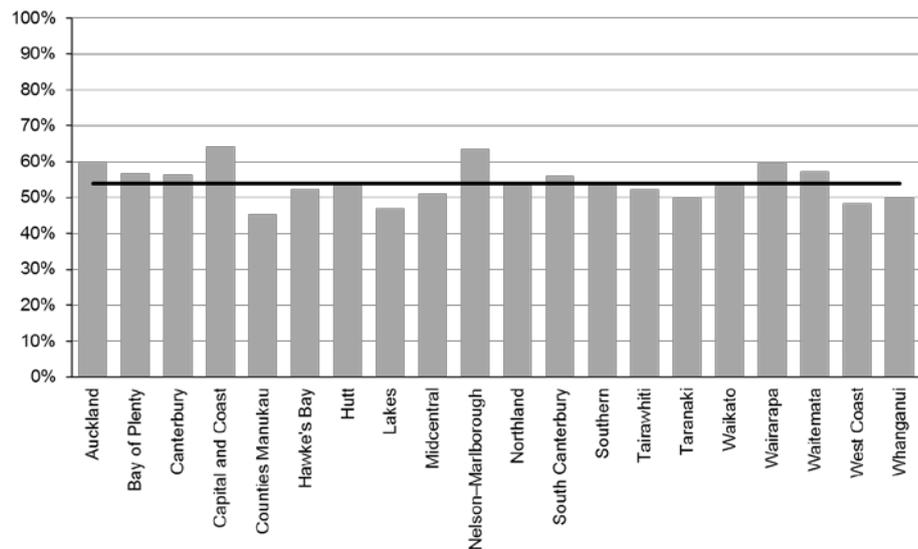


Figure 40: Exclusively or fully breastfed at three months, high deprivation

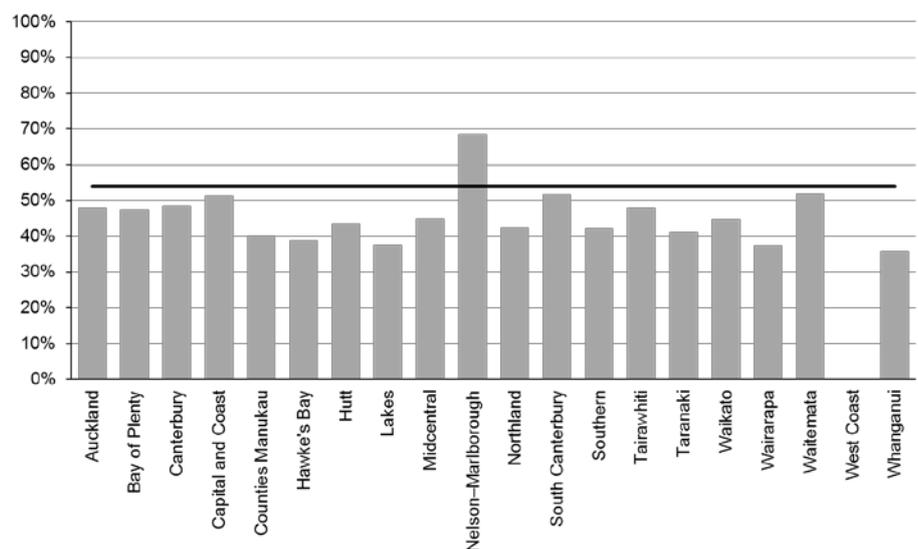


Figure 41: Exclusively or fully breastfed at three months, Māori

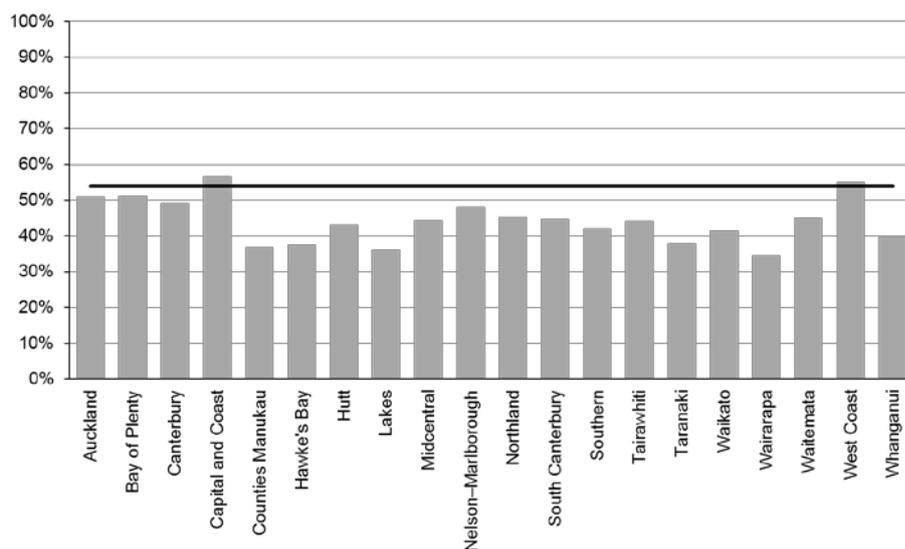
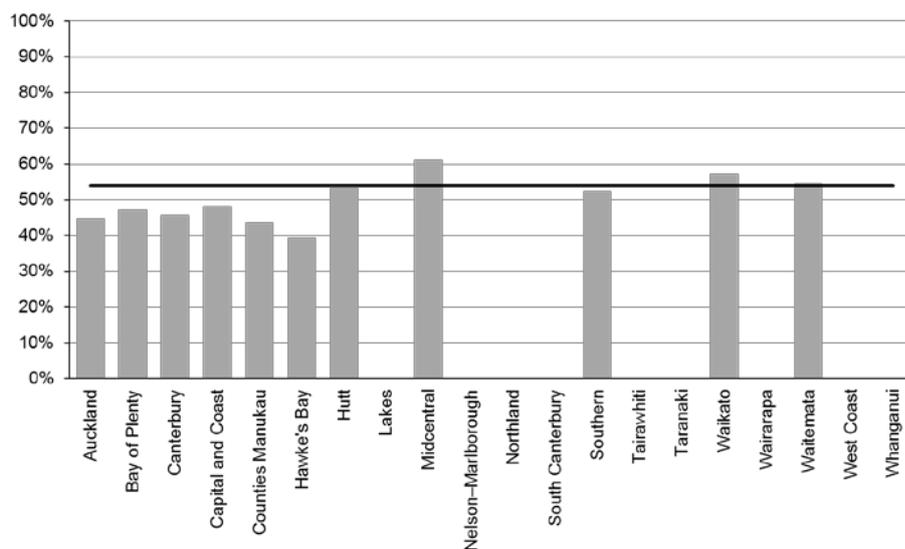


Figure 42: Exclusively or fully breastfed at three months, Pacific peoples



Data notes

- No bar on graph = fewer than 25 infants in this category.
- Time period: infants aged three months between July 2012 and December 2012.
- Excludes overseas DHB and undefined DHB.
- Numerator: breastfeeding at three months = exclusive or fully (source: Plunket).
- Denominator: breastfeeding at three months = not null (source: Plunket).

WCTO Quality Improvement Framework

Indicator 14

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Infants are receiving breast milk at six months of age
Target by December 2014:	59 percent
Target by June 2016:	65 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	64% (55–74)	55% (39–80)	52% (41–64)	60% (50–70)

Figure 43: Infants receive breast milk at six months, total New Zealand

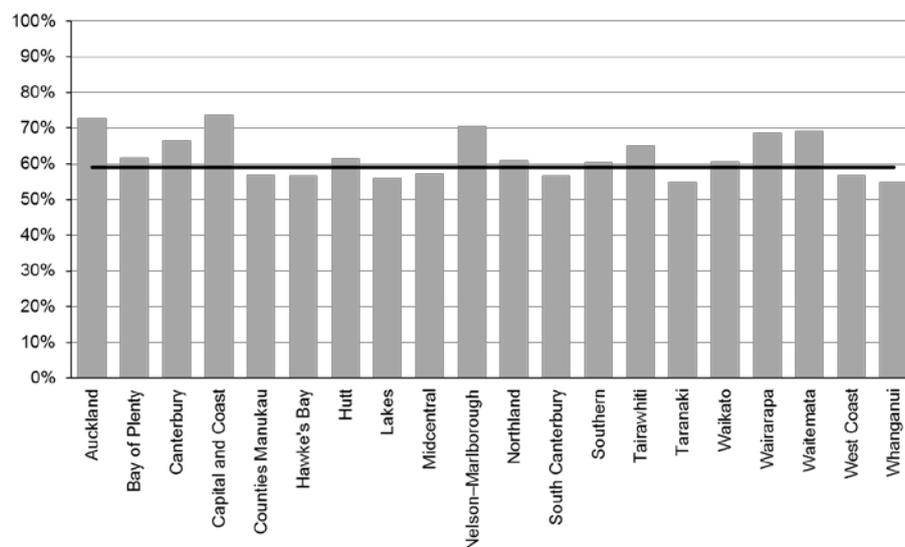


Figure 44: Infants receive breast milk at six months, high deprivation

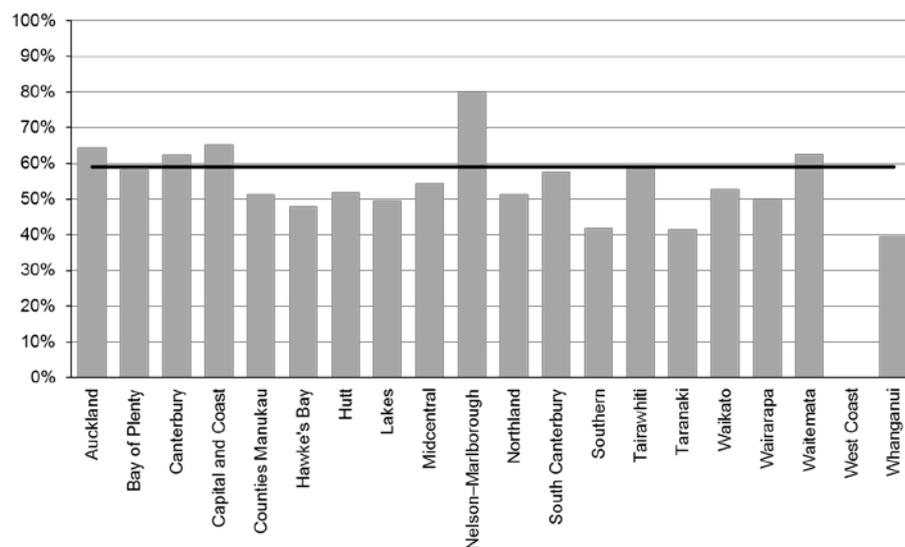


Figure 45: Infants receive breast milk at six months, Māori

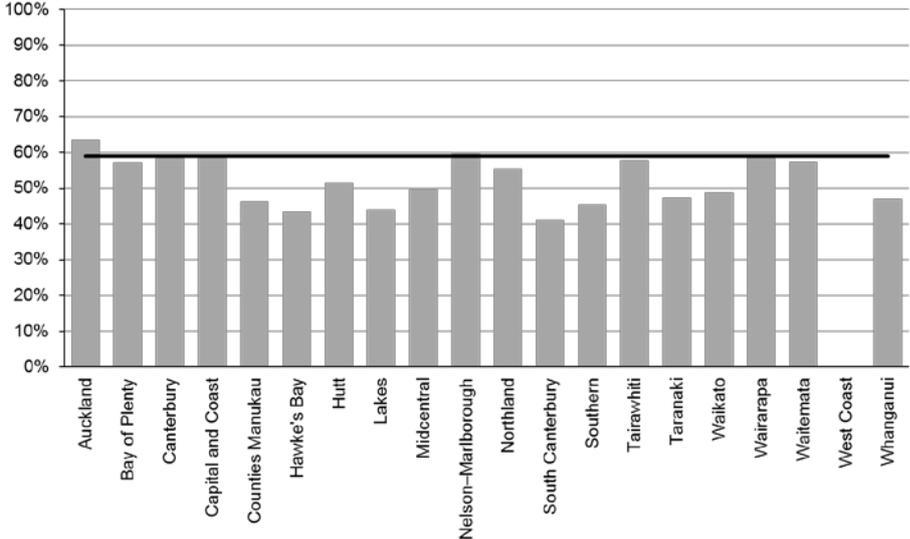
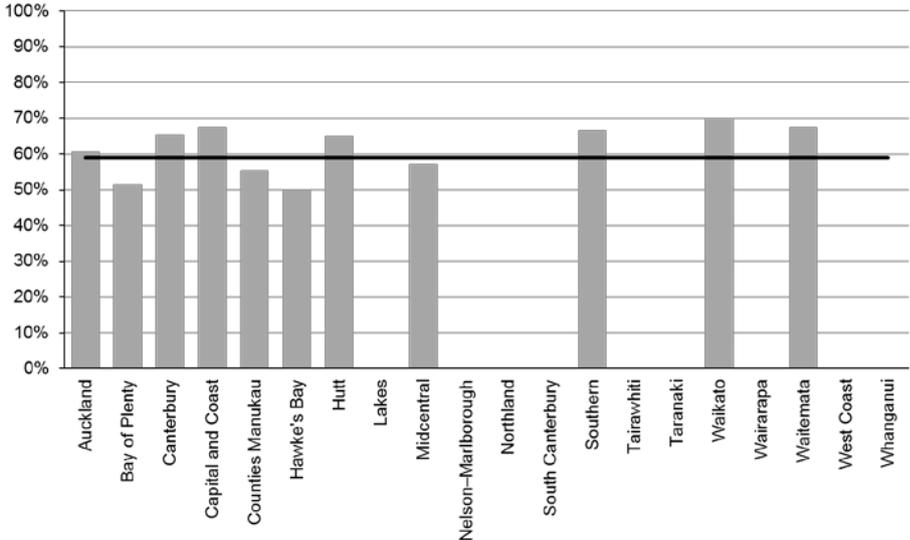


Figure 46: Infants receive breastmilk at six months, Pacific peoples



Data notes

- No bar on graph = fewer than 25 infants in this category.
- Time period: infants aged six months between July 2012 and Dec 2012.
- Excludes overseas DHB and undefined DHB.
- Numerator: breastfeeding at six months = exclusive, full or partial (source: Plunket).
- Denominator: breastfeeding at six months = not null (source: Plunket).

WCTO Quality Improvement Framework

Indicator 15

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Children are a healthy weight at four years
Target by December 2014:	68 percent
Target by June 2016:	75 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	77% (70–82)	69% (57–89)	72% (60–80)	59% (36–100)

Figure 47: Children are a healthy weight at age four years, total New Zealand

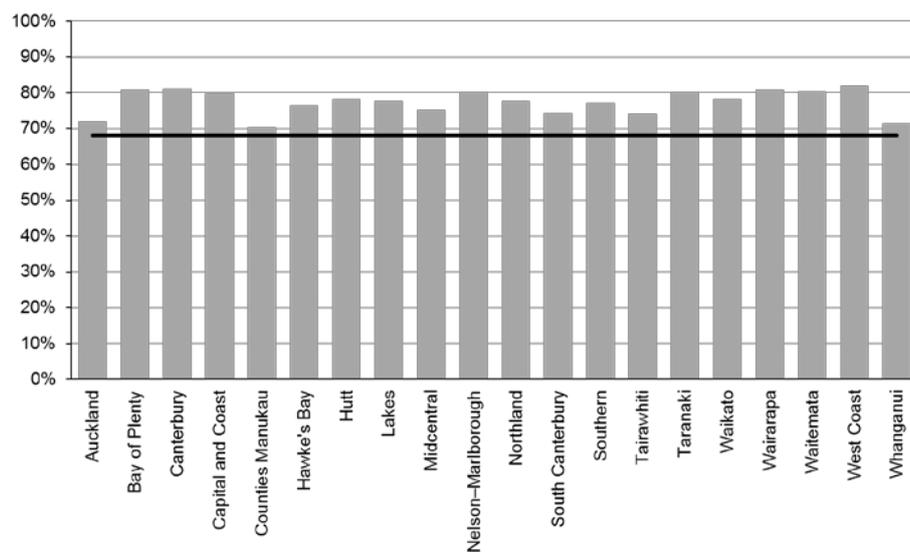


Figure 48: Children are a healthy weight at age four years, high deprivation

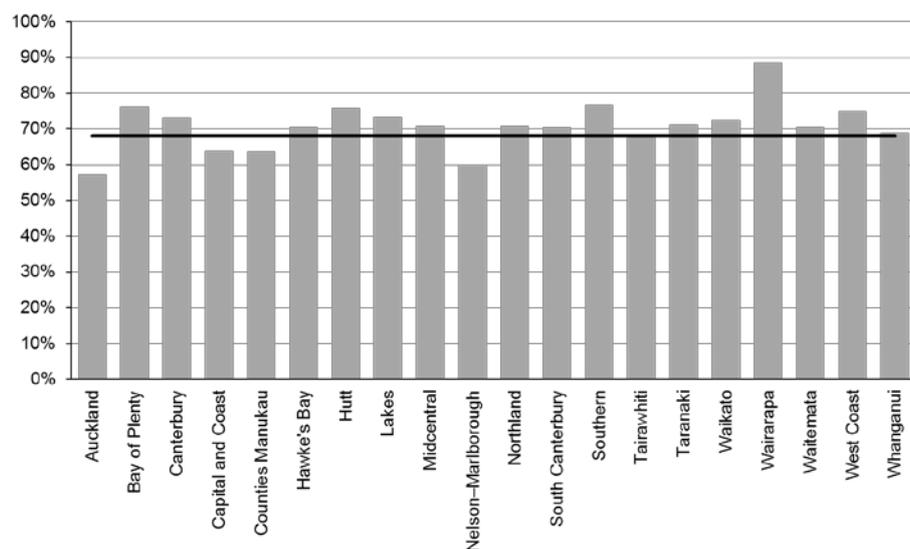


Figure 49: Children are a healthy weight at age four years, Māori

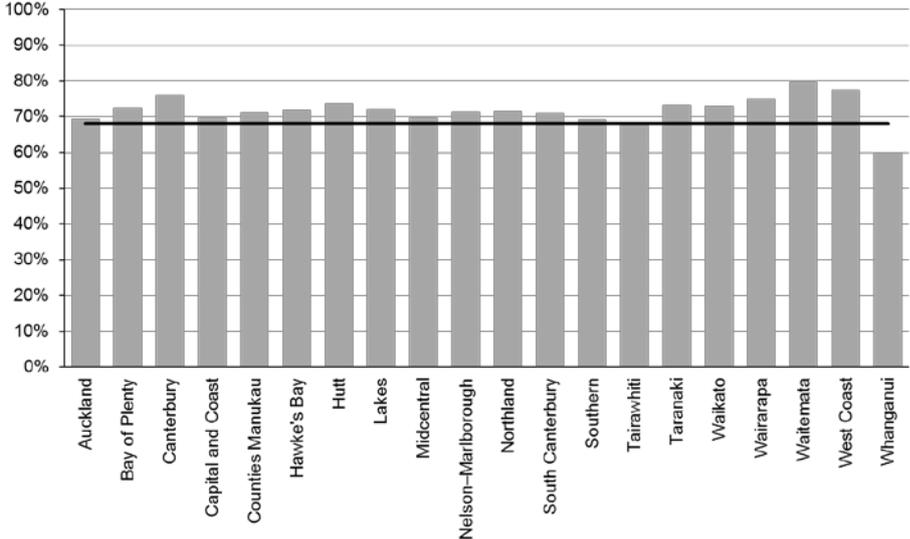
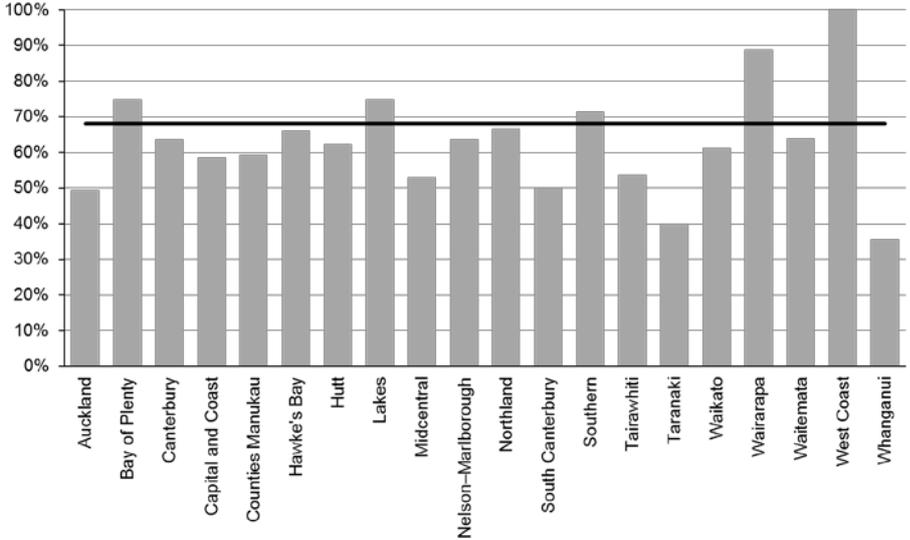


Figure 50: Children are a healthy weight at age four years, Pacific peoples



Data notes

- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: children with a BMI between the 5th and 84th percentile at B4 School Check (source: B4 School Check).
- Denominator: children with a BMI recorded at B4 School Check (source: B4 School Check).

WCTO Quality Improvement Framework

Indicator 16

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Children are caries free at five years
Target by December 2014:	65 percent
Target by June 2016:	65 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	60% (35–74)	N/A	41% (20–57)	35% (18–51)

Figure 51: Caries free at five years, total New Zealand

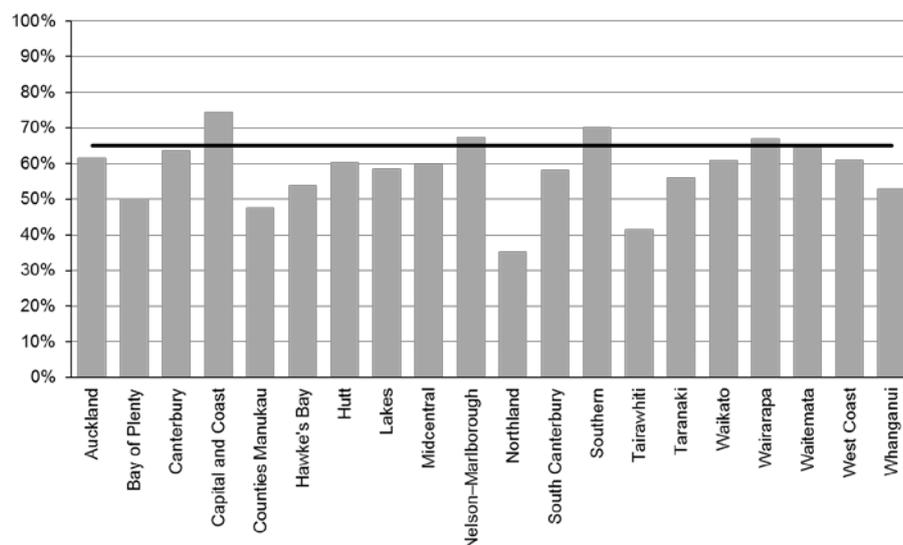


Figure 52: Caries free at five years, Māori

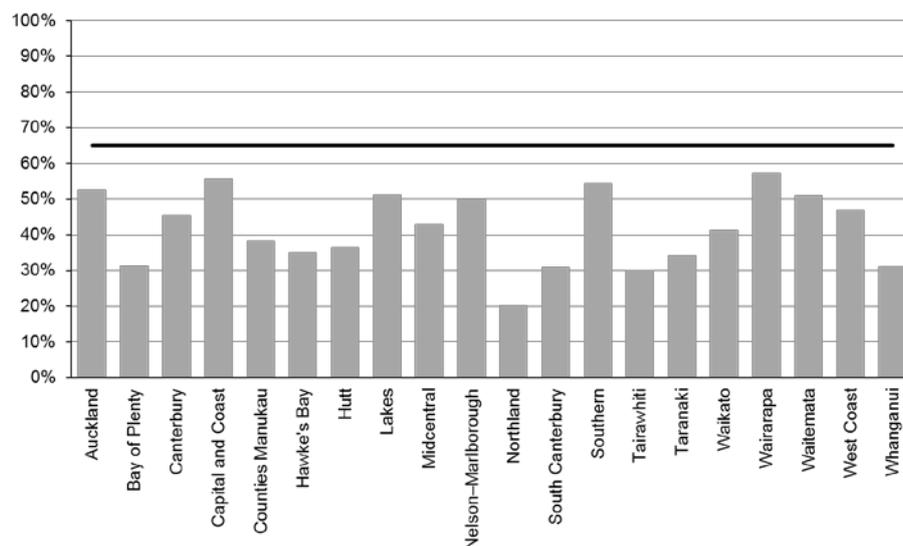
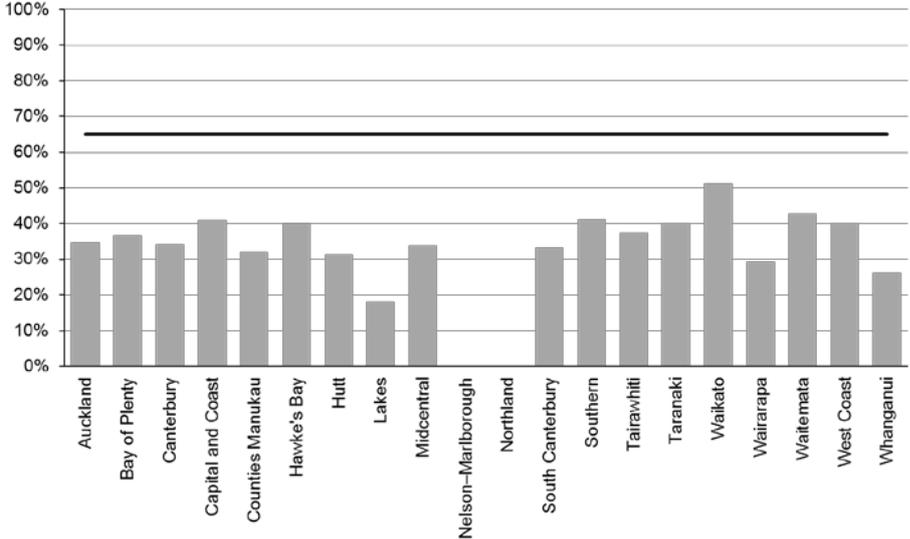


Figure 53: Caries free at five years, Pacific peoples



Data notes

- No bar on graph = no children in this category.
- Time period: children turning five years between 1 January 2011 and 31 December 2011.
- Excludes overseas DHB and undefined DHB.
- Data is not available by NZDep score.
- Numerator: number of five-year-old children caries free (source: Oral Health).
- Denominator: number of five-year-old children enrolled with oral health (source: Oral Health).

WCTO Quality Improvement Framework

Indicator 17

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Burden of dental decay is minimised
Target by December 2014:	4.4 dmft
Target by June 2016:	4 dmft

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	4.5 (6.5–3.6)	N/A	5.1 (7.9–3.5)	5.3 (8.8–1.7)

Figure 54: Burden of dental decay, total New Zealand

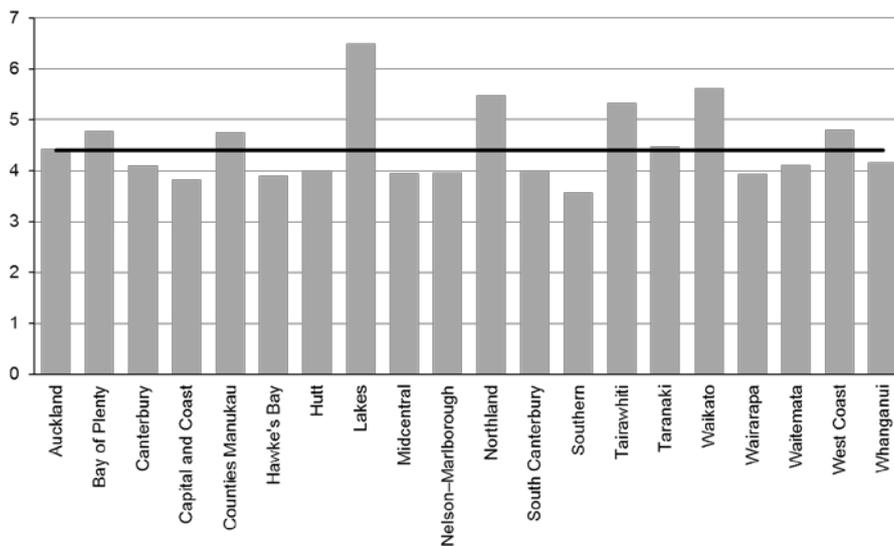


Figure 55: Burden of dental decay, Māori

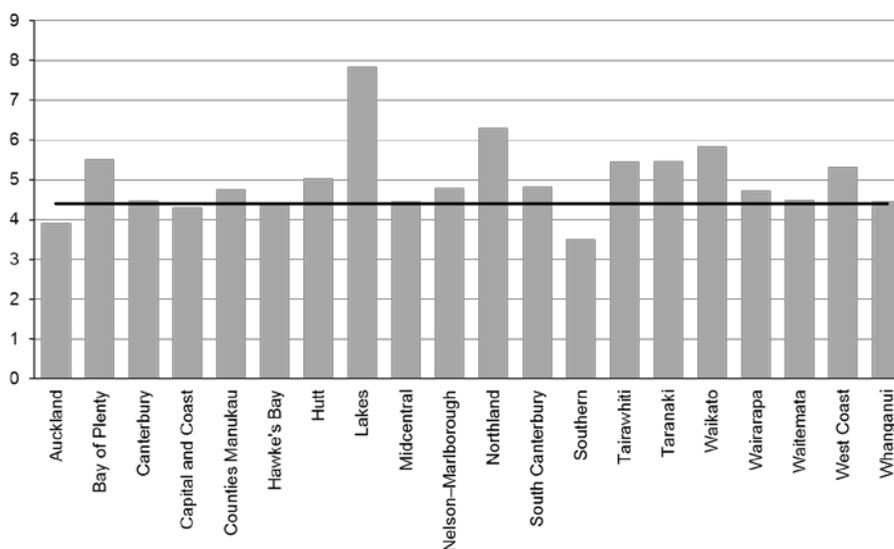
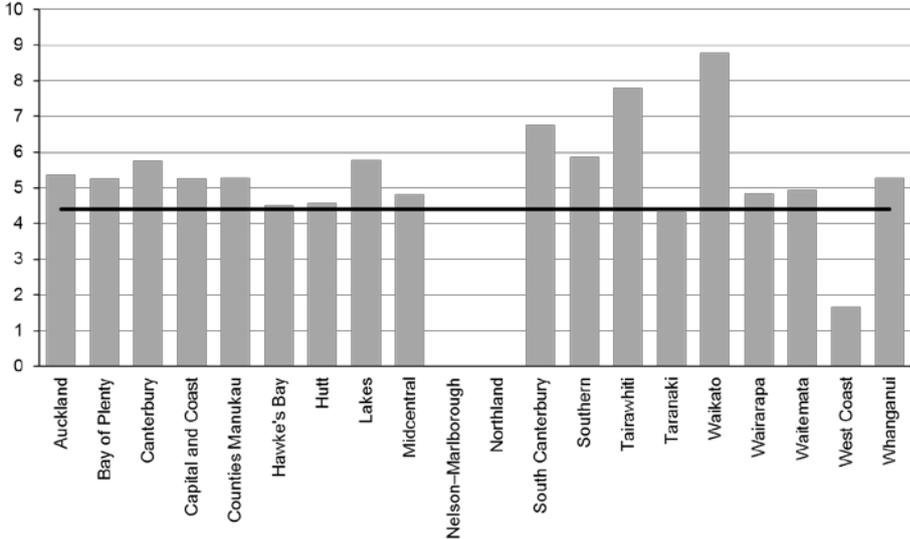


Figure 56: Burden of decay, Pacific peoples



Data notes

- The indicator measures the average dmft category.
- Time period: children turning five years old between 1 January 2011 and 31 December 2011.
- Excludes overseas DHB and undefined DHB.
- Data is not available by NZDep score.
- Numerator: sum of dmft scores at five years old (source: Oral Health).
- Denominator: number of five-year-olds with a dmft score greater than zero (source: Oral Health).

WCTO Quality Improvement Framework

Indicator 18

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Child mental health is supported (SDQ-P is within normal range at the B4 School Check) ²
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	96% (92–98)	93% (89–100)	93% (89–100)	95% (75–100)

Figure 57: Children have a normal SDQ-P score at four years, total New Zealand

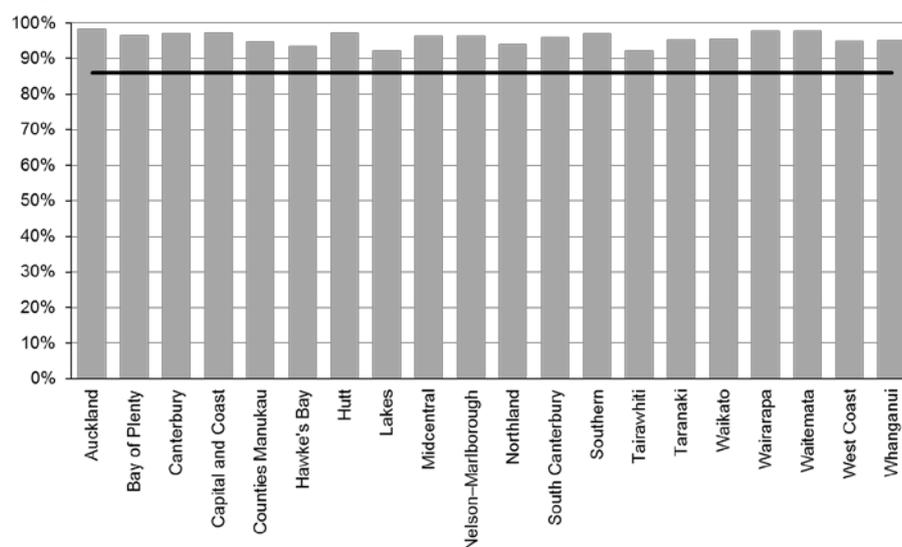
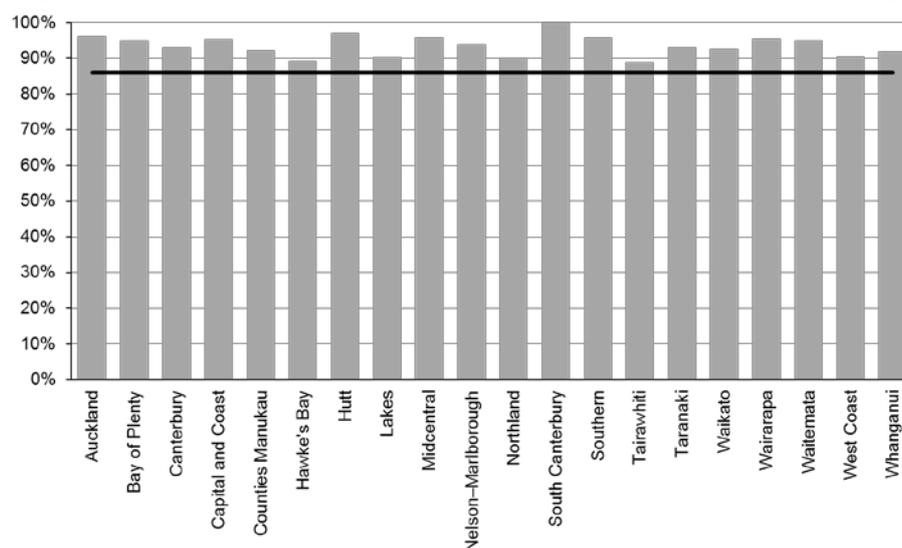


Figure 58: Children have a normal SDQ-P score at four years, high deprivation



² The SDQ is used to assess a child's social and emotional development. There are two versions of the questionnaire: one for parents (SDQ-P), and the other for teachers (SDQ-T).

Figure 59: Children have a normal SDQ-P score at four years, Māori

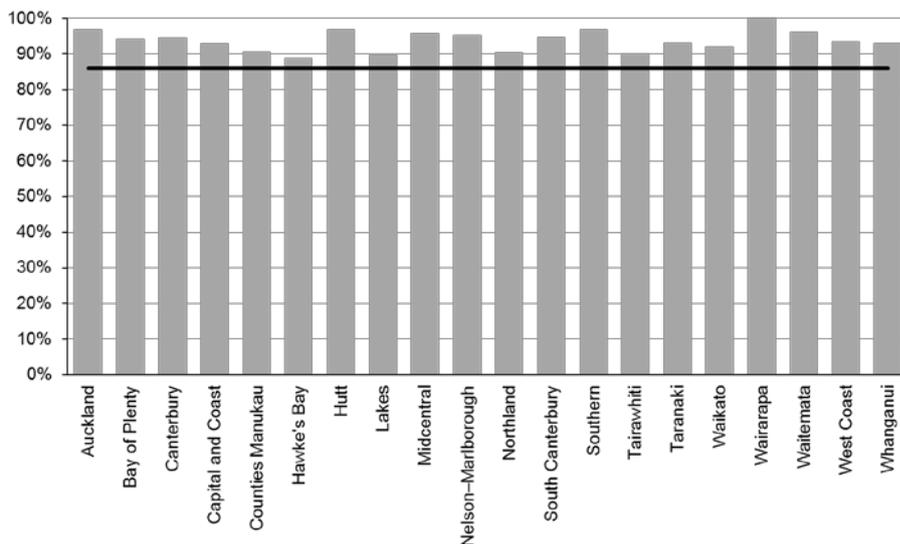
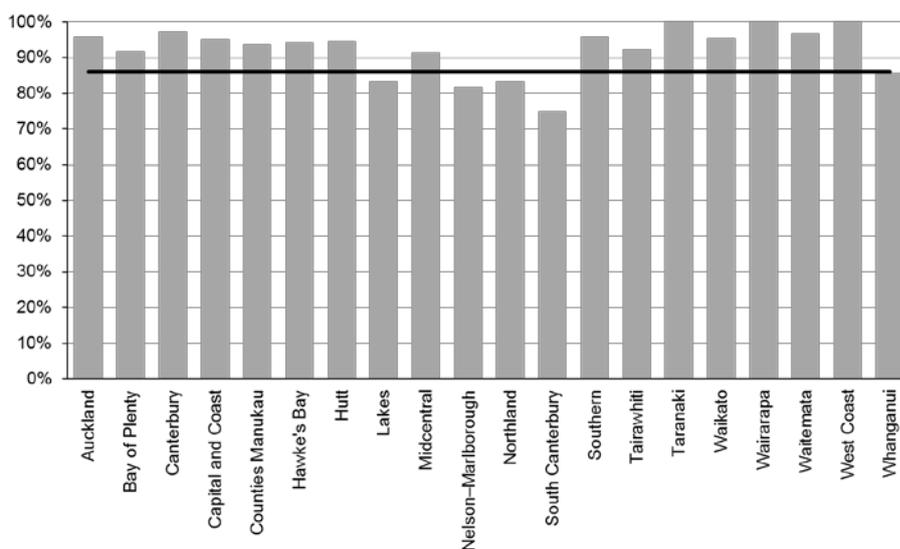


Figure 60: Children have a normal SDQ-P score at four years, Pacific peoples



Data notes

- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: children with an SDQ-P score that is not abnormal (source: B4 School Check).
- Denominator: children with an SDQ-P score recorded at the B4 School Check (source: B4 School Check).

WCTO Quality Improvement Framework

Indicator 19

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Mothers are smoke free at two weeks postnatal
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	87% (68–97)	76% (60–100)	65% (51–86)	90% (83–100)

Figure 61: Mother smoke-free at two weeks postnatal, total New Zealand

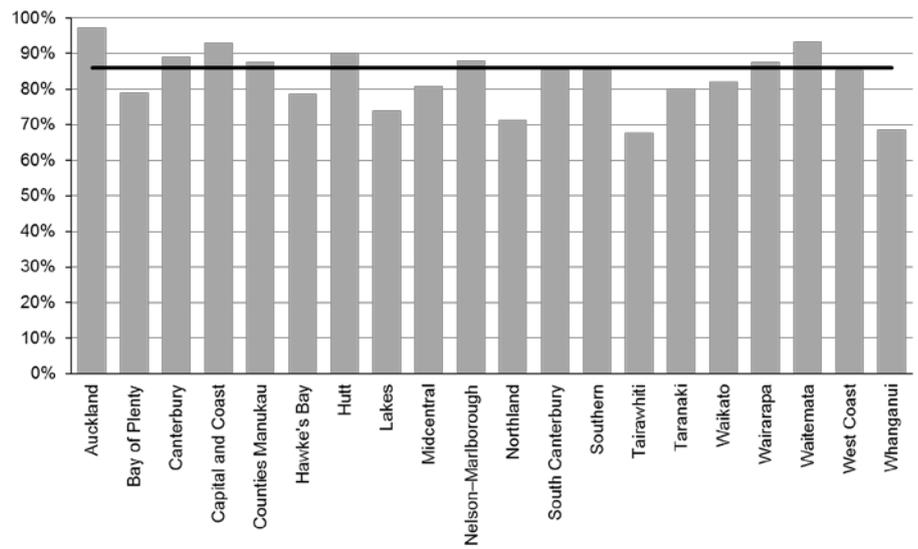


Figure 62: Mother smoke-free at two weeks postnatal, high deprivation

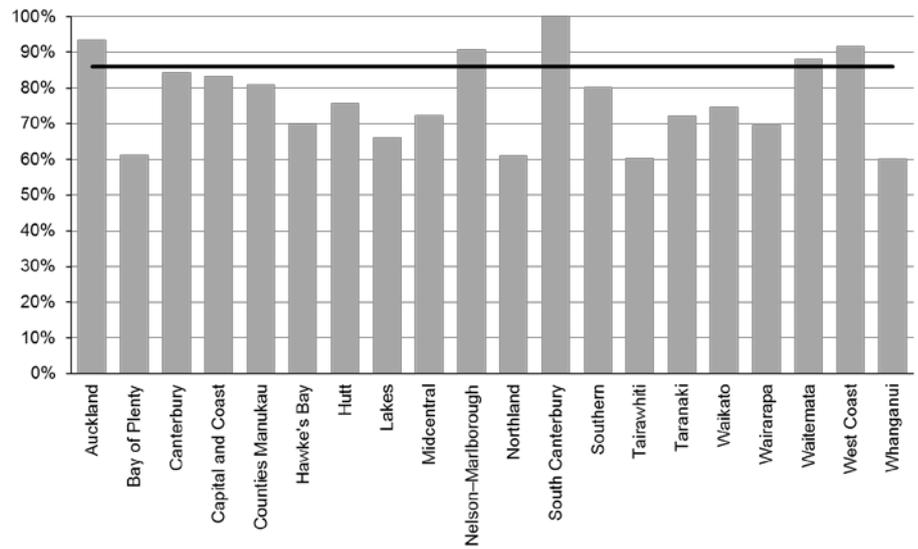


Figure 63: Mother smoke-free at two weeks postnatal, Māori

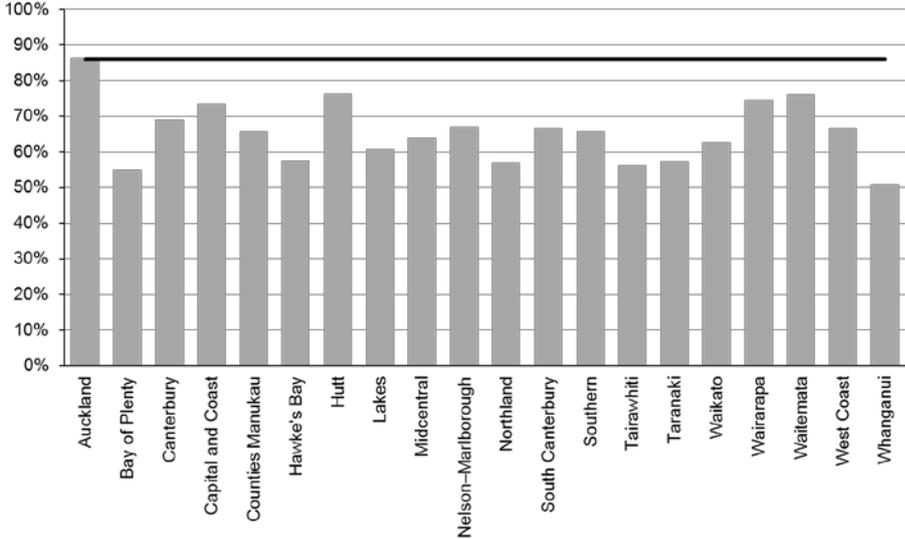
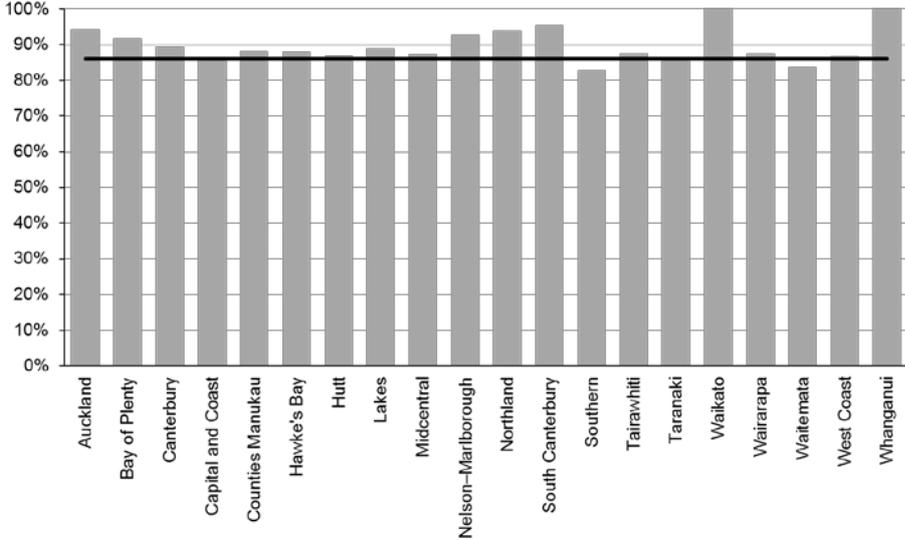


Figure 64: Mother smoke-free at two weeks postnatal, Pacific peoples



Data notes

- Time period: births between July 2012 and December 2012.
- Excludes overseas DHB and undefined DHB.
- Numerator: maternal tobacco use (two weeks) = Y (source, MAT).
- Denominator: maternal tobacco use (two weeks) = Y or N (source, MAT).

WCTO Quality Improvement Framework

Indicator 20

Standard:	WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing
Indicator:	Children live in a smoke-free home (age four years)
Target by December 2014:	90 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	98% (67–100)	96% (0–100)	96% (50–100)	97% (90–100)

Figure 65: Children live in a smoke-free home (age four years), total New Zealand

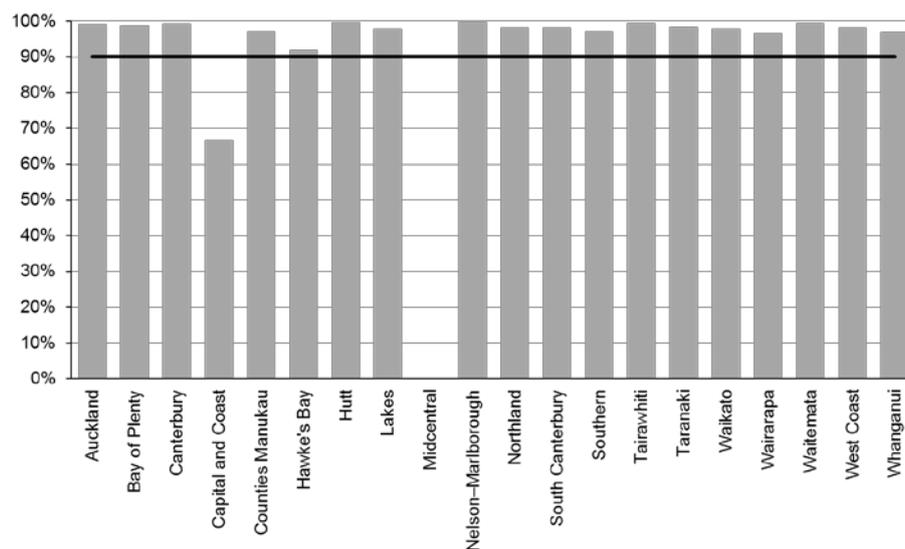


Figure 66: Children live in a smoke-free home (age four years), high deprivation

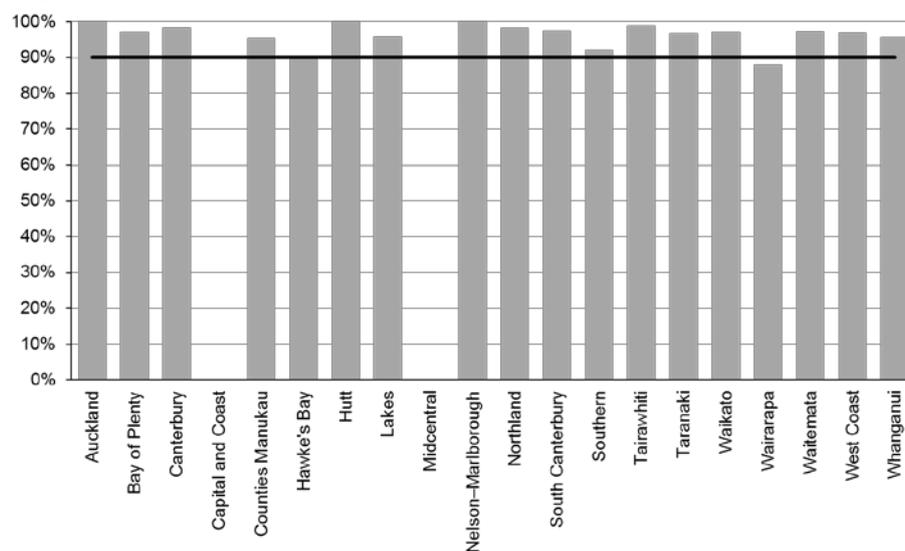


Figure 67: Children live in a smoke-free home (age four years), Māori

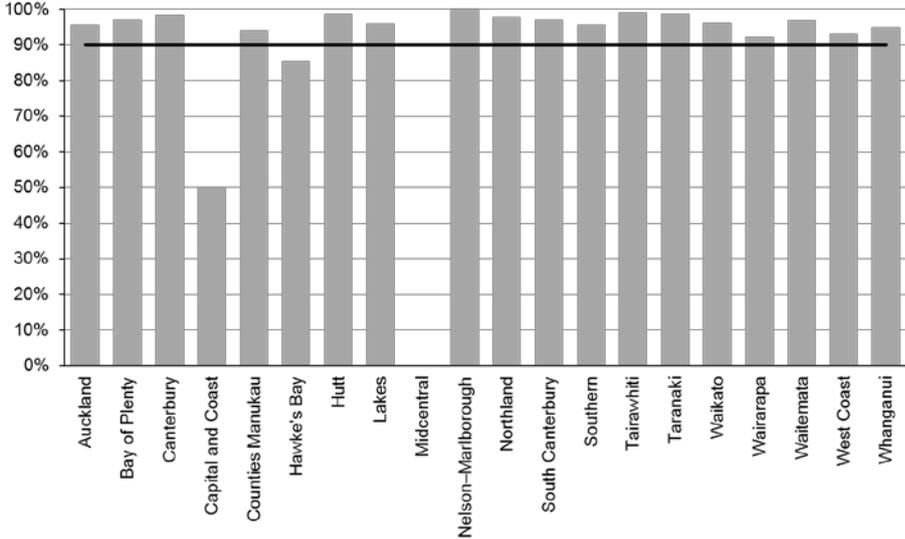
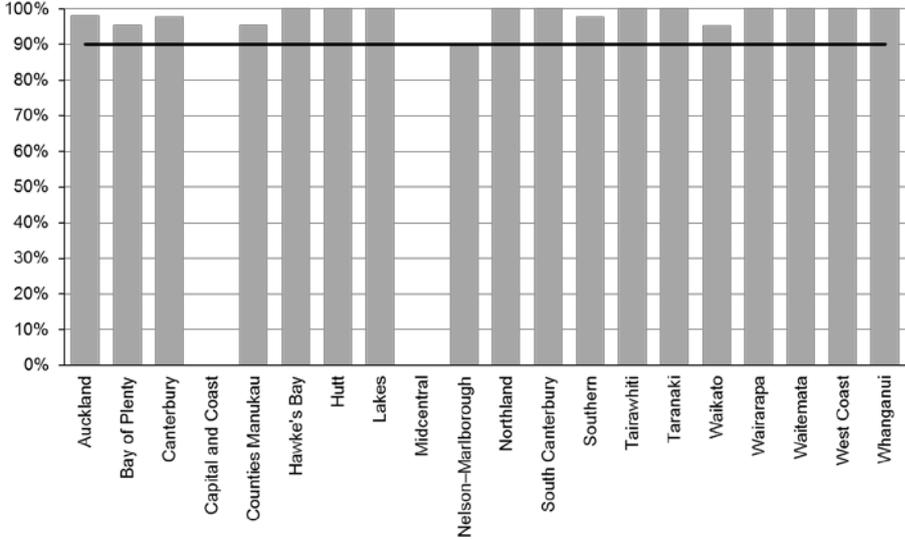


Figure 68: Children live in a smoke-free home (age four years), Pacific peoples



Data notes

- This indicator relates to parental smoking indoors at home.
- No bar on graph = smoke-free at-home status not reported.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: children with smoke-free home = Y (source: B4 School Check)
- Denominator: children with smoke-free home = Y or N (source: B4 School Check).

Indicators 21–26: Quality

Aim 3 of the WCTO Quality Improvement Framework seeks **best value for health system resource**. To achieve this, advice, screening and interventions must be based on the best available evidence and delivered to a consistently high quality. This ensures best value for money, because health or development issues are:

- identified accurately (reducing downstream costs related to poor sensitivity, and wastage due to poor specificity)
- treated early (reducing the intensiveness of the intervention required) through interventions that have the best evidence of success (maximising health gain for investment).

These seven indicators measure the quality of service delivery; in other words, adherence to best practice (either in the timing of the intervention or adherence to screening protocol) in delivering components of the WCTO programme. The current indicators focus exclusively on the B4 School Check due to the limited availability of data for other parts of the WCTO programme. It is expected that additional indicators to monitor the quality of WCTO service delivery will be added over time.

Summary of results for this period

National

Indicator 21: B4 School Checks are started before children are 4½, seeks to ensure that children with additional health or development needs can receive appropriate support or intervention prior to starting school to minimise the impact of any issues on their readiness to learn at school. Nationally, 83 percent of B4 School Checks are started before age 4½, exceeding the 2014 target of 81 percent.

Nationally, referral for oral health concerns or extreme obesity is lower than expected. Child oral health services are free and have the capacity to see all children regularly. Providers should discuss with parents the importance of oral health care, including regular visits to community oral health services, and should ensure all children with obvious decay are referred.

Indicators 26 and 27 measure referral to specialist services where a hearing or vision problem is identified. Following previous quality improvement efforts and commitment by B4 School Check providers, vision and hearing technicians and specialist audiology and optometry/ophthalmology services, 100 percent of children with an identified issue are referred: across all regions, deprivation quintiles and ethnic groups. This is a significant achievement for the B4 School Check programme and ensures children receive the support they need so that the impact of hearing or vision problems on a child's ability to learn and develop is minimised.

Low referral rates for extreme obesity (63 percent) may reflect limited specialist service availability, or limited support and education for providers when discussing a child's growth with their family. Extreme obesity (a BMI greater than the 99.4th percentile) should be referred, as a minimum, to primary care to ensure that at least the health impacts of obesity are managed appropriately, in addition to any interventions that may be arranged to support healthy weight.

By region

Nationally, although 83 percent of B4 School Checks are started before age 4½, there is significant variation by region (from 10 percent to 96 percent). There is also significant variation by region for rates of referral for extreme obesity (16 percent to 100 percent). DHBs and B4 School Check providers should investigate referral protocol and referral options in regions with high rates of referral to establish appropriate local pathways and the local capacity of specialist services for children with obesity.

By deprivation

Unlike other indicators, these seven indicators do not seem to be significantly different for children living in areas of high deprivation. Slightly fewer regions met the 2014 targets for Indicator 21: B4 School Check are started before children are 4½ (eight regions for the high deprivation population versus 11 nationally), but more regions met the 2014 targets for Indicator 24: Children with a Lift the Lip (LTL) score of 2–6 at the B4 School Check are referred (nine regions versus seven nationally).

By ethnicity

Quality of service delivery (adherence to protocol) on the whole does not seem to be significantly different for different ethnic groups. Fewer regions met the 2014 target for Indicator 21: B4 School Checks are started before children are 4½, for Māori children and Pacific children (eight and seven regions, respectively, versus 12 nationally). Māori children with extreme obesity were less likely to be referred (57 percent, versus 62 percent for Pacific children and 63 percent nationally). Providers should ensure that consistent, evidence-based protocols are applied across all services and service providers to ensure all families and whānau have access to high-quality services.

WCTO Quality Improvement Framework

Indicator 21

Standard:	WCTO services are delivered at the right time
Indicator:	B4 School Checks are started before children are 4½
Target by December 2014:	81 percent
Target by June 2016:	90 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	83% (10–96)	81% (16–98)	77% (17–93)	84% (10–100)

Figure 69: B4 School Check started before 4½ years, total New Zealand

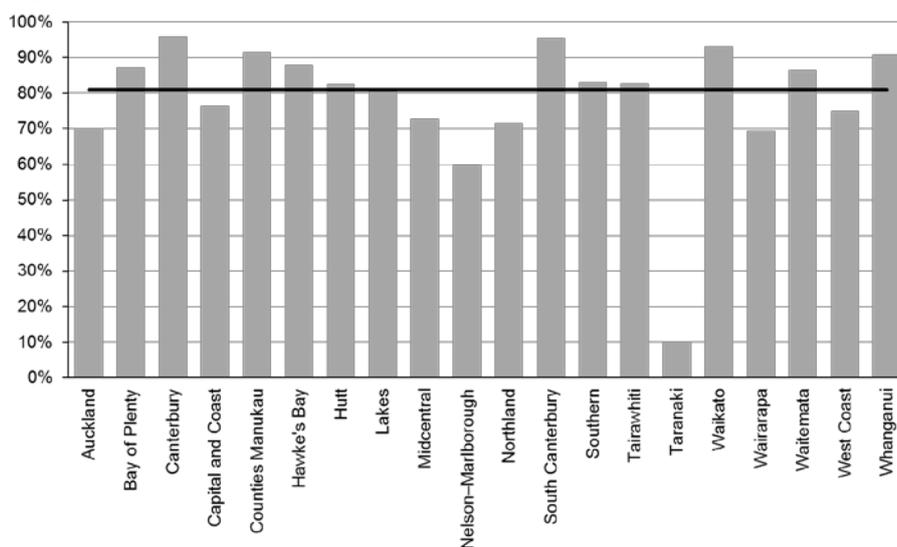


Figure 70: B4 School Check started before 4½ years, high deprivation

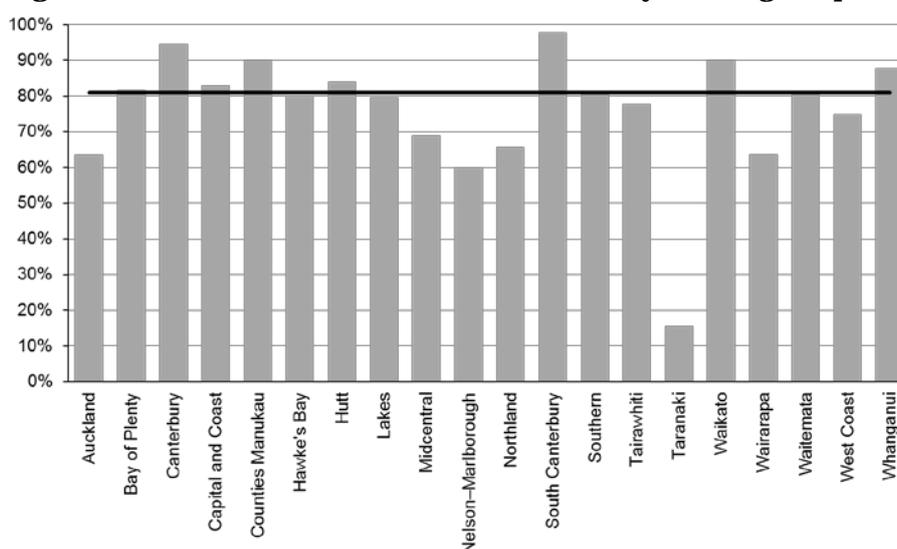


Figure 71: B4 School Check started before 4½ years, Māori

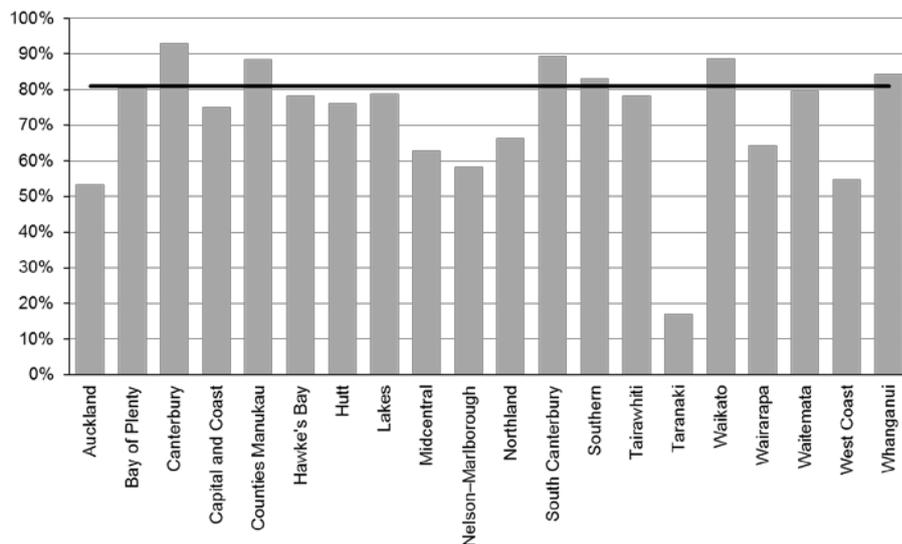
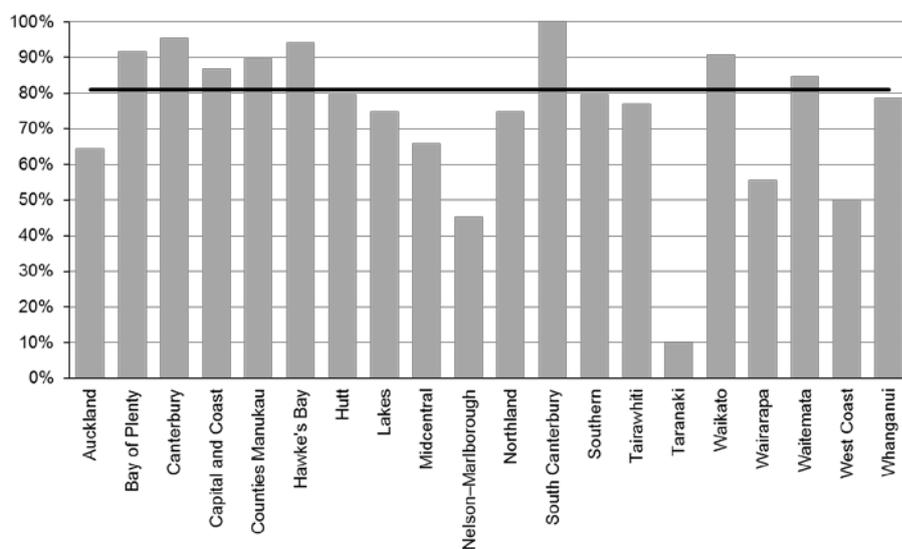


Figure 72: B4 School Check started before 4½ years, Pacific peoples



Data notes

- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children receiving a B4 School Check who started the check aged less than 4½ years (source: B4 School Check).
- Denominator: number of children receiving a B4 School Check (source: B4 School Check).

WCTO Quality Improvement Framework

Indicator 22

Standard:	WCTO providers deliver services in accordance with best practice (inappropriate variation is reduced)
Indicator:	Children with an abnormal SDQ-P at the B4 School Check are referred
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	92% (0–100)	92% (0–100)	90% (57–100)	94% (0–100)

Figure 73: Abnormal SDQ-P referred, total New Zealand

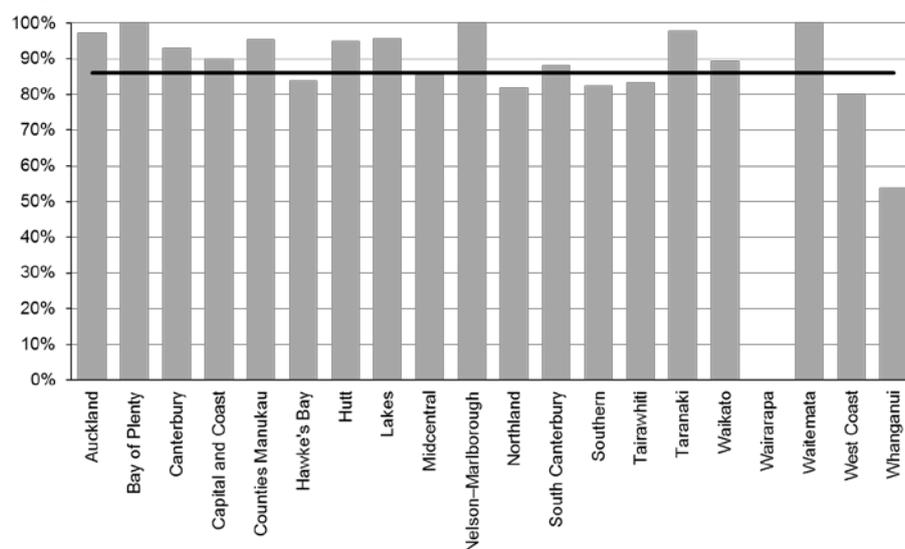


Figure 74: Abnormal SDQ-P referred, high deprivation

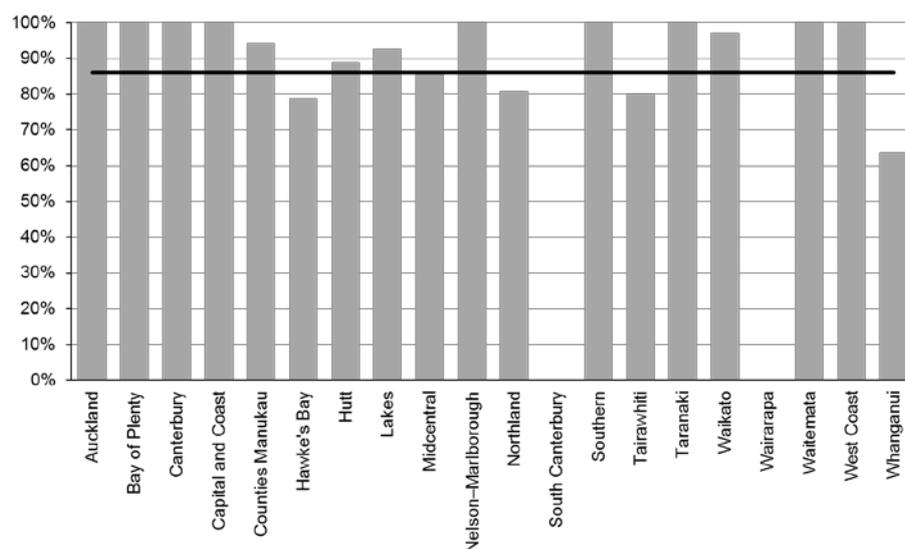


Figure 75: Abnormal SDQ-P referred, Māori

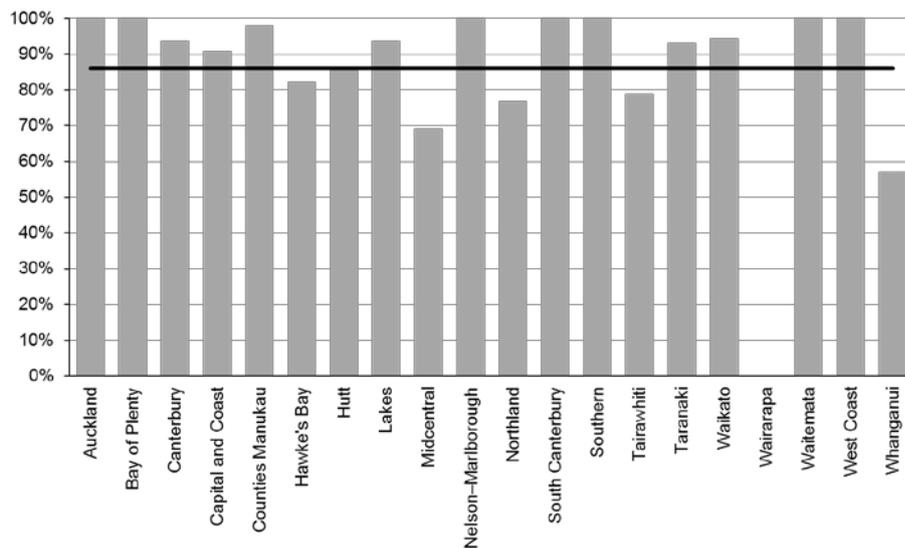
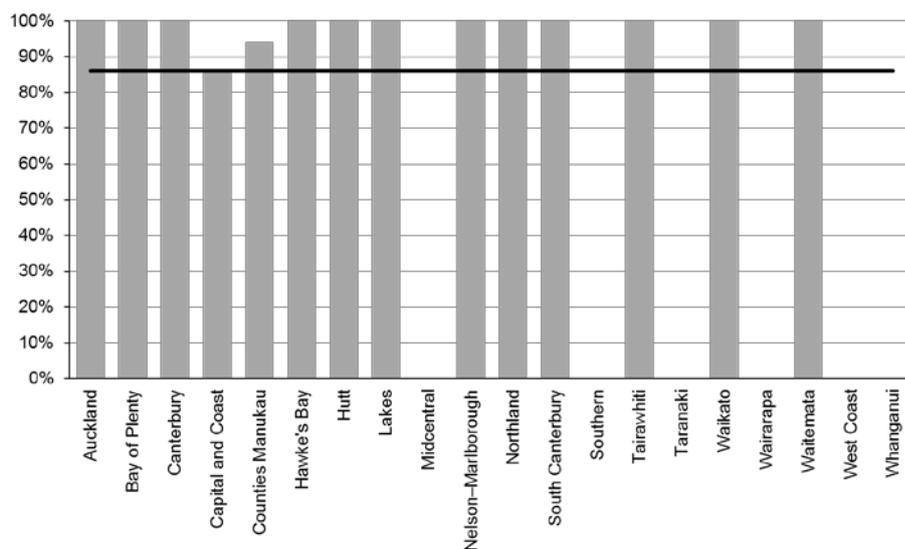


Figure 76: Abnormal SDQ-P referred, Pacific peoples



Data notes

- No bar on graph = no children with abnormal SDQP for that population.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children with an abnormal SDQ-P referred (including advice given) (source: B4 School Check).
- Denominator: number of children with an abnormal SDQ-P (excluding those already under care) (source: B4 School Check).

WCTO Quality Improvement Framework

Indicator 23

Standard:	WCTO providers deliver services in accordance with best practice (inappropriate variation is reduced)
Indicator:	Children with a PEDS Pathway A at the B4 School Check are referred
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	94% (79–100)	93% (50–100)	94% (71–100)	95% (89–100)

Figure 77: PEDS pathway A referred, total New Zealand

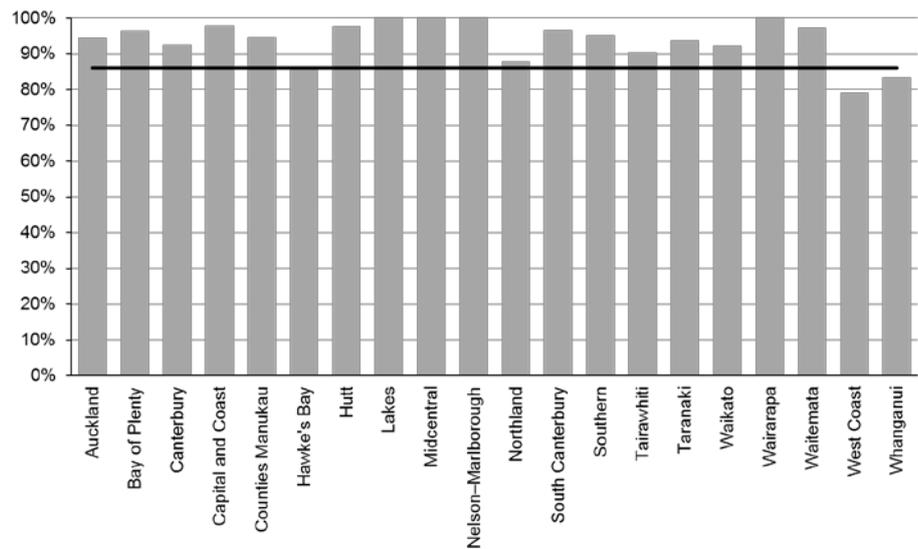


Figure 78: PEDS pathway A referred, high deprivation

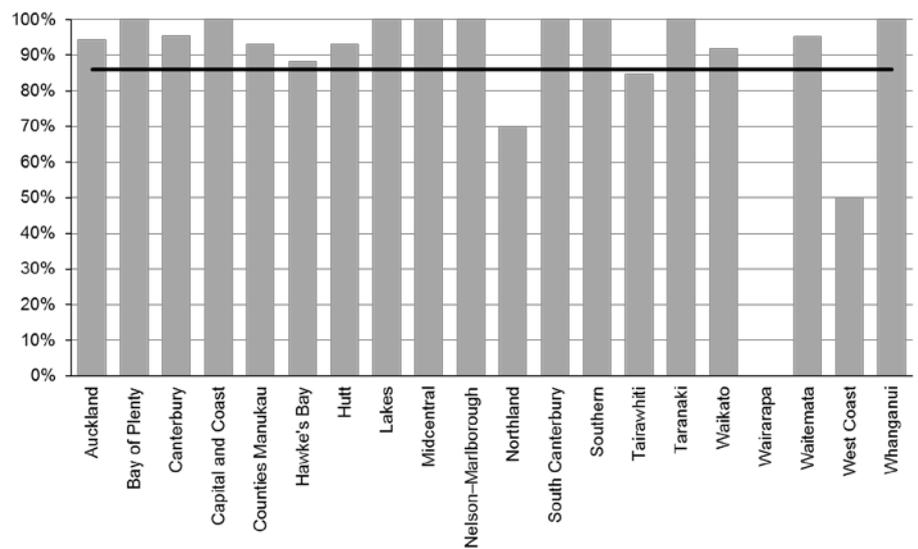


Figure 79: PEDS pathway A referred, Māori

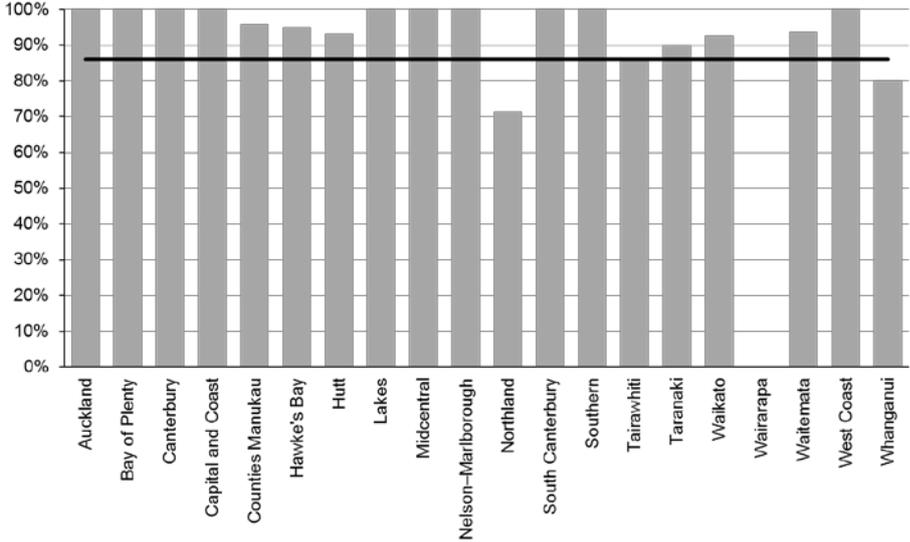
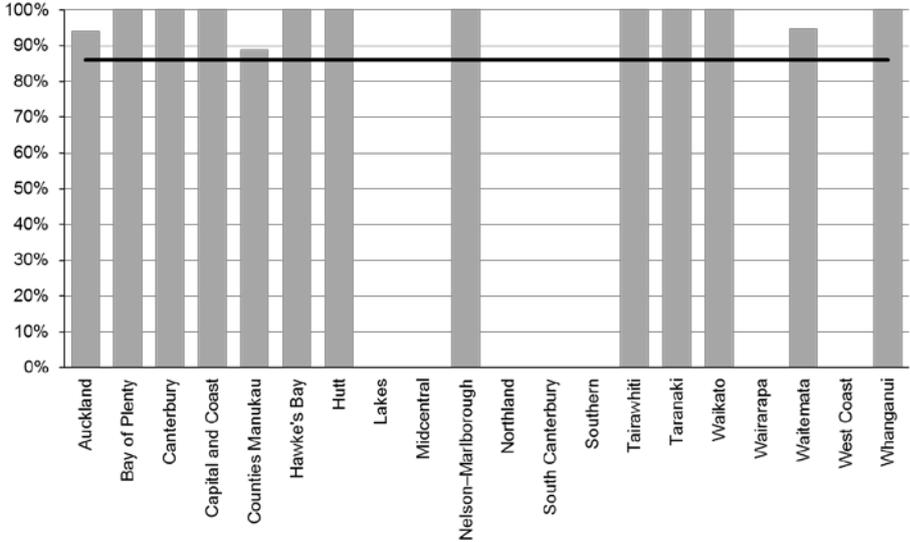


Figure 80: PEDS pathway A referred, Pacific peoples



Data notes

- No bar on graph = no children with PEDS Pathway A for that population.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children assessed as PEDS Pathway A referred (including advice given) (source: B4 School Check).
- Denominator: number of children assessed as PEDS Pathway A (excluding those already under care) (source: B4 School Check).

WCTO Quality Improvement Framework

Indicator 24

Standard:	WCTO providers deliver services in accordance with best practice (inappropriate variation is reduced)
Indicator:	Children with a Lift the Lip (LTL) score of 2–6 at the B4 School Check are referred
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	76% (29–100)	78% (33–100)	82% (18–100)	74% (0–100)

Figure 81: Children with LTL score > 1 referred, total New Zealand

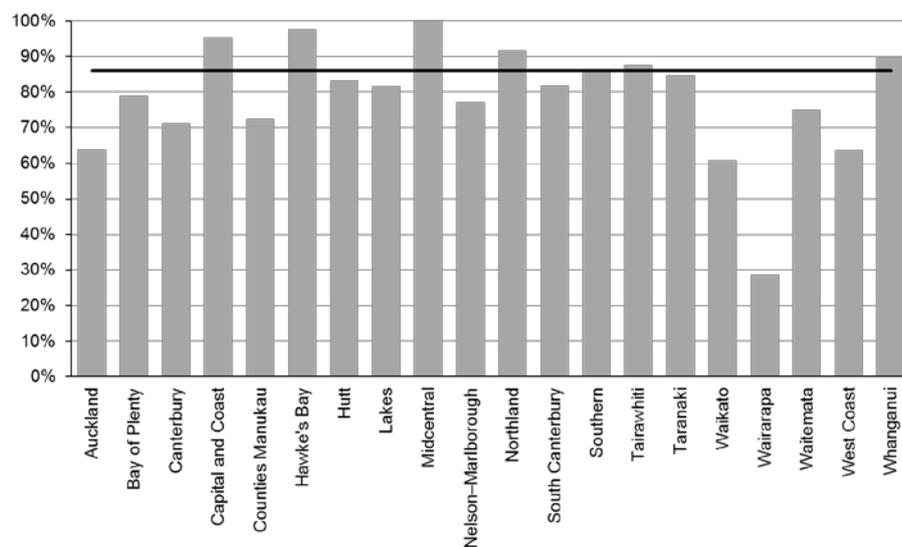


Figure 82: Children with LTL score > 1 referred, high deprivation

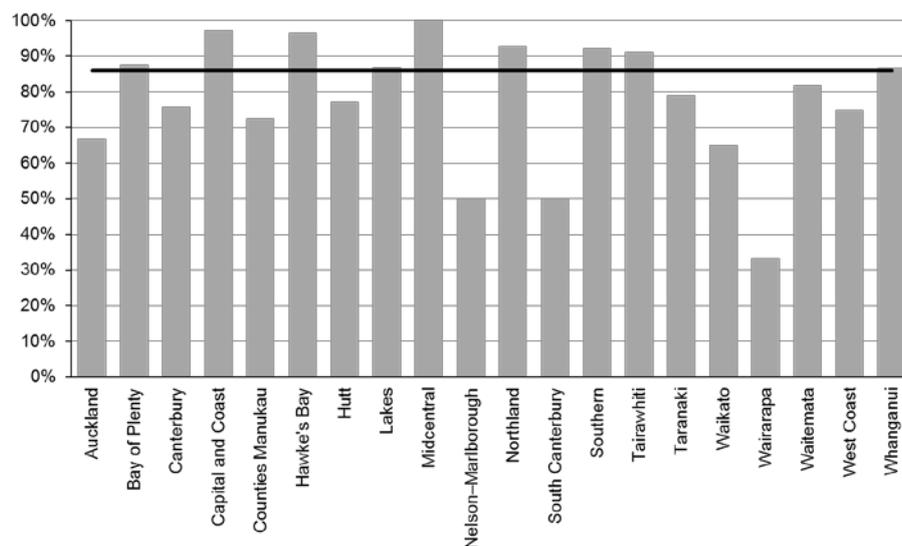


Figure 83: Children with LTL score > 1 referred, Māori

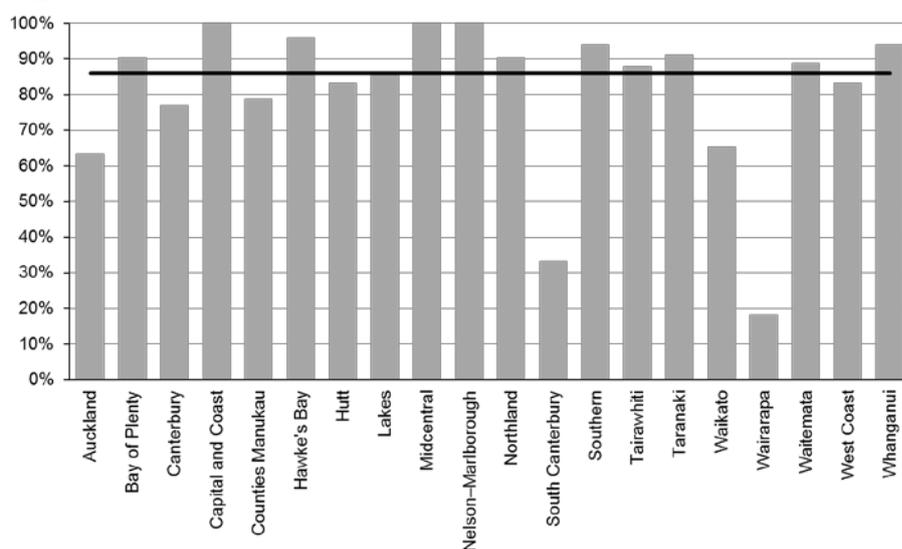
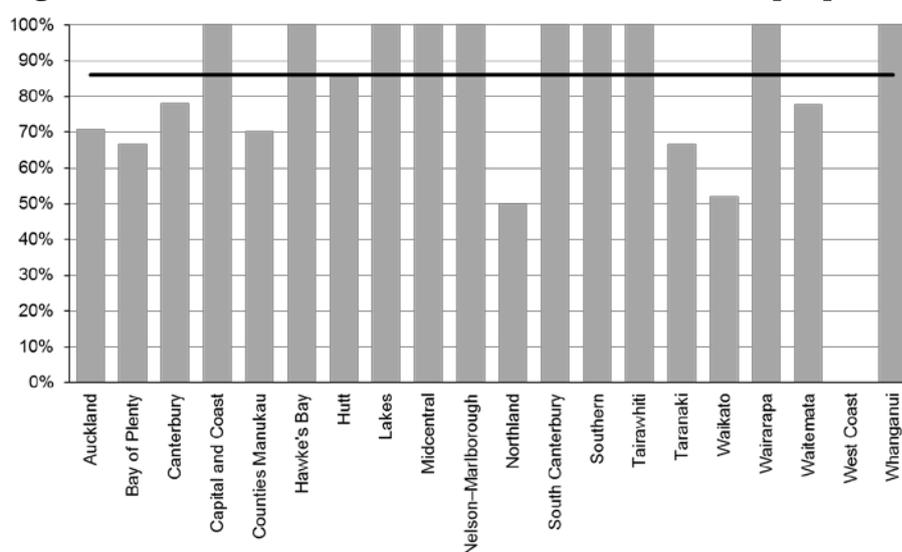


Figure 84: Children with LTL score > 1 referred, Pacific peoples



Data notes

- No bar on graph = no children with LTL score 2–6 for that population.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children with LTL score of 2–6 referred (excluding advice given) (B4 School Check).
- Denominator: number of children with LTL score of 2–6 (excluding those already under care) (B4 School Check).

WCTO Quality Improvement Framework

Indicator 25

Standard:	WCTO providers deliver services in accordance with best practice (inappropriate variation is reduced)
Indicator:	Children with an untreated vision problem at the B4 School Check are referred
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	100%	100%	100%	100%

Figure 85: Vision problem referred, total New Zealand

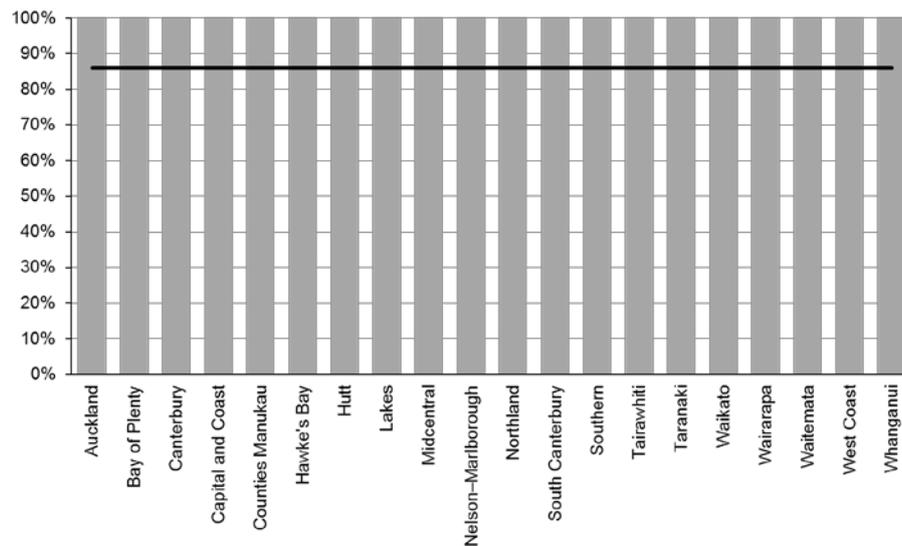


Figure 86: Vision problem referred, high deprivation

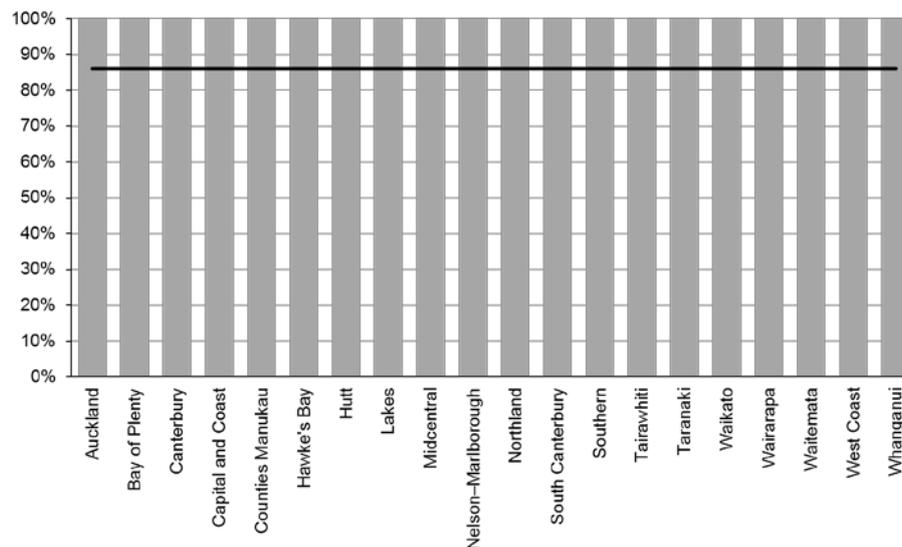


Figure 87: Vision problem referred, Māori

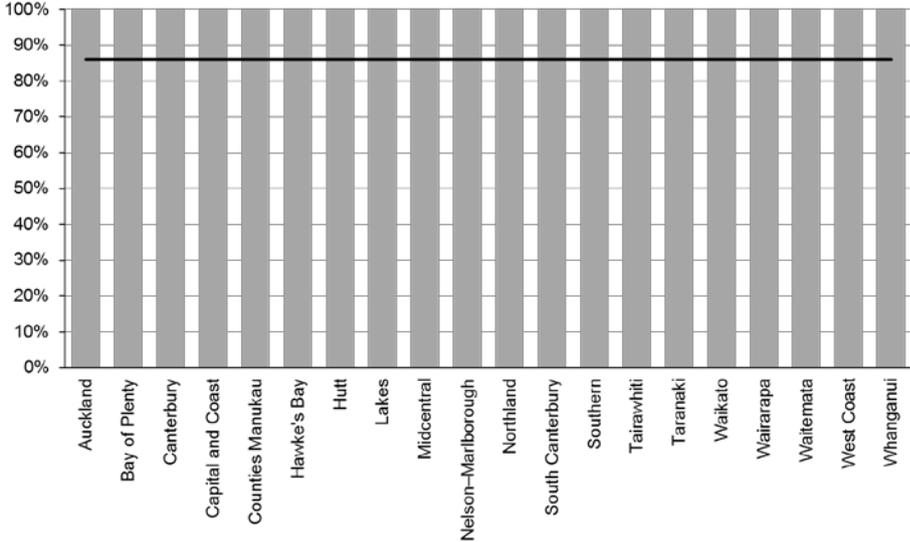
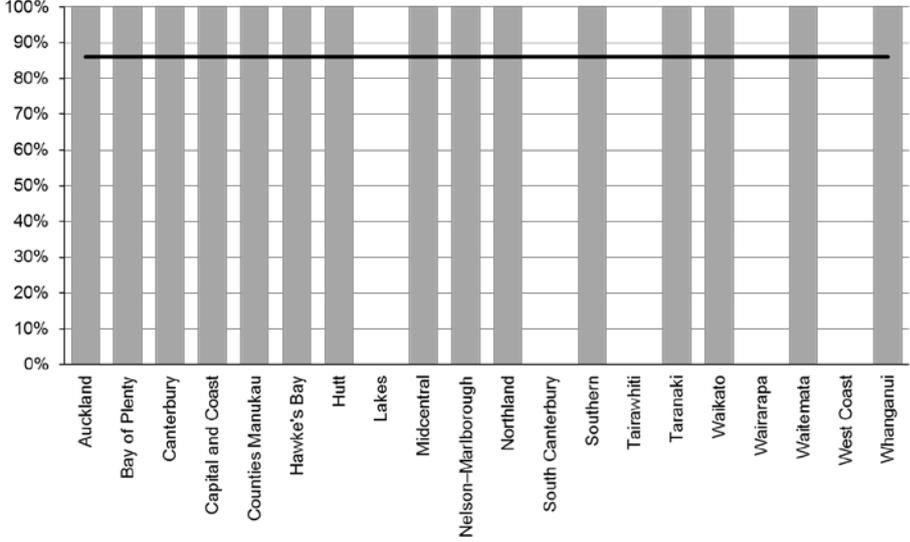


Figure 88: Vision problem referred, Pacific peoples



Data notes

- No bar on graph = no children with vision problem for that population.
- 0% = no children meet the referral criteria.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children with a vision problem referred (excluding advice given) (source: B4 School Check).
- Denominator: number of children with a vision problem (excluding those already under care) (source: B4 School Check).

WCTO Quality Improvement Framework

Indicator 26

Standard:	WCTO providers deliver services in accordance with best practice (inappropriate variation is reduced)
Indicator:	Children with an untreated hearing problem at the B4 School Check are referred
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	100%	100%	100%	100%

Figure 89: Hearing problem referred, total New Zealand

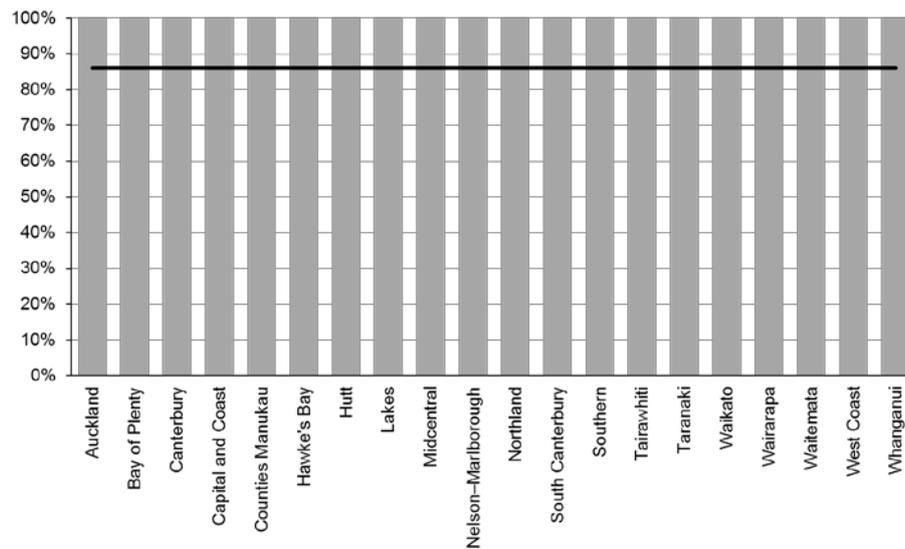


Figure 90: Hearing problem referred, high deprivation

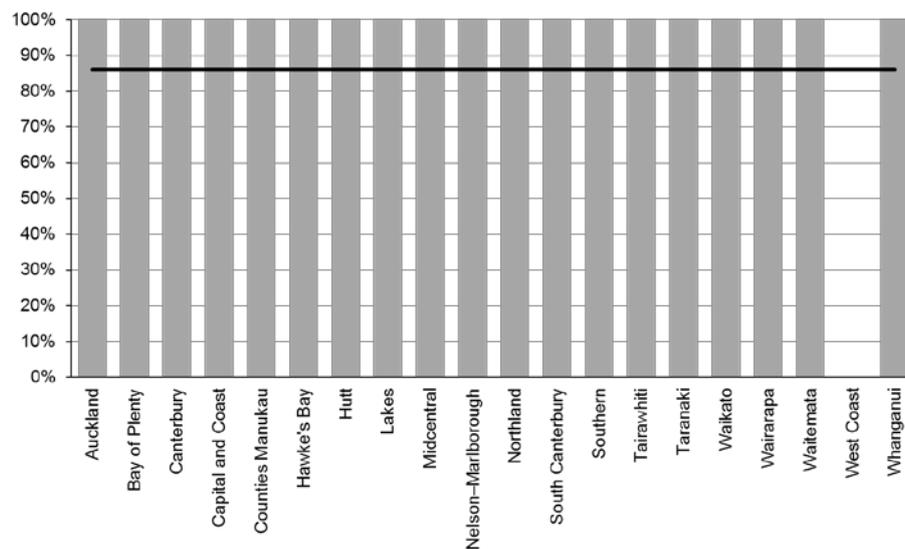


Figure 91: Hearing problem referred, Māori

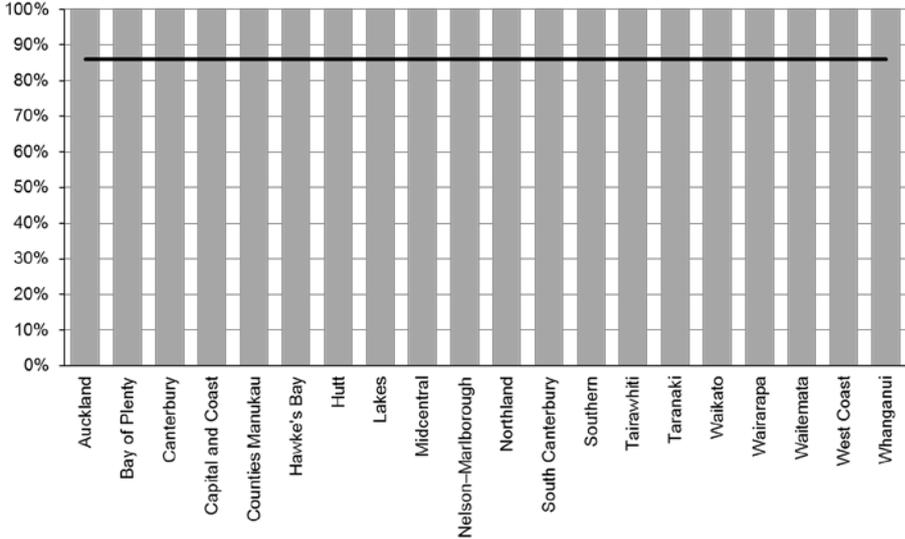
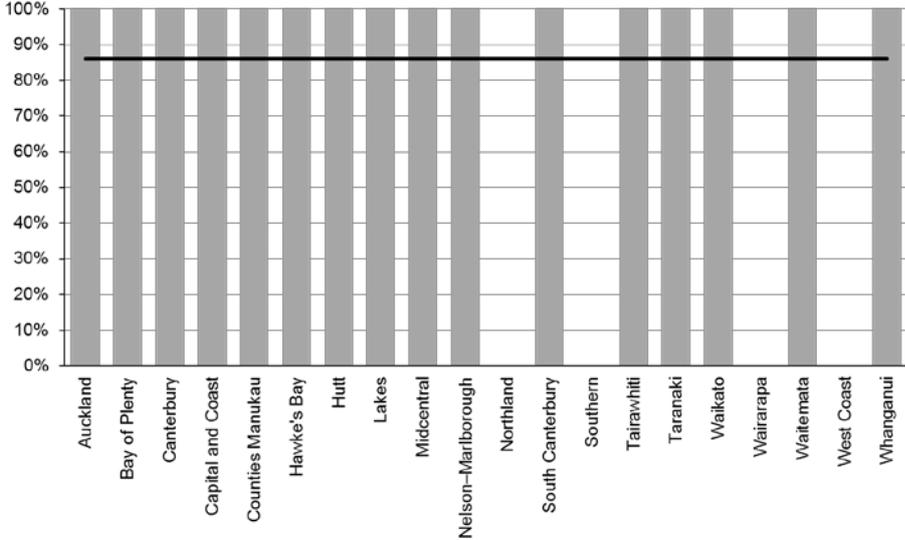


Figure 92: Hearing problem referred, Pacific peoples



Data notes

- No bar on graph = no children with hearing problem for that population.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children with a hearing problem referred (excluding advice given) (B4 School Check).
- Denominator: number of children with a hearing problem (excluding those already under care) (B4 School Check).

WCTO Quality Improvement Framework

Indicator 27

Standard:	WCTO providers deliver services in accordance with best practice (inappropriate variation is reduced)
Indicator:	Children with a BMI greater than the 99.4th percentile at the B4 School Check are referred
Target by December 2014:	86 percent
Target by June 2016:	95 percent

	Total New Zealand	High deprivation	Māori	Pacific peoples
September 2013 mean (range)	63% (16–100)	63% (0–100)	57% (0–100)	62% (0–100)

Figure 93: Children with BMI > 99.4th percentile referred (excluding advice given), total New Zealand

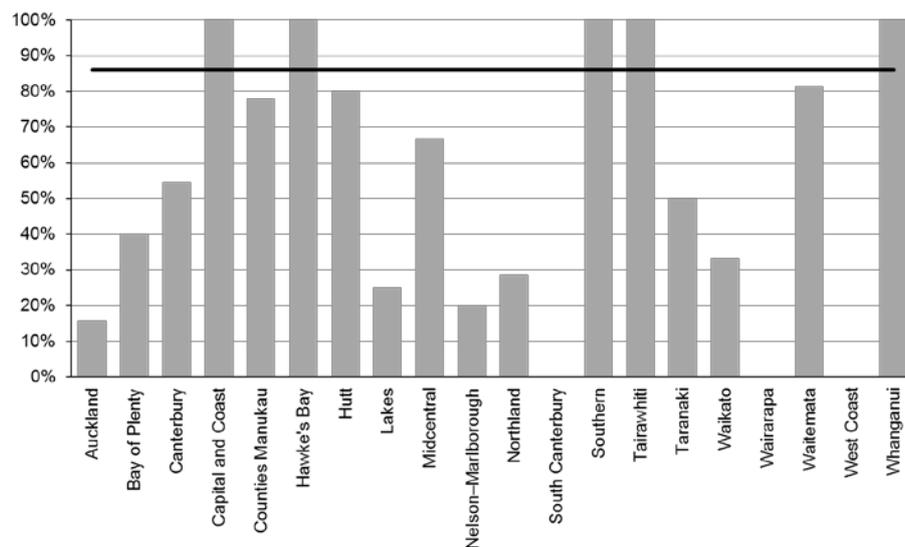


Figure 94: Children with BMI > 99.4th percentile referred (excluding advice given), high deprivation

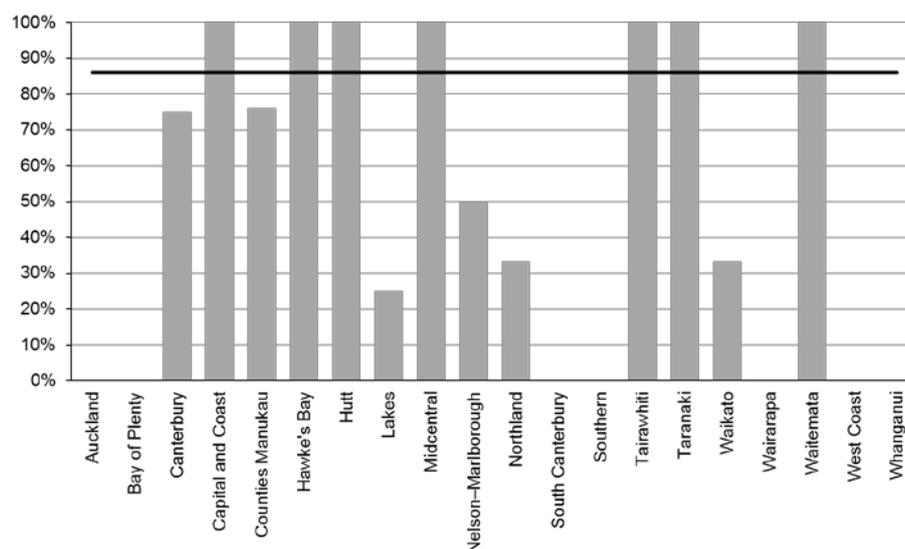


Figure 95: Children with BMI > 99.4th percentile referred (excluding advice given), Māori

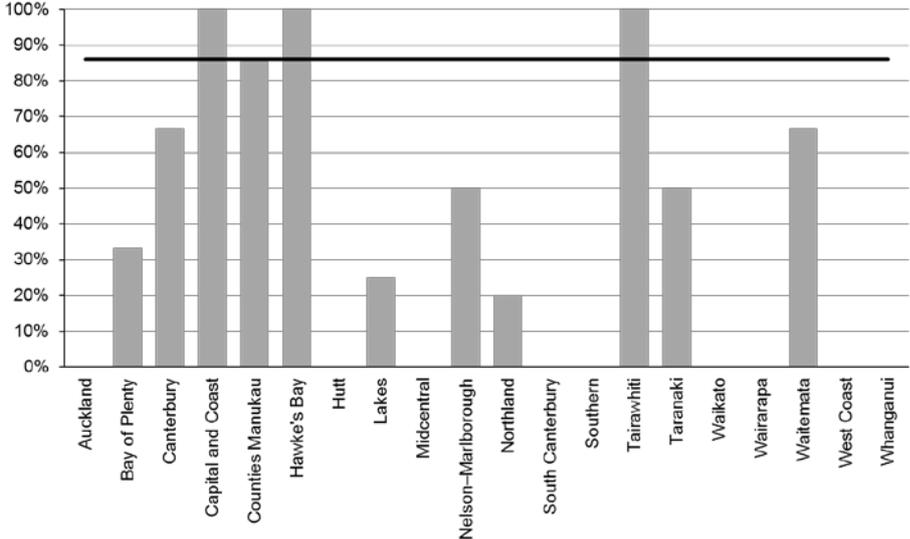
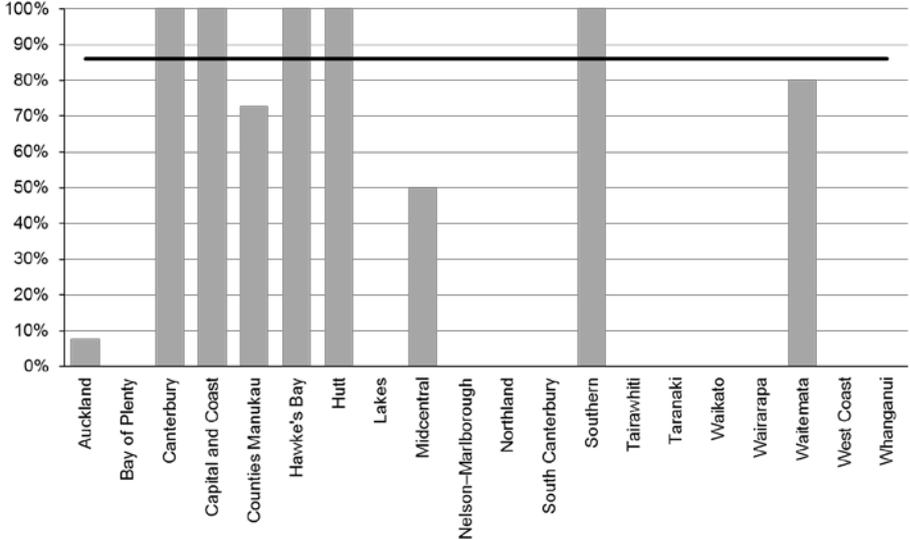


Figure 96: Children with BMI > 99.4th percentile referred (excluding advice given), Pacific peoples



Data notes

- No bar on graph = no children with BMI > 99.4th for that population.
- Time period: children receiving a B4 School Check between 1 February 2013 and 31 July 2013.
- DHB is DHB of service.
- Numerator: number of children with a BMI greater than the 99.4th percentile referred (excluding advice given) (source: B4 School Check).
- Denominator: number of children with a BMI greater than the 99.4th percentile (excluding those already under care) (source: B4 School Check).

Appendix: Summary of the WCTO quality indicators

	Indicator	December 2014 target	June 2016 target	
Access	1	Newborns are enrolled with a general practice by two weeks of age ³	88%	98%
	2	Families/whānau are referred from their LMC to a WCTO provider	88%	98%
	3	Infants receive all WCTO core contacts due in their first year ⁴	86%	95%
	4	Four-year-olds receive a B4 School Check	90%	90%
	5	Children are enrolled with child oral health services	86%	95%
	6	Immunisations are up to date by eight months	95%	95%
	7	Children participate in early childhood education	98%	98%
	8	Children under six have access to free primary care	98%	100%
	9	Children under six have access to free after-hours primary care	98%	100%
	10	Children are seen promptly following referral to specialist services	100% in 5 months	100% in 4 months
Outcomes	11	Infants are exclusively or fully breastfed at two weeks	72%	80%
	12	Infants are exclusively or fully breastfed at six weeks (discharge from LMC)	68%	75%
	13	Infants are exclusively or fully breastfed at three months of age	54%	60%
	14	Infants are receiving breast milk at six months (exclusively, fully or partially breastfed)	59%	65%
	15	Children are a healthy weight at four years	68%	75%
	16	Children are caries free at five years	65%	65%
	17	The burden of dental decay among children with one or more decayed, missing and filled teeth (DMFT) is minimised	4.4 DMFT	4 DMFT
	18	Child mental health is supported (children's SDQ scores are in the normal range at the B4SC)	86%	95%
	19	Mothers are smoke free at two weeks postnatal	86%	95%
	20	Children live in smoke-free homes (age four years)	90%	100%
Quality	21	B4 School Checks are started before children are 4½	81%	90%
	22	Children with an abnormal SDQ-P score at the B4 School Check are referred to specialist services	86%	95%
	23	Children with a PEDS pathway A at the B4 School Check are referred to specialist services	86%	95%
	24	Children with an LTL score of 2–6 at the B4 School Check are referred to specialist services	86%	95%
	25	Children with an untreated vision problem at the B4 School Check are referred to specialist services	86%	95%
	26	Children with an untreated hearing problem at the B4 School Check are referred to specialist services	86%	95%
	27	Children with a BMI greater than the 99.4th percentile at the B4 School Check are referred to a GP or specialist services	86%	95%

³ Data to monitor this indicator is not yet available. PHO enrolment at three months will be used as a de facto indicator in the interim.

⁴ Data for all WCTO providers is not yet available, and so data from Plunket has been used in the interim for Quality Indicators 3, 11 and 12