

# **CAUSES OF INFANT AND CHILD DEATHS**

**AUSTRALIA**

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## **CONTENTS**

	<i>page</i>
Notes .....	2
Summary of findings .....	3

### **TABLES**

List of tables .....	14
Infant deaths .....	15
Leading causes of deaths .....	18
Neonatal .....	18
Postneonatal .....	21
Infant .....	24
Child .....	27
Indigenous .....	30
State and Territory .....	31

### **ADDITIONAL INFORMATION**

Explanatory notes .....	34
Glossary .....	37

## **INQUIRIES**

- For further information about these and related statistics, contact Health Section on 1800 060 050, or any ABS office shown on the back cover of this publication.

## NOTES

### SYMBOLS AND OTHER USAGES

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ERP	Estimated Resident Population
HiB	Haemophilias influenza type B
ICD	International Classification of Diseases
n.p.	Not published. The number of deaths observed were too few to calculate reliable death rates.
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
SIDS	Sudden Infant Death Syndrome
Tas.	Tasmania
Vic.	Victoria
WA	Western Australia
WHO	World Health Organization

W. McLennan  
Australian Statistician

## SUMMARY OF FINDINGS

### INTRODUCTION

The current infant and child death rates in Australia are low by international standards. Although infant and child deaths form only a small proportion (2%) of all deaths, they nevertheless have important public health policy significance.

Recent Australian research studies and policies on infant and child health have tended to focus on major public health issues such as Sudden Infant Death Syndrome (SIDS) and deaths among Indigenous people. Drawing largely from Australian Bureau of Statistics (ABS) data, a number of government reports on infants and young people identified the following main public health policy concerns relevant to infants and young children:<sup>1, 2</sup>

- the Australian infant mortality rate (8.2 deaths per 1,000 live births in 1990) was about 1.8 times higher than that of Japan (4.6 per 1,000 live births);
- there was a substantially higher infant mortality rate among Indigenous Australians compared with the indigenous populations in New Zealand, Canada and the United States, and also compared with the rest of the Australian population; and
- there was a high proportion of deaths from accidents and injuries among children.

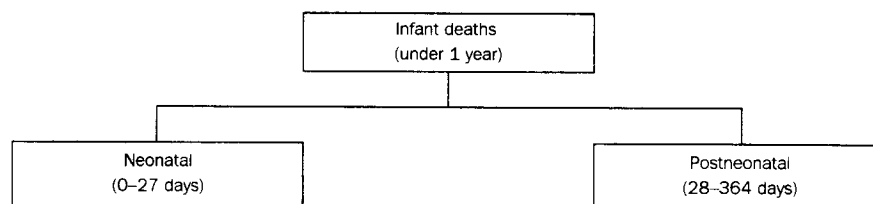
### INFANT MORTALITY

Infant mortality, defined as deaths of children under one year, has been traditionally viewed as an indicator of the general level of mortality, health and wellbeing of a population and as such has received special attention in public health policy. It is also an indicator of the social development of a population.

Infant mortality has a strong association with both fertility (births) and life expectancy (at birth). The increased survival of infants and young children is generally accompanied by a decline in fertility. The survival of infants and young children is highly affected by preventive health measures and public health programs which aim to improve life expectancy.<sup>3</sup>

Infant deaths are, in general, divided into neonatal and postneonatal periods. Deaths in the neonatal period are those occurring in the first 28 days after birth (0–27 days), while postneonatal deaths are those occurring in the remainder of the first year (28 days to 364 days).

#### Components of infant mortality



<sup>1</sup> Commonwealth Department of Health and Family Services, *Health of Young Australians: a National Health Policy for Young People*, AGPS, Canberra, 1995.

<sup>2</sup> Commonwealth Department of Health and Family Services, *The First Report on National Health Priority Areas*, AGPS, Canberra, 1996.

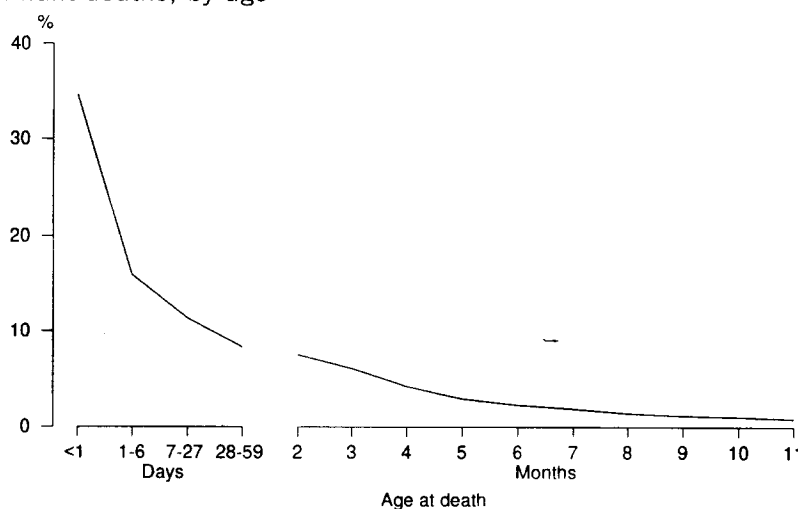
<sup>3</sup> United Nations, *Mortality of Children Under 5: World Estimates and Projections, 1950–2025*, Population Studies Series, no. 105, 1988.

## SUMMARY OF FINDINGS *continued*

### AGE AND SEX PATTERN

Numbers of deaths decrease significantly with the increasing age of infants. About 35% of infant deaths occurred on the day of birth (see table 1). A further 16% had occurred by the end of the first week. In total, 62% of infant deaths occurred in the neonatal period. The remaining 38% of deaths occurred in the postneonatal period, with the proportion of deaths declining steadily over this period.

Infant deaths, by age



In general, infant mortality rates are higher among males than females and this differential is thought to be largely biological in origin.<sup>1</sup> Throughout the 15-year reference period, the infant mortality rate for males was about 27% higher than that for females. Higher male infant death rates were found for almost all leading causes, although the extent of variation differed. SIDS showed a greater differential than did perinatal conditions or congenital anomalies. Average male infant death rates from SIDS exceeded the female rates by 55% in 1982-86, dropping to 35% in 1992-96 (see tables 10 and 11).

### LONG-TERM TRENDS

In the early 1900s infant mortality in Australia was around the level of 100 deaths per 1,000 live births. This rate fell below 50 by the mid-1920s and since 1983 has been below 10 deaths per 1,000 live births. The infant mortality rate recorded for 1996 was 5.8 per 1,000 live births. Until the 1930s the decline in the infant mortality rate was mostly due to the rapid decline in postneonatal deaths. In the post-World War II period, the decline in the neonatal mortality rate was faster than that in the postneonatal mortality rate. The factors responsible for the decline in infant mortality varied according to the age at which an infant died and across different time periods throughout this century.

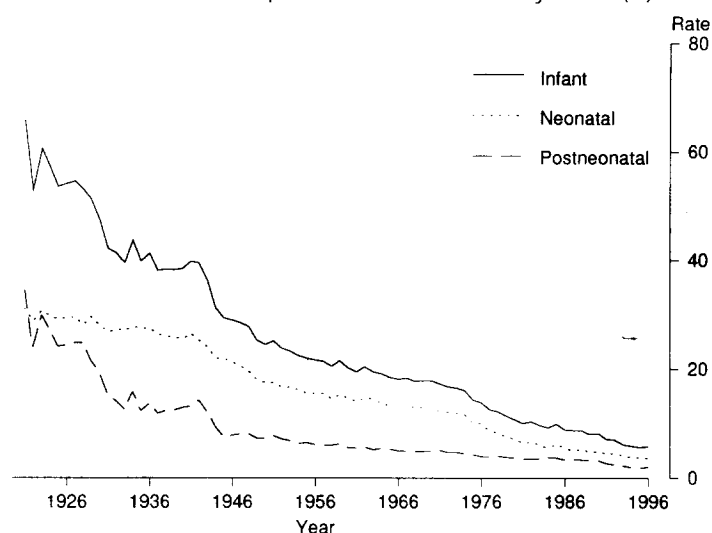
<sup>1</sup> I. Waldron, 'Sex differentials in human mortality: the role of genetic factors', *Social Science and Medicine*, vol. 17, no. 6, 1983, pp. 321-333.

## SUMMARY OF FINDINGS *continued*

### LONG-TERM TRENDS *continued*

Much of the decline in postneonatal deaths was due to significant decreases in deaths attributed to diarrhoeal and respiratory diseases. These decreases have been linked to improved nutrition, better living conditions, enhanced public health awareness and advances in medical science, such as the development of sulphur-based drugs in the 1930s.<sup>1</sup>

Infant neonatal and postneonatal mortality rates(a)



(a) Rate per 1,000 live births.

The declines in neonatal mortality in the post-World War II period were due to improved medical and obstetric care. Notable medical advances affecting the infant mortality rate as a whole included the development of vaccines and programs of mass vaccination and effective use of antibiotics in the 1940s.<sup>2</sup> Developments in neonatal intensive care in the 1970s have played a major role in the decline in neonatal and infant mortality over the last 20 years.

The leading causes of infant death also change with the age of infants. Deaths associated with factors such as the development of the fetus and pregnancy are significant in the first few weeks after birth. Diseases such as infectious and parasitic, which are mainly influenced by environmental and socioeconomic factors, account for a higher proportion of deaths in the later stages of infancy.

<sup>1</sup> United Nations, Economic and Social Commission for Asia and the Pacific, *Population of Australia*, vol. 1, Country Monograph Series, no. 9, Chapter 7 'Mortality', 1982, pp. 160-182.

<sup>2</sup> C.M. Young, *Mortality patterns and trends in Australia*, Research report no. 5, National Population Inquiry, AGPS, Canberra, 1976.

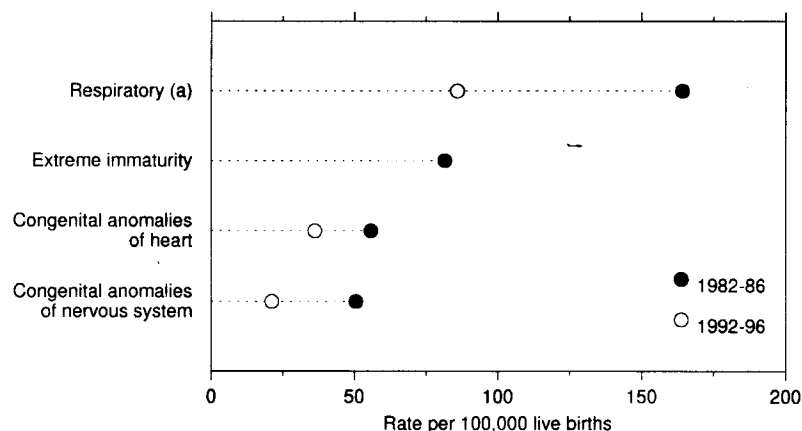
## SUMMARY OF FINDINGS *continued*

### NEONATAL MORTALITY

Between 1982–86 and 1992–96 the overall neonatal mortality rate declined by 33%, from 596 deaths per 100,000 live births to 398. The rate of decline was similar for males and females.

Two major groups of causes accounted for 95% of all neonatal deaths during the 15-year period. These were: perinatal conditions (62% of neonatal deaths) and congenital anomalies (33%). The main specific causes of neonatal deaths in these groups included: hypoxia, birth asphyxia and respiratory conditions (International Classification of Diseases, revision 9 (ICD-9) codes 768–770) (26%); disorders relating to length of gestation and fetal growth (ICD-9 codes 764–766) (18%); congenital anomalies of the heart and circulatory system (9%); congenital anomalies of the nervous system (7%); and haemorrhage (6%) (see table 3).

Selected causes of neonatal deaths



(a) Hypoxia, birth asphyxia and other respiratory conditions.

### PERINATAL CONDITIONS

The perinatal conditions group includes a number of causes that relate to pregnancy, fetal growth, labour, delivery and life of the newborn in the first month. Diseases and conditions originating during pregnancy and in the neonatal period, even though the death may occur later, are included in this group (see Glossary). Disorders specific to the perinatal period such as respiratory conditions and infections also fall into this cause group. From 1982–86 to 1992–96, the overall neonatal death rate from this group of causes declined by 28%, from 353 deaths per 100,000 live births to 254. This rate was lower than the decline in the overall neonatal death rate observed for the same period. As a result, the proportion of neonatal deaths attributed to perinatal conditions increased slightly, from 59% in 1982–86 to 64% in 1992–96.

## SUMMARY OF FINDINGS *continued*

### Respiratory conditions

Respiratory distress syndrome (a disorder characterised by difficult and laboured breathing and cyanosis)(ICD-9 code 769), and other respiratory conditions (ICD-9 code 770), were the leading causes of perinatal deaths in the neonatal period. The average death rate from these causes combined declined from 164 deaths per 100,00 live births in 1982-86 to 86 in 1992-96. The proportion of neonatal deaths due to these causes also declined, from 28% in 1982-86 to 22% in 1992-96.

The neonatal death rate from respiratory distress syndrome declined by 66% from 61 deaths per 100,000 live births in 1982-86 to 21 in 1992-96. Death rates from other respiratory conditions and intrauterine hypoxia and birth asphyxia also declined during the same period, but at a slower rate, 40% and 30% respectively.

### Disorders relating to length of gestation and fetal growth

Deaths attributed to disorders relating to length of gestation and fetal growth (ICD-9 codes 764-766) have fluctuated, but generally showed little change over the period. In 1992-96, the average neonatal death rate due to this cause was 85 deaths per 100,000 live births. About 95% of the neonatal deaths in this group were accounted for by extreme immaturity (see Glossary), a predisposing or contributory condition to other causes. It should be noted, however, that when autopsies are performed deaths are less likely to be classified to this cause.

### CONGENITAL ANOMALIES

Congenital anomalies are mental and physical conditions present at birth that are either hereditary or originating from pregnancy. The neonatal death rate from congenital anomalies fell by 41%, from 212 deaths per 100,000 live births in 1982-86 to 124 in 1992-96.

The major external deformities such as anencephalus, spina bifida, or anomalies of the limbs are usually easier to diagnose and therefore likely to be accurately reported, when present. Other congenital anomalies are difficult to diagnose without post-mortem examinations, and are often underreported, because post-mortems are not always performed.

Congenital anomalies of the heart and circulatory system and of the nervous system were the two largest categories, accounting for 27% and 21% respectively of all neonatal deaths due to congenital anomalies. Between 1982-86 and 1992-96, the average neonatal death rate from congenital anomalies of the heart and circulatory system declined by 35%. Death rate from congenital anomalies of the nervous system declined by 58%, from 50 deaths per 100,000 live births in 1982-86 to 21 in 1992-96. The average annual number of deaths from this cause dropped from 122 to 55 during the same period.

## SUMMARY OF FINDINGS *continued*

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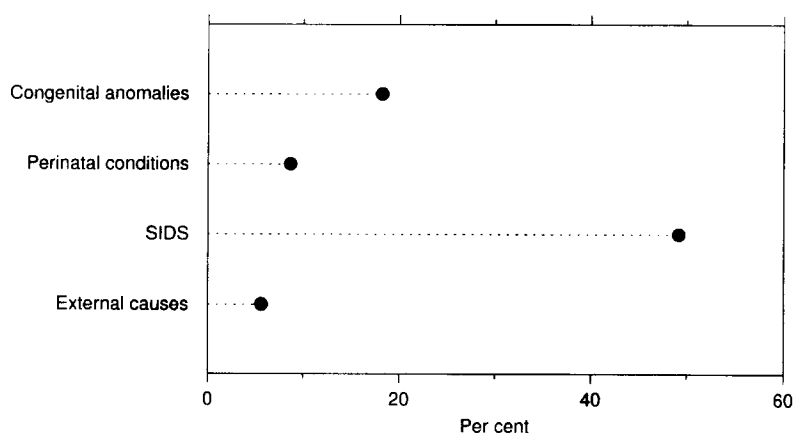
### CONGENITAL ANOMALIES *continued*

Screening methods used during pregnancy, such as amniocentesis and ultrasound screening, can detect serious defects in the fetus and some pregnancies may then be terminated. A termination of pregnancy is not counted as a live birth. In the 1970s elevated alpha feta-protein levels were used to detect spina bifida; subsequently, this method has increasingly been used to detect anomalies of the central nervous system, resulting in substantial reductions in the number of neonatal deaths from this cause. Reductions in congenital anomalies deaths due to the above factors have also been observed in other countries.<sup>1</sup>

## POSTNEONATAL MORTALITY

Three causes accounted for 76% of all postneonatal deaths during the 15-year reference period. These were: SIDS (49%), congenital anomalies (18%) and perinatal conditions (9%).

Selected causes of postneonatal deaths



### SUDDEN INFANT DEATH SYNDROME

SIDS emerged as the leading cause of death in the postneonatal period accounting for nearly half of all postneonatal deaths. Over the 15-year reference period, the average postneonatal death rate from SIDS declined by 57% from 189 deaths per 100,000 live births in 1982–86 to 81 in 1992–96. This decline was, however, not uniform throughout the 15-year period, being mostly concentrated in the period since 1990.

<sup>1</sup> Eve Powell-Griner and Albert Woolbright, 'Trends in infant deaths from Congenital Anomalies: Results from England and Wales, Scotland, Sweden and the United States', *International Journal of Epidemiology*, vol. 19, no. 2, 1990, pp. 391–393.



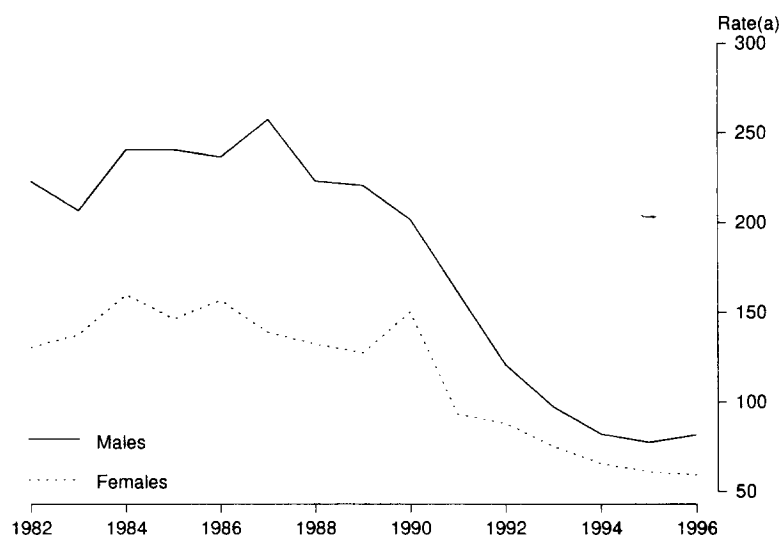
## SUMMARY OF FINDINGS *continued*

### SUDDEN INFANT DEATH SYNDROME *continued*

Throughout the period the male death rate from SIDS remained higher and fluctuated more widely than the female rate. During the 1990s the gap between male and female death rates narrowed.

The fall in death rates observed since 1990 could reflect the success of the national health educational campaign which was launched in that year. The campaign highlighted the risk factors thought to contribute to SIDS such as sleeping posture, feeding practices and exposure to passive smoking.

#### Postneonatal death rates from SIDS



(a) Rate per 100,000 live births.

### CONGENITAL ANOMALIES

From 1982–86 to 1992–96, the average postneonatal mortality rate from congenital anomalies fell from 67 to 44 deaths per 100,000 live births. The three leading causes of congenital anomalies—congenital anomalies of the heart and circulatory system (43%), congenital anomalies of the nervous system (17%) and chromosomal anomalies (15%)—accounted for 75% of all postneonatal deaths reported in the 15-year period.

Over the reference period, postneonatal death rates from all these categories declined. The largest decline occurred in congenital anomalies of the nervous system, which decreased by about 70% from 14 per 100,000 live births in 1982–86 to 4 in 1992–96.

## SUMMARY OF FINDINGS *continued*

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### VACCINE PREVENTABLE DEATHS

The health of infants is affected by periodic epidemics of diseases that are preventable by vaccination (see Explanatory Notes, paragraph 20). However, deaths from vaccine preventable causes make up a relatively small proportion of infant deaths. Between 1982 and 1996 there were a total of 56 deaths from diseases covered in the National Immunisation Strategy: 5 deaths were from measles, 14 from whooping cough, 1 from rubella and 36 from haemophilias influenza type B (HiB). These vaccine preventable deaths accounted for less than 1% of all postneonatal deaths reported during the 15-year period.

### CHILD MORTALITY

#### OVERALL TRENDS

The death rate for young children (aged 1–4 years) was much lower than for infants and the rest of the population. The child death rate was 52 deaths per 100,000 children during 1982–86 and declined to 36 in 1992–96. The declines in death rates were similar for boys and girls (see tables 13 and 14).

The male disadvantage in mortality observed in infancy continued, with young boys showing about 30% higher overall death rate than young girls throughout the period. For instance in 1982–86 the death rate for boys was 59 per 100,000 boys (1–4 years) compared with 45 for girls.

#### LEADING CAUSES OF CHILD DEATHS

The leading cause of death among young children was accidents, poisoning and violence (external causes) which accounted for about 46% of all deaths among children. This was followed by congenital anomalies (14%) and neoplasms (11%). Overall death rates and death rates due to external causes showed a higher mortality among boys, and congenital anomalies and cancers accounted for a higher proportion of deaths among girls than boys.

#### ACCIDENTS, POISONING AND VIOLENCE (EXTERNAL CAUSES)

Although the death rate from external causes declined, it remained the leading cause of child death during the 15-year period from 1982 to 1996. About a third of all child deaths from external causes were due to motor vehicle accidents (on average around 64 deaths per year) and drowning (on average 68 deaths per year) (see table 12).

During the reference period, the child death rates from both these causes substantially declined. The death rate from motor vehicle accidents declined from 9 deaths per 100,000 children per year in 1982–86 to 5 in 1992–96, while the death rate from drowning decreased from 8 in 1982–86 to 5 in 1992–96.

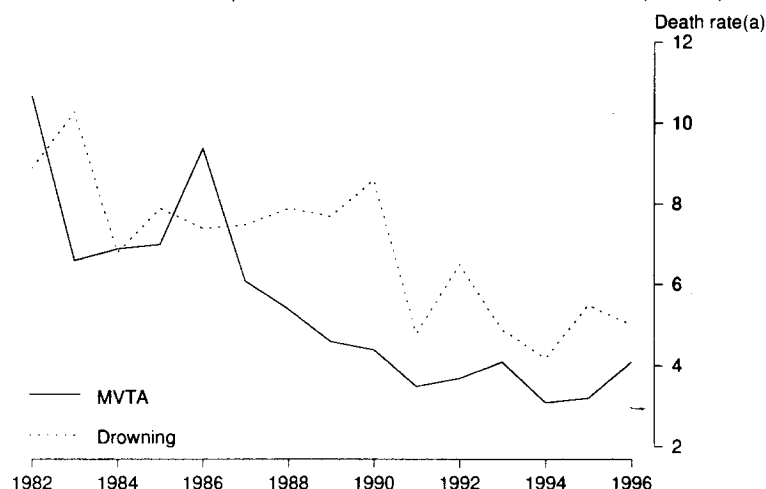
About 6% of all child deaths classified as being due to external causes were homicides. Although there were yearly fluctuations, the average number of deaths attributed to homicides remained similar over the three five-year periods at around 11 deaths per year, with an average homicide rate of 1.1 per 100,000 children aged 1–4 years.

## SUMMARY OF FINDINGS *continued*

### ACCIDENTS, POISONING AND VIOLENCE (EXTERNAL CAUSES) *continued*

Death rates from external causes as a whole were 39% higher for young boys than for young girls in 1982–86, and 60% higher in the 1992–96 period. For most external causes, the relative disadvantage in mortality for males increased over the reference period.

#### Child death rates, motor vehicle traffic accidents (MVTA) & drowning



(a) Rate per 100,000 children aged 1–4 years.

### CONGENITAL ANOMALIES

The average annual death rate for young children from congenital anomalies decreased slightly from 7 deaths per 100,000 population in 1982–86 to 5 in 1992–96. Congenital anomalies of the heart and circulatory system, congenital anomalies of the nervous system and chromosomal anomalies were the three major categories. Within congenital anomalies, the largest decline in the child death rate was recorded for chromosomal anomalies which fell by 49% from 1982–86 to 1992–96.

### NEOPLASMS

Although neoplasms caused very few deaths in infancy, they were the third leading causes of death among children 1–4 years of age, accounting for 11% of all deaths between 1982–86 and 1992–96, with an average of 47 deaths per year (or 5 deaths per year per 100,000 children).

About 96% of deaths classified to neoplasms were malignant neoplasms, with slightly more than a third of these due to leukaemia (ICD-9 codes 204–208) and a further quarter of deaths due to brain cancers (see table 12).

## SUMMARY OF FINDINGS

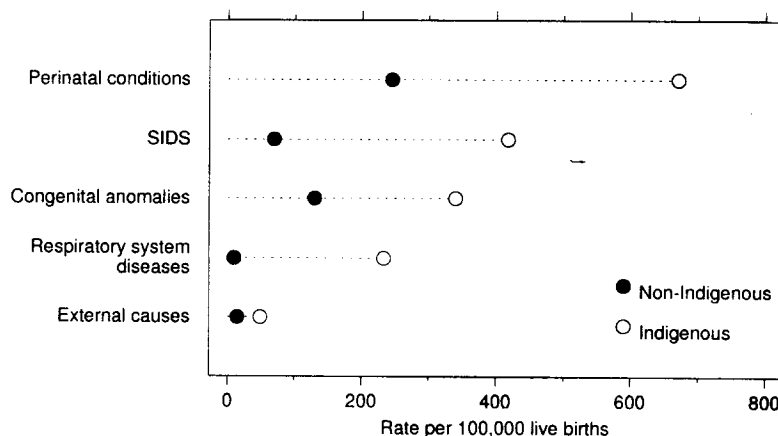
### INDIGENOUS MORTALITY

This analysis is restricted to SA, WA and NT, where the identification of Indigenous births and deaths is considered to be relatively complete (see Explanatory Notes, paragraphs 12–16). Indigenous identification on registration forms has been gradually improving over the years and so analysis has been based on the most recent three-year period available (1994–96). To minimise the effects of annual fluctuations in death rates, the infant and child mortality rates were averaged over the three-year period.

#### INFANT MORTALITY

Overall, the Indigenous infant mortality rate (1,857 deaths per 100,000 Indigenous live births) was almost four times higher than the non-Indigenous rate (500 infant deaths per 100,000 non-Indigenous live births).

Indigenous and non-Indigenous infant mortality—1994–96(a)



(a) SA, WA and NT only.

Deaths from SIDS and diseases of the respiratory system accounted for a greater proportion of Indigenous infant deaths than non-Indigenous infant deaths (see table 15). The estimated death rate from diseases of the respiratory system for Indigenous infants was more than 23 times higher than that of non-Indigenous infants (233 deaths per 100,000 live births for Indigenous infants compared with 10 for non-Indigenous infants).

Many factors have been put forward to explain the disadvantage of Indigenous infants compared with non-Indigenous infants. These relate to health care and reproductive behaviours which are correlated with the socioeconomic background of the Indigenous population.<sup>1</sup> One such factor is the reproductive pattern; a greater proportion of Indigenous mothers are under 20 years of age and therefore tend to have higher risks of low birth weight and premature babies. Also, Indigenous mothers in some areas have been found to be more likely to have medical conditions which complicate pregnancy outcomes.<sup>2</sup> Indigenous people in general have lower accessibility to health care.<sup>3</sup>

<sup>1</sup> A. Gray (ed.), *A Matter of Life and Death: Contemporary Aboriginal Mortality*, Australian Institute of Aboriginal and Torres Strait Islander Studies, Aboriginal Studies Press, Canberra, 1990, p. 193.

<sup>2</sup> Australian Institute of Health and Welfare, *Congenital Malformations Australia 1993 and 1994*, AGPS, Sydney, 1997.

<sup>3</sup> ABS, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander People*, 1997, Cat. no. 4704.0. ABS, Canberra, 1997.

## SUMMARY OF FINDINGS *continued*

### CHILD MORTALITY

The estimated child death rate for Indigenous children (1–4 years of age) for the 1994–96 period was 4.5 times higher than that for non-Indigenous children; 131 deaths per 100,000 children compared with 29, respectively. This difference may also reflect the poor socioeconomic environment in which most Indigenous children live.

It is not possible to estimate accurately the death rates for Indigenous children given the small number of deaths that occurred each year, 11 deaths per year on average over the three-year period. Thus, a detailed comparison of child death rates by cause between the two population groups has not been made in this report.

### STATES AND TERRITORIES

#### INFANT MORTALITY

The infant mortality rate varied between States and Territories. Over the period 1982–96 to 1992–96, death rates were considerably higher in NT, which particularly reflects the high proportion of Indigenous children in NT's child population. The infant mortality rate for Australia as a whole declined by 37% over the 15-year period and all States and Territories shared the decline. However, the falls recorded for the ACT (48%), Tas. (46%) and Vic. (44%) were greater than the national rate (table 16 and table 17). While Tas. recorded the second highest rate at the beginning of the period, it was close to the national average at the end. The ACT, SA and Vic. had the lowest infant mortality rates at the end of the period.

The main causes of infant deaths observed for Australia as a whole were, in general, common to all State and Territories. However, deaths attributed to SIDS were higher in Tas. and NT.

All jurisdictions showed a decline in infant death rates from perinatal conditions, with the falls ranging from 9% in NT to 36% in Vic., compared with the national decline of 27%. The decline in the infant death rate from congenital anomalies was greater in Vic., SA and Qld than in other jurisdictions. The national death rate from SIDS was more than halved over the 15-year period. The fall in the SIDS death rate occurred across all States and Territories, with Vic., Tas., the ACT and SA recording the greatest declines.

#### CHILD MORTALITY

Owing to the very small number of child deaths, a detailed analysis of the levels and trends in cause-specific child death rates by States and Territories has not been made.

## LIST OF TABLES

Page

### INFANT DEATHS

1	Age pattern, annual average number and per cent .....	15
2	Total, age and leading cause .....	16

### LEADING CAUSES OF DEATHS

#### Neonatal

3	Annual average number and rate—all .....	18
4	Annual average number and rate—male .....	19
5	Annual average number and rate—female .....	20

#### Postneonatal

6	Annual average number and rate—all .....	21
7	Annual average number and rate—male .....	22
8	Annual average number and rate—female .....	23

#### Infant

9	Annual average number and rate—all .....	24
10	Annual average number and rate—male .....	25
11	Annual average number and rate—female .....	26

#### Child

12	Annual average number and rate—all .....	27
13	Annual average number and rate—male .....	28
14	Annual average number and rate—female .....	29

#### Indigenous

15	Indigenous and non-Indigenous infant deaths, South Australia, Western Australia and Northern Territory—annual average 1994–96 .....	30
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#### State and Territory

16	Annual average number infant deaths, by cause and State and Territory—all ..	31
17	Annual average rate infant death, by cause and State and Territory—all .....	32
18	Annual average number child deaths, by cause and State and Territory—all ...	33

# 1

## AGE PATTERN OF INFANT DEATHS, Annual Average Number and Per cent(a)

	NEONATAL (AGE IN DAYS).....			POSTNEONATAL (AGE IN MONTHS).....											
Period	<1	1-6	7-27	1(b)	2	3	4	5	6	7	8	9	10	11	Total
NUMBER															
1982-86	804	380	258	189	179	135	97	67	55	40	32	30	23	22	2 315
1987-91	677	324	227	185	172	138	88	59	48	38	30	23	19	18	2 047
1992-96	596	244	189	117	100	77	59	45	34	29	24	21	20	16	1 571
1982-96(c)	692	316	225	164	150	117	81	57	45	36	31	24	21	19	1 978
PROPORTION															
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1982-86	34.7	16.4	11.1	8.1	7.7	5.8	4.2	2.9	2.4	1.7	1.6	1.3	1.0	0.9	100.0
1987-91	33.1	15.8	11.1	9.1	8.4	6.7	4.3	2.9	2.3	1.9	1.5	1.1	0.9	0.9	100.0
1992-96	37.9	15.5	12.0	7.5	6.4	4.9	3.7	2.9	2.2	1.9	1.5	1.3	1.3	1.0	100.0
1982-96(c)	35.0	16.0	11.4	8.3	7.6	5.9	4.1	2.9	2.3	1.8	1.6	1.2	1.0	0.9	100.0

(a) Numbers and percentages averaged over 5-year periods. Components may not add to totals due to rounding.

(b) 28 days to two months.

(c) 15-year average.

# 2

## TOTAL INFANT DEATHS, By Age and Leading Cause

### NEONATAL (AGE IN DAYS).....

Cause of death and ICD code	<1	1-6	7-27
NUMBER			
Infectious & parasitic diseases (001-139)	9	6	27
Neoplasms (140-239)	32	12	17
Endocrine, nutritional & metabolic diseases, & immunity disorders (240-279)	14	46	37
Diseases of the nervous system (320-389)	6	39	92
Diseases of the respiratory system (460-519)	6	5	52
Congenital anomalies (740-759)	3 116	1 805	1 225
Perinatal conditions (760-779)	7 146	2 772	1 488
Symptoms, signs & ill-defined conditions (780-799)	9	31	372
Accidents, poisoning & violence (external causes) (E800-E999)	22	7	37
Other causes	22	17	24
<b>All causes</b>	<b>10 382</b>	<b>4 740</b>	<b>3 371</b>

PROPORTION			
	%	%	%
Infectious & parasitic diseases (001-139)	0.1	0.1	0.8
Neoplasms (140-239)	0.3	0.3	0.5
Endocrine, nutritional & metabolic diseases, & immunity disorders (240-279)	0.1	1.0	1.1
Diseases of the nervous system (320-389)	0.1	0.8	2.7
Diseases of the respiratory system (460-519)	0.1	0.1	1.5
Congenital anomalies (740-759)	30.0	38.1	36.3
Perinatal conditions (760-779)	68.8	58.5	44.1
Signs, symptoms & ill-defined conditions (780-799)	0.1	0.7	11.0
Accidents, poisoning & violence (external causes) (E800-E999)	0.2	0.1	1.1
Other causes	0.2	0.4	0.7
<b>All causes</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>



## POSTNEONATAL (AGE IN MONTHS).....

Cause of death and ICD code	1(a)	2	3	4	5	6	7	8	9	10	11	Total
NUMBER												
Infectious & parasitic diseases (001-139)	46	41	35	29	27	25	15	15	26	21	12	334
Neoplasms (140-239)	8	17	15	9	17	9	8	8	11	12	14	189
Endocrine, nutritional & metabolic diseases, & immunity disorders (240-279)	20	25	23	23	18	15	12	12	14	14	9	282
Diseases of the nervous system (320-389)	57	34	42	55	46	46	41	49	36	26	30	599
Diseases of the respiratory system (460-519)	97	118	93	88	50	57	34	23	27	23	22	695
Congenital anomalies (740-759)	526	349	278	199	154	131	117	94	73	59	57	8 183
Perinatal conditions (760-779)	367	141	107	100	69	59	30	28	20	16	10	12 353
Symptoms, signs & ill-defined conditions (780-799)	1 229	1 414	1 038	645	420	271	212	157	89	54	41	5 982
Accidents, poisoning & violence (external causes) (E800-E999)	65	67	80	47	32	40	51	56	52	59	71	686
Other causes	42	51	39	26	21	29	17	18	16	26	14	362
<b>All causes</b>	<b>2 086</b>	<b>2 257</b>	<b>1 750</b>	<b>1 221</b>	<b>854</b>	<b>682</b>	<b>537</b>	<b>460</b>	<b>364</b>	<b>310</b>	<b>280</b>	<b>29 665</b>
PROPORTION												
	%	%	%	%	%	%	%	%	%	%	%	%
Infectious & parasitic diseases (001-139)	1.9	1.8	2.0	2.4	3.2	3.7	2.8	3.3	7.1	6.8	4.3	1.1
Neoplasms (140-239)	0.3	0.8	0.9	0.7	2.0	1.3	1.5	1.7	3.0	3.9	5.0	0.6
Endocrine, nutritional & metabolic diseases, & immunity disorders (240-279)	0.8	1.1	1.3	1.9	2.1	2.2	2.2	2.6	3.8	4.5	3.2	1.0
Diseases of the nervous system (320-389)	2.3	1.5	2.4	4.5	5.4	6.7	7.6	10.7	9.9	8.4	10.7	2.0
Diseases of the respiratory system (460-519)	3.9	5.2	5.3	7.2	5.9	8.4	6.3	5.0	7.4	7.4	7.9	2.3
Congenital anomalies (740-759)	21.4	15.5	15.9	16.3	18.0	19.2	21.8	20.4	20.1	19.0	20.4	27.6
Perinatal conditions (760-779)	14.9	6.2	6.1	8.2	8.1	8.7	5.6	6.1	5.5	5.2	3.6	41.6
Signs, symptoms & ill-defined conditions (780-799)	50.0	62.6	59.3	52.8	49.2	39.7	39.5	34.1	24.5	17.4	14.6	20.2
Accidents, poisoning & violence (external causes) (E800-E999)	2.6	3.0	4.6	3.8	3.7	5.9	9.5	12.2	14.3	19.0	25.4	2.3
Other causes	1.7	2.3	2.2	2.1	2.5	4.3	3.2	3.9	4.4	8.4	5.0	1.2
<b>All causes</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) 28 days to two months.

# 3

## LEADING CAUSES OF NEONATAL DEATHS, Annual Average Number(a) and Rate(b)—All

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c)....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
<b>Congenital anomalies (740-759)</b>	<b>511</b>	<b>211.8</b>	<b>35.6</b>	<b>395</b>	<b>156.8</b>	<b>32.2</b>	<b>321</b>	<b>124.3</b>	<b>31.2</b>	<b>409</b>	<b>33.2</b>
Congenital anomalies of the heart & circulatory system (745-747)	135	55.8	9.4	106	42.0	8.6	93	36.1	9.1	111	9.0
Congenital anomalies of the nervous system (740-742)	122	50.4	8.5	77	30.4	6.2	55	21.1	5.3	84	6.8
Chromosomal anomalies (758)	55	22.9	3.9	55	21.7	4.5	47	18.2	4.6	52	4.3
Congenital anomalies of respiratory system (748)	55	22.9	3.9	48	19.0	6.2	41	15.9	3.9	47	3.9
Congenital musculoskeletal deformities (754-756)	54	22.4	3.8	48	19.0	3.9	40	15.5	4.0	48	3.9
Congenital anomalies of urinary system (753)	39	16.2	2.7	30	11.8	2.4	21	8.0	2.0	30	2.4
<b>Perinatal conditions (760-779)</b>	<b>852</b>	<b>352.9</b>	<b>59.3</b>	<b>769</b>	<b>304.9</b>	<b>62.7</b>	<b>657</b>	<b>254.3</b>	<b>63.9</b>	<b>760</b>	<b>61.7</b>
Hypoxia, birth asphyxia & other respiratory conditions(768-770)	397	164.3	27.6	332	131.7	27.1	222	86.0	21.6	317	25.8
Respiratory distress syndrome (769)	148	61.4	10.3	117	46.2	9.5	54	20.9	5.2	106	8.6
Other respiratory conditions (770)	174	72.1	12.1	138	54.6	11.2	112	43.4	10.9	141	11.5
Intrauterine hypoxia & birth asphyxia (768)	75	30.9	5.2	78	30.9	6.4	56	21.7	5.4	70	5.6
Haemorrhage (772)	97	40.1	6.7	76	30.1	6.2	51	19.8	5.0	75	6.1
Disorders of length of gestation & fetal growth (764-766)	209	86.6	14.5	234	92.6	19.1	220	85.0	21.3	221	18.0
Extreme immaturity (765.0)	197	81.5	13.7	221	87.5	18.0	211	81.5	20.5	209	17.0
<b>Symptoms, signs &amp; ill-defined conditions (780-799)</b>	<b>32</b>	<b>13.3</b>	<b>2.2</b>	<b>28</b>	<b>11.2</b>	<b>2.3</b>	<b>22</b>	<b>8.6</b>	<b>2.2</b>	<b>27</b>	<b>2.2</b>
SIDS (798.0)	32	13.3	2.2	28	11.2	2.2	22	8.4	2.1	27	2.2
<b>Other causes</b>	<b>43</b>	<b>17.6</b>	<b>3.0</b>	<b>35</b>	<b>13.6</b>	<b>2.9</b>	<b>29</b>	<b>10.8</b>	<b>2.8</b>	<b>35</b>	<b>2.8</b>
<b>All causes</b>	<b>1 438</b>	<b>595.6</b>	<b>100.0</b>	<b>1 227</b>	<b>486.6</b>	<b>100.0</b>	<b>1 029</b>	<b>398.0</b>	<b>100.0</b>	<b>1 231</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

# 4 LEADING CAUSES OF NEONATAL DEATHS, Annual Average Number(a) and Rate(b)—Male

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Congenital anomalies (740-759)	283	228.3	34.6	218	168.4	31.4	184	138.4	31.3	228	32.6
Congenital anomalies of the heart & circulatory system (745-747)	77	62.2	9.4	61	46.8	8.7	57	42.8	9.6	65	9.3
Congenital anomalies of the nervous system (740-742)	62	49.7	7.5	35	27.4	5.1	25	18.8	4.2	41	5.8
Chromosomal anomalies (758)	24	19.1	2.9	26	19.9	3.7	23	17.2	3.9	24	3.4
Congenital anomalies of respiratory system (748)	34	27.8	4.2	30	23.5	4.3	27	20.0	4.6	30	4.3
Congenital musculoskeletal deformities (754-756)	31	25.0	3.8	28	21.5	4.0	24	18.2	4.1	28	4.0
Congenital anomalies of urinary system (753)	27	22.0	3.0	22	16.8	3.2	16	11.9	2.7	22	3.1
Perinatal conditions (760-779)	489	394.4	59.8	441	340.9	63.5	376	282.9	63.8	435	62.2
Hypoxia, birth asphyxia & other respiratory conditions(768-770)	232	187.3	28.4	201	155.3	28.9	133	100.2	22.5	189	27.0
Respiratory distress syndrome (769)	92	73.9	11.2	76	58.4	10.9	31	23.7	5.3	66	9.5
Other respiratory conditions (770)	94	76.2	11.6	80	62.0	11.5	67	50.3	11.3	80	11.5
Intrauterine hypoxia & birth asphyxia (768)	46	37.1	5.6	45	34.9	6.5	35	26.2	5.9	42	6.0
Haemorrhage (772)	56	45.5	6.9	43	32.9	6.2	29	21.7	4.9	43	6.1
Disorders of length of gestation & fetal growth (764-766)	113	91.2	13.8	127	98.1	18.3	122	92.2	20.7	121	17.2
Extreme immaturity (765.0)	106	85.2	12.9	119	91.6	17.1	118	88.6	20.0	114	16.3
Symptoms, signs & ill-defined conditions (780-799)	19	15.0	2.3	16	12.7	2.4	14	10.7	2.4	16	2.3
SIDS (798.0)	19	15.0	2.3	16	12.7	2.3	14	10.7	2.4	16	2.3
Other causes	26	21.5	3.2	20	14.7	2.8	15	11.5	2.5	21	3.0
<b>All causes</b>	<b>817</b>	<b>659.2</b>	<b>100.0</b>	<b>695</b>	<b>536.7</b>	<b>100.0</b>	<b>589</b>	<b>443.5</b>	<b>100.0</b>	<b>700</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

## LEADING CAUSES OF NEONATAL DEATHS, Annual Average Number(a) and Rate(b)—Female

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
<b>Congenital anomalies (740-759)</b>	<b>229</b>	<b>194.4</b>	<b>36.8</b>	<b>177</b>	<b>144.5</b>	<b>33.3</b>	<b>137</b>	<b>109.3</b>	<b>33.3</b>	<b>181</b>	<b>34.0</b>
Congenital anomalies of the heart & circulatory system (745-747)	58	49.2	9.3	45	37.0	8.5	36	29.0	8.5	47	8.9
Congenital anomalies of the nervous system (740-742)	60	51.0	9.7	41	33.6	7.7	30	23.5	7.7	44	8.3
Chromosomal anomalies (758)	32	27.0	5.1	29	23.6	5.4	24	19.2	5.4	28	5.3
Congenital anomalies of respiratory system (748)	21	17.9	3.3	18	14.3	3.4	14	11.5	3.2	18	3.4
Congenital musculoskeletal deformities (754-756)	23	19.6	3.7	20	16.5	3.8	16	12.6	3.6	20	3.8
Congenital anomalies of urinary system (753)	12	10.0	1.9	8	6.5	1.5	5	4.0	1.1	8	1.5
<b>Perinatal conditions (760-779)</b>	<b>364</b>	<b>309.2</b>	<b>58.5</b>	<b>328</b>	<b>267.0</b>	<b>61.6</b>	<b>282</b>	<b>224.1</b>	<b>64.0</b>	<b>324</b>	<b>61.1</b>
Hypoxia, birth asphyxia & other respiratory conditions(768-770)	165	140.2	26.5	131	106.9	24.6	89	70.9	20.2	128	24.2
Respiratory distress syndrome (769)	57	48.1	9.1	41	33.4	7.7	23	18.0	5.1	40	7.5
Other respiratory conditions (770)	80	67.7	12.8	57	46.8	10.8	45	36.1	10.3	61	11.4
Intrauterine hypoxia & birth asphyxia (768)	29	24.3	4.6	33	27.0	6.2	21	16.9	4.8	28	5.2
Haemorrhage (772)	40	34.4	6.4	33	27.0	6.2	22	17.8	5.0	32	6.0
Disorders of length of gestation & fetal growth (764-766)	96	81.6	15.4	107	86.8	20.1	97	77.3	22.0	100	18.8
Extreme immaturity (765.0)	91	77.6	14.7	102	83.1	19.2	93	74.0	21.1	95	18.0
<b>Symptoms, signs &amp; ill-defined conditions (780-799)</b>	<b>13</b>	<b>11.4</b>	<b>2.2</b>	<b>12</b>	<b>9.6</b>	<b>2.2</b>	<b>8</b>	<b>6.4</b>	<b>1.8</b>	<b>11</b>	<b>2.1</b>
SIDS (798.0)	13	11.4	2.2	12	9.5	2.2	8	6.4	1.8	11	2.1
<b>Other causes</b>	<b>16</b>	<b>13.6</b>	<b>2.6</b>	<b>15</b>	<b>12.5</b>	<b>2.8</b>	<b>13</b>	<b>10.2</b>	<b>3.0</b>	<b>15</b>	<b>2.8</b>
<b>All causes</b>	<b>622</b>	<b>528.7</b>	<b>100.0</b>	<b>532</b>	<b>433.7</b>	<b>100.0</b>	<b>440</b>	<b>350.0</b>	<b>100.0</b>	<b>531</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

## 6

## LEADING CAUSES OF POSTNEONATAL DEATHS, Annual Average Number(a) and Rate(b)—All

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	22	9.1	2.5	20	7.9	2.4	17	6.4	3.3	19	2.6
Diseases of the nervous system (320-389)	31	12.8	3.5	33	13.2	4.0	30	11.8	5.6	31	4.2
Inflammatory disease (320-326)	11	4.3	1.2	11	4.5	1.3	9	3.5	1.7	10	1.4
Hereditary & degenerative disease of the central nervous system (330-337)	11	4.6	1.3	12	4.9	1.5	11	4.1	2.0	11	1.5
Diseases of the respiratory system (460-519)	48	20.0	5.5	43	17.1	5.2	35	13.6	6.5	42	5.6
Pneumonia & influenza (480-487)	29	12.2	3.4	25	10.1	3.0	24	9.4	4.5	26	3.5
Congenital anomalies (740-759)	162	67.0	18.4	133	52.7	16.2	114	44.0	21.0	136	18.2
Congenital anomalies of the heart & circulatory system (745-747)	69	28.4	7.8	55	21.8	6.7	50	19.5	9.3	58	7.8
Congenital anomalies of the nervous system (740-742)	35	14.3	3.9	24	9.7	2.9	11	4.3	2.0	23	3.1
Chromosomal anomalies (758)	24	9.8	2.7	21	8.2	2.6	15	5.7	2.7	20	2.6
Perinatal conditions (760-779)	60	24.8	6.8	77	30.5	9.4	55	21.4	10.2	64	8.6
Hypoxia, birth asphyxia & other respiratory conditions (768-770)	38	15.7	4.3	44	17.5	5.4	21	8.2	3.9	34	4.6
Symptoms, signs & ill-defined conditions (780-799)	461	190.9	52.6	438	173.7	53.4	215	83.3	39.7	371	49.8
SIDS (798.0)	457	189.3	52.1	433	171.6	52.8	210	81.3	38.8	367	49.1
Accidents, poisoning & violence (external causes) (E800-E999)	46	19.0	5.2	43	16.9	5.2	36	13.9	6.6	41	5.6
Motor vehicle traffic accidents (E810-E819)	15	6.3	1.7	10	4.0	1.2	5	1.8	0.8	10	1.3
Drowning & submersion (E910)	5	2.0	0.5	7	2.6	0.9	7	2.6	1.2	6	0.8
Other causes	47	19.5	5.4	33	13.1	4.0	40	15.5	7.4	42	5.6
<b>All causes</b>	<b>877</b>	<b>363.3</b>	<b>100.0</b>	<b>820</b>	<b>325.0</b>	<b>100.0</b>	<b>542</b>	<b>209.8</b>	<b>100.0</b>	<b>746</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	12	9.4	2.3	11	8.8	2.4	10	7.7	3.3	11	2.6
Diseases of the nervous system (320-389)	18	14.7	3.6	17	13.0	3.5	17	13.1	5.6	17	4.0
Inflammatory disease (320-326)	6	4.5	1.1	6	4.6	1.3	5	1.6	3.5	5	1.2
Hereditary & degenerative disease of the central nervous system (330-337)	7	6.0	1.5	5	4.0	1.1	6	2.4	4.5	6	1.4
Diseases of the respiratory system (460-519)	27	21.8	5.3	25	19.3	5.2	21	15.5	6.6	24	5.6
Pneumonia & influenza (480-487)	16	13.2	3.2	15	11.7	3.2	14	10.4	4.4	15	3.5
Congenital anomalies (740-759)	83	66.8	16.3	66	50.8	13.7	60	45.5	19.3	70	16.1
Congenital anomalies of the heart & circulatory system (745-747)	37	30.0	7.3	31	24.1	6.5	28	20.8	8.8	32	7.4
Congenital anomalies of the nervous system (740-742)	17	13.7	3.3	11	8.5	2.3	6	4.7	2.0	11	2.6
Chromosomal anomalies (758)	11	8.7	2.1	7	5.3	1.4	5	3.6	1.5	7	1.7
Perinatal conditions (760-779)	31	25.0	6.1	44	34.1	9.2	33	24.9	10.6	36	8.3
Hypoxia, birth asphyxia & other respiratory conditions (768-770)	20	16.5	3.9	14	19.6	5.2	13	9.5	4.2	19	4.4
Symptoms, signs & ill-defined conditions (780-799)	288	232.2	56.5	279	215.2	58.1	126	94.6	40.2	231	53.2
SIDS (798.0)	285	229.8	55.9	275	212.5	57.3	122	92.2	39.2	227	52.4
Accidents, poisoning & violence (external causes) (E800-E999)	25	20.5	5.0	21	16.2	4.4	23	17.2	7.3	23	5.3
Motor vehicle traffic accidents (E810-E819)	8	6.5	1.6	6	4.6	1.3	3	2.0	0.8	6	1.3
Drowning & submersion (E910)	4	3.1	0.7	3	2.3	0.6	4	3.0	1.3	4	0.8
Other causes	25	20.3	5.0	17	13.1	3.5	23	17.2	7.3	22	5.1
<b>All causes</b>	<b>509</b>	<b>410.7</b>	<b>100.0</b>	<b>480</b>	<b>370.7</b>	<b>100.0</b>	<b>313</b>	<b>235.5</b>	<b>100.0</b>	<b>434</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

## 8

## LEADING CAUSES OF POSTNEONATAL DEATHS, Annual Average Number(a) and Rate(b)—Female

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	10	8.8	2.8	8	6.8	2.5	6	5.1	2.8	8	2.7
Diseases of the nervous system (320-389)	13	10.7	3.4	16	13.4	4.8	13	10.3	5.7	14	4.5
Inflammatory disease (320-326)	5	4.1	1.3	5	4.4	1.6	4	3.5	1.9	5	1.6
Hereditary & degenerative disease of the central nervous system (330-337)	4	3.1	1.0	7	5.9	2.1	5	3.7	2.0	5	1.6
Diseases of the respiratory system (460-519)	21	18.0	5.8	18	14.7	5.3	15	11.6	6.4	18	5.7
Pneumonia & influenza (480-487)	13	11.1	3.5	10	8.3	3.0	11	8.4	4.6	11	3.6
Congenital anomalies (740-759)	79	67.2	21.4	67	54.7	19.8	53	42.5	23.3	67	21.3
Congenital anomalies of the heart & circulatory system (745-747)	31	26.7	8.5	24	19.4	7.0	23	18.1	9.9	26	8.3
Congenital anomalies of the nervous system (740-742)	18	15.0	4.8	13	10.9	3.9	5	3.8	2.1	12	3.8
Chromosomal anomalies (758)	13	10.9	3.5	14	11.2	4.1	10	8.0	4.4	12	3.8
Perinatal conditions (760-779)	29	24.5	7.8	33	26.9	9.7	22	17.7	9.7	28	9.0
Hypoxia, birth asphyxia & other respiratory conditions (768-770)	17	14.8	4.6	19	15.3	5.6	9	6.8	3.9	15	4.8
Symptoms, signs & ill-defined conditions (780-799)	173	147.5	47.1	159	129.9	46.9	90	71.3	39.0	141	45.0
SIDS (798.0)	172	146.6	46.8	158	128.6	46.4	88	69.8	38.2	139	44.6
Accidents, poisoning & violence (external causes) (E800-E999)	20	17.3	5.5	22	17.6	6.4	13	10.5	5.7	18	5.9
Motor vehicle traffic accidents (E810-E819)	7	6.1	2.0	4	3.4	1.2	2	1.6	0.9	4	1.4
Drowning & submersion (E910)	1	0.9	0.3	4	2.9	1.1	3	2.1	1.1	2	0.8
Other causes	23	19.2	6.1	16	13.0	4.7	18	13.6	7.4	19	6.1
<b>All causes</b>	<b>368</b>	<b>313.3</b>	<b>100.0</b>	<b>340</b>	<b>277.0</b>	<b>100.0</b>	<b>230</b>	<b>182.6</b>	<b>100.0</b>	<b>313</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c)....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	26	10.7	1.1	23	9.1	1.1	18	7.0	1.1	22	1.1
Diseases of the nervous system (320-389)	42	17.3	1.8	42	16.5	2.0	38	14.9	2.4	41	2.1
Inflammatory diseases (320-326)	20	8.1	0.8	17	6.6	0.8	12	4.7	0.8	16	0.8
Hereditary & degenerative disease of the central nervous system (330-337)	11	4.7	0.5	14	5.5	0.7	11	4.3	0.7	12	0.6
Diseases of the respiratory system (460-519)	56	23.0	2.4	47	18.5	2.3	37	14.2	2.3	46	2.3
Pneumonia & influenza (480-487)	36	14.7	1.5	28	11.1	1.4	26	10.1	1.7	30	1.5
Congenital anomalies (740-759)	673	278.8	29.1	528	209.5	25.8	435	168.3	27.7	546	27.6
Congenital anomalies of the heart & circulatory system (745-747)	203	84.2	8.8	161	63.8	7.9	144	55.6	9.1	169	8.6
Congenital anomalies of the nervous system (740-742)	156	64.7	6.7	101	40.1	4.9	66	25.4	4.2	108	5.4
Chromosomal anomalies (758)	79	32.7	3.4	75	29.9	3.7	62	23.9	3.9	72	3.6
Congenital anomalies of respiratory system (748)	64	26.3	2.8	57	22.5	2.8	50	19.3	3.2	57	2.9
Congenital musculoskeletal deformities (754-756)	61	25.1	2.6	53	21.2	2.6	56	14.7	3.6	57	2.9
Congenital anomalies of urinary system (753)	41	17.0	1.8	31	12.5	1.5	26	8.0	1.7	32	1.6
Perinatal conditions (760-779)	912	377.7	39.4	846	335.5	41.3	713	275.7	45.4	824	41.6
Hypoxia, birth asphyxia & other respiratory conditions (768-770)	435	180.0	18.8	376	149.3	18.4	243	94.2	15.5	351	17.7
Respiratory distress syndrome (769)	154	63.7	6.6	128	50.8	6.3	56	21.7	3.6	113	5.7
Other respiratory conditions (770)	200	82.7	8.6	165	65.4	8.1	126	48.8	8.0	164	8.3
Intrauterine hypoxia & birth asphyxia (768)	81	33.6	3.5	83	33.1	4.1	61	23.7	3.9	75	3.8
Haemorrhage (772)	54	22.2	2.3	55	21.7	2.7	62	23.9	3.9	57	2.9
Disorders of length of gestation & fetal growth (764-766)	213	88.1	9.2	245	97.3	12.0	232	89.8	14.8	232	11.7
Extreme immaturity (765.0)	199	82.4	8.6	227	90.1	11.1	217	83.9	13.8	214	10.8
Symptoms, signs & ill-defined conditions (780-799)	493	204.2	21.3	466	184.9	22.8	237	91.8	15.1	399	20.2
SIDS (798.0)	489	202.5	21.1	460	182.6	22.5	232	89.8	14.8	394	19.9
Accidents, poisoning & violence (external causes) (E800-E999)	50	20.8	2.2	49	19.3	2.4	38	14.9	2.4	46	2.3
Motor vehicle traffic accidents (E810-E819)	16	6.6	0.7	11	4.2	0.5	5	2.0	0.3	11	0.5
Drowning & submersion (E910)	4	2.0	0.2	7	2.8	0.3	7	2.6	0.4	6	0.3
Other causes	61	25.0	2.6	46	18.2	2.2	55	21.3	3.5	54	2.7
<b>All causes</b>	<b>2 315</b>	<b>958.9</b>	<b>100.0</b>	<b>2 047</b>	<b>811.6</b>	<b>100.0</b>	<b>1 571</b>	<b>607.8</b>	<b>100.0</b>	<b>1 978</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.



# 10

## LEADING CAUSES OF INFANT DEATHS, Annual Average Number(a) and Rate(b)—Male

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	13	10.5	1.0	13	10.4	1.1	11	8.4	1.2	13	1.1
Diseases of the nervous system (320-389)	25	20.3	1.9	21	16.4	1.8	22	16.7	2.5	23	2.0
Inflammatory diseases (320-326)	12	9.5	0.9	9	6.6	0.7	6	4.8	0.7	9	0.8
Hereditary & degenerative disease of the central nervous system (330-337)	8	6.1	0.6	6	4.6	0.5	6	4.7	0.7	7	0.6
Diseases of the respiratory system (460-519)	32	25.8	2.4	27	21.0	2.3	22	16.3	2.4	27	2.4
Pneumonia & Influenza (480-487)	21	16.6	1.6	17	12.8	1.4	15	11.1	1.6	17	1.5
Congenital anomalies (740-759)	366	295.1	27.6	284	219.3	24.2	244	183.9	27.1	298	26.3
Congenital anomalies of the heart & circulatory system (745-747)	114	92.2	8.6	92	70.9	7.8	84	63.6	9.4	97	8.5
Congenital anomalies of the nervous system (740-742)	79	63.5	5.9	46	35.8	4.0	31	23.5	3.5	52	4.6
Chromosomal anomalies (758)	34	27.8	2.6	33	25.2	2.8	28	20.8	3.1	32	2.8
Congenital anomalies of respiratory system (748)	40	32.0	3.0	36	27.5	3.1	32	24.1	3.6	36	3.2
Congenital musculoskeletal deformities (754-756)	34	27.3	2.6	31	23.6	2.7	33	25.0	3.7	33	2.9
Congenital anomalies of urinary system (753)	29	23.2	2.2	22	17.3	1.9	19	14.2	2.1	23	2.0
Perinatal conditions (760-779)	520	419.5	39.2	485	374.9	41.3	409	307.8	45.3	471	41.6
Hypoxia, birth asphyxia & other respiratory conditions (768-770)	252	203.8	19.0	226	174.9	19.3	146	109.7	16.2	208	18.3
Respiratory distress syndrome (769)	95	76.7	7.2	83	64.3	7.1	33	24.9	3.7	70	6.2
Other respiratory conditions (770)	107	86.7	8.1	94	72.9	8.0	75	56.3	8.3	92	8.1
Intrauterine hypoxia & birth asphyxia (768)	50	40.4	3.8	49	37.7	4.2	38	28.5	4.2	46	4.0
Haemorrhage (772)	58	46.5	4.4	44	34.0	3.7	31	34.0	3.4	44	3.9
Disorders of length of gestation & fetal growth (764-766)	115	92.7	8.7	133	103.1	11.3	130	97.8	14.4	126	11.1
Extreme immaturity (765.0)	107	86.2	8.1	122	94.1	10.4	121	91.4	13.5	117	10.3
Symptoms, signs & ill-defined conditions (780-799)	306	247.2	23.1	295	227.9	25.1	140	105.3	15.5	247	21.8
SIDS (798.0)	303	244.8	22.9	291	224.8	24.8	136	102.6	15.1	243	21.5
Accidents, poisoning & violence (external causes) (E800-E999)	29	23.1	2.2	24	18.5	2.0	24	17.8	2.6	25	2.2
Motor vehicle traffic accidents (E810-E819)	9	7.1	0.7	6	4.8	0.5	3	2.1	0.3	6	0.8
Drowning & submersion (E910)	4	3.1	0.3	3	2.5	0.3	4	3.0	0.4	4	0.3
Other causes	34	27.4	2.6	25	18.5	2.0	29	22.8	3.2	30	2.6
<b>All causes</b>	<b>1 325</b>	<b>1 070.0</b>	<b>100.0</b>	<b>1 174</b>	<b>907.2</b>	<b>100.0</b>	<b>901</b>	<b>679.0</b>	<b>100.0</b>	<b>1 134</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c).....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	13	10.9	1.3	10	7.8	1.1	7	5.4	1.0	10	1.2
Diseases of the nervous system (320-389)	17	14.1	1.7	20	16.6	2.3	16	12.9	2.4	18	2.1
Inflammatory diseases (320-326)	8	6.6	0.8	8	6.5	0.9	6	4.6	0.9	7	0.9
Hereditary & degenerative disease of the central nervous system (330-337)	4	3.2	0.4	8	6.5	0.9	5	3.8	0.7	6	0.7
Diseases of the respiratory system (460-519)	24	20.1	2.4	19	15.8	2.2	15	12.1	2.3	19	2.3
Pneumonia & influenza (480-487)	15	12.8	1.5	11	9.3	1.3	11	8.9	1.7	13	1.5
Congenital anomalies (740-759)	308	261.6	31.1	245	199.3	28.0	191	151.8	28.5	248	29.3
Congenital anomalies of the heart & circulatory system (745-747)	89	75.9	9.0	69	56.4	7.9	59	47.1	8.8	73	8.6
Congenital anomalies of the nervous system (740-742)	78	66.0	7.8	55	44.5	6.3	34	27.4	5.1	56	6.6
Chromosomal anomalies (758)	45	37.9	4.5	43	34.9	4.9	34	27.2	5.1	41	4.8
Congenital anomalies of respiratory system (748)	24	20.4	2.4	21	17.3	2.4	18	14.2	2.7	21	2.5
Congenital musculoskeletal deformities (754-756)	27	22.8	2.7	23	18.6	2.6	23	18.0	3.4	24	2.8
Congenital anomalies of urinary system (753)	12	10.4	1.2	9	7.3	1.0	7	5.2	1.0	9	1.1
Perinatal conditions (760-779)	392	333.7	39.6	361	293.9	41.4	304	241.8	45.4	352	41.8
Hypoxia, birth asphyxia & other respiratory conditions (768-770)	182	155.0	18.4	150	122.2	17.2	98	77.8	14.6	143	16.9
Respiratory distress syndrome (769)	59	50.0	5.9	45	36.5	5.1	23	18.3	3.4	42	5.0
Other respiratory conditions (770)	92	78.4	9.3	71	57.5	8.1	51	40.9	7.7	71	8.5
Intrauterine hypoxia & birth asphyxia (768)	31	26.5	3.2	35	28.2	4.0	23	18.6	3.5	30	3.5
Haemorrhage (772)	41	35.2	4.1	34	27.7	3.9	23	18.6	3.5	33	3.9
Disorders of length of gestation & fetal growth (764-766)	98	83.2	9.9	112	91.2	12.8	102	81.3	15.2	104	12.3
Extreme immaturity (765.0)	92	78.4	9.3	105	85.9	12.1	96	76.0	14.3	98	11.6
Symptoms, signs & ill-defined conditions (780-799)	187	158.9	18.9	171	139.5	19.6	98	77.6	14.6	152	18.0
SIDS (798.0)	186	158.0	18.8	169	138.0	19.4	96	76.2	14.3	150	17.8
Accidents, poisoning & violence (external causes) (E800-E999)	22	18.4	2.2	25	20.0	2.8	15	11.8	2.2	20	2.4
Motor vehicle traffic accidents (E810-E819)	7	6.1	0.7	5	3.7	0.5	2	1.9	0.4	5	0.6
Drowning & submersion (E910)	1	0.9	0.1	4	3.1	0.4	3	2.2	0.4	3	0.3
Other causes	27	24.3	2.7	21	17.8	2.4	24	19.1	3.6	25	3.0
<b>All causes</b>	<b>990</b>	<b>842.0</b>	<b>100.0</b>	<b>872</b>	<b>710.7</b>	<b>100.0</b>	<b>670</b>	<b>532.6</b>	<b>100.0</b>	<b>844</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 live births.

(c) 15-year average.

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c)....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	15	1.6	3.0	16	1.7	4.1	13	1.3	3.5	15	3.5
Neoplasms (140-239)	52	5.5	10.7	41	4.1	10.1	49	4.7	13.0	47	11.1
Malignant neoplasms (140-208)	50	5.3	10.0	39	4.0	9.9	46	4.4	10.2	45	10.7
Thyroid & other endocrine glands & other related structures (193-194)	9	1.0	1.9	8	0.8	2.0	9	0.9	2.5	9	2.1
Leukemia (204-208)	18	1.9	3.8	14	1.4	3.6	16	1.6	4.3	16	3.9
Brain (191-192, 225, 239.6)	11	1.1	2.2	10	1.0	2.4	13	1.3	3.5	11	2.6
Diseases of the nervous system (320-389)	38	4.0	7.8	37	3.8	9.2	38	3.7	10.2	38	8.9
Meningitis (320-322)	10	1.1	2.1	11	1.1	2.6	6	0.6	1.7	9	2.1
Diseases of the respiratory system (460-519)	25	2.6	5.1	17	1.7	4.2	18	1.7	4.7	20	4.7
Pneumonia & influenza (480-487)	10	1.1	2.0	6	0.6	1.5	7	0.7	2.0	8	1.9
Congenital anomalies (740-759)	66	6.9	13.4	57	5.8	14.1	51	5.0	13.7	58	13.7
Congenital anomalies of the nervous system (740-742)	12	1.3	2.5	11	1.1	2.7	10	1.0	12.8	11	2.6
Congenital anomalies of the heart & circulatory system (745-747)	32	3.4	6.6	24	2.4	5.9	24	2.3	6.3	27	6.3
Chromosomal anomalies (758)	9	0.9	1.8	9	0.9	2.1	5	0.5	1.4	8	1.8
Symptoms, signs & ill-defined conditions (780-799)	22	2.3	4.5	17	1.7	4.3	15	1.4	4.0	18	4.3
SIDS (798.0)	19	2.0	3.8	15	1.5	3.7	11	1.1	2.9	15	3.5
Accidents, poisoning & violence (external causes) (E800-E999)	236	25.0	48.3	187	18.9	46.3	158	15.3	42.3	194	45.9
Motor vehicle accidents (E810-E825)	87	9.3	17.8	57	5.7	24.0	47	4.5	12.6	64	15.1
Traffic accidents (E810-E819)	76	8.1	15.6	48	4.8	11.8	38	3.6	10.1	54	12.8
Non-traffic accidents (E820-E825)	11	1.2	2.3	9	0.9	2.1	9	0.9	2.5	10	2.3
Fire & flames (E890-E899)	14	1.5	2.9	12	1.2	3.0	16	1.5	4.3	14	3.3
Submersion, suffocation & foreign bodies (E910-E915)	93	9.8	19.0	81	8.2	20.0	66	6.3	17.5	80	18.9
Drowning & submersion (E910)	78	8.3	16.0	73	7.3	18.0	54	5.2	14.4	68	16.1
Homicides (E960-E969)	12	1.3	2.5	11	1.1	2.6	10	1.0	2.7	11	2.6
Other causes	35	3.7	7.1	31	3.1	7.7	32	3.1	8.6	33	7.8
<b>All causes</b>	<b>489</b>	<b>51.7</b>	<b>100.0</b>	<b>405</b>	<b>40.7</b>	<b>100.0</b>	<b>374</b>	<b>36.1</b>	<b>100.0</b>	<b>422</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 children aged 1-4 years.

(c) 15-year average.

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c)....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	9	1.9	1.9	9	1.7	2.3	8	1.5	3.9	9	3.7
Neoplasms (140-239)	30	6.2	6.2	23	4.5	5.7	26	4.9	12.1	26	10.7
Malignant neoplasms (140-208)	29	6.0	5.9	22	4.3	5.4	25	4.7	11.7	25	10.2
Thyroid & other endocrine glands & other related structures (193-194)	6	1.2	1.2	4	0.8	1.0	5	1.0	2.5	5	2.0
Leukemia (204-208)	10	2.1	2.0	8	1.5	2.0	9	1.7	4.1	9	3.7
Brain (191-192, 225, 239.6)	6	1.3	1.2	6	1.1	1.5	7	1.2	3.1	6	2.5
Diseases of the nervous system (320-389)	20	4.2	4.2	21	4.0	5.1	22	4.2	10.3	21	8.6
Meningitis (320-322)	6	1.3	1.2	7	1.3	1.7	4	0.8	1.9	6	2.5
Diseases of the respiratory system (460-519)	15	3.0	3.0	10	2.0	2.5	8	1.4	3.5	11	4.5
Pneumonia & influenza (480-487)	6	1.2	1.2	4	0.7	1.0	2	0.5	1.1	4	1.6
Congenital anomalies (740-759)	34	7.1	7.0	30	5.9	7.4	27	5.1	12.7	30	12.3
Congenital anomalies of the nervous system (740-742)	5	1.0	1.0	6	1.2	1.5	6	1.1	2.7	6	2.5
Congenital anomalies of the heart & circulatory system (745-747)	19	3.9	3.9	13	2.5	3.2	13	2.4	6.0	15	6.1
Chromosomal anomalies (758)	4	0.9	0.8	4	0.7	1.0	2	0.5	1.1	3	1.2
Symptoms, signs & ill-defined conditions (780-799)	15	3.1	3.0	9	1.7	2.2	8	1.5	3.7	11	4.5
SIDS (798.0)	12	2.5	2.5	8	1.5	2.0	6	1.1	2.7	9	3.7
Accidents, poisoning & violence (external causes) (E800-E999)	140	29.0	28.7	116	22.8	28.7	99	18.7	46.1	119	48.8
Motor vehicle accidents (E810-E825)	50	10.3	10.2	34	14.7	18.5	29	4.0	9.9	37	15.1
Traffic accidents (E810-E819)	44	9.0	9.0	29	5.7	17.3	24	4.4	11.0	32	13.1
Non-traffic accidents (E820-E825)	6	1.3	1.2	5	0.9	1.2	5	0.9	2.2	5	2.0
Fire & flames (E890-E899)	9	1.9	1.8	8	1.6	2.0	11	2.1	5.1	9	3.7
Submersion, suffocation & foreign bodies (E910-E915)	58	11.9	11.9	54	10.6	13.3	42	7.9	19.6	51	20.9
Drowning & submersion (E910)	51	10.5	10.4	49	9.7	12.1	35	6.6	16.3	45	18.4
Homicides (E960-E969)	7	1.5	1.4	5	1.1	1.2	4	0.8	3.3	6	2.5
Other causes	20	4.1	19.5	15	3.6	15.9	16	7.5	16.2	17	7.0
<b>All causes</b>	<b>284</b>	<b>58.6</b>	<b>100.0</b>	<b>232</b>	<b>45.6</b>	<b>100.0</b>	<b>215</b>	<b>40.4</b>	<b>99.9</b>	<b>244</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average death rate per 100,000 children aged 1-4 years.

(c) 15-year average.

Cause of death and ICD code	1982-86.....			1987-91.....			1992-96.....			1982-96(c)....	
	no.	rate	%	no.	rate	%	no.	rate	%	no.	%
Infectious & parasitic diseases (001-139)	6	1.2	2.7	7	1.5	4.2	5	1.0	3.0	6	3.3
Neoplasms (140-239)	22	4.8	10.8	18	3.7	10.4	23	4.5	14.2	21	11.7
Malignant neoplasms (140-208)	20	4.2	9.7	18	3.5	10.5	21	3.9	13.2	20	11.1
Thyroid & other endocrine glands & other related structures (193-194)	4	0.8	1.8	4	0.9	2.4	4	0.8	2.5	4	2.2
Leukemia (204-208)	8	1.8	4.1	7	1.4	3.8	7	1.5	4.6	7	4.2
Brain (191-192, 225, 239.6)	5	1.0	2.2	4	0.8	2.2	6	1.3	4.0	5	2.8
Diseases of the nervous system (320-389)	18	3.8	8.6	17	3.5	9.7	16	3.1	9.9	17	9.4
Meningitis (320-322)	4	0.8	1.9	4	0.8	2.3	2	0.5	1.5	3	1.9
Diseases of the respiratory system (460-519)	10	2.3	5.1	7	1.4	3.8	10	2.0	6.3	9	5.0
Pneumonia & influenza (480-487)	4	0.9	2.0	2	0.5	1.4	5	1.0	3.1	4	2.2
Congenital anomalies (740-759)	31	6.8	15.3	27	5.7	15.9	24	4.8	15.2	28	15.5
Congenital anomalies of the nervous system (740-742)	7	1.5	3.4	5	1.0	2.8	5	0.9	2.9	5	3.1
Congenital anomalies of the heart & circulatory system (745-747)	13	2.9	6.5	11	2.4	6.6	11	2.1	6.8	12	6.6
Chromosomal anomalies (758)	4	1.1	2.1	5	1.0	2.9	3	0.6	1.9	4	2.3
Symptoms, signs & ill-defined conditions (780-799)	7	1.6	3.4	8	1.7	4.7	7	1.4	4.4	7	3.9
SIDS (798.0)	6	1.4	3.1	7	1.5	4.3	—5	1.0	3.3	6	3.5
Accidents, poisoning & violence (external causes) (E800-E999)	96	20.8	46.6	71	14.7	41.4	59	11.7	37.1	75	42.1
Motor vehicle accidents (E810-E825)	38	8.1	18.2	22	4.6	12.0	15	3.7	10.7	26	15.2
Traffic accidents (E810-E819)	33	7.1	16.0	18	3.8	10.7	14	2.8	8.8	22	12.7
Non-traffic accidents (E820-E825)	5	1.0	2.2	4	0.8	2.3	5	0.9	2.9	4	2.5
Fire & flames (E890-E899)	5	1.1	2.4	4	0.8	2.3	5	1.0	2.9	5	2.6
Submersion, suffocation & foreign bodies (E910-E915)	35	7.6	17.2	27	5.6	15.7	23	4.6	14.7	29	16.0
Drowning & submersion (E910)	27	5.7	13.2	23	4.6	30.4	19	3.6	11.9	23	12.8
Homicides (E960-E969)	5	1.1	2.4	5	1.1	3.0	6	1.1	3.6	5	3.0
Other causes	15	3.3	14.8	17	3.4	13.4	16	3.1	11.8	16	8.9
<b>All causes</b>	<b>205</b>	<b>44.5</b>	<b>100.0</b>	<b>172</b>	<b>35.6</b>	<b>100.0</b>	<b>159</b>	<b>31.6</b>	<b>100.0</b>	<b>179</b>	<b>100.0</b>

(a) Numbers and rates averaged over 5-year periods. Components may not add to totals due to rounding.

(b) Average rate per 100,000 children aged 1-4 years.

(c) 15-year average.

Cause of death and ICD code	Indigenous.....			Non-Indigenous.....		
	no.	rate(c)	%	no.	rate(c)	%
Diseases of the respiratory system (460–519)	8	233.4	12.5	4	9.7	1.8
Congenital anomalies (740–759)	12	340.3	18.8	58	129.5	26.0
Perinatal conditions (760–779)	23	670.9	35.9	109	244.9	48.9
Extreme immaturity (765.0)	8	243.1	12.5	42	95.1	18.8
Symptoms, signs & ill-defined conditions (780–799)	16	457.0	25.0	31	69.6	13.9
SIDS (798.0)	14	418.1	25.9	31	68.9	13.9
Accidents, poisoning & violence (external causes) (E800–E999)	2	48.6	3.1	6	13.5	2.7
Other causes	3	107.1	4.7	15	33.0	6.7
<b>All causes</b>	<b>64</b>	<b>1 857.3</b>	<b>100.0</b>	<b>223</b>	<b>500.2</b>	<b>100.0</b>

(a) SA, WA and NT only.

(b) Numbers and rates are averaged over a 3-year period.

(c) Average infant mortality rate per 100,000 live births.

# 16

## LEADING CAUSES OF INFANT DEATHS, Annual Average Number(a)—All

Cause of death and ICD code	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
<b>1982-86</b>									
Congenital anomalies (740-759)	220	175	124	51	58	23	12	10	673
Congenital anomalies of the heart & circulatory system (745-747)	72	42	35	20	19	6	5	4	203
Perinatal conditions (750-779)	325	219	154	69	84	25	21	15	912
Extreme immaturity (765.0)	67	37	41	19	19	4	5	5	199
Symptoms, signs & ill-defined conditions (780-799)	176	123	66	42	46	27	5	9	493
SIDS (798.0)	174	122	66	42	46	27	4	8	489
Accidents, poisoning & violence (external causes) (E800-E999)	18	11	10	4	5	1	1	0	50
Other causes	65	34	39	12	16	4	15	4	187
<b>Total</b>	<b>804</b>	<b>562</b>	<b>393</b>	<b>177</b>	<b>208</b>	<b>79</b>	<b>54</b>	<b>38</b>	<b>2 315</b>
<b>1987-91</b>									
Congenital anomalies (740-759)	180	125	96	36	52	18	11	10	528
Congenital anomalies of the heart & circulatory system (745-747)	64	30	30	10	15	4	4	4	161
Perinatal conditions (750-779)	311	194	147	62	76	23	21	12	846
Extreme immaturity (765.0)	67	54	47	20	23	8	5	4	227
Signs, symptoms & ill-defined conditions (780-799)	167	111	60	34	52	21	10	11	466
SIDS (798.0)	165	111	60	33	52	20	9	11	460
Accidents, poisoning & violence (external causes) (E800-E999)	13	11	11	5	4	1	3	1	49
Other causes	51	28	35	12	16	4	10	2	157
<b>Total</b>	<b>723</b>	<b>470</b>	<b>348</b>	<b>148</b>	<b>201</b>	<b>66</b>	<b>55</b>	<b>35</b>	<b>2 047</b>
<b>1992-96</b>									
Congenital anomalies (740-759)	149	108	86	25	39	12	11	5	435
Congenital anomalies of the heart & circulatory system (745-747)	53	31	29	9	13	3	3	2	144
Perinatal conditions (750-779)	265	147	141	50	59	16	22	12	713
Extreme immaturity (765.0)	70	43	49	20	21	4	8	2	217
Signs, symptoms & ill-defined conditions (780-799)	80	42	48	19	27	9	8	4	237
SIDS (798.0)	78	42	47	18	27	9	8	4	232
Accidents, poisoning & violence (external causes) (E800-E999)	13	6	8	3	5	1	1	1	38
Other causes	50	28	33	7	20	2	7	1	148
<b>Total</b>	<b>558</b>	<b>331</b>	<b>316</b>	<b>104</b>	<b>150</b>	<b>41</b>	<b>49</b>	<b>23</b>	<b>1 571</b>

(a) Annual averages over 5-year periods. Components may not add to totals due to rounding.

Cause of death and ICD code	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
<b>1982–86</b>									
Congenital anomalies (740–759)	263.2	291.4	303.0	259.6	253.7	324.6	378.3	247.9	278.8
Congenital anomalies of the heart & circulatory system (745–747)	86.2	70.4	84.8	101.4	82.2	n.p.	n.p.	n.p.	84.2
Perinatal conditions (760–779)	388.7	363.8	378.5	347.8	367.4	350.0	674.6	369.5	377.7
Extreme immaturity (765.0)	80.7	62.1	101.5	97.4	83.1	n.p.	n.p.	n.p.	82.4
Symptoms, signs & ill-defined conditions (780–799)	210.8	203.7	161.3	213.0	202.1	378.2	145.0	218.8	204.2
SIDS (798)	208.6	202.7	161.3	210.9	201.2	378.2	n.p.	204.2	202.5
Accidents, poisoning & violence (external causes) (E800–E999)	22.0	18.6	25.5	n.p.	20.1	n.p.	n.p.	n.p.	20.8
Other causes	77.6	55.8	96.1	58.8	68.2	n.p.	466.5	n.p.	77.4
<b>Total</b>	<b>962.3</b>	<b>933.2</b>	<b>964.5</b>	<b>897.5</b>	<b>911.5</b>	<b>1 114.8</b>	<b>1 702.2</b>	<b>928.6</b>	<b>958.9</b>
<b>1987–91</b>									
Congenital anomalies (740–759)	207.6	195.3	227.0	186.7	210.8	256.6	308.5	229.4	209.5
Congenital anomalies of the heart & circulatory system (745–747)	73.2	46.9	71.6	53.3	59.5	n.p.	n.p.	n.p.	63.8
Perinatal conditions (760–779)	358.2	302.8	347.4	315.9	307.3	332.4	611.3	279.9	335.5
Extreme immaturity (765.0)	77.0	84.0	110.4	103.6	91.7	110.8	148.5	n.p.	90.1
Symptoms, signs & ill-defined conditions (780–799)	192.4	174.0	142.2	173.3	210.0	300.3	291.4	247.8	184.9
SIDS (798)	189.7	172.8	141.7	171.3	208.4	294.5	262.8	243.2	182.6
Accidents, poisoning & violence (external causes) (E800–E999)	15.0	17.5	25.1	23.6	n.p.	n.p.	n.p.	n.p.	19.3
Other causes	58.9	44.4	83.9	59.5	63.6	n.p.	274.2	n.p.	62.4
<b>Total</b>	<b>832.1</b>	<b>733.9</b>	<b>825.5</b>	<b>759.0</b>	<b>808.5</b>	<b>962.2</b>	<b>1 571.2</b>	<b>812.2</b>	<b>811.6</b>
<b>1992–96</b>									
Congenital anomalies (740–759)	168.5	169.1	185.2	128.2	154.2	184.5	291.0	109.5	168.3
Congenital anomalies of the heart & circulatory system (745–747)	59.4	48.9	63.2	48.2	51.9	n.p.	n.p.	n.p.	55.6
Perinatal conditions (760–779)	299.8	231.1	302.0	255.3	236.5	241.0	614.8	244.2	275.7
Extreme immaturity (765.0)	78.8	68.1	105.3	103.6	83.1	n.p.	214.1	n.p.	83.9
Symptoms, signs & ill-defined conditions (780–799)	90.4	65.3	103.1	96.4	108.7	139.8	225.1	n.p.	91.8
SIDS (798)	87.7	65.3	100.1	93.3	108.7	139.8	208.6	n.p.	89.8
Accidents, poisoning & violence (external causes) (E800–E999)	14.7	10.0	17.2	n.p.	20.8	n.p.	n.p.	n.p.	14.9
Other causes	56.5	43.9	70.5	37.9	79.9	23.8	192.1	n.p.	57.3
<b>Total</b>	<b>629.8</b>	<b>519.6</b>	<b>677.9</b>	<b>532.2</b>	<b>600.0</b>	<b>606.9</b>	<b>1 345.0</b>	<b>479.9</b>	<b>607.8</b>

(a) Average rate per 100,000 live births averaged over 5-year periods. Components may not add to totals due to rounding.



Cause of death and ICD code	NSW	Vic.	Qld.	SA	WA	Tas.	NT	ACT	Aust.
1982-86									
Infectious & parasitic diseases (001-139)	5	2	2	1	1	1	3	0	15
Neoplasms (140-239)	19	12	10	4	6	1	0	1	52
Malignant neoplasms (140-208)	17	12	10	3	6	1	0	1	50
Diseases of the nervous system (320-389)	11	8	7	3	5	2	1	1	38
Diseases of the respiratory system (460-519)	7	6	4	2	2	1	2	1	25
Congenital anomalies (740-759)	22	13	13	5	7	2	1	2	66
Symptoms, signs & ill-defined conditions (780-799)	7	6	3	2	2	1	0	1	22
Accidents, poisoning & violence (external causes) (E800-E999)	78	51	47	18	26	7	7	3	236
Motor vehicle traffic accidents (E810-819)	28	16	13	6	6	3	2	2	76
Submersion, suffocation & foreign bodies (E910-915)	29	21	20	7	11	2	3	1	93
Drowning & submersion (E910)	23	18	19	5	9	1	3	1	78
Other causes	12	8	5	4	3	1	2	0	35
<b>All causes</b>	<b>161</b>	<b>106</b>	<b>91</b>	<b>39</b>	<b>51</b>	<b>16</b>	<b>16</b>	<b>8</b>	<b>489</b>
1987-91									
Infectious & parasitic diseases (001-139)	5	3	2	1	2	0	3	0	16
Neoplasms (140-239)	12	9	8	5	4	2	0	1	41
Malignant neoplasms (140-208)	11	9	8	5	4	2	0	1	39
Diseases of the nervous system (320-389)	11	9	8	2	4	1	1	1	37
Diseases of the respiratory system (460-519)	5	4	3	2	1	0	1	0	17
Congenital anomalies (740-759)	21	11	12	3	6	2	1	1	57
Symptoms, signs & ill-defined conditions (780-799)	6	4	1	2	2	1	0	0	17
Accidents, poisoning & violence (external causes) (E800-E999)	60	42	42	13	18	4	8	2	187
Motor vehicle traffic accidents (E810-819)	17	11	7	3	4	1	3	1	48
Submersion, suffocation & foreign bodies (E910-915)	23	17	24	5	8	1	2	1	81
Drowning & submersion (E910)	20	15	22	5	7	1	2	0	73
Other causes	10	9	6	2	2	1	2	0	31
<b>All causes</b>	<b>129</b>	<b>91</b>	<b>83</b>	<b>30</b>	<b>40</b>	<b>11</b>	<b>16</b>	<b>5</b>	<b>405</b>
1992-96									
Infectious & parasitic diseases (001-139)	3	2	3	1	2	1	1	0	13
Neoplasms (140-239)	18	12	10	3	3	1	1	2	49
Malignant neoplasms (140-208)	17	11	9	2	3	1	1	2	46
Diseases of the nervous system (320-389)	13	10	7	3	4	1	1	0	38
Diseases of the respiratory system (460-519)	5	5	3	2	2	0	1	0	18
Congenital anomalies (740-759)	18	12	11	2	5	1	1	1	51
Symptoms, signs & ill-defined conditions (780-799)	7	2	3	1	1	1	1	0	15
Accidents, poisoning & violence (external causes) (E800-E999)	47	32	39	10	19	3	5	2	158
Motor vehicle traffic accidents (E810-819)	11	7	8	3	6	1	1	0	38
Submersion, suffocation & foreign bodies (E910-915)	16	14	16	5	8	1	3	2	66
Drowning & submersion (E910)	12	12	13	3	7	1	3	2	54
Other causes	8	7	5	1	3	1	1	0	32
<b>All causes</b>	<b>121</b>	<b>84</b>	<b>81</b>	<b>23</b>	<b>40</b>	<b>8</b>	<b>11</b>	<b>6</b>	<b>374</b>

(a) Numbers averaged over 5-year periods. Components may not add to totals due to rounding.

## EXPLANATORY NOTES

### SCOPE AND COVERAGE

**1** This publication contains statistics on deaths of infants (under 1 year of age) and children aged 1–4 years, compiled from data supplied to the ABS by the State and Territory Registrars of Births, Deaths and Marriages.

### DATA SOURCE

**2** As part of the registration process, information as to the cause of death is supplied by the medical practitioner (or by a coroner if the death is subject to a coronial inquest) certifying the death.

**3** Other statistical information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred. For each death, the information on cause of death and general information on the deceased is provided to the ABS by individual registrars for compilation of statistics. The statistics on infant and child deaths by cause presented in this publication cover those registered during the period 1982–96.

### CLASSIFICATION OF CAUSE OF DEATH

**4** From the information provided on the death certificates, an underlying cause of death is coded by the ABS according to the rules and guidelines of the ninth revision of the World Health Organization's (WHO) ICD-9.→

**5** The ABS classifies all deaths according to a list of 3-digit (or in some cases 4-digit) ICD codes. Deaths from accidents, poisoning and violence are coded according to the circumstances of injury. Such external causes of death are identified by codes beginning with a letter E.

**6** In this publication, data are presented according to the main ICD-9 subdivisions and some causes of death within the subdivisions. When data for causes of death are presented in tables, relevant ICD-9 codes are also provided in parentheses to provide a reference to the ICD.

### DATA QUALITY

**7** In compiling death statistics, the ABS employs a variety of quality control measures to ensure that the data are as reliable as possible. These measures include, where necessary, seeking further information for accurate classification of the underlying cause of death, and a comprehensive system of editing and sample checking.

**8** The registration of deaths in Australia is virtually complete. However, there could be a timelag between the occurrence of a death and the registration of the event. Each jurisdiction allows a time period for registering a death without incurring a penalty.

**9** For deaths, the time allowed for registration varies from one week following death in Vic. and Tas., to one month in NSW. In all jurisdictions provision for late registrations are available. Thus, some deaths which occurred late in the year may be registered in the early part of the following year.

## EXPLANATORY NOTES *continued*

### DATA QUALITY *continued*

**10** For calculation of child death rates, Estimated Resident Population (ERP) for the age group 1–4 years was used as the denominator. Australia conducts population censuses at five-yearly intervals. The ERPs are prepared on the basis of recent population census counts and are revised quarterly according to subsequent trends in fertility, mortality and migration.

**11** The ERPs for children aged 1–4 years used in the analysis to compute child death rates for 1992–96 were based on the preliminary estimates which will be revised when the detailed data from the 1996 Census become available. However, such revisions will not cause substantial differences to the number of children aged 1–4 years given in the preliminary estimates.

### INDIGENOUS MORTALITY

**12** Provision has now been made for the registration forms in all States and Territories to record the Indigenous status of the deceased. While some States have collected such information for a relatively long period of time, Qld has only collected such information since 1996.

**13** Even in States and Territories where information on the Indigenous status of deaths has been collected for some time, the extent of identification of Indigenous deaths is far from complete. The current coverage levels of the identification of Indigenous deaths in NT, SA and WA are believed to be sufficiently reliable to warrant publication of results. While in the ACT identification of Indigenous deaths is complete, the events were relatively low for computation of reliable mortality rates.

**14** The infant mortality estimates for Indigenous children were derived using infant deaths and live births identified as Indigenous. A live birth is considered Indigenous if either parent is identified on the birth notification form as of Aboriginal or Torres Strait Islander origin. An infant death, like deaths of all other ages, is considered Indigenous if the Indigenous status of the deceased child is reported by the informant on the death notification form as of Aboriginal or Torres Strait Islander origin.

**15** The quality of the infant mortality estimates is largely dependent on the accuracy and completeness of birth notification forms, whether or not parents are of Indigenous origin. On forms where the Indigenous status is not reported, the child will be recorded as non-Indigenous.

**16** The Indigenous child population aged 1–4 years for SA, WA and NT were drawn from the experimental estimates of the Indigenous population computed by the ABS, adjusted according to the preliminary results of the 1996 Census of Population.

## EXPLANATORY NOTES *continued*

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### MEASUREMENT OF MORTALITY

**17** All infant death rates used in this publication were derived by conventional method, i.e. by relating infant deaths registered in a specific period to the number of live births registered in that period. However, all infant deaths do not occur in the year the infants were born. The proportion of infant deaths which occurred within the same calendar year that the infant was born was relatively stable and changed only over a narrow range during the reference period, from 86% in 1981 to 90% in 1993. Infant mortality rates estimated by the conventional method are likely to have a minimum impact on the assessment of trends.

**18** Estimates of child mortality rates have been carried out taking children aged 1–4 years as a group without disaggregating by single years of age. This approach was adopted mainly to minimise the impact of annual fluctuations arising from the small number of deaths registered.

**19** For comparison of trends this publication used infant mortality rates averaged over a five-year period. To compute average infant mortality rates the total number of infant deaths registered in a five-year period was divided by the total number of live births registered in the same period. The average child death rates used in the publication have been computed by dividing average number of child deaths by average ERP estimates for the child population for that period.

### VACCINE PREVENTABLE DEATHS

**20** In Australia programs of mass immunisation are mostly administered by State and Territory Governments. The National Health and Medical Research Council takes an advisory role on immunisation and sets a Standard Childhood Vaccination Schedule. The current schedule includes vaccines against the following diseases: diphtheria, tetanus, pertussis (whooping cough), poliomyelitis, HiB, measles, mumps and rubella. HiB vaccination has been included on the schedule since 1994, the remaining vaccinations were included on the schedule throughout the period 1982–95. Although not part of the immunisation schedule, hepatitis B vaccine is provided to high risk populations.

### GENERAL ACKNOWLEDGMENT

**21** ABS publications draw extensively on information provided freely by individuals, business, governments and other organisations. This publication is based on the information about registered deaths and live births provided to the ABS by the Registrars of Births, Deaths and Marriages of States and Territories. Their continued cooperation is very much appreciated: without it, these statistics would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

## GLOSSARY

<b>Causes of death</b>	Causes of death recorded on death certificates are those diseases, morbid conditions, or injuries which either resulted in or contributed to death. From the information provided on the death certificates an <i>underlying cause of death</i> (defined below) is coded according to the rules and guidelines of the ninth revision of the International Classification of Diseases (ICD-9) of the World Health Organization (WHO). All causes of death discussed in this publication are underlying causes of death.
<b>Child death rate</b>	The child death rate refers to the number of deaths among children aged 1–4 years per 1,000 of the mid-year population of that age group. Child death rates for specific causes of death have been expressed per 100,000 of the mid-year population aged 1–4 years.
<b>Congenital anomalies</b>	Congenital anomalies (ICD-9 Chapter XIV) are malformations that are present at birth. Causation may be unknown but can include genetic and chromosomal abnormalities, infectious diseases, endocrine and nutritional disorders.
<b>Death</b>	The following WHO definition, used to classify deaths, applies to the infant and child deaths in this publication. 'The permanent disappearance of all evidence of life at any time after live birth has taken place (postnatal cessation of vital functions without capability of resuscitation).' This definition of a 'death' therefore excludes still-births.
<b>Estimated Resident Population</b>	ERP is the official estimate of the Australian population prepared according to usual residence.
<b>Extreme immaturity</b>	Extreme immaturity (ICD-9 code 765.0) refers to gestational age of less than 28 completed weeks and usually implies a birth weight of less than 1,000 g. This code is a subset of the category 'disorders of short gestation and unspecified low birth weight'. Infants who are underweight for gestational age, including those with signs of fetal malnutrition, are not included in this category.
<b>Geographic classification</b>	Statistics on births and deaths and the mid-year population estimates used to calculate child death rates for States and Territories have been classified according to the State and Territory of usual residence and not according to the place of registration.
<b>Indigenous birth</b>	Indigenous birth refers to a delivery of a live born (see Live birth) infant where either parent has been identified on the registration form as of Aboriginal or Torres Strait Islander origin. This information is provided by one or both parents when reporting a birth.
<b>Indigenous death</b>	Indigenous death refers to a death where the Indigenous status of the deceased has been reported on the death registration form as of Aboriginal or Torres Strait Islander origin. This information may be provided by a relative or other informant familiar with the deceased. If a death occurs in an institution this information is supplied by an officer of the institution.
<b>Infant mortality rate</b>	The number of deaths of children under 1 year of age per 1,000 live births. The infant mortality rate for a specific sex has been expressed as per 100,000 live births of the relevant sex. The infant mortality rate for a specific cause of death has been expressed as per 100,000 live births.

## GLOSSARY *continued*

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<b>Live birth</b>	The birth of a child which showed a sign of life after delivery was complete. The full definition applied conforms with that adopted by the World Health Assembly in 1950. <sup>1</sup> 'A live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born.'
<b>Neonatal deaths</b>	Neonatal deaths are deaths among live born children occurring within the first 28 days after birth. The number of days are calculated from the day of birth (day 0) and ending in 27 completed days.
<b>Neonatal mortality rate</b>	The number of neonatal deaths registered in a specified period per 1,000 live births registered in that period. When causes of neonatal death are discussed this rate has been expressed per 100,000 live births.
<b>Perinatal conditions</b>	Perinatal conditions (ICD-9 Chapter XV) are diseases and conditions that originated during pregnancy or the neonatal period (first 28 days of life), even though death or morbidity may occur later. These include maternal conditions that affect the newborn, such as complications of labour and delivery, disorders relating to birth weight and gestational age, and disorders specific to the perinatal period such as respiratory conditions, infections, haemolysis, endocrine and metabolic disorders, and disorders of temperature regulation.
<b>Postneonatal deaths</b>	Postneonatal deaths are deaths among live born children occurring during the period from 28 days of life up to and including 364 days of life.
<b>Postneonatal mortality rate</b>	The number of postneonatal deaths registered in a specified period per 1,000 live births registered in that period. When causes of postneonatal mortality are discussed this rate has been expressed per 100,000 live births.
<b>Sudden Infant Death Syndrome</b>	SIDS (ICD-9 code 798.0), also known as 'cot death', is the sudden death of an infant under one year of age for which no specific cause of death is found through medical history or post mortem.
<b>Underlying cause of death</b>	The underlying cause of death is the disease or injury which the doctor (or the coroner) reported on the death certificate as being the cause that initiated the train of events leading directly to death, or the circumstances of the accident, or violence which produced the fatal injury.

<sup>1</sup> World Health Organization, *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*, vol. 1, World Health Organization, Geneva, 1977, p. 763.



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