

Speech, Language and Hearing Services to First Nations, Inuit and Métis Children in Canada, with a Focus on Children 0 to 6 Years of Age



A Report on a Survey of Audiologists, Speech-Language Pathologists and Supportive Personnel Providing Services in Canada

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Abstract

Little is understood about the availability and nature of speech-language and hearing services for First Nations, Inuit and Métis children, 0 to 6 years old, in Canada. Results from a survey of audiologists, speech-language pathologists and supportive personnel are presented here. Specifically, this report provides current information about service availability, professional preparedness, practices and perceptions in speech-language and hearing services for First Nations, Inuit and Métis children in Canada.

Keywords: speech-language, audiology, First Nations, Inuit and Métis children.

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EXECUTIVE SUMMARY

In its 2009-2011 strategic plan, the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) Board of Directors identified an objective to advocate for human resources to meet system and population needs. Based on member feedback, CASLPA developed a research project that would assist efforts to advocate for increased and improved speech-language and hearing services for young First Nations, Inuit and Métis children. The goal of the project, titled *Quantitative and Qualitative Study of Speech-Language and Hearing Services for First Nations, Métis and Inuit Communities in Canada*, was to determine the current speech-language and hearing services provided to First Nations, Inuit and Métis children 0 to 6 years of age. A literature review and key informant interview summary was the first research outcome. This report on a survey of speech-language and hearing professionals in Canada is the second product of the research process.

The research was guided by an advisory committee, consisting of four speech-language pathologists and one audiologist from across Canada who work with First Nations, Inuit and/or Métis children, two representatives from the Assembly of First Nations (AFN) and the Inuit Tapiriit Kanatami (ITK), two speech-language pathologists/university professors (UBC, Dalhousie) and the CASLPA project manager.

This report of the survey reflects the perspective of audiologists, speech-language pathologists and supportive personnel providing services to young First Nations, Inuit and Métis children. Specifically, the survey was designed to find out more about the audiologists, speech-language pathologists and supportive personnel working with First Nations, Inuit and Métis children 0 to 6 years old and their professional practices with these populations: where and with whom they work; what assessment and intervention materials and strategies they employ with First Nations, Inuit and Métis children; the availability of services; and the barriers to service delivery for this population. The survey also asked how services might be improved. It was not possible to extend the survey to other professionals and community members because of funding, logistic and time restrictions.

The survey report is organized into four sections. Following this Executive Summary, the second section (Background) provides the context of the research, its purpose and objectives; the third (Methodology) explains survey methods; and the final section reports on the feedback obtained and presents recommendations for addressing barriers emerging from the survey results.

General Methodology

This survey represents the first time that CASLPA has sought quantitative feedback from the national speech-language and hearing workforce about their experience serving First Nations, Inuit and Métis clients. An anonymous online survey was posted on the SurveyMonkey™ website between May 31 and June 30, 2010. An e-mail invitation to complete the survey was sent to all CASLPA members and, since membership in CASLPA is not mandatory, allied associations and provincial colleges were also asked to circulate the invitation to their members.

The online survey took approximately 35 minutes to complete. Overall, 1,307 people started the survey and a total of 1,194 surveys were completed and analyzed. All respondents answered demographic questions and provided information about their experiences serving individuals with First Nations, Inuit and Métis heritage. For the purpose of this survey, a subset of respondents was of particular interest. These were audiologists, speech-language pathologists and supportive personnel (speech-language and hearing professionals) who worked with 0 to 6-year-old First Nations, Inuit and/or Métis children between 2005 and 2010. About one-half of the respondents (n=563) met these criteria. These respondents are referred to as the “target respondents.” They completed additional questions about the communities they serve and the services they provided to individuals of First Nations, Inuit and Métis descent.

Overview of Findings of the Survey

The survey sample has at least two characteristics that must be considered when viewing the results:

1. They were not sampled randomly, which might introduce bias into the sample.
2. Respondents might be more involved with the topic of speech-language and hearing services for First Nations, Inuit or Métis clients or belong to or work for organizations that have a specific interest in this aspect of speech-language and hearing services.

Nevertheless, this feedback provides CASLPA with an understanding of how speech-language and hearing professionals view and address service development and delivery for First Nations, Inuit and Métis children.

Profile of the full sample respondents¹

More than 90% of all respondents (n=1,194) were women (91%) and possessed a graduate degree (92%). Eighty-two percent said they were of western (North American/European) heritage and 76% said they were monolingual. The largest professional category represented in the survey was speech-language pathologists (79%), followed by audiologists (15%), and supportive personnel (5%). Two-thirds said they worked in the public sector, 60% reported 11 or more years of practice experience and a larger percentage indicated that they worked in Ontario: audiologists (45%), speech-language pathologists (34%), supportive personnel (50%).

It should be noted that the Québec sample was proportionally smaller than the speech-language workforce in that province. Approximately 3% of survey respondents were from Québec, though 22% of audiologists and 23% of speech-language pathologists live in Québec, based on Canadian Institute for Health Information (CIHI) data (http://secure.cihi.ca/cihiweb/products/provincial_profiles_2010_e.pdf).

Service delivery of the target respondents

The demographic profiles of the full sample and the target sample were similar. Target respondents (n=563) indicated that speech-language and hearing services are currently provided to First Nations, Inuit and Métis children in every province and territory in Canada. The majority of these speech-language and hearing professionals work for provincial (health, education, child and family services) agencies and reported that First Nations, Inuit or Métis clients make up less than 10% of their caseload. How many First Nations, Inuit or Métis clients are on caseloads or were waitlisted for services could not be determined. Anecdotally, there is a high demand for services. About three-quarters of respondents reported that other speech-language and hearing professionals were available for the client population they served. However, respondents who provided services in a First Nations or Inuit community were significantly less likely to report that other professionals were available. Most respondents identified professionals and family members as primary referral sources. Respondents rarely identified Aboriginal Head Start as a service delivery location. Fewer than 1% of respondents stated that they were fluent with, or could carry on a conversation in,

¹Tables describing the full sample are included in Appendix B.

First Nations, Inuit or Métis languages. Most did not consider this to be a barrier to service delivery.

The majority of speech-language and hearing respondents said they did not deliver services in First Nations or Inuit communities, nor did they define their service location as an isolated/remote setting. Most respondents reported that they drove to work in a half-hour or less. Those respondents who have worked in geographically isolated places possessed a different view of service delivery and demonstrated unique practice patterns.²

Speech-language and hearing service delivery models

Speech-language and hearing professionals who were the target respondents reported using a variety of intervention models with First Nations, Inuit and Métis clients. The great majority of speech-language pathologists and audiologists reported using direct intervention. Respondents also reported providing training to community members, community-based staff and paraprofessionals and teaming with many other disciplines. Fifty percent of respondents said that they adapted their services to meet the needs of First Nations, Inuit and Métis clients. Respondents rarely used videoconferencing or internet-based modalities to provide intervention and assessment services.

Education, training, learning, preparedness

About 70% of speech-language and hearing service respondents with a master's degree—the entry level for the audiology and speech-language pathology professions—completed their professional education in Canada. About one-half indicated that they felt very prepared or prepared when they first started to provide services to First Nations, Inuit and Métis people. In contrast, almost 90% reported that they currently considered themselves very prepared or prepared to provide such services and attribute their preparedness primarily to personal experiences, research and reading.

²Isolated and remote are considered to be equivalent terms. All 54 Inuit communities, approximately 30% of the 634 First Nations and many Métis settlements are isolated or remote. Statistical communities are reported in Appendix A.

Recommendations

In this report, recommendations are made with regard to knowledge transfer, information sharing, service delivery models and professional development. It is recognized that remote communities have unique practice requirements. It is believed that the recommendations will enhance the accessibility, availability and suitability of speech-language and hearing services for First Nations, Inuit and Métis children in Canada.

BACKGROUND

Speech-language pathologists and audiologists have become increasingly concerned about gaps in the range and types of services available for First Nations, Inuit and Métis children. In response to concerns raised by a CASLPA special interest group and CASLPA conference panel discussions, the association requested and received grant funding from Health Canada to develop a better understanding of the current availability of speech-language pathology and audiology services to First Nations, Inuit and Métis children (0 to 6 years old) through a quantitative and qualitative data collection process. A literature review and key informant interview summary was the first research outcome. A survey of speech-language and hearing professionals in Canada is the second product of the research process. Knowledge gained through the literature review and key informant interviews and the survey will inform priorities for next steps in enhancing speech-language pathology and audiology services for First Nations, Métis and Inuit people.

Project Advisory Committee

An advisory committee, consisting of speech-language pathologists Lori Davis-Hill (Ontario), Kendra Dean (Saskatchewan), Monica Nahwegahbow (Ontario) and Deanne Zeidler (British Columbia), and audiologist, Isabelle Billard (Québec), all of whom work with First Nations, Inuit and/or Métis children; representatives Melanie Morningstar, from the Assembly of First Nations (AFN) and Anna Claire Ryan, from the Inuit Tapiriit Kanatami (ITK); university speech-language pathologists/professors, Dr. B. May Bernhardt (UBC) and Dr. Elizabeth Kay-Raining Bird (Dalhousie, Chair); and the CASLPA project manager, Sharon Fotheringham guided the project. The consultants were Margaret O'Hara and John Rowlandson.

Purpose of the Survey

The purpose of the survey was to provide a description of speech-language and hearing services currently being provided for 0 to 6-year-old First Nations, Inuit and Métis children by audiologists (Auds), speech-language pathologists (S-LPs) and supportive personnel (SPs). CASLPA identified eight questions to be addressed:

- Who is delivering speech-language and hearing services?
- What speech-language and hearing services are currently being delivered?

- What is the perceived need of speech-language and hearing services by First Nations, Inuit and Métis community members?
- What materials are being used for screening and assessment of speech-language and hearing disorders and what adaptations of these materials have been developed for different groups?
- How are speech-language and hearing services being delivered (i.e., telehealth, consultative, direct)?
- What prevention and promotional speech-language and hearing materials are being used and how are they being used?
- What training do current service deliverers, both community and professionally trained, receive?
- What are the barriers to speech-language and hearing services by Aboriginal populations?

The advisory committee added a ninth question:

- Where are speech-language and hearing services for 0 to 6-year-old First Nations, Inuit and Métis children being delivered?

METHODOLOGY

Target Respondents

The target respondents of the survey were speech-language and hearing professionals currently working with 0 to 6-year-old First Nations, Inuit or Métis children, including:

- speech-language pathologists
- audiologists
- supportive personnel (communication disorders assistants, speech assistants, hearing assistants)

Procedure

Survey Development

The survey was developed by the consultants in consultation with the advisory committee. A meeting was held with consultants and advisory committee members in Ottawa, Ontario, on April 22 and 23, 2010 to design the survey and begin to develop the survey questions. Information from key informant interviews and the literature review guided the process. Three service delivery issues emerging from the literature (location, service coordination and culture community fit) were used to help structure the questions. Key design elements considered were ease of use (menu-driven choice wherever possible), accessibility (web-based, English and French) and timeliness (the survey had to be available before summer holidays began). A survey draft was constructed as a result of these discussions.

The advisory committee pilot tested the survey on-line. This process identified logical and wording issues that subsequently were addressed.

The final survey was translated into French. It was opened on May 31, 2010 at approximately 09:00 and closed on June 30, 2010 at about 24:00 EDST. Access to the on-line questionnaire was provided by Survey Monkey.TM

All CASLPA members received a direct e-mail on May 31 explaining the focus of the research initiative and inviting them to participate in the online survey. Other methods used by CASLPA for increasing participation in the survey included posting a project description on the CASLPA website (<http://www.caslpa.ca/english/profession/aboriginalproject.asp>) and

direct promotion to delegates at the May 2010 conference in Whitehorse. CASLPA also encouraged participation by offering one \$50.00 certificate redeemable towards a continuing education activity. In addition, CASLPA asked the seven provincial regulatory bodies and the Communication Disorders Assistants Association of Canada (CDAAC) to encourage their members to participate. A reminder e-mail was sent to all CASLPA members and provincial colleges two weeks prior to the survey closing date.

The online survey took about 35 minutes to complete and was comprised of 79 questions. Nine categories of questions included personal and practice demographics (12 questions), experience working with First Nations, Inuit and Métis clients (18 questions), cultural, linguistic and community-based considerations (9 questions), speech-language and audiology tools and approaches (14 questions), place-based considerations (8 questions), collaboration and coordinated service delivery (5 questions), service priorities (5 questions), open-ended responses (6 questions) and other (2 questions). Seventy-six of these questions were intended to be answered only by the target respondents.

During the 31 days that the on-line survey was open, a total of 1,307 respondents began the survey: 58 chose a French-language option and 1,249 chose an English option. Response rates to individual questions varied greatly.³

Data Analysis

The dataset was downloaded from SurveyMonkey™ into a MS-Excel™ spreadsheet. This process generated more than 250 distinct variables from the original 79 questions and facilitated case-by-case analysis. Following integration of French- and English-language cases, an analysis of the data was conducted to identify empty, near empty⁴ and redundant cases.⁵ A total of 103 empty cases, 7 near-empty cases and 5 redundant cases were removed, reducing the total number of valid cases to 1,194 (51 French and 1,143 English).

This dataset was transferred to PASW 18™ (formerly SPSS) and modifications of the original dataset were made.

³Approximately two-thirds of all respondents (66%) completed the survey. SurveyMonkey considers a survey 'complete' if the respondent selects the finish button on the final survey page.

⁴Cases were considered empty if individuals only indicated the language in which they would like to complete the survey and nothing else. Redundant cases were initially identified by IP (internet protocol) address and cross-referenced against a respondent's name or e-mail. Near empty cases were identified by a line-by-line visual scan.

⁵In instances where one individual initiated more than one response the most complete case was retained.

Caveats to the interpretation of the data

Several cautionary statements need to be made regarding the data. First, findings from “open-to-all” online surveys represent an uncontrolled respondent population in the sense that the origin of responses is unknown. Any person aware of the URL had the opportunity to anonymously provide input.

Second, since this survey cannot be considered a census and respondents were not selected on a random basis, it is not possible to calculate margins of error. The results from this survey may not be representative of the entire Canadian speech-language and audiology workforce. Specifically, efforts to increase awareness of the online survey and recruit speech-language and hearing professionals to complete the questionnaire may have contributed to self-selection; i.e., a higher proportion of those with an interest in the survey topic participating in the survey.

Analysis of the data demonstrated that a number of questions were ambiguously worded and/or open to variable interpretations by respondents and analysts. Responses to these questions are not presented in this report.

Finally, it is noted that not all speech-language or hearing professionals are CASLPA members and the degree to which provincial colleges and/or service associations complied with CASLPA requests to encourage their membership to participate in the online survey is not known.⁶ Therefore, specific importance should not be given to high or low participation from certain regional or practitioner groups.

⁶CASLPA/ACOA membership is not a requirement to practice in Canada.

SURVEY FINDINGS

A large number of speech-language and hearing professionals (n=1,194) participated in the survey. Respondents fell into one of three categories: those with no experience working with First Nations, Inuit or Métis clients (n=241 or 20.2% of 1,194); those who provided services to First Nations, Inuit and Métis clients before 2005 (n=147 or 12.3% of 1,194); or those who provided services to First Nations, Inuit or Métis children and/or adults between 2005 and 2010 (n=806 or 67.5% of 1,194).

The target respondents, a subset of the latter group, are those providing services to 0 to 6-year-old First Nations, Inuit and Métis children between 2005 and 2010 (n=563). Among the target respondents, 467 (82.9%) reported being speech-language pathologists, 62 (11.0%) identified as audiologists, 9 (1.6%) reported holding both audiology and speech-language credentials, 22 (3.9%) were supportive personnel, 3 respondents did not indicate their profession.

Presentation of Results

The results of the data analysis are organized in the following way:

- Demographic profiles of the full (n=1,194) and target samples (n=563)
- Current practice and the target sample. This section includes target respondents' feedback to the focus questions described in the earlier section, "Purpose of the Survey" (i.e., who delivers services, how are services being delivered ...)
- Overview of data and recommendations

Tabulation of findings by question and by domain (e.g., profession, perceived isolation of service setting) is provided in each section. Throughout, summary table percentages may not always add to 100 due to rounding.⁷ All presented results are based solely on the unweighted total sample because this sample accurately represents only those who provided feedback.

⁷The nine respondents who reported both audiology and speech-language credentials are included in the overall count. The three who did not answer the professional question were not assigned to a professional cohort. In some cases, this resulted in the total sum of audiology, speech-language pathology and supportive personnel being less than the overall count.

Demographic Profile of Respondents

Geographic distribution of the full sample

Table 1 compares provincial/territorial distribution of audiology, speech-language pathology and supportive personnel, based on Canadian Institute of Health Information (CIHI) data,⁸ to the full sample of survey respondents.

Table 1: Comparison of the Canadian audiology and speech-language pathology workforce with the sample population - province of resident by profession

Jurisdiction	CIHI 2008 (n=8,734)				First Nations, Inuit, Métis Survey (n=1,167)					
	AUD		S-LP		AUD		S-LP		SP	
Canada	1,418	16%	7,316	84%	172	14.7%	941	80.6%	54	4.6%
Alberta	130	9%	1,058	14%	17	10%	172	18%	10	19%
British Columbia	185	13%	811	11%	33	19%	183	19%	13	24%
Manitoba	55	4%	344	5%	8	5%	43	5%	1	2%
New Brunswick	52	4%	196	3%	4	2%	35	4%	2	4%
NF & Labrador	17	1%	100	1%	6	4%	25	3%	0	0%
*Northwest Territories	2	.14%	6	.08%	0	0%	12	1%	0	0%
Nova Scotia	62	4%	192	3%	9	5%	21	2%	1	2%
*Nunavut	1	.07%	NA	NA	0	.0%	2	.2%	0	0%
Ontario	565	40%	2,659	36%	78	45%	316	34%	27	50%
Prince Edward Island	3	.21%	30	0.4%	1	0.6%	23	2.4%	0	0%
Québec	313	22%	1,650	23%	5	3%	25	3%	0	0%
Saskatchewan	33	2%	253	3%	11	6%	78	8%	0	0%
*Yukon Territory	2	.14%	10	.14%	0	0.0%	6	0.6%	0	0%

⁸Canadian Institute for Health Information. (2010). Canada's Health Care Providers, 2008 Provincial Profiles. Ottawa: ON. Retrieved from: http://secure.cihi.ca/cihiweb/products/provincial_profiles_2010_e.pdf. The 2010 CIHI report does not break out data for Nunavut, the NWT or the Yukon Territory. Accordingly, territorial data are drawn from 2006 data. Canadian Institute for Health Information. (2008). *Canada's Health Care Providers – a reference guide, 1997 to 2006: S-LP and AUD summaries. Ottawa: ON. Retrieved from: http://www.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_audiologists_e; or http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_slp_e

With the exception of Québec, where fewer than 4% of audiologists and speech-language pathologists responded,⁹ the relative distribution of the survey sample resembles the national audiology and speech-language workforce. In both, Ontario audiologists, speech-language pathologists and supportive personnel are the largest geographic group (34–50%) and those from the Northwest Territories, Yukon and Nunavut, the smallest (0–1%).

Demographics of the full sample

Speech-language professionals made up the largest portion of the sample (79%) and supportive personnel the smallest (4.6%). Approximately 15% of respondents indicated that they were audiologists and fewer than 2% reported that they held both audiology and speech-language credentials. A total of 91% of all survey respondents said they were female (93% of speech-language pathologists, 98% of supportive personnel and 81% of audiologists).

Almost one-third (31.1%) of respondents completed their professional education outside of Canada, most frequently in the United States (27.7%). The minimum academic credential for registered professionals to practice in Canada as a speech-language pathologists or audiologist is a master's degree or equivalent. As would be expected then, 95% of speech-language pathologists and 99.4% of audiologists had completed a master's degree or higher. About 30% of the 54 supportive personnel had completed a diploma program and 58.5% had completed a bachelor's degree.

Three-quarters of respondents indicated that they spoke one language only: English (74%) or French (2%). Almost 17% of respondents said they were proficient in both English and French. Less than 1% reported proficiency in English and/or French and an Aboriginal language.

Census Canada ethnicity classifications were used to prompt respondents about their ancestral identity.¹⁰ More than 80 distinct ancestral identities were reported. When asked to choose the category that best describes their ancestral identity, more than 81% of respondents indicated a western (North American or European) ancestry. Slightly over 1% of respondents identified as having Métis or North American Indian/First Nations ancestry. Of these 15

⁹Low rates of participation in Québec have been observed in previous CASLPA surveys. Approximately 5% of the workforce responded in 2008. Supportive personnel are not recognized in Québec (Sharon Fotheringham, personal communication, April 22, 2010).

¹⁰See Appendices C1-17 on the Statistics Canada website: <http://www12.statcan.gc.ca/census-recensement/2006/ref/dict/app-ann003-eng.cfm>.

individuals, 6 Métis respondents and 7 First Nations respondents reported being speech-language pathologists. One Métis and one First Nations respondent said they were supportive personnel. No respondents reported Inuit ancestry.

When asked to report their practice type, 67% of respondents said they worked in the public sector, 16% indicated they worked in the private sector and about 17% reported that their practice included both public and private services. Most speech-language and hearing professionals reported working in the public sector. Audiologists comprised the largest proportion of private sector practitioners (39%).

A total of 75% of all respondents reported that they had six or more years of experience providing audiology or speech-language services. Reflecting their relatively new professional status, 45% of supportive personnel had five or fewer years of practice experience. A total of 37% of audiologists and 32% of speech-language pathologists reported having more than 20 years of work experience.

Respondents were asked to indicate in which practice setting they most frequently provided services. Fifty-five percent of respondents reported that they most frequently delivered services in health care settings.

The target sample

As stated, the target respondents for this survey were audiologists, speech-language pathologists and supportive personnel currently (2005 to 2010) providing services to 0 to 6-year-old First Nations, Inuit or Métis children. Five hundred and sixty-three respondents met these criteria. Demographics for the full and target respondents were very similar.

Clients served

- A. *Are you currently providing services to First Nations, Inuit or Métis people?*
- B. *In which year did you last provide services to First Nations, Inuit or Métis people?*

Table 2 describes the year in which target respondents reported last providing services to First Nations, Inuit or Métis clients. Nearly four-fifths (70.6%) reported delivering services in 2010. The remaining 20.4% of respondents provided speech-language and hearing services between 2005 and 2009.

Table 2: Target respondents who said they provided services to 0 to 6-year-old First Nations, Inuit or Métis children between 2005 and 2010

Year	Frequency	%
2010	448	79.6
2009	63	11.2
2008	22	3.9
2007	14	2.5
2006	8	1.4
2005	8	1.4
Total	563	100

C. Please indicate the age range of the First Nations, Inuit or Métis people with whom you have worked (0 to 6, 7 to 12, 13 to 18, 19 to 65, 66 years +)?

Table 3 describes the distribution of client ages serviced by the target sample based on client age. Two-fifths of respondents (41.2%) said they provided services to only 0 to 6-year-olds. Another 22.7% reported providing services to 0 to 12-year-olds, 20.4% to children aged 0–18 and 9.9% to all age groups.

Table 3: Client age groups served by target respondents

Age Groups (Years)	Frequency	%
0 to 6 only	232	41.2
0 to 12	128	22.7
0 to 18	115	20.4
All ages	56	9.9
Other 0-6-year-old combinations*	32	5.7
Total	563	100
*This category includes respondents who said they provided services to multiple age groups, such as 0-6 and 13 to 18 and over 65.		

Location where services are provided

D. *Would you define the location where you currently provide services to First Nations, Inuit or Métis people as a remote or isolated setting?*

Table 4 shows that 21.3% of target respondents reported working in an isolated setting. A higher percentage of supportive personnel than audiologists or speech-language pathologists reported working in isolated settings.

Table 4: Perceived remoteness of First Nations, Inuit or Métis settings where speech-language and hearing services are provided

Remote/Isolated	Overall		AUD		S-LP		SP	
	Freq	%	Freq	%	Freq	%	Freq	%
No	346	72.8	32	64.0	296	74.4	10	55.6
Yes	101	21.3	11	22.0	82	20.6	7	38.9
Does not apply	28	5.9	7	14.0	20	5.0	1	5.6
Total	475	100	50	100	398	100	18	100

Service delivery locations, modes of transportation and travel time

E. *We would like to understand more about where you delivered services, how you got there and how much time and effort it took you to come and go from each place. Please complete the following 4 phrases by choosing the most applicable answer from the 3 drop down menus (type of facility, how I get there, how long a round trip takes).*

Table 5 shows that most audiologists (71.4%) reported working in health centres, while speech-language professionals were more likely to report working in schools (41.2%). Supportive personnel reported working with nearly equal frequency in both health centres and schools. Aboriginal Head Start was rarely identified as a service delivery location (4.8%).

Table 5: Type of facility where speech-language and hearing services are usually provided

Facility	Overall		AUD		S-LP		SP	
	Freq	%	Freq	%	Freq	%	Freq	%
School	285	38.9	10	15.9	257	41.2	11	35.5
Health Centre	212	28.9	45	71.4	150	24.0	13	41.9
Daycare / preschool	114	15.6	1	1.6	105	16.8	5	16.1
Community-based care / homecare	46	6.3	2	3.2	42	6.7	1	3.2
Specialized / Rehab Centre	41	5.6	5	7.9	35	5.6	1	3.2
Aboriginal Head Start	35	4.8	0	0.0	35	5.6	0	0.0
Total	733	100	63	100	624	100	31	100

When asked how they got to their primary and secondary work settings, 85% of professionals said they used a car (Table 6). Only 7.9% of respondents reported air travel as a usual mode of transportation, reflecting that they worked in a distant location.

Table 6: Mode of transportation to primary and secondary speech-language and hearing service locations

Mode of Transportation	Overall		AUD		S-LP		SP	
	Freq	%	Freq	%	Freq	%	Freq	%
Car	591	85.0	29	53.7	525	90.2	16	53.3
Plane	55	7.9	15	27.8	38	6.5	1	3.3
Foot / local transport	37	5.3	7	13.0	11	1.9	5	16.7
Car & Ferry	7	1.0	1	1.9	5	0.9	1	3.3
Private water craft	3	0.4	1	1.9	2	0.3	0	0.0
Train	2	0.3	1	1.9	1	0.2	7	23.3
Total	695	100	54	100	582	100	30	100

Two-thirds (66.9%) reported that they travelled to and from work in less than one hour (Table 7). Audiologists more often reported longer round-trip travel times: 21.1% of audiologists, 4.9% of speech-language pathologists and no supportive personnel traveled one day or more to reach their place of work.

Table 7: Time that it takes speech-language and hearing professionals to make a round trip to work

Time (Round Trip)	Overall		AUD		S-LP		SP	
	Freq	%	Freq	%	Freq	%	Freq	%
< 1 hour	459	66.9	22	42.3	404	68.6	24	80.0
1–3 hours	143	20.8	9	17.3	124	21.1	6	20.0
4–6 hours	43	6.3	10	19.2	32	5.4	0	0.0
1 day	20	2.9	5	9.6	15	2.5	0	0.0
> 1 day	21	3.1	6	11.5	14	2.4	0	0.0
Total	686	100	52	100	589	100	30	100

Current Practice of the Target Sample

Delivery of speech-language and hearing services

Employment

A. Please indicate under whose authority you currently provide services to First Nations, Inuit or Métis people.

Only 11.3% of target respondents indicated that they delivered services under contract to an Aboriginal organization (Table 8). None of these were audiologists. In contrast, almost 30% reported delivering services on contract with a provincial (26.5%) or federal (2.6%) agency. Notably, 59.7% of the target sample reported working for “other agencies.”

Table 8: Service authority under which speech-language and hearing respondents deliver services

Service Authority	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Contract (provincial)	134	26.5	19	36.5	109	25.8	1	4.5
Contract (Aboriginal)	57	11.3	0	0.0	53	12.6	1	4.5
Contract (federal)	13	2.6	5	9.6	8	1.9	0	0.0
Other	302	59.7	28	53.8	252	59.8	20	90.9
Total	506	100	52	100	422	100	22	100

B. Are there other S-LPs, supportive personnel or audiologists that provide services in the First Nations, Inuit or Métis settings where you work?

When asked to report whether other speech-language and hearing professionals provided services in the First Nations, Inuit or Métis communities in which they work

more than 75.6% of the target respondents indicated that other speech-language and hearing professionals were available (Table 9).

Table 9: Availability of additional speech-language and hearing professionals where First Nations, Inuit or Métis services are delivered

Type of Professional	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Other S-LPs or SPs	227	52.9	10	23.8	207	55.8	10	62.5
None	105	24.5	8	19.0	95	25.6	2	12.5
Other Auds or S-LPs	39	9.1	16	38.1	21	5.7	2	12.5
All other combinations	58	13.5	8	19.0	48	12.9	2	12.5
Total	429	100	42	100	371	100	16	100

In contrast, only 18% of providers who reported working in a First Nations or Inuit community (n=85) and 19% of providers who defined their service location as isolated (n=96) reported that additional speech-language and hearing professional resources were available. These differences were significant.¹¹

C. What is your highest proficiency with any Aboriginal language?

When asked to describe their highest proficiency with any First Nations, Inuit or Métis language, less than 1% indicated that they possessed conversational abilities in an Aboriginal language and only one individual self-identified as a fluent speaker (Table 10). A total of 126 respondents (23.6%) said they knew a few words and functional phrases and 75.6% said they had no proficiency. Speech-language pathologists were more likely to report knowledge of an Aboriginal language than audiologists or supportive personnel. This may reflect the different demands of the professions.

¹¹Results of a chi-square test of association: Do you work in a First Nation or Inuit community (Yes/No) and are other speech-language and hearing resources available (Yes/No): $\chi^2 (1, N=372) = 13.594, p > .001$. Please refer to Appendix A for isolation variable results.

Table 10: Speech-language and hearing professional proficiency in an Aboriginal language

Proficiency	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
None	403	75.6	48	87.3	327	73.2	20	95.2
A few words & functional phrases	126	23.6	7	12.7	116	26.0	1	4.8
Conversational	3	0.6	0	0	3	0.7	0	0
Fluent	1	0.2	0	0	1	0.2	0	0
Total	533	100	55	100	447	100	21	100

Cultural affiliation

D. *To which groups of Aboriginal People do you provide services (check all that apply)?*

When asked to identify the groups of First Nations, Inuit and Métis peoples they worked with, 50.7% of speech-language and hearing professionals exclusively indicated First Nations (Table 11).

Table 11: First Nations, Inuit and Métis groups served by speech-language and hearing professionals

Ancestry of Population Served	Frequency	%
First Nations	282	50.7
First Nations & Métis	156	28.1
First Nations, Inuit & Métis	33	5.9
First Nations, Inuit & unsure	32	5.8
Unsure of ancestry	24	4.3
Inuit or Inuit & unsure	15	2.7
First Nations, Métis & unsure	7	1.3
Métis	5	1.0
Total	556	100

Another 41.1% reported serving First Nations in combination with Inuit and/or Métis clients. Approximately 4% of respondents were unsure about the cultural identity of their First Nations, Inuit or Métis clients. The survey did not provide respondents with guidelines for distinguishing cultural identity. Accordingly, responses may or may not be accurate descriptions of the groups receiving services.

Where services are provided and language spoken in communities

E. *Where do you currently provide services to First Nations, Inuit or Métis people?*

Table 12: Settings where speech-language and hearing professionals provide services

Setting	Overall		AUD		S-LP		SP	
	Freq	%	Freq	%	Freq	%	Freq	%
On a First Nations community	84	18.6	2	4.1	78	20.7	2	11.1
In an Inuit community	9	2.0	4	8.2	5	1.3	0	0
Other settings	359	79.4	43	87.8	293	78.0	16	88.9
Total	452	100	49	100	376	100	18	100

Approximately one-fifth (18.6%) of respondents said they provided services in a First Nations community and 2.0% said they provided services in an Inuit community (Table 12). Speech-language pathologists were more likely than audiologists or supportive personnel to provide services on a First Nations community. Only 9 individuals reported providing services in Inuit communities: 4 audiologists and 5 speech-language pathologists. Since the majority of Inuit would be located in these communities, this suggests a real lack of services to this population.

Among those who defined their work setting as geographically isolated, 9.5% (n=8) reported working in an Inuit community and 33.3% (N=28) on a First Nations community.

F. *What are the names of the communities and organizations where you currently provide services?*

A total of 311 respondents reported 516 places. Most service delivery locations were cities or towns outside of First Nations, Inuit communities or Métis settlements. While 11 respondents specifically mentioned that First Nations, Inuit or Métis clients must travel to the respondent's site for services, it was not possible to determine how many clients actually must do so.

Approximately 27% of the total places identified (136 of 516) were a First Nations community (81%), Inuit community (15%) or Métis settlement (4%).

G. *What language or languages are indigenous to the First Nations, Inuit or Métis communities that you serve or have served?*

A total of 245 respondents reported 49 Aboriginal languages being used by people living in the communities that they served. About 5% (n=13) of these respondents answered “English” or “many” to this question. Table 13 illustrates the languages most frequently reported by speech-language and hearing service respondents by frequency.¹²

Table 13: Languages reported to be indigenous to the First Nations, Inuit or Métis communities served by speech-language and hearing professionals

Language	Freq	%
Cree	76	31.0
Anishnaabemowin	33	13.5
Maliseet	31	12.7
Haudenosaunee	20	8.2
The Inuit languages	10	4.1
Miq'Maq	4	1.6
All others	71	28.9

Languages identified by respondents in the “other” category included: Algonquin, Blackfoot, Carrier, Chilcotin, Chippewan, Comox, Dene, Dogrib, Gitksan, Gwitch'in, Haida, Haisla, Halq'emeylem, Hul'qumi'num, Innu, Katzi, Ktunaxa, Kwakwala, Musqueam, Nisga'a, Tutchone, Peigan, Salish (coastal), Salish (interior), Sauteaux, Sechelt, Secwepemc, SEN O EN, Shuswap, Sioux, Slavey, SmHalgyaHx, Squamish, St'at'imc, Stolo-Halkomelem, Tahltan, Tlingit, Tshemat, Tsimshian, TsuuTina, Tsawassen, Tutchone, Ucwalmicwts and Wet suwet'en.

¹²Languages identified in Table 13 may vary dialectally by region: for example, variations of Cree (Plains, Swampy, Mushkegowuk), Anishnaabemowin (Ojibway, Walpole Ojibway, Oji-Cree), Haudenosaunee (Iroquois, Mohawk, Cayuga, Oneida...) and the Inuit languages (Inuktitut and Innuinuqtun).

Waitlists, caseloads, frequency

H. *From your experience working with First Nations, Inuit and Métis people, how are clients identified as requiring speech-language and audiology support (check all that apply)?*

Speech-language and hearing professionals reported that clients were identified relatively frequently through health care providers, teachers, early childhood educators or parents/caregivers and somewhat less frequently through screening programs (Table 14). Universal services were rarely reported as avenues of identification. These patterns were relatively stable across professions.

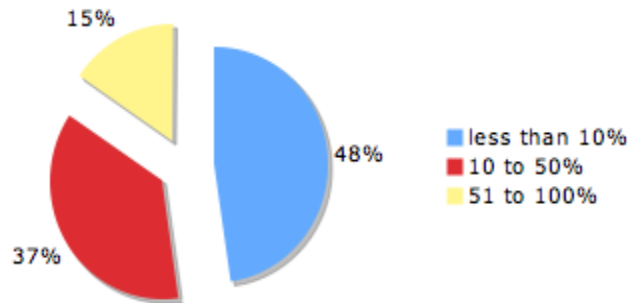
Table 14: How new clients are identified by speech-language and hearing professionals

Identifier	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Health care providers	302	53.6	39	58.2	248	53.1	11	50.0
Teachers	298	52.9	30	44.8	250	53.5	14	63.6
ECE staff	243	43.2	22	32.8	207	44.3	8	36.4
Parents/caregivers	238	42.3	32	47.8	191	40.9	10	45.5
Screening programs	184	32.7	25	37.3	145	31.0	11	50.0
Universal services	45	8.0	12	17.9	30	6.4	3	13.6

I. *Please estimate the percentage of your current clients who are First Nations, Inuit or Métis people.*

When asked to estimate what percentage of their current caseload was comprised of First Nations, Inuit or Métis people, 48% reported that First Nations, Inuit and Métis children represented less than 10% of their caseload, while only 15% estimated that First Nations, Inuit and Métis represented between 51% and 100% of their caseload (Figure 1). This pattern was reflected across professions.

Figure 1: Estimated percentage of speech-language and hearing respondent caseloads who are First Nations, Inuit or Métis (n=549)



A higher percentage of speech-language and hearing professionals working in isolated locations reported having caseloads made up of 10–100% First Nations, Inuit and Métis (Table 15).

Table 15: Estimated percentage of First Nations, Inuit or Métis who are currently clients by degree of isolation

Percentage	Overall		Isolated		Not isolated	
	Freq	%	Freq	%	Freq	%
Less than 10%	214	46.0	25	25.5	189	51.5
10–50%	174	37.4	32	42.8	132	36.0
51–100%	77	16.6	41	31.6	46	12.5
Total	465	100	98	100	367	100

Intervention and training

Intervention services

A. *Please describe the type of intervention service you provided (check all that apply).*

Speech-language and hearing professionals identified more than 50 different service combinations from the six choices presented: a) distant consult, b) direct individual, c) direct group, d) community-wide prevention-promotion, e) site-specific prevention-promotion, and f) collaboration (e.g. shared therapy goals/delegate to others). Responses ranged from exclusive choices, such as direct individual, to choosing all of the options.

Respondent choices were collapsed into 14 mutually exclusive categories.¹³ The six most frequently cited interventions are described in Table 16. The remaining responses are merged within the “All others” category. Almost all speech-language and hearing professionals said they used direct interventions with First Nations, Inuit and Métis clients and between 29.0% (speech-language pathologists) and 50.9% (supportive personnel and audiologists) said they exclusively used direct services. Only 3.5% of audiologists reported using direct and collaborative interventions, in contrast to 14.8% of speech-language pathologists and 13.6% of supportive personnel.

Table 16: Intervention services provided by speech-language and hearing professionals

Intervention Service	Overall		AUD		S-LP		SP	
	Freq	%	Freq	%	Freq	%	Freq	%
Direct interventions only	167	32.3	29	50.9	127	29.0	11	50.0
Direct, collaborative & prevention-promotion	77	14.9	4	7.0	72	16.4	1	4.5
Direct & collaborative	70	13.5	2	3.5	65	14.8	3	13.6
Direct, prevention-promotion	53	10.3	6	10.5	42	9.6	5	22.7
All interventions	45	8.7	3	5.3	41	9.4	1	4.5
Direct, collaborative, distant	35	6.8	1	1.8	34	7.8	0	0.0
All others	70	13.5	12	21.1	57	13.0	1	4.5
Total	517	100.0	57	100.0	438	100.0	22	100.0

Within the merged “All others” category, a small number of respondents reported that they used distant consults (n=13), prevention-promotion (n=10) and collaborative (n=1) interventions exclusively.

¹³ (1) Distant consults only, (2) direct interventions only, (3) prevention-promotion only, (4) collaborative only, (5) all interventions, (6) direct & collaborative, (7) distant & collaborative, (8) direct & distant, (9) direct, distant & collaborative, (10) direct, prevention-promotion & collaborative, (11) direct, distant, prevention-promotion, (12) direct & prevention-promotion, (13) distant & prevention-promotion, and (14) collaborative & prevention-promotion.

B. Which prevention and promotion activities do you deliver (check all that apply)?

NOTE: “Universal services” are those provided to all children rather than a subset that has been identified as having special needs.

A wide variety of promotion and prevention activities were used by speech-language and hearing service respondents (Table 17). The frequency with which they engaged in these activities was not asked. In general, however, speech-language pathologists engaged in these activities more than audiologists: a higher percentage of speech-language pathologists than audiologists reported the use of in-service activities (41.1% versus 29.3), classroom demonstrations (33.4% versus 12.1%), universal parent training (22.9% versus 12.1%) and parent-child interaction programs (19.7% versus 5.2%).

Table 17: Speech-language and audiology prevention and promotion approaches applied with First Nations, Inuit or Métis clients

Activities	Overall		AUDs & SPs		S-LPs & SPs	
	Freq	%	Freq	%	Freq	%
In-services	209	39.8	17	29.3	192	41.1
Informal conversations	202	38.5	19	32.8	183	39.2
Classroom demonstrations	163	31.0	7	12.1	156	33.4
Pamphlets / brochures	161	30.7	17	29.3	144	30.8
Universal direct child services	148	28.2	13	22.4	135	28.9
Displays at community events	128	24.4	11	19.0	117	25.1
Universal parent training	114	21.7	7	12.1	107	22.9
Universal parent-child interaction programs	95	18.1	3	5.2	92	19.7
Speak at community meetings	76	14.5	10	17.2	66	14.1
Multi-media presentations	50	9.5	3	5.2	47	10.1
Radio/TV	20	3.8	3	5.2	17	3.6

Provision of education/training

C. Have you ever provided formal training to community members, community-based support staff, workers and paraprofessionals?

Speech-language and hearing professionals were asked to estimate how frequently they have provided education/training to community members, community-based support staff workers and paraprofessionals as part of their job: never, once, 2–5 times, 6–10 times, or 11 or more times. These response categories have been collapsed into never, 1–5 times and 6 or more times.

Table 18: How often speech-language and hearing professionals reported providing training to community members, community-based staff workers and paraprofessionals

Frequency of Training	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Never	194	41.7	26	55.3	155	39.4	11	68.8
1–5 times	148	31.8	13	27.7	128	32.6	4	25.0
6 or more times	123	26.5	8	17.0	110	28.0	1	6.3
Total	465	100	47	100	393	100	16	100

Table 18 shows that 58.3% of respondents replied that they have delivered education/training services at least once. Fewer audiologists and supportive personnel reported providing training than speech-language pathologists. Respondents answering this question who also defined the community they work in as isolated were significantly more likely than those who did not work in an isolated community to report that they provided training one or more times (72%).

D. To whom in the First Nations, Inuit or Métis community do you provide education/training?

Respondents were asked to identify to whom they provided training (Table 19). Respondents reported providing education/training to a wide variety of people, most frequently parents or caregivers. Information was not gathered on the intensity of training.

Table 19: Persons receiving training from speech-language and hearing professionals in First Nations, Inuit and Métis communities

Type of Trainee	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Parents / Caregivers	250	44.4	23	34.3	217	46.5	5	22.7
Teachers	179	31.8	16	23.9	155	33.2	3	13.6
Education Assistants	174	30.9	10	14.9	156	33.4	3	13.6
Early Childhood Educators	159	28.2	7	10.4	143	30.6	3	13.6
Supportive Personnel	127	22.6	10	14.9	110	23.6	4	18.2
Health care providers	87	15.5	14	20.9	68	14.6	3	13.6

Service strategies and tools

Collaboration with community partners

A. *With which agencies or programs do you collaborate (check all that apply)?*

Respondents were asked to report all of the agencies with which they collaborated. While 21.1% of speech-language and hearing service respondents reported collaborating with provincial/territorial child and family services, education, health and social service ministries and agencies, only 9.0% reported collaborating with Aboriginal Head Start in Urban and Northern communities, 8.9% with Aboriginal Head Start on Reserve, and 5.3% with Indian and Northern Affairs (Table 20). It should be noted, however, that collaboration may have been interpreted in different ways by different respondents (e.g. collaborative funding or collaborative planning).

Table 20: Agencies with whom speech-language and hearing professionals collaborate

Agency/Program	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Provincial/Territorial Ministry or Agency	476	21.1	46	17.2	400	21.4	21	23.9
Aboriginal Head Start in Urban & Northern Communities / PHAC	101	9.0	6	4.5	86	9.2	6	13.6
Aboriginal Head Start On Reserve / FNIH	100	8.9	17	12.7	75	8.0	5	11.4
Indian and Northern Affairs	30	5.3	5	7.5	23	4.9	1	4.5

Adaptation of services for First Nations, Inuit and Métis clients

B. *Have you adapted your intervention approach/tools to address cultural/linguistic/community characteristics?*

Overall, one-half of all service respondents (49.8%) reported adapting their intervention approaches or tools for First Nations, Inuit and Métis clients. Some respondents (10.4%) reported that adaptation did not apply. This may be because adaptation was not defined for respondents or they worked with individuals who were highly assimilated. Table 21 shows how adaptation varied by profession. More audiologists (67.4%) indicated that they did not adapt their service to this client

group, compared to speech-language pathologists (51.9%) or supportive personnel (42.9%).

Table 21: Adaptation of services for First Nations, Inuit or Métis clients

Adapted Services	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Yes	225	49.8	14	32.6	205	51.9	6	42.9
No	180	39.8	29	67.4	145	36.7	6	42.9
Does Not Apply	47	10.4	0	0.0	45	11.4	2	14.3
Total	452	100	43	100	395	100	14	100

It is worth noting that professionals working in isolated settings were more likely to adapt their services than those in non-isolated settings (Table 22). This may reflect either their familiarity with community practices and local languages and usage or the greater need to do so (Table 22).

Table 22: Speech-language and hearing respondent adaptation of services for First Nations, Inuit or Métis clients by degree of isolation

Adaptation	Overall		Isolated		Not Isolated	
	Freq	%	Freq	%	Freq	%
Yes	213	52.1	58	67.4	155	48.0
No/Does not apply	196	47.9	28	32.6	168	52.0
Total	409	100	86	100	323	100

Intervention and assessment modalities

C. *Please indicate which of the following modalities you currently use to provide assessment or intervention services with First Nations, Inuit or Métis clients.*

When asked to rate the frequency with which they provided intervention and assessment services in various modalities, 87.1% of respondents reported that they regularly or frequently provided services face-to-face with their clients (Table 23). In contrast, internet and videoconferencing were most often reported to be occasionally or never used. However, telephone conferencing was used regularly or frequently by about one-quarter of all three professional groups.

Table 23: Modalities used by speech-language and hearing professionals to provide intervention and assessment services

	Overall		Auds		S-LPs		SPs	
Face-to-Face	Freq	%	Freq	%	Freq	%	Freq	%
Regularly/Frequently	461	87.1	49	81.6	387	87.9	18	90.0
Occasionally/Never	68	12.8	11	18.4	53	12.0	2	10.0
Total	529	100	60	100	440	100	20	100
Telephone	Freq	%	Freq	%	Freq	%	Freq	%
Occasionally/Never	331	76.6	37	75.6	277	77.0	13	76.5
Regularly/Frequently	101	23.4	12	24.4	83	23.0	4	23.5
Total	432	100	49	100	360	100	17	100
Internet	Freq	%	Freq	%	Freq	%	Freq	%
Occasionally/Never	380	93.8	44	97.8	317	93.3	15	100
Regularly/Frequently	25	6.2	1	2.2	23	6.5	0	0
Total	405	100	45	100	340	100	15	100
Videoconferencing	Freq	%	Freq	%	Freq	%	Freq	%
Occasionally/Never	370	95.1	44	100	307	94.2	14	100
Regularly/Frequently	19	4.9	0	0	19	5.8	0	0.0
Total	389	100	44	100	326	100	14	100

Table 24 recodes the original response options into two choices (“have used” and “have not used”) and compares reported frequency of internet and videoconferencing use by individuals working in isolated communities to those working in non-isolated communities. Respondents working in isolated settings were more likely than those in non-isolated settings to report using the internet or videoconferencing to provide service to clients.

Table 24: Speech-language and hearing professional use of internet and videoconferencing modalities by degree of isolation

Modality	Overall		Isolated		Not Isolated	
	Freq	%	Freq	%	Freq	%
Internet						
Never	278	80.6	56	64.4	222	80.6
Regularly / Frequently / Occasionally	67	19.4	31	35.5	36	19.4
Total	345	100	87	100	258	100
Videoconferencing						
Never	289	87.8	61	72.6	228	93.1
Regularly / Frequently / Occasionally	40	12.1	23	27.4	17	6.9
Total	320	100	84	100	245	100

Treatment and assessment methods and strategies

D. *When working with First Nations, Inuit or Métis people what kind of treatment methods do you use (check all that apply)?*

Speech-language pathologists and audiologists reported using a variety of treatment methods with First Nations, Inuit and Métis clients (Table 25). Speech-language professionals most frequently reported using play-based strategies (72.4%), commercial speech-language programs and materials (50.5%) and parent interaction-based (46.3%) programs. Instrumental analyses (i.e. acoustic analysis, ultrasound, electropalatography and nasometry) were almost never reported used.

Table 25: Speech-language service intervention approaches used with First Nations, Inuit or Métis clients

Intervention Approach	S-LPs & SPs	
	Freq	%
Play-based	338	72.4
Commercial S-L programs & materials	236	50.5
Parent interaction-based	216	46.3
Narrative-based	131	28.1
Visual Feedback	105	22.5
Movement-based	87	18.6
Music-based	77	16.5
Art-based	76	16.3
Acoustic analysis	15	3.2
Nasometry	2	0.4
Ultrasound	0	0.0
Electropalatography	0	0.0
Does not apply	18	3.9

Regarding service interventions, audiology professionals reported delivering aural rehabilitation (counselling) programs (70.7%) most frequently, followed by hearing aid fittings (67.2%) and classroom amplification (44.8%) (Table 26).

Table 26: Hearing service intervention approaches used with First Nations, Inuit or Métis clients

Type of Intervention	All Auds/SPs	
	Freq	%
Aural rehab (counselling)	41	70.7
Hearing aid fitting	39	67.2
Classroom amplification	26	44.8
Cochlear implant follow-up	11	19.0

E. Which of the following assessment strategies and tools have you used providing services to First Nations, Inuit or Métis people (check all that apply)?

Respondents were asked to report on the assessment strategies and methods that they employed when providing services to First Nations, Inuit and Métis clients.¹⁴ Between 76.9% and 81.8% of speech-language pathology respondents identified the following strategies and tools: observation, language sampling, parent/caregiver reports and questionnaires and commercial standardized tests (Table 27). Fewer respondents (7.5%–12.6%) reported using strategies/tools adapted to First Nations, Inuit or Métis clients such as standardized tests with local norms, locally developed criterion-referenced assessment tools and translated/modified commercial tests. Nonetheless, the frequency that local norm use was reported seemed high and may reflect differences in interpretation of the term “local norm.” As well, 55.9% reported using dynamic assessment, a strategy often recommended in the literature for assessing individuals from multi-cultural backgrounds. This is higher than the percentage reported to be using this strategy in US surveys, but consistent with other Canadian surveys.

Table 27: Speech-language assessment strategies used with First Nations, Inuit or Métis clients

Strategy	S-LPs & SPs	
	Freq	%
Observation	382	81.8
Language sampling	370	79.2
Parent/caregiver/teacher reports & questionnaires	364	77.9
Commercial/Standardized tests	359	76.9
Dynamic assessment	261	55.9
Hearing screening	153	32.8
Standardized tests with local norms	59	12.6
Locally developed criterion-referenced assessment tools	46	9.9
Translated / modified commercial tests	35	7.5
Does not Apply	12	2.6

¹⁴ Strategies were not defined. Respondents may have applied individual definitions of what constitutes language sampling, dynamic assessment or translated/modified commercial tests.

Table 28 summarizes reported audiology assessment strategies. Overall, most respondents reported using pure tone audiometry, immittance measures, speech reception and discrimination, and otoacoustic emissions. The types of strategies identified indicate that audiologists responded based on their whole caseloads and not just the 0 to 6-year-old cohort.

Table 28: Audiology assessment strategies used with First Nations, Inuit or Métis clients

Audiology Assessment Strategies	All Auds & SPs	
	Freq	%
Pure tone audiometry	48	82.8
Immittance measures	47	81.0
Speech reception/discrimination	43	74.1
Otoacoustic emissions	39	67.2
Auditory brainstem response	25	43.1
Central auditory processing	14	24.1

Strategies used to support services for First Nations, Inuit and Métis

F. *What supports/strategies do you use when serving First Nations, Inuit and Métis people (check all that apply)?*

When asked to identify specific strategies that they use in working with First Nations, Inuit or Métis clients from a pull-down menu, a variety of strategies were identified (Table 29). Interestingly, only 11.9% of respondents said they used interpreters, although the proportion of audiologists (25.4%) who reported using them was higher than speech-language pathologists (10.5%) or supportive personnel (0%). Respondents were not asked if interpreters were necessary or available in their work environments. Almost no respondents reported using translated tests. Difficulties with the use of translations are frequently discussed in the literature and seems to be understood by these respondents.

Table 29: Support strategies used by speech-language and hearing professionals working with First Nations, Inuit or Métis clients

	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
I allow more time	258	45.8	19	28.4	228	48.8	8	36.4
I learn local customs	173	30.7	18	26.9	147	31.5	6	27.3
I engage in informal dialogue about expectations	156	27.7	8	11.9	141	30.2	4	18.2
I use locally developed norms	138	24.5	5	7.5	123	26.3	6	27.3
I have participated in cultural sensitivity training	127	22.6	14	20.9	105	22.5	6	27.3
I learn local terms/language	106	18.8	3	4.5	97	20.8	4	18.2
I use interpreters	67	11.9	17	25.4	49	10.5	0	0.0
I use culturally appropriate materials	19	3.4	2	3.0	15	3.2	0	0.0
I use translated tests	12	2.1	1	1.5	9	1.9	1	4.5

Education and training of service providers

Preparedness to provide services for First Nations, Inuit and Métis clients¹⁵

- A. *When you first started your practice with First Nations, Inuit or Métis people how well prepared did you feel?*
- B. *How well prepared do you now feel?*

When asked to recall how prepared they felt when first starting to provide services to First Nations, Inuit and Métis people, one-half (51.4%) indicated that they had felt prepared or very prepared. In contrast, most (88.4%) reported they considered themselves prepared or very prepared to provide those services today. The highest levels of initial preparedness were reported by supportive personnel (72.7%), while most speech-language and hearing professionals said they were currently prepared or very prepared to deliver services to this client group (Table 30).

¹⁵ Respondents self-defined preparedness and these definitions may vary widely. It should be noted that respondents may have been reluctant to report any unpreparedness. Their graduation and certification to provide services indicates they should have been prepared.

Table 30: Estimated preparedness to deliver services for First Nations, Inuit or Métis clients when first starting to practice and now

Preparedness	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
AT FIRST								
Prepared or very prepared	278	51.4	37	59.7	225	49.2	16	72.7
Unprepared or very unprepared	263	48.6	25	40.3	232	50.8	6	27.3
Total	541	100	62	100	457	100	22	100
TODAY								
Prepared or very prepared	479	88.4	60	96.8	397	86.7	22	100
Unprepared or very unprepared	63	11.6	2	3.2	61	13.3	0	0
Total	542	100	62	100	458	100	22	100

Training opportunities

C. *What activities or training have prepared you specifically for working with First Nations, Inuit or Métis people (check all that apply)?*

When asked to identify from a menu those activities that helped prepare them for First Nations, Inuit and Métis service delivery, speech-language and hearing service respondents cited personal experiences (59.7%) most often, although other activities were also cited quite frequently (Table 31).

Table 31: Activities that prepared speech-language and hearing respondents for working with First Nations, Inuit or Métis clients

Activities	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Personal experiences	336	59.7	33	49.3	286	61.2	13	59.1
Personal research/reading	215	38.2	14	20.9	191	40.9	6	27.3
On the job training	212	37.7	24	35.8	175	37.5	9	40.9
Conference presentations	147	26.1	12	17.9	128	27.4	6	27.3
Courses/classes community learning experiences	133	23.6	9	13.4	118	25.3	4	18.2
Job orientation	66	11.7	9	13.4	50	10.7	5	22.7
Nothing has helped	49	8.7	8	11.9	38	8.1	2	9.1

D. *In your work with First Nations, Inuit or Métis people, do opportunities exist to learn more about the culture of the people you are serving?*

Between 21% and 27% of respondents said that they have participated in cultural sensitivity training. When asked to indicate if they knew of opportunities to learn more about the culture of the people they served, most said yes (Table 32), especially supportive personnel.

Table 32: Opportunities to learn from communities by profession

Opportunities	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Yes	367	69.4	34	61.8	310	69.8	18	90.0
No	162	30.6	21	38.2	134	30.2	2	10.0
Total	529	100	55	100	444	100	20	100

E. *Are you currently able to access professional development programs for working with First Nations, Inuit or Métis people?*

When asked if professional development opportunities for working with First Nations, Inuit and Métis clients were accessible, two-thirds of respondents (66.9%) said no or don't know (Table 33). It should be noted that professional development opportunities were not defined.

Table 33: Perceived availability of professional development programming by profession

Availability	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Yes	154	33.1	10	21.3	134	34.1	8	50.0
No	144	31.0	16	34.0	120	30.5	4	25.0
Don't Know	167	35.9	21	44.7	139	35.4	4	25.0
Total	465	100	47	100	393	100	16	100

Summary of barriers to speech-language and hearing services for First Nations, Inuit and Métis clients

Responses from speech-language and hearing service respondents highlighted important barriers to the delivery of services for 0 to 6-year-old First Nations, Inuit and Métis children. In total, 11 issues were identified within three categories: physical, practice and education/training barriers.

Physical barriers

Physical barriers relate to location and geography and emphasize accessibility of services (Table 34). Few respondents reported delivering services on a First Nations community, in an Inuit community or in isolated settings. As mentioned previously, this highlights the need for more services within these communities. One particularly salient finding was that very few respondents reported working within or in collaboration with Aboriginal Head Start programs. These programs provide a largely untapped opportunity for speech-language and hearing professionals to collaborate with First Nations, Inuit and Métis to support the development of young children.

Table 34: Physical barrier issues

Issues	Description	Reference
Proximity to 0 to 6-year-old population	<ul style="list-style-type: none"> Only 4.8% of respondents said they usually delivered services in Aboriginal Head Start facilities. 	page 12
Proximity of services to community members	<ul style="list-style-type: none"> The majority of respondents (73%) did not provide services in isolated remote communities. The majority of respondents (79.4%) reported that they did not provide services on a First Nations community or in an Inuit community. 	page 11 page 16

Practice barriers

Speech-language and hearing professionals reported working with colleagues and community members to identify children who require services and collaborating with agencies in service delivery.

Speech-language and hearing professionals reported jurisdictional, coordination and infrastructural barriers to service provision (Table 35). Overall, few respondents reported delivering services under the authority of Aboriginal organizations or collaborating with local or federal agencies. Fewer than one-half reported adapting their services for First

Nations, Inuit and Métis clients. Finally, even though First Nations, Inuit and Métis populations are widely distributed, the vast majority of respondents reported never having used information and communication technologies as a way to extend their practice.

Table 35: Practice barrier issues

Issues	Description	References
Service authority	<ul style="list-style-type: none"> Most respondents delivered services under the authority of non-Aboriginal agencies. 	page 12
Collaboration	<ul style="list-style-type: none"> Respondents most frequently collaborated with provincial and territorial agencies and least frequently with federal and community-based agencies. 	page 23
Intervention	<ul style="list-style-type: none"> Direct individual interventions were the most frequently identified service, highlighting disorder rather than a strengths-based orientation. 	page 20
Adaptation	<ul style="list-style-type: none"> Fewer than one-half of respondents adapted their approaches for First Nations, Inuit and Métis service delivery. 	page 23
Service modalities	<ul style="list-style-type: none"> Almost no respondents used mediated (telehealth/internet) services and service models. 	page 25

Training barriers

Training barriers refer to gaps in institutional capacity to successfully acquire, apply or transfer knowledge relevant to speech-language and hearing services for 0 to 6-year-old First Nations, Inuit and Métis children (Table 36). The low percentage of respondents of First Nations, Inuit and Métis heritage in the speech-language and hearing professional workforce demonstrates the need to recruit and train these individuals in the speech, language and hearing professions. One-half of professionals reported being unprepared or very unprepared when they first began serving First Nations, Inuit and Métis clients, and many also reported a lack of access to professional development opportunities in this area. These data speak to the need for more training opportunities in university programs and in the field. Many respondents reported providing training to a broad array of individuals; this training often did not take place in First Nations or Inuit communities or Métis settlements, however. Most of the respondents did not actually work in these communities, which speaks to the need to make such training accessible.

Table 36: Education/Training barrier issues

Issues	Summary	Reference
Provider diversity	<ul style="list-style-type: none"> Only 15 respondents identified themselves as having First Nations, Inuit or Métis ancestry. 	page 8
Preparedness to deliver services	<ul style="list-style-type: none"> Nearly one-half of the target population felt they were unprepared to provide services when they first started working with First Nations, Inuit or Métis clients. 	page 30
Professional development	<ul style="list-style-type: none"> Only one-third of respondents stated that professional development opportunities were accessible. 	page 31

Overview of Data and Recommendations

Most respondents worked in agencies or institutions funded by provincial governments. With few exceptions, this means that First Nations, Inuit and Métis clients who live in rural, remote and isolated areas must travel away from their community to receive these services.

Only 1.4% of target respondents indicated that they were First Nations or Métis. None of these respondents indicated that they were audiology professionals.

Marginally, more than one-half of all respondents said that they were prepared to deliver services for First Nations, Inuit and Métis clients. A large proportion of respondents reported addressing service knowledge gaps by making a personal effort to learn more. Still, more than 75% said that they have not participated in formal approaches such as cultural (sensitivity/safety/competency) training. Two-thirds of respondents believe that professional development programming that would contribute to their understanding of community-based cultures and conditions was unavailable.

The relationship between geographic isolation and service delivery, support and provider perceptions has been highlighted throughout this report. For example, professionals who define their First Nations, Inuit or Métis service setting as remote/isolated were more likely than those not in remote/isolated settings to identify personal benefits, provide training to more community people, to use videoconferencing modalities and to adapt their services to First Nations, Inuit or Métis client needs. These professionals are an important change resource and should be engaged to guide service innovation.

Although telehealth services are very advanced in Canada (networks exist in every province), most respondents were personally and practically unfamiliar with its use as a service delivery medium. This may reflect a range of factors, such as infrastructural gaps, uneven availability of these technologies in communities or in school/daycare environments,

lack of training in post-secondary institutions, privacy concerns and perceived provider cost burden of buying into and maintaining new technologies.

Fewer than 10% of the 563 respondents who reported currently providing services to 0 to 6-year-old First Nations, Inuit and Métis children said that they provided services in a First Nations community and just 1.6% in an Inuit community. Although 100% of Inuit communities are classified as isolated and about one-third of First Nations are considered remote (accessible only by plane or boat and/or seasonal road), only 18% of current service respondents described their practice setting in these terms.

More than three-quarters of respondents said that they practiced in facilities that were not managed by First Nations, Inuit or Métis organizations and few respondents reported delivering services in settings such as Aboriginal Head Start. In total, 54.8% of respondents said they usually provided services in a school, preschool or daycare and 28.9% in a health centre. Only 4.8% of respondents said they provided services in an Aboriginal Head Start.

Knowledge transfer and awareness

These recommendations address gaps and inconsistencies in knowledge about how best to provide effective services to First Nations, Inuit and Métis children.

1. Partnerships with First Nations, Inuit and Métis organizations for sharing community-based views, identifying unique requirements and capacities, and promoting positive outcomes of speech-language and hearing service delivery with clients receiving these services should be developed and sustained.
2. Formal opportunities to strengthen and sustain inter-professional connections should be developed, particularly as they relate to improved understanding of urban and non-urban environments where 0 to 6-year-old First Nations, Inuit and Métis children congregate (e.g. daycares, Aboriginal Head Start on reserve and in northern communities).

Service model development

Improving access to speech-language pathology and audiology services in rural and remote communities is a challenge that requires flexible, creative and sustainable solutions, including increased funding for more professionals and supportive personnel overall. For

existing services, flexibility is needed in current service delivery models to accommodate local linguistic and cultural traditions of individual communities.

Strategies for supporting the expansion of services should be explored with First Nations, Inuit and Métis organizations and federal, provincial and territorial bodies to determine how to increase the proximity, frequency and quality of services. In particular, the following recommendations are suggested.

3. The travel costs to bring speech-language and audiology professionals to and from First Nations, Inuit and Métis communities are very high. Training institutions and regulatory bodies should encourage the evaluation and use of information and communication technology-enabled services to deliver services, train community-based staff, enable professional development opportunities and supervise students during placements.
4. Local linguistic and cultural information should be incorporated into both assessment and intervention models of service delivery. To be most informed, these models should be developed through collaboration with community members.

Professional development

Recruiting First Nations, Inuit and Métis candidates into the professions and better preparing all future and current speech-language pathologists, audiologists and supportive personnel for working in linguistically and culturally diverse settings reflects positive directions for the profession.

5. Efforts to actively recruit and support First Nations, Inuit or Métis candidates in training programs in speech-language pathology, audiology and supportive personnel across the country should be expanded.
6. Open and accessible avenues for professionals and supportive personnel who serve First Nations, Inuit and Métis populations to have ongoing discussions and share resources should be developed and implemented.
7. Education and training within communities should focus on enhancing knowledge and skills of existing support staff and enabling dedicated community resources. Training practices should be flexible and community-based.

8. University training programs need to be encouraged to implement both academic and community-based coursework in service delivery to First Nations, Inuit and Métis clients. This will require funding for coordinator positions and community travel. In addition, universities should be encouraged to provide funding for departments to hire tenure-track scholars of First Nations, Métis or Inuit ancestry who can provide a grounded training and research program to support service delivery to peoples of such ancestry.

APPENDIX 1: Statistical comparison of responses of target respondents working in isolated versus non-isolated communities¹⁶

Variable	Interpretation	Results
Likelihood that other speech-language and hearing resources are available in the community	<i>Isolated professionals are less likely than professionals who do not define their service location as remote/isolated to have access to other speech-language and hearing resources.</i>	$\chi^2(1, N=436) = 7.133, p < .01$
Percentage of caseload who are First Nations, Inuit or Métis	<i>Isolated professionals are more likely to have a larger proportion of First Nations, Inuit and Métis clients on their caseload: 47.9% reported that First Nations, Inuit and Métis clients accounted for 26% to 100% of their caseload vs. 24.8% of those not isolated.</i>	$\chi^2(4, N=465) = 31.282, p < .001$
Percentage of caseload who are First Nations, Inuit or Métis	<i>The proportion of First Nations, Inuit and Métis on the caseloads of isolated professionals is larger: M=2.74 vs. 1.92</i>	$(M=2.74, SE=.149), t(463) = 5.688, p < .001$
Adaptation of speech-language intervention/approaches/tools to address community characteristics	<i>Isolated speech-language professionals are more likely to adapt their services to address cultural and linguistic factors: 67.4% vs. 48.0%</i>	$\chi^2(2, N=409) = 10.386, p < .01$
Use of an interpreter during service delivery	<i>Isolated professionals are more likely to use an interpreter in their work: 33% vs 14.2%.</i>	$\chi^2(1, N=472) = 19.203, p < .001$
Frequency training is provided to community-based people	<i>Isolated professionals are more likely to provide training more frequently, and less likely to never have provided training: 64.7% provided training 2 or more times vs. 46%; and 28.3% never provided training vs. 45.2%</i>	$\chi^2(4, N=464) = 14.274, p < .01$
Frequency training is provided to community-based people	<i>Isolated professionals train more community-based people: M=3.01 vs. 2.4</i>	$(M=3.01, SE=.155), t(462) = 3.564, p < .001$
Where speech-language and hearing professionals provide services	<i>Isolated practitioners more likely to provide services on a First Nations or in an Inuit community: 42.8% vs. 16.5%</i>	$\chi^2(3, N=394) = 47.173, p < .001$
Perceived benefits of the location where services are provided	<i>Isolated professionals are more likely to agree that there are personal benefits associated with the location where they provide services: 60.4% vs. 41.1%</i>	$\chi^2(1, N=456) = 11.405, p < .01$
Frequency videoconferencing is used for assessment or intervention	<i>Isolated professionals are more likely to use videoconferencing for service delivery: 27.4% vs, 6.9%</i>	$\chi^2(3, N=329) = 26.799, p < .001$
Frequency internet is used for assessment or intervention	<i>Isolated professionals are more likely to use internet for service delivery: 35.5% vs. 14%</i>	$\chi^2(3, N=345) = 25.408, p < .001$

¹⁶ A total of 101 (21.3%) of 475 respondents defined the location where they delivered services as isolated and 374 (78.7%) answered “No” or that the question did not apply to them.

APPENDIX 2: Tables describing the full sample

	Freq	%
Female	1,077	91.2
Live in Ontario	434	36.3
Are monolingual	906	75.9
Practice in Ontario	435	36.4
Are in public practice	782	66.6
Are speech-language pathologists	941	79.2
Have been practicing 11 or more years	718	60.4
Share a North American/European ancestry	977	81.8
Are highly educated (master's degree or higher)	1,091	91.6
Completed their professional education in Canada	822	69.0
Most frequently provide services in hospital/clinic settings	619	55.0

Where respondents completed their professional education

	Frequency	%
Canada	822	69.0
United States	330	27.7
Other	39	3.2
Total	1,191	100

Highest level of education completed

	Frequency	%
Diploma	23	1.9
Bachelor's degree	78	6.5
Master's degree	1,038	87.1
AuD	33	2.8
PhD	20	1.7
Total	1,192	100

Languages spoken

	Frequency	%
Monolingual English	887	74.4
Monolingual French	19	1.6
Bilingual	256	21.5
Trilingual	26	2.2
English & an Aboriginal language	3	0.3
Bilingual & some Aboriginal language	2	0.2
Total	1,193	100

Ancestral identity, most frequent and First Nations, Inuit and Métis responses

	Frequency	%
Canadian	503	42.2
English/British	126	10.6
European	50	4.2
First Nations	8	0.7
Métis	7	0.6
Inuit	0	0.0
Other	499	41.8
Total	1,193	100

Distribution of speech-language and hearing professionals by practice type

	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Public	767	66.9	85	50.6	643	69.4	39	73.6
Public/Private	200	17.4	4	10.1	179	19.3	4	7.5
Private	180	15.7	10	39.3	104	11.2	10	18.9
Total	1,147	100	168	100	926	100	53	100

Years practicing by profession

	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
0–5 years	292	25.1	30	17.6	238	25.4	24	45.2
6–20 years	507	43.7	78	45.9	405	43.2	24	35.8
>20 years	363	31.2	62	36.5	296	31.5	5	9.4
Total	1,162	100	170	100	939	100	53	100

Practice setting by profession

	Overall		Auds		S-LPs		SPs	
	Freq	%	Freq	%	Freq	%	Freq	%
Hospital/Clinic	619	54.9	161	93.6	433	47.9	25	49.0
School	382	33.8	4	2.3	369	40.8	15	29.4
Other	74	6.6	7	4.1	62	6.9	8	15.7
Pre-school/daycare	52	4.6	0	0.0	43	4.8	3	5.9
Total	1,127	100	172	100	904	100	51	100