



CANADIAN HUMAN RIGHTS COMMISSION

# NO ANSWER II

**A Review of Federally Regulated  
Organizations' Telephonic Communications  
with People Who Are Deaf, Deafened  
or Hard of Hearing**

September 2006



Canada

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The present study was conducted by Government Consulting Services (formerly Consulting and Audit Canada) for the Canadian Human Rights Commission.

This report is available on request in alternative formats  
and on the Commission's website at:  
**[www.chrc-ccdp.ca](http://www.chrc-ccdp.ca)**

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# TABLE OF CONTENTS



## EXECUTIVE SUMMARY

INTRODUCTION	1
Objectives	2
Scope	2
Report Structure	2

BACKGROUND	3
No Answer	3
Statistics	3
Available Technology	4

LEGISLATIVE AND POLICY AUTHORITIES	6
The Canadian Human Rights Act	6
The Telecommunications Act	7
The Employment Equity Act	8

APPROACH AND METHODOLOGY	9
Experts	9
Sample	9
Testing Protocol	11
Testing	12

RESULTS	13
Results by Total Calls Made	13
Results by Quality of Interaction	14
Other Findings	15

ANALYSIS AND CONCLUSIONS	16
--------------------------	----

RECOMMENDATIONS	17
-----------------	----

APPENDIX A: ADVOCACY GROUPS	18
-----------------------------	----

APPENDIX B: RESPONSE FORM	19
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APPENDIX C: GLOSSARY OF ABBREVIATIONS	20
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APPENDIX D: MEMORANDUM OF UNDERSTANDING	21
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# EXECUTIVE SUMMARY

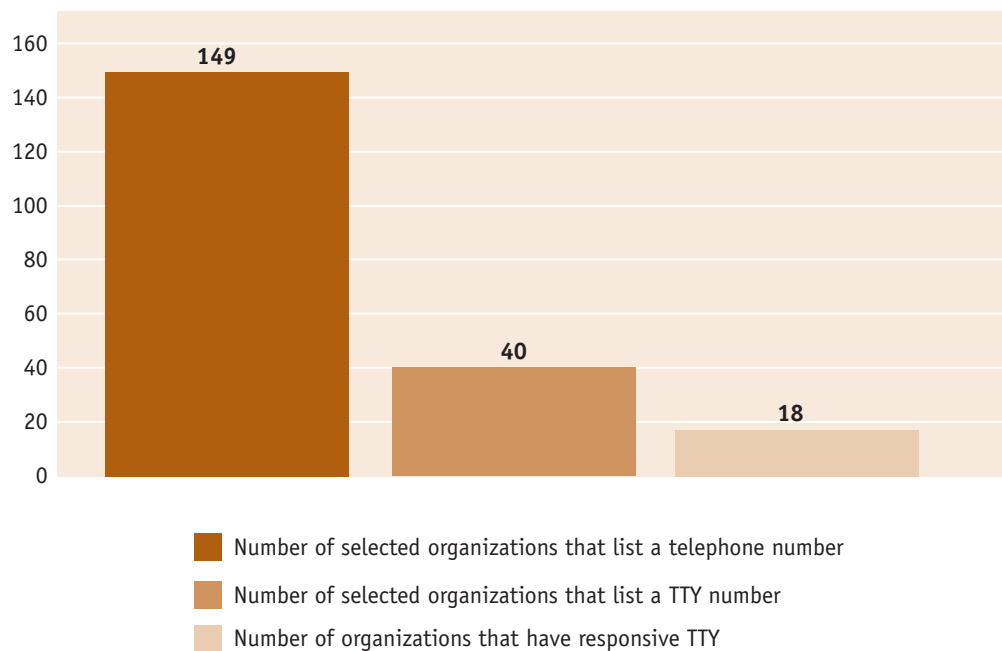


Federally regulated organizations are not adequately meeting the needs of Canadians who cannot use the regular telephone system because they are Deaf, deafened or hard of hearing. Testing of the availability and effectiveness of TTY<sup>1</sup> service offered and maintained by organizations such as banks, communications and transportation companies indicated that, more often than not, citizens trying to use a TTY line will get no answer.

The goal of the review was to test whether TTY services were available, responsive and adequate. Being responsive meant that the TTY number was operational and that the call was answered either immediately or within two working days of leaving a message. Being adequate meant that the operator was courteous and familiar with the TTY.

In the hearing world, it is common practice to search a telephone book or website to find a phone number for a specific service or organization, make a phone call to that organization, and obtain the information sought within a reasonable period of time. People who are Deaf, deafened, or hard of hearing are at a serious disadvantage because organizations either do not provide TTY service or, if they do, it often does not work. The findings of this review show that people who want to make a TTY call have around a one-in-four chance to find a number listed for a TTY. Furthermore, when a TTY is listed, they have less than a 50/50 chance to complete a call successfully.

## Results



<sup>1</sup> A **TTY** (telephone typewriter or teletypewriter) is an electronic device for text communications via a telephone line, used when one or more of the parties is Deaf, deafened or hard of hearing. Other TTYs are also known as TDDs (telecommunications device for the Deaf).

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In the event that a call is completed successfully, the interaction is not always satisfactory or adequate. Based on the findings of this study and on expert advice received from consultants who are themselves deafened, there appear to be two main reasons for the current situation:

- a lack of adequate procedures and guidelines to ensure that the right of equitable access is met; and
- a lack of proper personnel training in the use of TTY devices.

Action is required to redress this situation.

### **Recommendations**

Following are the key recommendations of this study.

1. **Equal Access:** All federally regulated entities that serve the public should ensure that their services are accessible to persons who are Deaf, deafened or hard of hearing by providing appropriate assistive technology including, but not limited to, TTYs.
2. **Publication of TTY Numbers:** Organizations which have TTY services should advertise their TTY number along with their telephone number in all their ads and telephone listings, and their TTY number should be easily found on their website.
3. **Training:** Organizations which offer TTY services should staff these services with employees who have knowledge not only of their respective organization, but also of TTY protocols, etiquette and technology.
4. **New Technology:** Federally regulated organizations—perhaps in cooperation with the Government of Canada—should assess new developments in communications technology to determine how they might improve telephonic communications services for people who cannot use the regular telephone system. In particular, the process of replacing land telephone lines with a Voice-over-Internet Protocol (VoIP) system should include, from the design stage, provisions for assistive technologies, such as computer-mounted TTY systems.
5. **Other Issues:**
  - a. Each federally regulated organization should develop an internal policy on the provision of telephonic communications services to people who are Deaf, deafened, or hard of hearing; this policy should include specific reference to the duty to accommodate short of undue hardship as provided under the *Canadian Human Rights Act* (CHRA).
  - b. In developing policies, procedures and guidelines, and in purchasing equipment, organizations should consult experts in the field of hearing loss as well as the manufacturers of, and experts on, assistive technologies.

# INTRODUCTION



In 2005, the Canadian Human Rights Commission (CHRC) mandated Consulting and Audit Canada (CAC) to evaluate the services Government of Canada departments and agencies provided to those who are Deaf, deafened, or hard of hearing.<sup>2</sup> For the review, a sample of text telephones (TTYs<sup>3</sup>) of federal organizations was tested. The report, entitled *No Answer*, concluded that the federal government was not providing adequate telephonic communications services to people who could not use the regular telephone system, and that an overall strategy was needed to improve the current situation.<sup>4</sup>

In light of this report, CHRC mandated CAC to extend the review to federally regulated organizations. These organizations include banks, communications organizations such as television stations and the transportation industry.

Federally regulated organizations are subject to the *Canadian Human Rights Act* (CHRA). The Act prohibits discrimination on the basis of disability in the provision of programs and services, and it requires that citizens' special needs arising from a disability be accommodated to the point of undue hardship.

Canadians who are Deaf, deafened or hard of hearing have special requirements with regard to telephone communication with organizations as they cannot use the regular telephone system to communicate. In recognition of this fact, some organizations advertise the availability of a TTY line. A TTY is a device that enables Deaf, deafened and hard of hearing people to communicate via telephone using a text-based system. TTYs have been in use for over 25 years.

The key issue in the present report is communication between federally regulated organizations and Canadians with specific communications needs and requirements. Although advances in technology such as e-mail and text messaging are helping to break down communication barriers, TTYs are, for the moment, still the most widely used devices for telephonic communication. Testing TTYs, as was done in this study, is a means of assessing the current level and quality of communication with citizens who cannot use the regular telephone system. This, however, does not imply that TTYs will remain the only or the best way to achieve the goal of effective communications.

2 These are distinct groups with differing communications needs and differing degrees of reliance on TTYs. "Deaf" people, written with a capital D, refers to those individuals who identify with and participate in the language, society and culture of Deaf people, which is based on sign language. "Deafened" individuals have grown up hearing or hard of hearing but their hearing has become non-functional. Their primary means of communication has become visual (lip-reading, print based) rather than auditory in nature. "Hard of hearing" individuals have a hearing loss ranging from slight to severe, and use primarily an auditory means of communication. Some hard of hearing use amplified telephones, others use a TTY. (Source: "What To Do When Your Client Can't Hear You", Sinclair, 1994)

3 TTYs make interactive, text-based communications possible by transmitting coded signals across the telephone network. They can comprise custom equipment, or a modem and software on a computer.

4 No Answer: A Review of Government of Canada Telephonic Communication with People who are Deaf, Deafened, Hard of Hearing, or Have a Speech Impediment, *Canadian Human Rights Commission*, July 2005.

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## Objectives

The objectives of this study were two-fold:

- provide objective baseline data on the availability, accessibility, effectiveness and quality of TTY services provided by federally regulated organizations; and
- make recommendations for improving the provision of telephonic communications services for people who cannot use the regular telephone system.

## Scope

The assessment of the availability, accessibility, effectiveness and quality of TTY services provided by federally regulated organizations included the following:

- hiring, for the purpose of conducting the testing, qualified experts who understood the communications needs of people who are Deaf, deafened or hard of hearing, and who had prior experience in using telephonic systems of communication designed for these groups; and
- evaluating a sample of federally regulated organizations to determine whether they provide TTY services, and whether these services operate effectively.

## Report Structure

The Background section provides information on previous studies done in this area, statistics related to the Deaf, deafened and hard of hearing, and available assistive technology.

The Legislative and Policy Authorities section examines applicable legislation and policies, and attempts to identify some of their limitations.

The Approach and Methodology section describes this project in more detail, especially the steps taken to conduct this review.

The results of this review and the analysis of these results follow, after which are presented the key recommendations.

The Appendices complete the background and context information, as they provide a brief description of advocacy groups and their missions (Appendix A); the response form used to record calls (Appendix B); a glossary of abbreviations (Appendix C); and a Memorandum of Understanding between the Canadian Human Rights Commission and the Treasury Board of Canada Secretariat outlining the steps to be taken to implement the recommendations contained in the first *No Answer* report and to ensure accessible Government of Canada services for all Canadians (Appendix D).

## BACKGROUND



### No Answer

#### ***A Review of Government of Canada Telephonic Communication with People Who Are Deaf, Deafened, Hard of Hearing or Have a Speech Impediment—July 2005***

The need for this review arose from studies carried out by the Canadian Association of the Deaf (CAD), which indicated discouragingly low levels of operational TTY services. Once CAD brought these results to the attention of the Canadian Human Rights Commission (CHRC or the Commission) with the goal of finding options to rectify the situation, the Commission mandated Consulting and Audit Canada (CAC) with the review of TTY services provided by federal departments and agencies. This review was conducted in the fall of 2004, and the report was published in July 2005.

The objectives and scope of the *No Answer* review were similar to those of the current review. The main difference is in the target sample, which was limited to federal institutions governed by Schedules 1, 1.1 and 2 of the *Financial Administration Act* in the first *No Answer* review.

Results of the review indicated that only 20 of the 64 organizations that listed a TTY had one that worked when tested. In fact, for people who rely on TTYs to communicate, there was only a 50/50 chance that they would find a TTY number for a government program or service, and there was only a one-in-three chance that they would be able to complete the call successfully. Upon analysis, there appeared to be two main reasons for this situation: a lack of adequate policies, procedures and guidelines; and failure to properly manage communications services for those who cannot use the regular telephone system.

To follow-up on this review, the Commission communicated with the non-responsive organizations and with the Treasury Board Secretariat to see what actions could be taken to improve this situation.

In February 2006, the Treasury Board of Canada and the Commission signed a Memorandum of Understanding (MOU) outlining the steps that the Government of Canada will undertake to implement the Commission's recommendations aimed at ensuring that people who are Deaf, deafened or hard of hearing have equitable access to telephonic communication. The Commission is encouraged by the commitment of Treasury Board to resolve this issue. A copy of the MOU is included as Appendix D to this report.

### Statistics

The 2001 Statistics Canada Participation and Activity Limitation Survey (PALS) concluded that 2.8 million Canadians reported a hearing disability (Deaf, deafened or hard of hearing).

Advocacy groups have expressed concern about the PALS survey, noting that the survey was based on self-identification that may have resulted in under-reporting. They estimate the true number of people with a hearing disability may be closer to 3.1 million. Approximately 10-15% of people with a hearing disability are Deaf or deafened. This is the group that makes most use of TTYs.

## Available Technology

TTY is the proper acronym for the special devices used by Deaf, deafened, hard of hearing and hearing people to communicate through the telephone system. TTY users type their messages on a keyboard and receive messages via a computer monitor or light emitting diode (LED) display. This technology has been around for a long time and it is still the standard method of telephonic communication.

There are different types of TTYs, with desktop TTYs being the oldest. Desktop TTYs use the Baudot code (also used by telegraph systems). They connect to other TTY devices, or to regular phones via relay service (explained later in this section), using a regular analog telephone line. These desktop TTYs allow people who don't have a hearing loss to communicate directly with TTY callers.

Computer-based TTY systems that work on one computer or a group of computers are an innovation on the traditional desktop system. These systems use a modem to connect to the regular telephone line. Modems convert digital signals to analog signals and the Baudot code used by desktop TTYs to the ASCII used in computers, and vice versa. These TTYs are multi-functional. They let users make or answer a call directly from their PC; provide a pop-up visual ring alert, a message system and an answering machine; and allow users to save and print TTY conversations. These systems also allow people who don't have a hearing loss to communicate directly with TTY callers and are simpler to use than traditional TTYs.

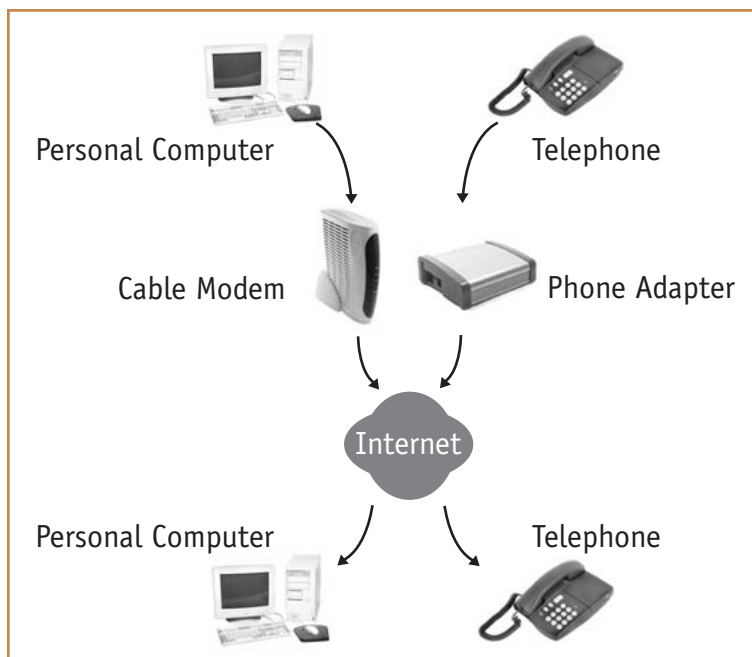
Distributed computer TTYs work through a controlling software installed on a computer server, which distributes TTY capacity to individual workstations. This network-based communications system for text, voice, chat and messaging makes enhanced instant messaging and other services available to every user, while providing specialized services for people with a hearing loss. It can "TTY enable" each of its users to make or accept calls from people who are Deaf, deafened or hard of hearing. Unlike some text messaging systems available on the Internet, both stand-alone and distributed computer TTY products offer security protection, either by sending message traffic in Baudot code or by encrypting message traffic with the operating software working behind the firewall.

Voice-over-Internet Protocol (VoIP) technology has many potential benefits to people who currently use TTYs. VoIP allows users to make telephone calls using a broadband Internet connection instead of a regular telephone line. It converts the voice (analog) signal from the telephone into a digital signal that travels over the Internet, and then converts it back at the other end so the user can speak to anyone with a regular phone number.

Figure 1: Desktop TTY



Figure 2: VoIP



Source: Federal Communications Commission

As illustrated by Figure 2, some VoIP services only work over a computer or a special VoIP phone, while other services allow the user to use a traditional phone equipped with an adapter.

Since computer-mounted TTYs already use digital signals, they could easily be incorporated into a VoIP system. VoIP is now commercially available and many large organizations are adopting it as part of an integrated communication strategy.

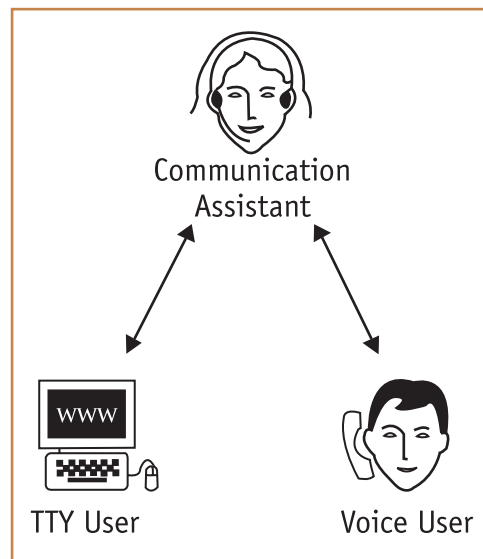
Another available communications technology is relay service, an operator-assisted system. A person who is Deaf, deafened or hard of hearing uses a TTY to type his or her conversation to a relay operator, who then reads the typed conversation to a hearing person using a regular telephone. The relay operator then types the hearing person's spoken words back to the TTY user. Privacy and confidentiality issues and the slowness of the method are usually of concern to relay service users. In addition, there are legal issues, as some personal information, such as banking data, could be disclosed to a third party. The service also has shortcomings if conversations contain any technical jargon with which the relay operator is unfamiliar.

Captioned telephones (CapTel) work like traditional telephones, except they also display written, word-for-word captions of everything the caller says. CapTel users can listen to the caller and can also read the captions in the CapTel's display window. Since CapTel requires captioning service operators, it is essentially a relay service and, therefore, involves the same privacy and confidentiality concerns. This technology is currently not available in Canada.

Voice carry over (VCO) technology lets individuals with a hearing loss speak directly to the person they are calling, and then read that person's response on their TTY or VCO display, as transmitted by a relay operator. Amplified telephones increase the volume of a traditional telephone call, helping the user understand more clearly over the phone. However, these two technologies are useful only to some hard of hearing individuals, not to the Deaf community in general.

Other alternatives to the telephone include e-mail, instant messaging, captioning, wireless text messaging, video messaging (such as video conferences, video mail and Web-stream video) and video relay. Current video relay technology includes video relay service (VRS) with video interpreting (VI), where users employ American Sign Language (ASL) instead of typing to talk to a relay operator. The relay operator, called the video interpreter, translates and voices the user's signs to the called party. VRS is not yet commercially available in Canada but plans are being made to introduce it in the near future.

Figure 3: Relay Service





This section describes legislation and policies relating to the availability and accessibility of services for people who are Deaf, deafened or hard of hearing. Canada has no specific legislation that requires federally regulated organizations to provide TTY service.

### The Canadian Human Rights Act

Section 2 of the *Canadian Human Rights Act* states that the purpose of the Act is as follows:

[...] to give effect [...] to the principle that all individuals should have an opportunity equal with other individuals to make for themselves the lives that they are able and wish to have and to have their needs accommodated, consistent with their duties and obligations as members of society, without being hindered in or prevented from doing so by discriminatory practices. [...]

Among the 11 prohibited grounds of discrimination is disability.

The duty of accommodation short of undue hardship is a fundamental principle of human rights law, especially with regard to the special needs of persons with disabilities. The 1997 Supreme Court decision in the case of *Eldridge v. British Columbia (Attorney General)* dealt with the duty to accommodate the needs of deaf citizens.

The case concerned a Deaf couple who had a baby in a B.C. hospital. The hospital did not provide ASL interpreters to enable the mother and father to communicate with the medical staff. The Court found that the lack of ASL services contravened the couple's right to "equal protection and equal benefit" of the law as provided under section 15 of the Charter.

In rendering the decision, Mr. Justice La Forest commented on the special needs of deaf citizens and the obligation of governments to accommodate these needs:

"[...] For many hearing persons, the dominant perception of deafness is one of silence. This perception has perpetuated ignorance of the needs of deaf persons and has resulted in a society that is for the most part organized as though everyone can hear. [...] Not surprisingly, therefore, the disadvantage experienced by deaf persons derives largely from barriers to communication with the hearing population."

Mr. Justice La Forest went on to note the following:

"The principal object of certain of the prohibited grounds is the elimination of discrimination by the attribution of untrue characteristics based on stereotypical attitudes relating to immutable conditions such as race or sex. In the case of disability, this is one of the objectives. The other equally important objective seeks to take into account the true characteristics of this group which act as headwinds to the enjoyment of society's benefits

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and to accommodate them. Exclusion from the mainstream of society results from the construction of a society based solely on “mainstream” attributes to which disabled persons will never be able to gain access. Whether it is the impossibility of success at a written test for a blind person, or the need for ramp access to a library, the discrimination does not lie in the attribution of untrue characteristics to the disabled individual. The blind person cannot see and the person in a wheelchair needs a ramp. Rather, it is the failure to make reasonable accommodation, to fine-tune society so that its structures and assumptions do not result in the relegation and banishment of disabled persons from participation, which results in discrimination against them.”

Other human rights jurisprudence has established key principles to be followed in devising appropriate accommodation. The most important of these is that accommodation must, to the extent possible,

- maximize the dignity of the person(s) receiving the accommodation; and
- ensure that accommodation is as similar as possible to the services provided to people without a disability.

In light of the legal requirements noted above and the jurisprudence, it is clear that if federally regulated organizations make information available via telephone, they must have services in place to ensure that persons who cannot use a telephone because they are Deaf, deafened or hard of hearing are accommodated through comparable alternative means of communication.

The duty to accommodate is required to the point of “undue hardship.” Canadian courts have yet to fully define the limits of undue hardship, but they have clearly put a very high value on the obligation of accommodation. It is unlikely that the marginal cost required to ensure adequate communication with people who cannot use the regular telephone system would constitute undue hardship.

## **The Telecommunications Act**

In 2001, the Canadian Association of the Deaf (CAD) applied to the Canadian Radio-television and Telecommunications Commission (CRTC) to examine the issue of access to pay telephones equipped with TTYs. The CAD submitted that deaf consumers were being unjustly discriminated against, contrary to subsection 27(2) of the *Telecommunications Act*, because they were denied access to pay telephones in Canada. In the CAD’s view, access to pay telephones meant that deaf consumers should be able to arrive at a pay telephone with nothing other than the means of payment and be able to place a call in the same manner as a hearing user.

The CAD submitted that the CRTC’s interpretation of subsection 27(2) of the Act must be consistent with the equality protections of the *Canadian Charter of Rights and Freedoms* and the *Canadian Human Rights Act*.

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In Telecom Decision 2004-47 (July 15, 2004), the CRTC ordered all telephone companies in Canada to provide equitable access to pay TTY service by requiring that by December 31, 2007, any bank of two or more pay phones include one pay phone equipped with a TTY. Locations where there is only one pay phone will be equipped with a TTY if there is verifiable need for the service, no later than December 31, 2010.

The CRTC decision applies only to provision of pay phones by telephone companies and therefore is not directly relevant to the TTY services provided by federally regulated organizations. Nevertheless, it underlines the legal requirement to accommodate the legitimate communications needs of people who rely on TTYs.

### **The Employment Equity Act**

The *Employment Equity Act* does not apply directly to the public but rather to candidates for employment or employees of federally regulated employers. Nevertheless, the *Employment Equity Act* does incorporate the principle of the duty to accommodate and the need to remove barriers to the full social and economic integration of persons with disabilities.

## APPROACH AND METHODOLOGY



As described previously, the assessment of the availability, accessibility, effectiveness and quality of TTY services provided by federally regulated organizations included the following:

- hiring qualified experts for the purpose of conducting the TTY testing, who understood the communications needs of people who are Deaf, deafened or hard of hearing, and who had prior experience in using telephonic systems of communication designed for these groups; and
- evaluating a sample of federally regulated organizations to determine whether they provide TTY services, and whether these services operate effectively.

The methodology selected for this review is the same as that of the first *No Answer* review. As in the previous study, researchers established a sample from a pre-determined list of potential respondents. These organizations' websites were then searched for contact information and TTY listings. Expert contractors called the TTY numbers to assess their level of operation and reported on their findings and observations. They also formulated recommendations.

### Experts

In the course of this project, qualified experts were hired who understood the communications needs of Deaf, deafened and hard of hearing people, and who have direct experience in using TTYs and in providing expert advice in this area. This approach ensured that issues surrounding complaints of discrimination in service delivery were well understood. Furthermore, they have also conducted the testing and provided expert advice in the previous review, which provided them with a good contextual background for the current review.

These experts, one Anglophone and one Francophone, both of whom are deafened, carried out the actual tests. Their input and suggestions have been useful in finalizing this report.

### Sample

The sample was derived from the Employer List compiled in August 2005 by the Commission's Statistical Analysis Unit—Employment Equity Directorate. It lists 419 organizations from three main business sectors that are federally regulated (banks, communications and transportation).

The first step was to review the list of organizations to ensure the list was pertinent to the Deaf and hard of hearing communities. A total of 232 entries were removed that do not have a general public orientation or would not be of interest to the target communities.

For each of the remaining 187 organizations, researchers searched for a website or an entry in the online white or yellow pages. If no information was found on the organization, it was no longer considered as it may have ceased to exist since the list was compiled. This step further eliminated 29 organizations, leaving a total of 158.

The next step consisted of searching the websites of these 158 organizations for a telephone number. If a telephone number was not listed, the organization was no longer considered. The reasoning behind this elimination was the notion of equal access. In other words, if a telephone number was not listed, a TTY should not have been expected either. This step eliminated 9 organizations, for a total of 149 considered organizations.

Researchers then searched websites and telephone book listings for the remaining 149 organizations for a TTY number. Only 40 organizations had at least one listed TTY number. The resulting sample consisted of the listed TTYs of these 40 organizations.

Figure 4: Methodology Establishing the Sample

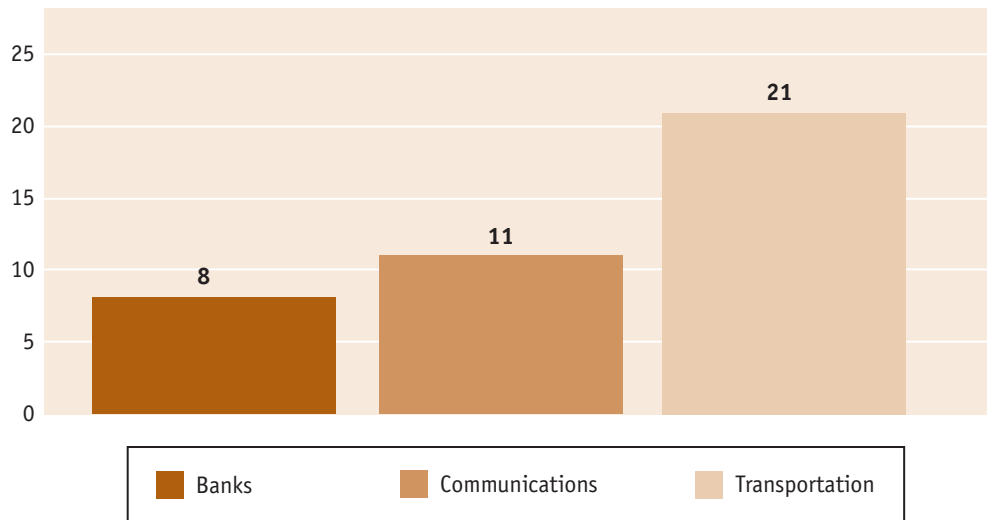
CHRC list of federally regulated employers	419
– <i>not for general public/not relevant to target communities</i>	232
New total	187
– <i>no information available</i>	29
New total	158
– <i>no telephone available</i>	9
<b>Total of organizations listing a telephone number</b>	<b>149</b>
– <i>no TTY available</i>	109
<b>Total of organizations listing a TTY (SAMPLE)</b>	<b>40</b>

When preparing the sample, the following factors were taken into account:

- the number of TTYs listed on the website of each organization;
- the size of the organization (if more than one TTY was listed, larger organizations had more TTYs in the sample than did smaller organizations although the results were rolled up to the organization level);
- national coverage; and
- representation from all sectors of federally regulated organizations (banks, communications and transportation companies).

The final sample was as follows:

Figure 5: Distribution of Sample per Sector



## Testing Protocol

The testing protocol was designed to test whether federally regulated organizations have operational TTYs and knowledgeable operators. When a TTY call was successful, the experts used the following script:

*Consulting and Audit Canada, on behalf of the Canadian Human Rights Commission, is currently undertaking a study on TTY lines listed by federally regulated organizations. To complete this study, I am asking for your help in providing me with the following information:*

- i) What do you do when you get a TTY call requesting service or program assistance?*
- ii) What is the most common question you get asked?*

Also, the experts provided contact information for Consulting and Audit Canada (CAC) for departmental records or in case someone wanted to discuss the test. This process helped ensure transparency, as the organization tested was informed that this call was in the context of a study.

After each call, the experts completed a response form, recording the following:

- date and duration of the call;
- type of response:
  - text: the response was received from a TTY (the expected response);
  - voice: the response was received from a traditional telephone (not acceptable);
  - machine: an answering machine responded to the initial call (acceptable only if the call was returned within two working days); or
  - no response (not acceptable);

- 
- call response time, if the caller had to leave a message on an answering machine (response within one, two or more than two working days, or no response at all); and
  - the quality of the interaction—which included an assessment of courtesy, control of interaction, understanding and accuracy of information, use of proper TTY etiquette, other call-specific issues and overall quality—as rated on a five-point scale from one (very poor) to five (very high).

A call was characterized as responsive if it resulted in a text response or call return within two working days.

See Appendix B for a copy of the response form.

## Testing

The testing of the 40 organizations in the sample took place in December 2005. The consultants called their assigned TTY numbers from their personal TTY devices and recorded the results of the call on the response form. If the call was successful, they also kept a copy of the TTY transcript for reference.

Altogether, 50 calls were placed, as some larger organizations had more than one TTY number. Out of these, three organizations had listed the TTY number of the Bell Relay Service (BRS) or the Bell TTY customer complaint line. These results were deemed unresponsive: when an organization advertises a TTY number, it should be its own and not that of a relay service.

When a busy signal was received, or when a connection was dropped, the TTY number was called more than once until the test could be completed. When a call was unsuccessful or displayed a constant busy signal, the experts asked a hearing colleague to call the listed TTY number to verify if it was indeed a TTY number or a voice line.

In some cases, a few organizations that had a responsive TTY refused to answer the short survey because they do not provide information to a third party or answer surveys on their TTY line. Some of these organizations called the CAC Project Manager directly to obtain contextual information on the review before deciding to call back the TTY line. However, the results of this review are not based on answers provided for the survey but rather on the quality of the interaction, therefore as long as there was a TTY exchange (even if this was a message from the organization saying they won't complete the survey), the TTY was viewed as responsive.

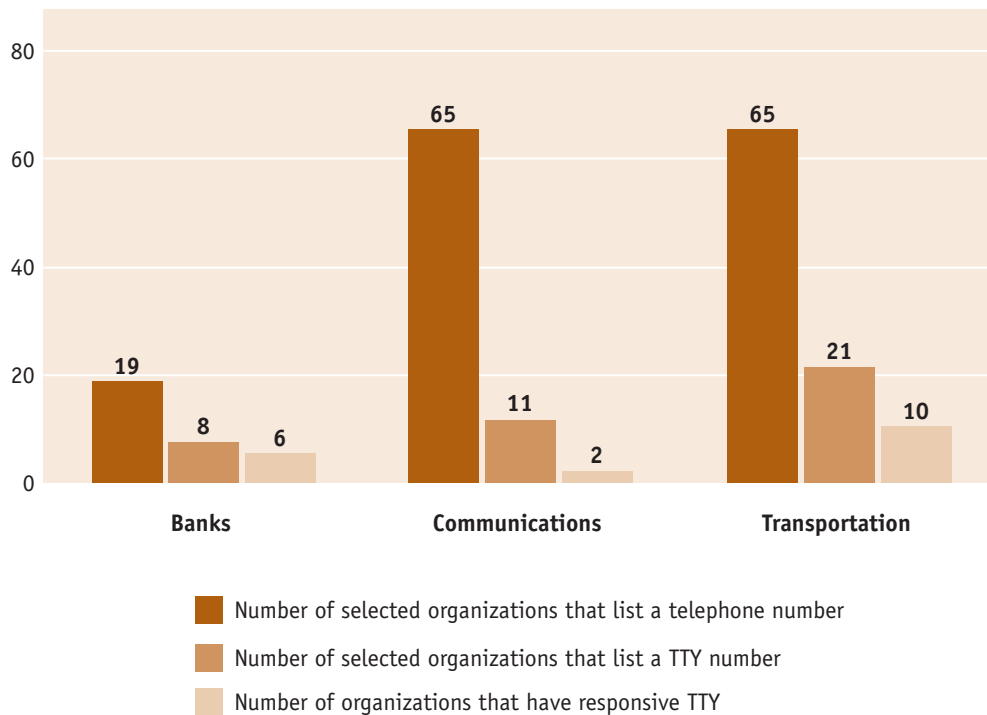
# RESULTS



## Results by Total Calls Made

A total of 50 calls were made to 40 organizations. Only 18 organizations had a responsive TTY. As mentioned previously in this report, some organizations had more than one TTY number listed; as long as one of these numbers was responsive, the organization was deemed responsive.

Figure 6: Final Results



Banks fared better overall than the other two sectors in terms of listing their TTY numbers: 42% of the banking institutions that list a telephone number also list a TTY number, compared to 17% of the communications organizations and 32% of transportation organizations. The banks also fared better in terms of responsiveness, since approximately 75% of their listed TTYs were responsive, compared to 18% for the communications organizations and 48% for the transportation companies.

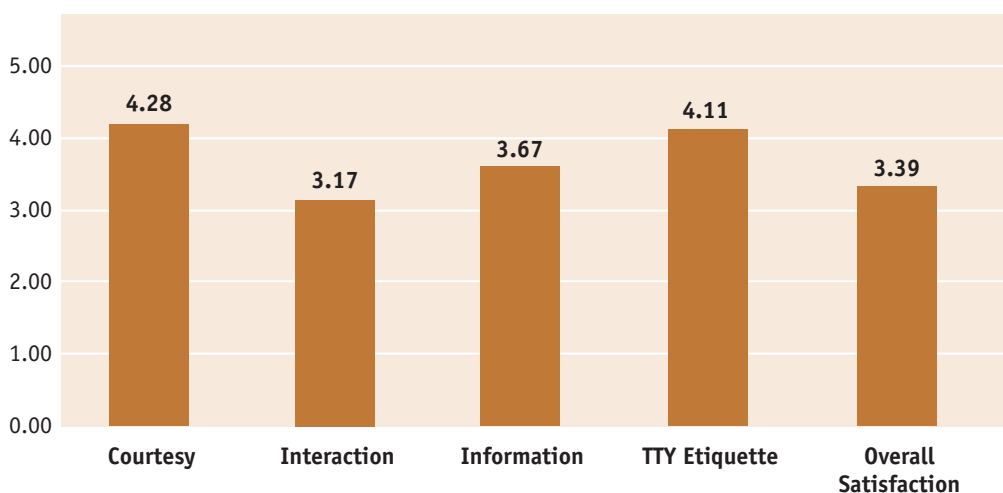
## Results by Quality of Interaction

As mentioned previously in this report, some organizations had more than one TTY number listed; in this case, only the best results for Quality of Interaction were retained.

The maximum score for any element was 5 points (“Very Satisfied”), and the minimum was 1 (“Very Dissatisfied”). A score of 0 was given when it was not possible to assess the TTY service, for example if there was an automatic TTY answer from the organization, but no further communication after the initial greeting, as if the TTY was not attended. This situation happened in two instances.

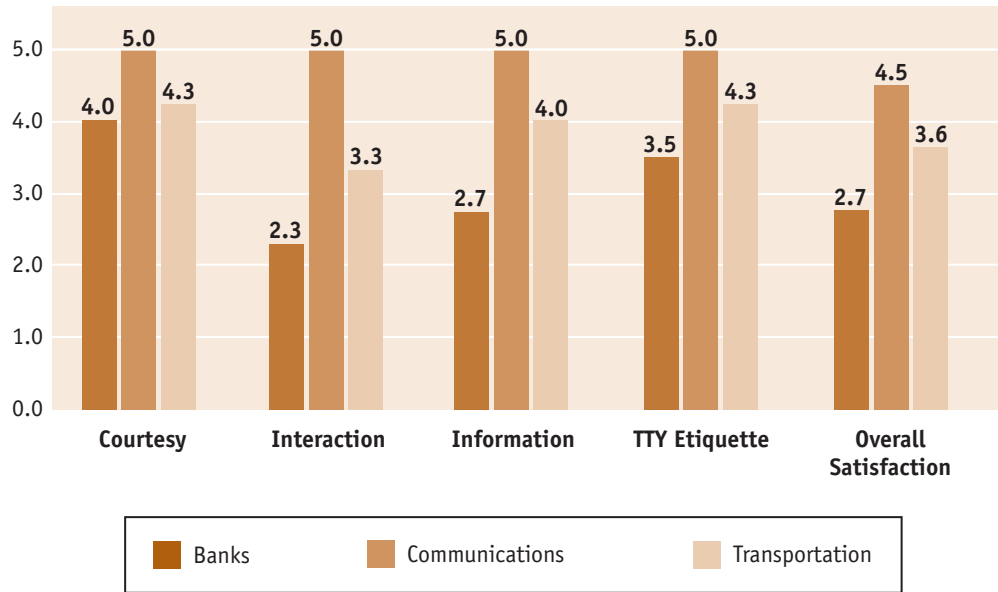
The experts who conducted the testing of the TTY numbers found that the majority of federally regulated organizations that have a responsive TTY offered satisfactory services. For the service to be satisfactory, the person operating the TTY had to be courteous; able to control the call from a technology perspective; able to offer relevant information; and able to make proper use of TTY etiquette.

Figure 7: Overall Quality of Interaction



Although the overall average is above a “Neutral” score (3), there are some discrepancies per sector. As depicted in the following diagram, the communications sector fared better than the other two sectors, but one must bear in mind that there were only two respondents in those sectors.

Figure 8: Quality of Interaction per Sector



## Other Findings

While developing the sample and conducting the test calls, the experts made these additional observations:

- Some organizations incorrectly listed an advertised TTY number (e.g. the TTY was actually a voice or fax number, the BRS comment line, or the Bell line for persons using a regular telephone and attempting to relay to a TTY).
- The relay service number (711) was listed for some organizations, without an indication of the actual number to call.
- Some TTY lines started their greeting with a voice message to tell hearing users that they have called a TTY line—however when TTY users notice the use of a voice message, they normally hang up because they think they have reached a voice line. This practice is counter-productive.
- Some TTYs seemed to be working properly, but the lack of interaction pointed to the possibility that the line was not attended.
- Some operators do not know the TTY protocol such as the use of GA (“go ahead”) or SK (“stop keying”) nor how to break a persistent scramble.

## ANALYSIS AND CONCLUSIONS



In the hearing world, it is common practice to search a telephone book or website to find a phone number for a specific service or organization, make a phone call to that organization, and obtain the information sought within a reasonable period of time. People who are Deaf, deafened, or hard of hearing are at a serious disadvantage because organizations either do not provide TTY service or, if they do, it often does not work. The findings of this review show that people who want to make a TTY call have around a one-in-four chance to find a number listed for a TTY. Furthermore, when a TTY is listed, they have less than a 50/50 chance to complete a call successfully.

When taking a close look at the TTY interaction data (transcripts), it is apparent that one of the reasons for dissatisfaction was the lack of training of the personnel operating the TTY and a lack of knowledge an organization may have on the available technology. Some operators are unable to break a persistent scramble, while others do not know basic TTY protocol such as the use of GA (“go ahead”) to indicate “go ahead” or SK (“stop keying”) to indicate the close of a conversation. A user should not have to teach the operator on the proper use of the TTY; rather, the organization should have a clear strategy in place, ensuring the TTY line is advertised properly and attended, and offer adequate training to its personnel. The organizations which scored the highest had a holistic client-centric strategy in place, where the operator could provide information for various sectors of his/her organization (e.g. in transportation: information on schedules, lost luggage, boarding, external car rentals, etc.).

Based on the findings of this study and on expert advice, there appear to be two main reasons for the current situation:

- *Lack of adequate procedures and guidelines to ensure that the right of equitable access is met:* Among the 149 organizations that listed a telephone number, only 12% had a responsive TTY. This is an unacceptable service level. Despite the fact that many new technologies exist that could facilitate or complement TTY communication, little progress has been made in introducing these new technologies.
- *Lack of proper personnel training in the use of TTY devices:* Findings indicate that some organizations lack understanding of the TTY technology (e.g. when they advertise a relay service instead of a TTY proper), and that some lines are attended by untrained personnel.

The key issue in the present report is communication between federally regulated organizations and Canadians with specific communications needs and requirements. Although advances in technology such as e-mail and text messaging are helping to break down communication barriers, TTYs are the most widely used devices. Testing TTYs, as was done in this study, is a means of assessing the current level and quality of communication with citizens who cannot use the regular telephone system. This, however, does not imply that TTYs will remain the only or the best way to achieve the goal of effective communications. Perhaps a future study will look into how the Government of Canada and federally regulated organizations use new technology to cater to the needs of this audience group.

## RECOMMENDATIONS



Following are the key recommendations for this study.

1. **Equal Access:** All federally regulated entities that serve the public should ensure that their services are accessible to persons who are Deaf, deafened or hard of hearing by providing appropriate assistive technology including, but not limited to, TTYs.
2. **Publication of TTY Numbers:** Organizations which have TTY services should advertise their TTY number along with their telephone number in all their ads and telephone listings, and their TTY number should be easily found on their website.
3. **Training:** Organizations which offer TTY services should staff these services with employees who have knowledge not only of their respective organization, but also of TTY protocols, etiquette and technology. Client-orientation and courtesy can only increase the overall satisfaction and retention of clients.
4. **New Technology:** Federally regulated organizations—perhaps in cooperation with the Government of Canada—should assess new developments in communications technology to determine how they might improve telephonic communications services for people who cannot use the regular telephone system. In particular, the process of replacing land telephone lines with a Voice-over-Internet Protocol (VoIP) system should include, from the design stage, provisions for assistive technologies, such as computer-mounted TTY systems.
5. **Other Issues:**
  - a. Each federally regulated organization should develop an internal policy on the provision of telephonic communications services to people who are Deaf, deafened, or hard of hearing; this policy should include specific reference to the duty to accommodate short of undue hardship as provided under the *Canadian Human Rights Act* (CHRA).
  - b. In developing policies, procedures and guidelines, and in purchasing equipment, organizations should consult experts in the field of hearing loss as well as the manufacturers of, and experts on, assistive technologies.

## APPENDIX A: ADVOCACY GROUPS



### ***Canadian Association of the Deaf (CAD)***

The CAD provides consultation and information on Deaf needs and interests to the public, business, media, educators, governments and others. It conducts research and collects data regarding Deaf issues; issues reports on these studies and provides expertise related to them; and develops and implements pilot programs. It offers assistance to Deaf organizations and service agencies across the country, and provides a major library and resource centre on deafness at its office in Ottawa, Ontario.

For more information about the CAD, visit its website at [www.cad.ca](http://www.cad.ca)

### ***Canadian Hearing Society (CHS)***

The CHS, based in Ontario, provides services that enhance the independence of Deaf, deafened and hard of hearing people, and that help prevent hearing loss. Some of the services the CHS provides are American Sign Language (ASL) classes and teacher training; audiology and speech-language pathology services; educational support services; employment services; general social services (counselling); hearing aid program; hearing help classes; hearing care counselling programs for people 55 and over; interpretation services (signing); literacy and life skills training; corporate communications; counselling; a technical devices program; tinnitus retraining therapy; videoconferencing services; support of consumer groups in advocacy; consultation and training; mail-order assistive devices and educational materials; and public education.

For more information about the CHS, visit its website at [www.chs.ca](http://www.chs.ca)

### ***Canadian Hard of Hearing Association (CHHA)***

The CHHA is a consumer-based organization formed by and for hard of hearing Canadians. It works cooperatively with professionals, service providers and government bodies, and provides information about hard of hearing issues and solutions. The philosophy of the CHHA is to produce knowledgeable hard of hearing consumers who understand how to have their needs met. Its mission is to promote the integration of persons who are hard of hearing into Canadian society, to raise public awareness of issues important to them, to remove any barriers to their participation and to generally make every community in Canada a better place for persons who are hard of hearing.

For more information about the CHHA, visit its website at [www.chha.ca](http://www.chha.ca)

# APPENDIX B: RESPONSE FORM



Caller: \_\_\_\_\_

Call ID: \_\_\_\_\_

Date & Time: \_\_\_\_\_

Tombstone Information										
Organization	TTY Number	CALL DESCRIPTION (below)/ CALL DURATION (minutes):								
		TTY not in service (testing completed for this respondent)	Contact established				Call back from organization			
			Text	Voice	Machine	Line worked, but no answer; caller left msg as per script	Within 1 working day	Within 2 working days	More than 2 working days	No answer

Quality of Communication																													
LEGEND: (1) Very satisfied (2) Satisfied (3) Neutral (4) Dissatisfied (5) Very Dissatisfied (6) Not Applicable																													
Courtesy						Interaction						Understanding/Accuracy of Information						Use of proper TTY etiquette						Overall					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6

## APPENDIX C: GLOSSARY OF ABBREVIATIONS



ASL	American Sign Language
BRS	Bell Relay Service
CAC	Consulting and Audit Canada
CAD	Canadian Association of the Deaf
CapTel	captioned telephone
CART	computer-assisted real-time transcription
CHHA	Canadian Hard of Hearing Association
CHRA	<i>Canadian Human Rights Act</i>
CHRC	Canadian Human Rights Commission
CHS	Canadian Hearing Society
CRTC	Canadian Radio-television and Telecommunications Commission
LED	light-emitting diode
LSQ	langue des signes québécoise
MOU	Memorandum of Understanding
N/A	not applicable
NCR	National Capital Region
PALS	Participation and Activity Limitation Survey (Statistics Canada)
PC	personal computer
TBS	Treasury Board of Canada Secretariat
TDD	telecommunications device for the Deaf (not in use anymore)
TTY	teletypewriter
VCO	voice carry over
VI	video interpreting
VoIP	voice-over-Internet Protocol
VRS	video relay service



### MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN THE CANADIAN HUMAN RIGHTS COMMISSION (CHRC) AND THE TREASURY BOARD OF CANADA SECRETARIAT (TBS)

#### INTRODUCTION

1. The principles of equality, inclusion, diversity and accessibility pervade the legislative and policy landscape of the Government of Canada. The *Canadian Charter of Rights and Freedoms*, for example, guarantees equality and equal benefit and protection under the law without discrimination, particularly without “...discrimination based on national or ethnic origin, colour, religion, sex, age or mental or physical disability.” The *Canadian Human Rights Act* was adopted by Parliament to give effect to the principle that all individuals should be treated equally.
2. In recognition of these important principles, and in support of the *Canadian Charter of Rights and Freedoms* and the *Canadian Human Rights Act*, the Canadian Human Rights Commission (the Commission) and the Government of Canada strongly support preventive strategies aimed at eliminating discrimination in the workplace and in the provision of goods and services to the general public.
3. In July 2005 the Commission issued *No Answer: A Review of Government of Canada Telephonic Communication with People Who Are Deaf, Deafened, Hard of Hearing or Have a Speech Impediment*. *No Answer* includes four recommendations to the Government of Canada aimed at ensuring accessibility to Government of Canada telephonic communications for all Canadians.
4. In a letter dated December 16, 2005, the Secretary of the Treasury Board, responding on behalf of the President, agreed with these recommendations and welcomed the Commission’s invitation to support these efforts by formalizing this process through a TBS-CHRC Memorandum of Understanding. He also invited CHRC’s participation in the development of TBS’ ongoing development of an overarching accessibility strategy. Consequently, consultations between officials of CHRC and TBS are underway to improve the accessibility of Government of Canada services for Canadians and to ensure that the Government of Canada is an accommodating workplace.
5. To that end the CHRC and the Treasury Board have agreed to this MOU to formalize the consultation and collaboration process and to facilitate the development of the accessibility agenda.
6. This Memorandum of Understanding outlines the steps to be taken to implement the recommendations contained in *No Answer* and to ensure accessible Government of Canada services for all Canadians.

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## RESPONSIBILITIES

7. The TBS will include, as part of its comprehensive accessibility framework and strategy, a component that addresses the provision of telephonic communication services for people who are Deaf, deafened, hard of hearing or who have a speech impairment, consistent with the recommendations and analysis contained in *No Answer*.
8. The Commission undertakes to consult with TBS, as required, on the development of the strategy and other accessibility issues.
9. The Commission and TBS will convene a meeting with key organizations representing the interests of people who are Deaf, deafened, hard of hearing or have a speech impairment to brief them on steps being taken to implement the recommendations in *No Answer* and to seek their input.
10. Within six months of the signing of this Memorandum, the Secretary of the Treasury Board will write to the Chief Commissioner outlining the commitments, including time frames, for the implementation of a comprehensive strategy and other recommendations in the report.
11. Recognizing that the issues identified in *No Answer* are illustrative of broader issues with regard to accessibility of Government of Canada program, services and employment to persons with a variety of disabilities, the Commission and the Treasury Board Secretariat agree to developing an on-going collaborative relationship to address such issues to the extent possible consistent with their statutory duties and responsibilities.

Signed at Ottawa this 30<sup>th</sup> day of January 2006

**Mary Gusella**  
Chief Commissioner  
Canadian Human Rights Commission

Signed at Ottawa this 24<sup>th</sup> day of February 2006

**Wayne G. Wouters**  
Secretary of the Treasury Board  
Treasury Board of Canada