SAC World Hearing Day webinar
Starting the Conversation: What the WHO World Report on Hearing Means for Canada

Questions

1. Is there enough reliable equipment, audiometers to support people across the provinces, with audiologists being called on after the screening?

Marlene Bagatto:
If integrated programs, that include screening, assessment, and intervention, are to be established, resources for equipment, personnel, and management are required. With my work in the Ontario EHDI program, not one baby was screened until all elements were in place should the baby refer. The WHO stipulates this for all population screening.

Jerri-Lee Mackay:
In many provinces, schools are screening and then asking parents to contact a community-based audiologist (often in a regional health centre) if their child didn't pass. If the schools are relying solely on pure tone screening and not conducting a second screen with tympanometry, over-referral can be an issue. Waiting lists are common and problematic when there is no way to first sort out the kids who should be referred to their physician for treatment of uncomplicated OM. When carefully planned and executed, the referral rate to audiology should be relatively low (1-2%) with the majority of those referrals being children with educationally significant hearing loss.

Kathy Pichora-Fuller:
I agree that screening will only make sense if the pathways based on various outcomes are worked out in advance and if the demands are monitored and adjusted on an ongoing basis. I expect that in the decade to come we will see an explosion of new 'equipment' that is effective for online/remote service delivery (I'm thinking of the work of DeWet Swanepoel in South Africa on 'high tech, low touch solutions for hearing care that are affordable and easily scalable). These new technologies will also benefit from the current advances we are seeing in the use of artificial intelligence. Overall, I think the 'human' aspects of designing and implementing new approaches are probably more of a challenge than the equipment aspects of these challenges.

2. Does the report address other hearing issues besides hearing loss, such as hyperacusis?

Kathy Pichora-Fuller:
Yes it is included (e.g., pg 27). Please read the report -- it is great.

3. There is also negativity associated with bad outcomes with hearing aid users. We have to do more to promote the positive experiences that amplification affords.

Marlene Bagatto:
I agree. To give the public a better understanding of the capabilities of hearing aids is important. What is also critical is to go beyond the hearing technology and describe how effective communication should be applied. This is also within the scope of audiologists and we also need to focus on that. Not just technology.

Jerri-Lee Mackay:
I also agree. Stigma is a big issue in the school-aged population. By the time a child reaches Kindergarten age, they have a fairly well-formed sense of who they are and what does and doesn't belong on their person. The older the child becomes, the more solidly formed that sense is and the more difficult it becomes to establish consistent use of amplification. Promoting positive experiences with amplification is one of the tools we can use to mitigate the stigma associated with amplification.

Kathy Pichora-Fuller:
Overall, the person must come first and the technology should be seen as only part of rehabilitation (see the SAC position paper on AR: https://www.sac-oac.ca/sites/default/files/resources/audiologic_rehabilitation_statement_en.pdf). I would dare to suggest that much of the 'negativity associated with bad outcomes with hearing aid users' might be attributable to too great a focus on the hearing aid and not enough focus on the person. The complex issues of societal and self stigma are key, at least for some people, in how they adjust to hearing loss. I look forward to the day when the conversation is about hearing care and not about hearing aids. Also see the fabulous SAC webinar by Lisa Dillon Edgett on March 10th about how she implements the entire range of rehabilitative tools in her program.

4. How about the role of Family or Primary Care physician in addressing hearing loss? How do you think we can tackle this as hearing healthcare professionals?

Marlene Bagatto:
We can educate them on the importance of screening and intervention; and hearing healthcare overall. And if there are regions where integrated programs exist, then we must educate the physicians that they are available so they can direct their patients there. Again, this is a task that EHDI programs undertake as part of implementation.

Jerri-Lee Mackay:
Yes, educating them on the importance of screening so that they are supportive of those programs – also ensuring that they are aware of the referral processes for their local audiologists and reminding them that hearing loss can occur at any stage in the life cycle so as not to assume that if a child passed their infant screening there is no further risk of

hearing loss. We still see children whose parents' concerns were dismissed by their primary care physician. We are starting to see more and more pediatricians offices that will include a hearing screening as part of their 4 year old check ups and this is fantastic to see.

Kathy Pichora-Fuller:
In addition to educating them about hearing and referral options, we need to listen to what they want/need to provide better care for their patients who have hearing concerns. In my conversations with geriatricians, it has been a two-way dialogue that has made the difference. I think audiology will evolve in important ways as we discover how to work in interprofessional teams. The World Report on Hearing and the WHO ICOPE (https://www.who.int/ageing/health-systems/icope/en/) sees hearing care in a broader health context. This seems to be akin to how educational audiologists must work with teachers to put hearing into the broader educational context. The vision for universal screening assumes that there will be more task sharing and more integration of hearing care in broader contexts so the silos will need to be broken down as we move forward.

5. Can you speak to the challenges of assisting seniors in long term care? Should there be audiologists hired by ?? to work in this area, clients, the staff, the family?

Kathy Pichora-Fuller:
I think we discussed this question or a similar question online. In the wake of COVID, as so many new people are being hired to work in LTC, my research team members in the Canadian Consortium on Neuro-degeneration in Aging (http://www.opto.umontreal.ca/wittichlab/ccna-team17/) have made proposals (in Quebec) to contribute training on sensory aging. Back in 1997 there were two companion issues of CJSLPA about aging in which my colleagues and I published a paper (https://www.cjslpa.ca/detail.php?lang=en&ID=140) about a model for hearing care in LTC that entailed an on-site contact person, an outreach technician, and a resource audiologist -- this program was cost-effective and feasible and I hope that we can move to this sort of support for hearing in LTC after COVID. You might also want to see a webinar I did with Marilyn Reed about audiology in LTC during COVID on Nov 27, 2020 (https://ifa.ngo/ifa-virtual-town-hall-resources/). A recent paper in JSHLR explores audiology in LTC in Canada that might get you thinking about how we need to change to address hearing loss in those with age-related comorbidities (https://pubs.asha.org/doi/abs/10.1044/2018_JSLHR-H-ASCC7-18-0140). Lots of work to do in this setting!

6. **As a S-LP and LSLS Cert AVT (and an adult with a hearing loss) I feel that the audiologists in Canada are doing an excellent job at identifying and providing technology to children and adults who have a permanent HL. The gap in services seems to be in the communication and habilitation domain. How are EHDI programs monitoring progress with communication? Those outcomes are rarely reported. How are we identifying changes in adults' ability to communicate following fitting of technology and looking at massed data sets?**

Marlene Bagatto:
Language outcomes for children with hearing loss are reported through the Outcomes of Children with Hearing Loss (OCHL) work done in the use by BoysTown, Iowa, and North Carolina. Check out https://ochlstudy.org/publications. There are many articles on a variety of outcomes, including spoken language development.

I can't speak for the other provinces/territories in Canada, but my PhD student has spent a few years on this topic. Olivia Daub has published several articles related to this and there are more to come! Check out her Google Scholar page: https://scholar.google.ca/citations?hl=en&user=yFc_BgoAAAAJ&view_op=list_works&sortby=pubdate
She is a rising star!

Overall, I think Canada needs to do better about getting a national database. For this we need funding and have programs that use similar outcome measures. Definitely not an easy undertaking, though perhaps with the WHR we may get some traction.

Kathy Pichora-Fuller:
The World Report on Hearing presents the case that we DO have evidence of benefits from our interventions. On the adult aging front, there has been an explosion of work showing that those with hearing loss are at greater risk for many health issues and the million dollar question is whether hearing rehabilitation (often equated with hearing aid use) matters in terms of reducing risk, but there is no sufficient evidence yet on this point anywhere in the world. In fact, we need to show that hearing care has benefits beyond just hearing better (https://pubmed.ncbi.nlm.nih.gov/26825862/. In the Canadian Longitudinal Study of Aging (https://www.clsa-elcv.ca/), our CCNA research team is actively exploring connections between sensory loss and social (e.g., loneliness, social isolation, social support, social participation) and health factors (e.g., cognitive decline). We are also looking at these connections in the contexts of home care and LTC. A couple of example papers: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6928150/; https://journals.plos.org/plosone/article/comments?id=10.1371/journal.pone.0192971)

7. **How has the use of personal headphones in the digital age affected hearing loss, and once this report on hearing is more socialized, is there any work being done or planned to be done with manufacturer/importers to limit the decibels of personal headphones available in Canada?**

Marlene Bagatto:
There is a lot of research already done and continuing in this area. The Canadian Government has guidelines: https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/everyday-things-emit-radiation/personal-stereo-systems-risk-hearing-loss.html

The Sound Sense Program from the Hearing Foundation has also addressed this topic: https://canadianaudiologist.ca/issue/volume-1-issue-5-2014/the-hearing-foundation-of-canada-sound-sense/

Kathy Pichora-Fuller:
The Word Report on Hearing has a section on this topic and the World Hearing Forum is working on this as one of its main topics: https://www.who.int/activities/making-listening-safe. Interestingly, recent generations have better hearing than older generations and likely this is because of the introduction of occupational safety measures to protect hearing in the 1970s and changes in noise and other exposures that cause hearing loss. These trends provide hope that the rates of hearing loss can be reduced!!!

8. **Can Kathy Pichora-Fuller speak to the link between dementia and hearing loss? My understanding is that a causative link hasn't been determined, and in fact, in BC, a hearing instrument dispenser was penalized for advertising this link (i.e. that hearing aids prevent cognitive decline).**

Kathy Pichora-Fuller:
Correct. There is a well-established population-level association or correlation between hearing loss and cognitive decline, with hearing loss preceding cognitive decline by as much as a decade. But as audiologists should be aware, correlation does not prove causation. There is also good science behind the finding that hearing loss is the greatest POTENTIALLY modifiable risk factor for dementia -- but the evidence does not yet show that it can be modified by hearing aids, despite some encouraging early studies and the ongoing NIH-funded randomized control trial of Frank Lin and his colleagues in the USA. The discipline in BC was based on misleading the public by implying that hearing aids would reduce the risk of cognitive decline. It is important for audiologists to engage in conversations about health promotion consistent with the principles of evidence-based practice. I did a webinar on this topic for the BC Speech and Hearing Association conference in Fall 2019 and perhaps they would share that webinar recording with SAC?

Note that the World Report on Hearing has some great material about health-promoting and health-compromising behaviours with regard to hearing loss. Many of the health-promoting behaviours that are good for hearing health (not smoking, lifestyle factors such as exercise and diet) are also good for other aspects of healthy aging. If audiologists have clients who are concerned about reducing their risk of dementia, then I suggest they refer to the WHO recommendations on the evidence regarding reducing risk of dementia (https://www.who.int/mental_health/neurology/dementia/guidelines_risk_reduction/en/). Physical activity has the strongest evidence. People with hearing loss can benefit from physical activity to reduce their risk of dementia and they might find that using hearing technologies enables them to engage better in physical activity (and also social activity and mental activity).

9. Who do you think should be targeted within government to promote hearing health care services using the WHO Hearing Health Report?

Marlene Bagatto:
Such a great question!! In my work with the national EHDI survey and resulting report card, I met with a local MPP in London a couple of times. He was very straightforward with me and reminded us that healthcare is delivered at provincial/territorial levels. If we can get the attention of the MPPs in each province and territory to then bring it to their federal counterpart, that will help. What would also help is if there is a national guideline/strategy to describe what is needed. I'm sure there are other suggestions and ways to go about this. This is just what I was told during my consultations.

Jerri-Lee Mackay:
Education is also a provincial/territorial responsibility however most provinces will further delegate this to local school boards who oversee their respective budgets and deliver programs. In a province with multiple school divisions, the programs and services will vary from one division to another. Some school divisions will hire audiologists, others will not. Some will offer screening programs while others won't. From an advocacy point of view, what would be helpful is the development of national guidelines on screening that we could then use to lobby provincial governments to develop provincial standards on screening. The school boards would then be required to develop programs that meet those standards.

Kathy Pichora-Fuller:
The WHO will disseminate the World Report on Hearing to all member states, including Canada. As with all effective advocacy, it will be important for there to be a united front that is presented with the full force of scientific evidence and economic analysis. The World Hearing Report is extremely useful. I think that we need to coordinate efforts across levels of government and also with other stakeholders (e.g., other health professionals, NGOs). We need to learn a lot more about policy. We can turn to the successes regarding hearing care that have been achieved in other countries and adapt to Canada. I hope SAC will play a significant role in coordinating these efforts within Canada.

Note that SAC is a member of the WHO World Hearing Forum and SAC is also an affiliated society within the International Society of Audiology and the ISA will also be supporting this work around the world so we have a lot of power with our global partners. The good news is that we do not need to start from scratch.

10. How can we utilize the services of Bachelor's degree holder in Audiology directly into areas were penetration is too low, so that we can screen and give healthcare facility to each and every Canadian?

Marlene Bagatto:
I think this would be similar to what a CDA can do. I don't know many people who have a bachelor's in audiology as those programs have not existed for a long time.

Jerri-Lee Mackay:
I also do not know of anyone with a bachelor's degree in Audiology but I could see them functioning in the same manner as our Audiometric Technician who does a second screening on all the children who do not pass the initial screen by volunteers in the schools. The AT will do otoscopy, tympanometry and thresholding using insert earphones for any child who does not meet the pass criteria. All test results are then reviewed by Audiology who will inform the parents of the results and recommendations. This is a model that has been quite successful at keeping the referral rate to Audiology reasonable and ensuring that children who require medical treatment for OM receive it quickly.

Kathy Pichora-Fuller:
The World Report on Hearing has content about 'task sharing' and the guidance documents on screening will also include ideas on this topic. Note that in some countries there is only one audiologist so it is essential to work in models where there is task sharing.

11. How often should children be screened from birth to age 6 if they passed their newborn hearing screening?

Marlene Bagatto:
If they passed and did not have a risk indicator for developing late onset or progressive hearing loss, there is no need for further screening. Audiological surveillance is necessary for those children who have an identified risk indicator, which is noted at the time of UNHS. Ontario just revised their surveillance protocol to include basic (single point) and intensive (multiple point) surveillance routines. These are based on the identified risk factor and relies on the evidence that indicates which risk factor will actually result in hearing loss for that child. What we don't want is to utilize precious resources re-screening babies who are unlikely to develop permanent hearing loss.

Jerri-Lee Mackay:
Hearing loss can develop at any stage in life. Approximately 40% of the children identified with hearing loss through school screening would not have been identified as infants. This is due to many factors such as infection, trauma, late onset progressive hearing loss, etc. in addition to children who were born in provinces or countries that do not have EDHI programs and children lost to follow-up. School-entry is a logical time to undertake an additional screening because it provides an opportunity to capture almost all children and school screening programs are relatively inexpensive.

12. **A comment...On my smart phone, there is a health data app. It does chart headphone audio levels on a daily level.**

Marlene Bagatto:
Yes, there are many.

Kathy Pichora-Fuller:
You might want to check out the free phone app from WHO for hearing screening: https://www.who.int/health-topics/hearing-loss/hearwho. This is based on research by DeWet Swanepoel in South Africa and there are many interesting refinements in the pipeline so that there could also be screening for asymmetric hearing loss, differentiation of conductive vs SNHL etc. Stay tuned.

13. **1) on the WHO H.E.A.R.I.N.G. package of ear and hearing care interventions, the "R" is Rehab services which includes speech rehab services for children w PHL 2) The 2019 report card on Canadian EHDI report very limited info collected about auditory and verbal EI and parent counseling. What would be the next steps recommended to address the actions / recommendations / data collection / analysis after Hearing Technology has been recommended (when is the case)? Is there a plan to address and study the services and outcomes re: rehab delivered by S-LP with the same investment / attention that has been given to screening, ax and Hearing aids?**

Marlene Bagatto:
Intervention within EHDI includes language intervention and family support. The report card format was brief, but described it. Have a look at the publication that informed the report card:
https://www.cjslpa.ca/detail.php?ID=1264&lang=en

Also, see response to question #6 above.

14. What is the role of S-LPs within the World Hearing Report and how might they help Canada meet some of these goals?

Jerri-Lee Mackay:
S-LPs are often integral components of school hearing screening programs. In areas that do not have access to educational audiology, they are often the ones charged with overseeing the screening programs. In many cases, they are the ones who take the initiative to organize hearing screening programs in areas that do not mandate such programs. I believe that S-LPs can play a very important role in advocating for screening programs within their school divisions and within their provincial governments. Another very important role that S-LPs play within the World Hearing Report is in the area of rehabilitation. In many cases, at the school level, it is the S-LP that provides support in the area of communication development to children with hearing loss. Just as S-LPs can advocate for additional resources in the areas of school screening and educational audiology, the audiology community must advocate for the importance of student access to S-LP services.

Kathy Pichora-Fuller:
A major theme of the World Report on Hearing was INTEGRATED care, inter-professional teams, and task sharing. These broad key principles will need to be contextualized according to many factors including setting and S-LPs are indeed integral partners in many settings, including schools, but also in geriatric settings. I hope SAC does spread the word about the World Report on Hearing with S-LP members.

15. Urban noise levels from transportation/transit/consumer products/etc are high enough to interfere with communication and harm hearing wellness. Moving forward, would SAC consider supporting public noise reduction from everyday sources as an issue?

Jerri-Lee Mackay:
Excellent question! Perhaps Lynda or Dawn can provide a response.

Lynda Gibbons:
I am happy to discuss how SAC can help. Please feel free to email me (lynda@sac-oac.ca).

Kathy Pichora-Fuller:
The World Report on Hearing has a section on environmental noise and reducing noise as a cause of hearing loss is a main topic for the World Hearing Forum. As we shift more into accessibility, noise standards will become more important than ever. Most people know that there are acoustical standards for classrooms, but sadly even audiologists seldom realize that there are acoustical standards for medical settings including hospitals and doctors' offices. We can work with the Canadian Acoustical Association on initiatives to make our communities more communication accessible.

16. What about those adults who have hearing loss but not to a degree that's severe enough for hearing aids, like Ms. Pichora-Fuller spoke about earlier on? Can we offer them anything other than communication strategies?

Kathy Pichora-Fuller:
We must. The 10-20 year delay in help-seeking for hearing problems is aggravated by the commonly held view that nothing can be done until a person is a candidate for a hearing aid. The unmet needs of this LARGE segment of the aging population who have mild hearing loss was exactly the reason I left the audiology clinic in 1986 to do a PhD on age-related changes that affect exactly those sorts of clients. There is a lot more to do -- but that would take another webinar. Stay tuned for some suggestions about pathways for those who 'pass' behavioural hearing screening but 'fail' on self-reported hearing problems. The mismatch between audiometric and self-reported hearing problems has been a topic of interest to me for decades and some of our current research is still on this topic.

17. This pandemic may lead to a reimagining of how we provide child care and LTC. What can we do to influence an awareness of hearing/communication issues that might influence the design and implementation of much needed changes?

Jerri-Lee Mackay:
I can tell you from an education perspective that COVID-19 created a significantly increased awareness among teachers and school staff regarding the importance of adequate hearing and good acoustics. The requirements for the use of facemasks and social distancing meant that students were seated further away from the teacher than ever before and had significantly decreased access to the auditory information in speech as well as the visual cues obtained through speech reading. We had more requests for soundfield systems than ever before and referrals to audiology increased dramatically as students struggled to hear in the classroom. As a starting point, I would love to see this increased awareness translating into school boards mandating classroom amplification systems in every classroom across the division/province.

Kathy Pichora-Fuller:
Excellent question. We will all need to rethink our work. Bill in Saskatoon -- have you met Paul Mick (ENT, U Sask; https://medicine.usask.ca/profiles/surgery/otolaryngology/paul-mick.php#About) and/or Megan O'Connell (neuro-psychologist who does research on remote health and dementia; https://vimeo.com/437227394) who are researchers in CCNA? If you get the chance, you might want to have coffee with them to see what you might work with them on in Saskatoon.

18. Comment…The lack of TRAINED personnel in Long Term Care….

Kathy Pichora-Fuller:
See answer to #5 above.

19. What can we do tomorrow? How do we act NOW?

Jerri-Lee Mackay:
I would like to see the development of national guidelines on childhood hearing screening (similar to AAA and ASHA) that we could use to push our provincial governments (education ministries) to develop provincial standards related to hearing screening in schools. In the shorter term, if you work in the area of education or you have school-aged children, you could advocate within your own schools for organized programs.

Kathy Pichora-Fuller:
Read the World Report on Hearing. Attend the SAC Audiology Event webinars in May, including the first ones which will be highly related to the World Hearing Report. Think about what you would like to do and then let Lynda Gibbons know how SAC can help and let me know how ISA could help.

20. Would hearing care be considered as part of palliative care?

Kathy Pichora-Fuller:
Absolutely yes!!!! Barbara Weinstein has written about this in a practical way: https://journals.lww.com/thehearingjournal/FullText/2015/01000/Palliative_Care___Defining_the_Role_of_the.2.aspx

21. Comment… One of the best quotes of the night: "people learn about stigma as children" K. Pichora Fuller. Thank you Kathy!

Jerri-Lee Mackay:
Absolutely! Stigma related to hearing loss is an issue even for children in Kindergarten. See response to question #3. I have been hopeful that the increased use of wearable bluetooth devices in the broader population would help to decrease the stigma related to wearing a hearing aid but have yet to see that happen. I'm waiting for the hearing aid manufacturers to start making their devices look more like bluetooth receivers or vice versa. Wouldn't it be lovely if the majority of people wore bluetooth receivers that looked like miniRITE hearing aids?!? How great would it be for our industry if no one could tell the difference between the two?

Kathy Pichora-Fuller:

I hope universal hearing screening and education about hearing health will increase awareness and reduce stigma for all members of society. As with most topics in health promotion, establishing health promoting behaviours and attitudes in children will carry through for the rest of their lives and these lessons should apply to children whether or not they have hearing loss themselves. As part of the work of our CCNA team, Alison Chasteen and I are working on a project that specifically looks at the influence of negative views of aging (aka self-stigma) on hearing and memory. We are also working with Gurjit Singh on how stigma and other social factors influence help-seeking for hearing problems. We are developing interventions to counteract negative views of aging so that people will delay less and benefit more from hearing care. So much to be done.