

# 1 Introduction

In 2001, Statistics New Zealand conducted two national disability surveys.

The Household Disability Survey examined the day-to-day living arrangements and activity restrictions of 7256 adults and children with disability living in households.

The Disability Survey of Residential Facilities gathered a smaller set of information from 928 adults with disability living in institutions such as homes for older people and hospitals.

This report comprehensively describes the results from the two surveys, covering all the main themes and issues they examined. It is intended to be a resource for all people with an interest in disability and disability-related issues in New Zealand, while also providing information to support policy work, service development and monitoring, as specified in Objective 10.3 of the New Zealand Disability Strategy (Minister for Disability Issues 2001).<sup>1</sup>

## Design of the 2001 Household Disability Survey

### Comparison with 1996 survey

The design of the 2001 Household Disability Survey was based on the 1996 Household Disability Survey, which was the first detailed, national survey of disability in the New Zealand population.<sup>2</sup>

Like the 1996 survey, the 2001 survey collected information on the prevalence, nature, duration, severity and causes of the disabilities experienced by New Zealanders living in households, as well as on issues related to education, employment, transport, accommodation, and health and disability support services.

The 2001 survey differed from the 1996 survey in that it oversampled Māori and Pacific peoples, to enable more detailed analysis of the circumstances and needs of Māori and Pacific peoples with disability. This resulted in a larger overall survey sample.

The 2001 survey also collected data on the *main* type of disability adults experienced. This was not done in the 1996 survey.<sup>3</sup>

An additional goal of the 2001 survey was to examine the degree to which patterns of disability identified in 1996 had changed.

<sup>1</sup> The New Zealand Disability Strategy is a long-term plan for changing New Zealand from a disabling to an inclusive society. It was developed in consultation with a wide range of individuals, groups and organisations. The strategy includes 15 government objectives covering a diverse range of issues such as education, employment, families and support services. Information relevant to many of these objectives was collected in the two disability surveys. For more details on the relevance of the surveys for the strategy's objectives, see chapter 11.

<sup>2</sup> The 1996 Household Disability Survey was based on the 1986 and 1991 Canadian Health and Activity Limitation Surveys. A new survey design was adopted in Canada in the 2001 Participation and Activity Limitation Survey (see Statistics Canada's website <http://www.statcan.ca>).

<sup>3</sup> See further discussion of main disability in the section entitled 'Main disability'.

As in the 1996 survey, the focus of the 2001 survey was people living in private dwellings such as houses, flats, apartments and holiday homes. The 1996 criterion of including people living in group homes, but excluding people living in boarding houses, was also adopted in the 2001 survey.<sup>4</sup>

## 2001 Census questions

Participants in the 2001 survey were initially selected using information from the 2001 Census of Population and Dwellings, which contained two short questions designed to identify whether people thought they had a disability.

1. Does a health problem, or a condition you have (lasting six months or more) cause you difficulty with, or stop you doing:
  - everyday activities that people your age can usually do
  - communicating, mixing with others or socialising
  - any other activity that people your age can usually do
  - no difficulty with any of these.
2. Do you have any disability or handicap that is long-term (lasting six months or more)?
  - Yes
  - No.<sup>5</sup>

Based on the results of these questions, a group of just over 38,500 people living in private households was selected as the 2001 Household Disability Survey sample. This included people who reported in the 2001 Census that they had difficulty with everyday activities or had a long-term disability or handicap, as well as people who reported they did not.<sup>6</sup>

There were three separate sample selections: the main sample, the Māori oversample and the Pacific oversample. Within each of these samples, a selection of individuals was made using a partly stratified, partly systematic sampling design, based on where people lived and their demographic characteristics (Statistics New Zealand nd c).

Seventy-three percent of the people selected for the survey agreed to participate. This resulted in just over 28,100 people going on to answer questions from the survey's screening questionnaires (Statistics New Zealand 2002a; Statistics New Zealand nd c).

<sup>4</sup> Boarding houses are defined as private dwellings with six or more boarders or lodgers. People with disability living in boarding houses were also not covered by the Disability Survey of Residential Facilities.

<sup>5</sup> The term 'handicap' is no longer usually used.

<sup>6</sup> The reason for including this latter group was that 12 percent of the group were later classified as having a disability by the screening questionnaires used in the Household Disability Survey. This was most likely to apply to people aged 65 and over and people with mild disability. (In addition, about 38 percent of people who reported in the 2001 Census that they had difficulty with everyday activities or had a disability were subsequently classified as *not* having a disability by the Household Disability Survey. This particularly applied to children and younger adults.)

## Survey administration

All interviews for the 2001 Household Disability Survey were completed from 16 June to 18 September 2001.

Most survey questionnaires were administered in English by computer-assisted telephone interview, although some were administered in person if, for example, participants did not have a telephone, required an interpreter or communicated in sign language.

In the case of children, a parent, guardian or other adult caregiver usually answered the survey questions on behalf of their child. Caregivers also answered on behalf of adults who were unable to answer the survey questions.

## Screening questionnaires

The screening questionnaires included several questions designed to find out whether people had certain types of disability.<sup>7</sup> If a person had one or more of these disability types, they were classified as a person with disability.

Different screening questionnaires were used for adults (people aged 15 and over) and for children (people aged 0–14). This was to cater for differences in the definitions of disability among adults and children.

For most types of disability, the screening questions asked if people found it difficult or impossible to carry out various kinds of everyday activity. Examples included difficulty seeing newsprint, hearing conversations, walking up and down stairs, carrying objects and mixing with others. A person was not counted as having a disability if they had a limitation that was eliminated or corrected by things such as hearing aids, glasses, contact lenses or medication.<sup>8</sup>

For other types of disability, the screening questions asked if people used certain kinds of service or equipment. To identify people with intellectual disability, for example, adults were asked if they needed support or help from other people or organisations or had received special education because of an intellectual disability or intellectual handicap. Similarly, parents or caregivers were asked if their children used certain types of equipment, received special education services or had Individual Education Programmes (IEPs) or Individual Development Programmes (IDPs).<sup>9</sup>

For children, another type of disability – chronic condition/health problem – was defined by a list of medical diagnoses.

<sup>7</sup> Copies of all questionnaires used for the 1996, 1997 and 2001 disability surveys and the 2001 Census can be downloaded free from the Statistics New Zealand website (<http://www.stats.govt.nz>).

<sup>8</sup> An exception was that children using hearing aids were classified as having a disability, regardless of whether their hearing difficulty was corrected.

<sup>9</sup> For further discussion about the way in which the disability surveys identified disability, see chapters 2 and 11 and the Glossary.

A person was defined as having a disability if they reported having any type of disability resulting from a long-term condition or health problem where the limitation had lasted, or was expected to last, six months or more.

For each of the different types of disability they reported, survey participants were asked to indicate how old they were when they first experienced this disability. In the case of adults, they were also asked to specify the main condition or health problem they believed had caused the disability.

## **Content questionnaires**

The screening questionnaires identified 7256 people with disability. These people were then asked to respond to a second, lengthier Content Questionnaire. This covered a variety of topics related to people's personal circumstances and day-to-day activities, including employment, education and training, access to transport, accommodation, assistance and support, use of special equipment and use of health services. Again, there were different questionnaires for adults and children.

## **Survey participants**

Of the 7256 people identified as having a disability who participated in the 2001 Household Disability Survey, 2055 were aged 0–14, 3483 were aged 15–64 and 1718 were aged 65 and over.

## **Linking survey data to census data**

A key advantage of using the 2001 Census to recruit participants in the 2001 Household Disability Survey was that Statistics New Zealand could anonymously link census information with results from the survey. This reduced the number of questions survey participants had to answer about employment, education, income, household composition, home ownership, marital status and education, since most of this information had been collected in the census.

Linking results from the 2001 Census and 2001 Household Disability Survey also made it possible to compare the sociodemographic features of people with disability and people without disability, indicating the extent to which people with disability were less likely than other New Zealanders to be, for example, employed, living by themselves or on low incomes.

# **Design of the 2001 Disability Survey of Residential Facilities**

## **Comparison with 1997 survey**

The 2001 Disability Survey of Residential Facilities followed on from the 1997 Disability Survey of Residential Facilities, which was New Zealand's first comprehensive disability survey of adults living in residential care. Like the 1997 survey, the 2001 survey focused on adults aged 15 and over living in residential facilities such as homes for older people (also known as rest homes), public and private hospitals, and long-stay units for people with intellectual, psychiatric or physical disability or multiple disabilities (Statistics New Zealand 2002a).

Unlike the 1997 survey, the 2001 survey also collected data on the *main* type of disability that these adults experienced.<sup>10</sup>

## Survey administration and participants

From a list of 1170 residential facilities throughout New Zealand, a sample of 132 facilities was selected as the focus for the survey. Ninety-one percent (118) of these facilities agreed to participate. A total of 1016 adult residents of these facilities were selected for interview using a systematic sampling technique within each facility. Of these residents, 928 (91 percent) agreed to participate in the survey and completed interviews (Statistics New Zealand 2002a; Statistics New Zealand nd b).<sup>11</sup>

In contrast to the Household Disability Survey, the Disability Survey of Residential Facilities used face-to-face, paper-and-pen administered interviews. This included some interviews where family members or facility staff answered questions on behalf of residents.

## Questionnaire

The first part of the Disability Survey of Residential Facilities consisted of the adult screening questions described above for the Household Disability Survey. These examined features of the different types of disability that people had. The second part of the survey included questions about people's use of assistance and equipment, including whether they needed help with personal care or used equipment such as a walking stick or wheelchair.

## Purpose of the report

Previous publications have described selected results from the 1996, 1997 and 2001 disability surveys and supplied a range of statistical tables.<sup>12</sup>

The purpose of this document is to provide a more in-depth and complete description of the results from the 2001 surveys, addressing all the main themes and issues covered in the survey interviews. In particular, the report comprehensively describes the sociodemographic characteristics and day-to-day living circumstances of people with disability, including their use of services and self-identified unmet needs for various types of support and assistance.

## Preparing the report

The report's authors were guided and supported in their work by the project's advisory group made up of representatives from a range of government and non-government organisations with

<sup>10</sup> See further discussion of main disability in the section entitled 'Main disability'.

<sup>11</sup> When residents were unable to give consent to participate in the survey, family members or facility staff were asked to give consent on their behalf (Statistics New Zealand nd b).

<sup>12</sup> Publications describing the findings of the 1996 and 1997 surveys include Statistics New Zealand (2002a; 1998) and Health Funding Authority and Ministry of Health (1998). On its website, Statistics New Zealand has also published snapshots of selected 2001 survey results covering particular groups, such as Māori and Pacific peoples with disability (<http://www.stats.govt.nz>).

an interest in disability issues, research and policy. Members of the advisory group were responsible for the initial design of the report's structure and for commenting on chapter drafts.<sup>13</sup>

Statistics New Zealand provided all survey and census data used in the report. The authors transferred these data into a tabular format suitable for further analysis and publication, wrote the text for the chapters and prepared the charts.

Chapters 8 and 9 were prepared by Māori and Pacific staff members of the Ministry of Health. Māori and Pacific reviewers provided feedback on chapter drafts.

Members of the project advisory group and three external peer reviewers reviewed the full draft report.

An extensive set of Appendix Tables containing the survey data used for preparing the report is available separately. These Appendix Tables can be downloaded free from the Ministry of Health website (<http://www.moh.govt.nz>).

## Structure of the report

The report's structure largely reflects the structure of the 2001 disability surveys' questionnaires, particularly the Household Disability Survey. The structure also recognises, in broad terms, key themes and issues identified in the New Zealand Disability Strategy (Minister for Disability Issues 2001).

Chapter 2 (Patterns of Disability) examines the types of disability reported by adults and children living in households. It describes the causes attributed to these disabilities and their severity and duration. It also examines the extent to which the prevalence and severity of disability varied across age groups, ethnic groups and other population groups.

Chapter 3 (Support, Equipment and Services) describes the kinds of support or help with everyday activities that adults and children with disability living in households received or needed, whether from family members or other people. It also looks at how many people with disability used or needed equipment such as wheelchairs, walking frames, communication devices, or artificial limbs. Later sections indicate how many people with disability needed or used health and disability services such as respite care, needs assessments, general practitioners (GPs) and pharmacists.

Chapter 4 (Education) covers topics related to the participation of people with disability living in households in regular (mainstream) and special education. It summarises the levels of educational qualifications achieved by people with disability, and describes the barriers to participating more fully in school and tertiary education they reported facing.

Chapter 5 (Employment and Income) presents data on the labour force status of adults with disability living in households and indicates the occupations and industries in which adults with disability were most likely to work. It also examines the levels of personal and household income reported by people with disability, comparing these with the income levels reported by

<sup>13</sup> See the Acknowledgements.

people without disability. The final section uses NZDep2001, an index of socioeconomic deprivation for small geographic areas, to examine where people with and without disability lived.

Chapter 6 (House and Home) focuses on the home life and home environments of people with disability living in households. It indicates how many people with disability lived alone and how many lived with others (household composition), how many were in a partnered relationship ('social marital status'), and how many lived in rented accommodation rather than in their own homes (housing tenure). The chapter also describes the different kinds of disability-related building modification that people had or needed in and around their home.

Chapter 7 (Travel and Transport) examines the travel patterns of people with disability living in households and their access to, and use of, different forms of transport such as private motor vehicles, taxis, buses, trains and ferries. It also describes the kinds of disability-related modification to vehicles that people had or needed.

Chapter 8 (Māori and Disability) draws together survey results of special relevance to Māori. It looks first at the prevalence, severity and causes of the types of disability reported by Māori adults and children. It then examines features of the day-to-day living circumstances of Māori with disability, covering education, employment, income, accommodation, transport and access to health and disability support services. The chapter also presents a range of survey data comparing Māori and non-Māori, both with and without disability.

Chapter 9 (Pacific Peoples and Disability) presents survey results of special relevance to New Zealand's Pacific peoples. As well as describing the types of disability most commonly reported by Pacific peoples, it describes the educational, economic and employment circumstances of Pacific peoples with disability. It also examines features of Pacific peoples' home situation, such as housing tenure, household composition and access to telephones and transport. Comparisons are made between Pacific and non-Pacific peoples, both with and without disability.

Chapter 10 (People with Disability in Residential Care) presents the results for all the main questions contained in the 2001 Disability Survey of Residential Facilities. It describes the types of disability reported by adults living in residential care, as well as the causes, severity and duration of these disabilities. It also examines the kinds of everyday assistance or support that people used or needed, including help with personal care, shopping, personal finances and communication. Indications are given, too, of the number of people using or needing equipment such as wheelchairs, walking frames and shower stools.

The final chapter (Chapter 11, Future Focus) outlines how the information presented in this report could be used for future service planning, policy, monitoring and research. It also considers the applicability of the information for supporting work related to promoting the objectives of the New Zealand Disability Strategy (Minister for Disability Issues 2001). The last part of the chapter discusses recent international developments in the field of measuring disability and health, highlighting issues that may need to be considered when planning future disability surveys in New Zealand.

The Glossary, at the end of the report, provides definitions of the terms used in the text.

# Interpreting the survey results

Readers are urged to bear in mind the following points when interpreting the survey results.

## Results are based on perceptions

The data presented here are based on survey participants' perceptions of their situation and memory of their experiences, rather than measurements or assessments conducted by other people, such as a trained needs assessor. This means survey results describing, for example, levels of unmet need for certain items of equipment or which type of organisation or person pays for certain kinds of service, should be interpreted cautiously.

## Terms used

In most cases, the disability-related terms used in the report are the same as those used in the survey questions. While some readers may regard some of these terms as less than ideal, altering them may have obscured or distorted the original meaning and intent of the survey questions.

## People with disability

In this report, people who have one or more types of disability are termed 'people with disability'. This term was chosen in consultation with members of the project advisory group, recognising that there appears to be no consensus internationally or in New Zealand on the most appropriate and acceptable term to use. The term 'people with disability' has the advantage of being simple, not too negative and appropriate for use in a variety of contexts.

It is acknowledged that different terms for the same concept are used in other documents and contexts. For example, the term 'disabled people' is used in the New Zealand Disability Strategy (Minister for Disability Issues 2001). Other terms used by different organisations and interest groups include 'people with impairments', 'people who are differently abled', 'people with handicaps', 'people who experience disability', and 'people with disabilities'.

It is also acknowledged that all people, including people with disability, achieve things or experience problems in their everyday lives not just because of their particular physical or psychological characteristics. These achievements and problems are also shaped by the characteristics of their physical and social environments (Minister for Disability Issues 2001).<sup>14</sup>

## Disability type

The categories of disability type used in this report, and their definitions, are derived directly from the questions used in the screening questionnaire, the glossary of *Disability Counts 2001* (Statistics New Zealand 2002a) and the disability surveys' manuals for survey interviewers. Detailed definitions are in the Glossary and chapter 2, while chapter 11 discusses some of the issues associated with using these categories and definitions.

<sup>14</sup> Interactions between personal and environmental factors are included in the World Health Organization's International Classification of Functioning, Disability and Health (ICF) (World Health Organization 2002). For further discussion of the ICF, see chapter 11.

Results given throughout the report for ‘disability type’ refer to all the different types of disability reported by individuals. Because many people reported having two or more different types of disability (for example, a seeing disability, a hearing disability and a mobility disability), there are considerably more disabilities reported in total than there are people with disability.

### **Main disability**

The category ‘main disability’ refers to the one particular type of disability that people considered was most limiting their everyday activities. Therefore the number of main disabilities in the population is the same as the number of people with disability.

### **Cause of disability**

The category ‘cause of disability’ (for example, accident/injury or disease/illness) refers to the causes of *all* the different disability types individuals had. By contrast, the ‘cause of main disability’ category refers only to the cause of the *main* disability individuals had.<sup>15</sup>

### **Severity of disability**

A three-level classification system was used to define how severely people were affected by disability, based on the level of assistance or equipment people indicated they received or needed. According to this system people with:

- *severe* disabilities received or needed daily help with activities such as preparing meals, shopping, everyday housework, bathing or dressing
- *moderate* disabilities used or needed ‘some type of assistive device, aid or equipment’ and/or help with certain heavier or more difficult household tasks
- *mild* disabilities had a disability, but did not require regular help from other people or technical aids.

Severity of disability was defined slightly differently in adults than in children, because adults and children were not asked identical questions about the assistance they received or the equipment they used.

### **Ethnicity**

The report provides disability-related data for four ethnic groups: European, Māori, Pacific peoples, and Asian/Other peoples. When people specified they belonged to only one ethnic group, they were classified as follows:

- **European** people identified themselves as New Zealand European (or New Zealanders, Pākehā or Kiwi), Australian, Dutch, Greek, English, Scottish, Irish, Eurasian, Caucasian or any other European group.
- **Māori** identified themselves as (New Zealand) Māori.

<sup>15</sup> For a full description of the different disability causes, see chapter 2 and the Glossary.

- **Pacific peoples** identified themselves as Samoan, Cook Island Māori, Tongan or Niuean or from another Pacific Island cultural group.
- **Asian/Other** peoples identified themselves as belonging to either an Asian ethnic group such as Indian, Japanese or Chinese or belonged to ethnic groups not classified as Māori, Pacific, European or Asian. These people were classified together because of relatively small numbers participating in the disability surveys.

Where people indicated they belonged to two or more ethnic groups, Statistics New Zealand allocated them to one of the four ethnic groups using its standard system of prioritisation. Under this system, the Māori ethnic group was given first priority, followed by the Pacific, the Asian/Other and, finally, European.

This meant a person who indicated they belonged to both Māori and Pacific ethnic groups was categorised as Māori. A person who indicated they belonged to both Pacific and European ethnic groups was categorised as Pacific. A person who belonged to Asian/Other as well as one of the European ethnic groups was categorised as Asian/Other.

### **Equipment and technology**

The term ‘special equipment’ was used in various questions in the disability survey. However, several members of the project advisory group indicated that it would not be appropriate to use the term in this report. Suggested alternatives included ‘assistive technology’, ‘assistive equipment’, ‘adaptive equipment’, ‘technical aids’ and ‘technical equipment’.

In the end it was decided to adopt the term ‘equipment and technology’, mainly because it is relatively easy for a wide audience to understand. The term covers such things as equipment to help with mobility and agility such as wheelchairs and artificial limbs, and equipment to help with sensory functions such as hearing aids. It also includes other equipment such as glucose meters and specialised chairs and other technology such as computer software and communications technology. It may be more appropriate to use different terms in other contexts.

### **Unmet need**

In the 2001 Household Disability Survey, an unmet need was defined as an occasion when a person with disability was unable to get a particular service or item of equipment they considered they needed (for example, financial assistance, equipment or technology, modifications to a building or vehicle, health service or personal assistance). The identification of need was based on survey participants’ perceptions rather than formal needs assessments. Survey participants were asked to identify the reasons for their unmet need from a list of options such as: not knowing there was such a service; lack of local availability of the service; lack of eligibility for the service; not liking the service that was available; feeling uncomfortable with the service for cultural reasons; lack of transport; and lack of appointment availability.<sup>16</sup>

<sup>16</sup> Lists of options were different for different questions concerning unmet need.

## Minimal contextual interpretation

Large-scale population surveys like the disability surveys are especially useful for identifying broad patterns or trends, such as how many older adults compared with younger adults have a seeing disability. However, these kinds of survey are often less useful when it comes to explaining why certain patterns or trends exist, because the causes are often quite complex and open to debate. For this reason, discussion of possible causal factors underlying the descriptive information presented here has been kept to a minimum.

For similar reasons, the implications of the survey results for policy and further research are not discussed in any great detail. It was felt the report's prime objective should be to describe the survey results, rather than define policy options or new areas for study. Nonetheless, the document is likely to serve as a core resource for a variety of people and organisations active in the development of disability-related policy and research in New Zealand (see chapter 11).

## Disability and age

When the number of respondents allows, survey results are reported for specific age groups, rather than just for everyone. Readers are, therefore, able to examine the effects of age on most of the survey results.

For example, in chapter 2, it was possible to report disability prevalence rates in the following age groups: 0–4, 5–9, 10–14, 15–24, 25–44, 45–64, 65–74, 75–84 and 85 and over. These relatively narrow age bands have been used to minimise age variation within the age groups. This means, for example, that results for individual age groups can be directly compared for males and females.<sup>17</sup>

## Age standardisation of disability prevalence rates

For some analyses where one or more variables were significantly related to age, it was useful to summarise data for all age groups. This particularly applied to analyses involving the prevalence of disability. An example is the comparison of disability rates between non-Māori and Māori people (data are available for disability status by ethnicity by age).

One way of summarising the data for non-Māori is simply to divide the number of non-Māori with disability by the total number of non-Māori in the population and then multiply by a standard factor (for example, 100,000). This is known as the 'crude' rate. The same process is then carried out for Māori, and the two results compared. The calculated crude rates are similar for non-Māori and Māori (19,400 and 20,500 per 100,000 respectively).

However, compared with Māori, much higher proportions of people in the non-Māori population are in the older age groups and disability rates among older people are generally much higher than among younger people. By summarising the prevalence rates for Māori and non-Māori using the crude rate method, *just because of their age* non-Māori have higher rates of disability.

<sup>17</sup> In other chapters, different age groups have been used, depending on the numbers involved in the analysis and the topic under consideration. For example, due to the younger age structure of the Māori and Pacific populations and the small numbers of older people in these ethnic groups, 65 and over was the oldest age group for which results could be presented (see chapters 8 and 9).

An alternative and (for some purposes) more meaningful way to summarise this type of data is to use age standardisation. This is a mathematical procedure that controls, or adjusts, for the effects of age differences between different groups of people.

Using the same example as above, age standardising the data means the relationship between ethnicity and disability rates can be summarised and examined by itself. Using this method, the age-standardised rate of disability is 16,700 per 100,000 for non-Māori and 24,000 per 100,000 for Māori. This is a much larger difference than that calculated by the crude rate, suggesting Māori are more likely than non-Māori to have disability *independent of the effects of age*.

### Age effects in other findings

As already mentioned, when numbers allow and it is warranted, survey findings are reported for individual age groups in the Appendix Tables, the text and charts. In addition, for most survey questions, results were obtained by ethnicity and sex.

For some survey questions, especially those relevant to a high proportion of people with disability, results were analysed by an additional set of variables that included rural/urban residence, geographic region, household income, disability type, disability cause and severity of disability.<sup>18</sup> This provided numerous two-way tables where data for two variables, other than age, were cross-tabulated.

Data from these tables have been included in the report because they are useful starting points for identifying demographic and disability-related factors that may have a bearing on the results of particular questions. Examples include labour force status by ethnicity, educational qualification by disability type and long-distance travel by severity of disability. However, readers should be aware that age may be an important factor influencing the results reported for these two-way tables, as both variables in the two-way tables are age-related.<sup>19, 20</sup>

There are two main reasons why it was impractical to age standardise all the survey results presented in this report. First, many of the results were not amenable to being analysed in three or more dimensions, because of the small numbers that would result.<sup>21</sup> Secondly, the time and resource costs of obtaining and processing all the data in this way were prohibitive.

<sup>18</sup> The full standard set of variables is listed in the later section of this chapter entitled 'Between-group differences'.

<sup>19</sup> Because these data were not obtained by the third dimension of age, results for individual age groups cannot be compared and age-standardised rates cannot be calculated.

<sup>20</sup> One example of the type of analysis where caution is needed when interpreting the results relates to educational qualifications by disability type. The survey found that 34 percent of adults who have a physical disability as their main disability had no school qualifications; whereas only 21 percent of adults who have a psychiatric/psychological disability as their main disability had no school qualifications. These figures cannot necessarily be interpreted to mean that people with physical disability are inherently less likely than people with psychiatric/psychological disability to do well at school. The differences may instead be due in large part to adults with physical disability tending to be older than adults with psychiatric/psychological disability, and therefore having gone to school in an era when the emphasis on obtaining post-school qualifications was not as high as in recent decades.

<sup>21</sup> This would mean age-specific results could not be calculated, and these are necessary for the process of direct age standardisation.

Readers may wish to obtain more detailed data from Statistics New Zealand to examine the effect of age in these types of analyses, and for age-standardising additional survey results, when numbers allow.

## Population estimates

A total of 8184 people with disability completed interviews for the 2001 Household Disability Survey and 2001 Disability Survey of Residential Facilities. To improve the usefulness of the survey findings, Statistics New Zealand used mathematical techniques to convert the survey results to population estimates.<sup>22</sup>

All the data reported in this document and in the Appendix Tables relate to these population estimates. For example, this report refers to a total 346,300 adults with mobility disability living in New Zealand households. This number is a population estimate derived from the results for participants in the survey who had mobility disability. It does not mean the survey interviewed 346,300 adults with mobility disability.

## Rounding

All population estimates and rates reported in the text and tables have been rounded to the nearest hundred. All percentages have been rounded to the nearest 1 percent.

## Calculating percentages

For most survey questions, some results were classified under residual categories such as ‘other’, ‘not specified’, or ‘not included elsewhere’. When this occurred, data for these residual categories are reported in the Appendix Tables available from the Ministry of Health’s website (<http://www.moh.govt.nz>). In addition, when calculating percentages, the values of the residual categories have been included in the denominator.

Percentages reported throughout the document have been calculated using unrounded population estimates.

## Relative sampling errors

Sample numbers for particular breakdowns of data were sometimes too small to provide reliable population estimates. When the relative sampling error (RSE) exceeded 70 percent, the population estimates were suppressed in the data tables and not reported.<sup>23</sup>

<sup>22</sup> For the Household Disability Survey population estimates were calculated by weighting the results using three components: selection weight; non-response adjustment and linear weighting (Statistics New Zealand nd c). For the Disability Survey of Residential Facilities population estimates were calculated by weighting the results using four components: a facility selection weight; a facility imputation factor; a resident selection weight and a resident imputation factor (Statistics New Zealand nd b).

<sup>23</sup> For further explanation of RSEs relevant to the 2001 disability surveys, see *Disability Counts 2001* (Statistics New Zealand 2002a). Tables of RSEs are available in *Disability Counts* and are downloadable free from the Statistics New Zealand website (<http://www.stats.govt.nz>).

## Between-group differences

This report identifies noteworthy differences between certain groups, such as between younger and older people with disability, between Māori, Pacific, European and Asian/Other peoples with disability, or between people with and people without disability. When no notable differences exist, the survey results are not usually reported in detail.

In general, a noteworthy difference was defined as being at least a 5–10 percentage point difference between two or more groups. Because of the complex nature of the survey design, it was not possible to carry out standard statistical significance testing of between-group differences for this report.<sup>24</sup>

Readers interested in accessing unreported results for survey questions examined in this report may download the relevant Appendix Tables from the Ministry of Health's website (<http://www.moh.govt.nz>). These Appendix Tables present the survey results for a selection of variables from a standard set comprising:

- age group
- sex
- ethnic group
- urban/rural residence
- geographic region
- household income
- personal income
- NZDep2001
- disability type
- main disability (adults only)
- disability cause
- cause of main disability (adults only)
- single/multiple disability
- severity of disability
- disability status (with or without disability).

## Response options

Results for the most commonly selected response options are usually reported for each survey question. However, for some questions, response options were selected by only a few respondents (often smaller than the 70 percent RSE cut-off point). Results for these response options are not usually reported. For a full list of possible response options for each question, see the various survey questionnaires or the Appendix Tables.

<sup>24</sup> For example, it was not possible to calculate p-values for the survey data. Readers interested in the statistical reliability of reported between-group differences can refer to data presented in the Appendix Tables and the RSE tables in Appendix 2 to the Glossary and *Disability Counts 2001* (Statistics New Zealand 2002a). From these latter two sources, sampling errors for the results for two survey groups can be calculated and the corresponding intervals can be checked for overlap. However, published RSEs are also subject to variability, are only summary estimates and are based on an assumption about the size of the survey design effect.

