



A Jurisdictional Review of Hearing Loss Screening Practices for School Children in Remote Communities

doi: 10.15173/sw.v1i3.3849

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BACKGROUND

Hearing loss affects 200,000 Canadian children and can have devastating effects on learning outcomes (StatsCan, 2015). The goal of school-based hearing screening is to systematically identify students with impaired hearing and then refer them to the correct specialist who may properly diagnose and treat their condition.

Hearing Loss disproportionately harms Indigenous, particularly Inuit populations, where rates can be up to two times as high as the non-Indigenous population (Stats Canada, 2015).

To inform the development of an effective and complete hearing loss screening program for Nunavut schools, this paper investigates the strategies, tools, resources, and challenges of regions like Nunavut around the world, particularly in Australia, New Zealand, Alaska, Manitoba, and Sweden.

METHODS

Data collection took a mixed methods approach, including online interviews with educational coordinators and audiologists, secondary resource research, and in-person visits to Nunavut schools. Jurisdictions for review were chosen based off available data and similarity of geographic constraints.

BEST PRACTICES

According to the CDC (2022), school-based screening programs should follow the following guidelines:



SHARED PRACTICES

Common elements of screening programs across remote jurisdictions (Queensland, Australia; Northland, New Zealand; First Nations School Board, Manitoba; Sweden; Alaska):

- Advanced Notice of Screening team's arrival so that local organizers can create time in the school's schedule and ensure everyone is able to participate.
- Involvement of Trained Personnel in each community in order to manage screening appointments and administer screening tests(not always an audiologist, often a school nurse or community healthcare worker can step into this role)
- Quiet Environment for screening so that distracting noises do not tamper with the hearing screening test.
- Visual inspection of the ear canal for fluid buildup prior to hearing assessment in order to rule out the presence of an advanced infection.
- Double screenings for positive results on initial screening, to ensure the accuracy of a single positive result.
- Referral to audiologists and educational audiologists in order to resolve hearing loss and create an educational plan that will accommodate for any residual disability.

SPECIAL TOOLS

Used in programs and trials in similar remote jurisdictions.

Telehealth
Consultations

Telehealth can be used for post-examination consultations. This removes the need for fully trained audiologists in each community.

Telehealth
Screenings

A small trial in rural Utah compared the sensitivity, specificity, and false positive rate of pure-tone audiometry hearing screening with a telehealth model. 85% concordance between telehealth and in person-screenings led to the conclusion that telehealth could be adopted (Lancaster, 2008)

App-Based
Screening Tools

Using a tablet instead of a traditional audiometer can reduce significant costs and alleviate logistical issues associated with transportation between communities. App-based tools have been found to be 99-100% concordant with traditional ones (Samielli, 2017)

NUNAVUT SPECIFIC CONSIDERATIONS

Nunavut faces two specific challenges associated with its geography. To begin, there are no roads to or between any of the communities in Nunavut, which adds significant costs and logistical load to any travelling screening team. Due to this challenge, many children do not get appropriate follow-up care.

RECOMMENDATIONS

Recommendations were written for a proposal and are organized by a need for specialized funding:

- 1.Training of local school community members to manage program rollout in each community and deployment of a hearing loss screening team to administer hearing tests.
- 2.Tablet based hearing screening technology downloaded with Hearing Test test. Hearing Test plays recorded tones within the audible range of frequencies. Based on the self-reported ability to hear the tones, it establishes the presence or absence of hearing loss. Tablet based screening removes the need for heavy and single-use traditional audiometers.
- 3.Employing central audiology team for Telehealth consultations. A team that is easily available for first consultations with students and educational workers increases the chances that families follow up with the screening results.
- 4.Creating an organizer position in Iqaluit to manage program coordination and administration. Central administration will ensure that each school has the resources they need to administer a program that adheres to a just standard of care.

OUTCOME

The proposal that was created thanks to this research was submitted to the Child First Initiative in Fall 2024.

This abstract was presented at the **2025 McMaster University Child Health Research Conference.**

Edited By: Noor Arora

