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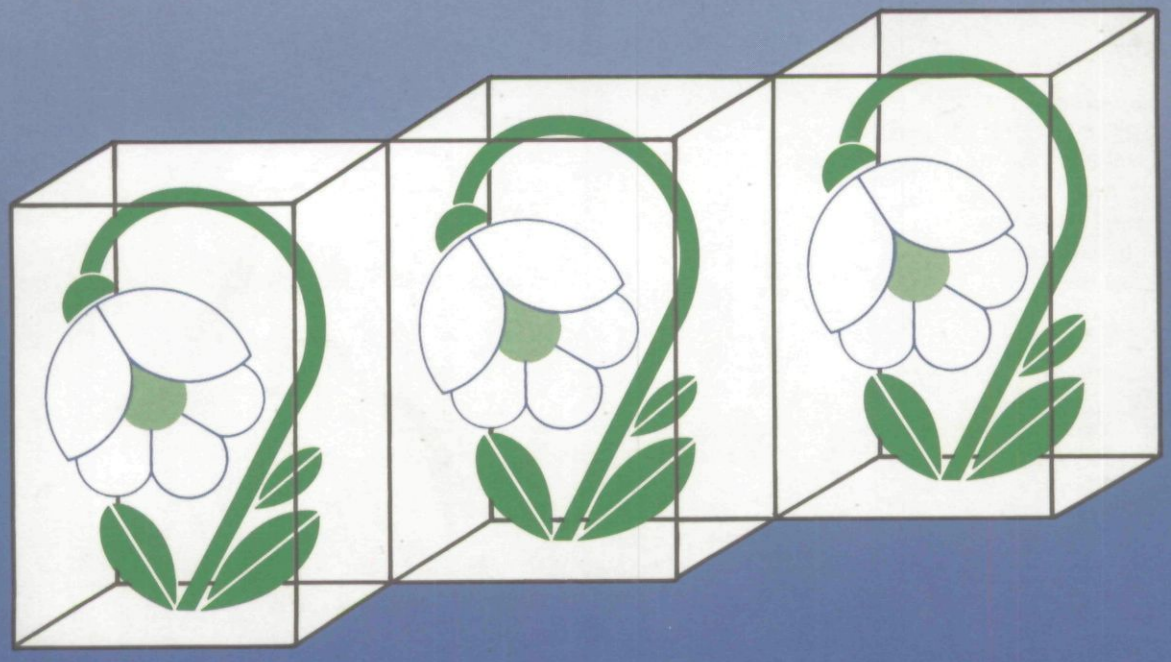
Canadians with impaired hearing

5

Special topic series

The health and activity limitation survey



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5

Canadians with Impaired Hearing

Special Topic Series from
The Health and Activity Limitation Survey

ISSN 1180-4610

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Preface

The **Health and Activity Limitation Survey (HALS)** conducted in 1986 and 1987 provides a comprehensive picture of persons with disabilities in Canada. The survey covered persons with disabilities residing in both households and health-related institutions.

This report is part of the **Special Topic Report Series** which provides overviews of a wide variety of subjects included in **HALS**. The series has been written by experts, both inside and outside Statistics Canada, in non-technical language supported by simple tables and charts.

This report titled **"Canadians with Impaired Hearing"** is the fifth in the series of six reports. It provides a profile of the hearing-impaired population and compares various socio-economic characteristics to those of the non-disabled population. This report was authored by Dr. Jerome D. Schein, David Peikoff Chair of Deafness Studies, Department of Educational Psychology, University of Alberta.

I would like to express my appreciation to the authors, to the reviewers and to the staff of Statistics Canada involved in managing and producing this series.

We hope that the reports in the **Special Topic Report Series** will not only provide Canadians with very useful information on the issues facing persons with disabilities, but will also be an inducement for them to undertake further research on this topic.

Ivan P. Fellegi
Chief Statistician of Canada

Acknowledgements

The excellent statistical support from Statistics Canada's Post-Censal Surveys Program facilitated the preparation of this report. I am especially grateful to Adele Furrie, Director, Karen Roberts, Operations Manager, and Colleen Cardillo, Research Assistant, for their insight, patience and cooperation. Without their generous investment of time, this project would not have been completed. I also wish to acknowledge my debts to the University of Alberta, its Western Canadian Centre of Specialization in Deafness, and the David Peikoff Chair of Deafness Studies for granting the time and facilities that enabled me to write this report.

By thanking these individuals and agencies, I do not wish to implicate them for any errors or mis-statements that may remain in the report. They should not be faulted, as the responsibility for what follows rests solely upon myself.

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Table of Contents

.../continued

Tables continued

.../continued

Tables continued

Figures

.../continued

Figures concluded

Supporting Tables - Appendix A

Highlights of the Study

Approximately 4 out of every 100 Canadians (1,022,220) have impaired hearing which may present barriers to their daily activities.

Nature and Extent of Hearing Impairment

- The rates of impaired hearing increase markedly with age, from slightly less than 1% for persons under 25 years of age residing in households, to almost half (47.5%), for persons 85 years of age and older. Generally, rates are higher for males than females.

- Approximately 17% of adults with impaired hearing first noticed the condition before 19 years of age. Almost 53% fix the age at onset between 19 and 64 years of age, and nearly 28% after 64 years of age.

- Of the 860,855 adults with impaired hearing residing in households, 3 out of 10 use technical aids to help them overcome their reduced hearing ability. Of these, almost 9 out of 10 use personal hearing aids. Most hearing-impaired adults residing in households say they do not have any unmet needs for technical aids. For the 17.4% who do report any unmet needs for technical aids, the majority, 114,695, say they want personal hearing aids.

- Only a minority of the adult population residing in households report the use of manual communication, lipreading, or both. Sign language is used by 3.5%, while lipreading assists 12.0% to communicate.

- Aging is cited in almost 1 out of 3 cases as the cause of hearing impairment for adults residing in households.

Number and Nature of Other Disabilities

- A major variable in analyzing the responses of persons with impaired hearing is the presence of other disabilities. Almost 7 out of 10 adults with impaired hearing residing in households have another disability. More than half indicate the presence of a mobility disability.

- When asked about difficulties of everyday living, very few adults with only impaired hearing report any difficulties compared to a large portion of those who have another disability or health condition in addition to their hearing impairment. Difficulty with heavy housework was reported by 6.3% of those with only impaired hearing and by 55.4% of those with additional disabilities.

Demographic Characteristics

- There is approximately the same proportion of married persons among hearing-impaired adults (58.7%) as in the non-disabled adult population (61.5%). The rates for those divorced or separated are also quite similar: 6.5% for adults with impaired hearing compared to 5.6% for the non-disabled.

- Although the majority of adults with impaired hearing aged 15 to 64 years residing in households enter the labour market, they do so at lower rates than their non-disabled peers: 52.1% and 77.9% respectively The impact of impaired hearing on labour force participation appears to fall more heavily on females than on males: 38.0% of females with impaired hearing participate in the labour force compared to 67.9% of non-disabled females. The comparable rates for men are 61.2% and 88.1% respectively.

1. Introduction

This Special Topic report presents data from the **Health and Activity Limitation Survey (HALS)** which was a survey of persons with disabilities. It was conducted in households in the fall of 1986 and in health-related institutions in the spring of 1987. **HALS** was undertaken as part of Statistics Canada's ongoing commitment to build and maintain a national database on disability.

The target population of **HALS** consisted of all persons with a physical or psychological disability who were living in Canada at the time of the 1986 Census. Notably, this includes residents of all provinces and both territories, persons living on Indian reserves, and permanent residents of most collective dwellings and health-related institutions. Details on the sample design are provided in this publication under Appendix B - Sample Design. Definitions of terminology and concepts used in the report are found in Appendix C.

The type of data gathered includes the nature and severity of disability and the barriers that persons with disabilities encounter in all aspects of their daily activities.

This Special Topic report entitled **"Canadians with Impaired Hearing"** provides a profile of persons with impaired hearing and compares various socio-economic characteristics to those of the non-disabled population.

2. Nature and Extent of Hearing Impairment

Number, Age, Sex, and Geographical Distributions

Over one million Canadians report they have a hearing impairment that limits their activities. The term "hearing impairment" has different meanings. It can designate lessened ability to hear sounds of any kind, low to high frequencies, or only those sounds in the speech range. Because of the importance of spoken communication in our society, HALS focuses on the ability to hear and understand speech. Impaired hearing may interfere with understanding speech, even though it does not prevent awareness that someone is talking; or a hearing impairment may be so severe that it prevents even hearing speech, though some of what is said might be comprehended by observing a speaker's lip movements. As used here, hearing impairment includes both the ability to hear and understand speech.

Of the 19,483,865 Canadians 15 years of age and older residing in households, 860,855 report they have difficulty hearing (Table 1). This means more than 1 of every 25 Canadian adults (4.4%) residing in households report that their hearing is impaired to some degree. Also, 47,970 of the 5,322,315 persons under 15 years of age and residing in households have been identified as having impaired hearing, a rate of less than 1 per 100 (0.9%). In addition, 112,975 residents of institutions 15 years of age and older and 420 residents of institutions under 15 years report impaired hearing.

Table 1. Total Population and Persons with Impaired Hearing, by Place of Residence, by Age Group, Canada

Residence	Total Population	Hearing Impaired	
		Number	%
Total	**25,061,270**	**1,022,220**	**4.1**
Under 15	5,325,185	48,390	0.9
15 years and over	19,736,085	973,830	4.9
Residing in...			
Households	**24,806,180**	**908,825**	**3.7**
Under 15	5,322,315	47,970	0.9
15 years and over	19,483,865	860,855	4.4
Institutions	**255,090**	**113,395**	**44.5**
Under 15	2,870	420	14.6
15 years and over	252,220	112,975	44.8

Age

For adults living in households, the rate of impaired hearing increases from less than 1 in 100 (0.8%) of those 15 to 24 years of age to almost 48 in 100 (47.5%) of persons 85 years of age and over (Table 2). The rates sharply increase from 2.5%, in the 35 to 54 age group, to 7.2%, in the 55 to 64 age group. Thereafter the rates successively nearly double in each of the last three age groups, from 13.1%, for those 65 to 74 years, to 47.5%, for those 85 years of age and older.

Table 2. Persons with Impaired Hearing Residing in Households, by Sex, by Age Group, Canada

Age Group	Both Sexes %	Male %	Female %
Total, all ages	**3.7**	**4.2**	**3.1**
0 to 4 years	0.7	0.6	0.7
5 to 9 years	1.0	1.1	0.9
10 to 14 years	1.0	1.1	0.8
15 to 24 years	0.8	0.8	0.9
25 to 34 years	1.4	1.6	1.2
35 to 54 years	2.5	3.1	2.0
55 to 64 years	7.2	9.7	4.9
65 to 74 years	13.1	18.7	8.4
75 to 84 years	22.6	25.3	20.8
85 years and over	47.5	46.8	47.9

Year-by-year rates for those under 15 years of age living in households show considerable irregularity (Appendix Table A4). Since a large portion of impaired hearing in these children is due to infectious diseases, the fluctuations are expected: some portion of the variation relates to epidemics of childhood diseases, the number and severity of which differ from year to year and place to place.[1]

1 *S.C. Brown. (1986). "Etiological trends, characteristics, and distributions." In A.N. Schildroth & M.A. Karchmer (Eds.),* Deaf children in America. *Boston: Little Brown and Company.*
J.D. Schein. (1973). "Hearing disorders." In L.T. Kurland, J.F. Kurtzke, & I.D. Goldberg (Eds.), Epidemiology of neurologic and sense organ disorders. *Cambridge, MA: Harvard University Press.*

Gender

Females residing in households tend to be hearing impaired less frequently than males. For those under 15 years of age the rate is 0.8% for females and 1.0% for males, while for adults the rates are 3.7% and 5.1% respectively. Within age groups, however, prevalence rates occasionally deviate from that generalization (Table 2). Among the adult population the rates are greater for females in two age groups. In the 15 to 24 age group the rate is 0.9% for females and 0.8% for males while the 85 and over age group shows females at 47.9% and males at 46.8%. In the intervening five adult age groups, rates for males are substantially greater than for females: the deviations being smaller among younger adults, increasing to a maximum between 65 and 74 years, diminishing between 75 and 84 years, and further decreasing to nearly equal rates for the two sexes in the 85 and over bracket.

Geography

Rates of hearing impairment for adults residing in households vary among the provinces from a low of 3.4%, in Quebec, to a high of 6.1%, in Prince Edward Island and Manitoba. The relationships between the age and gender and the proportions with impaired hearing hold in all of the provinces — males have higher rates than females and the rates of hearing impairment increase with age (Appendix Table A1). However, when rates are compared by age categories, the relative prevalence rates differ considerably from province to province. Quebec has the lowest rates in every adult age group except 45 to 54. In comparison with each other, the remaining nine provinces' rates fluctuate from high to low, from age group to age group. For example, excluding Quebec, Nova Scotia has one of the lowest prevalence rates of impaired hearing for ages 15 to 24 but highest for ages 25 to 34, while Saskatchewan has the next lowest rate to Quebec for hearing loss in the 25 to 34 age group but sixth highest in the 15 to 24 category.

For adult age groups, the two territories have rates below the rate for the rest of Canada: Yukon, 3.9%; Northwest Territories, 3.4%; Canada, 4.4%. These lower rates are associated with lower average ages of persons in the two territories: median age for all Canadians, in 1989, was 32.8 years; for Northwest Territories and Yukon they were 24.4 and 29.4 years respectively.[1] These sizable differences in age distributions likely account for a major share of the observed variation in rates among the provinces and between the provinces and the territories.

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1 Post-censal annual estimates of population by marital status, age, sex and components of growth for Canada, provinces and territories, June 1, 1989, Catalogue 91-210, Volume 7, Statistics Canada, Demography Division, Ottawa, 1990.

Institutionalization

Rates of impaired hearing are far higher among residents of health-related institutions than those living in households (Appendix Table A2). Of 252,220 institutionalized adults, 112,975 (44.8%) are hearing impaired: 75,340 report difficulty hearing a normal conversation with one other person and 111,350 report difficulty hearing in groups of three or more persons. Of the 75,340 who have difficulty hearing a conversation with one person, 21.6% are completely unable to hear such conversations and 78.2% are partially unable to do so. Of the 111,350 residents who have difficulty hearing in groups, 50.2% are completely unable to do so and 49.5% are partially unable. In addition, of the 2,870 persons under 15 years of age who reside in institutions, 420 (14.6%) have impaired hearing. Again, the relationship between age and hearing impairment accounts for the lower percentage in this age group.

The 112,975 adult residents with impaired hearing represent 44.8% of the institutionalized population, compared with 4.4% of the adult population who are hearing impaired in households. However, institutionalized and household populations differ markedly in age distributions: of the total institutionalized adults, 79.3% are 65 years of age and older, while 12.8% of the total adult population residing in households fall in that age bracket. Note further that 89.6% of institutionalized adults with a hearing loss are 65 years of age and older. In view of the sizable correlation between age and hearing impairment, much of the difference in prevalence rates for the household and institutional populations can be explained by the institutions having a greater proportion of elderly persons.

The difference in age distributions also may account for the fact that overall, female adults residing in institutions have a hearing impairment more often than males: 46.5% to 41.6%. Almost nine out of ten (86.8%) female residents of institutions are 65 years of age and over compared to 65.4% of male residents. Except for ages 15 to 24, 35 to 44, and 55 to 64, rates of hearing impairment for institutionalized males exceed those for females. Thus, the difference in overall rates of hearing impairment between institutionalized females and males is due largely to differences in their average ages.

Appendix Table A3 displays the rates of hearing impairment among institutionalized persons for each of the provinces and territories by age. Provincially, percentages of institutionalized adults with impaired hearing range from 32.0%, in Prince Edward Island, to 49.6%, in Saskatchewan. The territories' generally lower rates of impaired hearing (Yukon 33.3%, Northwest Territories 38.9%) are to be expected because of the much lower average age of their population.

Degree and Type of Impairment

Table 3 shows the number of adults in Canada reporting each type of difficulty with hearing. The largest proportion of the 860,855 adults who are hearing impaired living in households have difficulty hearing in group conversations (814,250). In part, their difficulty may be due to their inability to quickly determine who is talking and thus to orient themselves to the speaker, providing visual cues to supplement whatever they hear (a process called lipreading or speechreading). Only 14.1% of the 814,250 stating they have difficulty hearing in a group say they are completely unable to do so. Of 648,680 who say they have difficulty hearing one other person, 7.0% indicate they are completely unable to do so.

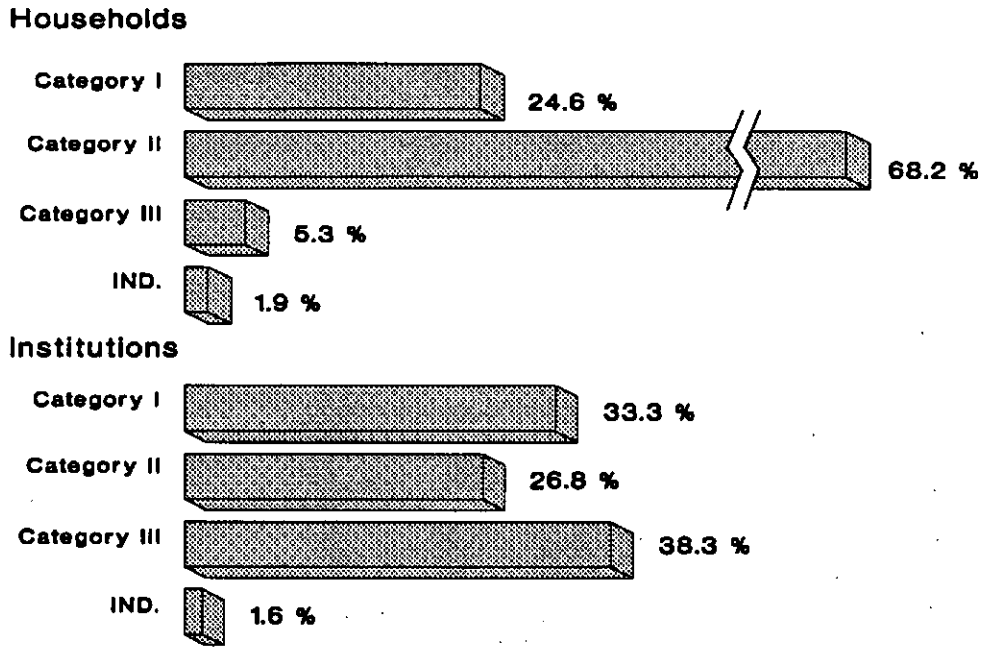
Table 3. Persons with Impaired Hearing Aged 15 and Over, by Place of Residence, by Type of Conversation, by Difficulty Hearing, Canada

Type of Conversation/ Difficulty Hearing	Total		Households		Institutions	
	Number	%	Number	%	Number	%
Conversation with one other person						
Has difficulty hearing	724,015	100.0	648,680	100.0	75,340	100.0
Completely unable to hear	61,855	8.5	45,575	7.0	16,280	21.6
Group conversation						
Has difficulty hearing	925,600	100.0	814,250	100.0	111,350	100.0
Completely unable to hear	170,870	18.5	114,975	14.1	55,900	50.2

In institutions, of the 75,340 adults who have difficulty hearing a conversation with one other person, 21.6% are completely unable to hear what is said, while the rate for adults residing in households is only 7.0%. For institutionalized adults reporting difficulty with group conversations, 50.2% are completely unable to hear what is said, compared to 14.1% of adults residing in households.

Figure 1 shows the three categories of impaired hearing. In households, Category II, the middle range of hearing difficulty, has the largest number of persons, with 587,065 (68.2%), while 211,930 (24.6%) are in Category I, and 45,575 (5.3%) are in Category III. The distribution of persons in the three categories differs markedly for those residing in households and those in institutions. The latter tend to have greater proportions of persons in the least and most severely impaired hearing categories.

Figure 1. Persons with Impaired Hearing Aged 15 and Over in Households and Institutions, by Degree of Hearing Impairment, Canada



Categories defined

Category I - persons who say they have no difficulty hearing one person but have at least partial difficulty hearing in groups;

Category II - persons who say they have partial difficulty hearing one person and have at least partial difficulty hearing in groups;

Category III - those who are completely unable to hear in one-person conversations;

IND - refers to those persons who have impaired hearing but whose degree of impairment cannot be determined because key answers to the four questions on HALS are missing.

Making Comparisons

Although comparisons between the three categories of impaired hearing are of interest, it should be noted that they differ on significant variables other than degree of hearing impairment. Their geographical composition (urban/rural and provincial/territorial), presence of additional disabling conditions, and ages at onset are not

the same for each category. These factors can distort comparisons (such as between labour force participation, employment, and earnings) if the observed differences are attributed solely to impaired hearing.

Similarly, comparisons between persons with impaired hearing and non-disabled persons must be interpreted with caution, since the findings may be influenced by significant factors other than impaired hearing, such as educational and geographical distributions.

Age at Onset

A critical factor in determining the impact of impaired hearing is when it occurs — the age at onset. Since impaired hearing may increase in severity over time, Table 4 shows the earliest reported age at onset. Additional degrees of severity may occur and, in many instances, will occur as the person ages, but only the first age reported is used here.

Of the 860,855 adults residing in households who report difficulty hearing, 146,090 (17.0%) note its onset in the first 18 years of their lives; 455,465 (52.9%) fix the age at onset in adulthood (19 to 64 years); and 238,900 (27.8%) state the difficulty began at or after 65 years of age. A small portion, 20,400 (2.4%) do not provide an age at onset.

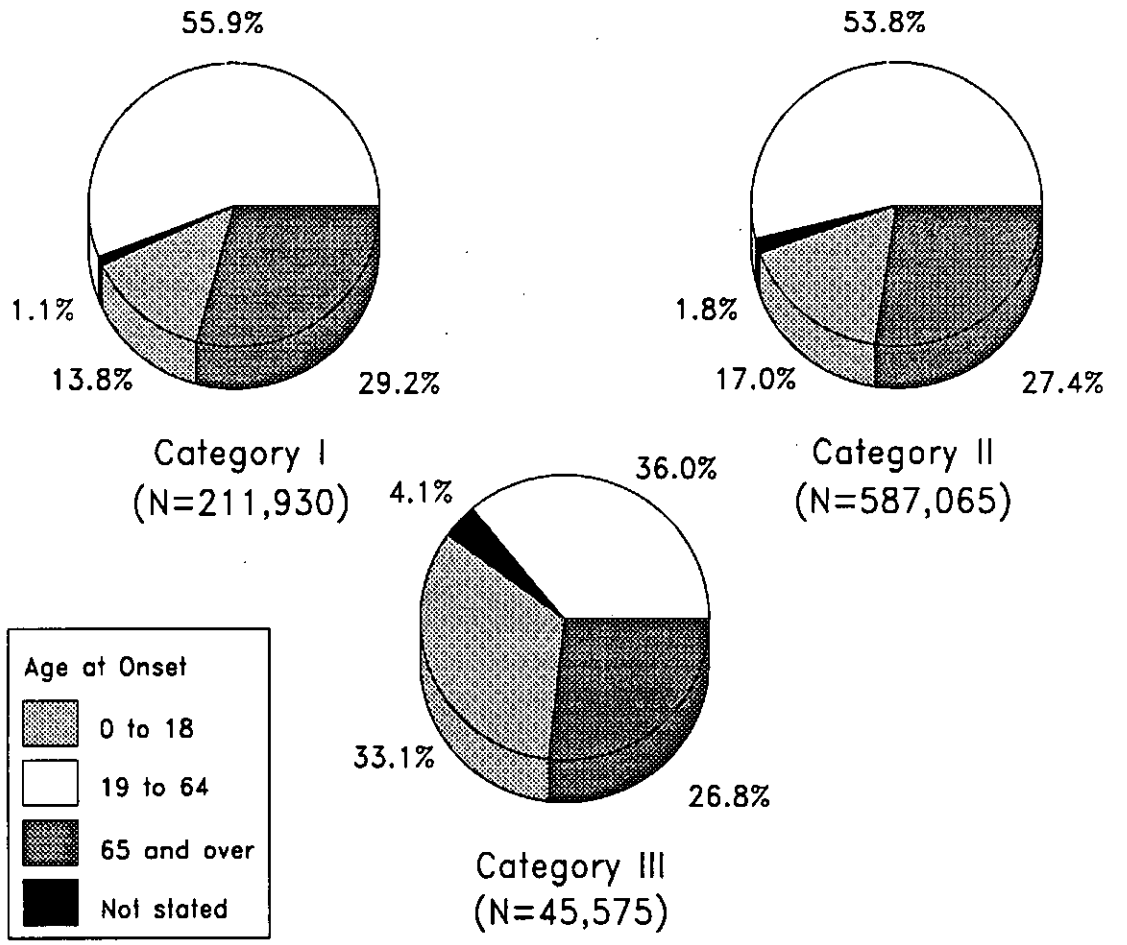
Table 4. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Earliest Age at Onset, by Sex, by Degree of Hearing Impairment, Canada

Sex/Degree of Hearing Impairment	Total	Age Group			
		0 to 18 Years	19 to 64 Years	65 Years and Over	Not Stated
Both sexes	**860,855**	**146,090**	**455,465**	**238,900**	**20,400**
%	100.0	100.0	100.0	100.0	100.0
Category I	24.6	20.0	26.0	25.9	11.4
Category II	68.2	68.3	69.3	67.3	52.5
Category III	5.3	10.3	3.6	5.1	9.1
IND.[1]	1.9	1.4	1.0	1.7	27.0
Males	**487,790**	**73,080**	**302,085**	**99,140**	**13,485**
%	100.0	100.0	100.0	100.0	100.0
Category I	23.7	18.3	24.5	27.2	9.0*
Category II	68.6	68.4	70.4	65.0	56.5
Category III	5.4	10.9	4.0	5.0	11.3*
IND.	2.3	2.4	1.2	2.8	23.2
Females	**373,065**	**73,010**	**153,380**	**139,760**	**6,915**
%	100.0	100.0	100.0	100.0	100.0
Category I	25.9	21.6	29.0	25.1	16.1*
Category II	67.7	68.2	67.3	68.9	44.8
Category III	5.1	9.8	2.9	5.2	--
IND.	1.4	--	0.7*	0.9*	34.5

1 IND. - degree of impairment not determined.

The proportions of persons whose impaired hearing occurred at a given age differ for each of the three categories of impaired hearing (Figure 2). The majority of those in Categories I and II had initial onset of impaired hearing in the age range 19 to 64 years. Nearly the same proportions in Categories I and II — 29.2% and 27.4% respectively — had initial onset at 65 years of age and beyond. Similarly, 13.8% of those in Category I and 17.0% of those in Category II reported onset was before 19 years of age. Onset of impaired hearing for persons in Category III, however, spread relatively evenly across the three age groups: 33.1%, 0 to 18 years; 36.0%, 19 to 64 years; and 26.8%, 65 years and older. In comparing the three categories throughout the text, it is important to note that persons in Category III not only have more severe impairments of hearing, but also tend to have suffered those impairments at an earlier age.

Figure 2. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Earliest Age at Onset, by Degree of Hearing Impairment, Canada



Causes of Impairment

There are two opportunities to report cause of hearing impairment — one cause relating to one-person conversations and one relating to group conversations. When a person reports different causes for each type of hearing impairment, the cause shown in Table 5 is the one that is reported for one-person conversations.

Of adults residing in households, aging is the most frequently given cause of impaired hearing for all three categories of severity. Of the 211,930 persons in Category I, 61,090 cite aging as the cause of their hearing impairment. The 587,065 persons in Category II offer that reason in 174,190 instances. In Category III, aging (12,170) barely exceeds disease or stroke (12,085) as the primary cause for its 45,575 hearing-impaired adults. Disease or stroke is also given as the second most frequent cause in Categories I and II. Almost 1 out of 5 persons (18.1%) with impaired hearing indicates that the impairment resulted from something associated with work — a cause that is cited proportionally less frequently among those in Category III than in the other two categories. Accidents and injuries account for about 1 in 12 of the 860,855 persons with impaired hearing. Approximately 1 in 10 say they do not know why they have a hearing impairment.

Table 5. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment, by Cause of Impaired Hearing, Canada

Cause of Impaired Hearing	Total	Degree of Hearing Impairment			
		Category I	Category II	Category III	IND.[1]
Total persons reporting...	**860,855**	**211,930**	**587,065**	**45,575**	**16,290**
Aging	250,920	61,090	174,190	12,170	3,465
Disease or stroke	180,645	45,235	121,240	12,085	2,085
Work environment	155,945	42,310	110,365	2,500	775*
Violence, accident at work, motor vehicle accident, other accident	73,935	14,675	55,855	3,035	--
Present at birth	59,060	8,760	42,205	7,875	--
Other	32,580	9,890	19,745	1,485*	1,460*
Don't know	84,870	25,365	54,155	4,095	1,255*
Not stated	22,900	4,610	9,305	2,325	6,660

1 IND. - degree of impairment not determined.

Communication Abilities and Technical Aids

Modern technology offers persons with impaired hearing several options for overcoming their disabilities. Of the 860,855 adults with impaired hearing residing in households, only 260,995 (30.3%) use technical aids (Table 6). Of these, 232,140 (88.9%) use hearing aids. Volume controls on telephones are used by 82,220 (31.5% of those using aids). Other amplifiers are used by 22,115. Telecommunications devices for the deaf (TDD), a telephone adaptation that produces printed messages, are used by 16,140, and telecaption decoders by 7,570.

Table 6. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment, by Use of Technical Aids, Canada

Use of Technical Aids	Total[1]	Degree of Hearing Impairment			
		Category I	Category II	Category III	IND.[2]
Total persons reporting...	**860,855**	**211,930**	**587,065**	**45,575**	**16,290**
Total using aids	**260,995**	**39,075**	**192,880**	**25,505**	**3,535**
Hearing aids	232,140	33,065	174,065	21,585	3,425
Volume controls	82,220	12,225	62,695	5,980	1,320*
Amplifiers	22,115	5,345	15,400	1,255*	--
TDDs	16,140	850*	10,455	4,705	--
Television decoders	7,570	735*	2,755	3,950	--
Other aids	21,515	2,885	12,730	5,810	--
Not using aids	554,460	162,585	369,290	15,300	7,280
Not stated	45,400	10,265	24,895	4,770	5,470

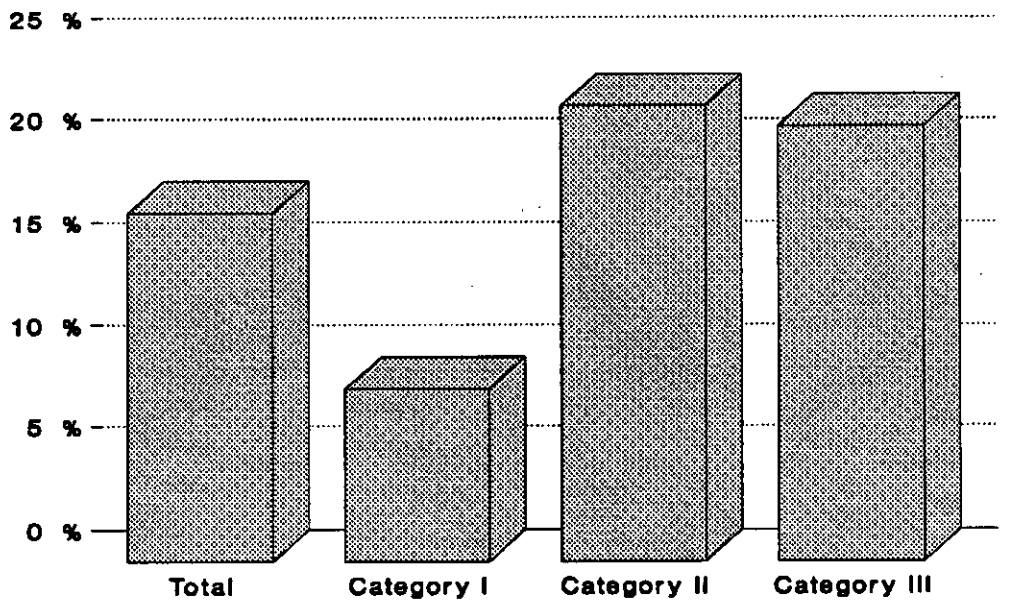
1 The distribution of technical aids does not add to "Total using aids" as individuals may report the use of more than one type of technical aid.

2 IND. - degree of impairment not determined.

When technical aids are considered in relation to the degree of impairment, adults with Category I impairments, residing in households, use technical aids proportionally less than those in the other categories: 39,075 of 211,930 (18.4%). Aids are used by 192,880 of 587,065 (32.9%) of those in Category II, and 25,505 (56.0%) of the 45,575 in Category III. The only changes in the order of the devices by frequency of use occur in Category III, where TDDs move up into fourth place and amplifiers drop to last place, while telecaption decoders move from last to fifth place.

Of adults residing in institutions, only 17.0% use technical aids for hearing; most have personal aids, and a small fraction use group aids (Figure 3). Personal hearing aids are those in which the entire unit is worn on the person's body. In group aids, a single source of amplification may be shared by more than one person, as in AM, FM and infrared systems. The proportions of those who do use technical aids for hearing vary by degree of hearing impairment: Category I, 8.4%; Category II, 22.2%; and Category III, 21.2%.

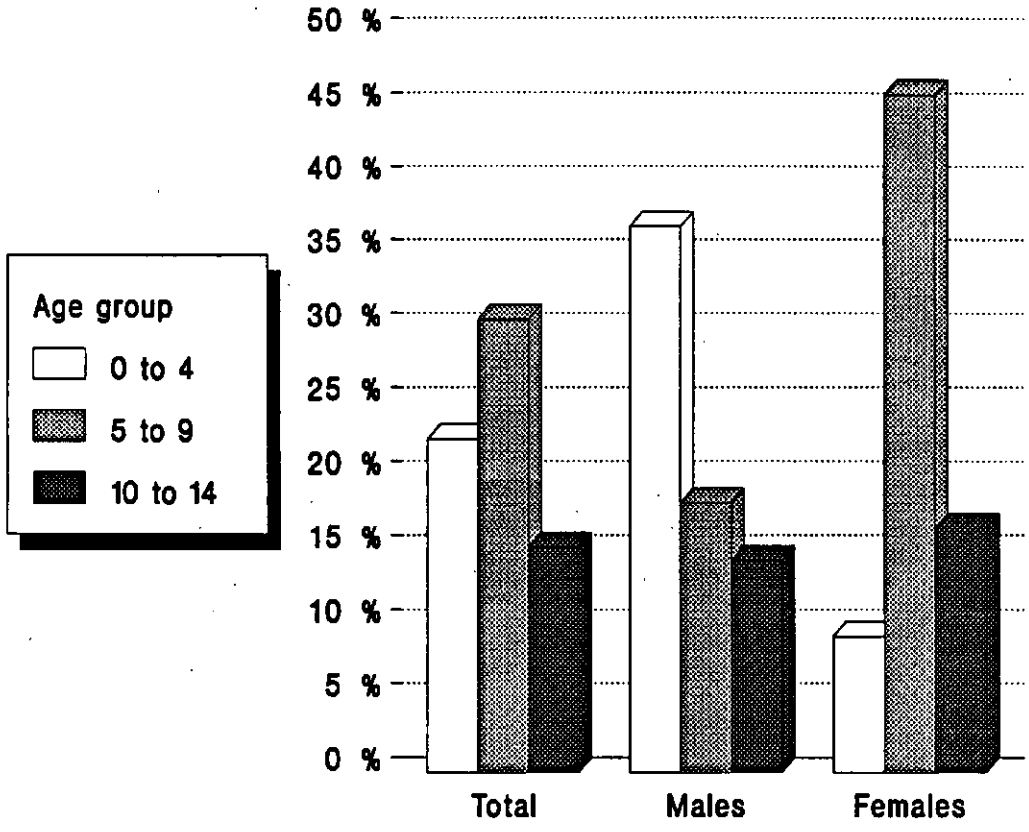
Figure 3. Persons with Impaired Hearing Aged 15 and Over Residing in Institutions, by Use of Technical Aids for Hearing, by Degree of Hearing Impairment,[1] Canada



1 IND. - included in "Total" but not shown separately due to high sampling variability.

Almost 1 of 4 persons under 15 years of age with impaired hearing residing in households has a personal hearing aid (23.1%). Females have a higher rate of hearing aid use than males in this age group: 25.8% to 20.9%.

Figure 4. Persons with Impaired Hearing Under 15 Years Residing in Households, by Personal Hearing Aids Used, Canada

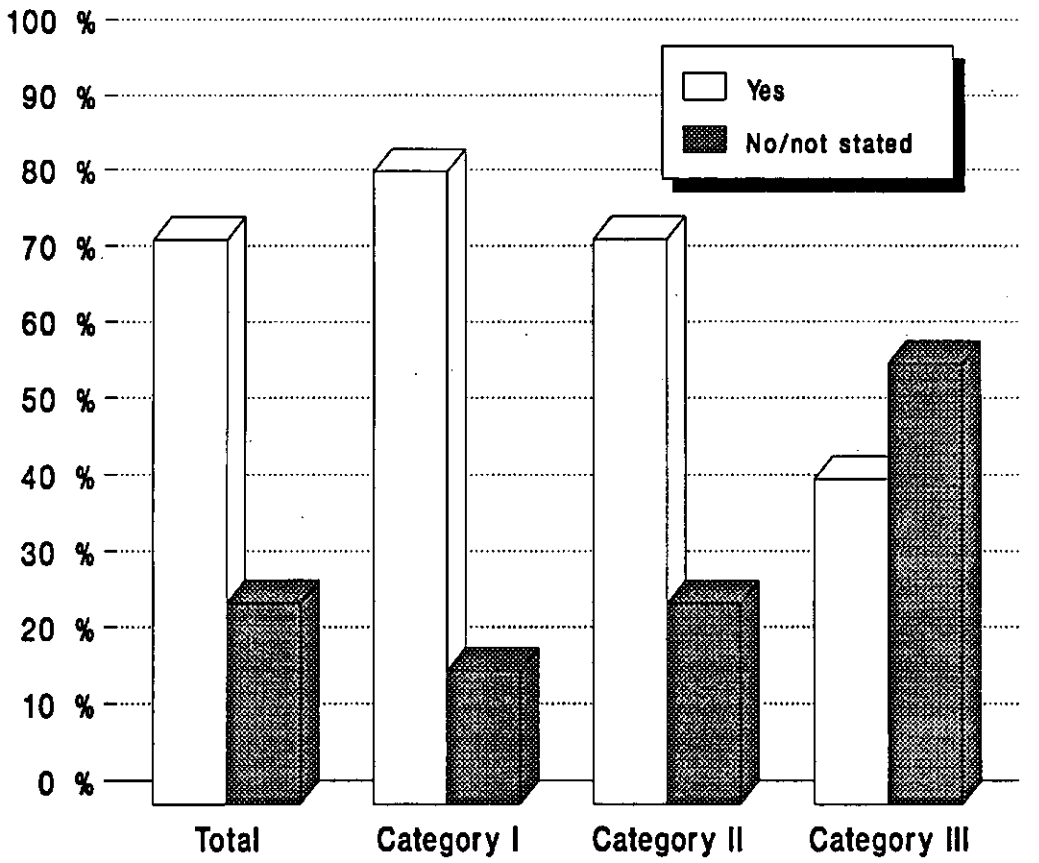


Those 0 to 4 and 5 to 9 years of age use personal hearing aids more frequently than those 10 to 14 years: 22.5%, 30.6%, and 15.2% respectively (Figure 4). Males tend to have hearing aids more often than females from 0 to 4 years, with the reverse from 5 to 9 years. These trends, which may be related to the differences in the degrees of severity in the two gender-by-age groups, should be investigated.

Use of Telephones

In response to the question about ability to hear on the telephone, 73.8% of adults with impaired hearing residing in households say they are able to understand what is being said on the telephone (Figure 5). As would be expected, the proportion of adults stating they cannot hear on the telephone increases from 14.5% of those in Category I, to 23.9% of those in Category II, to 54.9% of those in Category III.

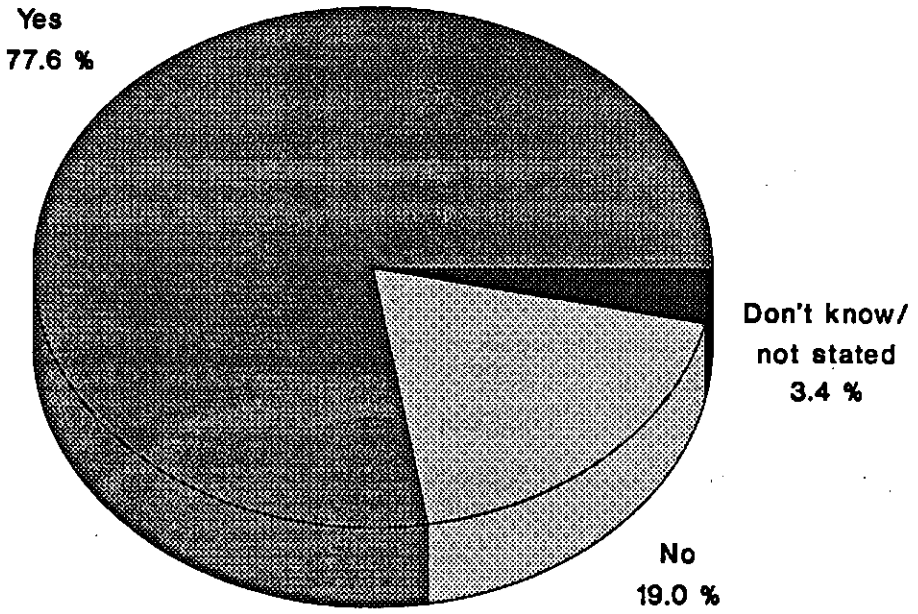
Figure 5. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment,[1] by Ability to Hear on a Telephone, Canada



1 16,290 not included as degree of impairment not determined.

Among children 5 to 14 years with impaired hearing residing in households, 77.6% can hear on the telephone, 19.0% cannot, and 3.4% either do not know the answer to that question or did not respond to it (Figure 6).

Figure 6. Persons with Impaired Hearing Aged 5 to 14 Years Residing in Households, by Ability to Hear on a Telephone, Canada



Needs

When asked if they had any unmet needs for technical aids, most of the 860,855 adults with impaired hearing residing in households (78.3%) answered no (Table 7). Of the 149,660 (17.4%) answering affirmatively, 114,695 report unmet needs for hearing aids, followed by 41,150 for volume controls, 8,425 for decoders, 8,030 for other devices, 7,260 for TDDs, and 6,295 for amplifiers. As would be expected, persons in Category I indicate the lowest proportion of unmet needs (10.1%), and those in Categories II and III have about equal proportions of unmet needs, at 20.2% and 19.0% respectively.

Table 7. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment, by Unmet Needs for Technical Aids, Canada

Unmet Needs for Technical Aids	Total[1]	Degree of Hearing Impairment			
		Category I	Category II	Category III	IND.[2]
Total persons reporting...	**860,855**	**211,930**	**587,065**	**45,575**	**16,290**
%	100.0	100.0	100.0	100.0	100.0
No unmet needs	**78.3**	**86.8**	**76.3**	**71.4**	**58.7**
Yes, has unmet needs...	**17.4**	**10.1**	**20.2**	**19.0**	**7.9***
Hearing aids	13.3	7.9	15.8	9.5	5.8*
Volume controls	4.8	3.7	5.1	6.4	--
TDDs	0.8	--	0.9	2.7*	--
Television decoders	1.0	--	0.9	5.1	-
Amplifiers	0.7	--	0.9	--	--
Other aids	0.9	0.4*	1.0	2.0*	--
Not stated	0.2*	--	0.1*	--	--
Not stated	**4.3**	**3.1**	**3.5**	**9.6**	**33.3**

1 The distribution of technical aids does not add to "Total persons reporting..." as individuals may report the need for more than one type of technical aid.

2 IND. - degree of impairment not determined.

Non-Technical Aids

Persons with impaired hearing have traditionally made use of vision to understand what is being said, principally through manual communication (sign language and fingerspelling) and lipreading. Table 8 shows that of the 860,855 adults with impaired hearing residing in households, only 3.5% use sign language (this includes 1.0% who only use sign language plus 2.5% who can both sign and lipread). A much larger percent (12.0%) make use of lipreading (9.5% lipread only and an additional 2.5% lipread and sign). When looked at by degree of impairment, a total of 1.7% of those in Category I use sign, compared to 3.2% in Category II, and 16.0% in Category III. Lipreading is used by a total of 9.7% of those in Category I, 11.8% of those in Category II, and 28.6% of those in Category III.

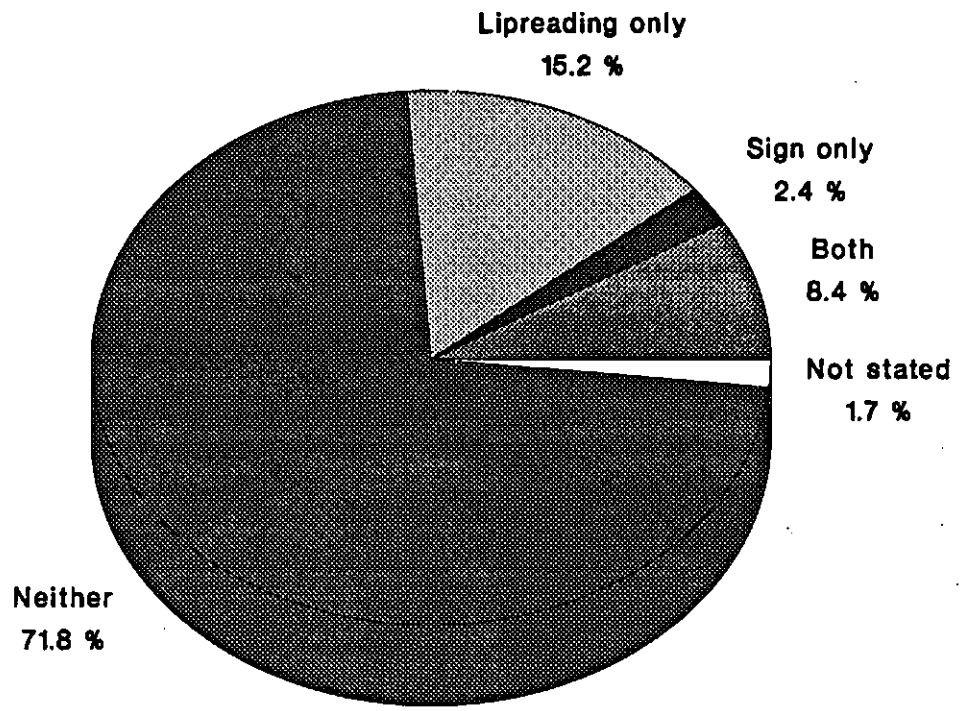
Table 8. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment, by Communication Skills, Canada

Communication Skills	Total	Degree of Hearing Impairment			
		Category I	Category II	Category III	IND.[1]
Total persons reporting...	**860,855**	**211,930**	**587,065**	**45,575**	**16,290**
%	100.0	100.0	100.0	100.0	100.0
Sign language only	1.0	0.8	0.9	3.6	--
Lipreading only	9.5	8.8	9.5	16.2	--
Both of the above	2.5	0.9	2.3	12.4	--
Neither of the above	82.3	86.0	83.6	56.3	61.9
Unknown	4.7	3.5	3.7	11.5	34.3

1 IND. - degree of impairment not determined.

Most of the children 5 to 14 years of age with impaired hearing residing in households use neither sign nor lipreading (71.8%), but a few (8.4%) use both (Figure 7). Compared to the adults, a larger portion of the children use sign language (10.8%) and lipreading (23.6%) either alone or in combination.

Figure 7. Persons with Impaired Hearing Aged 5 to 14 Years Residing in Households, by Use of Sign Language and Lipreading, Canada



Speech

Hearing impairment that occurs early in life can affect the development of speech. How well persons with impaired hearing are understood depends, in part, on whom they are speaking to; the more familiar the audience is with them, the better their speech is likely to be understood. Of children 5 to 14 years of age residing in households who are hearing impaired and have a speaking disability, 4 of 10 (40.0%) have difficulty making themselves understood by members of their own family — 30.6% partially and 9.4% not at all (Table 9). Almost 3 of 4 (72.7%) have difficulty being understood by friends — 59.8% partially and 12.9% not at all. More than 9 of 10 (91.7%) say they are partially (63.0%) or not at all able (28.7%) to make themselves understood by persons other than family and friends.

Table 9. Persons with Both Impaired Hearing and Speaking Disability Aged 5 to 14 Years Residing in Households, by Ability to Make Self Understood, Canada

Ability to be Understood by...	Total	%
Family		
Total persons reporting	**10,855**	**100.0**
Completely	6,410	59.1
Partially	3,320	30.6
Not at all	1,020	9.4
Not stated	--	--
Friends		
Total persons reporting	**10,855**	**100.0**
Completely	2,840	26.2
Partially	6,495	59.8
Not at all	1,395	12.9
Not stated	--	--
Others		
Total persons reporting	**10,855**	**100.0**
Completely	780	7.2
Partially	6,840	63.0
Not at all	3,120	28.7
Not stated	--	--

3. Number and Nature of Other Disabilities

Number of Other Disabilities

Almost 7 of 10 adults with impaired hearing residing in households (69.8%) have one or more additional disabling conditions, health conditions or both (Table 10). With respect to age, when additional conditions are considered, young people with impaired hearing tend to have fewer additional conditions than older persons. Of those in the 15 to 24 year group, 51.9% have one or more conditions in addition to impaired hearing, while 90.7% of those 85 years of age and older have one or more conditions in addition to impaired hearing. The progression of additional conditions in association with impaired hearing has some irregularities, but the generalization holds that as age increases the number of disabling conditions also increases.

Table 10. Persons with Impaired Hearing Aged 15 Years and Over Residing in Households, by Presence of Other Disabilities, by Sex and Age Group, Canada

Sex/ Age Group	Total	Impaired Hearing Only %	Impaired Hearing and Other Disabilities %
Both sexes, total	**860,855**	**30.2**	**69.8**
15 to 24 years	34,365	48.0	51.9
25 to 34 years	60,895	53.9	46.1
35 to 54 years	155,115	38.3	61.7
55 to 64 years	166,860	28.3	71.7
65 to 74 years	211,220	28.7	71.3
75 to 84 years	166,265	22.4	77.6
85 years and over	66,135	9.3	90.7
Males, total	**487,790**	**37.5**	**62.5**
15 to 24 years	16,685	43.0	57.0
25 to 34 years	34,375	69.4	30.6
35 to 54 years	94,895	45.8	54.2
55 to 64 years	108,500	33.9	66.1
65 to 74 years	136,905	35.8	64.2
75 to 84 years	74,490	26.6	73.4
85 years and over	21,940	12.9	87.1
Females, total	**373,065**	**20.6**	**79.4**
15 to 24 years	17,680	52.8	47.1
25 to 34 years	26,520	33.8	66.2
35 to 54 years	60,220	26.4	73.6
55 to 64 years	58,360	17.9	82.1
65 to 74 years	74,315	15.6	84.4
75 to 84 years	91,775	18.9	81.1
85 years and over	44,195	7.5	92.5

Nature of Other Disabilities

The most common other disabling condition for adults with impaired hearing residing in households is mobility impairment (54.8%) (Table 11). Somewhat less frequent are disabilities associated with agility (47.8%). Visual disabilities occur in approximately 1 of 5 persons with impaired hearing (20.1%), and speaking disabilities occur least frequently (8.1%). Other disabilities are found in 27.9% of persons with impaired hearing. Females with impaired hearing have a greater proportion of each of the disabling conditions than males, with the exception of speaking, for which males (8.4%) exceed females (7.7%) in the frequency with which the disability is cited.

Table 11. Persons with Impaired Hearing Aged 15 Years and Over Residing in Households, by Nature of Other Disability,[1] by Sex, Canada

Sex	Persons with Impaired Hearing	%	Nature of Other Disability...				
			Mobility	Agility	Seeing	Speaking	Other
			%				
Both sexes	**860,855**	**100.0[2]**	**54.8**	**47.8**	**20.1**	**8.1**	**27.9**
Males	487,790	100.0	45.1	41.7	15.0	8.4	25.9
Females	373,065	100.0	67.5	55.7	26.8	7.7	30.5

1 See Appendix C - Definitions for a description of Nature of Disability.

2 Percentages will not total 100% because each person may report more than one other condition.

Barriers Encountered in Daily Living

Table 12 shows the percent of adults with impaired hearing residing in households who report difficulty with activities of daily living. Few adults with only impaired hearing report difficulty with everyday tasks: the largest proportion (6.3%) have difficulty with heavy housework. On the other hand, sizable proportions of those with a disability in addition to impaired hearing say they have problems with heavy housework (55.4%), shopping (34.7%), everyday housework (28.5%), finances (21.2%), and meal preparation (19.8%), with only a small fraction having difficulty with personal care (10.5%).

These results lead to the conclusion that many of the difficulties in daily living expressed by adults with impaired hearing residing in households result from the other disabling conditions or from a combination of those conditions with the hearing impairment — the latter intensifying the effects of the other disability.

Table 12. Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Presence of Other Disabilities, by Difficulties with Activities of Daily Living, Canada

Activities of Daily Living	Total	Impaired Hearing Only	Impaired Hearing and Other Disabilities
Total persons reporting difficulty...	**860,855**	**259,925**	**600,930**
%	100.0	100.0	100.0
Heavy housework	40.6	6.3	55.4
Shopping	24.7	1.6	34.7
Everyday housework	20.3	1.4	28.5
Finances	15.3	1.8	21.2
Meal preparation	14.0	0.5*	19.8
Personal care	7.3	-	10.5

4. Other Demographic Characteristics

Visible Minorities

Only small proportions of the 860,855 adults with impaired hearing residing in households are from visible minorities: 41,430 (4.8%), yet visible minorities make up 9.6% of the non-disabled adult population (Table 13). Thus, it would appear that hearing impairment is not distributed among the visible minorities in proportion to their presence in the non-disabled adult population. Southern Europeans with impaired hearing account for 3.0% of adults with impaired hearing and 3.4% of non-disabled adults. The next largest group is Chinese, who make up 0.6% of hearing-impaired adults and 1.4% of non-disabled adults. Indo-Pakistanis represent 0.5% of persons with impaired hearing, and 1.0% of non-disabled adults. Blacks make up 0.3% of persons with impaired hearing and 1.7% of non-disabled adults. West Asians and Arabs, Japanese, and Other visible minorities make up 0.4%, compared to their representation in the non-disabled population of 1.7%.

Table 13. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Visible Minority Status, Canada

Visible Minority Status	Total Non-Disabled Persons		Total Persons with Impaired Hearing	
	Number	%	Number	%
Total persons reporting	**16,689,310**	**100.0**	**860,855**	**100.0**
Total visible minority	**1,596,090**	**9.6**	**41,430**	**4.8**
Southern European	563,305	3.4	26,215	3.0
Chinese	232,785	1.4	4,760	0.6
Indo-Pakistani	167,175	1.0	3,945	0.5
Black	282,545	1.7	2,600	0.3
West Asian and Arab	85,385	0.5	1,555*	0.2*
Japanese	33,990	0.2	1,155*	0.1*
Latin American	36,910	0.2	--	--
Other visible minority	161,420	1.0	845*	0.1*
Multiple visible minority[1]	32,570	0.2	-	-

1 Anyone indicating more than one visible minority origin.

Another way to view this characteristic is to compare each visible minority group's relative size in relation to its proportion of all visible minorities within the non-disabled population and the hearing-impaired population (Table 14).

Southern Europeans represent 63.3% of all the visible minorities with impaired hearing, though they constitute only 35.3% of the non-disabled visible minorities. Chinese make up 11.5% of the hearing-impaired visible minorities and 14.6% of non-disabled visible minorities. Indo-Pakistanis represent 9.5% of visible minorities with impaired hearing and 10.5% of non-disabled visible minorities. Blacks make up 6.3% of visible minorities with impaired hearing, and 17.7% of non-disabled visible minorities. West Asians and Arabs, and Japanese make up 6.6% of visible minorities with impaired hearing and 7.4% of non-disabled, visible minorities.

Southern Europeans, therefore, represent a larger share of the hearing-impaired visible minorities than would be expected by their presence among non-disabled visible minorities, and Blacks have a much smaller share than would be expected from their numbers in the non-disabled visible minorities. The remaining groups all contribute somewhat less to the hearing-impaired visible minorities than would be expected from their representation in the non-disabled visible minorities.

Table 14. Persons with Visible Minority Status Aged 15 and Over Residing in Households, by Disability Status, by Visible Minority Status, Canada

Visible Minority Status	Non-Disabled Visible Minority Population	Hearing-Impaired Visible Minority Population
Total visible minority	**1,596,090**	**41,430**
%	**100.0**	**100.0**
Southern European	35.3	63.3
Chinese	14.6	11.5
Indo-Pakistani	10.5	9.5
Black	17.7	6.3
West Asian and Arab	5.3	3.8*
Japanese	2.1	2.8*
Latin American	2.3	--
Other visible minority	10.1	2.0*
Multiple visible minority[1]	2.0	-

1 Anyone indicating more than one visible minority origin.

Marital Status

Most of the 860,855 adults with impaired hearing residing in households are married: 505,225 or 58.7% (Table 15). Widowed persons make up the next largest segment 193,200 (22.4%), followed by 106,545 single persons (12.4%). There are 28,210 divorced adults (3.3%) and 27,675 separated adults (3.2%). Compared to non-disabled adults residing in households, hearing-impaired persons have approximately the same proportion of those who are married (61.5% vs. 58.7%) and about the same proportion of those who are divorced (3.1% vs. 3.3%). The proportion of adults with impaired hearing who are single is much smaller than for non-disabled adults (12.4% vs. 28.8%), and the proportion of widowed adults with impaired hearing is much larger (22.4% vs. 4.0%). The latter finding, in particular, is most likely accounted for by the differences in the age distribution of the two populations.

Table 15. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment, by Marital Status, Canada

Marital Status	Total Non-Disabled Persons	Total Persons with Impaired Hearing	Degree of Hearing Impairment... Category I	Category II	Category III	IND.[1]
Total persons	**16,689,310**	**860,855**	**211,930**	**587,065**	**45,575**	**16,290**
%	100.0	100.0	100.0	100.0	100.0	100.0
Now married	61.5	58.7	60.9	58.8	45.3	64.8
Single	28.8	12.4	10.6	11.9	23.4	20.4
Widowed	4.0	22.4	21.3	23.0	23.7	12.5
Divorced	3.1	3.3	4.0	3.2	--	--
Separated	2.5	3.2	3.2	3.0	6.4	--

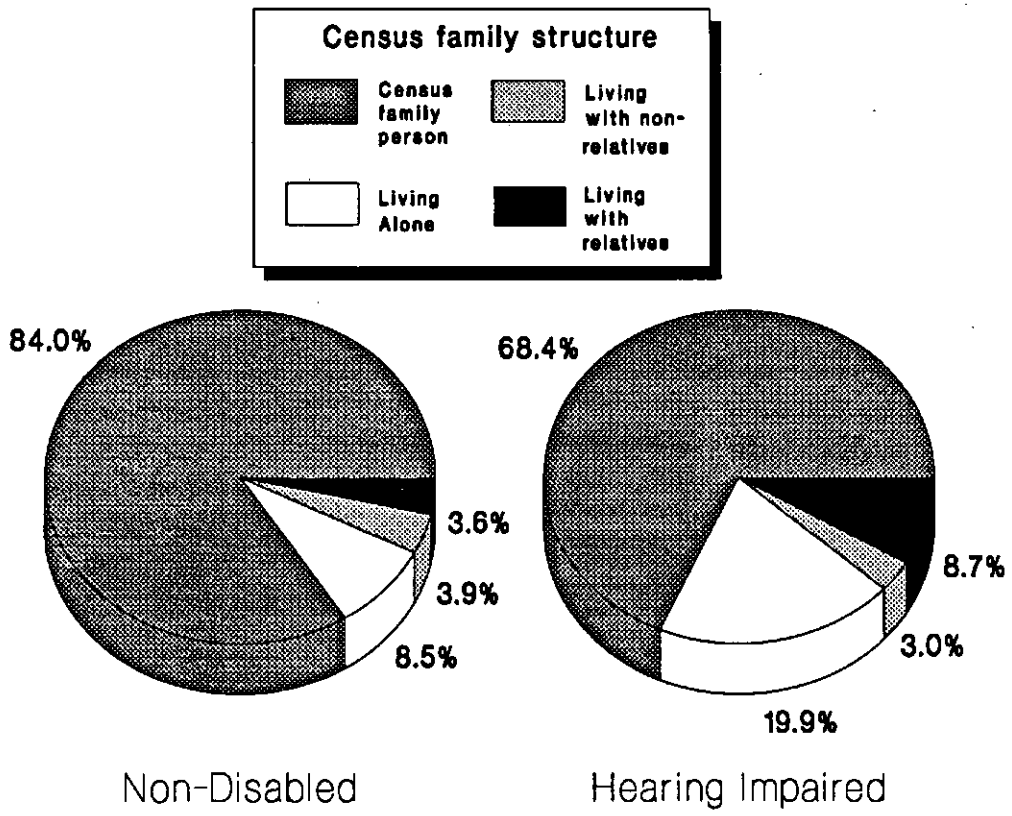
1 IND. - degree of impairment not determined.

Analyzed by degree of hearing impairment, Categories I and II show similar distributions of marital status, but Category III differs in that the proportion of single persons is greater (23.4%), that of married persons is less (45.3%), while the proportion of separated persons is larger (6.4%) and that of divorced persons is an insignificant percent.

Family Composition

Almost 1 of 5 adults with impaired hearing residing in households lives alone (19.9%), compared with 8.5% of the non-disabled population (Figure 8). Nearly 1 in 11 adults with impaired hearing (8.7%) lives with relatives, compared with 3.6% of the non-disabled population. The proportion living with non-relatives, 3.0%, is about the same as for the non-disabled population living in households (3.9%). Because living arrangements vary with age, however, and because the average age of persons with impaired hearing is greater than that of persons in general, direct comparisons between the two groups as a whole are not appropriate.

Figure 8. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 and Over Residing in Households, Living within Census Family Structure,[1] Canada



[1] *See Appendix C - Definitions for a description of Census Family Structure.*

Education

The presence of impaired hearing is associated with lower educational achievement. Table 16 shows average levels attained by hearing-impaired and non-disabled adults residing in households. Although just over 10% of non-disabled persons have a university degree, only 3.1% of persons with impaired hearing have one. At the other end of the educational continuum, three times the proportion of adults with impaired hearing (42.6% vs. 14.0%) have not reached a secondary level.

Table 16. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 and Over Residing in Households, by Degree of Hearing Impairment and Level of Education, Canada

Level of Education	Total Non-Disabled Persons	Total Persons with Impaired Hearing	Degree of Hearing Impairment...			
			Category I	Category II	Category III	IND.[1]
Total persons	**16,689,310**	**860,855**	**211,930**	**587,065**	**45,575**	**16,290**
%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
0 years to Grade 8	14.0	42.6	38.8	43.4	52.0	34.1
Secondary	43.6	33.3	33.2	33.6	25.4	43.6
Post-secondary	18.7	13.0	13.5	13.3	7.9	9.9
Certificate/diploma	13.5	8.0	10.3	7.0	13.1	--
University degree	10.2	3.1	4.2	2.7	1.7*	9.0*

1 IND. - degree of impairment not determined.

The degree of hearing impairment and the level of educational achievement are related. A larger portion of persons in Category I have been educated beyond the secondary level (28.0%) than in Category II (23.0%) or Category III (22.7%).

Table 17 presents further information for hearing-impaired adults 15 to 64 years who were not enrolled in school in April 1986 and who had completed their formal education. The majority of those in Categories I and II completed their education before their hearing was impaired: Category I, 76.6%, and Category II, 72.2%. The finding is reversed for those in Category III, among whom only 35.9% completed their schooling before their hearing was impaired.

Table 17. Persons with Impaired Hearing Aged 15 to 64 Years Residing in Households,[1] by Degree of Hearing Impairment, by Completion of Education, Canada

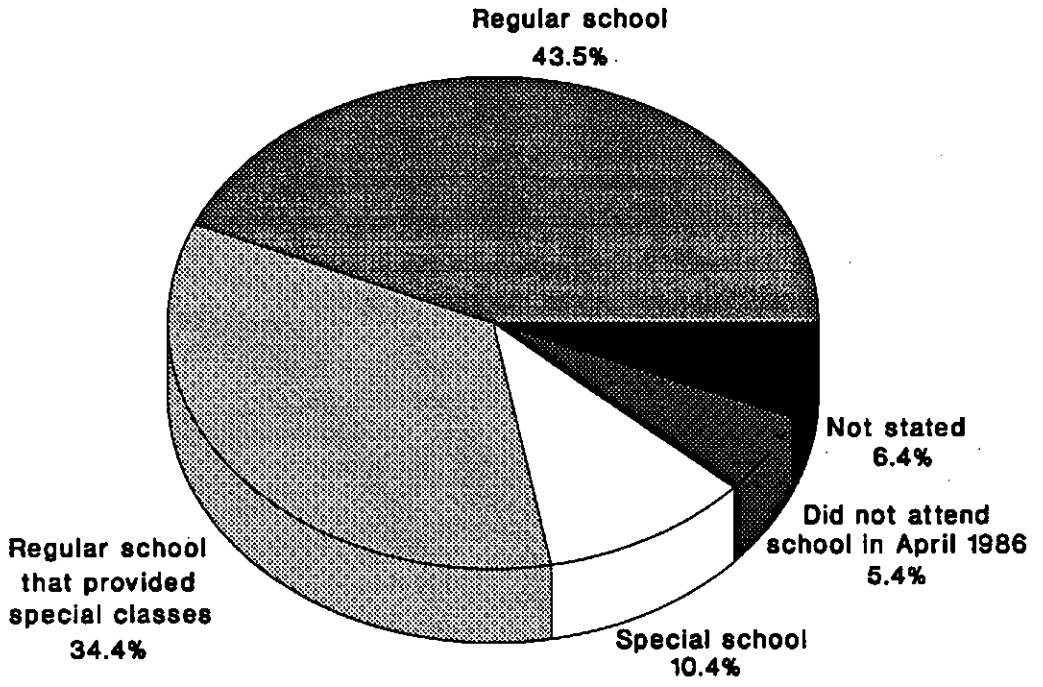
Completion of Education	Total	Degree of Hearing Impairment... Category I	Category II	Category III	IND.[2]
Total persons reporting	**385,450**	**101,920**	**261,790**	**16,430**	**5,310**
%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Education completed...					
After hearing impaired	26.2	22.3	25.6	63.8	15.9*
Before hearing impaired	72.0	76.6	72.2	35.9	83.8
Not stated	1.8	1.0*	2.2	--	--

1 Includes only those who were not enrolled in school in April 1986 and who had completed their formal education.

2 IND. - degree of impairment not determined.

In April 1986, almost half the number of children, aged 5 to 14, with impaired hearing living in households attended a special school (10.4%) or a regular school that provided special classes (34.4%) (Figure 9). The proportion of hearing-impaired children in a regular school that did not provide special classes was lower than for all disabled children (43.5% vs. 50.6%).

Figure 9. Persons with Impaired Hearing Aged 5 to 14 Years Residing in Households, by Type of School Attended in April 1986, Canada



Of those indicating they attended either type of regular school, 61.3% attended only regular classes, 34.3% some regular classes and some special classes, and 4.4% only special classes in a regular school.

About 4 in 10 (40.8%) children with impaired hearing would need more time than usual to finish their educational programs.

Adults with impaired hearing who reside in institutions average less than a ninth-grade education: no schooling, 9.2%; grades 1 to 8, 43.3%; secondary, 19.1%; and post-secondary, 10.5% (Table 18). The greater proportion of elderly persons in the institutional population must be considered in interpreting this finding, as persons now 55 years of age and older tend to have achieved less academically than younger persons.

Table 18. Persons with Impaired Hearing Aged 15 and Over Residing in Institutions, by Degree of Hearing Impairment, by Level of Education, Canada

Completion of Education	Total	Degree of Hearing Impairment... Category I	Category II	Category III	IND.[1]
Total persons reporting[2]	**112,975**	**37,610**	**30,285**	**43,245**	**1,835**
%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No schooling	9.2	8.0	9.9	9.8	11.2*
Grades 1 to 8	43.3	46.9	40.3	42.2	45.8
Secondary	19.1	17.3	21.5	18.9	21.0*
Post-secondary	10.5	12.0	12.9	7.5	--

1 IND. - degree of impairment not determined.

2 Those whose level of education is unknown are included in the total but are not shown separately.

Labour Force Participation

The labour force includes those who are working (employed) plus those who are actively looking for work and available for work (unemployed). Those not in the labour force include students, homemakers, retirees, and those who are unable to work. Of the 417,235 hearing-impaired persons 15 to 64 years of age, residing in households, 217,500 are in the labour force (52.1%) (Table 19). This is one third lower than the rate for non-disabled Canadians (77.9%). The comparable figures by gender are: hearing-impaired females 38.0%, non-disabled females 67.9%; hearing-impaired males 61.2%, non-disabled males 88.1%. In every category (except males 15 to 24 years), the proportion of non-disabled persons in the labour force exceeds that of persons with impaired hearing.

Table 19. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 to 64 Years Residing in Households, by Participation Rates in Labour Force, by Degree of Hearing Impairment, by Sex, by Age Group, Canada

	Participation Rates (%)					
			Degree of Hearing Impairment...			
Sex/ Age Group	Total Non-Disabled Persons	Total Persons with Impaired Hearing	Category I	Category II	Category III	IND.[1]
Both sexes - Total	**77.9**	**52.1**	**48.8**	**53.9**	**52.6**	**27.1**
15 to 24 years	68.4	61.9	63.4	62.6	52.2	--
25 to 34 years	85.4	72.5	78.2	71.1	69.9	--
35 to 54 years	84.7	61.6	53.6	65.9	67.0	21.6*
55 to 64 years	60.4	33.9	33.2	35.3	--	--
Males - Total	**88.1**	**61.2**	**57.9**	**62.5**	**65.4**	**35.3**
15 to 24 years	70.2	73.6	70.3	75.3	61.8*	--
25 to 34 years	97.1	82.7	87.4	82.1	79.5	--
35 to 54 years	96.3	73.7	68.2	77.0	80.4	27.3*
55 to 64 years	81.7	41.4	39.6	43.1	--	--
Females - Total	**67.9**	**38.0**	**37.4**	**39.1**	**33.1**	**--**
15 to 24 years	66.5	50.8	58.0	49.7	45.5*	--
25 to 34 years	74.0	59.1	70.0	56.2	47.9*	--
35 to 54 years	73.1	42.4	34.5	47.7	36.8*	--
55 to 64 years	40.5	20.0	24.2	18.7	--	--

1 IND. - degree of impairment not determined.

Degree of hearing impairment is associated with relative participation in the labour force. Persons in Category II have the highest overall portion in the labour force, 53.9%, closely followed by Category III, with 52.6%, and Category I, with 48.8%. For females with impaired hearing, the participation rates are: 37.4% in Category I, 39.1% in Category II, and 33.1% in Category III. The respective rates for males are 57.9%, 62.5%, and 65.4%. (See page 9, "Making Comparisons" for comments on comparisons between categories.)

Employment

Of the 217,500 hearing-impaired persons in the labour force, 195,685 (90.0%) are employed (Table 20). This overall rate is almost the same as for non-disabled persons (89.7%). Employment rates differ based on age and sex. Females with impaired hearing have an overall employment rate of 88.2%, which compares favourably with the employment rate of 88.4% for non-disabled females. Males with impaired hearing have an employment rate of 90.7% versus 90.6% for non-disabled males.

Table 20. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 to 64 Years Residing in Households, by Employment Rates, by Disability Status, by Sex, by Age Group, Canada

	Employment Rates (%)			
			Disability Status...	
Sex/ Age Group	Total Non-Disabled Persons	Total Persons with Impaired Hearing	Impaired Hearing Only	Hearing Impaired and Other Disabilities
Both sexes - Total	**89.7**	**90.0**	**93.7**	**85.9**
15 to 24 years	83.2	86.9	93.7	78.7
25 to 34 years	89.0	84.6	87.5	79.9
35 to 54 years	93.6	91.9	96.6	87.3
55 to 64 years	91.3	92.1	95.0	89.4
Males - Total	**90.6**	**90.7**	**95.2**	**85.0**
15 to 24 years	82.7	90.8	96.2	85.0
25 to 34 years	90.5	82.2	89.7	61.6
35 to 54 years	94.5	93.2	98.0	87.8
55 to 64 years	92.3	92.1	95.6	88.7
Females - Total	**88.4**	**88.2**	**88.8**	**87.7**
15 to 24 years	83.6	81.4	90.7	68.7
25 to 34 years	87.2	88.8	80.1	94.6
35 to 54 years	92.3	88.5	91.7	86.2
55 to 64 years	89.6	91.8	92.2	91.5

When persons with only impaired hearing are compared to those who also have another disability, the employment rates differ sharply: 93.7% for those with only impaired hearing and 85.9% for those with one or more disabilities in addition to hearing impairment.

Employment Conditions

Employers provided some type of work accommodation, such as special equipment, special parking, adjusted hours, and modified duties, for 7.8% of persons with impaired hearing (Table 21). Such adjustments were made for 3.3% of persons in Category I, 9.0% in Category II, and 15.7% of those in Category III.

Table 21. Employed Persons with Impaired Hearing Aged 15 to 64 Years Residing in Households, by Degree of Hearing Impairment, by Employer Accommodations, Canada

Employer Accommodations	Total	Degree of Hearing Impairment... Category I	Category II	Category III	IND.[1]
Total persons reporting[2]	**162,360**	**40,695**	**114,170**	**6,750**	**745***
%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0***
Accommodations made	7.8	3.3	9.0	15.7*	--
No accommodations made	91.1	92.7	90.9	84.2	95.3*
Not stated	1.1	4.0	--	-	-

1 IND. - degree of impairment not determined.

2 Excludes self-employed persons with impaired hearing.

As shown in Table 22, about 3 in 10 persons with impaired hearing (29.7%) find their impairment makes it difficult to change jobs or get a better job. This response is given by 31.7% of persons in Category I, 27.9% of those in Category II, and 47.6% of those in Category III. Approximately one quarter (24.3%) report that their impairment limits the kind or amount of work they can do: 24.5% in Category I, 23.8% in Category II, and 30.1% in Category III.

Table 22. Employed Persons with Impaired Hearing Aged 15 to 64 Years Residing in Households, by Degree of Hearing Impairment, by Work-related Issues, Canada

Work-related Issues	Total	Degree of Hearing Impairment... Category I	Category II	Category III	IND.[1]
Total persons reporting	**195,685**	**47,425**	**137,575**	**9,425**	**1,255***
Does your condition...					
make it difficult to change jobs or get a better job? %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Yes	29.7	31.7	27.9	47.6	--
No	66.9	65.8	68.2	52.0	78.9*
Not stated	3.3	2.5*	3.8	--	--
limit the kind or amount of work you can do? %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Yes	24.3	24.5	23.8	30.1	--
No	75.7	75.5	76.2	69.9	77.3*
Not stated	-	-	-	-	-
Total persons[2] reporting	**162,360**	**40,695**	**114,170**	**6,750**	**745***
Job security is : %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Excellent	35.1	37.4	33.3	50.3	--
Good	37.7	44.4	36.3	22.8	--
Fair	17.9	9.4	21.2	14.4*	--
Poor	9.2	8.7	9.1	12.1*	--
Not stated	--	--	-	--	--
Chances for advancement are : %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Excellent	13.3	13.6	12.3	28.1	--
Good	33.0	28.8	35.6	15.0*	--
Fair	19.1	20.0	17.8	30.7	--
Poor	34.1	36.4	33.8	25.6	--
Not stated	0.6*	--	--	--	-

1 IND. - degree of impairment not determined.
2 Excludes self-employed persons with impaired hearing.

Regarding job security, only 17.9% rate it as fair and 9.2% as poor, while 37.7% say it is good, and 35.1% excellent. Persons in Category II are less optimistic than those in the other categories, with 30.3% rating their job security fair or poor as against 18.1% of those in Category I and 26.5% of those in Category III.

With regard to advancement, however, persons with impaired hearing are less confident: 13.3% assess their chances as excellent, 33.0% as good, 19.1% as fair and 34.1% as poor. Those in Categories I and III appear to be somewhat less hopeful about promotion than those in Category II.

Persons with only impaired hearing report problems at work substantially less than those with disabilities in addition to their impaired hearing. Nearly half (46.5%) of those with multiple disabilities and 15.6% of those with only impaired hearing say their impairments make it more difficult to change jobs or get a better job. With respect to their impairments limiting their work, 44.5% of those with multiple disabilities say they are limited and 7.2% of those with only impaired hearing say this. When rating job security, proportionally more persons with only impaired hearing (79.8%) rate their chances as good and excellent compared to 63.8% of persons with multiple disabilities. Similarly, proportionally more persons with only impaired hearing (54.3%) regard their chances for advancement as good and excellent compared to persons with multiple disabilities (35.6%).

Income

Average employment income of adults 15 to 64 years with impaired hearing residing in households falls slightly below that of non-disabled adults. Those having only impaired hearing earn somewhat more than non-disabled persons, while those with disabilities in addition to impaired hearing earn considerably less than non-disabled persons (Table 23). The latter finding holds across age groups, as would be expected. Regarding those with only impaired hearing, it should be pointed out that their earnings fall below the non-disabled after 54 years of age, indicating an interaction between impaired hearing and aging. In interpreting the earnings data, the reader is also referred to the discussion on page 9, which cautions against facile comparisons between groups.

Table 23. Non-Disabled Persons and Persons with Impaired Hearing Aged 15 to 64 Years Residing in Households, by Disability Status, by Average 1985 Employment Income, by Sex, by Age Group, Canada

Sex/ Age Group	Total Non-Disabled Persons	Total Persons with Impaired Hearing	Disability Status...	
			Impaired Hearing Only	Impaired Hearing and Other Disabilities
Both sexes				
Total - all ages	$18,765	$18,500	$20,240	$16,635
15 to 24 years	7,440	7,045	8,525	4,825
25 to 34 years	18,885	16,665	18,930	12,535
35 to 54 years	24,665	21,415	24,730	18,240
55 to 64 years	22,030	18,560	18,735	18,410
Males				
Total - all ages	$23,560	$21,665	$23,020	$19,940
15 to 24 years	8,155	8,350	10,820	4,975
25 to 34 years	23,045	20,645	22,390	15,300
35 to 54 years	31,565	25,495	28,160	22,445
55 to 64 years	26,450	19,885	19,325	20,435
Females				
Total - all ages	$12,775	$10,395	$10,525	$10,305
15 to 24 years	6,675	5,415	5,890	4,620
25 to 34 years	14,005	9,395	8,325	10,270
35 to 54 years	15,575	11,290	12,705	10,435
55 to 64 years	14,070	12,715	14,480	11,960

5. Conclusion

The number of Canadians with impaired hearing — over a million — establishes this disability as among the most prevalent in the nation. This substantial number signals the maturing of the Canadian population: as the average age of the population increases, the proportion of those with impaired hearing increases.

Age

The rate of impaired hearing is less than 1% for those under 25 years of age residing in households, and 47.5% for those 85 years of age and over. Thus, it is probable that as the Canadian population ages, the rate of persons with impaired hearing will also increase.

Gender

With few exceptions, males exceed females in the rate of hearing impairment. Greater exposure to occupations with high noise levels may be involved in this finding, a notion supported by the fact that at earlier ages the two genders have nearly the same rates of impaired hearing. Another possibility may be an as-yet-unidentified genetic factor. Most likely, multiple factors influence the observed result.

Geography

Differences in rates of impaired hearing between geographical regions are to be expected, if for no other reason than the differences in age distributions. The differences in age distributions contribute a major part of the variance in provincial rates for impaired hearing. Other differences among provinces — rural/urban, female/male, climate, economics — may also affect the rates. Thus, caution should be exercised when applying rates from one region to another.

Institutionalization

That institutional residents have much higher rates of hearing impairment than their age-sex peers in households points to another interesting situation in which the data, although indicating an important fact, do not explain it. Hearing-impaired persons may be institutionalized more often because poor hearing renders them less able to care for themselves. It is likely that more than one cause accounts for the relationship.

Degree of Impairment

The fact that fewer cases of impaired hearing are found in Category I than would be anticipated is probably due to persons with mild hearing impairments not reporting them as often as those with more severe impairments, because they are unaware of them or do not regard them as limiting. The fact that HALS defines a disability as one that limits the individual in daily activities reinforces this explanation.

Communication Abilities and Technical Aids

The underutilization of technical aids by persons with impaired hearing has been noted in other countries.[1] In Canada, 7 of 10 adults with impaired hearing residing in households do not use technical aids, and less than 1 of 5 hearing-impaired adults in institutions has a technical aid for hearing. Even in the most severely impaired categories, less than half of adults in households and fewer than 1 of 4 in institutions have personal hearing aids. Similarly, over three quarters of persons under 15 years of age with impaired hearing residing in households are without personal hearing aids. Despite the low rates of use, the perceived need for technical aids remains equally low, with almost 8 of 10 hearing-impaired adults in households expressing no need for technical aids that they do not have.

Other Disabilities

The sizable proportion of persons with impaired hearing who also have another disability deserves heavy emphasis in planning for social services. Visual problems in conjunction with hearing impairment present increased difficulty for education and rehabilitation, because the combination of these two disabilities interferes with the two main channels of communication. The relatively high proportion of adults with impaired hearing who also have impaired vision (20.1% in households and 60.5% in institutions) may indicate that disability in one sense increases the probability of disability in the other.

The fact that nearly 70% of the hearing-impaired adults residing in households in this survey have another disability significantly influences the results about the effects of hearing impairment, because some results may be due as much to the other disabilities as to impaired hearing. Nonetheless, the great prevalence of multiple disabilities in the population makes it important to gain a better understanding of their impact on everyday living. The HALS data suggest that, when hearing impairment combines with other disabilities, the result is to multiply, rather than only add to, the negative consequences.

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1 *M.H. Miller & J.D. Schein. (1987). "Improving consumer acceptance of hearing aids."* The Hearing Journal, 40(10), 25-32.

Visible Minorities

The HALS finding of differences in rates of impaired hearing among visible minorities residing in households is consistent with studies from other countries.[1] Southern Europeans come closest to being represented at the same rate in the hearing-impaired as in the non-disabled population. Blacks account for 0.3% of adults with impaired hearing and 1.7% of the non-disabled population — the widest discrepancy in rates among visible minorities. As with other intriguing results, these do not have a generally accepted scientific explanation.

Education

The relationship between educational achievement and impaired hearing does not prove that lesser education causes impaired hearing or that poorer hearing results in lower educational achievement. The association between education and hearing impairment is most likely a complex set of relations rather than one being the consequence of the other.

Economics

The economic impact of impaired hearing — as shown by reduced labour force participation rates, decreased employment rates, and lower average earnings — has regularly appeared in other surveys of other populations.[2] These same effects do not arise as sharply in HALS as in these earlier studies, probably due to factors cited earlier (see discussion on page 9). It would be illogical to conclude from HALS that economic status and impaired hearing have only a minor relationship, but to learn more precisely the size of their relationship requires additional research beyond the HALS mandate.

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1 *J.D. Schein. (1973). "Hearing disorders." In L.T. Kurland, J.F. Kurtzke, & I.D. Goldberg (Eds.),* Epidemiology of neurologic and sense organ disorders. Cambridge, MA: Harvard University Press.

2 *J.D. Schein, & M.T. Delk. (1974).* The deaf population of the United States. Silver Spring, MD: National Association of the Deaf.
Welsh, W.A., Walter, G.G., & Riley, D. (1989). *"Providing deaf people with the opportunity for a degree: Benefits to individual and society."* Journal of the American Deafness and Rehabilitation Association, 23(1), 7-13.
Welsh, W.A., & Walter, G.G. (1988). "The effect of postsecondary education on the occupational attainment of deaf adults." Journal of the American Deafness and Rehabilitation Association, 22(1), 14-22.

Appendix A

Supporting Tables

Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Canada Total	**24,806,180**	**908,825**	**3.7**	**12,255,380**	**514,400**	**4.2**	**12,550,800**	**394,425**	**3.1**
Total, 0 - 14	**5,322,315**	**47,970**	**0.9**	**2,728,855**	**26,610**	**1.0**	**2,593,465**	**21,360**	**0.8**
0 - 4	1,786,340	12,425	0.7	925,430	5,990	0.6	860,905	6,430	0.7
5 - 9	1,772,920	18,565	1.0	887,670	10,190	1.1	885,250	8,375	0.9
10 - 14	1,763,055	16,980	1.0	915,750	10,425	1.1	847,305	6,555	0.8
Total, 15 +	**19,483,865**	**860,855**	**4.4**	**9,526,525**	**487,790**	**5.1**	**9,957,335**	**373,065**	**3.7**
15 - 24	4,101,550	34,365	0.8	2,068,985	16,685	0.8	2,032,565	17,680	0.9
25 - 34	4,450,690	60,895	1.4	2,195,780	34,375	1.6	2,254,910	26,520	1.2
35 - 44	3,627,900	64,055	1.8	1,823,935	37,190	2.0	1,803,965	26,865	1.5
45 - 54	2,505,860	91,060	3.6	1,245,920	57,705	4.6	1,259,940	33,355	2.6
55 - 64	2,313,090	166,860	7.2	1,119,890	108,500	9.7	1,193,200	58,360	4.9
65 - 74	1,610,800	211,220	13.1	730,605	136,905	18.7	880,195	74,315	8.4
75 - 84	734,870	166,265	22.6	294,510	74,490	25.3	440,360	91,775	20.8
85 +	139,105	66,135	47.5	46,900	21,940	46.8	92,205	44,195	47.9
Newfoundland Total	**553,640**	**18,770**	**3.4**	**277,620**	**10,525**	**3.8**	**276,020**	**8,250**	**3.0**
Total, 0 - 14	**143,475**	**925**	**0.6**	**73,415**	**675**	**0.9**	**70,060**	**250***	**0.4***
0 - 4	42,100	--	--	21,670	--	--	20,430	--	--
5 - 9	46,995	410*	0.9*	24,670	355*	1.4*	22,330	--	--
10 - 14	54,380	425*	0.8*	27,075	245*	0.9*	27,305	--	--
Total, 15 +	**410,160**	**17,845**	**4.4**	**204,205**	**9,845**	**4.8**	**205,960**	**8,000**	**3.9**
15 - 24	106,635	960	0.9	53,880	620	1.2	52,755	340*	0.6*
25 - 34	94,220	1,285	1.4	46,230	565	1.2	47,995	720	1.5
35 - 44	75,435	1,110	1.5	37,840	610	1.6	37,595	500*	1.3*
45 - 54	46,580	1,470	3.2	23,960	995	4.2	22,620	475*	2.1*
55 - 64	40,755	3,665	9.0	20,285	2,360	11.6	20,470	1,305	6.4
65 - 74	30,950	4,320	14.0	14,855	2,505	16.9	16,090	1,815	11.3
75 - 84	12,645	3,490	27.6	6,010	1,550	25.8	6,635	1,935	29.2
85 +	2,940*	1,550	52.7*	--	--	--	--	--	--

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Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada (continued)

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Prince Edward Island, Total	**124,600**	**5,955**	**4.8**	**62,160**	**3,245**	**5.2**	**62,440**	**2,710**	**4.3**
Total, 0 - 14	**29,240**	--	--	**15,105**	--	--	**14,135**	--	--
0 - 4	9,580	--	--	4,980	--	--	4,600	-	-
5 - 9	9,705	--	--	4,925	--	--	4,775	--	--
10 - 14	9,955	--	--	5,200	--	--	4,755	--	--
Total, 15 +	**95,360**	**5,820**	**6.1**	**47,055**	**3,170**	**6.7**	**48,310**	**2,650**	**5.5**
15 - 24	21,735	--	--	10,995	--	--	10,740	--	--
25 - 34	20,105	300*	1.5*	10,015	--	--	10,090	--	--
35 - 44	16,740	530	3.2	8,390	340*	4.1*	8,350	--	--
45 - 54	11,600	565	4.9	5,900	280*	4.7*	5,695	285*	5.0*
55 - 64	10,320	800	7.8	5,065	495*	9.8*	5,255	305*	5.8*
65 - 74	9,095	1,770	19.5	4,380	1,100	25.1	4,715	665	14.1
75 - 84	4,815	1,165	24.2	2,005	680	33.9	2,815	480*	17.1*
85 +	945*	495*	52.4*	--	--	--	650*	415*	63.8*
Nova Scotia Total	**857,980**	**42,385**	**4.9**	**422,620**	**23,185**	**5.5**	**435,365**	**19,200**	**4.4**
Total, 0 - 14	**186,430**	**1,795**	**1.0**	**95,450**	**1,250**	**1.3**	**90,975**	**545***	**0.6***
0 - 4	59,825	465*	0.8*	31,015	--	--	28,815	--	--
5 - 9	60,720	910*	1.5*	30,200	685*	2.3*	30,520	--	--
10 - 14	65,880	--	--	34,240	--	--	31,645	--	--
Total, 15 +	**671,555**	**40,590**	**6.0**	**327,165**	**21,940**	**6.7**	**344,390**	**18,650**	**5.4**
15 - 24	150,190	1,125	0.7	76,000	450*	0.6*	74,190	675*	0.9*
25 - 34	145,635	3,585	2.5	71,345	1,875	2.6	74,295	1,710	2.3
35 - 44	121,615	4,105	3.4	61,305	2,575	4.2	60,310	1,530	2.5
45 - 54	81,485	3,900	4.8	40,595	2,045	5.0	40,890	1,855	4.5
55 - 64	75,225	8,320	11.1	36,025	4,840	13.4	39,200	3,475	8.9
65 - 74	62,750	9,655	15.4	28,085	5,635	20.1	34,665	4,015	11.6
75 - 84	28,770	6,905	24.0	12,080	3,375	27.9	16,685	3,530	21.2
85 +	5,890*	2,995	50.8*	--	1,135	--	4,155*	1,860	44.8*

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Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada (continued)

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
New Brunswick									
Total	**698,550**	**31,635**	**4.5**	**345,300**	**18,250**	**5.3**	**353,250**	**13,385**	**3.8**
Total, 0 - 14	**161,105**	**1,285**	**0.8**	**82,445**	**865**	**1.0**	**78,660**	**425***	**0.5***
0 - 4	49,880	--	--	26,155	--	--	23,725	--	--
5 - 9	53,015	355*	0.7*	26,950	--	--	26,065	--	--
10 - 14	58,215	880	1.5	29,340	540*	1.8*	28,870	340*	1.2*
Total, 15 +	**537,445**	**30,350**	**5.6**	**262,860**	**17,390**	**6.6**	**274,585**	**12,960**	**4.7**
15 - 24	122,475	800	0.7	61,515	335*	0.5*	60,965	465*	0.8*
25 - 34	121,470	1,710	1.4	60,545	855	1.4	60,925	850	1.4
35 - 44	97,180	2,815	2.9	48,500	1,610	3.3	48,680	1,210	2.5
45 - 54	63,565	1,930	3.0	31,470	1,310	4.2	32,090	620*	1.9*
55 - 64	59,540	6,475	10.9	28,705	4,285	14.9	30,835	2,190	7.1
65 - 74	46,745	8,060	17.2	21,470	5,005	23.3	25,280	3,055	12.1
75 - 84	21,740	5,925	27.3	9,070	2,975	32.8	12,670	2,950	23.3
85 +	4,730*	2,635	55.7*	--	1,005	--	3,150*	1,625	51.6*
Quebec									
Total	**6,397,355**	**186,565**	**2.9**	**3,141,920**	**103,000**	**3.3**	**3,255,440**	**83,565**	**2.6**
Total, 0 - 14	**1,323,200**	**13,270**	**1.0**	**678,790**	**8,215**	**1.2**	**644,410**	**5,055**	**0.8**
0 - 4	426,075	3,955	0.9	220,730	2,040*	0.9*	205,340	1,915*	0.9*
5 - 9	464,640	4,820	1.0	229,580	2,110*	0.9*	235,060	2,710	1.2
10 - 14	432,485	4,495	1.0	228,475	4,060	1.8	204,010	--	--
Total, 15 +	**5,074,160**	**173,295**	**3.4**	**2,463,130**	**94,790**	**3.8**	**2,611,030**	**78,505**	**3.0**
15 - 24	1,041,200	6,235	0.6	526,225	3,760	0.7	514,970	2,470*	0.5*
25 - 34	1,178,830	13,215	1.1	579,325	8,085	1.4	599,505	5,130	0.9
35 - 44	972,850	10,760	1.1	486,065	7,295	1.5	486,785	3,460	0.7
45 - 54	673,280	20,555	3.1	331,195	12,395	3.7	342,085	8,165	2.4
55 - 64	612,825	39,250	6.4	289,615	21,235	7.3	323,210	18,015	5.6
65 - 74	400,195	42,195	10.5	176,570	24,550	13.9	223,630	17,645	7.9
75 - 84	163,185	29,270	17.9	61,610	11,765	19.1	101,580	17,500	17.2
85 +	31,795*	11,815	37.2*	--	5,700	--	--	6,120	--

.../continued

Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada (continued)

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Ontario Total	**8,961,260**	**349,075**	**3.9**	**4,407,585**	**194,050**	**4.4**	**4,553,680**	**155,025**	**3.4**
Total, 0 - 14	**1,858,235**	**18,540**	**1.0**	**952,430**	**8,175**	**0.9**	**905,805**	**10,360**	**1.1**
0 - 4	627,530	3,500*	0.6*	315,580	--	--	311,950	2,975*	1.0*
5 - 9	604,815	7,655	1.3	306,520	4,490	1.5	298,300	3,165*	1.1*
10 - 14	625,885	7,385	1.2	330,330	3,160*	1.0*	295,555	4,225*	1.4*
Total, 15 +	**7,103,025**	**330,540**	**4.7**	**3,455,155**	**185,875**	**5.4**	**3,647,870**	**144,665**	**4.0**
15 - 24	1,485,130	13,335	0.9	749,670	6,200	0.8	735,460	7,135	1.0
25 - 34	1,560,740	20,985	1.3	763,295	11,500	1.5	797,445	9,485	1.2
35 - 44	1,317,360	25,285	1.9	657,135	14,410	2.2	660,225	10,875	1.6
45 - 54	941,060	35,685	3.8	465,550	22,580	4.9	475,510	13,110	2.8
55 - 64	881,280	58,115	6.6	430,350	41,435	9.6	450,930	16,680	3.7
65 - 74	584,335	82,790	14.2	268,320	58,345	21.7	316,015	24,450	7.7
75 - 84	281,355	67,155	23.9	105,905	26,325	24.9	175,450	40,830	23.3
85 +	51,770*	27,190	52.5*	--	5,085	--	36,840*	22,105	60.0*
Manitoba Total	**1,012,045**	**50,195**	**5.0**	**498,410**	**29,190**	**5.9**	**513,635**	**21,005**	**4.1**
Total, 0 - 14	**221,355**	**1,750**	**0.8**	**113,515**	**1,215**	**1.1**	**107,845**	**535***	**0.5***
0 - 4	74,525	--	--	39,350	--	--	35,170	--	--
5 - 9	72,415	1,035	1.4	37,650	655*	1.7*	34,765	--	--
10 - 14	74,415	--	--	36,510	--	--	37,905	--	--
Total, 15 +	**790,690**	**48,445**	**6.1**	**384,900**	**27,975**	**7.3**	**405,790**	**20,470**	**5.0**
15 - 24	167,215	2,535	1.5	83,960	1,085	1.3	83,255	1,450	1.7
25 - 34	174,970	2,650	1.5	86,530	1,470	1.7	88,440	1,180	1.3
35 - 44	134,545	3,460	2.6	68,830	1,825	2.7	65,715	1,635	2.5
45 - 54	96,120	3,920	4.1	47,780	2,350	4.9	48,335	1,575	3.3
55 - 64	94,980	8,730	9.2	44,560	5,295	11.9	50,420	3,435	6.8
65 - 74	76,950	12,785	16.6	34,670	7,945	22.9	42,275	4,840	11.4
75 - 84	35,740	9,215	25.8	14,480	4,765	32.9	21,255	4,450	20.9
85 +	10,165	5,150	50.7	4,080*	3,245	79.5*	6,085*	1,910	31.4*

.../continued

Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada (continued)

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Saskatchewan Total	**979,150**	**38,480**	**3.9**	**489,655**	**22,585**	**4.6**	**489,495**	**15,890**	**3.2**
Total, 0 - 14	**238,490**	**1,460**	**0.6**	**121,975**	**720**	**0.6**	**116,510**	**735**	**0.6**
0 - 4	83,195	475*	0.6*	42,145	--	--	41,045	--	--
5 - 9	80,115	--	--	42,735	--	--	37,380	--	--
10 - 14	75,180	720	1.0	37,095	370*	1.0*	38,085	350*	0.9*
Total, 15 +	**740,660**	**37,020**	**5.0**	**367,680**	**21,865**	**5.9**	**372,980**	**15,155**	**4.1**
15 - 24	162,535	1,510	0.9	82,320	630*	0.8*	80,215	880	1.1
25 - 34	169,010	2,110	1.2	85,535	1,055	1.2	83,480	1,055	1.3
35 - 44	114,370	2,065	1.8	57,615	1,365	2.4	56,755	700	1.2
45 - 54	87,560	3,210	3.7	43,660	2,030	4.6	43,900	1,180	2.7
55 - 64	88,785	6,300	7.1	44,255	4,405	10.0	44,530	1,895	4.3
65 - 74	74,465	10,300	13.8	34,760	6,720	19.3	39,710	3,580	9.0
75 - 84	36,855	8,545	23.2	17,280	4,785	27.7	19,575	3,760	19.2
85 +	7,075	2,975	42.0	--	875	--	4,820*	2,100	43.6*
Alberta Total	**2,323,910**	**71,100**	**3.1**	**1,171,390**	**42,905**	**3.7**	**1,152,520**	**28,195**	**2.4**
Total, 0 - 14	**555,175**	**4,235**	**0.8**	**284,800**	**2,660**	**0.9**	**270,375**	**1,575**	**0.6**
0 - 4	202,980	2,055	1.0	104,085	1,575	1.5	98,895	480*	0.5*
5 - 9	181,675	1,270	0.7	90,790	520*	0.6*	90,885	750*	0.8*
10 - 14	170,520	910*	0.5*	89,920	565*	0.6*	80,595	--	--
Total, 15 +	**1,768,735**	**66,865**	**3.8**	**886,590**	**40,245**	**4.5**	**882,145**	**26,620**	**3.0**
15 - 24	400,010	3,030	0.8	200,685	1,565	0.8	199,325	1,465	0.7
25 - 34	476,360	6,195	1.3	241,880	3,050	1.3	234,480	3,145	1.3
35 - 44	332,260	7,955	2.4	170,135	4,420	2.6	162,125	3,540	2.2
45 - 54	213,965	6,735	3.1	109,110	4,555	4.2	104,855	2,180	2.1
55 - 64	173,475	12,735	7.3	87,305	8,645	9.9	86,175	4,095	4.8
65 - 74	113,890	14,610	12.8	51,615	9,390	18.2	62,275	5,215	8.4
75 - 84	50,845	12,160	23.9	21,795	6,575	30.2	29,050	5,585	19.2
85 +	7,930*	3,440	43.4*	--	2,045	--	--	1,395	--

.../continued

Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada (continued)

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
British Columbia, Total	**2,823,170**	**112,495**	**4.0**	**1,399,885**	**66,065**	**4.7**	**1,423,290**	**46,430**	**3.3**
Total, 0 - 14	**582,720**	**4,245**	**0.7**	**299,125**	**2,590**	**0.9**	**283,600**	**1,655**	**0.6**
0 - 4	202,000	1,305*	0.6*	114,900	705*	0.6*	87,095	--	--
5 - 9	191,285	1,695	0.9	90,105	940*	1.0*	101,180	755*	0.7*
10 - 14	189,440	1,245*	0.7*	94,115	945*	1.0*	95,325	--	--
Total, 15 +	**2,240,450**	**108,250**	**4.8**	**1,100,760**	**63,475**	**5.8**	**1,139,690**	**44,775**	**3.9**
15 - 24	430,610	4,540	1.1	216,915	1,955	0.9	213,695	2,585	1.2
25 - 34	493,255	8,595	1.7	242,660	5,615	2.3	250,595	2,975	1.2
35 - 44	434,960	5,610	1.3	222,320	2,585	1.2	212,640	3,025	1.4
45 - 54	284,875	12,860	4.5	143,525	9,010	6.3	141,350	3,850	2.7
55 - 64	272,760	22,260	8.2	132,045	15,320	11.6	140,710	6,945	4.9
65 - 74	209,785	24,330	11.6	95,195	15,405	16.2	114,590	8,925	7.8
75 - 84	98,430	22,195	22.5	43,835	11,465	26.2	54,595	10,730	19.7
85 +	15,775*	7,855	49.8*	--	2,115	--	11,510*	5,740	49.9*
Yukon Total	**23,095**	**795**	**3.4**	**12,035**	**520**	**4.3**	**11,060**	**270**	**2.4**
Total, 0 - 14	**5,835**	**125***	**2.1***	**3,035**	**--**	**--**	**2,800**	**--**	**--**
0 - 4	2,270	--	--	1,360*	--	--	905*	--	--
5 - 9	1,890	--	--	940*	-	-	950*	--	--
10 - 14	1,680	--	--	--	--	--	945*	--	--
Total, 15 +	**17,255**	**665**	**3.9**	**8,995**	**480**	**5.3**	**8,260**	**185***	**2.2***
15 - 24	3,830	--	--	1,920	--	--	1,915	--	--
25 - 34	5,395	110*	2.0*	2,655	105*	4.0*	2,735	--	--
35 - 44	3,915	175*	4.5*	2,185	130*	5.9*	1,735	--	--
45 - 54	2,125	--	--	1,190*	--	--	930*	--	--
55 - 64	1,165*	--	--	--	--	--	--	--	--
65 - 74	--	215	--	--	135*	--	--	--	--
75 - 84	--	--	--	--	--	--	--	--	--
85 +	--	--	--	--	--	--	--	--	--

.../continued

Table A1. Total Population and Persons with Impaired Hearing, Residing in Households, by Sex, by Age Group, by Province and Territory, Canada (concluded)

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Northwest Territories Total	**51,425**	**1,375**	**2.7**	**26,810**	**870**	**3.2**	**24,615**	**505**	**2.1**
Total, 0 - 14	**17,060**	**195***	**1.1***	**8,770**	**--**	**--**	**8,290**	**--**	**--**
0 - 4	6,385	--	--	3,455	--	--	2,930	--	--
5 - 9	5,655	--	--	2,605*	--	--	3,050	--	--
10 - 14	5,020	--	--	2,710*	--	--	2,305*	--	--
Total, 15 +	**34,365**	**1,175**	**3.4**	**18,040**	**750**	**4.2**	**16,325**	**425**	**2.6**
15 - 24	9,975	--	--	4,890	--	--	5,085	--	--
25 - 34	10,695	--	--	5,765	--	--	4,930	--	--
35 - 44	6,670	175*	2.6*	3,615	--	--	3,055	--	--
45 - 54	3,650	--	--	1,975*	--	--	1,675*	--	--
55 - 64	1,985*	190*	9.6*	--	--	--	--	--	--
65 - 74	--	190*	--	--	--	--	--	--	--
75 - 84	--	225*	--	--	200*	--	--	--	--
85 +	--	--	--	--	--	--	--	--	--

Table A2. Total Population and Persons with Impaired Hearing, Residing in Institutions, by Sex, by Age Group, Canada

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Total	**255,090**	**113,395**	**44.5**	**91,060**	**37,305**	**41.0**	**164,030**	**76,090**	**46.4**
0 - 14	2,870	420*	14.6*	1,730	--	--	1,140	315*	27.6*
Total 15+	**252,220**	**112,975**	**44.8**	**89,325**	**37,200**	**41.6**	**162,890**	**75,775**	**46.5**
15 - 24	6,860	1,735	25.3	3,925	860	21.9	2,935	875	29.8
25 - 34	11,055	2,390	21.6	7,150	1,575	22.0	3,900	815	20.9
35 - 44	8,790	2,040	23.2	5,285	1,215	23.0	3,505	825	23.5
45 - 54	8,765	1,845	21.0	4,985	1,080	21.7	3,780	765	20.2
55 - 64	16,860	3,690	21.9	9,555	1,920	20.1	7,305	1,770	24.2
65 - 74	36,495	11,885	32.6	16,460	5,825	35.4	20,035	6,060	30.2
75 - 84	86,925	39,705	45.7	25,230	12,995	51.5	61,695	26,710	43.3
85 +	76,465	49,685	65.0	16,735	11,730	70.1	59,730	37,950	63.5

Table A3. Total Population and Persons with Impaired Hearing, Residing in Institutions, by Age Group, by Province and Territory, Canada

Age Group	Canada			Newfoundland			Prince Edward Island		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Total	**255,090**	**113,395**	**44.5**	**3,770**	**1,375**	**36.5**	**980**	**315**	**32.1**
0 - 14	2,870	420*	14.6*	--	--	--	--	--	--
Total 15+	**252,220**	**112,975**	**44.8**	**3,750**	**1,375**	**36.7**	**970**	**310**	**32.0**
15 - 34	17,915	4,130	23.1	300	--	--	70	--	--
35 - 64	34,415	7,575	22.0	780	105*	13.5*	155	--	--
65 - 84	123,420	51,585	41.8	1,770	710	40.1	430	110	25.6
85 +	76,465	49,685	65.0	900	530	58.9	315	190	60.3

Age Group	Nova Scotia			New Brunswick			Quebec		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Total	**6,155**	**2,550**	**41.4**	**6,080**	**2,885**	**47.5**	**67,675**	**30,420**	**45.0**
0 - 14	195	--	--	--	-	-	--	-	-
Total 15+	**5,965**	**2,535**	**42.5**	**6,080**	**2,885**	**47.5**	**67,040**	**30,420**	**45.4**
15 - 34	410	85*	20.7*	285	--	--	5,250	1,645	31.3
35 - 64	1,045	165*	15.8*	1,135	260	22.9	11,345	3,075	27.1
65 - 84	2,700	1,175	43.5	2,815	1,340	47.6	34,515	15,095	43.7
85 +	1,805	1,110	61.5	1,840	1,240	67.4	15,930	10,605	66.6

Age Group	Ontario			Manitoba			Saskatchewan		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Total	**97,335**	**42,235**	**43.4**	**10,220**	**4,675**	**45.7**	**10,675**	**5,235**	**49.0**
0 - 14	1,190*	--	--	185*	--	--	--	--	--
Total 15+	**96,145**	**41,910**	**43.6**	**10,035**	**4,660**	**46.4**	**10,545**	**5,235**	**49.6**
15 - 34	6,255	1,060*	16.9*	830	290*	34.9*	655	265*	40.5*
35 - 64	11,345	2,205	19.4	1,315	295*	22.4*	1,260	355*	28.2*
65 - 84	47,630	18,805	39.5	4,555	1,915	42.0	5,020	2,195	43.7
85 +	30,915	19,840	64.2	3,330	2,160	64.9	3,610	2,420	67.0

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Table A3. Total Population and Persons with Impaired Hearing, Residing in Institutions, by Age Group, by Province and Territory, Canada (concluded)

Age Group	Alberta			British Columbia			Yukon		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Total	**21,505**	**9,390**	**43.7**	**30,505**	**14,250**	**46.7**	**90**	**20**	**22.2**
0 - 14	--	--	--	--	--	--	30	--	--
Total 15+	**21,295**	**9,365**	**44.0**	**30,255**	**14,225**	**47.0**	**60**	**20**	**33.3**
15 - 34	1,310	--	--	2,510	--	--	20	--	--
35 - 64	2,305	615*	26.7*	3,695	490*	13.3*	5	--	--
65 - 84	10,680	4,050	37.9	13,235	6,160	46.5	30	15	50.0
85 +	7,000	4,445	63.5	10,815	7,135	66.0	--	--	--

Age Group	Northwest Territories		
	Total Population	Hearing Impaired	%
Total	**100**	**40**	**40.0**
0 - 14	15	--	--
Total 15+	**90**	**35**	**38.9**
15 - 34	15	5	33.3
35 - 64	25	5	20.0
65 - 84	40	20	50.0
85 +	10	5	50.0

Table A4. Total Population and Persons with Impaired Hearing Under 15 Years Old, Residing in Households, by Sex, by Age Group, Canada

Age Group	Both Sexes			Male			Female		
	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%	Total Population	Hearing Impaired	%
Total	**5,322,315**	**47,970**	**0.9**	**2,728,855**	**26,610**	**1.0**	**2,593,465**	**21,360**	**0.8**
under 1 year	382,235	1,560	0.4	204,385	1,060	0.5	177,850	500	0.3
1 year	322,180	1,225	0.4	161,380	755	0.5	160,800	470*	0.3*
2 years	352,935	700	0.2	184,560	430*	0.2*	168,375	275*	0.2*
3 years	364,545	4,150	1.1	184,345	1,865	1.0	180,205	2,280	1.3
4 years	364,440	4,785	1.3	190,765	1,880	1.0	173,675	2,905	1.7
5 years	363,855	2,780	0.8	192,025	2,140	1.1	171,825	645	0.4
6 years	381,530	5,490	1.4	188,005	2,695	1.4	193,525	2,790	1.4
7 years	334,650	1,915	0.6	162,715	1,045	0.6	171,935	870	0.5
8 years	359,645	3,935	1.1	182,035	1,285	0.7	177,610	2,650	1.5
9 years	333,240	4,440	1.3	162,890	3,025	1.9	170,350	1,415	0.8
10 years	338,670	5,125	1.5	175,500	3,290	1.9	163,170	1,840	1.1
11 years	360,685	2,845	0.8	181,905	1,455	0.8	178,785	1,390	0.8
12 years	346,205	2,050	0.6	191,035	1,325	0.7	155,165	725	0.5
13 years	324,580	1,360	0.4	164,490	670	0.4	160,095	690	0.4
14 years	392,915	5,595	1.4	202,820	3,685	1.8	190,090	1,915	1.0

Appendix B

Sample Design

Sample Design

Sample Design Considerations

The Health and Activity Limitation Survey consists of two distinct samples: **households** and **institutions**. A **household** is a person or group of persons (other than foreign residents) who occupy a dwelling and do not have a usual place of residence elsewhere in Canada. It usually consists of a family group with or without lodgers, employees, etc. However, it may consist of two or more families sharing a dwelling, a group of unrelated persons, or one person living alone. Some types of collective dwellings, such as hotels, motels, YM/YWCAs and school residences, were included in the household sample if the occupants had no other usual place of residence. Household members who are temporarily absent (e.g., temporary residents elsewhere) are considered as part of their usual household. As in the census, every person is a member of one and only one household.

The individuals residing in households who participated in HALS were identified through their response to the disability question on the 1986 Census long questionnaire which was completed by 20% of Canadian households. This disability question was general in nature and asked the respondents to indicate if they were limited in the kind or amount of activity they could undertake because of a health problem or condition. This question had been used in a previous disability survey, and the results indicated that it would identify the severely disabled population, and some of the less severely disabled population. Some of the less severely disabled would answer "No" to the census disability question.

Approximately 112,000 individuals who answered "Yes" to this disability question were subsequently selected to represent disabled persons of all ages. The questions posed included questions on trouble with or inability to perform daily activities to determine, with more specificity, if they had any long-term limitations because of their health problem or condition. These questions on daily activities (referred to later in this text as screening questions) also identified the nature and severity of the individual's disability. Approximately 22,040 of the 112,000 individuals who had responded that they had a limitation in their activities on the census stated that they had no trouble in performing any of the daily activities in the subsequent follow-up. As this indicated that these individuals had no long-term limitation (disability), they were excluded from the disabled population estimates. Of the 112,000 individuals, approximately 11,735 were non-respondents.

Because of the possibility that some less severely disabled persons might have answered "No" to the census disability question, an additional 72,500 individuals who answered "No" to the census disability question were also selected. Through a telephone interview, these individuals were asked the same detailed screening questions. Approximately 3,910 individuals responded positively to the detailed screening questions, and these individuals were included as disabled in the survey. It should be noted, as expected, that subsequent analysis of these 3,910 individuals indicated that they are younger and less severely disabled, and that they experience fewer barriers as a result of their disability than the sample who responded "Yes" to the census disability question. Of the 72,500 individuals, approximately 5,270 were non-respondents.

A more complete description of the sample design and the differences between the two household samples is available from the Post-Censal Surveys Program, or through the Statistics Canada Regional Offices.[1]

A sample of approximately 20,000 individuals who resided in health-related **institutions** was also selected to ensure that all disabled persons were represented in the sample.

The five types of institutions included in HALS were:

- orphanages and children's homes;
- special care homes and institutions for the elderly and chronically ill;
- general hospitals;
- psychiatric institutions; and
- treatment centres and institutions for the physically handicapped.

The 1986 Census of Population provided a list of institutions from which a sample, based on type and size, was selected within each province.

Within each selected institution, a sample of residents was selected, based on a list provided by the institution. Residents were included in the list if they were living in the institution on March 1, 1987, and had been in an institution for a continuous period of six months or more.

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[1] *Jean-Pierre Morin,* Méthodologie de l'Enquête sur la santé et les limitations d'activités dans les institutions, Statistique Canada, Division des méthodes d'enquêtes sociales, Ottawa, octobre, 1987.

The data presented in this publication have been weighted to estimate the total disabled population. The data shown in the table below provide the user with the distribution of the disabled population by sample type.

Number of Disabled Persons by Sample Type

	Number	%
1. Households sample		
• "Yes" to census disability question	1,835,980	55.3
• "No" to census disability question	1,233,620	37.2
2. Institutions sample	247,275	7.5
3. TOTAL	3,316,875	100.0

Data Quality

Statistics from the HALS database are estimates based on a sample survey of a portion of the Canadian population (approximately 1 out of every 25 persons in the "Yes" sample and 1 out of every 300 persons in the "No" sample). As a result, the statistics are subject to two types of errors: sampling and non-sampling errors.

A sampling error is the difference between the estimate derived from a sample and the result that would have been obtained from a population census using the same data collection procedures. For a sample survey such as HALS, this error can be estimated from the survey data. The degree of error reflects the standard deviation of the estimate. Data have been suppressed when the sampling error is more than 25% of the estimate. In such cases, the symbol "--" appears in the tables in place of the estimate. When the sampling error is between 16.5% and 25% the corresponding estimate is accompanied by the symbol "*". These estimates should be used with caution.

All other types of errors (observation, response, processing and non-response errors) are called non-sampling errors. Identifying and evaluating the importance of many of these errors can be difficult.

Observation errors arise when there is a difference between the target population and the sample population. Integrating HALS with the census of population has made it possible to reduce this type of error. Only a certain portion of Indian reserves and collective dwellings were systematically ignored in the sampling process, but their importance is negligible compared to the total population. Consequently, observation errors should not have a significant influence on the HALS data.

All statistical surveys are susceptible to a certain percentage of non-response among the selected sample. A total non-response occurs when, for one reason or another, a selected respondent could not be interviewed. The non-response is said to be partial if only part of the questionnaire is complete. The impact of non-response errors on estimates depends on the level of non-response and, particularly, on any differences between the characteristics of respondents and non-respondents. In principle, the more marked these differences, the greater the impact on the accuracy of the estimates.

With respect to HALS, the response rate (90%) compares favourably with the rate generally observed for this type of survey. In addition, various methods have been used to reduce the bias caused by any total non-responses, notably by adjusting the data to reflect the distribution of certain demographic characteristics obtained by the census. As well, response rates were higher for most specific questions. In the tables, non-responses appear as "Unknown" or "Not Stated".

Appendix C

Definitions

Definitions

Age at Onset

One factor in assessing the effects of a hearing impairment is how old the person was when it occurred — the age at onset. The age at onset is the earliest age reported, the date impaired hearing was first noticed.

Causes

The same degree of impaired hearing can result from many different causes. HALS, therefore, has asked additional questions to determine why the person's hearing is impaired. When multiple causes were reported, the cause that was reported for hearing difficulty in a one-person conversation was used.

Census Family

Refers to a husband and a wife (with or without children who have never married, regardless of age), or a lone parent of any marital status, with one or more children who have never married, regardless of age, living in the same dwelling. For census purposes, persons living in a common-law type of arrangement are considered as now married, regardless of their legal marital status; they accordingly appear as a husband-wife family in most census family tables.

Degree of Hearing Impairment

Impaired hearing may refer to minor difficulties or to the complete inability to use hearing for communication. In HALS, impaired hearing is determined by two questions about the ability to carry on a conversation:

- Do you have any trouble hearing what is said in a normal conversation with one other person?
- Do you have any trouble hearing what is said in a group conversation with at least three other people?

After each of the two questions, a follow-up question asks whether the trouble hearing is partial or total:

- Are you completely unable to do this?

Using the responses to those questions, the following scale of impaired hearing has been devised:

Category I – persons who say they have no difficulty hearing one person but have at least partial difficulty hearing in groups;

Category II – persons who say they have partial difficulty hearing one person and have at least partial difficulty hearing in groups;

Category III – those who are completely unable to hear in one-person conversations;

IND – refers to those persons who have impaired hearing but whose degree of impairment cannot be determined because key answers to the four questions are missing.

Although it is of interest to make comparisons between the three categories of impaired hearing, it should be noted that they differ on significant variables other than degree of hearing impairment. Their geographical composition (urban/rural and provincial/territorial), presence of additional disabling conditions, and ages at onset are not the same for each category. These factors can distort comparisons (such as between labour force participation, employment, and earnings) if the observed differences are attributed solely to impaired hearing.

Disability

> *"In the context of health experience, a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being."* [1]

With the development of the International Classification of Impairments, Disabilities and Handicaps, the World Health Organization has developed a framework within which one can measure the consequence of disease. The "disability" concept was operationalized through a series of questions that has come to be known as "Activities of Daily Living".[2]

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1 International Classification of Impairments, Disabilities and Handicaps, *World Health Organization, Geneva, 1980 - page 143.*

2 Measuring Disability, Special Study No. 5, Organization for Economic Cooperation and Development, Paris, 1982.

For the purpose of the national database on disability, the functional limitation approach has been used for the adult population (aged 15 and older) by adopting a modified version of the "Activities of Daily Living" questions. Individuals are not considered disabled if they use a technical aid that completely eliminates the limitation (e.g., individuals who use a hearing aid and state that they have no limitation when using the aid would not be included in the database). The concept of time has also been added as an additional parameter — the limitation has to be of a minimum six months' duration (i.e., has lasted or is expected to last six months or more).

For children under the age of 15, the survey used a general limitation approach along with a list of chronic conditions and a list of technical aids. A positive response in any one of these categories indicates a disability.

Employed

Refers to persons who, during the week prior to enumeration:

(a) did any work at all excluding housework or other maintenance or repairs around the home and volunteer work; or

(b) were absent from their job or business because of their own temporary illness or disability, vacation, labour dispute at their place of work, or were absent for other reasons.

Data are available for persons 15 to 64 years of age, excluding residents of institutions.

Hearing Impairment

Impaired hearing is a generic term covering all limitations of hearing. It is preferred to deaf and hard of hearing for two reasons: (a) these terms lack generally accepted definitions and (b) neither term has been used in HALS. Similarly, the term "hearing loss" is avoided, because it incorporates the ability to detect sounds but not the ability to distinguish between them. Saying that hearing is impaired more accurately describes the range of conditions covered in this survey.

The term "hearing impairment" has different meanings. It can designate lessened ability to hear sounds of any kinds — low to high frequencies — or only those in the speech range. Because of the importance of spoken communication in our society, HALS focuses on the ability to hear and understand speech. Impaired hearing may interfere with understanding speech, even though it does not prevent awareness that someone is talking; or a hearing impairment may be so severe that it prevents hearing speech, though some of what is said might be comprehended by observing a speaker's lip movements. As used here, however, hearing impairment refers both to the ability to hear and to understand speech.

In keeping with the HALS definition of disability, impaired hearing means that persons so labelled have difficulty hearing a conversation. If they can hear conversations adequately with the assistance of a technical aid, they are not included in this survey solely on account of their impaired hearing. (They might, however, be included in the survey because of another disability.)

Labour Force Participation

Refers to the labour market activity of the working age population who, in the week prior to enumeration, were employed or unemployed. The remainder of the working age population is classified as **not in the labour force**. Data are available for persons 15 to 64 years of age, excluding residents of institutions.

Lipreading or Speechreading

The use of visual cues from the speaker to understand what is said. Most of the extra-auditory information comes from the lip movements (hence, the term "lipreading"), but gestures, posture, and context also help to determine what is said when the spoken words are indistinct or obscured by noise.

Nature of Disability

Mobility:	limited in ability to walk, move from room to room, carry an object for 10 metres, or stand for long periods.
Agility:	limited in ability to bend, dress or undress oneself, get in and out of bed, cut toenails, use fingers to grasp or handle objects, reach, or cut own food.
Seeing:	limited in ability to read ordinary newsprint or to see someone from 4 metres, even when wearing glasses.
Hearing:	limited in ability to hear what is being said in conversation with one other person or in a group conversation with three or more persons, even when wearing a hearing aid.
Speaking:	limited in ability to speak and be understood.
Other:	limited because of learning disability or because of a mental, emotional or psychiatric disability, or because of developmental delay.
Unknown:	limited but nature not specified.

Telecommunications Device for the Deaf (TDD)

A device that transmits over telephone lines typed signals that are converted to visual printouts at the receiving end by a companion device, thus enabling persons who do not speak or hear to use telephones.

Unemployed

Refers to persons who, during the week prior to enumeration:

(a) were without work, had actively looked for work in the past four weeks and were available for work; or

(b) had been on lay-off and expected to return to their job; or

(c) had definite arrangements to start a new job in four weeks or less.

Data are available for persons 15 to 64 years of age, excluding institutional residents.

Appendix D

Products and Publications from HALS

Products and Publications from HALS

Non-Catalogued Publications

A **User's Guide** has been produced to provide background information about the survey, a summary of the survey methodology, copies of all questionnaires, a list of available census variables, and instructions for ordering tabulations through HALS Custom Data Service. There is no charge for this publication; it is also available on audio cassette.

*

Disability and the Labour Market - An Analysis of Disabled Persons Not in the Labour Force, by Gary L. Cohen, ($15.00) outlines the main factors associated with the high level of non-participation among persons with disabilities who face work limitations. The report focuses on comparisons between persons with disabilities who were active in the labour market and those who were not in the labour market. The text (without tables) is also available on audio cassette.

*

A Profile of Three Disabled Populations, by Gary L. Cohen, ($15.00) divides the population with disabilities into three groups: those whose condition or health problem does not limit their ability to work, those who are limited but able to work, and those who are completely unable to work. The report provides profiles of these three populations and outlines their similarities and their differences. The text without tables is also available on audio cassette.

* * * *

Catalogued Publications

Highlights: Disabled Persons in Canada is a presentation of HALS data at the Canada, province and territory level for various age groups. It includes selected demographic data for persons residing in households as well as information on the nature and severity of disability, lifestyle, out-of-pocket expenses, income and the barriers faced by persons with disabilities in the conduct of their everyday activities. Catalogue # 82-602, $25.00 ($30.00 outside Canada).

*

Subprovincial/subterritorial profiles feature HALS data similar to those presented in Catalogue No. 82-602 above, at a more detailed geographic level.

Each profile includes data for selected census metropolitan areas (where applicable) as well as data for selected municipalities or groupings of municipalities. The series consists of:

Subprovincial Data for...

	Cat.#
Newfoundland	82-603
Prince Edward Island	82-604
Nova Scotia	82-605
New Brunswick	82-606
Quebec	82-607
Ontario	82-608
Manitoba	82-609
Saskatchewan	82-610
Alberta	82-611
British Columbia	82-612

Subterritorial Data for...

Yukon	82-613
Northwest Territories	82-614

Each publication costs $26.00 ($31.00 outside Canada) except for Quebec and Ontario which each cost $30.00 ($36.00 outside Canada). The entire series of publications is available at the reduced price of $256.00.

Special Topic Reports - a series of six reports. Each report is available on audio cassette.

1. Barriers Confronting Seniors with Disabilities in Canada

This report presents an analysis of the characteristics of seniors with disabilities residing both in households and institutions. For the first time in Canada, this report provides an indepth analysis of the extent of barriers to independent living and the accomplishments in providing support to seniors with disabilities.

This report documents those barriers confronting seniors with disabilities with respect to income, education, transportation, leisure activities and recreation, as well as housing accessibility, and the availability of special aids and devices, special services and supports. Catalogue #82-615, Volume 1, $35 ($42 US in U.S.A., $49 US other countries).

2. Selected Socio-economic Consequences of Disability for Women in Canada

This report focuses on the education, labour force characteristics and income of women with disabilities. This population is compared to males with disabilities as well as to the non-disabled male and female populations. Catalogue #82-615, Volume 2, $35 ($42 US in U.S.A., $49 US other countries).

3. Blindness and Visual Impairment in Canada

This report analyzes HALS data for persons with vision impairment residing in households by province, age of onset, gender, severity and cause. The analysis compares this population with the non-disabled population, for variables such as marital status, family structure, education, employment and income, and participation in leisure activities. Catalogue #82-615, Volume 3, $35 ($42 US in U.S.A., $49 US other countries).

4. Leisure and Lifestyles of Persons with Disabilities in Canada

This report analyzes the recreation and lifestyles of persons with disabilities residing in households. It highlights details of the frequency of participation in activities such as visiting friends, talking on the telephone, shopping, etc., as well as obstacles encountered during such participation. The report also examines support services used and/or needed for everyday activities. Catalogue #82-615, Volume 4, $35 ($42 US in U.S.A., $49 US other countries).

5. Canadians with Impaired Hearing

This report analyzes HALS data for persons with impaired hearing residing in households. It deals with the severity and cause of hearing impairments by age of onset and gender. The use of technical aids and the number and nature of other disabilities is also analyzed. The report compares the population with impaired hearing with the non-disabled population for such variables as marital status, family structure, education, employment and income. Catalogue #82-615, Volume 5, $35 ($42 US in U.S.A., $49 US other countries).

6. Profile of Persons with Disabilities Residing in Health Care Institutions in Canada

This report profiles adults with disabilities who reside in health care institutions. The severity, nature and underlying cause of the disability are examined for these persons and a comparison is made with persons with disabilities residing in households. Some areas of analysis include out-of-pocket expenses, mobility and sources of help for selected activities. Catalogue #82-615, Volume 6, $35 ($42 US in U.S.A., $49 US other countries).

* * * *

Custom Data Service

The HALS Custom Data Service enables users to identify their specific requirements for data about persons with disabilities. With the help of a HALS technical advisor, these requirements are transformed into tables and/or analytical reports. The cost to produce the tables and the time required for the production is negotiated with the user.

HALS can provide information for selected cities, large municipalities, and groupings of smaller municipalities. The HALS Custom Data Service can regroup geographic areas to ensure that the specific needs of the client are satisfied.

Microdata Files

The first microdata file contains approximately 132,000 non-identifiable records of **adults aged 15 and over** (71,900 adults with disabilities and 60,000 non-disabled adults), **residing in households.** Tabulations on this file are possible at the Canada, province and territory level, as well as for eight census metropolitan areas (CMA): St. John's, Halifax, Montreal, Toronto, Winnipeg, Edmonton, Calgary and Vancouver. If the record is not part of a CMA, its geographic designation (viz. urban or rural) is indicated.

The cost of this microdata file, including full documentation, is $3,000. This documentation includes a record layout and a full description of the 553 variables. Standard statistical packages such as SPSS and SAS can be used to produce tabulations from this file.

*

The second microdata file contains approximately 17,400 non-identifiable records of **disabled adults aged 15 and over residing in health-related institutions.** Tabulations on this file are possible at the Canada level (excluding Yukon and the Northwest Territories) and province level, and by type of institution consisting of two groupings: special care homes and institutions for the elderly and chronically ill, and all other institutions. The cost of this microdata file, including full documentation, is $1,500.

*

The third microdata file contains approximately 35,160 non-identifiable records of **disabled and non-disabled children aged 14 years and under residing in households.** Tabulations on this file are possible for Canada and the regions: East, Quebec, Ontario and West (including Yukon and the Northwest Territories). The cost of this microdata file, including full documentation, is $1,000.

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Appendix E

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