

Queensland infant feeding survey 2014

Current results, sociodemographic factors, and
trends

Queensland infant feeding survey 2014—Current results, sociodemographic factors, and trends

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About this report

This report is designed for a technical audience and assumes familiarity with survey methodology, breastfeeding indicator data collection, and statistical analysis.

The objectives of this report are to

1. use the most current Queensland data to report against the national headline indicator for children's health breastfeeding indicator and the six national breastfeeding indicators
2. investigate the relationship between sociodemographic characteristics and breastfeeding
3. investigate changes in infant feeding practices over time.

The following data sources were used

- 2014 Queensland infant feeding survey (objectives 1, 2, and 3)
- 2010 Australian National Infant Feeding Survey, Queensland subsample (objective 2)
- 2003 and 2008 Queensland infant feeding surveys (objective 3)

This report was prepared by the Preventive Health Branch, Health and Wellbeing Policy (Epidemiology) Unit (Susan Clemens and Tim Roselli).

Technical reports containing methodological details for the Queensland surveys is available from <https://www.health.qld.gov.au/research-reports/population-health/preventive/data/preventive-health-surveys/historical/default.asp> or by request to Population_Epidemiology@health.qld.gov.au.

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Summary

Breastfeeding provides optimal infant nutrition and also has important health benefits for mothers and for society more broadly. Breastfeeding is promoted and supported by a range of policies and frameworks at the state, national, and international level. For example, the international Baby Friendly Hospital Initiative (BFHI), developed by the World Health Organisation and United Nations International Children's Emergency Fund, was introduced to Australia in 1993. There are currently 20 facilities in Queensland¹ that have implemented the ten globally defined steps to protect, promote and support breastfeeding required for BFHI accreditation. The Australian National Breastfeeding Strategy 2010–2015² is the current policy framework for all levels of Australian government and progress toward the identified goals is currently being assessed.

In Queensland, information on infant feeding practices was collected in statewide surveys conducted in 2003, 2008 and 2014. National data were collected in 2010 in the Australian national infant feeding survey (ANIFS). The 2010 ANIFS and the Queensland 2014 survey were the first to include the six national breastfeeding indicators which were endorsed in 2010. Selected results from these surveys are presented below.

National breastfeeding indicators—2014 Queensland infant survey

- **National headline indicator for children's health: breastfeeding**—29% of infants were exclusively breastfed at four months.
- **Indicator 1:** proportion of infants ever breastfed—96% of infants were ever breastfed.
- **Indicator 2:** proportion of infants receiving any breast milk—84% at two months of age, 64% at six months of age, and 32% at 12 months of age.
- **Indicator 3:** proportion of infants exclusively breastfed—Initiated for 92% of infants but dropped to 68% before one month of age, 29% at four months of age, and 5% at six months of age.
- **Indicator 4:** proportion of infants predominantly breastfed—Initiated for 92% of infants but dropped to 71% before one month of age and to 38% and 7% at four and six months of age respectively.
- **Indicator 5:** proportion of children receiving soft, semi-soft, or solid food—36% at four months of age and 60% at five months of age.
- **Indicator 6:** proportion of children receiving non-human milk or formula—28% of infants aged less than one month, 50% of four month olds, and 62% of six month olds.

Interpreting the indicators: Breastfeeding duration (indicators 3 and 4) is measured by the absence of consuming other liquids and solids, therefore, breastfeeding occurred throughout the entire completed month. Introducing non-human milk or formula and soft, semi-soft or solid foods (indicators 5 and 6) are measured by the initiation of a behaviour that occurred at any point within the month of age.

Trends in feeding patterns—2003, 2008 and 2014 Queensland surveys

Gains in infant feeding are being achieved as evidenced by increases in the proportion of infants receiving any breast milk at each month of age and corresponding decreases in the age at which various foods and drinks are consumed daily or almost daily. Together, these results signal an increase in continued breastfeeding supplemented with other foods.

- **Exclusive breastfeeding**—there was no change in exclusive breastfeeding between 2008 and 2014—for example, the percentage of infants exclusively breastfed at four months was 28% in 2008 and 29% in 2014.
- **Breast milk consumption at each month of age**—trends in any consumption of breast milk indicate a 28% increase in the proportion of infants breastfed at each month between 2003 and 2014.
- **Formula**—at four months, daily or almost daily formula consumption decreased by 32% between 2003 and 2014 (57% to 39% respectively).
- **Semi-solid and solid food**—at four months, consumption of semi-solid and solid foods daily/almost daily decreased by 61% between 2003 and 2014 (67% to 26% respectively). Most of this decrease occurred between 2003 and 2008.

- **Early consumption of cow's milk**—at 10 months, daily or almost daily consumption of cow's milk decreased by 81% between 2003 and 2014 (35% to 20% respectively).
- **Water-based sweetened drinks and juice**—at 12 months, daily or almost daily consumption decreased by 74% between 2003 and 2014 (39% to 12% respectively).

Sociodemographic differences

Exclusive breastfeeding at four months of age

- **Maternal age**—in 2010, the percentage of older mothers who were exclusively breastfeeding at four months was higher than for younger mothers aged 18–29 years (31% higher among 30–34 year olds and 51% higher among mothers aged 35 years or older).³
- **Parity**—exclusive breastfeeding at four months was about 50% higher among mothers with more than one child compared to those with one child in 2010.³
- **Maternal obesity**—in 2010, the percentage of non-obese mothers who were exclusively breastfeeding at four months was almost two times that of obese mothers.⁴
- **Socioeconomic status**—exclusive breastfeeding at four months was 80% higher among mothers living in the most advantaged areas compared to mothers in the most disadvantaged areas.⁵
- **Indigenous status**—in 2010, the percentage of non-Indigenous mothers who were exclusively breastfeeding at four months was over six times that of Indigenous Queenslander mothers.³
- **Educational status**—among mothers with a higher education qualification, the percentage who were exclusively breastfeeding at four months was 64% higher than among mothers without such qualifications.⁵
- **Smoking status**—the percentage of non-smoking mothers who were exclusively breastfeeding was 72% higher than mothers who smoked.⁵

Infant feeding patterns across the first year

- Mothers **with a higher education qualification** were on average 18% more likely to exclusively breastfeed than those without such qualifications.⁵
- Mothers **without higher education qualifications** were on average 24% more likely to introduce non-human milk or formula than those with such qualifications.⁵
- **Non-smoking mothers** were on average 26% more likely to be exclusively breastfeeding than mothers who smoked.⁵
- **Mothers who smoked** were on average 24% more likely to introduce non-human milk or formula and on average 22% more likely to have introduced soft, semi-soft or solid foods.⁵

Monitoring breastfeeding

The importance of monitoring breastfeeding was emphasised in the Australian National Breastfeeding Strategy 2010–2015. The complexity and variability of methods at the jurisdictional level was noted, with the strategy consequently supporting a national infant feeding survey.

The analyses included in this report demonstrate that the 2014 Queensland survey results predominantly mirror those from the 2010 ANIFS. The 2010 ANIFS included significantly more participants than is feasible using telephone survey methods and therefore allows more detailed sociodemographic analysis. For example, results for Indigenous Queenslander mothers and for remote areas are only available from the 2010 ANIFS. Conducting the ANIFS survey at regular intervals and with sufficient participants to enable jurisdictional reporting would be an important component of long term breastfeeding monitoring.

Introduction

Breastfeeding provides optimal infant nutrition and also has important health benefits for mothers and for society more broadly. Breastfeeding is promoted and supported by a range of policies and frameworks at the state, national, and international level. For example, the international Baby Friendly Hospital Initiative (BFHI), developed by the World Health Organisation and United Nations International Children's Emergency Fund, was introduced to Australia in 1993. There are currently 20 facilities in Queensland¹ that have implemented the ten globally defined steps to protect, promote and support breastfeeding required for BFHI accreditation. The Australian National Breastfeeding Strategy 2010–2015² is the current policy framework for all levels of Australian government and progress toward the identified goals is currently being assessed.

Breastfeeding provides important nutritional, health, social and economic benefits. Infant feeding recommendations have been included in Australian dietary recommendations since 1982.⁶ The current 2012 recommendations are that infants are exclusively breastfed until around six months of age at which time solid foods are introduced.⁷ While solid foods are introduced, infants continue to benefit if breastfeeding is continued for up to 12 months and beyond. The recommendations also recognise that breastfeeding of any duration has health benefits for both mother and infant.

By around six months of age most infants are no longer satisfied by breast milk or infant formula alone and are ready for different foods to be introduced. Foods introduced at this age should complement breast milk or infant formula and be high in nutritional value, particularly iron. Fruit juice and cow's milk are not recommended for children until around 12 months of age.⁸

Monitoring progress toward meeting breastfeeding recommendations is difficult due to differences in data collection methodology and definitions of breastfeeding at the state, national and international level. In Australia, the proportion of infants breastfed to around four months of age was endorsed as one of 19 national headline indicators for children's health in 2006.⁹ To support the aims and objectives of the Australian National Breastfeeding Strategy 2010–2015,⁶ the Australian Institute of Health and Welfare (AIHW) held a workshop to develop consensus on a core set of breastfeeding indicators in 2010. The workshop resulted in an agreed upon set of six national infant feeding indicators. The Australian national infant feeding survey (ANIFS), conducted in 2010, was designed specifically to collect data to report against these indicators.

In Queensland, infant feeding practices information has been collected on statewide surveys conducted in 2003, 2008, and 2014. As seen on other national and international studies, data collection methodology has varied over time. The 2014 survey was designed to collect data aligned with the national breastfeeding indicators and the children's headline indicator for breastfeeding^{6, 10}

Objective

This report aims to use the:

- 2014 Queensland infant feeding survey to report against the national headline indicator and the six national breastfeeding indicators
- 2014 Queensland infant feeding survey to examine sociodemographic factors associated with the national breastfeeding indicators
- 2010 ANIFS national sample and 2010 AIFS Queensland subsample to compare results to the 2014 Queensland survey and to examine additional sociodemographic factors associated with the six national indicators
- comparable information from the 2003, 2008, and 2014 Queensland infant feeding surveys to examine trends in infant feeding practices.

Methods

The Department of Health conducted infant feeding telephone surveys in 2003, 2008 and 2014. Variation in survey content and questions limits comparability across the surveys. Survey methods are summarised in Table 1. Interviews were conducted by landline telephone for all years. Additional methodological information for 2014 is available in the 2014 technical report¹¹ and for 2003 and 2008 by request.

Table 1: Methods for Queensland infant telephone surveys

| | 2003 | 2008 | 2014 |
|---------------------|---|---|---|
| Infant age (months) | 0 to 48 | 0 to 12 | 0 to 24 |
| Sample size | 1,201 | 1,200 | 1,098 |
| Response rate | 92% | 96% | 94% |
| Survey content | <p><i>Daily or almost daily</i> consumption of various liquids and foods including sweet drinks and juice</p> <p>Sources of infant feeding information Specific health behaviours and events (fruit and vegetable consumption, oral health, injuries)</p> | <p><i>Daily or almost daily</i> consumption of various liquids and foods including sweet drinks and juice</p> <p>Intentions and reasons for breast- or formula feeding</p> <p>Impressions of infant feeding resources</p> | <p><i>Daily or almost daily</i> consumption of various liquids and foods including sweet drinks and juice</p> <p>Collection of national breastfeeding indicators—breastfeeding duration and introduction of formula, liquids and solid food</p> |

Analysis

Of the six national indicators (see definitions in the Summary and following pages), calculating results for 1 and 2 is straightforward because they are based on events at an infant's current age in months. Indicators 3 to 6 require a statistical technique that adjusts for situations where a future event has not yet occurred.⁴ This is necessary because some infants will not yet have reached the age when a feeding event is likely at the time they are surveyed (for example, a one month old is unlikely to have had solid food). The statistical term is 'censored' data and the technique used in these situations is survival analysis. This approach was also applied to the comparable 2003, 2008 and 2014 questions.

National indicators 3 and 4 report results for exclusive and predominant breastfeeding. Exclusive breastfeeding means that the infant only receives breast milk. Exceptions are vitamin and mineral drops or syrups or medicines including oral rehydration solutions. In addition to the above, a predominantly breastfed infant may have also received water, water-based drinks including juice, or solutions such as teas that are used in some cultures. If the infant has any food-based fluids, including formula, they are not considered predominantly breastfed.

Sociodemographic characteristics associated with longer breastfeeding duration are also examined. The index of relative socioeconomic advantage and disadvantage¹² and remoteness classification¹³ are based on the infant's residential location. Others are based the mother's

- age
- smoking status
- educational qualifications—a bachelor's degree or higher compared to those without a higher degree
- employment status—employed full or part time compared to unemployed mothers (for example, students or full time carers).

Queensland infant feeding survey results

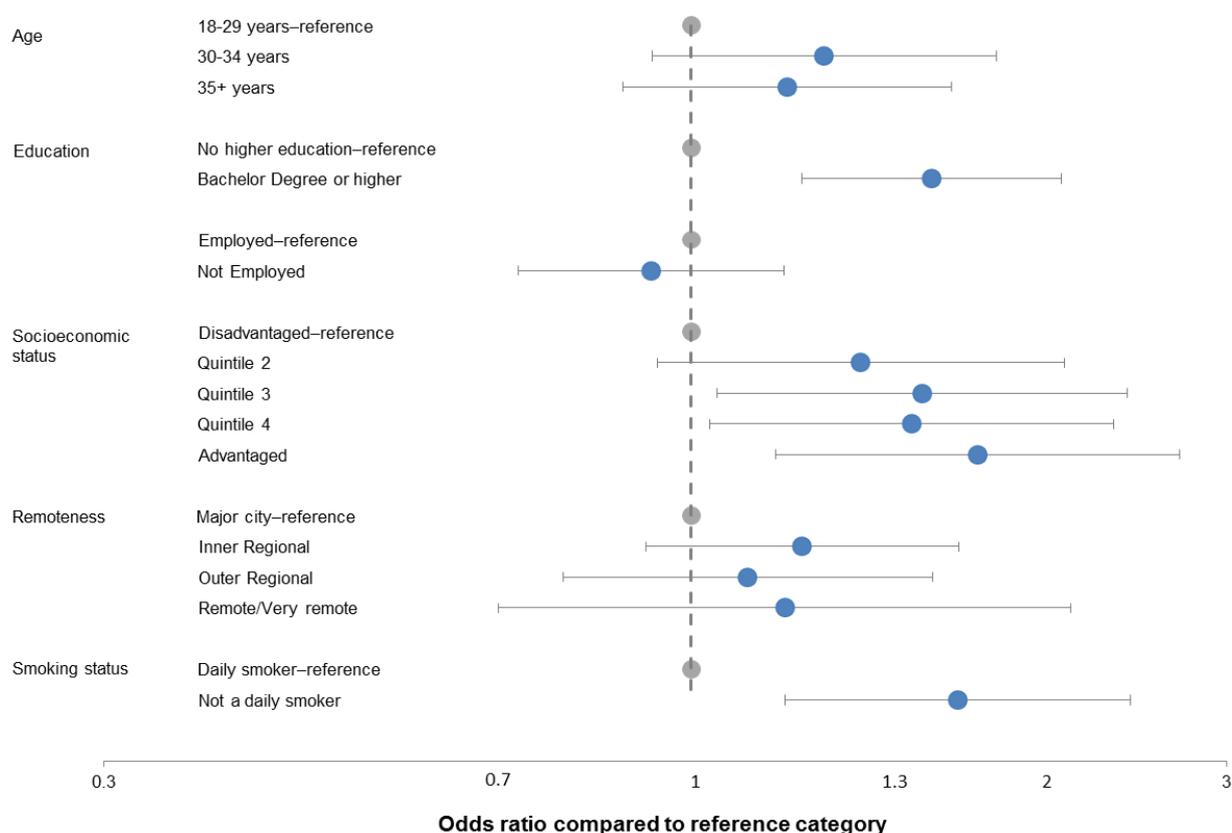
National headline indicator for children’s health: breastfeeding

In 2014, 29% of Queensland infants were exclusively breastfed at four months.

Figure 1 compares the sociodemographic characteristics of mothers who exclusively breastfed their infant at four months to those who did not. Compared to the relevant reference group, the likelihood of reaching this target was higher among mothers

- with at least a bachelor’s degree—64% higher
- living in the most advantaged areas—80% higher
- who were non-smokers—72% higher.

Figure 1: Characteristics of mothers who were exclusively breastfeeding at four months, Queensland 2014¹



ⁱ **Interpreting the figure**—for each sociodemographic characteristic, one category was used as the reference (indicated by a grey marker, for example, 18–29 year old mothers). Each category is compared to the reference (for example, 30–34 year olds are compared to 18–29 year olds). If the horizontal bar (95% confidence interval) does **not** cross the dotted line, the category is statistically different from the reference.

National breastfeeding indicators

Indicator 1—Proportion of infants ever breastfed⁶

In 2014, 96% of Queensland infants were ever breastfed and this has remained stable since 2003.

Table 2: Proportion of infants ever breastfed, Queensland 2003, 2008 and 2014

| | 2003 | | 2008 | | 2014 | |
|--------------------|-------|-------------|------|-------------|------|-------------|
| | % | (95% CI)* | % | (95% CI) | % | (95% CI) |
| Queensland | 92.3 | (89.9,94.1) | 95.4 | (94.0,96.4) | 95.5 | (94.1,96.6) |
| 18-29 years | 91.0 | (86.6,94.1) | 94.2 | (91.3,96.1) | 96.0 | (93.0,97.7) |
| 30-34 years | 93.1 | (89.2,95.7) | 96.2 | (93.8,97.7) | 95.8 | (92.9,97.5) |
| 35+ year | 93.4 | (88.4,96.3) | 95.6 | (93.1,97.2) | 95.0 | (92.6,96.6) |
| Bachelor's degree | 96.0 | (92.1,98.0) | 98.1 | (96.3,99.0) | 97.8 | (95.9,98.9) |
| No higher degree | 90.7 | (87.6,93.0) | 93.6 | (91.5,95.2) | 93.8 | (91.7,95.4) |
| Employed | 94.3 | (91.0,96.4) | 95.4 | (93.2,96.8) | 95.5 | (93.6,96.8) |
| Not Employed | 90.6 | (87.0,93.2) | 95.4 | (93.4,96.7) | 95.4 | (92.9,97.0) |
| Disadvantaged | 88.7 | (80.6,93.7) | - | - | 93.9 | (94.4,96.4) |
| Quintile 2 | 93.4 | (88.4,96.3) | - | - | 95.0 | (91.0,97.2) |
| Quintile 3 | 91.2 | (85.8,94.6) | - | - | 95.5 | (91.6,97.6) |
| Quintile 4 | 94.3 | (88.4,97.3) | - | - | 94.4 | (90.7,96.7) |
| Advantaged | 93.4 | (85.9,97.0) | - | - | 98.7 | (96.0,99.6) |
| Major city | 91.4 | (87.8,94.1) | - | - | 95.7 | (93.8,97.0) |
| Inner Regional | 91.8 | (86.7,95.0) | - | - | 94.6 | (91.0,96.9) |
| Outer Regional | 93.3 | (87.2,96.7) | - | - | 96.8 | (92.5,98.6) |
| Remote/very remote | 100.0 | - | - | - | 93.4 | (83.0,97.6) |
| Daily smoker | - | - | 94.2 | (89.6,96.9) | 91.2 | (86.5,94.4) |
| Not a daily smoker | - | - | 95.5 | (94.1,96.7) | 96.5 | (95.0,97.5) |

* CI = confidence interval

Indicator 2—Proportion of infants receiving any breast milk at each month of age⁶

In 2014, the percentage of infants receiving any breast milk was 84% among two month olds, 64% among six month olds and 32% among 12 month olds. Results are based on the overall trend for each year due to variability in the cohort of children at each month of age (Table 3).

Table 3: Percentage of infants receiving any breast milk at each month of age, Queensland 2003, 2008 and 2014

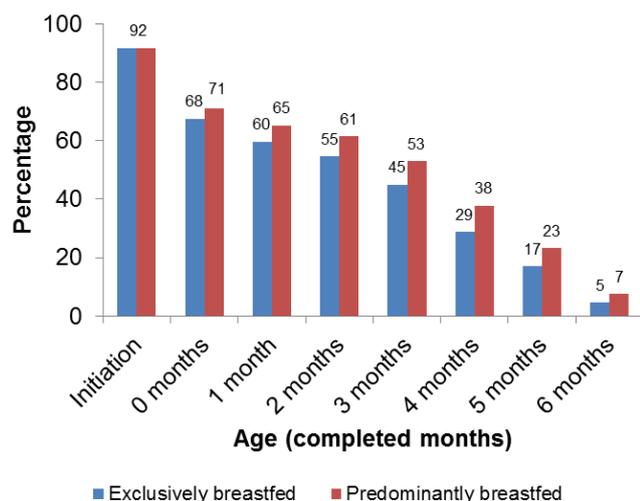
| Age (completed months) | Survey year | | |
|------------------------|-------------|------|------|
| | 2003 | 2008 | 2014 |
| 2 | 71.9 | 73.1 | 84.2 |
| 4 | 60.8 | 65.3 | 73.9 |
| 6 | 49.7 | 57.5 | 63.5 |
| 9 | 33.1 | 45.8 | 48.0 |
| 12 | 16.6 | 34.1 | 32.4 |

In 2014, the percentage of infants receiving any breast milk was, on average, 28% higher ($p = 0.017$) at each month of age than in 2003.

Indicators 3 and 4—Proportion of infants exclusively and predominantly breastfed to each month of age⁶

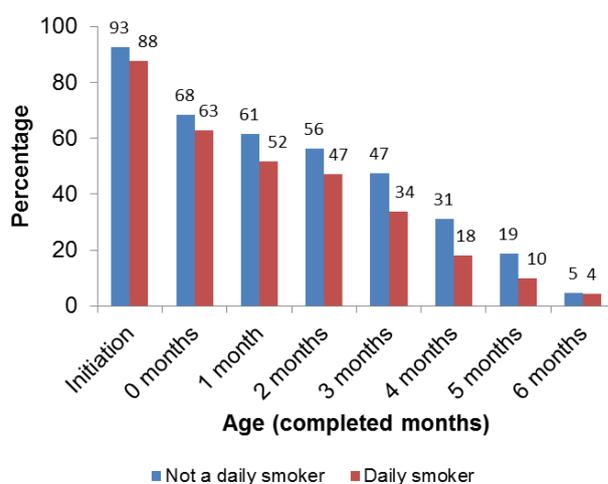
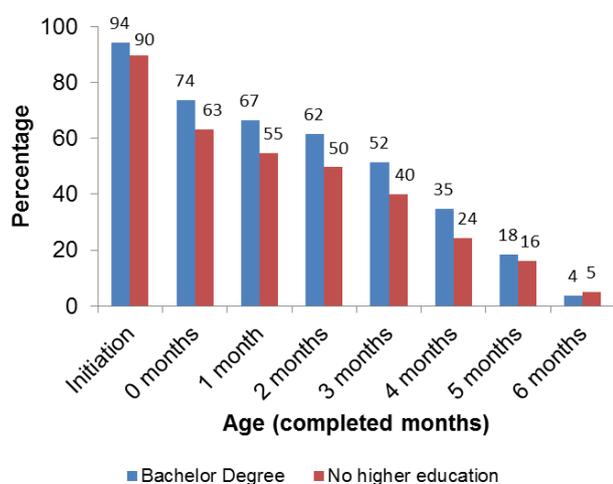
While 92% of infants began exclusive breastfeeding, this dropped to 68% within the first four weeks of life (Figure 2). This means that almost a quarter of infants that were initially exclusively breastfed had a liquid other than breast milk before they reached one month of age. Exclusive breastfeeding dropped further to 29% among four month olds and 5% among six month olds. The proportion of infants that were predominantly breastfed (which includes exclusively breastfed infants) was slightly higher, however, the overall rate of decline with age was similar.

Figure 2: Infants exclusively and predominantly breastfed at each month of age, Queensland 2014



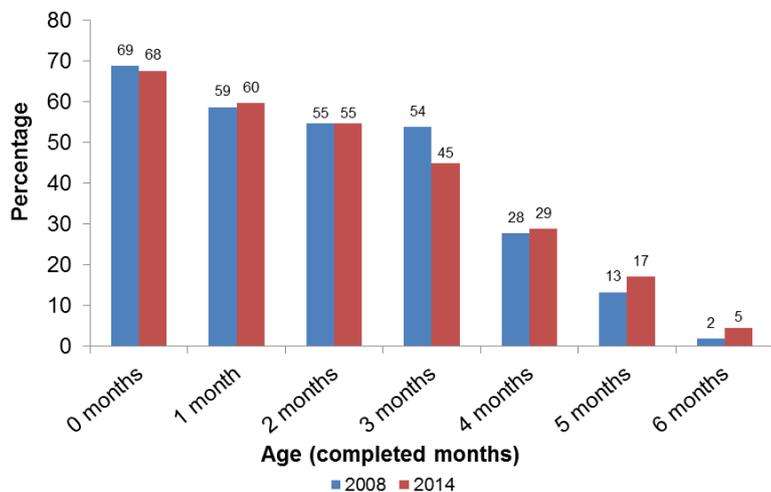
As shown in Figure 3, the proportion of mothers exclusively breastfeeding to each month of age was significantly higher for mothers with a bachelor's degree or higher (on average 18% higher) and for non-smoking mothers (on average 26% higher).

Figure 3: Infants exclusively breastfed at each month of age by mother's education and smoking status, Queensland 2014



Results from 2014 can be compared to those from the 2008 Queensland infant feeding survey (Figure 4). There was no change in the percentage of infants exclusively breastfed at each month of age between 2008 and 2014.

Figure 4: Infants exclusively breastfed at each month of age, Queensland 2008 and 2014

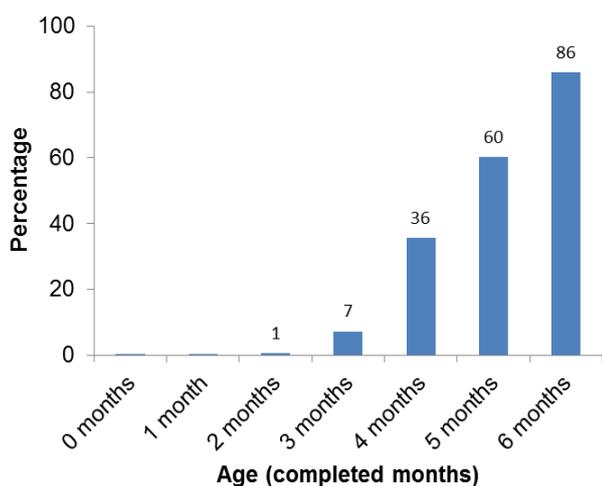


Indicator 5—Proportion of infants receiving soft, semi-soft, or solid food at each month of age⁶

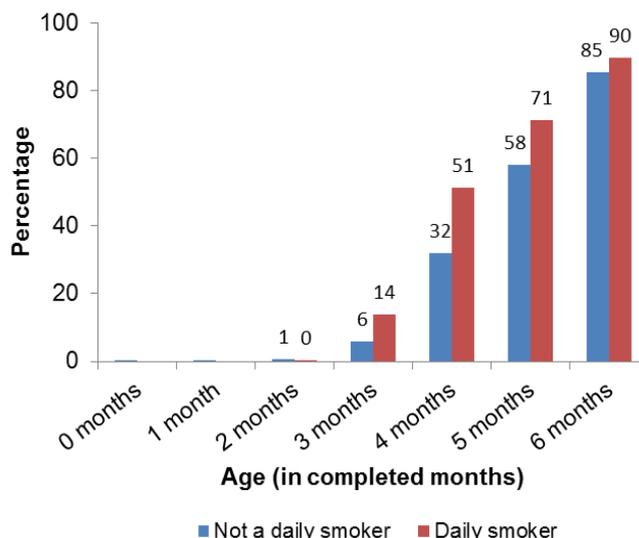
Current infant feeding guidelines recommend introducing soft or semi-soft food at around six months.⁷ Figure 5 presents the age at which soft, semi-solid, or solid food was introduced for all infants and by mother’s smoking status. The proportion of infants’ who had received soft, semi-solid or solid food for the first time at four months was 36%.

Figure 5: Infants receiving soft and semi-solid food at each month of age, Queensland 2014

a. all infants



b. Maternal smoking status

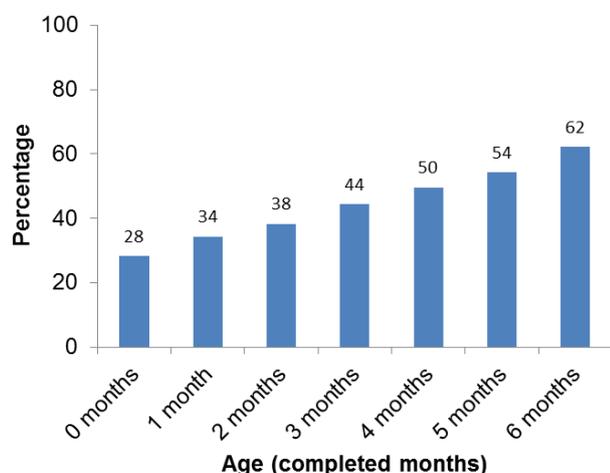


Mothers who smoked were on average 22% more likely to introduce soft and semi-solid food in the first six months than non-smoking mothers.

Indicator 6—Proportion of infants receiving non-human milk or formula at each month of age⁶

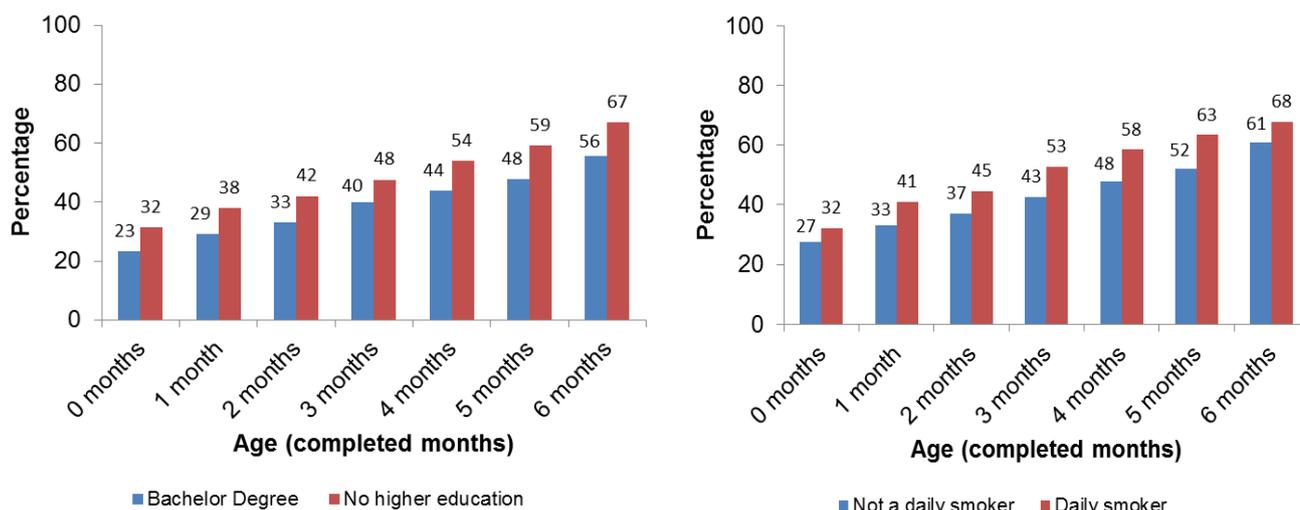
The proportion of infants receiving non-human milk or formula was 28% before the first month of age and 50% at four months of age (Figure 6).

Figure 6: Infants receiving non-human milk or formula at each month of age, Queensland 2014



Mothers without a higher educational qualification were on average 24% more likely to introduce non-human milk or formula at six months of age than those with a bachelor's degree or higher. Mothers who smoked were on average 24% more likely to do so than non-smoking mothers (Figure 7).

Figure 7: Infants receiving non-human milk at each month of age by education and smoking status, Queensland 2014



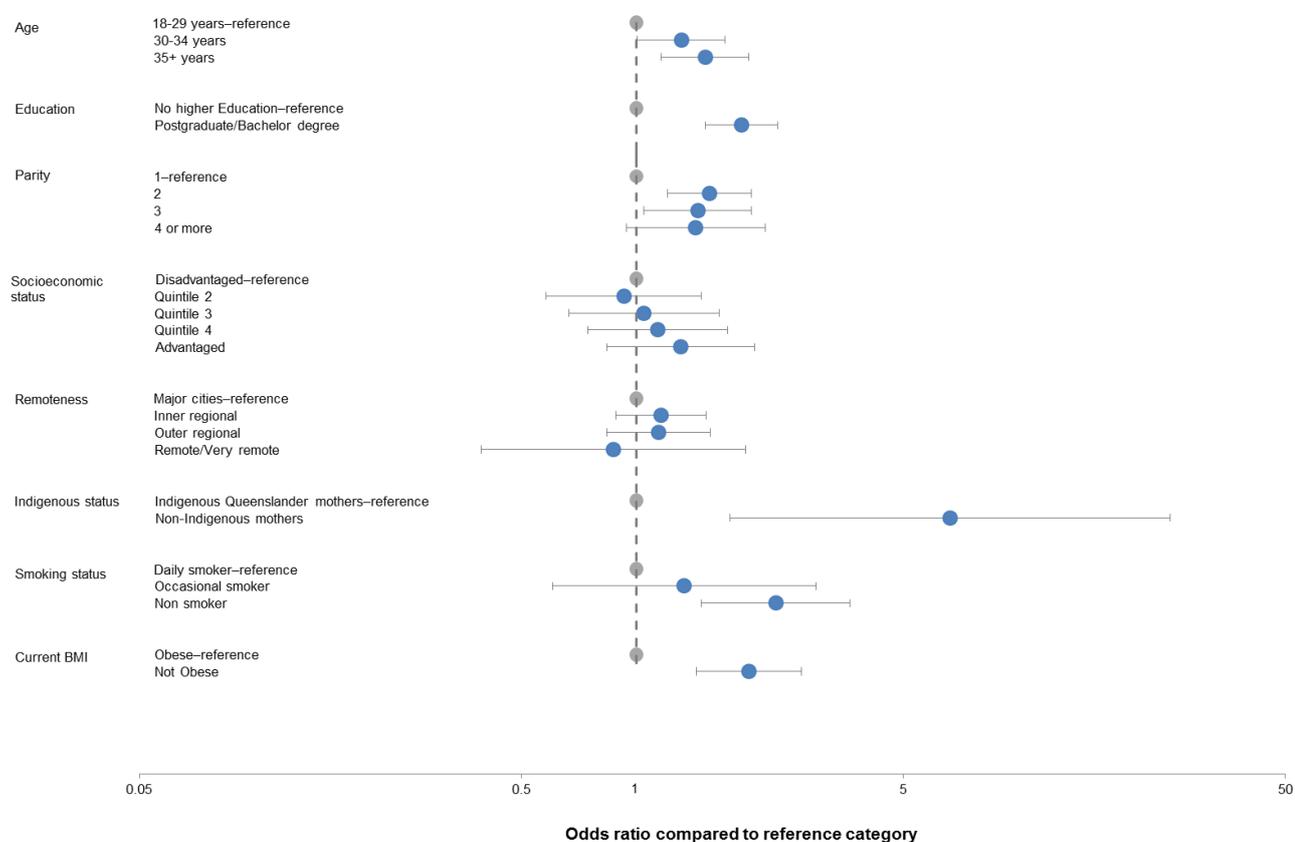
2010 Australian national infant feeding survey results

The 2014 Queensland infant feeding survey and the 2010 ANIFS produced similar results in terms of overall breastfeeding prevalence and relationships between sociodemographic characteristics and breastfeeding duration (Figure 8, Table 4). Owing to the larger sample size of the national survey, sociodemographic characteristics of Queensland participants can be more fully explored using the 2010 ANIFS data.

National headline indicator for children's health: breastfeeding

In 2010, one in four infants (25%) was exclusively breastfed at four months of age in Queensland (Table 4).

Figure 8: Characteristics of mothers who were exclusively breastfeeding at four months, Queensland 2010²



Compared to the relevant reference groups, the likelihood of reaching this target was higher among mothers

- who were older—31% higher among 30–34 year old mothers and 51% higher among mothers aged 35 years and older
- with at least a bachelor's degree—88% higher
- with more than one child—about 50% higher
- who were non-Indigenous—more than six times higher
- who were non-smokers—more than twice as high
- who were not obese—almost twice as high.

National breastfeeding indicators

Table 4 contains 2010 ANIFS (Australia and Queensland) and 2014 Queensland infant survey results. Queensland results are similar in 2010 and 2014, however a higher prevalence of exclusive breastfeeding was observed among daily smokers in 2014 with a corresponding lower prevalence of introducing non-human milk or formula. Prevalence of introducing non-human milk or formula at one, four and six months was also lower in 2014.

ⁱⁱⁱ **Interpreting the figure**—for each sociodemographic characteristic, one category was used as the reference (indicated by a grey marker, for example, 18–29 year old mothers). Each category is compared to the reference (for example, 30–34 year olds are compared to 18–29 year olds). If the horizontal bar (95% confidence interval) does **not** cross the dotted line, the category is statistically different from the reference.

Table 4: Results of the 2010 ANIFS and the 2014 Queensland infant feeding surveys (per cent)

| Breastfeeding indicator ³ | 2010 Australian national infant feeding survey | | 2014 Queensland infant feeding survey |
|---|--|-----------------------|--|
| | Australia n=28,758 | Queensland n=5,932 | n=1,098 |
| Indicator 1: Breastfeeding initiation | | | |
| - All | 95.9 | 96.1 | 95.5 |
| - Primiparous mother | 97.5 | 96.2 | - |
| - Remote/very remote | 97.8 | 94.6 | - |
| - Indigenous Queenslanders mothers | 94.9 | 97.5 | - |
| - Maternal obesity | 94.0 | 94.1 | - |
| Indicator 2: Proportion of infants breastfed | | | |
| - All at 4 months of age | 68.7 | 67.4 | 78.8 |
| - Primiparous mother at 4 months of age | 67.7 | 65.7 | - |
| - Remote/very remote at 4 months of age | 75.9 | 73.6 | - |
| - Indigenous Queenslanders mothers at 4 months of age | 59.2 | 71.1 | - |
| - Maternal obesity at 4 months | 54.7 | 57.7 | - |
| Indicator 3: Proportion exclusively breastfed at each completed month of age | | | |
| - All at 4 months of age | 27.0 | 24.7 | 28.8 |
| - With a bachelor's degree at 4 months | 33.6 | 30.5 | 34.9 |
| - Daily smoker at 4 months | 10.5 | 9.9 | 18.1 |
| - Primiparous mother at 4 months | 23.1 | 18.2 | - |
| - Remote/very remote at 4 months | 24.4 | 25.1 | - |
| - Indigenous Queenslanders mothers at 4 months | 11.0 | 8.7 | - |
| - Maternal obesity at 4 months | 16.2 | 16.8 | - |
| Indicator 4: Proportion predominantly breastfed at each completed month of age | | | |
| - All at 4 months | 34.6 | 33.1 | 37.7 |
| - With a bachelor's degree at 4 months | 40.6 | 39.4 | 44.0 |
| - Daily smoker at 4 months | 16.3 | 15.3 | 23.2 |
| - Primiparous mother at 4 months | 29.9 | 25.5 | - |
| - Remote/very remote at 4 months | 32.4 | 34.7 | - |
| - Indigenous Queenslanders mothers at 4 months | 16.6 | 12.3 | - |
| - Maternal obesity at 4 months | 22.6 | 22.3 | - |
| Indicator 5: Proportion consuming soft/semi-solid/solid food at each month of age | | | |
| - All in the first month | <1 | <1 | <1 |
| - All at 6 months | 91.6 | 92.3 | 86.0 |
| - All at 4 months | 28.4 | 34.8 | 35.6 |
| - Daily smokers at 4 months | 42.4 | 41.8 | 51.4 |
| - Primiparous mother at 4 months | 31.9 | 30.1 | - |
| - Remote/very remote at 4 months | 33.0 | 37.0 | - |
| - Indigenous Queenslanders mothers at 4 months | 45.2 | 54.8 | - |
| - Current obesity at 4 months | 36.3 | 42.8 | - |
| Indicator 6: Proportion consuming non-human milk or formula at each month of age | | | |
| - All in the first month | 34.0 | 34.0 | 28.2 |
| - All at 6 months | 69.1 | 68.9 | 62.2 |
| - All at 4 months | 56.9 | 56.5 | 49.7 |
| - With a bachelor's degree at 4 months | 50.6 | 49.1 | 43.8 |
| - Daily smokers at 4 months | 75.7 | 75.7 | 58.5 |
| - Primiparous mother at 4 months | 61.5 | 63.6 | - |
| - Remote/very remote at 4 months | 57.2 | 54.6 | - |
| - Indigenous Queenslanders mothers at 4 months | 74.4 | 73.4 | - |
| - Current obesity at 4 months | 69.0 | 68.7 | - |

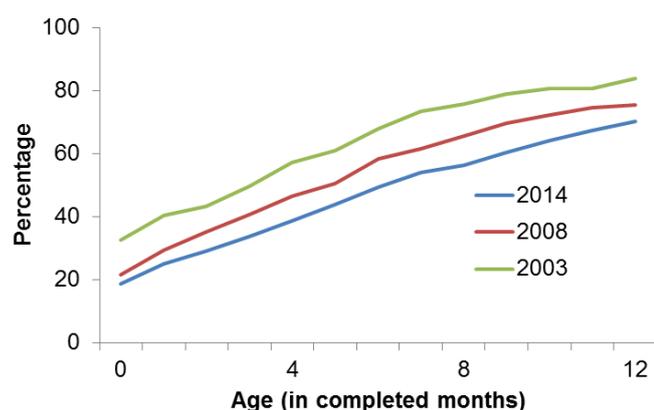
ⁱⁱ**Interpreting the table**—Indicators 5 and 6 measure the introduction of a food type which can occur at any point within the specified month. Indicators 3 and 4 measure the absence of a feeding event meaning that exclusive or predominant breastfeeding occurred throughout the *completed* month.

Trends in infant feeding practices

Prior to the development of the national breastfeeding indicators, Queensland surveys collected infant feeding as *daily or almost daily* consumption. Results using that definition are not comparable with the national breastfeeding indicators despite inclusion of several similar food groups.

The onset of daily or almost daily consumption can be considerably later than initial consumption. For example, in 2014, 28% of infants less than one month of age had consumed non-human milk (Figure 6) whereas only 16% consumed formula daily or almost daily (Figure 9). Similarly, at six months of age results were 62% had consumed any non-human milk and 41% had consumed formula daily or almost daily.

Figure 9: Daily or almost daily consumption of formula at each month of age, Queensland



The percentage of infants consuming formula daily or almost daily in 2014 was significantly lower than in earlier years.

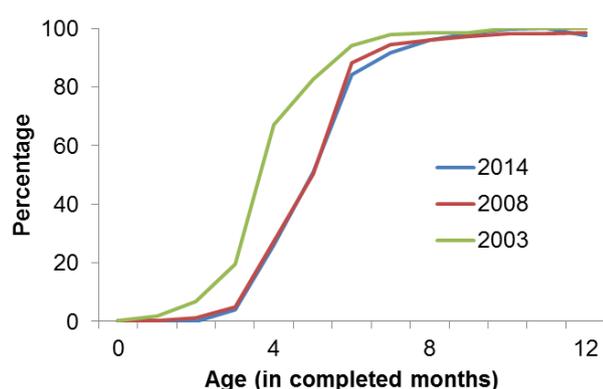
Daily or almost daily consumption of formula among infants less than one month old was 32% in 2003 and 19% in 2014.

Between 2003 and 2014, daily or almost daily consumption of formula among infants aged four months decreased by 32% (57% to 39% respectively).

At six months of age, 68% (2003), 59% (2008) and 50% (2014) of infants consumed formula daily or almost daily. The decrease in daily or almost daily formula consumption was reflected in higher percentages of infants receiving any breast milk at each month of age (Table 3).

Current recommendations are that semi-solid and solid foods be introduced at around six months of age.⁷

Figure 10: Daily or almost daily consumption of semi-solid and solid food at each month of age, Queensland



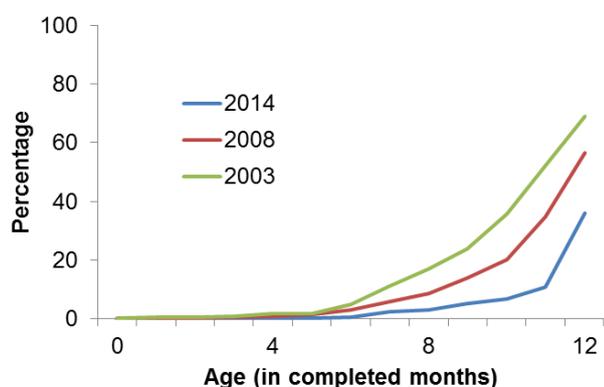
Between 2003 and 2014 the percentage of infants aged four months who consumed semi-solid or solid foods daily or almost daily decreased by 61%. Most of this decrease occurred between 2003 and 2008.

In 2003, 67% of four month old infants consumed semi-solid or solid food daily or almost daily compared to 27% in 2008 and 26% in 2014.

Results for infants at six months of age were 94% in 2003, 88% in 2008 and 84% in 2014.

Consuming other liquids was also examined. The current infant feeding guidelines recommend that cow's milk not be given as a main drink to infants under 12 months of age.⁷ Consumption of cow's milk by completed month of age is presented in Figure 11.

Figure 11: Daily or almost daily consumption of cow's milk at each month of age, Queensland

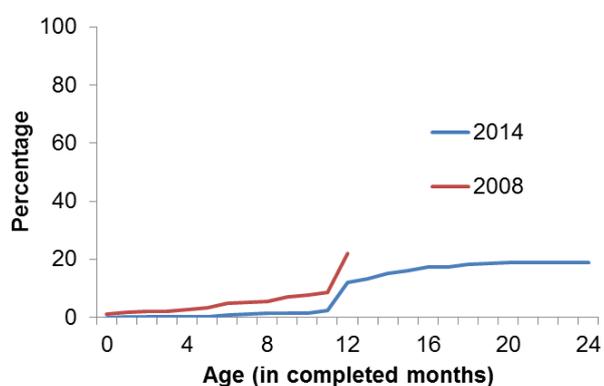


Daily or almost daily cow's milk consumption was lower in 2014 than in 2008 or 2003. For example, at 10 months, 35% of infants consumed cow's milk daily or almost daily in 2003 compared to 20% in 2008 and 7% in 2014.

In 2014, fewer children aged between 12 and 24 months consumed cow's milk daily or almost daily than in 2003. For example, at 18 months of age, 91% of children were drinking cow's milk daily or almost daily in 2003 compared to 68% in 2014. The range of milk alternatives has increased over this time and may contribute to this difference in consumption.

Information on toddler milk was not collected in 2003, and in 2008, only infants up to 12 months of age were included in the survey. Despite these limitations, results from 2008 and 2014 indicate the introduction of this milk substitute from about 11 months of age onwards.

Figure 12: Daily or almost daily consumption of toddler milk at each month of age, Queensland

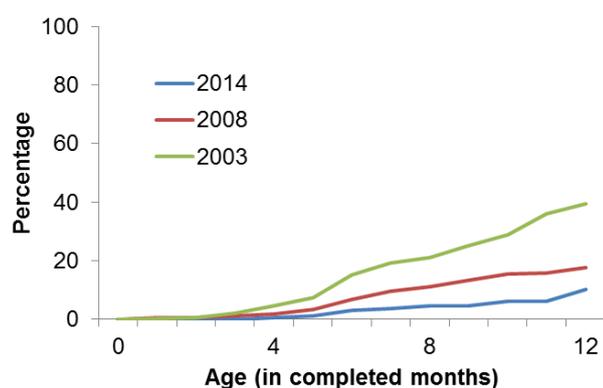


The use of toddler milk prior to age 12 months in 2008 should be interpreted with caution because parents often fail to differentiate infant feeding products targeted to different age groups in surveys.

Toddler milk products, targeting children aged 12 months and older, have become more common in the past decade. Uptake of these products may be contributing to decreased cow's milk consumption (Figure 11).

Information on water-based sweetened beverage (soft drink and cordial) and juice consumption was also collected. In 2003, drinking juice and water-based sweetened beverages were combined into a single question whereas in 2008 and 2014 separate questions were used. Figure 13 has therefore combined both drink categories into a single measure.

Figure 13: Daily or almost daily consumption of water-based sweetened drinks or juice at each month of age, Queensland



There has been a significant decline in the consumption of fruit juice and water-based sweetened drinks between 2003 and 2014 among infants aged 0–12 months. Of infants aged 12 months, 39% consumed fruit juice and water-based sweetened drinks in 2003 compared to 12% in 2014.

Fruit juice and water-based sweetened drinks can be reported separately in 2008 and 2014. Juice was consumed daily or almost daily by 3% (2008) and 1% (2014) of infants aged five months. By age 12 months, 17% (2008) and 7% (2014) consumed juice daily or almost daily. Water-based sweetened drinks were consumed daily or almost daily by less than 1% of infants aged five months in 2008 and 2014 but by 12 months of age 3% (2008) and 8% (2014) had done so.

Conclusion

The 2009 National Breastfeeding Strategy 2010–2015 recognised the importance of monitoring breastfeeding rates.² However, due to the variability in state and national data collection, the only explicit goal was improving breastfeeding initiation rates. Increasing the capacity to monitor breastfeeding rates was included in the strategy more broadly as a separate topic. The recommended activities of developing national indicators and conducting a national infant feeding survey have been achieved.

This report brings together results from three statewide surveys (2003, 2008 and 2014) and the Queensland subsample of the national 2010 ANIFS survey. Queensland results for 2010 and 2014 are based on the recently defined national breastfeeding indicators, however, owing to its considerably larger sample size, the Queensland ANIFS subsample provided more in-depth information regarding sociodemographic factors that impact breastfeeding initiation and duration. Results are also presented for historic breastfeeding measures (*'daily or almost daily'* consumption) for the 2003, 2008 and 2014 Queensland surveys to assess changes over time for early infant feeding patterns.

This report demonstrates the value of the ANIFS for statewide analysis, particularly for high priority groups such as younger mothers, Indigenous Queenslanders, and women living in remote areas. Achieving similar numbers of participants for this level of analysis is not economical using random digit dialling telephone survey methods. Assessing the impact of policies and activities enacted under local, state and Commonwealth authority can best be achieved through repeated administration of a national survey with sufficient numbers of participants to enable robust jurisdictional reporting.

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