

The Well Child / Tamariki Ora Quality Improvement Framework

Citation: Ministry of Health. 2013. *The Well Child/Tamariki Ora Quality Improvement Framework*. Wellington: Ministry of Health.

Published in July 2013 by the
Ministry of Health
PO Box 5013, Wellington 6145, New Zealand

ISBN: 978-0-478-40298-8 (online)
HP 5688

This document is available at www.health.govt.nz



MANATŪ HAUORA



This work is licensed under the Creative Commons Attribution 4.0 International licence. In essence, you are free to: share ie, copy and redistribute the material in any medium or format; adapt ie, remix, transform and build upon the material. You must give appropriate credit, provide a link to the licence and indicate if changes were made.

Contents

Executive summary	v
Introduction	1
What is the Well Child/Tamariki Ora programme?	1
Background to the Well Child/Tamariki Ora Quality Improvement Framework	1
Overview of the Quality Improvement Framework	2
Aim 1: Improved safety and quality experience for the child, family/whānau and community	4
Guiding principles	4
Aim 2: Improved health and equity for all populations	5
Guiding principles	5
Aim 3: Best value for health system resource	6
Guiding principles	6
Quality Indicators for the Well Child/Tamariki Ora Quality Improvement Framework	7
Background	7
Target setting methodology	7
Quality Indicators 1–10: Access	8
Why measure access?	8
Alignment with Aim 1	8
Quality Indicators 11–20: Outcomes	10
Why measure outcomes?	10
Alignment with Aim 2	10
Quality Indicators 21–27: Quality	12
Why measure quality?	12
Alignment with Aim 3	12
Appendices	
Appendix 1: Glossary and abbreviations	14
Appendix 2: Measures and data sources for the quality indicators	16
Appendix 3: Data sources for the quality indicators	18
Appendix 4: References	20

List of Tables

Table 1:	WCTO quality indicators 1–10: access	9
Table 2:	WCTO quality indicators 11–20: outcomes	11
Table 3:	WCTO quality indicators 21–27: quality	13

List of Figures

Figure 1:	Model for the WCTO Quality Improvement Framework	3
-----------	--	---

Executive summary

The 2007/08 review and the 2012 quality reviews of the Well Child/Tamariki Ora (WCTO) programme identified significant practice variability, a lack of consistent training and no specific quality assurance or improvement processes across WCTO providers. Service delivery data showed large variability in services' recorded outputs and outcomes. The reviews recommended an evidence-based quality framework be developed to ensure the programme consistently achieves its aims.

In 2012, Litmus Ltd (in partnership with sector expert advisors and the Ministry of Health) developed the WCTO Quality Improvement Framework, drawing on New Zealand and international research. The Framework has three high-level aims, focusing on individual (family/whānau) experience, population health and best value for the health system resource.

The Framework sets quality indicators to audit performance. These quality indicators were developed from existing data sources collated nationally. The approach enables regular monitoring across all services, without placing an additional reporting burden on district health boards (DHBs) or other providers. The quality indicators will be regularly reported on by region, ethnicity and deprivation quintile.

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

Introduction

What is the Well Child/Tamariki Ora programme?

The Well Child/Tamariki Ora (WCTO) programme aims to support and promote the healthy development of children and their families/whānau from birth to five years. It is a universal programme, designed on the principle of providing services for all, with additional services available according to need (that is, the principle of 'proportionate universalism').

The current WCTO schedule involves 13 'core' contacts from birth to five years: four contacts during the postnatal period provided by lead maternity carers (LMCs), a six-week check by general practice, and a further eight contacts from four to six weeks through to five years provided by WCTO providers (Ministry of Health 2010c, 2010d). Additional contacts (which may begin antenatally) are provided on the basis of assessed need.

WCTO services are free and include clinical assessment, health promotion, family/whānau support and advice, interventions or referral as appropriate.

The WCTO programme links with a number of health programmes that aim to improve health and wellbeing outcomes for children and their families, such as the national immunisation programme, the newborn metabolic screening programme and the universal newborn hearing screening programme. It also links with agencies and services external to the health sector, such as the Whānau Ora initiative and a range of family/whānau support, early childhood education and early intervention services.

Background to the Well Child/Tamariki Ora Quality Improvement Framework

Over the last 10 years, a range of measures have been put in place to improve the WCTO programme. The WCTO Framework (a pricing framework for delivery of the WCTO National Schedule) was introduced in 2002 and was designed to improve consistency in service delivery. 2007/08 saw the beginning of a major review, which resulted in a range of evidence-based changes across the programme, including changes to the timing and content of core contacts (Ministry of Health 2010a, 2010b). The review supported the introduction of the B4 School Check (B4SC) into the WCTO programme. In 2012 the Ministry of Health (the Ministry) commissioned three quality reviews to assess how well these changes had been adopted and what impact they were having on child health outcomes (Litmus 2012b, 2012c, 2012d).

Recently, WCTO and other health service providers have increasingly collaborated in an effort to foster quality improvement initiatives. However, at a national level there are no shared principles or standards, and it is difficult to adequately monitor performance across the whole programme and to report on outcomes.

Thus, in 2012, Litmus Ltd (in partnership with sector expert advisors and the Ministry of Health) developed the WCTO Quality Improvement Framework, drawing on New Zealand and international research. The Framework aims to address the identified quality issues and guide the future development of the WCTO programme.

Overview of the Quality Improvement Framework

Purpose

The purpose of the Framework is to support continuous quality improvement for the WCTO programme. Monitoring of the Framework will demonstrate the value of the programme in supporting families/whānau to maximise their children's health and developmental potential.

The Framework focuses on the health and social service environment that the WCTO programme works within, including core contacts, additional contacts and the B4SC, as well as other primary care services, referred services and early childhood education. It places deliberate emphasis on the key intersections between the WCTO programme and other health and social services, to promote delivery of seamless and collaborative care.

The Framework does not replace WCTO providers' existing individual quality assurance and improvement processes, and complements the Well Child Service Specifications and associated contractual arrangements between the Ministry of Health and WCTO providers (Ministry of Health 2010e). The Framework seeks to align existing frameworks and processes across the system and provide common understanding and shared accountability for quality improvement. Implementation of the Framework should be done in partnership with existing quality improvement activities including local Maternity Quality & Safety Programmes.

Development methodology

Litmus Ltd developed the WCTO Quality Improvement Framework concurrently with a number of nationally commissioned quality reviews of individual components of the WCTO programme (Litmus 2012b, 2012c, 2012d). This helped the Framework address two key questions of any quality review process: what is working well, and what can be improved? It also meant that the perspectives of family/whānau, service providers and funders were a focus from the outset.

A critical component in the development of the Framework was the establishment of and input from an expert advisory group. The group included professional expertise from across the WCTO programme and the child health sector, including in the following areas:

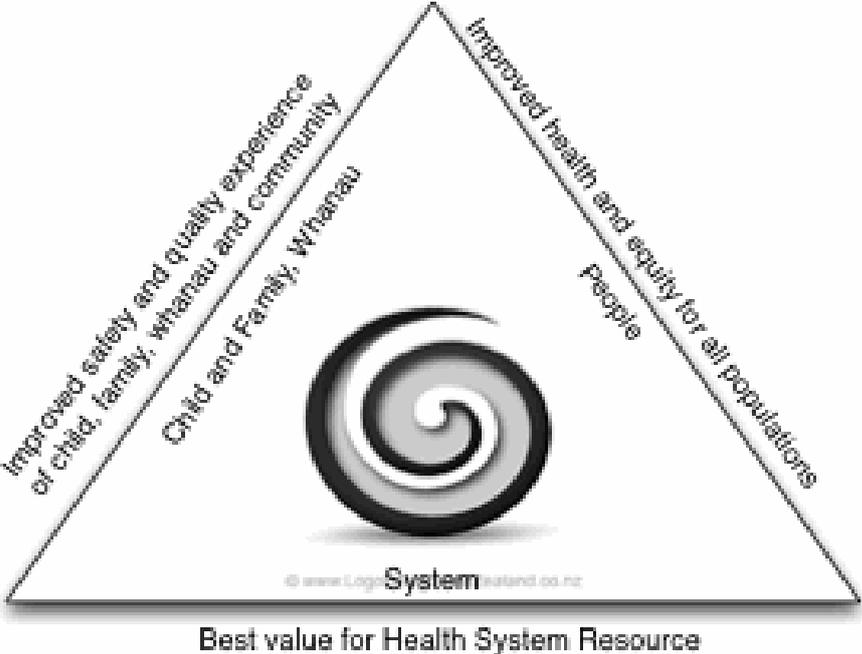
- WCTO service funding and provision
- kaupapa Māori WCTO policy and service delivery
- Pacific WCTO policy and service delivery
- midwifery and primary maternity care
- primary health care and general practice
- public health
- paediatrics
- screening and surveillance
- quality improvement.

Scope

The Framework is essentially a modified version of the United States’ Institute for Healthcare Improvement ‘Triple Aim’ concept (Australian Commission on Safety and Quality in Health Care 2010; Institute for Healthcare Improvement 2012; Health Quality and Safety Commission 2012).

The Framework covers all areas of health and wellbeing– including WCTO, public health, primary maternity, primary care and specialist services – and all levels of health care, including policy making, service management and clinical care.

Figure 1: Model for the WCTO Quality Improvement Framework



The following sections outline the three high-level aims and guiding principles of the Framework and what these mean for funders, planners and providers).

Aim 1: Improved safety and quality experience for the child, family/whānau and community

Guiding principles

- Families/whānau can access WCTO services easily.
- Families/whānau feel respected by WCTO providers, and services build on a family/whānau's strengths, needs and choices (family/whānau-centred approach).
- Families/whānau have effective relationships with WCTO providers.
- WCTO services are culturally appropriate, respectful and responsive to diversity.
- Families/whānau receive WCTO services that are safe and effective.
- Families/whānau who need extra support receive it promptly.

Practically, this will mean:

- families/whānau understand the services available to them
- families/whānau have 24/7 access to, and knowledge of, appropriate services for when they have concerns about their child
- families/whānau give informed consent to services and to their information being shared with other service providers involved in their care
- families/whānau receive support, reassurance and affirmation about their parenting strengths
- WCTO providers work in partnership with family/whānau to develop and action care plans
- families/whānau receive care that is respectful and culturally responsive
- WCTO providers actively seek and respond to family/whānau feedback and maintain systems to deal with concerns promptly
- WCTO providers operate within professional boundaries and maintain a safe environment for families/whānau
- families/whānau receive early intervention where need is identified
- there is clear accountability for each part of the referral pathway, so that families/whānau receive appropriate and timely services.

Aim 2: Improved health and equity for all populations

Guiding principles

- Systems support universal access to WCTO services.
- WCTO services focus on prevention and early intervention at every opportunity and actively facilitate referrals to other services as needed.
- Clinical governance and review is implemented at a local and national level.
- WCTO providers actively work to improve engagement with WCTO and other services by all populations.

Practically, this will mean:

- funding models and service models support equitable access to WCTO and referred services
- WCTO services are responsive to vulnerable populations
- WCTO services are evidence-based and meet the diverse and complex needs of children and families/whānau, including those with mental health and addiction issues
- WCTO providers actively engage other health care and social service providers and share information when appropriate
- WCTO providers monitor outcomes to ensure all families/whānau have equal access to universal services, and families/whānau can access other services based on need
- WCTO providers offer consumer-friendly information to support improvement in health literacy
- WCTO services adapt flexibly to local population needs
- WCTO monitor quality indicators to identify areas for improvement and make service and quality improvements that promote equity.

Aim 3: Best value for health system resource

Guiding principles

- WCTO services are timely, appropriate, safe and efficient, and are evidence-informed.
- The WCTO workforce is competent, skilled and supported.
- The WCTO workforce works collaboratively across service and provider boundaries to address the wider determinants of health.
- WCTO providers regularly monitor quality and coverage data, to drive improvement and reduce inappropriate variation.

Practically, this will mean:

- WCTO providers use evidence-informed needs assessment tools and national guidelines, including the *WCTO Practitioners Handbook*, to reduce inappropriate variation in service delivery
- the WCTO workforce is competent and kept up to date with new knowledge, including through robust professional development
- WCTO providers maintain relationships across service and provider boundaries and work together as a sector
- WCTO providers seek out and apply new evidence to improve services
- WCTO providers cease to deliver services that are ineffective
- WCTO providers actively collect, monitor and act on quality and outcomes data to improve service delivery locally and nationally
- WCTO providers have efficient systems for sharing information.

Quality Indicators for the Well Child/Tamariki Ora Quality Improvement Framework

Background

Regular monitoring is an essential component of quality improvement. The quality indicators presented here enable such monitoring for quality improvement across WCTO.

The Framework aims to monitor and promote quality improvement across WCTO providers without creating an additional reporting burden. Accordingly, its quality indicators are a subset of potential measures drawn from existing data collections and reporting mechanisms.

The quality indicators are broadly grouped into indicators that reflect the three high-level aims of the Framework: universal access, equitable outcomes and continuous quality improvement.

All quality indicators will be reported on by region, ethnicity and deprivation quintile, 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.

Target setting methodology

Targets for the quality indicators reflect national targets set through 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.

WCTO providers must work towards achieving equity. To promote this, the target for each quality indicator is the same across all ethnic groups, deprivation quintiles and DHB regions.

Quality Indicators 1–10:

Access

Why measure access?

Universal access to services including general practice, core WCTO checks, child oral health services, immunisation and early childhood education ensures all children and their families/whānau have the opportunity to reach their development potential.

Achieving universal access requires service providers to take a child and family/whānau-centred approach. Planners, funders and providers must consider cost and other access barriers, ensure services are delivered on time and develop good relationships with other providers to ensure families do not ‘fall through the cracks’.

Monitoring access by ethnicity, deprivation and DHB region ensures a focus on equity. To meet indicator targets and ensure equity for all population groups, planners, funders and providers must prioritise the needs of – and address barriers specific to – vulnerable populations.

Alignment with Aim 1

Aim 1 – Improved safety and quality experience for the child, family/whānau and community – seeks to ensure families are placed at the centre of the care.

Measuring access also addresses the quality and safety of services for families/whānau. A family/whānau’s access of a service reflects their informed choice to participate. In this way, access is an indicator of a family/whānau’s awareness of a service, and the extent to which they see that service as relevant and appropriate, as well as an indicator of ease of access and the degree of integration between services.

Table 1: WCTO quality indicators 1–10: access

Standard	Measure	December 2014 target*	June 2016 target
All children and families/whānau have access to primary care WCTO services, including the B4SC, and early childhood education	Newborns are enrolled with a general practice by two weeks of age	88%	98%
	LMCs refer families/whānau to a WCTO provider	88%	98%
	Infants receive all WCTO core contacts in their first year of life	86%	95%
	Four-year-olds receive a B4SC	90%	90%
	Children are enrolled with child oral health services	86%	95%
	Immunisations are up to date by eight months	95%	95%
	Children are enrolled in early childhood education	98%	98%
	Children under six have access to free primary care	100%	100%
	Children under six have access to free after-hours primary care	100%	100%
All children and families/whānau with additional need have access to specialist and referred services in a timely manner	Children and families are seen within five months of referral to specialist services	100% within 5 months	100% within 4 months

* Where there is no existing target, interim targets have been set at 90% of the three-year target.

Quality Indicators 11–20: Outcomes

Why measure outcomes?

Measuring outcomes reveals the population impact of WCTO and related programmes and services. Setting targets for health outcomes by ethnicity, socioeconomic deprivation and DHB region ensures a focus on equity, and that services work to actively reduce health inequalities.

Monitoring outcomes is challenging in an environment that is often output-driven. Taken together, these indicators have been designed to reflect service delivery and quality at a system level, rather than an individual service or provider level. Meeting targets for these indicators is dependent on a network of services working well. Improvement in outcomes not only requires a focus on high-quality health services, but also requires services across health and other sectors to be better linked and easier to access, particularly for vulnerable populations.

Alignment with Aim 2

Aim 2 – Improved health and equity for all populations – seeks to ensure that WCTO and related programmes maximise population health and wellbeing. Monitoring outcomes, and particularly equity of outcomes, emphasises that equity is an explicit intention of WCTO services. Monitoring outcomes drives services to configure themselves to promote equitable population health gains.

Table 2: WCTO quality indicators 11–20: outcomes

Standard	Measure	December 2014 target*	June 2016 target
WCTO providers use evidence-based interventions and education to promote child and family/whānau health and wellbeing	Infants are exclusively or fully breastfed at two weeks	72%	80%
	Infants are exclusively or fully breastfed at six weeks	68%	75%
	Infants are exclusively or fully breastfed at three months	54%	60%
	Infants are being fed breast milk at six months	59%	65%
	Children are a healthy weight at four years	68%	75%
	Children are caries-free at five years	65%	65%
	The burden of dental decay among children with one or more four decayed, missing and filled teeth (DMFT) is minimised	4.4 DMFT	4 DMFT
	Child mental health and development is supported (children's Strengths and Difficulties Questionnaire (SDQ)) scores are in the normal range at the B4SC)	86%	95%
	Mothers are smokefree at two weeks postnatal	86%	95%
	Children live in smokefree homes	90%	100%

* Where there is no existing target, interim targets have been set at 90% of the three-year target.

Quality Indicators 21–27: Quality

Why measure quality?

An explicit focus on quality has been shown to reduce inappropriate variation in service delivery. For example, robust reporting processes and feedback on various quality measures has recently resulted in significant improvement in adherence to best practice in the delivery of screening tools within the B4SC programme. These quality indicators seek to create a regular forum for focusing on quality in the delivery of WCTO services.

The purpose of these indicators is to ensure services are delivered at the right time, in accordance with best practice, consistently across providers and regions.

Alignment with Aim 3

If services are consistently delivered in accordance with evidence-based best practice (quality), funders, providers and families can be confident that they will have the greatest impact on outcomes, and therefore be the most efficient use of resources.

Monitoring service delivery against best practice supports Aim 3 – *Best value for health system resource* – by reducing waste associated with inappropriate use of tools (for example, rescreening, or the over- or under-identification of concerns). Monitoring referral rates supports Aim 3 by reducing waste associated with identifying but not acting on concerns.

Research shows that identifying and appropriately addressing health or developmental concerns in early childhood is more effective than going through the process later in a patient's life. It also shows that intervention in early childhood is more cost-effective than later intervention, because disadvantage due to health, social or developmental issues has a cumulative effect on health over time.

Identifying and addressing concerns as they develop, and providing support or intervention as early as possible, allows a child to reach their maximum health, educational and developmental potential. This represents best value for the health system resource.

Table 3: WCTO quality indicators 21–27: quality

Standard	Measure	December 2014 target*	June 2016 target
WCTO services are delivered at the right time	B4SCs are started before age four and a half	81%	90%
WCTO providers deliver services according to best practice (inappropriate variation is reduced)	Children with an abnormal SDQ score at the B4SC are referred to specialist services	86%	95%
	Children with a Parental Evaluation of Development Status (PEDS) pathway A at the B4SC are referred to specialist services	86%	95%
	Children with a lift-the-lip (LTL) score of 2–6 at the B4SC are referred to oral health services	86%	95%
	Children with a vision problem at the B4SC are referred to specialist services	86%	95%
	Children with a hearing problem at the B4SC are referred to specialist services	86%	95%
	Children with a body mass index (BMI) >21 at the B4SC are referred to a GP or specialist services	86%	95%

* Where there is no existing target, interim targets have been set at 90% of the three-year target.

Appendix 1: Glossary and abbreviations

The **B4 School Check (B4SC)** is a nationwide programme offering a free health and development check for four-year-olds. It is the eighth core contact of the Well Child/Tamariki Ora schedule of services.

Body mass index (BMI) provides a useful population-level indicator of excess body weight. It is a measure of weight adjusted for height, and is calculated by dividing weight in kilograms by the square of height in metres (kg/m^2). BMI is used internationally to classify people who are underweight, overweight and obese.

Decayed, missing and filled teeth (DMFT) is a numerical measure of the prevalence of dental caries in an individual. It is obtained by calculating the sum of decayed, missing and filled teeth (counting each tooth only once).

Exclusive breastfeeding is breastfeeding where a baby has never to the mother's knowledge had any water, formula or other liquid or solid food but only breast milk (from the breast or expressed) and prescribed medicines since birth.

Family/whānau is an inclusive term used in the context of WCTO services to mean the family, extended family and/or caregivers or guardians who care for a child.

Full breastfeeding is breastfeeding where a baby has taken breast milk and a minimal amount of water or prescribed medicines but no other liquids or solids in the past 48 hours.

A **lead maternity carer (LMC)** provides primary maternity care and support through pregnancy, labour and the first weeks of a child's life. Most LMCs are midwives, though some doctors and obstetricians also carry out the role. An LMC may provide all of a woman's maternity care or may share it with other health practitioners.

Lift the lip (LTL) is a quick and easy technique used in WCTO services for screening infants' and children's teeth for dental caries and early dental changes.

Overweight and obese are defined as an excess of body fat. Of the candidate indicators of obesity, the **BMI** seems to be the best available. Although not a perfect measure, the BMI is a reasonable indicator of body adiposity or fatness. In the **B4SC**, a BMI of >21 is defined as extremely overweight; in this case, referral to a GP or to specialist services is expected.

The **Parental Evaluation of Development Status (PEDS)** is a questionnaire for parents to detect developmental and behavioural problems in children from birth to eight years. The PEDS has 10 general questions about behaviour, development, speech and language, and fine and gross motor skills.

The **Strengths and Difficulties Questionnaire (SDQ)** is a screening tool to evaluate children's emotional and behavioural development. The SDQ asks about a child's psychosocial attributes (positive and negative behaviours): emotional attributes, conduct, hyperactivity, peer relations and prosocial behaviour. It also asks about how the child's behavioural difficulties affect the child's life.

The **Well Child/Tamariki Ora (WCTO)** programme is a free programme of screening, education and support services offered to all New Zealand children and their families/whānau from birth to five years. It assists families and whānau to improve and protect their children's health.

WCTO core contacts are the universal health and wellbeing checks children are entitled to under the WCTO programme from birth to five years of age. From birth to six weeks, four WCTO core contacts are provided by the LMC, and one is provided by the family's general practitioner. From four weeks to three years, a WCTO provider performs seven core WCTO checks, timed at important stages in the child's life. The **B4SC** is the final WCTO core contact; it takes place when a child is four years old.

WCTO additional contacts are available to children and their families/whānau when there is an assessed need for further support, best met by a WCTO provider.

The **WCTO National Schedule** is a service delivery schedule that describes the assessment, prevention and early intervention activities provided under the WCTO programme. The schedule incorporates the key public health concepts of supportive environments, disease prevention and health promotion.

Appendix 2: Measures and data sources for the quality indicators

No.	Measure	Numerator (source)	Denominator (source)
1	Newborns are enrolled with a general practice by two weeks of age	Number of newborns enrolled with a primary health organisation (PHO) by two weeks of age (PHO)	Number of newborns (National Immunisation Register (NIR))
2	LMCs refer families/whānau to a WCTO provider	Number of newborns referred to WCTO by LMC (National Maternity Collection (MAT))	Number of newborns receiving LMC services (MAT)
3	Infants (0–12 months) receive all WCTO core contacts in their first year of life	Number of infants who have received WCTO core contacts in their first year of life (WCTO)	Number of infants enrolled with WCTO (WCTO)
4	Four-year-olds receive a B4SC	Number of children with a completed B4SC (B4SC)	Number of four-year-olds (B4SC)
5	Children aged 0–4 are enrolled with child oral health services	Number of children aged 0–4 enrolled with child oral health services (Community Oral Health Services)	Number of children aged 0–4 (PHO)
6	Immunisations are up to date by eight months	Number of children whose immunisations are up to date at eight months (NIR)	Number of eight-month-olds (NIR)
7	Children are enrolled in early childhood education	Number of children enrolled in early childhood education (Ministry of Education)	Number of preschool children (Ministry of Education)
8	Children under six have access to free primary care	Number of children under six enrolled with a general practice offering free daytime services (DHB quarterly reporting)	Number of children under six enrolled with a PHO (PHO)
9	Children under six have access to free after-hours primary care	Number of children under six who have access to free after-hours primary care (DHB quarterly reporting)	Number of children under six enrolled with a PHO (PHO)
10	Children and families are seen within five months of referral to specialist services	Number of patients waiting more than five months for first specialist appointment at end of month (Paediatric Medicine ESPI 2)	Number of patients waiting for first specialist appointment at end of month (Paediatric Medicine ESPI 2)
11	Infants are exclusively or fully breastfed at two weeks	Number of infants exclusively or fully breastfed at two weeks (MAT)	Number of infants receiving LMC services (MAT)
12	Infants are exclusively or fully breastfed at six weeks	Number of infants exclusively or fully breastfed at six weeks (MAT)	Number of infants receiving LMC services (MAT)
13	Infants are exclusively or fully breastfed at three months	Number of infants exclusively or fully breastfed at three months (WCTO)	Number of three-month-olds enrolled with WCTO (WCTO)
14	Infants are being fed breast milk at six months	Number of infants exclusively, fully or partially breastfed at six months (WCTO)	Number of six-month-olds enrolled with WCTO (WCTO)

No.	Measure	Numerator (source)	Denominator (source)
15	Children are a healthy weight at four years	Number of children with a BMI between the 3rd and 85th percentile at B4SC (B4SC) (WHO 2006 standards)	Number of children with completed BMI (B4SC)
16	Children are caries-free at five years	Number of children caries-free at five years (Community Oral Health Services)	Number of children with reported oral health status (Community Oral Health Services)
17	The burden of dental decay is minimised	Number of children with DMFT with a sum DMFT score ≥ 1 (Community Oral Health Services)	Number of children with DMFT ≥ 1 (Community Oral Health Services)
18	Child mental health and development is supported	Number of children whose SDQ scores are in the normal range at the B4SC (B4SC)	Number of children for whom the SDQ has been completed at the B4SC (B4SC)
19	Mothers are smokefree at two weeks postnatal	Number of mothers who are smokefree at two weeks postnatal (MAT)	Number of mothers receiving LMC services (MAT)
20	Children live in smokefree homes	Number of children living in a smokefree home at B4SC (B4SC)	Number of children with smokefree home status completed at B4SC (B4SC)
21	B4SCs are started before age four and a half	Number of children for whom B4SCs are started before age four and a half (B4SC)	Number of children with completed B4SC (B4SC)
22	Children with an abnormal SDQ score at the B4SC are referred to specialist services	Number of children with an abnormal SDQ score at the B4SC referred (B4SC)	Number of children with an abnormal SDQ score at the B4SC (B4SC)
23	Children with a PEDS pathway A at the B4SC are referred to specialist services	Number of children with a PEDS pathway A at the B4SC referred (B4SC)	Number of children with PEDS pathway A at the B4SC (B4SC)
24	Children with an LTL score of 2–6 at the B4SC are referred to oral health services	Number of children with an LTL score of 2–6 referred (B4SC)	Number of children with an LTL score of 2–6 (B4SC)
25	Children with a vision problem at the B4SC are referred to specialist services	Number of children with a vision problem at the B4SC referred (B4SC)	Number of children with a vision problem (B4SC)
26	Children with a hearing problem at the B4SC are referred to specialist services	Number of children with a hearing problem at the B4SC referred (B4SC)	Number of children with a hearing problem (B4SC)
27	Children with a BMI >21 at the B4SC are referred to a GP or specialist services	Number of children with a BMI >21 at the B4SC referred (B4SC)	Number of children with a BMI >21 at the B4SC (B4SC)

Appendix 3: Data sources for the quality indicators

The B4SC information system

The B4SC information system collects demographic, clinical and service-use information for all children receiving a B4SC to support allocation and coverage, referral and follow-up and performance monitoring. The system creates a nationally available, unit-level database of non-identifiable information for research, service development and planning purposes.

Community oral health services

School dental services provide statistics on the percentage of caries-free children and the incidence of DMFT for 97 percent of five-year-old children. Data is organised by region, ethnicity and fluoridation status.

Early childhood education information

The Ministry of Education collects data on the percentage of children starting school who have participated in quality early childhood education, as per the 'Better Public Services' target (see www.ssc.govt.nz/bps-supporting-vulnerable-children).

Preschool oral health enrolment

The Ministry of Health collects data on the number of enrolments in oral health services by age at enrolment. District health boards report this information annually to the Ministry of Health, by DHB region and ethnic group.

National Immunisation Register (NIR)

The NIR, administered by the Ministry of Health, contains all registered immunisation enrolments and events for children born since 2005.

National maternity collection (MAT)

MAT, administered by the Ministry of Health, provides statistical, demographic and clinical information about selected publicly funded maternity services up to nine months before and three months after a birth. The collection contains data on primary maternity services provided under Section 88 of the New Zealand Public Health and Disability Act 2000. It also contains inpatient and day-patient health event data on pregnancy, birth and the postnatal period for mother and baby, sourced from the National Minimum Dataset (NMDS).

National Minimum Dataset (NMDS)

NMDS, administered by the Ministry of Health, is a national collection of public and private hospital discharge information, including coded clinical data on inpatients and day patients.

PHO enrolment collection

The national PHO enrolment collection holds primary health care system patient enrolment data.

WCTO providers and Plunket

All WCTO providers submit service coverage and event-level data to the Ministry of Health, according to contractual requirements in the national WCTO tier two service specification.¹

¹ Note: Event-level data collection from Well Child/Tamariki Ora providers is a new requirement for 2012, and, as such, the quality and completeness of these data vary but are expected to improve over time.

Appendix 4: References

Australian Commission on Safety and Quality in Health Care. 2010. *Australian Safety and Quality Framework for Health Care*. URL: www.safetyandquality.gov.au/wp-content/uploads/2012/04/Australian-SandQ-Framework1.pdf (accessed 26 June 2013).

Health Quality and Safety Commission. 2012. *The Triple Aim. 12 December 2011*. URL: www.hqsc.govt.nz/news-and-events/news/126 (accessed 26 June 2013).

Institute for Healthcare Improvement. 2012. *Better Care for Individuals, Better Health for Populations, and Lower Per Capita Costs: IHI Triple Aim Initiative*. URL: www.ihl.org/offerings/Initiatives/TripleAim/Pages/Approach.aspx (accessed 26 June 2013).

Litmus. 2012a. *Draft Quality Improvement Framework for the Well Child/Tamariki Ora Programme*. Wellington: Litmus.

Litmus. 2012b. *Quality Review of the B4SC*. Wellington: Litmus.

Litmus. 2012c. *Quality Review of the Three New Assessment Tools*. Wellington: Litmus.

Litmus. 2012d. *Quality Review of the 4–6 Week Check*. Wellington: Litmus.

Ministry of Health. 2010a. *Changes to the Well Child/Tamariki Ora Framework*. Wellington: Ministry of Health.

Ministry of Health. 2010b. *Supporting Evidence for Changes to the Content of the Well Child/Tamariki Ora Framework: Background Paper 2007*. Wellington: Ministry of Health.

Ministry of Health. 2010c. *Well Child/Tamariki Ora National Schedule – Birth to four to six weeks*. Wellington: Ministry of Health.

Ministry of Health. 2010d. *Well Child/Tamariki Ora National Schedule – Four to six weeks, to five years*. Wellington: Ministry of Health.

Ministry of Health. 2010e. *Well Child/Tamariki Ora Services Tier Two Service Specification*. Wellington: Ministry of Health.