

Western Australia's Children and Their Health

A COLLABORATION BETWEEN THE TELETHON INSTITUTE FOR CHILD HEALTH RESEARCH AND THE WA HEALTH AND WELLBEING SURVEILLANCE SYSTEM



GREAT SOUTHERN HEALTH REGION - HEALTHY START

A Healthy Start to Life

This report focuses on a small number of key indicators which have been used to profile the extent to which children in this State get a *healthy start to life*.

The indicators have something to say about current health status among children living in Western Australia's Department of Health administrative Areas and Regions. Equally importantly, however, the indicators point to some emerging issues and trends in how well we are fostering and protecting the health of future generations.

The indicators are relevant to the work of all parts of the health system. They reflect the fact that a healthy start to life is a product of a spectrum of factors within families and communities. For the health care system, better child health outcomes are more likely via a comprehensive approach to service delivery, effective linkages between the professions and partnerships across organisational tiers and sectors.

While the indicators on the report provide positive signs and clear evidence of success, challenges remain. These challenges are evident in health disparities between groups in the population. Disparities pose significant challenges for decision makers in health systems as they suggest the need for new approaches to service delivery for some sub-groups within the population. Such approaches may be substantially different than those that are currently in place.

While any change presents dilemmas, history shows us that innovative approaches continually emerge and that many succeed in improving the health and wellbeing of disadvantaged groups within Western Australian communities.



The data used to prepare most sections of this report relate to Western Australian children who were between 0-15 years of age during the 2002-2005 period. Thus, the birth years of the oldest and youngest children in the HWSS dataset are 1987 and 2005 respectively.

“There is powerful new evidence from neuroscience that the early years of development from conception to age six, particularly for the first three years, set the base for competence and coping skills that will affect learning, behaviour and health throughout life.

(McCain and Mustard, 1999, p.5).

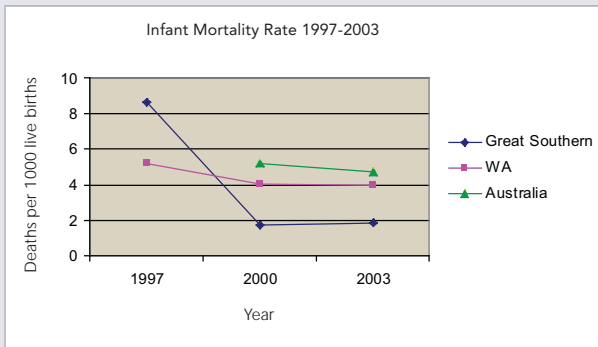
POPULATION PROFILE	
✓ HEALTH RISKS	INDICATORS OF CHILD HEALTH NEEDS
ILLNESS/DISEASE	
HEALTH CARE USE	
✓ MORTALITY	
COMMUNITY WELLBEING	INDICATORS OF CHILD WELLBEING
FAMILY WELLBEING	
✓ INDIVIDUAL WELLBEING	

▲ **Indicator:** A statistic chosen to describe (indicate) a situation concisely, help assess progress and performance, and act as a guide to decision making... (AIHW 2006)

Infant Mortality

Infant mortality rates refer to the number of deaths among infants less than 1 year per 1000 live births in that year and are an important indicator of the health of a population (AIHW, 2005).

The infant mortality rate for children born in the GSHR has been calculated for 1997, 2000, and 2003.



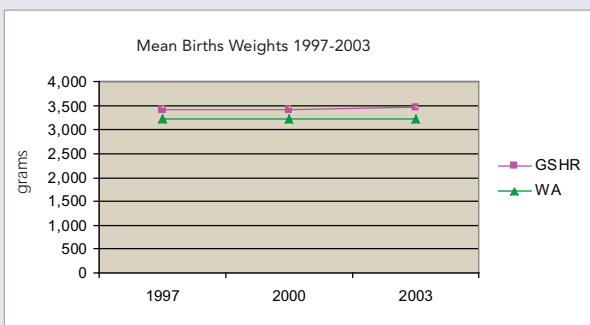
As at 2003, the GSHR infant mortality rate was lower to that found for both the State and Nation as a whole.

Annual births in the Region number approximately 550, and as a result, small changes in the number of infant deaths in any year substantially alter mortality rates.

Birthweight

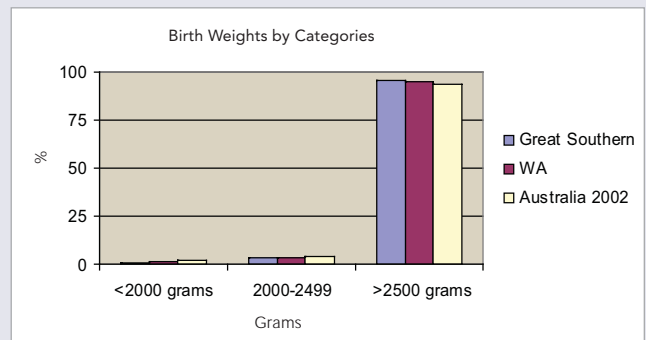
Birthweight has been characterised as an indicator of general infant health and a determinant of survival, health, development and wellbeing (Headline Indicators Steering Group, 2006).

The following graph outlines the general trend in the mean birthweight of all children born in the GSHR and across the State as a whole for 1997, 2000, and 2003. The graph indicates that the mean GSHR birthweight for each of the three years is similar to that found for the State as a whole.



Individual and population level birthweight data is often described according to an accepted international standard for the classification of infant weight categories. A baby born weighing less than 2500 grams is considered to be within a range defined as "low birthweight". Low birthweight can result from prematurity or foetal growth retardation. Low birthweight is a risk factor for a range of negative health and wellbeing outcomes (AIHW, 2005). Among other things, the prevalence of low birthweight is a marker of the adequacy of antenatal healthcare services.

The following graph outlines low birthweight babies as a proportion of all births in WA and in the GSHR in 2003. Data accessed from the AIHW (2005) for birthweights of Australian babies born in 2002 have also been included.



This graph indicates that the proportion of low birthweight babies in the 2003 GSHR cohort is similar to that found across the rest of the State and Nation. The proportion of low birthweight babies born in GSHR in 2003 (4.3%) is compares favourably with international data for developed countries (UNICEF, 2004).

Smoking

It is well accepted that smoking during pregnancy increases the risk of adverse health outcomes for both mothers and babies. The extent of this increased risk is significant, with smoking during pregnancy constituting the most important known modifiable risk factor for infant mortality (AIHW, 2005).

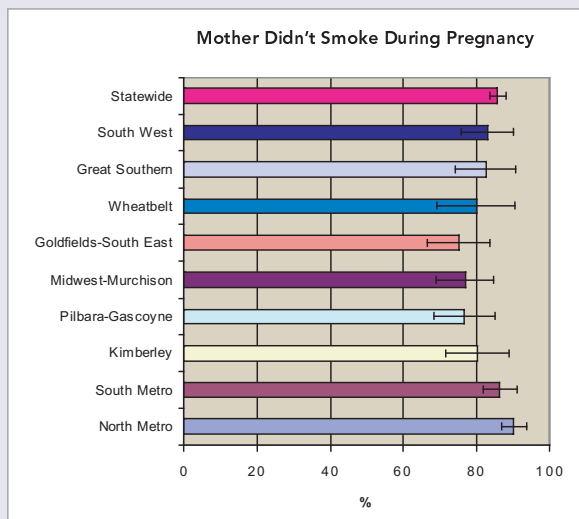
In addition to the shorter term effects of smoking during pregnancy, it may have longer term consequences for the health and wellbeing of children (AIHW, 2005).

Despite this, smoking during pregnancy appears to have remained at least somewhat common across Australia, with approximately one-in-six women who gave birth in 2003 reporting doing so (Laws, Grayson and Sullivan, 2006).

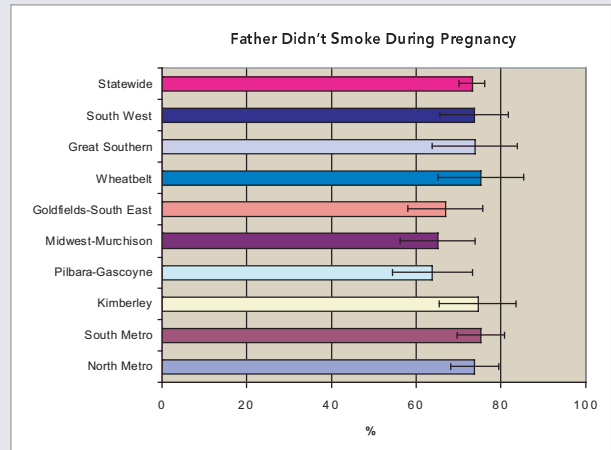
In Australia, smoking during pregnancy is more common among mothers who are: younger; Indigenous; residents of more remote areas; and those who have completed fewer years of formal education (Laws, Grayson and Sullivan, 2006).

In addition to the health effects of a maternal smoking, exposure to second-hand tobacco smoke also poses health risks. Pregnant women, unborn babies, infants and children are all particularly susceptible to the health effects of passive exposure to tobacco smoke (AIHW, 2005; Mackay and Amos, 2003).

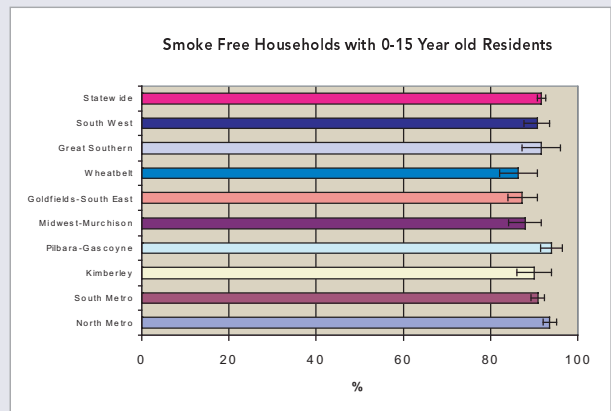
The following graph indicates the proportion of Western Australian children (0-15 years) in the 2002-2005 period who were born to women who had a "smoke-free" pregnancy. While the prevalence of smoking during pregnancy in WA is relatively low, given the well documented health effects of smoking during pregnancy, the issue remains one of significant concern. More particularly, while encouraging, the data point to a need for continued investment in comprehensive measures to prevent smoking uptake by young women and efforts focussing on smoking cessation among women at child bearing age.



The following graph provides estimates of the proportion of Western Australian children aged 0-15 in 2002-2005 who were born to fathers who didn't smoke during their partner's pregnancy. When compared to mothers, the profile of fathers' smoking is somewhat less encouraging. Statewide, it appears likely that approximately one-in-four of the current cohort of 0-15 year old children were born to fathers who smoked. This data indicates that there is a continuing need to inform fathers about the effects of passive smoking on pregnant women and their unborn children and the health benefits of quitting.



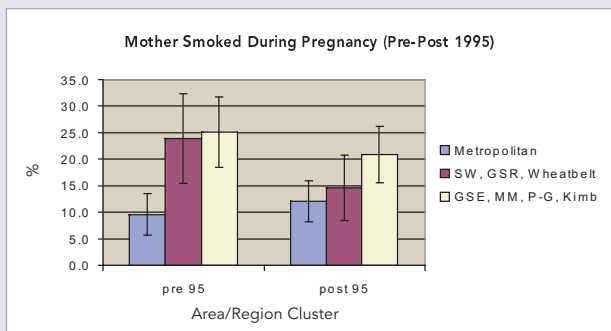
The following graph provides 2002-2005 estimates of the proportion of households with resident children that are smoke-free. Nine in ten of these households are smoke-free. This suggests that efforts to educate the Western Australian community about the dangers of childhood exposure to tobacco smoke have been successful.



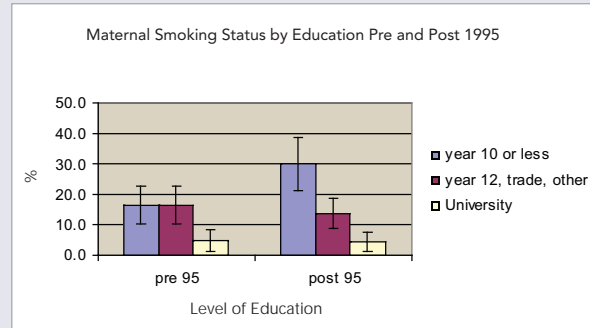
Public health campaigns warning Western Australians of the dangers of exposure to tobacco smoke have been commonplace in WA for many decades. These warnings have included specific media and community education campaigns emphasising the effects of smoking on women and children. As one element of the overall effort to reduce the harm caused by smoking, prominent new warnings were added to tobacco packages as of 1995.

Among the new warnings, two specifically addressed the dangers of passive smoking and smoking during pregnancy. In light of the prominence and specificity of the 1995 health warnings in relation to pregnancy, West Australian Health and Wellbeing Surveillance System data on smoking during pregnancy has been analysed for children born before and after 1995.

The two graphs that follow describe the prevalence of smoking broken down by levels of education and by place of residence pre and post 1995. These data suggest several features in relation to smoking during pregnancy since 1995. First, that post 1995, smoking during pregnancy declined in Regions to the extent that it came to more closely approximate levels found in the metropolitan area. At the same time, it appears that smoking during pregnancy among metropolitan residents remained unchanged following the introduction of new health warnings in 1995.

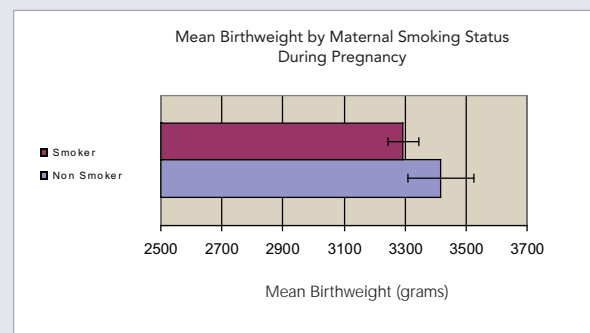


A second trend, which is evident in the following graph is that since 1995, having a lower level of education has become a more important predictor of the likelihood that a mother will smoke during a pregnancy. Pre-1995, mothers with year 10 or less education were more likely to smoke than university educated mothers, but were not more likely to smoke than their counterparts who had completed year 12, a trade or other similar qualification. However, Post-1995, mothers with year 10 or less education were more likely to smoke during pregnancy than both those with a year 12 or equivalent education and those with a university education.



The following graph indicates mean birth weights reported for Western Australian children aged 0-15 years during 2002-2005. Mean birthweights are indicated for children born to mothers who smoked during pregnancy and those who were smoke-free. While mean weights for babies born to smokers are lower, the difference is not significant. The mean weight for babies born to non-smokers derived from the HWSS data is consistent with 2003 State data reported by Laws, Grayson and Sullivan (2006). However, the average birthweight for smokers identified through the HWSS is approximately 100 grams higher than that extracted from the 2003 State birth record data.

A partial explanation for this may be that Indigenous children are under-represented in the HWSS sample. Indigenous children tend to be lighter at birth and are also more likely to have had a mother who smoked during pregnancy (52%). A further reason for the difference may be that perinatal mortality rates are 50% higher among mothers who smoke during pregnancy (Laws, Grayson and Sullivan, 2006). As the HWSS only relates to children who are living, some differences between birthweight estimates obtained via surveys versus birth record data are inevitable.



Immunisation

As a form of preventive health care, immunisation has the benefit of being both effective and relatively inexpensive.

Recent estimates suggest that each year, immunisation averts approximately 2 million deaths world wide (WHO, 2005). At the same time, it accounts for a substantial reduction in sickness and disability.

Australian immunisation coverage goals of greater than 90% at 2 years of age and near 100% at school entry have been set to ensure an appropriate level of "herd" immunity is achieved (AIHW, 2005). Herd immunity refers to the level of vaccine coverage necessary to confer protection against the spread of vaccine-preventable disease across a community.

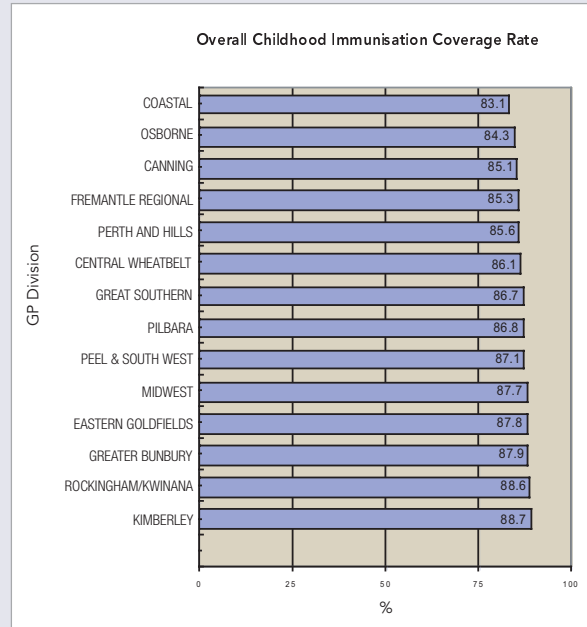
The following data on immunisation coverage have been obtained from Medicare Australia (2006) and were sourced from the Australian Childhood Immunisation Register (ACIR), which is a national childhood vaccination database. The data applies to the early 2006 period.

Of the 120 General Practice Divisions in Australia, the highest ranked in WA in terms of childhood immunisation coverage (0-7 years) is the Kimberley, which is 63rd. The Pilbara Division ranks 94th nationally.

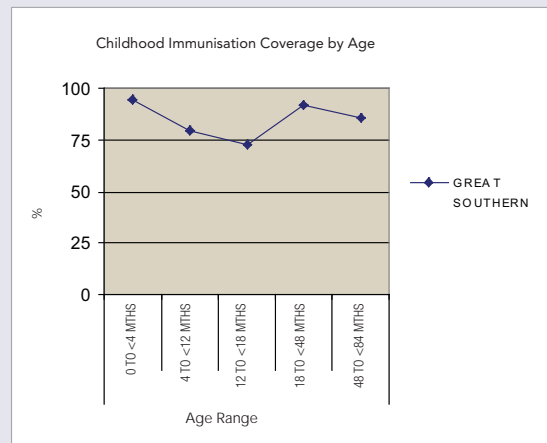
Coverage of children across all divisions is highest in the early months following birth (0-4 months) and during this time is at near universal levels.

The lowest levels of age-appropriate immunisation coverage in the GSHR are for the 12-18 month age group.

"The immense scientific achievement of vaccines and immunization, targeting children and women of childbearing age in all countries, represents one of the most successful and cost-effective public health interventions in history" (WHO, 2005, p.18)



When compared to the coverage target levels of 90% at 2 years and near universal at school entry, GSHR immunisation coverage appears to be on target for the first 2 years and below target for the second (school entry).



Breastfeeding

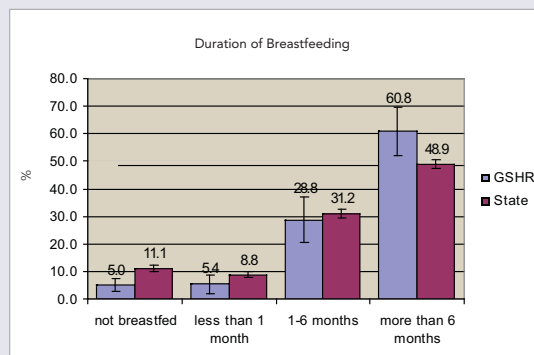
Breastfeeding has a range of well documented health benefits for mothers and babies (AIHW, 2005). For the baby, these benefits include a degree of protection against many important acute and chronic illnesses.

The health benefits of breast feeding for mothers and babies also appear to translate into lower demand for healthcare resources (AIHW, 2005). This has benefits for families and the broader community.

Australian guidelines on breastfeeding recommend exclusive breastfeeding until babies are 6 months old.

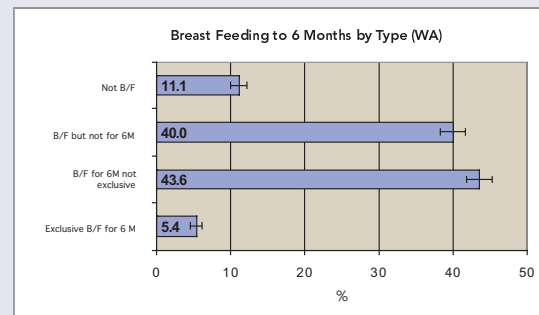
Since its inception in 2002, the WA Health and Wellbeing Surveillance System included a series of items on breastfeeding. These items include whether a child was ever breastfed and if so, supplementary items on the introduction of other liquids.

The following graph profiles the breast feeding histories of 0-15 year old children living in the GSHR during the 2002-5 period.



The data suggest that overall, more than nine in ten GSHR children were ever breast fed. Approximately three in five GSHR children were breastfed for more than 6 months. The Regional prevalence of breast feeding for longer than 6 months was significantly higher than indicator data for the State as a whole.

The following graph outlines the prevalence of exclusive breastfeeding to six months for the State's 0-15 year old children in the 2002-2005 period. It appears that despite breastfeeding to at least 6 months being commonplace among Western Australian mothers, adherence to the recommendation to exclusively breastfeed children to 6 months is a relatively infrequent practice.



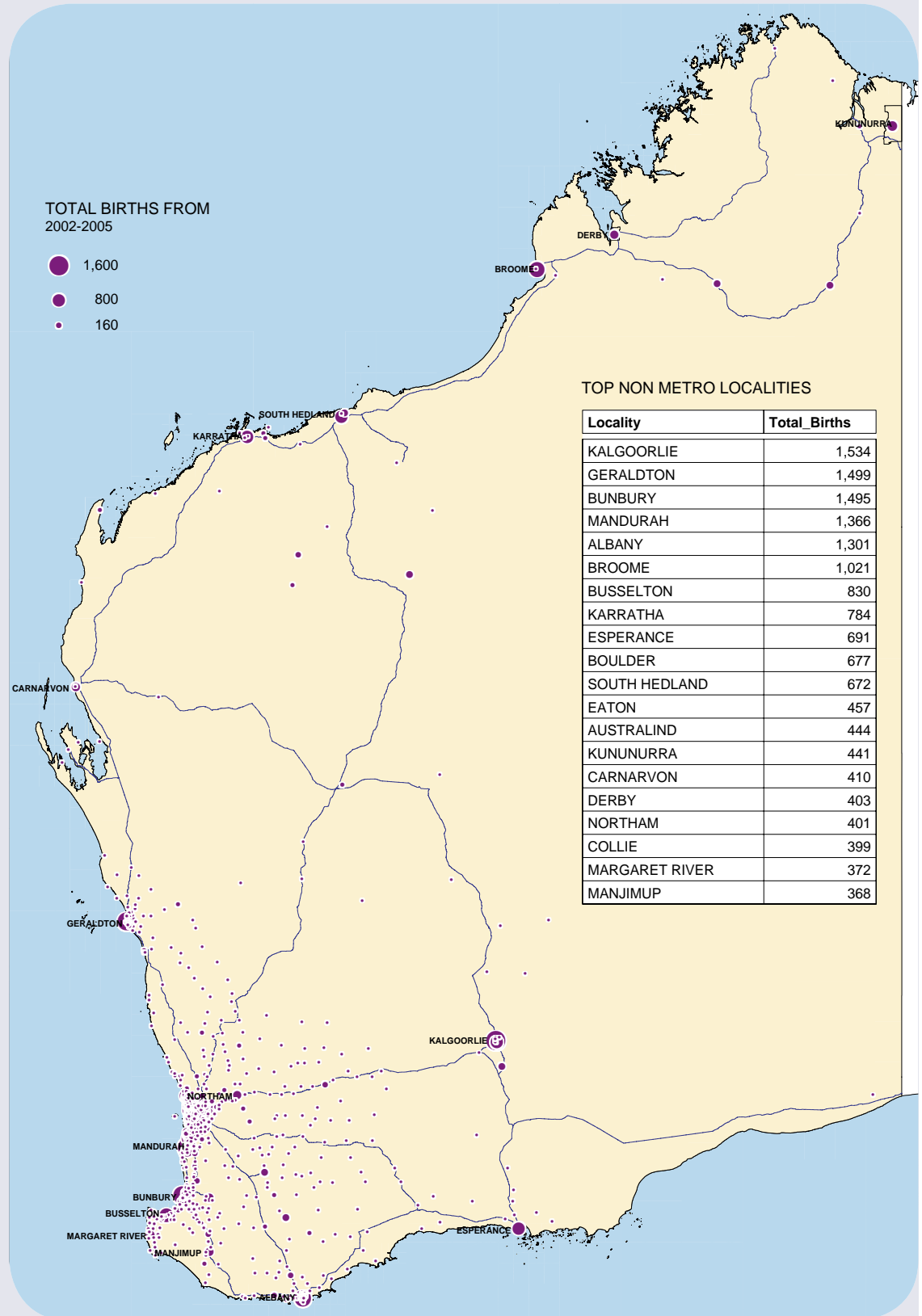
Analysis of the HWSS data by year of birth suggests that the profile of breastfeeding in the State has changed minimally within the last 10-15 years. The picture that remains true is that most Western Australian mothers attempt to breastfeed their children and that approximately half do so for at least 6 months.

Notwithstanding the general consistency in the overall pattern of breastfeeding in the State, there does appear to have been a small but statistically significant change among mothers who breastfeed for longer periods (i.e. six months or more). Within this group, the proportion that exclusively breastfeed to 6 months appears to be increasing. However, exclusive breastfeeding to six months remains uncommon (8.2% pre 1995 and 13.8% post-1995).

“...when a mother breastfeeds her baby, the child is both receiving good nutrition and experiencing the stimulation of touch, sight, sound, taste, warmth and smell, through the sensing pathways. This experience, like others in early life, drives the wiring of the billions of neurons of the brain which influences or builds the basic capabilities of the brain.”

(McCain and Mustard, 1999, p.5).

Regional Births by Locality 2002-2005



The data indicate that...

- Relative to the State and Nation, and according to international comparisons, babies born in the GSHR secure a *healthy start to life*.
- The indicators presented in this document suggest that healthcare services for pregnant women and babies in the GSHR perform very well across the continuum of care.
- Nonetheless, it appears that there is capacity for further improvement in some areas of overall preventive care in the GSHR.

People are asked questions on a range of indicators related to health and wellbeing. Topics include chronic health conditions, lifestyle risk factors, protective factors and socio-demographics. Since the surveillance system began, response rates have been between 78-80 percent of all the people contacted.

Discussion points for Area decision makers...

How can the GSHR work with other relevant groups and agencies to ensure continued improvement in preventive and promotive outcomes for mothers and babies in the catchment?

About the Data...

The WA Health & Wellbeing Surveillance System (HWSS) is a continuous data collection system using Computer Assisted Telephone Interviews (CATI) to survey 550 people throughout Western Australia every month. The system began in March 2002 and up to July 2006, 27,000 interviews had been conducted.

References

1. AIHW (2005). *A picture of Australia's children*. AIHW Cat. No. PHE 58. Canberra: AIHW.
2. *Headline Indicators Steering Group (2006). Headline Indicators for Children's Health, Development and Well-Being. Unpublished Report.*
3. Laws PJ, Grayson N & Sullivan EA (2006). *Smoking and pregnancy*. AIHW Cat. No. PER 33. Sydney: AIHW National Perinatal Statistics Unit.
4. McCain, M. and Mustard, F. (1999). *The Early Report: Reversing the Real Brain Drain*, Ontario Government, Toronto.
5. Mackay, J. and Amos, A. (2003) *Women and tobacco*. *Respirology*, 8, 123-130.
6. Medicare Australia (2006). *Division of General Practice Immunisation Coverage and Ranking – Western Australia*. Last accessed from http://www.medicareaustralia.gov.au/providers/health_statistics/statistical_reporting/immunisation_coverage/wa.htm on 21 September 2006.
7. OECD (2006). *OECD HEALTH DATA 2006*. Last accessed from <http://www.oecd.org/dataoecd/7/41/35530083.xls> on 21 September, 2006.
8. UNICEF (2004). *Low Birthweight: Country, regional and global estimates*. UNICEF, New York. Last accessed from http://www.who.int/reproductive-health/publications/low_birthweight/low_birthweight_estimates.pdf#search=%22international%20data%20low%20birth%20weight%22 on 21 September 2006.
9. Walsh, R.A., Lowe, J.B. and Hopkins, P.J. (2001) *Quitting smoking in pregnancy*. *MJA*; 175: 320-323.
10. WHO (2005). *Immunization against diseases of public health importance. Fact sheet N°288 March 2005*. Last accessed from <http://www.who.int/mediacentre/factsheets/fs288/en/index.html> on 20th September 2006.
11. WHO (2005). *Global Immunization Vision and Strategy: 2006-2015*. Last accessed from http://www.who.int/vaccines-documents/DocsPDF05/GIVS_Final_EN.pdf on 26 September, 2006.