



Hearing Health 
Alliance of Canada

TOWARDS A NATIONAL HEARING HEALTH STRATEGY

AN AGENDA FOR CHANGE

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EXECUTIVE SUMMARY

The Hearing Health Alliance of Canada is united in advocating for:

- greater awareness of the impact of unmanaged hearing loss;
- decisive action to prevent hearing loss; and
- federal action now on a Canada-wide strategy for hearing health.

This document, *Towards a National Hearing Health Strategy: An Agenda for Change*, embodies all those goals. From this powerful platform, the Hearing Health Alliance of Canada is formally calling on all levels of government and communities of interest to work together to address the hearing health challenges faced by millions of Canadians who experience some form of hearing loss.

Our call to action is clear and unambiguous: the Government of Canada must act first...and act now. It needs to create a multi-stakeholder committee with the aim of launching a comprehensive **National Hearing Health Strategy**.

In making our case, this document provides **five compelling truths** about hearing health and unmanaged hearing loss:

<p>Hearing loss is widespread in Canada</p> <p>1</p>	<p>There remains a chronic lack of public awareness about this issue</p> <p>2</p>	<p>The impact of hearing loss needs to be better recognized</p> <p>3</p>	<p>Setting priorities today is crucial</p> <p>4</p>	<p>Together we can make a difference</p> <p>5</p>
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This document also provides authoritative background information on hearing loss. It includes facts about our Alliance, as well as valuable perspectives from community voices on this important public health issue.

OUR CALL TO ACTION

The Government of Canada must create a multi-stakeholder national committee with the goal of launching a comprehensive **National Hearing Health Strategy**. Instilled with deep resolve and shared values, that national committee will provide the impetus to act decisively on this pressing issue for the benefit of all citizens.

WHY CANADA MUST TAKE ACTION NOW

For many Canadians, listening is effortless. It's not until they struggle to hear that they realize how much hearing is taken for granted...and how essential it is for communication, learning, work, health and quality of life.

Hearing loss affects communication and language learning, and is directly linked to lower learning and academic achievements and fewer career opportunities. It can cause feelings of loneliness and isolation. In elderly individuals, it may accelerate the rate of cognitive decline. The pandemic has intensified accessibility gaps for people with hearing loss, leading to potentially even more isolation and health-related risks.

Unless measures are taken in the near-term, the socio-economic costs of hearing loss will continue to rise, while the quality of life for those living with hearing loss will continue to decline.

Today, 19% of Canadian adults under the age of 70 experience hearing loss such that it negatively affects their ability to comprehend speech.¹ That number rises dramatically among older adults, with three-quarters of men and two-thirds of women experiencing significant hearing loss between the ages of 80 and 85.²

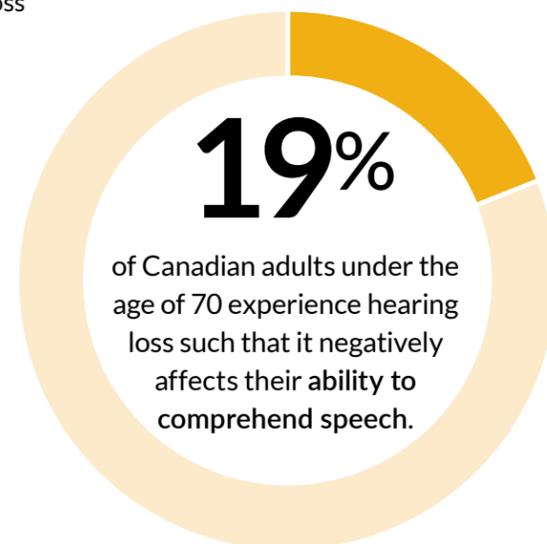
Globally more than 1.5 billion people experience hearing loss—roughly one fifth of the world's population—with an estimated annual cost of unaddressed hearing loss of over \$980 billion.³

It's an all-too-common mistake to assume that little can be done to prevent most hearing loss. Evidence indicates even age-related hearing loss may be partially caused or accelerated by a lifetime of accumulated noise exposure—particularly from exposure to loud sounds.^{4,5,6} Unfortunately, there's a lack of public awareness of the risks and preventive actions to protect hearing and to safeguard against hearing loss.

Hearing health remains a low public policy priority in Canada. And that's despite the abundance of research and statistics showing that hearing loss is both widespread and with severe impacts on health, quality of life and economic cost to governments and individuals.

As a result, accessing hearing health care can be difficult, especially for Indigenous peoples and communities facing systemic barriers (e.g., related to income, education levels, employment and occupational status).^{7,8}

A comprehensive survey conducted by the Canadian Hard of Hearing Association, Wavefront Centre for Communication Accessibility and the University of British Columbia concluded that the COVID-19 pandemic has greatly impacted the daily lives of people with hearing loss or deafness. This is reflected in reduced social connections with friends, family and service provider networks, as well as feelings of isolation and persistent fears of becoming infected (or reinfected) with COVID-19.



While the survey indicated many respondents with hearing loss or deafness can get trustworthy information about COVID-19, there's still a large number who experience challenges accessing this information—particularly adults who have more severe hearing loss.⁹

The release of this document is a critical milestone in our work to create a Canada where hearing health care is valued and protected. It is our hope that this work will further inspire individuals, organizations, governments, researchers, educators, advocacy organizations, health care providers and communities of interest to work together towards a national outcome.

This document is designed to stimulate a national dialogue, foster collaboration between stakeholders and crystalize a national effort to develop a bold, ambitious national hearing health strategy. We are confident it will lead to a meaningful national discussion and guide us towards common, national goals of improved hearing health, access to higher-quality hearing health care and better outcomes for Canadians with hearing loss.

The development of this strategy focuses on people who identify as hard of hearing and use technology and speech as their primary mode of communication. We acknowledge those who are culturally Deaf and use a sign language are a rich, diverse community who have their own unique needs. The work of the HHAC and the recommendations from this strategy do not address the needs of the Deaf Community and we encourage the leadership of Deaf Community to develop a framework to advocate for changes necessary to address those unique needs.

In keeping with our national and international health-related goals, Canada will greatly benefit from a coherent, coordinated, well-resourced National Hearing Health Strategy, as had been done in other countries.^{10,11} This process can be accomplished with the leadership of the federal government, along with the cooperation of provincial, territorial and municipal governments.

Success of a National Hearing Health Strategy will be determined by how well the plan is constructed. Thus, we draw on and reflect the diversity and depth of knowledge offered by the many communities, organizations and individuals most affected by hearing loss.

More needs to be done. That's why this document plainly states **five compelling truths** about hearing health and unmanaged hearing loss, and identifies a list of desired national outcomes that we seek to accomplish through engaged partnership.

The challenges here are substantial. But so too are the opportunities. Thus, the Hearing Health Alliance of Canada—and a growing list of partners and supporters—will continue to encourage action, promote change and highlight the hearing health care priorities as crucial priorities for Canada.

ABOUT OUR ALLIANCE

The Hearing Health Alliance of Canada comprises of the Canadian Hard of Hearing Association, Wavefront Centre for Communication Accessibility, Association of Hearing Instrument Practitioners of Ontario, Canadian Academy of Audiology, Canadian Hearing Instrument Practitioners Society, Cochlear Canada Inc., Hearing Industry Association of Canada and Speech-Language & Audiology Canada.



Raise the profile and awareness of hearing health and the impact of hearing loss



Facilitate a unified national voice through advocacy on issues of common interest



Play a leadership role to facilitate the creation of a national strategy for hearing health



Advance policy, legislative, regulatory and consumer aspects of common interest



Coordinate proposals or submissions to the government on issues of common interest

ABOUT THIS DOCUMENT

Towards a National Hearing Health Strategy: An Agenda for Change sets the foundation for meaningful, collective action on hearing health. It profiles hearing loss and its impact on Canadians' quality of life and on our country's economy and productivity. In addition, it identifies what we collectively view as high-level priority areas and desired outcomes in developing and advancing a national hearing health strategy.

National in focus and guided by a wealth of academic evidence, a Canadian hearing strategy will promote hearing health, prevent hearing loss, ensure equitable access to hearing health and reduce the prevalence, incidence and impact of hearing loss.

Based on our assessment of the current landscape, a national hearing strategy must:

- ✓ Reduce the prevalence of hearing loss;
- ✓ Detect and treat hearing loss early;
- ✓ Ensure equitable access to quality hearing health; and
- ✓ Support research in hearing health.

GUIDING PRINCIPLES

This document is guided by the following principles:

- All people with hearing loss are entitled to the same rights and protections as other Canadians do under the *Canadian Charter of Rights and Freedoms*, the *Canadian Human Rights Act*, the *Accessible Canada Act*, the *United Nations Declaration of the Rights of Indigenous Peoples*, and the *United Nations Convention on the Rights of Persons with Disabilities* (ratified by Canada in 2010).
- Canada must join the international community and support the World Health Organization's efforts to galvanize member nations' action to integrate strategies for ear and hearing care within their respective primary health care systems, as outlined in the 2021 World Hearing Report.¹²
- The Government of Canada's pending *Disability Inclusion Action Plan* must reflect the needs of people living with hearing loss.
- The barriers and stigma associated with hearing loss in Canada must be removed.
- Education and awareness of hearing loss are essential so Canadians can optimize their hearing health and prevent hearing loss.
- All children in Canada deserve access to proper hearing screening, timely diagnosis and appropriate intervention.
- We must ensure equitable access to quality hearing health care providers, such as audiologists, hearing instrument practitioners and otologists, as well as adaptive and assistive technologies, including hearing aids, cochlear implants and captioning.
- We must provide access to support services, such as American Sign Language (ASL), la langue des signes québécoise (LSQ), speech-language pathology and auditory-verbal therapy.
- Hearing health-related research is critical and must be supported with dedicated, sustained funding.



FACTS ABOUT HEARING LOSS

Types of Hearing Loss

There are three primary types of hearing loss:

- **Conductive hearing loss**, caused by damage or obstructions in the outer or middle ear. Conductive hearing loss usually affects all hearing frequencies and is often temporary but may be permanent in some situations. A person with a conductive hearing loss may be helped by sound amplification, such as hearing aids or may require medical intervention or surgery.
- **Sensorineural hearing loss** results from damage to the inner ear's delicate sensory cells or the nerves that supply it. This type of hearing loss can range from mild to profound and is typically permanent. A person with a sensorineural hearing loss may be helped by sound amplification, or with surgical interventions such as cochlear implantation, but may still have difficulty in speech perception and speech discrimination.
- **Mixed hearing loss** refers to a combination of conductive and sensorineural loss and means that a problem occurs in both the outer or middle and the inner ear and nervous system.

What causes hearing loss

Causes vary. Hearing loss can be present at birth (congenital) or develop later in life (acquired). It can be progressive or sudden and may be temporary or permanent, and can be caused by genetic (inherited) and non-genetic factors:

Congenital causes

- cytomegalovirus (CMV), a common virus for people of all ages;
- maternal rubella, syphilis or certain other infections during pregnancy;
- low birth weight;
- lack of oxygen at the time of birth;
- use of particular drugs during pregnancy;
- severe jaundice in the neonatal period.

Acquired causes:

- excessive noise, including occupational noise such as that from machinery and explosions;
- exposure to loud sounds or volumes for prolonged periods, such as the use of personal audio devices or from concerts, nightclubs, bars and sporting events;
- metabolic and autoimmune disorders;
- infectious diseases including meningitis, measles and mumps;
- chronic ear infections;
- collection of fluid in the ear (otitis media with effusion);
- wax or foreign bodies blocking the ear canal;
- use of certain medicines, such as those used in the treatment of neonatal infections, malaria, drug-resistant tuberculosis, HIV/AIDS and cancers;
- aging;
- injury to the head or ear.

Sources: World Health Organization and the Hearing Health Alliance of Canada.

FIVE COMPELLING TRUTHS

The following compelling truths about hearing health and unmanaged hearing loss are foundational and will serve as a valuable framework for federal action on this important public health issue.

1. Hearing loss is widespread in Canada

Its prevalence is shocking. Statistics Canada initiated a hearing evaluation program in 2012, which provided the first opportunity to estimate hearing loss's national prevalence.

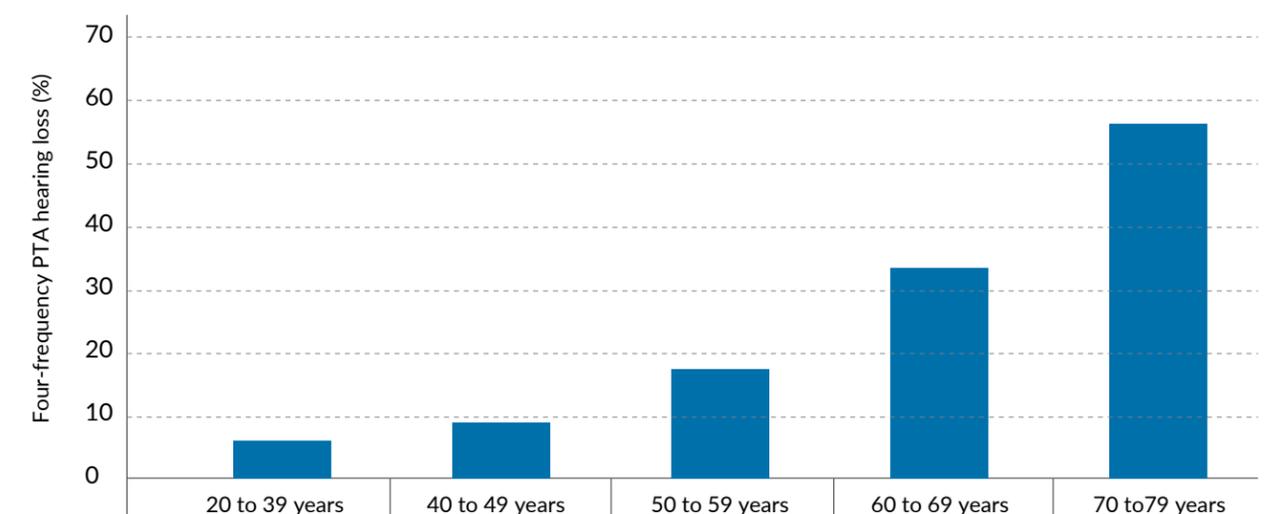
Published in 2016, the Canadian Health Measures Survey (CHMS) found that 19% of Canadians experienced a significant (i.e., mild or greater) hearing loss, which is defined as a hearing loss that interferes with the ability to hear speech. The prevalence of significant hearing loss increases with age rising from about 7% in the second and third decades to 66–75% in the eighth decade—an important concern, given Canada's aging population.^{13, 14}

In addition, hearing loss is a concern in infants and children. About three infants per 1,000 are born with a permanent hearing loss.¹⁵ This number rises in childhood, with the CMHS reporting that 4.3% of Canadian children ages 6 to 19 years have some type of hearing loss.¹⁶ Young people (age 12–35 years) are increasingly at risk of hearing loss due to exposure to dangerous noise levels regularly in work and recreational settings and from the use of personal audio devices.

In Canada, hearing loss is ranked as the fifth-leading cause of Years Lived with Disability (YLD): an essential measure of the burden of a disability. This is higher than many other chronic diseases, such as diabetes, dementia and chronic obstructive pulmonary disease. Globally, age-related hearing loss is the third-largest source of YLDs (as of 2019), and the largest source for those over the age of 70.¹⁷

Hearing Loss in Adults

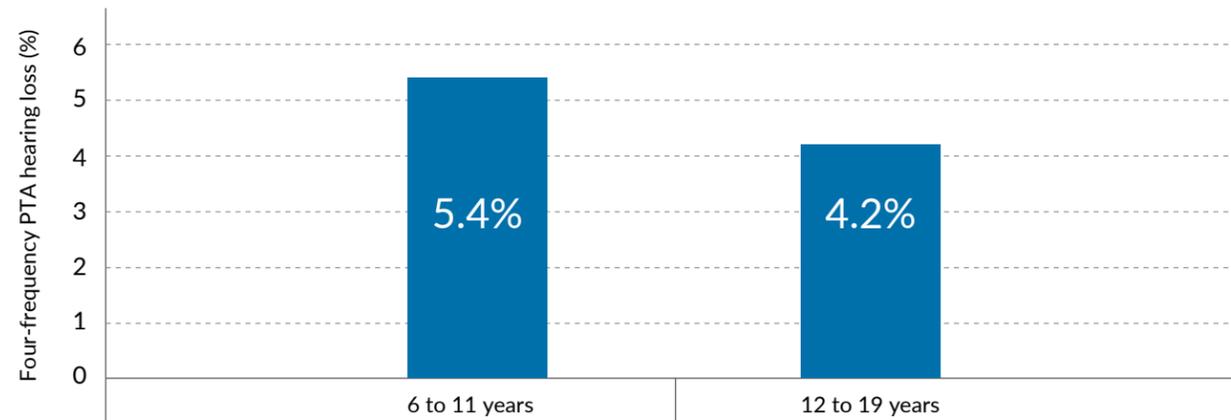
Percentage of Adults in Canada with Significant (> 25 dB HL) Hearing Loss



Source: from Feder et al., 2015, based on the Canadian Health Measures Survey.

Hearing Loss in Children and Youth

Percentage of Children in Canada with Significant Hearing Loss (> 20 dB HL for 6-18 yrs and > 25 dB for 19 yrs)



Source: from Feder et al., 2017, based on the Canadian Health Measures Survey.

Global prevalence

The World Health Organization (WHO) has published global estimates on the prevalence of hearing loss (World Hearing Report, 2021) worldwide:

- 1.5 billion people in the world live with a significant hearing loss. This represents 20% of the global population.
- 430 million people (5.5% of the global population) live with moderate or greater hearing loss.
- 34 million (7%) of these are children.
- Approximately the same number of males (5.6%) and females (5.5%) have moderate or greater hearing loss.
- 58% of moderate or greater loss is experienced by people over the age of 60.
- The number of people with significant hearing loss will grow over the years (up to 1.9 billion by 2030 and 2.5 billion by 2050).
- Hearing loss has been ranked as the third-leading cause of years lived with disability, higher than many other chronic diseases such as diabetes, dementia, and chronic obstructive pulmonary disease. It is the highest cause of years lived with disability in those over 70.

2. There remains a chronic lack of awareness

Statistics Canada's 2016 Canadian Health Measures Survey offered additional insights about the dimension and scale of hearing loss in Canada. It found that:

"many Canadians are unaware that they have experienced some level of hearing loss."

For greater clarity: an individual in that situation may **struggle** to hear and understand speech, but be unaware they have hearing **loss** (especially those with mild to moderate levels of hearing loss). That lack of awareness creates significant challenges. As an individual's hearing loss progresses, it can lead to more serious impacts: ones that may have been avoided through protection, earlier awareness and appropriate treatment. Since hearing changes tend to occur gradually, people often wait years before seeking hearing healthcare. Instead, they learn to manage or "get by" in spite of negative consequences for relationships, social engagement, academic and workplace performance, quality of life and cognitive and mental health.



3. The impact of hearing loss needs to be better recognized

It's staggering: the health, social and economic consequences of unaddressed hearing loss are **widespread and yet not well understood**. It's a challenge that places considerable burden on Canadian society through lower productivity, diminished income, increased health and insurance costs and poorer quality of life. Stakeholders must take a holistic view of the magnitude and scope of the costs associated with hearing loss.

The following highlights the key impacts:

Health and hearing loss: Regardless of age, type of hearing loss, or cause: if left untreated or undetected, hearing loss can negatively affect Canadians' health. Untreated hearing loss can lead to considerable negative social, psychological, cognitive, and health effects and can seriously impact professional and personal life. At times, it can lead to isolation and depression.

Relationship to cognitive decline and dementia: As Canada's senior population increases from six million in 2015 to a projected nine million in 2030, the number of people with dementia is expected to rise dramatically, with the estimated burden of dementia at \$872 billion in Canada by 2038.¹⁸

Recent research raised the possibility that untreated hearing loss may lead to—or exacerbate—cognitive impairment. Evidence suggests this cognitive decline may be mitigated through the use of hearing aids, with other studies still underway.^{19,20} There's a strong link with dementia, too: over 8% of dementia cases may be due to untreated loss.¹⁸ Notably, the Lancet Commission on Dementia Prevention, Intervention and Care has identified hearing loss as the single largest potentially modifiable risk factor for dementia and one of its most promising interventions.^{21,22}

In its most recent report, the Commission identified the use of hearing aids and reduction of preventable hearing loss as one of twelve preventative measures that might prevent or delay 40% of dementia cases. This is supported by recent evidence of a possible link between hearing aid use and delayed diagnosis of dementia.²³

Given the rising tide of dementia in Canada, we can't afford to ignore the worrisome, strong relationship between dementia and hearing loss.

Falls risk: The vestibular system found inside the inner ear maintains our sense of balance and spatial orientation to coordinate movement with balance.

According to the Public Health Agency of Canada, falls (which increase with the severity of hearing loss) remain the leading cause of injury-related hospitalizations among seniors, and often lead to admission to long-term care. The direct cost of these falls to Canada's health care system is estimated at some \$2 billion per year.²⁴

“In collaboration with provinces and territories, Canada's Government ensures equitable access for all seniors to hearing health care and assistive devices. It works with appropriate agencies to increase public awareness to prevent hearing loss, identify and manage hearing loss, and destigmatize hearing loss.”

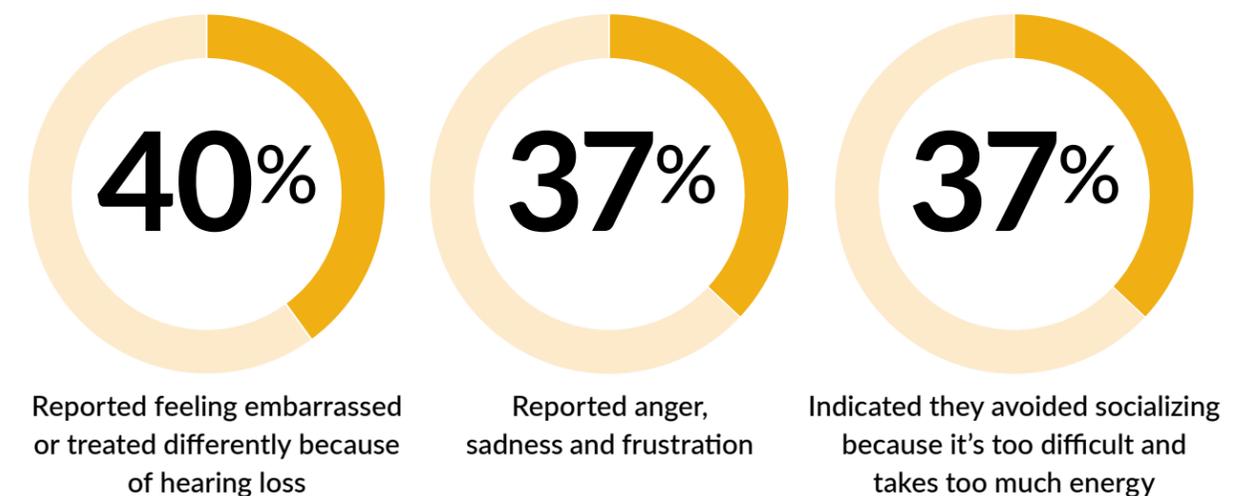
House of Commons Standing Committee on the Status of Women, Seventeenth Report, July 2019.

The magnitude of links between hearing loss and falls is clinically significant. Even mild hearing loss is reported to triple the odds of a fall in adults ages 20 to 69.²⁵ The older someone is, the more serious the injuries from the fall can be.

Mental health: When someone has significant hearing loss, they can face barriers in all types of settings: schools, work, recreation, places of worship, family gatherings, socializing and healthcare services. Significant mental energy is often required just to recognize what's taking place. Missed conversations, instructions and messages can lead to poor interactions, underperformance, exhaustion, isolation and loneliness. Hearing loss can lead to serious negative psychological consequences, such as:

- Shame, embarrassment, guilt and anger.
- Low levels of concentration.
- Sadness or depression.
- Anxiety, insecurity, irritability, worry and frustration.
- Low self-esteem and lack of self-confidence.

In our 2020 Canada-wide survey of persons with hearing loss...²⁶



Isolation was identified as a specific problem by almost a third of respondents, with almost half reporting difficulty socializing.

Limited social engagement and loneliness might play a role in the link between hearing loss and cognitive decline,²⁷ which could both contribute to social isolation, loneliness and poor mental health.²⁸ Importantly, there's growing evidence hearing aids can reduce loneliness,^{29,30} with most studies showing improved social engagement.^{31,32}

Isolation and loneliness have been recognized as severe challenges with impacts severe enough that the UK has recently appointed a Minister for Sport, Civil Society, and Loneliness to lead a cross-government group to act against loneliness and make the issue a government priority. Therefore, it is significant both loneliness and social isolation are recognized as significant effects of hearing loss—both in children and adults.

Healthcare accessibility: Hearing loss may negatively affect health because of barriers related to communication accessibility. There can be serious health consequences when patients have difficulty hearing or understanding physicians and other healthcare professionals. Some of the aspects of patient-physician communication affected by hearing loss include:

- Review of medication use and dosage;
- Cognitive assessment when dementia or other cognitive deficits are suspected;
- Communication of key components of a treatment plan or follow-up care;
- Discussion of palliative care and end of life issues; and/or
- Cognitive or depression screenings as part of routine practice or in advance of a surgical procedure.

Quality of life: Hearing loss has a substantial and growing effect on the quality of life of Canadians. It influences the way they communicate, learn, develop, socialize and work. If unmanaged, it can have serious health, safety, emotional, educational and social consequences, including speech and language delays, isolation, loss of autonomy and mobility.

Speech and language development in children: Unaddressed early hearing loss can significantly impair a child’s ability to acquire spoken language, leading to difficulties in communication as well as brain development and cognition, social engagement and well-being.³³ Even mild and unilateral hearing loss can result in delays in speech and language development.³⁴ It’s crucial that hearing loss be detected early to enable access to language—whether signed or spoken.³⁵ If untreated, hearing loss causes delays in speech and language that persist into adulthood.³⁶

Learning and academic performance: Results of the 2012 Canadian Survey on Disability found that adults with an untreated hearing loss had a lower educational achievement level than those who did not identify as having a hearing loss. Among adults ages 15 to 64, those with a hearing loss were more likely to have not completed high school. They were less likely to have a post-secondary education than adults without hearing loss (50.3% versus 61.1%). Among adults ages 15 and older with a hearing disability, 9.4% reported they were currently or had recently been in school. Of these, 84.2% stated their educational experiences were directly affected by their hearing loss. The most common impacts reported by those with a hearing loss included having to change their choice of courses or career (49.4%), taking fewer courses (44.3%), and having their education interrupted (41.2%).³⁷ A 2020 study by the Hearing Health Alliance of Canada similarly found difficulties at school achieving learning goals reported for 48% of children with hearing loss (ages 2–18), with 58% reporting delayed speech, language and/or early childhood development.³⁸

Economic costs: Globally, the WHO calculated the total global cost of unaddressed hearing loss to be over \$980 billion.³⁹ This was derived from the sum of costs related to direct and indirect health care, expenses related to education, productivity losses and reduced lifetime earnings, rehabilitation and welfare programs, and societal costs related to reduced quality of life and psychosocial well-being. These costs can be substantially reduced through cost-saving measures.

In Canada, the annual cost of hearing loss remains unknown. However, the annual cost of hearing loss in Europe has been estimated to be €216 billion, the United States US\$133 billion,

The WHO conservatively estimated the global educational costs for children ages 5–14 years with moderately-severe unaddressed hearing loss to be \$27 billion in 2021.

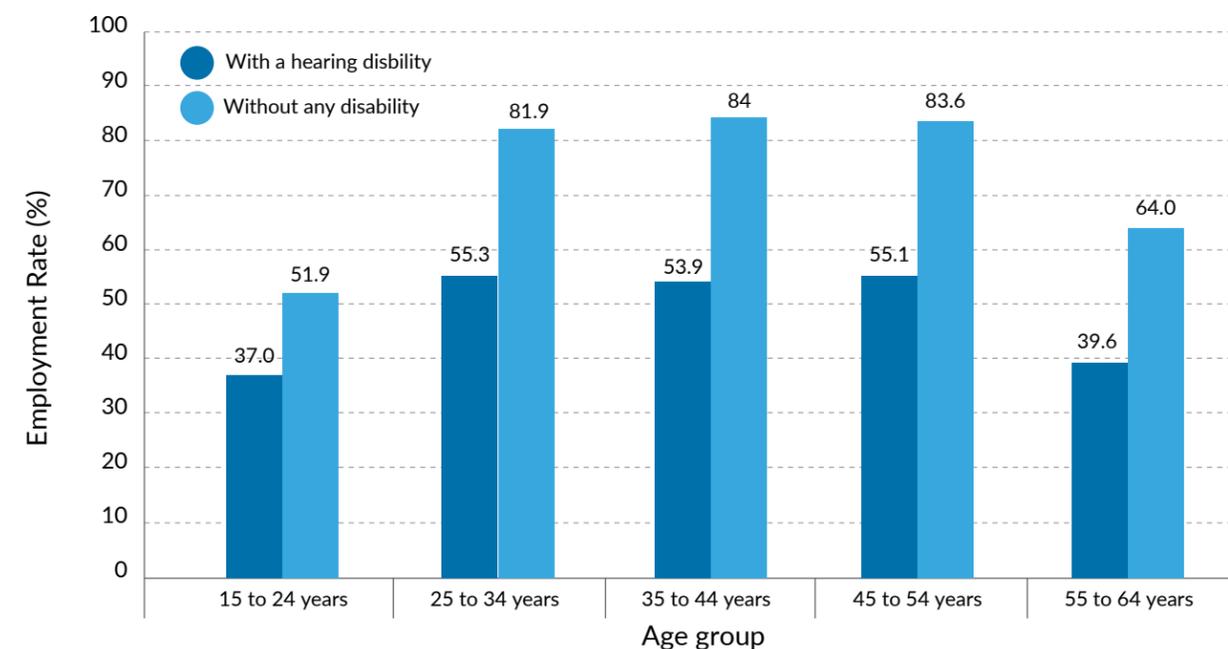
Australia AUS \$33.3 billion and the UK £30.1 billion. Lost productivity due to unaddressed hearing loss is consistently the most significant contributor to overall lifetime costs.

Employment: Individuals with hearing loss are more likely to experience unemployment and under-employment and are significantly less likely to hold a managerial or professional position after adjustment for educational status.

The Canadian Survey on Disability (2012) concluded that 43.6% of adults ages 15 to 64 with a hearing disability were not in the workforce. The working-age adult employment rate among those with a hearing loss was significantly lower than the employment rate for adults without that limitation (47.9% vs 73.6%).

There was a marked difference in the employment rates between men and women with a hearing disability (53.7% of men vs 41.5% of women being employed). Almost half of the adults with hearing loss perceived themselves as underemployed, disadvantaged or discriminated against in the workplace. Working-age adults with a hearing disability reported a median personal income of \$24,200 (before taxes): significantly lower than that of adults without any reported type of disability (\$31,200).⁴⁰

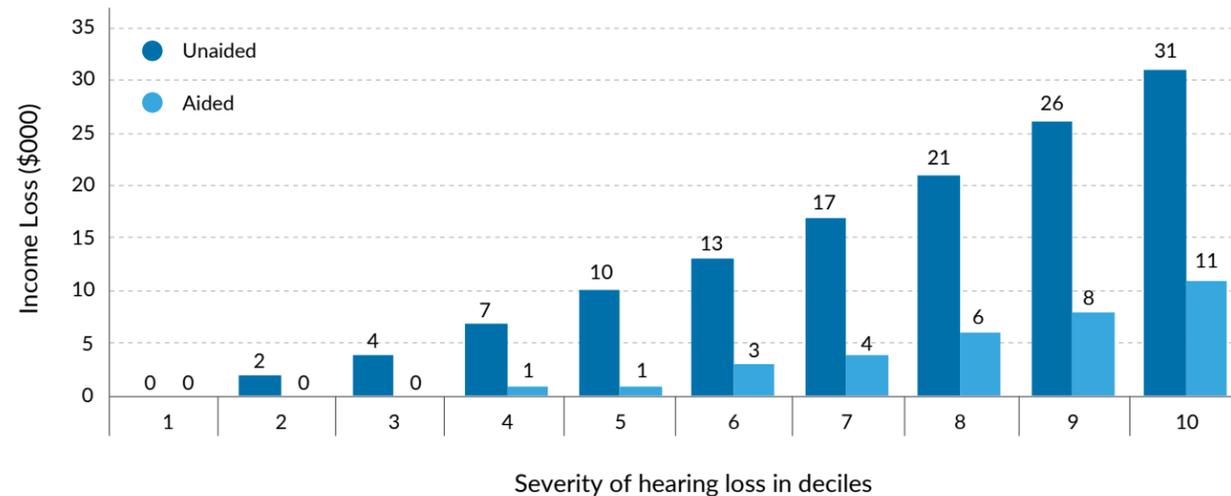
Employment rate of adults with/without a hearing disability, by age group (15-64) in Canada (2012)



Source: Statistics Canada, Canadian Survey on Disability, 2021.

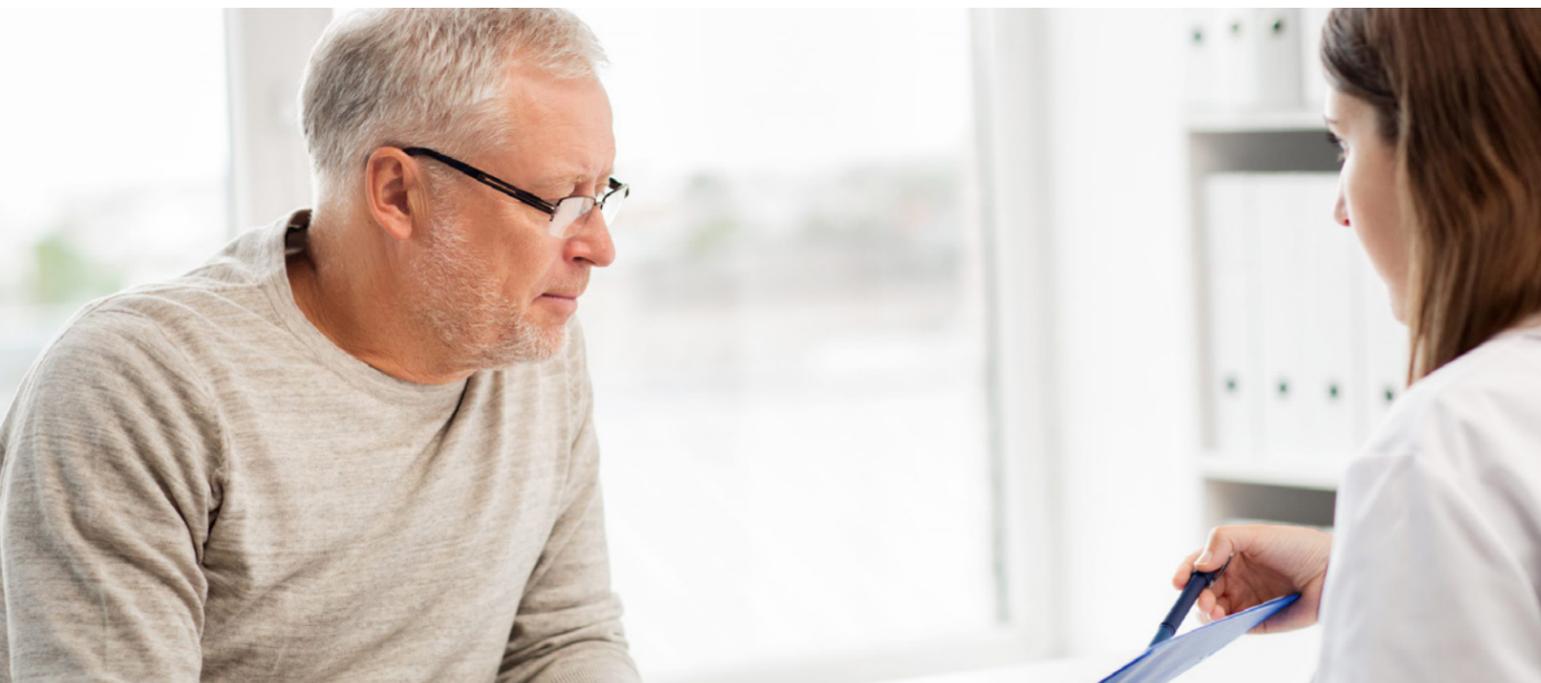
Among employed individuals with hearing loss, the financial impact was most significant for those with the most severe hearing loss. These individuals were found to earn approximately 77% of the average income of those with mild hearing loss. The lost revenue due to untreated hearing loss has even more profound socio-economic implications when adding the value of unrealized taxes associated with this lost income.

Income Loss for Unaided and Aided Hearing Loss



Income loss (\$000) compared to normal-hearing households by severity of hearing loss for aided vs. unaided households. (From Kochkin, 2010)

A US study on income disparities found similar financial impacts with hearing loss. It noted losses were 3-4 times more costly in untreated hearing loss than those with treated hearing loss.⁴¹ This suggests measures to address untreated hearing loss can lead to substantial economic benefits. Similarly, a 2017 Australian study of the associated costs and benefits estimated a financial return of \$5.20 for every dollar invested in addressing untreated hearing loss.⁴²



4. Setting priorities today is a crucial step

Priorities are the impetus to action. With respect to hearing health and untreated hearing loss in Canada, there are **four major priority areas** where the Government of Canada—in partnership with others—must act. In addition for each point, we have defined what is the desired outcome in the context of a national strategy.

a) We must reduce the prevalence of hearing loss

Unnecessary exposure to loud noise, whether prolonged or short, is the most common preventable cause of hearing loss. There's substantial evidence that early exposure to damaging sound levels can exacerbate hearing loss as people age.

According to Statistics Canada's 2016 CHMS analysis, 42% of Canadians ages 16 to 79 have worked or currently work in an environment required to speak in a raised voice to communicate with someone standing no more than arm's-length away. The survey also examined hearing protection and concluded 24% always used hearing protection, while 41% never did. The remaining 35% used hearing protection often, sometimes or rarely.

Millions of Canadians are exposed to damaging loud noise daily from various sources, such as urban settings, traffic, airports and gardening and household equipment. The risks of hearing loss are compounded by exposure to loud sounds during social and recreational activities, such as music, concert and sports venues, nightclubs, bars, restaurants, gyms, theatres and cinemas.

There are also considerable risks associated with the use of personal audio devices. Fifty-three percent of Canadians ages 3 to 79 have used earbuds or headphones to listen to music and other audio sources. One-third of those individuals regularly listened at a volume that exceeded recommended volume levels, thus increasing the chances of adverse effects. Additionally, tinnitus (i.e., hissing, buzzing, ringing, rushing or roaring sounds in the ears) has been experienced by 42% of Canadians ages 3 to 79. Among these people, approximately 1 in 5 reported that the tinnitus was severe enough to affect their sleep, concentration or mood.⁴³

In addition to causing hearing loss, loud noise is associated with high blood pressure, coronary artery disease and stroke. Thus, efforts to prevent hearing damage can accrue a wide range of health benefits.

Exposure to loud sounds is not the only cause of preventable hearing loss. It can also result from a range of preventable diseases, injuries, solvents and certain medications. In children, the major causes of severe hearing loss are diseases such as measles, mumps, and meningitis, the majority of which can be prevented by vaccination. Other conditions and pathogens, such as cytomegalovirus, can also have severe impacts on children's hearing.

Middle-ear infections are common in children and can cause hearing loss. The prevalence of middle-ear infections can be up to 40 times higher in Indigenous than non-Indigenous communities.⁴⁴ Chronic ear infections during early childhood can cause developmental delay, which increases vulnerability upon entering school, leading to poor education outcomes and contributing to higher unemployment and underemployment.

Fifty-three percent of Canadians ages 3 to 79 have used earbuds or headphones to listen to music and other audio sources. One-third of those individuals regularly listened at a volume that exceeded recommended volume levels, thus increasing the chances of adverse effects.

Finally—though needed to treat severe chronic conditions or aggressive diseases—some medications are toxic and can lead to hearing loss, balance disorders, and tinnitus. In these cases, programs to ensure regular hearing testing and monitoring can enable changes to the remedies provided to reduce or eliminate the risk of permanent hearing loss. In all cases, hearing loss and its long-term ramifications could be reduced or eliminated with a national hearing strategy, including measures such as public education and access to timely monitoring and intervention. Given the immense financial and social costs of permanent hearing loss, the importance of a holistic approach to hearing health cannot be overstated.

DESIRED NATIONAL OUTCOMES

Promote healthy hearing behaviours

- Preventable hearing loss is reduced significantly through education and awareness programs that motivate and engage Canadians to adopt healthy hearing behaviours and provide healthy hearing environments.
- Prevention strategies must include universal approaches to ensure the entire population benefits, as well as specifically targeted measures to address hearing health inequities in vulnerable populations such as infants, seniors, women, youth, Indigenous communities, people with comorbidities and those on low incomes.

Partner with Canadian employers, employees, educators and stakeholders

- A process of implementing effective noise control and hearing loss prevention in Canadian workplaces is completed through collaboration with Canadian employers, employees, unions, provincial insurance boards, government agencies, associations and other stakeholders.
- Incidents of workplace-related hearing loss are reduced significantly through hearing protection education and awareness programs coupled with standard inspections and auditing targeting the highest risk sectors.

b) We must detect and treat hearing loss early

While the causes of hearing loss vary (as does the availability of infrastructure and resources to address hearing health-related issues), many hearing loss causes can be prevented or mitigated with appropriate and timely interventions. Therefore it's vital **that hearing loss be diagnosed early** and that appropriate intervention is implemented.

In our 2020 study, Canadians with hearing loss indicated the following barriers to receiving help for hearing problems: a lack of education and awareness of hearing health and hearing loss issues, prevention methods and solutions (20%); being unsure who to go to for hearing health advice (18%); and no primary care health provider suggested a hearing test (17%). Detection, diagnosis and relevant and timely response are essential to ensure the

impact of hearing loss on individuals is minimized. Long wait times for medical appointments related to hearing and for hearing testing/advice were also identified as barriers by about one-fifth of respondents.

In older adults, early identification followed by appropriate and timely intervention, treatment and management can reduce the impact of hearing loss on an individual's life. In addition, it's associated with significantly better health outcomes and social and economic benefits for individuals and communities.⁴⁵ The World Health Organization conservatively estimated the return-on-investment of hearing screening for adults at \$1.62 for every dollar invested for high-income countries, including Canada.⁴⁶ Careful hearing surveillance of individuals with heightened risk factors (e.g., those regularly exposed to high levels of noise or ototoxic agents) can contribute to early detection and thereby contribute to improved outcomes.

There's considerable evidence early intervention leads to improved outcomes in language development, education and social well-being in infants and children.⁴⁷ This is associated with significant economic benefits. A conservative cost estimate conducted by the World Health Organization in a high-income country indicated a return on investment of \$5.68 for every dollar invested.⁴⁶ In Canada, comprehensive early hearing detection and intervention programs exist in only half of Canada's provinces and territories, with more limited services available elsewhere. For example, 94% of babies are screened for hearing loss in Ontario (with an extensive, well-funded follow-up and intervention program), whereas only 30% of babies are screened in Québec with no similar coordinated follow-up program.⁴⁸ A national hearing strategy will help ensure **all Canadian children** have access to these critical health services.

DESIRED NATIONAL OUTCOMES

Implement a National Early Detection and Intervention Strategy

- Work with provinces and territories to develop programs for comprehensive and timely early hearing detection and intervention programs for populations across the lifespan (infant, youth, adults, seniors) in various settings, such as hospitals, schools, healthcare facilities and retirement and long-term retirement homes.

Engage the health community to improve access

- Hearing health professionals, such as audiologists and hearing instrument practitioners, work collaboratively with primary health care services at the community level to provide regular ear and hearing health screenings.
- Ensure that front-line health care providers know how to identify and communicate with people living with hearing loss or who have unmanaged hearing loss and make appropriate referrals.
- Focus on vulnerable individuals and communities to ensure they have access to hearing health services promptly (e.g., interpreters, assistive listening technologies, captioning, accessible virtual health care).

c) We must ensure equitable access to quality hearing healthcare

Once hearing loss has been detected and diagnosed, Canadians must have equitable access to timely intervention and treatment options, including assistive and adaptive hearing solutions to address under-treated hearing loss as a progressive disorder.

The scope of unmet needs doesn't end there. Communication development strategies and audiologic rehabilitation programs that supplement the traditional, individual counselling and hearing aid adjustment process are also necessary. Other services, including appropriate mental health, vocational and educational support must be part of a comprehensive hearing health strategy as well.

In addition to provincial and territorial government health plans and private insurance available to some Canadians, hearing health services and treatment options must be more readily accessible and affordable. In Canada, hearing health care is covered variably across the country, with many people forgoing treatment due to lack of access.

That trend is especially concerning given the rising tide of dementia in Canada, combined with its known links to hearing loss.⁴⁹ Our survey results indicated almost 10% of respondents didn't have money to pay for hearing health services, and almost 20% of respondents didn't have money to pay for needed hearing technology.

DESIRED NATIONAL OUTCOMES

- Ensure Canadians have easily accessible information about hearing health.
- Ensure Canadians have access to the hearing health support they need—including treatment—to optimize their communication, social engagement, quality of life, inclusion and health outcomes. Particular attention must be focused on ensuring access for Indigenous peoples and communities facing systemic barriers (e.g., related to income, education levels, employment and occupational status).
- Provide appropriate levels of funding for community and telehealth-based hearing health services and interventions, including adaptive and assistive technologies to make businesses and public spaces more accessible.

d) We must support research in hearing health

Given its massive impact on the economy and health, Canada is conspicuous among its peers for its lack of dedicated funding to hearing and hearing health care research.

In the UK, hearing research is funded by a special agency, *Action on Hearing Loss*. In the US, the NIH has an Institute dedicated to Deafness and Other Communication Disorders. In the EU, there are several hearing research funding programs, and Australia has the *Hearing Services Program*.

Unfortunately, Canada has no equivalent program. For Canadian scientists with important research proposals for federal agencies (e.g., CIHR and NSERC) it's difficult for them to decide which section or institute to submit to, because no hearing or sensory research committee exists. This has resulted in insufficient funding patterns and many lost opportunities for world-class research into causes and treatments for hearing loss. Within Canada, development of novel hearing healthcare strategies require proof of principle and systematic study to become evidence based. Support for such translational research is lacking, and there are considerable challenges in conducting the research required to meet all Canadians' hearing health needs.

The current absence of dedicated funding is unfortunate, given Canada's exceptional contributions to hearing research in the past. For example, Canada led the world in hearing research focused on infant hearing screening,^{50,51} and on the early treatment of hearing loss. Worldwide standards for fitting hearing aids in infants were established in Canada.^{52,53} Important standards and new knowledge about cochlear implantation in children were developed in Canada.^{54,55} World-class Canadian scientists have made significant contributions to new knowledge about hearing issues. For example, auditory evoked potentials,^{56,57} hair cell regeneration,⁵⁸ tinnitus,^{59,60} auditory neuropathy,⁶¹ cognitive decline and hearing loss in aging.⁶² However, newly trained and talented scientists have difficulty in obtaining sustained research support from Canadian agencies. **It's time for Canada to reprioritize hearing research** to build on its earlier successes and support the knowledge base needed to improve hearing health.

DESIRED NATIONAL OUTCOMES

- Create a national institute or dedicated funding pool for research in hearing and communication, with appropriate funding levels for research and development to ensure Canada benefits from the latest information, data and progress.

5. We can make a difference...together

Given the growing number of Canadians affected by hearing loss, **hearing health must be made a public-policy priority.** Urgent action by the Government of Canada is required. It must lead and work closely with provincial and territorial governments and communities of interest to create a truly national hearing health strategy.

Together, we **can** make a difference! This national hearing health strategy will seek to reduce the prevalence, incidence and impact of hearing loss. It will succeed by adopting a pan-Canadian perspective and a holistic approach that aims to:

- Increase awareness of the impact of hearing loss and the importance of including hearing health as part of a personal- and family-health regime.
- Boost hearing loss prevention information, including programs to prevent noise-induced hearing loss among young people and working adults.
- Ensure comprehensive and sustainable early-hearing loss detection and intervention programs are in place across the country.
- Encourage older Canadians to take earlier action on hearing loss.
- Enhance access to hearing health care, such as screening and treatment.
- Improve access to hearing assistive and adaptive technologies.
- Allocate dedicated funding to support timely and appropriate access to provincial specialized hearing programs and treatment options.
- Increase awareness and education about hearing loss and its importance to all service providers across the health system.
- Allocate dedicated funding for research.

OUR ALLIANCE

We recognize there aren't simple solutions to address the complex challenges associated with having a comprehensive, accessible hearing health system in Canada. No single organization, government or community can be expected to solve this challenge.

That's why we advocate for a collaborative approach to hearing health: partnerships among federal, provincial, territorial and municipal governments, health and education professions, consumers, and other communities of interest.

TAKING THAT NEXT STEP FORWARD

As a national organization comprising the leading groups in the area of hearing health and hearing loss, the Hearing Health Alliance of Canada is a passionate, tireless advocate. Backed by an abundance of representation and research, we call on the Government of Canada to play a leadership role and create a multi-stakeholder national committee with a goal to launch a comprehensive *National Hearing Health Strategy*.

In other words: Take that next step forward...for all Canadians!

This is a tremendous opportunity. Instilled with deep resolve and shared values, that national committee will provide the impetus to act decisively on this pressing issue for the benefit of all citizens. This will be a team effort: government officials, hearing health professionals, researchers, industry and advocacy groups representing individuals with lived experience...all working together.

The outcome: a sharply focused, deeper understanding of the hearing health-related challenges, including:

- The prevalence and causes of hearing loss in Canada.
- The state of hearing health services, including education and awareness programs, in Canada.
- The stigma associated with hearing loss.
- The under-utilization of hearing health services and adaptive and assistive technologies.
- The economic, health, educational and social impacts of hearing loss in Canada.
- The measures needed to better support, engage and retain Canadians with hearing loss in the workforce.
- The adequacy of research and research funding related to hearing health and hearing loss in Canada.

However, we must do more than just equip ourselves with knowledge and tools. We must take meaningful action, for the benefit of all Canadians. Building a National Hearing Health Strategy is an obligation and an opportunity we all share. We must do better by ensuring we're applying the full capacity of our collective will and resources to enhance the lives of Canadians living with hearing loss.

Let's work together to create a better Canada where all people living with hearing loss experience an optimal quality of life!

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