Chapter 4
Children with Disabilities

Key points

• About 11 percent of New Zealand children aged 0–14 years have a physical, intellectual, sensory, psychiatric, or psychological disability or a long-term disease or illness.

• School-age children, boys and Māori children are more likely to have a disability than preschool children, girls and European children.

• Around 16,500 children receive some kind of disability-related government benefit.

• Four percent of children aged 0–14 years are estimated to have a sensory disability related to sight, speech or hearing.

• Around 4000 children aged 0–4 years have an uncorrectable sight disability.

• About 1 percent of children have a hearing disability.

• In 1996, the National Audiology Centre identified 59 new cases of hearing loss in preschool or school-age children. Family history and congenital infection were the most common known causes of these hearing losses.

• In 1995/96, 7.6 percent of three-year-olds and 8.5 percent of new school entrants (five-year-olds) failed hearing screening tests. Māori and Pacific children were twice as likely as children from other ethnic groups to fail these hearing tests.

• Between 1 and 2 percent of children aged 0–14 years are estimated to have an intellectual disability, intellectual handicap or intellectual developmental delay.

• Slightly less than one percent of 0–14-year-olds use technical aids such as wheelchairs or artificial limbs.

• It is estimated that 2.5 percent of 0–14-year-olds have disabilities related to long-term emotional, behavioural, psychological, nervous, or mental health problems.

• About 4 percent of New Zealand children have disabilities related to chronic illnesses such as cancer, severe asthma, diabetes, or epilepsy.

• Most childhood disabilities are caused by conditions present at birth (39 percent) or chronic diseases (37 percent).

• Up to one in 25 newborns have some kind of congenital condition, with problems among male newborns being about 30 percent more common than among female newborns.

• The most common types of congenital conditions are musculoskeletal deformities, genital and urinary system abnormalities, and heart defects.

• Short gestation and low birthweight, neonatal jaundice and birth asphyxia are some of the most common types of perinatal conditions associated with long-term disabilities in children.
Introduction

Disability is defined as a long-lasting physical, sensory, intellectual, or developmental difficulty that restricts a person’s ability to perform activities considered to be within the normal range for human beings (WHO 1980). This definition focuses on functional outcomes, rather than the causes of disability.

Disability has the potential to restrict a child’s educational development, career opportunities and life chances. Although most New Zealand children with a disability attend mainstream schools, studies indicate that the formal education of 20 percent of 5–14-year-olds with a disability may be interrupted for long periods of time because of their disability (Statistics New Zealand 1997). The Dunedin Multidisciplinary Health and Development Study found that 46 percent of 18-year-olds with a serious disability considered the one feature of their daily life most affected by their disability had been their education (Stanton et al 1995).

Prevalence

All disability¹

Household Disability Survey

The 1996 Household Disability Survey, conducted by Statistics New Zealand, measured the prevalence of disability in a representative sample of 0–14-year-olds. It also examined the nature, causes, duration, and severity of the disabilities experienced by these children, as well as their patterns of service use. The survey defined disability as any limitation in activity resulting from a long-term (six months or more) condition or health problem (Statistics New Zealand 1997).

The survey found that just over 11 percent of New Zealand children aged 0–14 (an estimated 84,248 individuals) had some kind of disability, including disabilities caused by chronic ill health. This compares with 19 percent in the New Zealand population as a whole and 21 percent of adults aged 15 years or more.

Children have a lower rate of disability than adults because many long-term health conditions, such as heart-disease, cancer or non-insulin-dependent diabetes, are more likely to develop as people get older. In addition, adults are more likely than children to be disabled by workplace injuries and traffic crashes.

In the 1996 survey, school age children were more likely than preschool children to have a disability (13 percent compared to 7 percent respectively). In addition, 0–14-year-old boys were more likely than girls of the same age to have a disability (13 percent compared to 9 percent). Māori children were also over-represented in the disability statistics, with 16 percent having a disability compared to 11 percent of European children.

Geographically, children living in the region of the Northern Office of the Health Funding Authority were less likely to have a disability than children living in the Health Funding Authority’s Midland, Central and Southern Office regions (only 10 percent compared to 11.9 percent, 11.7 percent and 12.9 percent for the Midland, Central and Southern Office regions respectively).²

¹ Note that data from the disability surveys described in this section are not directly comparable because they have used different definitions of disability and different survey methods.

² Previously known at the end of 1997 as regions of the Transitional Health Authority and before July 1997 as the four Regional Health Authorities.
More than a third (41 percent) of children with a disability had more than one disability (Statistics New Zealand 1997).

**Disability among Dunedin 13- and 18-year-olds**

In 1985-86, parents of 831 13-year-olds participating in the Dunedin Multidisciplinary Health and Development Study were asked to report on ‘difficulties’ their children had in seven disability categories based on the World Health Organization’s International Classification of Impairments, Disabilities and Handicaps (ICIDH). The three most common difficulties were writing and spelling (26 percent), coping with dust pollens or chemical agents (21 percent) and coping with school work (15 percent). Total disability scores based on the 51 questionnaire items were low for the vast majority of the sample (Langley 1989).

A further study of 871 of the Dunedin sample when they were 18 years old (1990-91) found that 72 percent had difficulties of one kind or another (Dixon et al 1995). About a quarter of those with some kind of difficulty rated the limitation imposed by this difficulty as ‘high’ or ‘severe’ (Stanton et al 1995).

**Chronic conditions among Auckland children**

Using secondary data, such as local registers and incidence data, a recent study estimated the prevalence of 21 different types of chronic diseases and congenital conditions among Auckland 0-14-year-olds. Asthma was found to be the most common condition (119 per 1000 children). Other common conditions were mental retardation (26 per 1000), autistic spectrum disorders (9.1 per 1000), and congenital heart disease (5.1 per 1000) (Vogel et al 1996). Some of these conditions are likely to involve functional disability but the study did not specifically investigate this aspect.

**Receipt of benefits and allowances**

Statistics on the receipt of disability-related benefits also give some indication of the level of disability experienced by children.

The handicapped child allowance is non-taxable and is payable to caregivers with ‘a seriously physically or mentally handicapped child’ who needs constant care for at least 12 months and is being cared for at home (Ministry of Youth Affairs 1995). As at 30 June 1997, 15,941 caregivers were receiving the handicapped child’s allowance (personal communication, Income Support, 1997).

The 1996 Household Disability Survey estimated that about 16,500 (20 percent) of the 84,248 children (0–14 years) with a disability had received a disability-related benefit of some kind in the previous year. Over 25,000 of these children received other government assistance such as home support, respite care, transport costs, and special grants to get equipment or medication. A smaller proportion of children with disabilities (12 percent) required special equipment. Two percent needed adaptations to the interior of their home to improve their functional status, while 1 percent required modifications to their home’s external access (Statistics New Zealand 1997).

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3 The study used a specially-designed written questionnaire based on the ICIDH two-digit disability categories. Disability was defined as any restriction or lack (resulting from impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.

4 Includes disability allowance and handicapped child’s allowance.
Disability among Māori and Pacific children

New Zealand disability surveys have generally not included large enough samples of Māori or Pacific children to estimate the prevalence of disability among these groups, particularly when looking at individual types of disability. Even the 1996 Household Disability Survey, which had a large overall sample size of 20,000, did not include enough Māori or ‘other’ children to reliably estimate the number of these children with the various types of disability discussed below (Statistics New Zealand 1997). This information gap is significant, given suggestions that the attitudes of Māori and Pacific families towards children with a disability may be different from other cultural groups and that, as a result, Māori and Pacific children with a disability may have quite distinctive support needs and service use patterns (Carpinter 1995; PHC 1994).

Different types of disability

The 1996 Household Disability Survey used a definition of disability primarily based on the functional ability of children, rather than the cause of the disability. The survey classified children’s disabilities under six main headings:

- children with sensory disabilities (hearing, seeing, speaking)
- children who use technical aids
- children with disabilities associated with long-term diseases or illnesses (for example, asthma, heart disease, cancer, or diabetes)
- children with intellectual disabilities
- children with psychiatric or psychological disabilities
- children with other types of disabilities not included above.

Figure 4.1 shows the number of New Zealand children estimated to have these different kinds of disability (Statistics New Zealand 1997). It also provides further details of the way in which disabilities were classified are also provided. Some children had more than one type of disability, and are counted in more than one of the categories. The first three categories (sensory, technical aids, chronic conditions) relate primarily to physical disabilities. The next two categories focus on intellectual, psychological and psychiatric disabilities, while the ‘other’ category includes both physical and intellectual/psychological disabilities.

Sensory disabilities

The 1996 Household Disability Survey found that about 27,700 children had a sensory disability related to sight, speech or hearing. This represents a little under 4 percent of all children aged 0–14 years and 33 percent of all children with a disability living in New Zealand households (Statistics New Zealand 1997).
Disabilities of vision

When examined at seven years of age, in 1979-80, over 9 percent of children in the Dunedin Multidisciplinary Health and Development Study had at least one kind of eye defect. About 4 percent had been prescribed glasses (Simpson et al 1984). Five percent had poor distance visual acuity (6/12 or worse in one or both eyes) and 4 percent had poor near vision (N8 or worse in one or both eyes). Other defects included manifest strabismus (4 percent) and occlusion of one eye for amblyopia (3 percent).

From the 1996 Household Disability Survey, it has been estimated that around 4000 New Zealand children aged 0–14 years (0.5 percent) have a seeing disability that cannot be corrected by glasses or contact lenses (Statistics New Zealand 1997).

Figure 4.1: Number of New Zealand children aged 0-14 years with a disability in 1996, by disability type

In 1997, 733 children (0–14 years old) were members of the Royal New Zealand Foundation for the Blind (60 percent males, 40 percent females). The Foundation’s membership rates for children increase with age and there is a greater proportion of males than females in all three of the age groups 0–4, 5–9 and 10–14 (Figure 4.2).
Causes of visual impairment among the children who are members of the Foundation include optic atrophy (5 percent), albinism (5 percent), cataracts (4 percent), retinitis pigmentosa (1 percent), aphakia (0.5 percent), and glaucoma (0.4 percent). There are also large numbers of impairments with causes classified as ‘other’ (35 percent) or ‘unknown’ (50 percent).

Between 1986 and 1997, the number of 0–14-year-olds who were members of the Royal New Zealand Foundation for the Blind increased by over 200 (40 percent) (De Boer et al 1990; personal communication, Royal New Zealand Foundation for the Blind 1997).

Disabilities of hearing

The 1996 Household Disability survey estimated that in 1996 about 9,055 New Zealand children aged 0–14 (1 percent) had a hearing disability (Statistics New Zealand 1997). Loss of hearing in early childhood can have a significant effect on the development of speech and language and can have serious consequences for a child’s learning ability at school. Hearing loss can also affect a child’s emotional and social development (Ministry of Health 1997).

Hearing loss notifications

The National Audiology Centre collects data for children under 18 years of age who have a hearing loss at birth, or a hearing loss that cannot be remedied by medical or surgical intervention. These children require hearing aids and/or surgery (National Audiology Centre 1997).

In 1996, 59 children were notified as having a hearing loss greater than 30 dB in the better ear over four frequencies 500–4000 Hz (excluding unilateral and slight hearing losses). Of these 59 children, 66 percent had mild hearing losses (30-55 dB HL), 14 percent had severe hearing losses (56-85 dB HL) and 20 percent had profound hearing losses (over 85 dB HL). Unlike previous years, Māori children were not over-represented in the 1996 notifications.

Since 1990, the incidence of profound deafness among children has increased. In addition, the age at which a hearing loss is detected appears to be increasing, although profound losses are still usually detected at an earlier age than milder losses.
In 1996, the average age that children were identified with a hearing loss was just over three years. Ten of the 59 children notified with a hearing loss were diagnosed at the target age of less than six months and 14 were identified by the age of 12 months.

The cause of hearing loss among children is often unknown (Figure 4.3). Of the known causes or associations, the most common are family history and congenital infection.

**Figure 4.3:** Causes of hearing loss in children aged 0–14 years according to 1996 notifications of hearing loss

![Bar chart showing causes of hearing loss in children aged 0–14 years](chart.png)

*Source of data: National Audiology Centre 1997.*

**Hearing loss among three-year-olds and new school entrants**

Three-year-old children attending preschool education are tested with tympanometry. However, the coverage of this testing is not complete and pure tone audiometry is usually not carried out. From June 1995 to July 1996, 88 percent of preschool children were covered by this preschool screening test.5

Children starting at primary school (usually at age five) are screen tested with pure tone audiometry and tympanometry, with two hearing test failures usually required to identify children who have chronic otitis media with effusion (OME, ‘glue ear’) (National Audiology Centre 1996). Close to 100 percent of new entrants (five-year-olds) are covered by this screening programme (Ministry of Health 1997).

Figure 4.4 shows hearing test failure rates for three-year-olds and new entrants in 1995/1996. Similar patterns are apparent for both age groups, with overall failure rates of 7.6 percent for three-year-olds and 8.5 percent for new entrants. Over the past few years, hearing test failure rates among children have decreased, particularly for Māori and Pacific children. However, Māori and Pacific children in these age groups are roughly twice as likely as children from other ethnic groups to fail the hearing tests.

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5 Some four-year-olds are likely to be included in this figure.
Use of hearing aids

About 2300 school age children currently receive hearing aid assistance from the National Audiology Centre (personal communication, National Audiology Centre, 1997).

Children who use technical aids

The 1996 Household Disability Survey examined New Zealand children’s use of technical aids such as wheelchairs or artificial limbs. The survey found that just under 7000 children used technical aids, slightly less than 1 percent of all children aged 0–14 years and about 8 percent of all children with a disability (Statistics New Zealand 1997).

Disabilities related to chronic health conditions

Many children with a chronic illness have reduced participation in the normal developmental tasks of childhood and adolescence. Cancer, diabetes, epilepsy, failure to thrive, or severe asthma are all conditions that can sometimes restrict the kind or amount of activity that children can do. In 1996, approximately 27,700 children were identified as being disabled in this way. This represents 4 percent of all children aged 0–14 years and 33 percent of all children with a disability living in New Zealand households (Statistics New Zealand 1997).

A number of these disability-related health conditions are discussed more extensively in other chapters of this report.
**Intellectual disabilities**

A child with an intellectual disability has a limitation in his or her intellectual functioning compared with children of the same age living in similar situations. Although the cause of an individual child’s intellectual disability is often unknown, the following conditions may result in functional intellectual impairments:

- genetic disorders such as Down syndrome and ‘fragile X’ syndrome
- maternal infections, malnutrition or exposure to chemicals during pregnancy
- oxygen deprivation or physical injury during birth
- infections, other diseases, injuries, or social deprivation during childhood.

In 1996, approximately 10,000 New Zealand children aged 0–14 years with an intellectual disability, intellectual handicap or intellectual developmental delay were residing in private households. This represents between 1 and 2 percent of all children aged 0–14 years and about 12 percent of all children with a disability living in New Zealand households (Statistics New Zealand 1997).

Other disabilities also commonly found among children with intellectual disability include cerebral palsy, epilepsy, sensory disorders, speech disorders, and severe behaviour disturbances (Midland Health 1995).

**Psychiatric and psychological disabilities**

The 1996 Household Disability Survey estimated that 18,500 children (2.5 percent of all 0–14-year-olds) are limited in the kind or amount of activity they can do at home, school or play by a long-term emotional, behavioural, psychological, nervous, or mental health problem. About 22 percent of all children with disabilities have one or more of these psychiatric or psychological disabilities (Statistics New Zealand 1997).  

**Risk factors**

Disability can take many forms and can have a wide range of causes. The 1996 Household Disability Survey found that most childhood disabilities were present at birth (39 percent) or were due to chronic diseases (37 percent). Less than 4 percent were attributed to accidents. Parents could not state a cause for 22 percent of the disabilities identified in the survey (Figure 4.5) (Statistics New Zealand 1997).

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6 Chapter 12 provides further information on childhood psychiatric and psychological disorders.
Given the many different ways that disability can be caused, it is impractical in this section to try to summarise the extensive array of risk factors thought to be associated with, or to cause, childhood disability. However, as Figure 4.5 shows, conditions present at birth contribute to a significant proportion of all childhood disability. For this reason, it is appropriate to focus here on these particular causes of childhood disability.

The main two groups of conditions present at birth, or occurring just after birth, are congenital conditions (also known as birth defects or congenital anomalies) and conditions occurring in the perinatal period.

**Congenital conditions**

As noted in Chapter 3, congenital conditions account for over a quarter of infant deaths. For surviving infants, congenital conditions may produce physical, sensory, or intellectual disabilities that are permanent. They may also contribute to the development of chronic illness in childhood. As such, congenital conditions cut across the disabilities categories used by the 1996 Household Disability Survey (Statistics New Zealand 1997).

Some congenital conditions may be corrected by surgery or other means (such as, diet for phenylketonuria), meaning they are unlikely to persist into childhood as a special need or disability.

The Birth Defects Monitoring Programme collects hospital data on babies born with various types of congenital conditions as classified under the International Classification of Diseases (ICD) category ‘Congenital Anomalies’. In 1992, there was a change in the method of data collection, so that notifications of congenital conditions became non-compulsory. As a result, currently there may be some under-reporting of these conditions (PHC 1995, Dr Barry Borman, personal communication, 1998). Note, too, that some conditions present at birth, such as cerebral palsy, cystic fibrosis and congenital blindness and deafness, are not included in the ICD category ‘Congenital Anomalies’ (PHC 1995).

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7 See the relevant chapters of this report for further information on risk factors for childhood psychiatric disorders and chronic health conditions such as asthma and insulin dependent diabetes.
Overall, in 1995/96, the rate of congenital conditions recorded in New Zealand was 454.4 per 10,000 livebirths for males and 346.8 per 10,000 livebirths for females. This means that up to one in 25 babies are born with congenital conditions\(^8\) (Table 4.1).

Musculoskeletal deformities (for example, congenital hip dislocation and club foot), anomalies of the genital organs (like hypospadias\(^9\) and undescended testes), anomalies of the urinary system (such as, kidney abnormalities) and heart defects are the most common types of congenital conditions.

In the Plunket National Child Health Study, which examined a cohort of over 4000 infants born in New Zealand during 1990/91, 4.3 percent of the infants were found to have congenital conditions (Tuohy et al 1993). Higher rates of congenital conditions were found among infants from Elley-Irving Socioeconomic Group Two\(^{10}\) and the unemployed group. The most common types of congenital conditions were musculoskeletal, genital, skin, and ear and face.

**Historical trends**

Table 4.1 shows the rate of incidence of congenital conditions for three periods in the 1980s and 1990s. Readers should note that it is inappropriate to use these data to analyse historical trends across the two decades. This is because the 1980s data refer to total births (that is, both live- and stillbirths), whereas the 1995/96 data refer to livebirths only. In addition, there is the change in data collection methods noted above.

Through the 1980s, the incidence of neural tube defects (for example, hydrocephaly, anencephaly and spina bifida) declined. This was probably because of increased ultrasound detection rates resulting in more pregnancy terminations (PHC 1995). Decreases also occurred in the rates of cleft palate, cleft lip, and atresias of the gastrol-intestinal tract. However, the incidence of Down syndrome increased slightly over the same period, probably due to an increase in the average age at which women gave birth.

**International comparisons**

Compared with other countries, New Zealand has lower rates of anencephaly, hydrocephaly, spina bifida, cleft lip, and cleft palate (PHC 1995).

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\(^8\) This figure is a maximum as some newborns will have more than one birth defect, which means the true case rate will be lower.

\(^9\) An abnormality of the urethral opening of the penis.

\(^{10}\) Elley-Irving categories are based on the education and income levels associated with different occupations. Socioeconomic Group Two is the second highest group in the Elley-Irving scale.
Table 4.1: Birth defects, rate per 10,000 births for 1980-82 and 1989-91, and by gender for 1995-96

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>754</td>
<td>Certain congenital musculoskeletal deformities</td>
<td>94.7</td>
<td>83.9</td>
<td>105.9</td>
</tr>
<tr>
<td>752</td>
<td>Congenital anomalies of genital organs</td>
<td>40.7</td>
<td>75.1</td>
<td>5.0</td>
</tr>
<tr>
<td>752.6</td>
<td>Hypospadias and epispadias</td>
<td>#10.9</td>
<td>#11.6</td>
<td>#12.4</td>
</tr>
<tr>
<td>753</td>
<td>Congenital anomalies of urinary system</td>
<td>30.6</td>
<td>38.9</td>
<td>21.9</td>
</tr>
<tr>
<td>745</td>
<td>Bulbus cordis anomalies and anomalies of cardiac septal closure</td>
<td>29.1</td>
<td>31.5</td>
<td>26.6</td>
</tr>
<tr>
<td>757</td>
<td>Congenital anomalies of the integument</td>
<td>26.2</td>
<td>25.4</td>
<td>26.9</td>
</tr>
<tr>
<td>750</td>
<td>Other congenital anomalies of upper alimentary tract</td>
<td>21.1</td>
<td>31.8</td>
<td>9.9</td>
</tr>
<tr>
<td>750.3</td>
<td>Tracheoesophageal fistula, atresia and stenosis</td>
<td>1.5</td>
<td>1.1</td>
<td>2.1</td>
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<tr>
<td>756</td>
<td>Other congenital musculoskeletal anomalies</td>
<td>20.3</td>
<td>21.6</td>
<td>18.8</td>
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<tr>
<td>756.7</td>
<td>Anomalies of abdominal wall</td>
<td>3.1</td>
<td>4.0</td>
<td>2.2</td>
</tr>
<tr>
<td>755</td>
<td>Other congenital anomalies of limbs</td>
<td>18.6</td>
<td>19.7</td>
<td>17.4</td>
</tr>
<tr>
<td>747</td>
<td>Other congenital anomalies of circulatory system</td>
<td>18.1</td>
<td>17.1</td>
<td>19.0</td>
</tr>
<tr>
<td>744</td>
<td>Congenital anomalies of ear, face and neck</td>
<td>15.9</td>
<td>16.4</td>
<td>15.4</td>
</tr>
<tr>
<td>746</td>
<td>Other congenital anomalies of heart</td>
<td>13.4</td>
<td>15.9</td>
<td>10.8</td>
</tr>
<tr>
<td>749</td>
<td>Cleft palate and/or cleft lip</td>
<td>13.1</td>
<td>15.4</td>
<td>10.8</td>
</tr>
<tr>
<td>749.0</td>
<td>Cleft palate</td>
<td>6.0</td>
<td>5.3</td>
<td>5.9</td>
</tr>
<tr>
<td>749.1</td>
<td>Cleft lip</td>
<td>9.1</td>
<td>6.7</td>
<td>3.0</td>
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<td>Cleft palate with cleft lip</td>
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<td>5.4</td>
<td>3.1</td>
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<td>748</td>
<td>Congenital anomalies of respiratory system</td>
<td>12.6</td>
<td>13.0</td>
<td>12.2</td>
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<tr>
<td>758</td>
<td>Chromosomal anomalies</td>
<td>11.5</td>
<td>9.9</td>
<td>13.1</td>
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<tr>
<td>758.0</td>
<td>Down syndrome</td>
<td>8.2</td>
<td>9.4</td>
<td>8.3</td>
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<tr>
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<td>Other congenital anomalies of digestive system</td>
<td>11.5</td>
<td>13.8</td>
<td>9.2</td>
</tr>
<tr>
<td>751.2</td>
<td>Atresia and stenosis of large intestine, rectum and anal canal</td>
<td>2.2</td>
<td>1.8</td>
<td>2.5</td>
</tr>
<tr>
<td>742</td>
<td>Other congenital anomalies of nervous system</td>
<td>8.5</td>
<td>9.7</td>
<td>7.4</td>
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<tr>
<td>742.3</td>
<td>Congenital hydrocephalus</td>
<td>4.0</td>
<td>2.4</td>
<td>4.1</td>
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<td>Other and unspecified congenital anomalies</td>
<td>6.7</td>
<td>7.6</td>
<td>5.7</td>
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<td>743</td>
<td>Congenital anomalies of eye</td>
<td>5.5</td>
<td>4.8</td>
<td>6.3</td>
</tr>
<tr>
<td>741</td>
<td>Spina bifida</td>
<td>9.6</td>
<td>4.1</td>
<td>3.2</td>
</tr>
<tr>
<td>740</td>
<td>Anencephalus and similar anomalies</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>401.6</td>
<td>454.4</td>
<td>346.8</td>
</tr>
</tbody>
</table>

Source of data:
* PHC 1995:9 and ** calculated by authors from data supplied by Dr Barry Borman, Birth Defects Monitoring Programme.
* These rates are for total births (live and still) and are based on data that were collected before the change in collection method (they are not necessarily directly comparable with later data).
** These rates are for livebirths only and refer to the rates of defects rather than the case rate (that is, if babies have more than one birth defect, they will be counted more than once).
# This is a male-only condition.
Perinatal conditions

Like congenital anomalies, some conditions originating in the perinatal period¹¹ can lead to various types of long-term functional disabilities in childhood. As discussed in Chapter 3, perinatal conditions account for about a quarter of all infant deaths. They are also the most common reason (40 percent) that infants are hospitalised. Table 4.2 shows the most common types of perinatal conditions leading to hospitalisation.

<table>
<thead>
<tr>
<th>Perinatal condition (and ICD-9 code number)</th>
<th>Percentage of hospitalisations for perinatal conditions (n = 15,749)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short gestation and low birthweight (765)</td>
<td>23</td>
</tr>
<tr>
<td>Respiratory conditions of foetus and newborn¹² (770)</td>
<td>17</td>
</tr>
<tr>
<td>Perinatal jaundice (774)</td>
<td>9</td>
</tr>
<tr>
<td>Long gestation and high birthweight (776)</td>
<td>9</td>
</tr>
<tr>
<td>Slow foetal growth and malnutrition (764)</td>
<td>8</td>
</tr>
<tr>
<td>Intrauterine hypoxia and birth asphyxia (765)</td>
<td>8</td>
</tr>
</tbody>
</table>

Source of data: Ministry of Health 1997b.

Some of these perinatal conditions are associated with long-term disabilities and health outcomes. In particular, short gestation and low birthweight can lead to later neurodevelopmental problems, chronic lung disease, retinopathy (and subsequent blindness), and deafness (Bourchier 1994; Darlow and Horwood 1992; Darlow et al 1997; Maskill 1992; Morrell 1990). Intrauterine growth retardation is correlated with neurological developmental disabilities in childhood, including attention deficit disorder, and with cardiovascular disease and diabetes in later life (Gross-Tsur et al 1991; Hofman et al 1997; Kjellmer et al 1992).

Birth asphyxia can cause cerebral palsy, seizures and other neurological disabilities (Shankaran et al 1991; Thornberg et al 1995), while neonatal jaundice can be associated with hearing loss, learning disabilities and neurological damage (Weir and Millar 1997; Worley et al 1996).

‘Genetic’ conditions

One group of conditions present at birth that has not been fully covered in the previous two sections is what is sometimes described as ‘genetic’ conditions. These include chromosomal abnormalities and inherited conditions.

¹¹ From 28 weeks gestation to seven days after birth.
¹² Includes aspiration syndrome and pulmonary haemorrhage.
Chromosomal abnormalities

The prevalence of chromosomal abnormalities (for example, Down syndrome) has already been reported above from data collected by the Birth Defects Monitoring Programme (see Table 4.1).

Inherited conditions

Inherited conditions include; cystic fibrosis, some types of muscular dystrophy, haemophilia, and some cases of deafness (PHC 1995). While most of these conditions are rare, they are often associated with various degrees of functional disability among children. Prevalence data for many inherited conditions are not systematically collected by the Birth Defects Monitoring Programme because they are not classified under the ICD group ‘Congenital Anomalies’. Incidence data (for example, number of hospital discharges) are not particularly useful for identifying the level of disability experienced by children as a result of inherited conditions.

References


13 Cystic fibrosis is classified as a metabolic disorder, haemophilia as a blood disorder, deafness as a sense organ disorder and muscular dystrophy as a nervous system disorder.


