GLOSSARY

ABORIGINAL STATUS

To be included in the survey, carers had to identify one or more of their children in their household as being of Aboriginal or Torres Strait Islander origin. Only Aboriginal or Torres Strait Islander children (under the age of 18 years) were included in the survey, even in those cases where there were both Aboriginal and non-Aboriginal children living in the same household. Note that the carers did not have to be Aboriginal for the family to be included in the survey.

Carers were also asked whether they were of Aboriginal or Torres Strait Islander descent. Approximately 17 per cent of primary carers and 21 per cent of secondary carers of Aboriginal and Torres Strait Islander children and young people were not of Aboriginal or Torres Strait Islander descent. As noted in Chapter Two, the vast majority of children whose primary carer was non–Aboriginal were also their natural birth mother (83.5 per cent; CI: 76.2%–88.8%).

CARER EDUCATION

The level of educational attainment achieved by carers was determined from two survey questions: ‘What was the highest grade you finished at school?’, and ‘What qualifications have you received since leaving school’. Qualifications were classified as:

- Trade/apprenticeship
- Certificate from college
- Diploma (beyond Year 12)
- Bachelor degree
- Post-graduate diploma/higher degree
- Other.

Carers who had completed a diploma, bachelor degree, post-graduate diploma or higher degree were classified as having 13 years or more of education. Otherwise educational attainment was classified by highest grade finished at school. The following categories have been used in this publication:

- Did not attend school
- 1–9 years education
- 10 years education
- 11–12 years education
- 13 years or more education.

Note that educational attainment refers to highest level achieved, not the number of years taken to achieve the qualification.

DIETARY QUALITY INDICATORS

Carers were asked a number of questions relating to the diet of the Aboriginal children in their care, including information about how often children ate fruit and vegetables, and what types of beverages were consumed. The available data allowed a range of indicators of dietary quality to be devised. These indicators did not measure dietary intake, but were designed to reflect whether the principles of a healthy diet were being observed. It must be noted that these indicators are based on interview responses, which were not further validated.

Indicator 1: met if water was usually drunk when thirsty.

Indicator 2: met if some form of unsweetened and unflavoured cow or soy milk was regularly consumed.

Indicator 3: met if fresh fruit was usually consumed on 6 or 7 days of the week.

Indicator 4: met if at least half a cup of a variety of at least three fresh vegetables, other than potato, were usually consumed on 6 or 7 days of the week.

The number of these indicators that were met was used as an overall indicator of dietary quality.

DWELLINGS

In household surveys a distinction is often made between dwellings, households and families as per the Census of Population and Housing, with allowance made for the possibility of more than one household living in a single dwelling, and for a household to comprise more than one family. In the census, a dwelling is a habitable structure, a household is a group of related or unrelated people who make common provision for food, while a family is a group of people related by blood, marriage, adoption, step or fostering who usually reside within a single family. Note that in a block of flats, for example, each flat is considered to be a separate dwelling.[1]

In practice, the distinction between dwellings, households and families was found to have little importance in the WAACHS. Aboriginal families living together often contain extended family relationships. However, there were hardly any cases where two or more unrelated families were found to be living in the same household, and no cases were found where multiple households were residing in the same dwelling. In this volume, the terms household and family are used interchangeably, while the term dwelling is used to describe the physical structure in which a household or family is living.

FAMILY FUNCTIONING

Family disharmony is known to be associated with poorer child development outcomes. The survey used a nine-item scale to measure the extent to which families have established a climate of trust and cooperation, emotional support and good communication. Primary carers were asked to rate each of nine statements on a scale of 1–5 as to how accurately each statement described their family circumstances. The nine statements included items about communications and decision-making in the family, emotional support, time spent together, and family cooperation. These ratings were summed to produce an overall score. Families were then split into quartiles based on this score, with approximately 25 per cent of children in each category. These categories have been labelled poor, fair, good and very good family functioning in this publication. For details of the nine items and how they were combined to form the family functioning score, see *Appendix C* of Volume Two[2] — *Measures derived from multiple responses and scales*. This volume can be downloaded free from our website: www.ichr.uwa.edu.au/waachs.

HOUSEHOLD CARER

The term ‘household carer’ is used when referring to analyses at the dwelling level, as opposed to the more common primary carer-level or child-level analyses presented in this volume.

For analyses at the dwelling level a single response per dwelling was required. There were some instances where more than one primary carer was living in the same dwelling. In order to exclude multiple assessments of individual dwellings in these instances, the analyses in Chapter Six are restricted to assessments by one carer per dwelling.

A single assessment for each household was achieved by nominating a ‘household carer’, whose assessment of the housing items was used to analyse dwelling level outcomes. Therefore analysis at the dwelling level refers to 11,400 ‘household carers’ as opposed to the usual 12,600 ‘primary carers’ used elsewhere in this volume. See comment box entitled *Analysis of household and dwelling level data in this chapter* in Chapter Six for a more complete explanation.

HOUSEHOLD OCCUPANCY LEVEL

A two-level index of household occupancy was created based on the number of bedrooms and the number of people usually sleeping in the home. A household was considered to have a high level of household occupancy if it had the following attributes in terms of the number of bedrooms and the number of people sleeping in the home.

Number of bedrooms	*Number of people sleeping there*
1	5 or more
2	6 or more
3	7 or more
4	8 or more
5 or more	9 or more

Note that the definition of household occupancy level published on page 129 of Volume Two was incorrect. The above definition has been used consistently throughout all analysis of the survey data.

INDEX OF RELATIVE SOCIO-ECONOMIC DISADVANTAGE

The index of relative socio-economic disadvantage is one of five measures of socio-economic status calculated by the ABS in their SEIFA product.[3] The index is a summary measure calculated from census data which ranks the relative level of disadvantage of each census collection district (CD). The index is derived from attributes such as low income, low educational attainment, high unemployment, jobs in relatively unskilled occupations and variables that reflect disadvantage rather than measure specific aspects of disadvantage (e.g. Indigenous and Separated/Divorced). As one of the factors included in the standard SEIFA product is proportion of Aboriginal and Torres Strait Islander people in each CD, the ABS produced a special version of the index for use in this survey that excluded this variable as a factor. The index is scaled to have a mean of 1,000 and a standard deviation of 100. Lower values indicate greater levels of disadvantage.

LEVEL OF RELATIVE ISOLATION (LORI)

A new classification of remoteness and isolation has been designed for this survey — the Level of Relative Isolation (LORI). The LORI is based on a product from the National Key Centre for Social Application of Geographic Information Systems at Adelaide University (GISCA) called ARIA++. The ARIA++ is an extension of ARIA (the Accessibility/Remoteness Index of Australia), which was first published in 1997 and has been widely adopted as the standard classification of remoteness in Australia. Because ARIA is based on describing the entire population of Australia, it has not been specifically designed to describe the circumstances of Aboriginal people living in remote areas. The ARIA++ gives much greater discrimination among more remote areas by including more service centres, of smaller sizes, in calculating its remoteness scores.

Based on the ARIA++ scores, five categories of isolation have been defined specifically for the survey that reflect differences in access to services for Aboriginal children. To avoid confusion with the original ARIA, the five categories are referred to as Levels of Relative Isolation (LORI) and range from None (the Perth metropolitan area) to Low (e.g. Albany), Moderate (e.g. Broome), High (e.g. Kalumburu) and Extreme (e.g. Yiyili).

See *Level of Relative Isolation* in Chapter 1, and *Appendix C — Determination of Levels of Relative Isolation (LORI) based on ARIA++* for more details.

LIFE STRESS EVENTS

The number of life stress events that occur in a single period can impact on a families' abilities to cope. Most people are able to cope with a single stressful event, but when multiple stressful or traumatic events occur simultaneously or over a relatively short time period it can be more and more difficult to cope.

In the WAACHS, primary carers were asked if any of fourteen major life stresses had occurred in the family in the preceding twelve months. These events included illness, hospitalisation or death of a close family member, family break up, arrests, job loss and financial difficulties.

For analysis, the number of life stress events in the previous 12 months were grouped as follows: 0–2, 3–4, 5–6, 7–14, with each category containing approximately one-quarter of survey children.

For details of the life stress events measured in the survey see *Appendix C* of Volume Two — *Measures derived from multiple response scales*. This volume can be downloaded free from our website: www.ichr.uwa.edu.au/waachs.

It has been possible to compare the experience of life stress events in families with non-Aboriginal children and in families with Aboriginal children as thirteen of the life stress events asked in the WAACHS were the same items (or with minor wording variations) as was asked in the 1993 Western Australian Child Health Survey.[4]

LOGISTIC REGRESSION

See **MULTIVARIATE LOGISTIC REGRESSION MODELLING**

MULTIVARIATE LOGISTIC REGRESSION MODELLING

Logistic regression is a modelling technique that is used to investigate the relationship between the probability of a certain outcome (for example, a child having a particular health condition) and a set of explanatory variables. Logistic regression is discussed in several statistical publications — see, for example, Hosmer and Lemeshow (2000).[5] In this publication, logistic regression models have been fitted using a weighted version of multi-level modelling which allows for community level, family level and individual level factors to be included as explanatory variables in the models (see Pfeffermann *et al*, 1998).[6] This technique takes into account the survey weights and the hierarchical structure of the data with selection of children within families and communities.

Logistic regression modelling has been used in situations where multiple factors may all have an impact on an outcome of interest. If the factors themselves are inter-related, cross-tabulation analysis may not tell the full story. For each variable included in a logistic regression model, the model determines its effect on the outcome independent of the effect of all other variables included in the model.

ODDS RATIO

The odds of a given event is the ratio of the probability of its occurrence to the probability of its non-occurrence. For instance the odds of obtaining heads in a coin toss are one to one, the odds of any given face in the roll of a die are one to five. The odds ratios used in this publication are a measure of relative risk, derived from a formula which examines the association between, in most of the survey cases, a risk factor (exposure), and an adverse health outcome. In this publication, odds ratios have been estimated using logistic regression, which estimates the effect of each risk factor included in a model after adjusting for the independent effects of all other factors included in the model.

The statistical significance of an odds ratio can be judged by whether the confidence interval includes the reference value of one.

PERCENTAGE OF OPTIMAL BIRTHWEIGHT (POBW)

An infant's weight at birth depends on both the length of gestation and the rate at which it has grown in utero. Not all foetuses grow at the same rate. Boys grow faster than girls, children of tall mothers grow faster than those of short mothers, and a women's first child grows more slowly than her subsequent children. However growth rate is also affected by a number of pathological conditions, most of which decrease growth rate (the exception being maternal diabetes, which increases growth rate). The appropriateness of an infant's growth can be estimated as the ratio of the infant's observed birth weight to the infant's optimal birthweight. Infants that have grown normally have a POBW close to 100 per cent and, in these analyses, percentages below 85 per cent are classified as having sub-optimal intrauterine growth.[7]

PRIMARY CARER

For each child in the survey, the family was asked to identify the primary carer of that child. This was the person who was considered to spend the most time with the child or who had primary responsibility for the upbringing of the child. In many cases, the primary carer was the child's mother. The primary carer was then asked to provide information about each of the children in their care for the survey.

QUALITY OF PARENTING

The nature of the relationship between a child and his or her primary carer, and the style and quality of the carer's parenting are important influences on the development and wellbeing of children. The survey asked a series of questions of carers about their relationship with each of their children. An index of quality of parenting has been derived from three of these items: how often carers praise their children, how often they hit or smack their children and how often they laugh together with their children. These three items, which measure the concepts of parenting warmth and harshness, were rated by carers on a five-point frequency scale from 'Never' through to 'Almost always'. An overall score was produced by summing these three items. Children were then ranked by score, and split into quartiles based on this score, with approximately 25 per cent of children in each category. These categories have been labelled poor, fair, good and very good quality of parenting in this publication.

For further details on the quality of parenting items, and how they were combined to form the quality of parenting score, see *Appendix C* of Volume Two[2] — *Measures derived from multiple responses and scales*. This volume can be downloaded free from our website: www.ichr.uwa.edu.au/waachs.

RECORD LINKAGE

Carers were asked for consent to access their hospital and medical records, as well as the birth, hospital and medical records of their children. Carers who consented were given the opportunity to opt out at any stage should they change their mind. The vast majority of carers consented to these records being accessed. Of primary carers, 96.7 per cent consented to allow access to their hospital records, while 92.8 per cent of secondary carers gave similar consent. Overall, 96.3 per cent of carers gave consent for their children's birth, hospital and medical records to be accessed.

The Western Australian Record Linkage System is unique in Australia, and one of only a handful of similar data collections in the world. It links together birth and death registrations with administrative hospital data from several sources to give a comprehensive record of health services contacts for the population of Western Australia. As there are no unique identifying numbers, probabilistic record linkage has been used to link the files together. This operates on matching names, dates of birth, hospital names and addresses. The procedure allows for possible changes in the matching fields by calculating the probabilities of records being correct matches. Records that are potential links are clerically reviewed, and the overall error rate has been estimated to be less than one per cent.

Key components of the record linkage system used in the survey are the birth records, the Hospital Morbidity Data System and the Mental Health Information System.

SECONDARY CARER

Each family was asked to identify the primary and secondary carer of each surveyed child. The secondary carer was often the father of the child, but may also have been a grandparent or other relative of the child, or other person involved in the upbringing of the child.

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE

In this survey, the Strengths and Difficulties Questionnaire (SDQ) was used to measure emotional or behavioural difficulties in Aboriginal children. The SDQ comprises twenty-five questions looking into five areas of emotional and behavioural difficulties: emotional symptoms, conduct problems, hyperactivity, peer problems and prosocial behaviour. The responses from the twenty questions related to the first four of these areas are combined to produce the Strengths and Difficulties Total Score. This score can range from zero to a maximum score of 40.

Information about the emotional and behavioural difficulties of Aboriginal children was collected from three sources: their primary carer, school teacher, and young people aged 12–17 years themselves. In this publication, most of the analysis of Aboriginal children's emotional and behavioural difficulties are based on carer reported SDQ.

The Strengths and Difficulties Total Score can be grouped into three ranges — the *normal* range (0–13), *borderline* range (14–16) and *abnormal* range (17–40). These categories and their ranges are described by Goodman.[8]

Classification of the SDQ Total Score into normal, borderline and abnormal ranges is typically used within a clinical setting by mental health professionals to help identify and diagnose specific emotional or behavioural difficulties among children. In clinical settings, the SDQ may be used in conjunction with other techniques to assess an individual child in accordance with recognised diagnostic standards.

In household-based population surveys such as the WAACHS, where it is not possible to conduct comprehensive clinical assessments of individual children, the SDQ is more appropriately used to assess **risk status** for *clinically significant emotional or behavioural difficulties*. Thus, groups of children with SDQ scores in the range:

- 0–13 are identified as having low risk of clinically significant emotional or behavioural difficulties
- 14–16 are identified as having moderate risk
- 17–40 are identified as having high risk.

As described in Goodman,[9] the cut-offs used to assess risk of clinically significant emotional or behavioural difficulties are slightly different when teachers of the child complete the SDQ. Volume Two of the WAACHS contains an extensive analysis of carer reported emotional and behavioural difficulties.

ENDNOTES

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