

# SUPPORTING ADULTS WITH HEARING LOSS

**Keynote Speaker – Esther Oh**

**Industry Sponsor Presentation – Phonak**

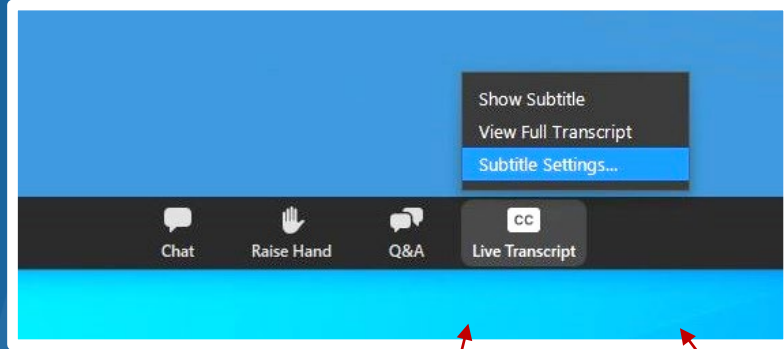
**Q&A 20 questions - Lorientne Jenstad Sarah Mason and Sarah Mason**

**Contributed Research Papers**

**Moderator – Sarah Mason**

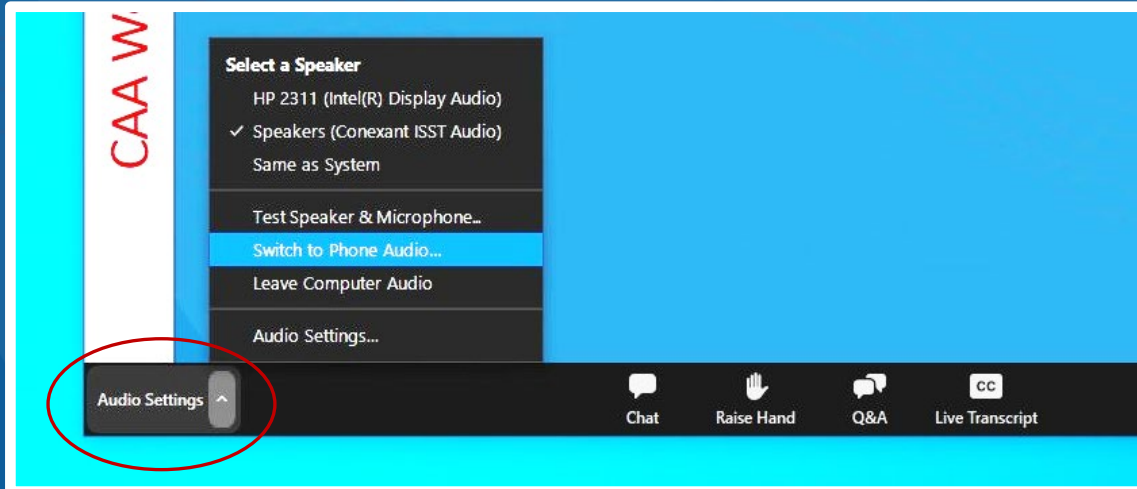
**Oct. 20, 2021**

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# SUPPORTING ADULTS WITH HEARING LOSS – 7PM ET



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CAA webinars count towards CEUs.

This webinar is being recorded and will be posted to the CAA website within 2 business days (including PPT). [canadianaudiology.ca/webinars/](https://canadianaudiology.ca/webinars/)

You can increase the Speakers video by selecting the grey bar besides their webcam and dragging it.

# Thanks to our Sponsor



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[www.phonak.com/ca/en/hearing-aids](http://www.phonak.com/ca/en/hearing-aids)

# Moderator – Sarah Mason

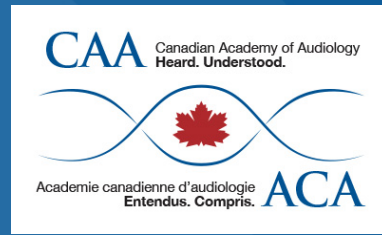


Sarah Mason received a Bachelor of Science from Dalhousie University and a Master's of Clinical Science from Western University. She received her Doctor of Audiology from A.T. Stills University.

Dr. Mason worked at Children's Hospital in Seattle, Washington for over a decade. She has also worked in the private sector before serving in her role at Dalhousie University.

Dr. Mason currently serves as the Academic Coordinator for Clinical Education and is a member of the Advocacy Committee and Practice Education Committee at the School of Communication Sciences and Disorders. She also supervises the Dalhousie Hearing Aid Assistance Program and the on-site Audiology Clinic at the school. Dr. Mason is past president at CAA and is a member of the Canadian Adult Hearing Healthcare Coalition. Her professional interests include special populations, family centred care, student advocacy and mentorship.

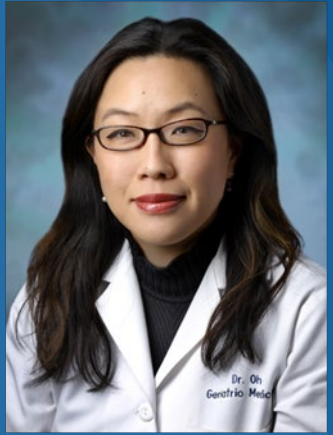
# Agenda



- 7 pm Welcome and Introduction
- 7:05 Keynote Speaker – Esther OH – Alzheimer's, Dementia and Hearing Loss
- 8:00 BREAK (5 min)
- 8:05 Sarah Mason presents the Jean Kienapple Award
- 8:10 Contributed Research Paper - Mathieu Hotton, Laval University
- 8:15 Contributed Research Paper - Andreea Hajas, University Western Ontario
- 8:20 Featured Sponsor Presentation – Stacey Rich, MCI Aud, AudA, Manager Audiology Leadership and Training, Phonak
- 8:35 20 questions - Barriers to Hearing Health Care, Lorientne Jenstad / Sarah Mason
- 8:55 Thanks and Wrap - Sarah Mason

# Keynote Speaker: Esther Oh

MD, PhD, Associate Professor, Johns Hopkins University School of Medicine



Dr. Esther Oh is an Associate Professor in the Division of Geriatric Medicine and Gerontology (Department of Medicine) at the Johns Hopkins University School of Medicine. She also holds appointments in the Department of Psychiatry and Behavioral Sciences, Division of Neuropathology, and Cochlear Center for Hearing and Public Health. She is also the Co-Director of the Johns Hopkins Memory and Alzheimer's Treatment Center which is a multi-disciplinary clinic with geriatricians, neurologists and psychiatrists.

# Contributed Research Paper:

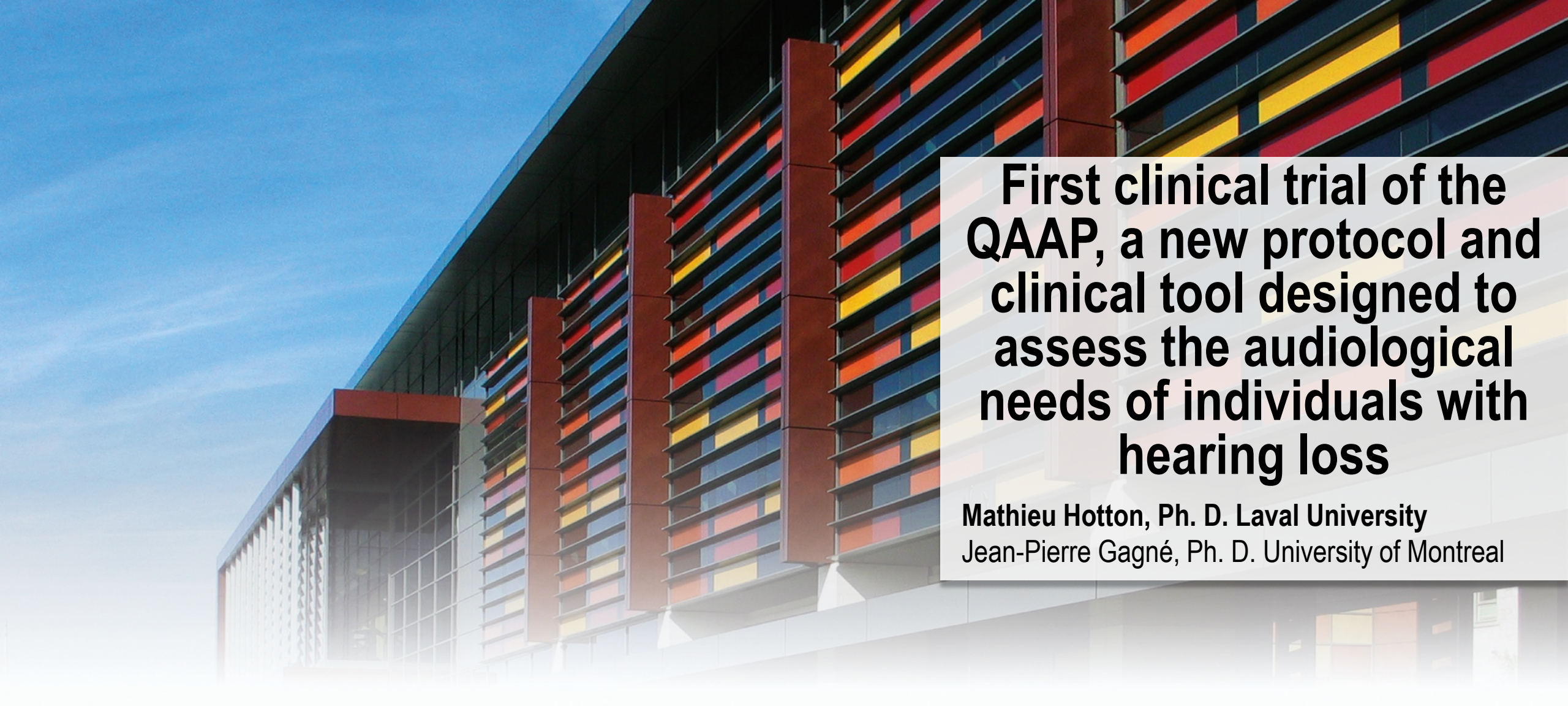
Mathieu Hotton, Assistant Professor, Laval University & Jean-Pierre Gagné Ph. D.



“First clinical trial of the QAAP, a new protocol and clinical tool designed to assess the audiological needs of individuals with hearing loss.”

## 3 key learning points:

- Participants will be made aware of the existence of a valid, comprehensive, and consistent audiological needs assessment protocol
- Participants will understand the potential impacts of the implementation and use of the QAAP-YOA on their workload and job quality
- Participants will know ways to facilitate the implementation of the QAAP-YOA in their practice and to minimize its impact on their workload.



# First clinical trial of the QAAP, a new protocol and clinical tool designed to assess the audiological needs of individuals with hearing loss

Mathieu Hotton, Ph. D. Laval University

Jean-Pierre Gagné, Ph. D. University of Montreal



# Background

## Quebec Audiological Assessment Protocol for Younger and Older Adults (QAAP-YOA)

- A needs assessment clinical protocol
  - Based on the principles of the ICF, client-centered care and goal setting
  - Sections included in the QAAP
    - Audiological needs
    - Living conditions
    - Personal factors
    - Discussion with the client concerning treatment goals and intervention strategies
    - Recommendations
- + What information should be included in the report
- + An accompanying clinical tool (a form)

# Background

## Quebec Audiological Assessment Protocol for Younger and Older Adults (QAAP-YOA)

<https://www.tandfonline.com/doi/full/10.1080/14992027.2021.1947532?scroll=top&needAccess=true>

INTERNATIONAL JOURNAL OF AUDIOLOGY  
<https://doi.org/10.1080/14992027.2021.1947532>



ORIGINAL ARTICLE



### Development of a protocol and a clinical tool to assess the audiological needs of younger and older adults with hearing loss

Mathieu Hotton<sup>a,b,c</sup>  and Jean-Pierre Gagné<sup>b,d</sup>

<sup>a</sup>Rehabilitation Department, Faculty of Medicine, Laval University, Québec, Canada; <sup>b</sup>School of Speech-Language Pathology and Audiology, University of Montréal, Montréal, Canada; <sup>c</sup>Centre Interdisciplinaire de Recherche en Réadaptation et Intégration Sociale, Québec, Canada; <sup>d</sup>Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal, Montréal, Canada



# Research objectives

- 1) Measure the effects of the use of the QAAP on audiologists' workload and job quality
- 2) Explore the clinical relevance, usefulness, advantages and disadvantages of the QAAP
- 3) Identify the modifications that may be required to the QAAP



# Methods

## Participants

- 5 experienced audiologists who work in primary-care settings
- 29 adult hearing-impaired adults

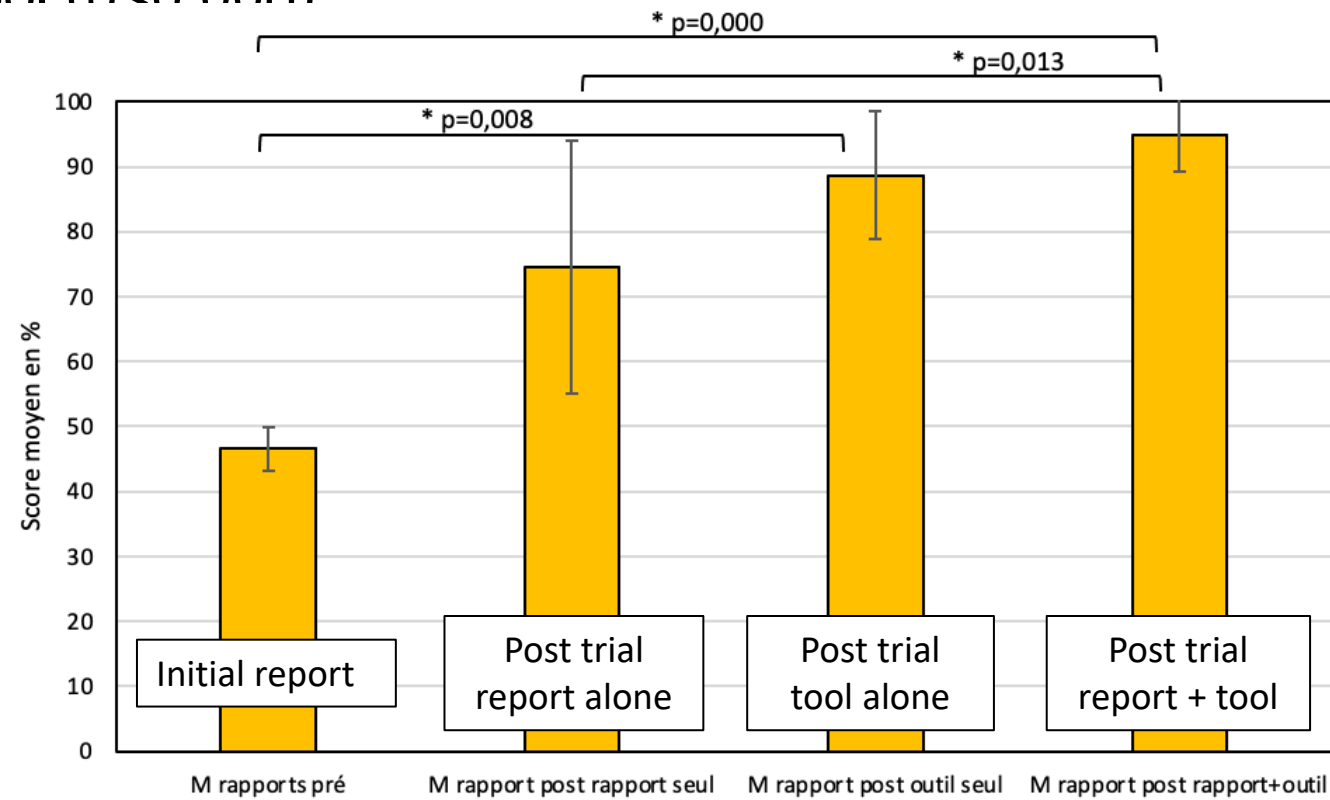
## Procedures

- Audiologists participated in a two-hour training session which included a description of the QAAP and instructions on how to use it
- Audiologist applied the QAAP with clients (4 to 8 weeks period)
- Individual semi-structured interviews were done with audiologists and clients

# Results

## Quality of audiological reports

- Mean compliance rate of the audiological reports with the QAAP requirements significantly better after the trial, with the use of the QAAP accompanying clinical tool ( $n=1008$ )





# Results

## Time required to apply the QAAP

- The additional time required to administer the QAAP with the client during the trial varied between 5 and 30 minutes per client
- The additional time required to complete the clinical tool that accompany the QAAP varied between 5 and 60 minutes per client
- All audiologists mentioned that the time required to apply the QAAP and to complete the clinical tool was more important at the beginning and that there was a reduction of this time with experience, after a break-in period
  - A realistic mean estimate  $\approx$  30 minutes total / patient



# Results

## Semi-structured interviews

- Audiologists
  - Relevant and useful in the clinic
  - Allows for a more comprehensive and consistent needs assessment, and better adapted recommendations
  - The majority of audiologists said they were satisfied
  - Time was seen as the biggest disadvantage
  - Proposed changes mainly to reduce administration time (ex. use of a digital platform) and to facilitate its use with clients in the clinic
- Clients
  - All clients said they were satisfied
  - No specific issue was raised by the clients and they proposed no changes to the protocol



# Conclusions

- Audiologists judged it relevant and useful in the clinic because it allowed for the completion of a more comprehensive and consistent needs assessment, which was noticeable in their reports, and which led to better informed recommendations
- In general, audiologists and clients were satisfied of the QAAP
- Additional time was required to administer the QAAP and the clinical tool
- Modifications to the QAAP would be preferable to reduce the time required to apply it in the clinic
- Future work to integrate the QAAP in a digital platform, which would allow, among other advantages, shorter administration time, automated report generation for the audiologist, distance and self-administration

# Thank you !

**Mathieu Hotton, Ph. D. audiologist**

[mathieu.hotton@fmed.ulaval.ca](mailto:mathieu.hotton@fmed.ulaval.ca)

[https://www.researchgate.net/profile/  
Mathieu-Hotton](https://www.researchgate.net/profile/Mathieu-Hotton)

## Funding sources:

- Québec Ministry of Health and Social Services
- Fonds de recherche du Québec en santé
- CIUSSS Centre-Sud-de-l'Île-de-Montréal
- Endowed research Chair of the Fondation  
Caroline Durand en audition et vieillissement de  
l'Université de Montréal, held by J-PG

# Contributed Research Paper:

Andreea Hajas, M.Cl.Sc./Ph.D. Student - Audiology/Hearing Science, Western Ontario



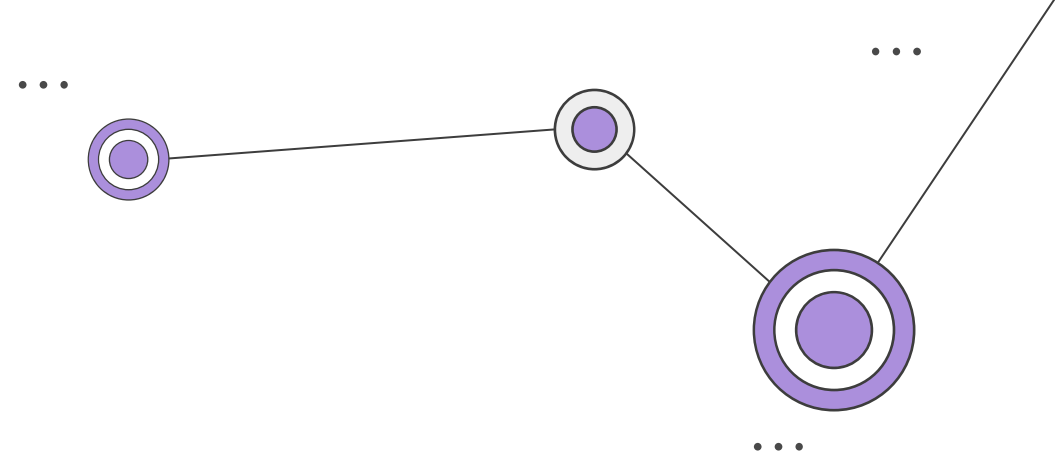
## **“Development of a case history form for adults with audio-vestibular conditions related to COVID-19”**

3 key learning points:

- Engaging an expert panel and reaching consensus
- Developing clinic-ready tools
- COVID-19 and audio-vestibular conditions



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for Audiology



# Development of a Case History Form for Adults with Audio- Vestibular Conditions Related to COVID-19

October 2021

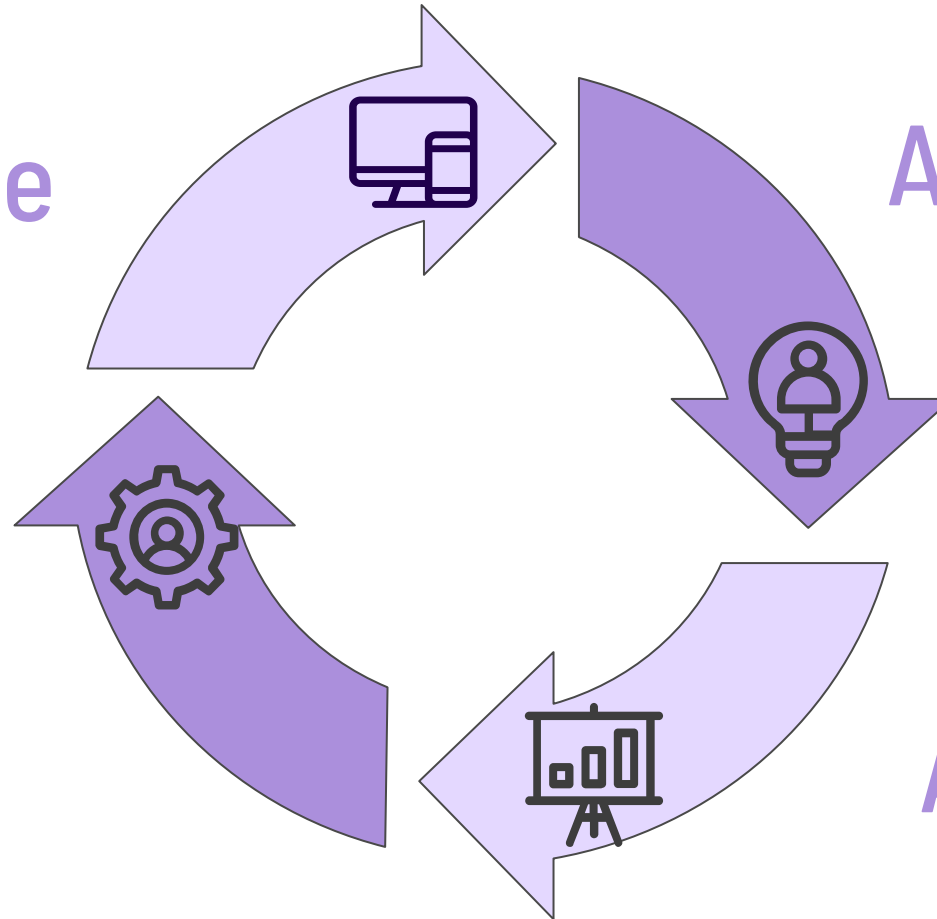
# E-Delphi Method

Distribute

Appraise

Analyze

Revise



## The Expert Panel

**Sumit K. Agrawal**

B.Sc., M.D.

**Sangamanatha Ankmnal-Veeranna**

B.Sc., M.Cl.Sc, PhD

**Ioan Curca**

B.M.Sc., M.Cl.Sc., PhD

**Paula Folkeard**

B.A. Hons., M.Sc., Au.D.

**Roberto Guadagno**

B.A. Hons., M.Cl.Sc., Au.D.

**Adrian Jennings**

Community member

**Andreea Hajas**

B.H.Sc. Hons., M.Cl.Sc/Ph.D. Student

**Sheila Moodie**

B.Sc., M.Cl.Sc., Ph.D.

**Mohamed Rahme**

B.A. Hons., M.Cl.Sc/Ph.D. Candidate

**Susan Scollie**

B.A. Hons., M.Cl.Sc., Ph.D.

**Andreas Seelisch**

B.H.Sc. Hons., M.Sc,

**Divya Sundaravadivelu**

BASLP, M.Sc.

# E-Delphi Method

## Distribute

Send the updated case history form and appraisal questionnaire to panel

## Revise

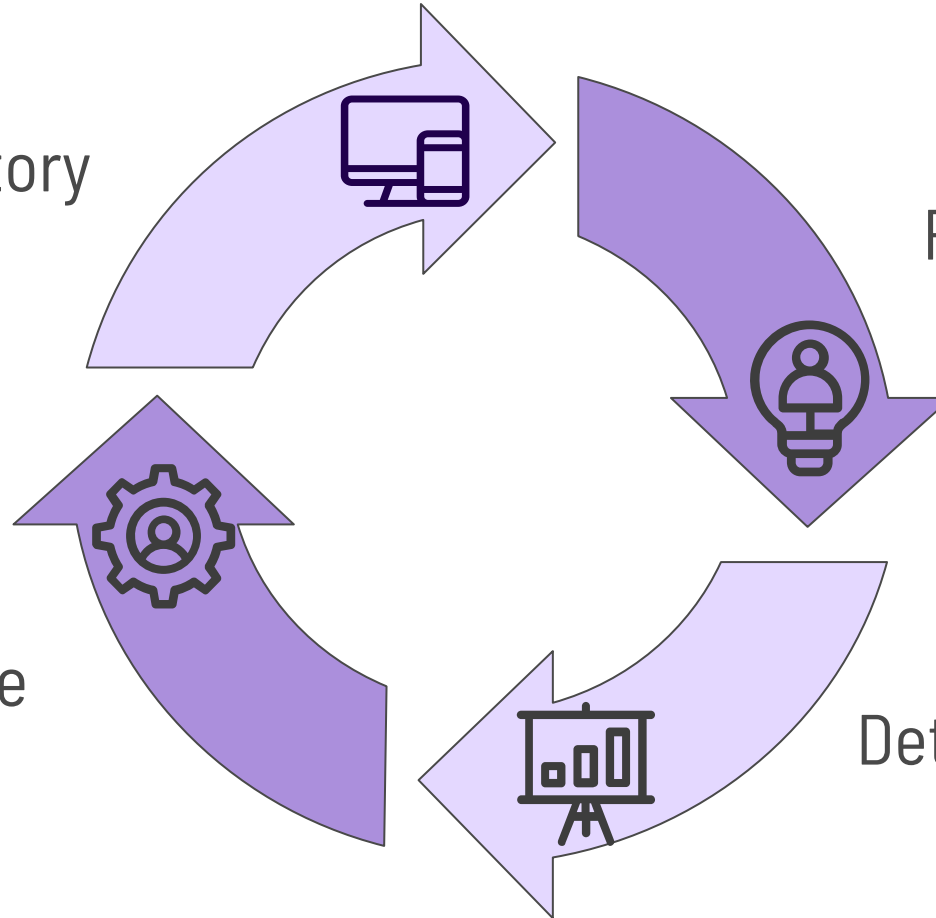
Make changes to the Case History from

## Appraise

Panel evaluates items based on 4 predetermined criteria

## Analyze

Determine the consensus for each item





# Appraisal Criteria

01

## Relevance

Will the information obtained from the item be helpful to direct patient care?

02

## Novel

Will the information obtained provide new information for your intake process?

03

## Detail

Will the information obtained be detailed enough for decision making?

04

## Appropriate Health Literacy

Will the patient understand what the question is asking?

# COVID-19 AND AUDIO-VESTIBULAR HISTORY QUESTIONNAIRE

All questions contained in this questionnaire are strictly confidential  
and will become part of your record.

<b>Name</b> <i>(Last, First):</i>	<b>DOB:</b>
-----------------------------------	-------------

## PART A: COVID-19 INFECTION HISTORY

<b>1. Have you ever received a positive COVID-19 test (PCR, rapid)?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>2. If yes, was a variant of concern/interest (ex. Delta) identified? If yes, which one?</b> _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<b>3. If yes, did you have any of the following COVID-19 symptoms? Select all that apply.</b>			
Loss of taste or smell			<input type="checkbox"/>
High fever			<input type="checkbox"/>
Body ache			<input type="checkbox"/>
Skin changes (rashes, hives, bumps, discoloration around fingers or toes)			<input type="checkbox"/>
Confusion			<input type="checkbox"/>
Eye problems (pink eye)			<input type="checkbox"/>
Gastrointestinal symptoms			<input type="checkbox"/>
<b>4. When did you first notice your COVID-19 symptoms?</b> Date: _____			
<b>5. Were you admitted to hospital as a result of your COVID-19 infection?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
5a. If yes, how long was your stay at the hospital? _____			
<b>6. Were you administered medications that you were told could harm your hearing or balance? If yes, which one</b> _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<b>7. If admitted to hospital, did you require equipment to help you breathe (ex. BiPAP, intubation, respirator)?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>8. Do you have lasting symptoms related to COVID-19 (referred to as being a COVID-19 Long-Hauler)?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<b>8a. Describe any on-going symptoms:</b> _____			

## PART B: PRE-COVID-19 INFECTION HEALTH HISTORY

<b>9. Prior to your COVID-19 infection, did you ever have your hearing tested?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
9a. If yes, did you have a identified hearing, tinnitus, balance, or dizziness problem? Please describe: _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
9b. Do you use hearing aids?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>10. Do you have any of the following conditions? Check all the following that apply to you.</b>		
<i>Cardiovascular disease (coronary heart disease, congenital heart disease)</i>	<input type="checkbox"/>	
<i>Stroke</i>	<input type="checkbox"/>	
<i>High Blood pressure</i>	<input type="checkbox"/>	
<i>Diabetes type 1 or 2</i>	<input type="checkbox"/>	
<i>Chronic Kidney disease</i>	<input type="checkbox"/>	
<i>Chronic Obstructive Pulmonary Disorder (COPD)</i>	<input type="checkbox"/>	
<i>Immunodeficiency disease - please specify: _____</i>	<input type="checkbox"/>	
<i>Sickle cell disease</i>	<input type="checkbox"/>	
<i>Smoking (tobacco, marijuana, vape</i>	<input type="checkbox"/>	
<i>Pregnancy</i>	<input type="checkbox"/>	
<i>Other: _____</i>		

## PART C: POST-COVID-19 INFECTION HEALTH HISTORY

<b>11. After your COVID-19 infection, did you experience any of the following. Check all that apply.</b>				
<i>Pain in ear</i>	<input type="checkbox"/>			
<i>Migraines</i>	<input type="checkbox"/>			
<i>Increased vocal strain (talking louder than normal)</i>	<input type="checkbox"/>			
<i>Aural fullness</i>	<input type="checkbox"/>			
<i>Difficulty understanding speech in background noise</i>	<input type="checkbox"/>			
<i>Other:</i> _____				
<b>12. Have you noticed changes to your hearing since having COVID-19?</b>			<input type="checkbox"/> Yes	<input type="checkbox"/> No
12a. If yes, is the change in:	<input type="checkbox"/> Left ear only	<input type="checkbox"/> Right ear only	<input type="checkbox"/> Both ears	
12b. If yes, please describe the change in your own words: _____				
12c. If yes, were hearing changes sudden?	<input type="checkbox"/> Within Days	<input type="checkbox"/> Within Hours	<input type="checkbox"/> Within Minutes	<input type="checkbox"/> No
<b>13. Have you noticed changes in any of the following: balance, vertigo, spinning, falls, light-headedness, dizziness?</b>			<input type="checkbox"/> Yes	<input type="checkbox"/> No
13a. If yes, were the changes sudden?	<input type="checkbox"/> Within Days	<input type="checkbox"/> Within Hours	<input type="checkbox"/> Within Minutes	<input type="checkbox"/> No
13b. If yes, select the type of dizziness that best describes your experience:				
<i>Feeling of spinning while lying down or rolling in bed</i>				<input type="checkbox"/>
<i>Feeling of spinning in the head while still, not associated with changing position (standing up from sitting)</i>				<input type="checkbox"/>
<i>Light headedness</i>				<input type="checkbox"/>
<i>Other:</i> _____				
<b>14. If you had buzzing, ringing, other noises (tinnitus) prior to COVID-19, has it become louder or more frequent?</b>			<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>15. Have you noticed any new buzzing, ringing, or other noises (tinnitus) since having COVID-19</b>			<input type="checkbox"/> Yes	<input type="checkbox"/> No
15a. If yes, is it in:	<input type="checkbox"/> Left ear only	<input type="checkbox"/> Right ear only	<input type="checkbox"/> Both ears	
15b. If yes, is it:	<input type="checkbox"/> There all the time	<input type="checkbox"/> Come-and-go	<input type="checkbox"/> Not sure	
15c. If yes, was it sudden?	<input type="checkbox"/> Within Days	<input type="checkbox"/> Within Hours	<input type="checkbox"/> Within Minutes	<input type="checkbox"/> No



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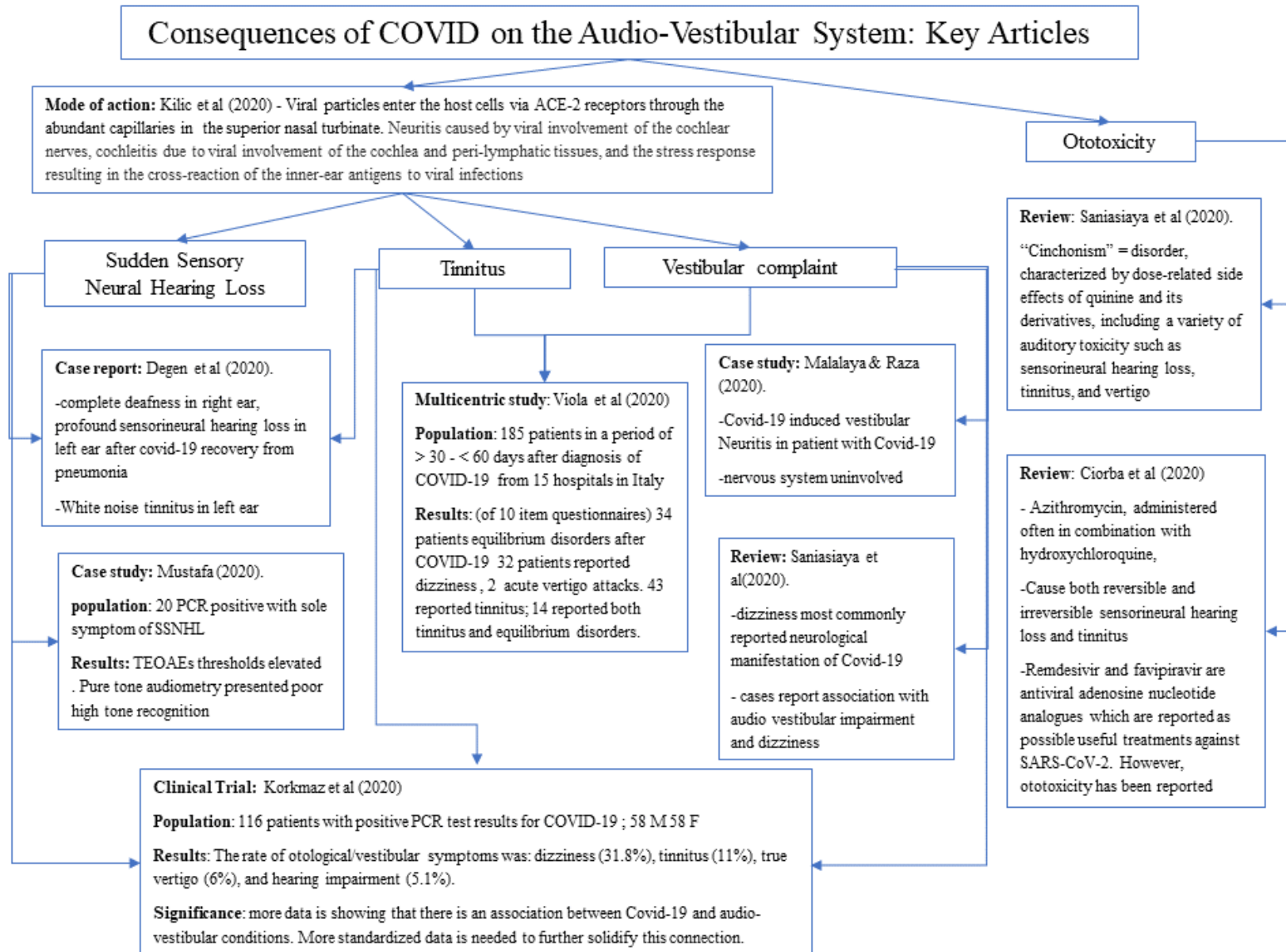
Interested in evaluating our Protocol?

Please email:

[ahajas2@uwo.ca](mailto:ahajas2@uwo.ca)

This presentation draws on research supported by the Social Sciences and Humanities Research Council. We gratefully acknowledge support provided by: The H.A. Leeper Speech and Hearing Clinic, Brampton Audiology, Hearing Solutions, and London Health Sciences Centre, Department of Otolaryngology.

# Appendix A



## Most recent key articles:

Almufarrij I., & Munro K.J. (2021) One year on: an updated systematic review of SARS-CoV-2, COVID-19 and audio-vestibular symptoms. *International Journal of Audiology*. Retrieved from 10.1080/14992027.2021.1896793

Lough M., Almufarrij I., Whiston H., Munro K.J. (2021). Revised meta-analysis and pooled estimate of audio-vestibular symptoms associated with COVID-19. *International Journal of Audiology*. Retrieved from <https://doi.org/10.1080/14992027.2021.1962552>

# Featured Sponsor Presentation



Well-being in Phonak Paradise:

Stacey Rich, MCI Aud, AudA , Manager Audiology Leadership and Training

## Abstract:

The evidence continues to grow in this scientific discussion that one's overall well-being, across multiple dimensions, is critically linked to hearing well. However, integrating this evidence into everyday clinical consultations and technology discussions that are impactful and easy to understand can be difficult. This brief presentation will highlight innovative hearing performance features available in Phonak Paradise that can be leveraged to address specific listening and communication needs and help clients and their families in their journey to hearing well and overall well-being.

**PHONAK**  
life is on



# Well-being in Phonak Paradise

Stacey Rich, Manager of Audiology Leadership and Training

A Sonova brand

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life is on

# What does this mean for clinical practice?

Taking steps towards hearing well is linked to noticeable improvements in physical, cognitive, and social-emotional dimensions of well-being.



## **Social-emotional well-being:**

Hearing well fosters easier engagement, stronger connections and a more positive outlook.



## **Cognitive well-being:**

Hearing well supports cognitive fitness<sup>1</sup>.



## **Physical well-being:**

Hearing well enables people to live a more active and healthy lifestyle.



1. Karawani, H., Jenkins, K., & Anderson, S. (2018b). Restoration of sensory input may improve cognitive and neural function. *Neuropsychologia*, 114, 203–213.

# Call to action



## Prevent

Phonak Hearing Protection



## Detect

Phonak Hearing Screener



## Treat

Phonak Hearing Solutions



# A world full of noise and loud sound

**1.1 billion people**

are estimated to be at risk  
of noise induced hearing  
loss around the world<sup>1</sup>

**40 million U.S. adults**

have Audiograms that are consistent  
with hearing loss resulting from  
exposure to loud noise<sup>2</sup>

**50% of young people**

listen to their music or other  
audio too loudly<sup>3</sup>

**22 million (17%)**

**U.S. workers**

reported exposure to hazardous  
workplace noise<sup>4</sup>

1. World Health Organization (2020, March 1). Deafness and hearing loss: Key facts. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss>.
2. Centers for Disease Control and Prevention (2020, January 6). Vital Signs – Too loud! For too long!. Retrieved from <https://www.cdc.gov/vitalsigns/hearingloss/index.html>.
3. National Institute on Deafness and Other Communication Disorders. (2017, July 27). Listen Up! Protect Your Hearing (infographic). Retrieved from <https://www.nidcd.nih.gov/health/listen-infographic>.
4. Centers for Disease Control and Prevention. (2018, February 6). Noise and hearing loss prevention: Preventing hearing loss caused by chemical (ototoxicity) and noise exposure. Retrieved from <https://www.cdc.gov/niosh/topics/noise/default.html>.

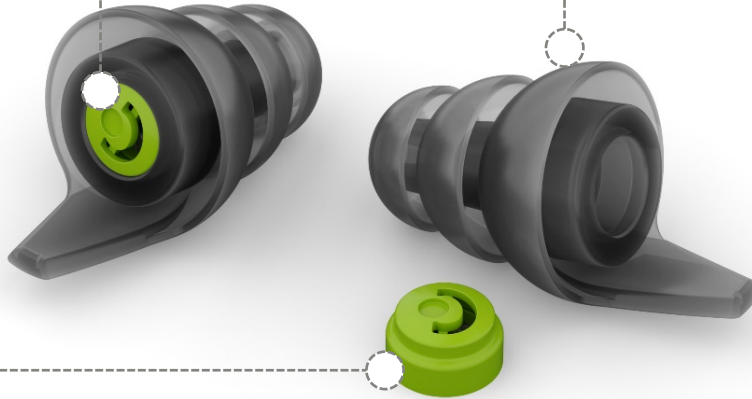
# Phonak Serenity Choice™

## The high-end hearing protection by Phonak

Keeps relevant sound and speech accessible. Specific solutions for different situations:

- 9 to 16 NRR (Noise Reduction Rating)
- 16 to 24 SNR (Single Number Rating)

Cancels noise and loud sound

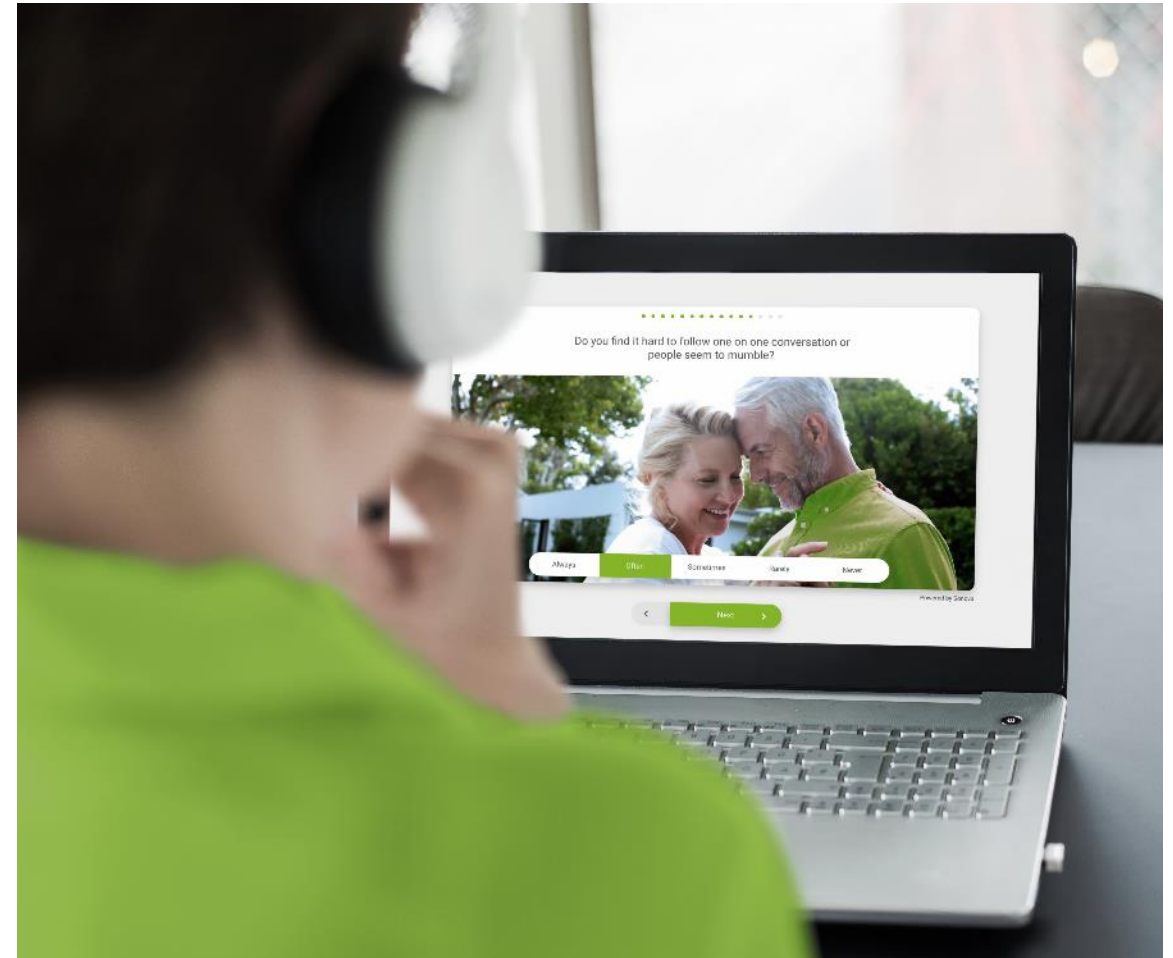


Lets the ear breathe



# Hearing Screener 2.0

- Online hearing test
- Ear specific testing
- Hearing loss shown as dBHL estimates
- Can be integrated into the hearing care professional's webpage
- New features for lead generation and marketing campaigns
- Detailed report



Hearing technologies not only  
help people hear better...

...they help people  
**Live better**

## Technology



Broad portfolio of  
hearing aids



Roger



Bluetooth  
connectivity



eSolutions



## Education and awareness



Hearing and  
Well-Being



eAudiology



Family-Centered  
Care



# Social-emotional well-being

## Impact on social-emotional well-being

- Smaller social networks<sup>1</sup>
- More feelings of loneliness<sup>1</sup>

<sup>1</sup> Kramer, S.E., Kapteyn, T.S., Kuik, D.J., & Deeg, D.J.H. (2002). The association of hearing impairment and chronic diseases with psychosocial health status in older age. *Journal of Aging and Health*, 14(1), 122–137.



## Social connections matter

Having supportive social ties is linked to better health outcomes:



Longer life expectancy<sup>1</sup>



Better physical health<sup>2</sup>



Better mental health<sup>3</sup>



Better cognitive and  
emotional health<sup>4</sup>

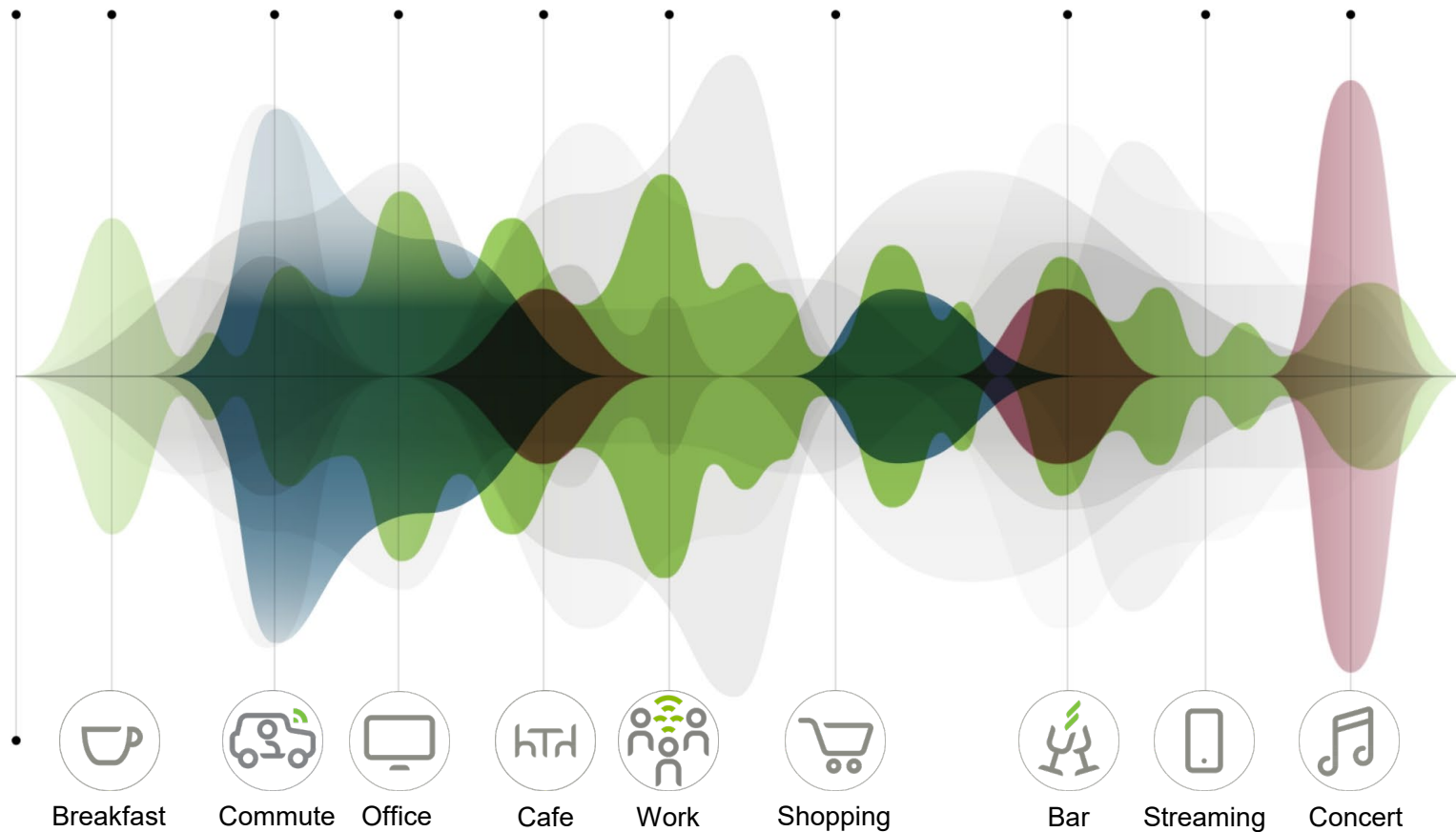
<sup>1</sup> Holt-Lunstad, J., Smith, T.B., & Layton, J.B. (2010). Social Relationships and Mortality Risk: A Meta-analytic Review. PLoS Medicine, 7(7), e1000316.

<sup>2</sup> Eisenberger, N.I., & Cole, S.W. (2012). Social neuroscience and health: neurophysiological mechanisms linking social ties with physical health. Nature Neuroscience, 15(5), 669–674.

<sup>3</sup> Meyer-Lindenberg, A., & Tost, H. (2012). Neural mechanisms of social risk for psychiatric disorders. Nature Neuroscience, 15(5), 663–668.

<sup>4</sup> Malone, J.C., Liu, S.R., Vaillant, G.E., Rentz, D.M., & Waldinger, R.J. (2016). Midlife Eriksonian psychosocial development: Setting the stage for late-life cognitive and emotional health. Developmental Psychology, 52(3), 496–508.

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to meet the individual needs of your clients

**700** scans per second

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using real-world recordings

# Cognitive well-being

## The brain plays a crucial role

- Persons with hearing loss are more at risk of developing clinically significant cognitive problems<sup>1</sup>
- Hearing aids may delay the onset of cognitive decline<sup>2,3</sup>

## Positive impact of hearing aids on cognition:

- Hearing aid use is linked to improved memory<sup>4</sup>
- Making sounds more audible can make listening easier, and less effortful, and reduce fatigue<sup>5,6</sup>
- Frees up cognitive resources for purposes other than listening<sup>7</sup>

<sup>1</sup> Brungart, D.S., Cohen, J., Cord, M., Zion, D., & Kalluri, S. (2014). Assessment of auditory spatial awareness in complex listening environments. *The Journal of the Acoustical Society of America*, 136(4), 1808.

<sup>2</sup> Edwards, B. (2016). A Model of Auditory-Cognitive Processing and Relevance to Clinical Applicability. *Ear and Hearing*, 37(suppl.1), 85S-91S.



# Speech Enhancer



## Speech Enhancer for quiet environments

### Challenge

Being able to hear family and friends in quiet situations

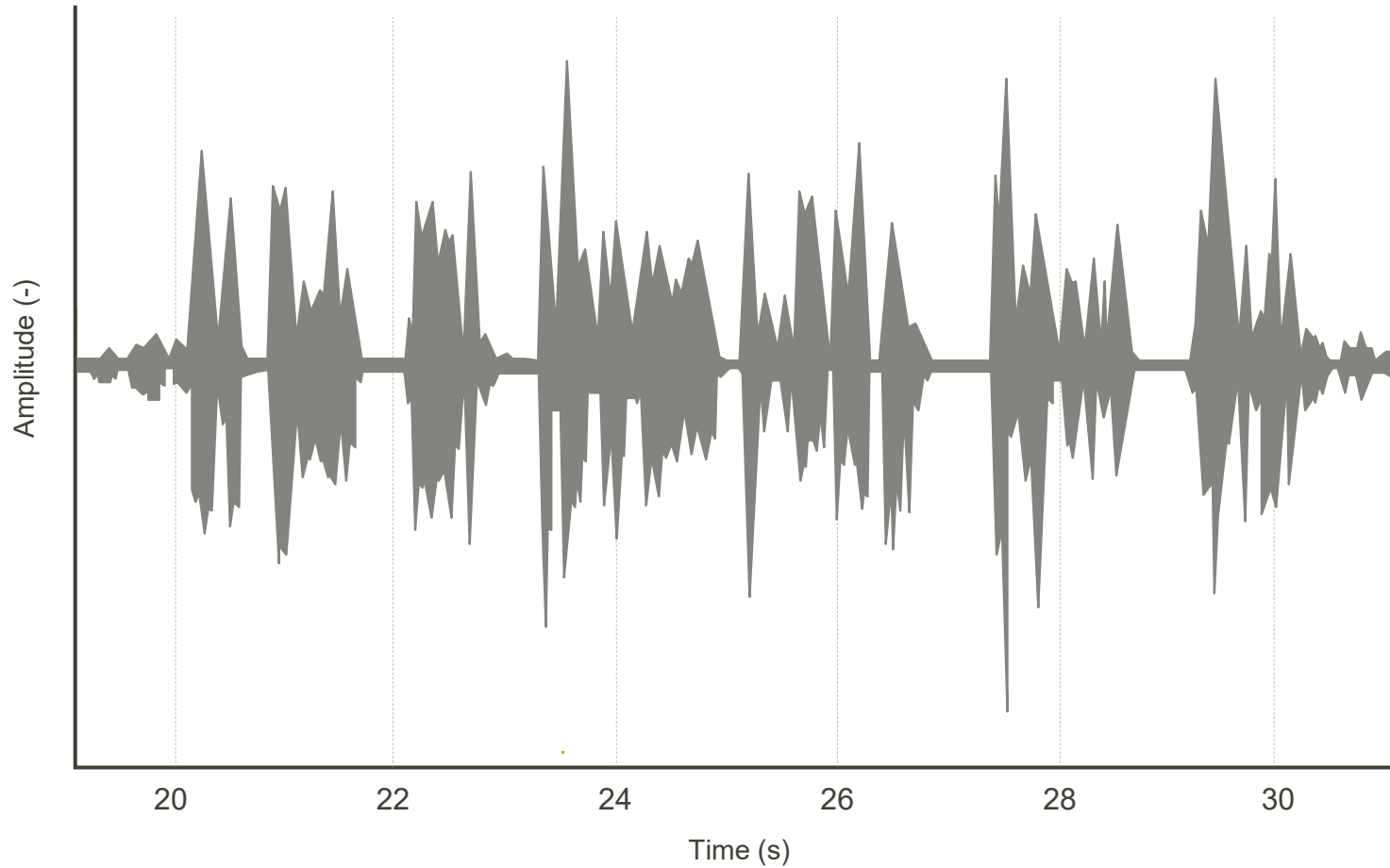
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### Solution

Adaptive feature that is designed to enhance the peaks of a speech signal in quiet situations



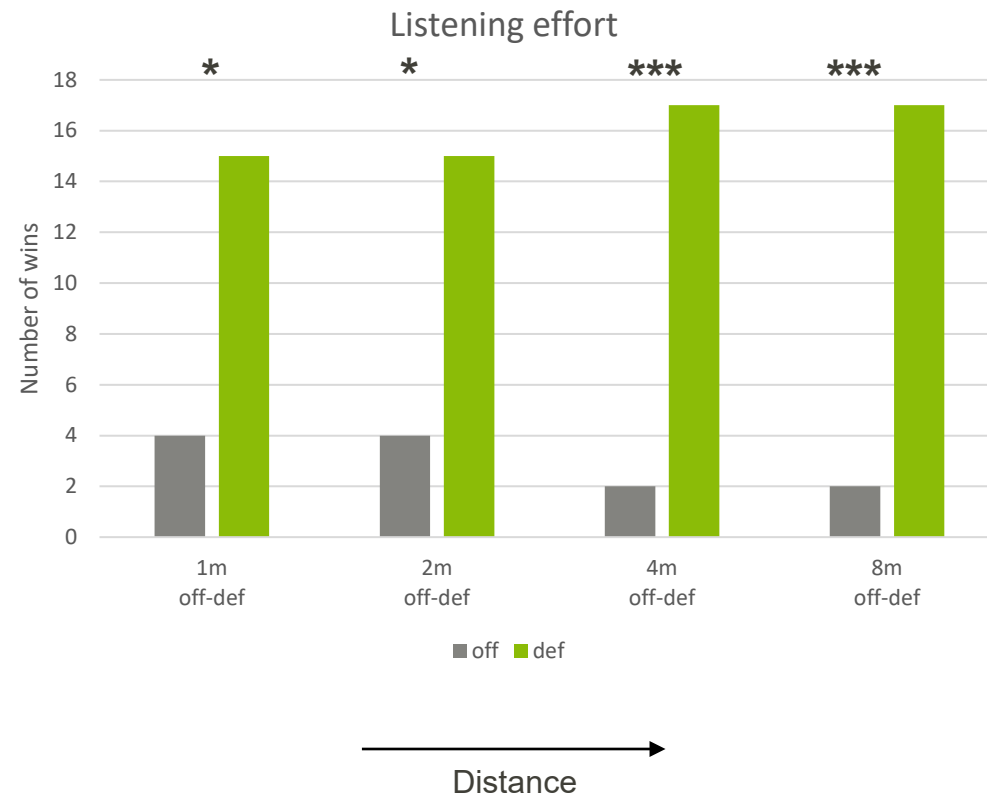
# Speech Enhancer: how does it work?



- Available in Calm situation program
- Active with input signals of 30-50 dB SPL
- Requires minimum SNR of 10 dB
- Up to 10 dB gain

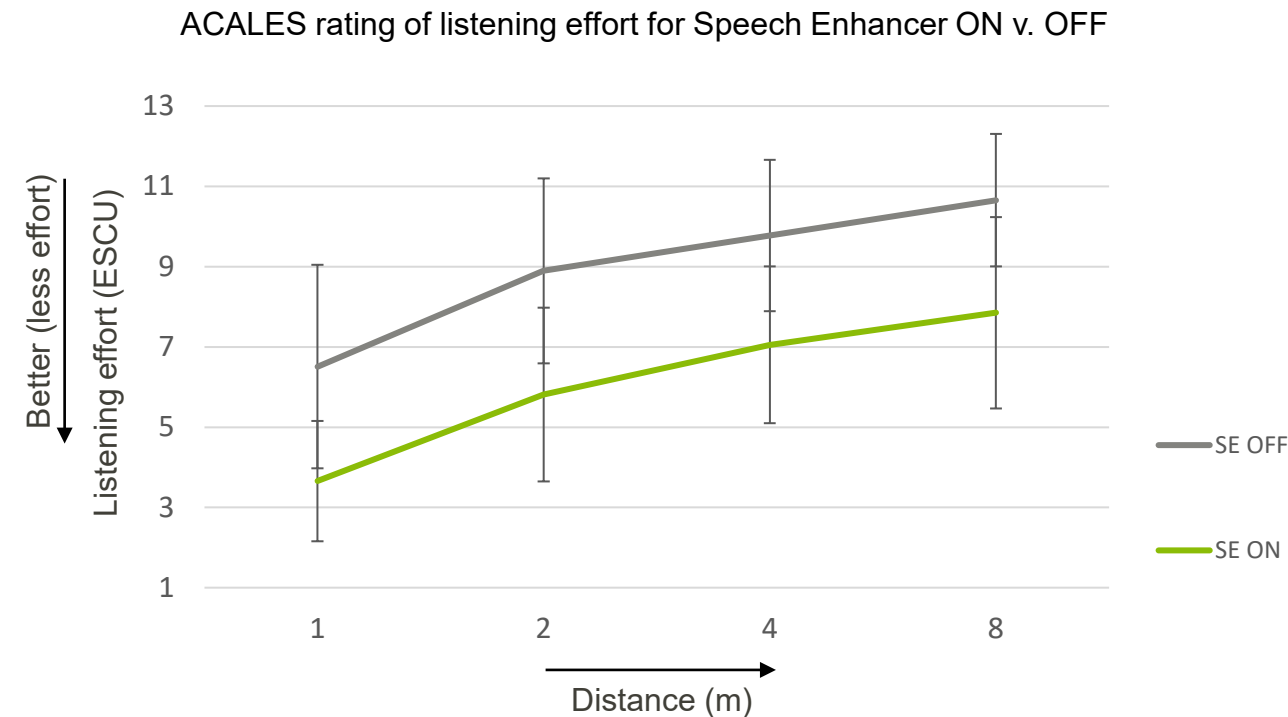
 Speech Enhancer On       Speech Enhancer Off

# Speech Enhancer is preferred for hearing at a distance

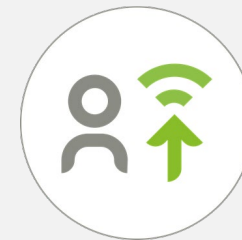


Speech Enhancer  
**reduces cognitive load**  
by reducing listening effort  
at a distance.

# Freeing-up cognitive resources



ESCU (y-axis) = Effort Scaling Categorical Unit  
1 = no effort, 13 = extreme amount of effort.



Speech Enhancer provides  
**reduced listening effort**  
for soft speech in quiet.

# Dynamic Noise Cancellation



## Dynamic Noise Cancellation for challenging situations

### Challenge

Conversing with family and friends in a social gathering when there is background noise

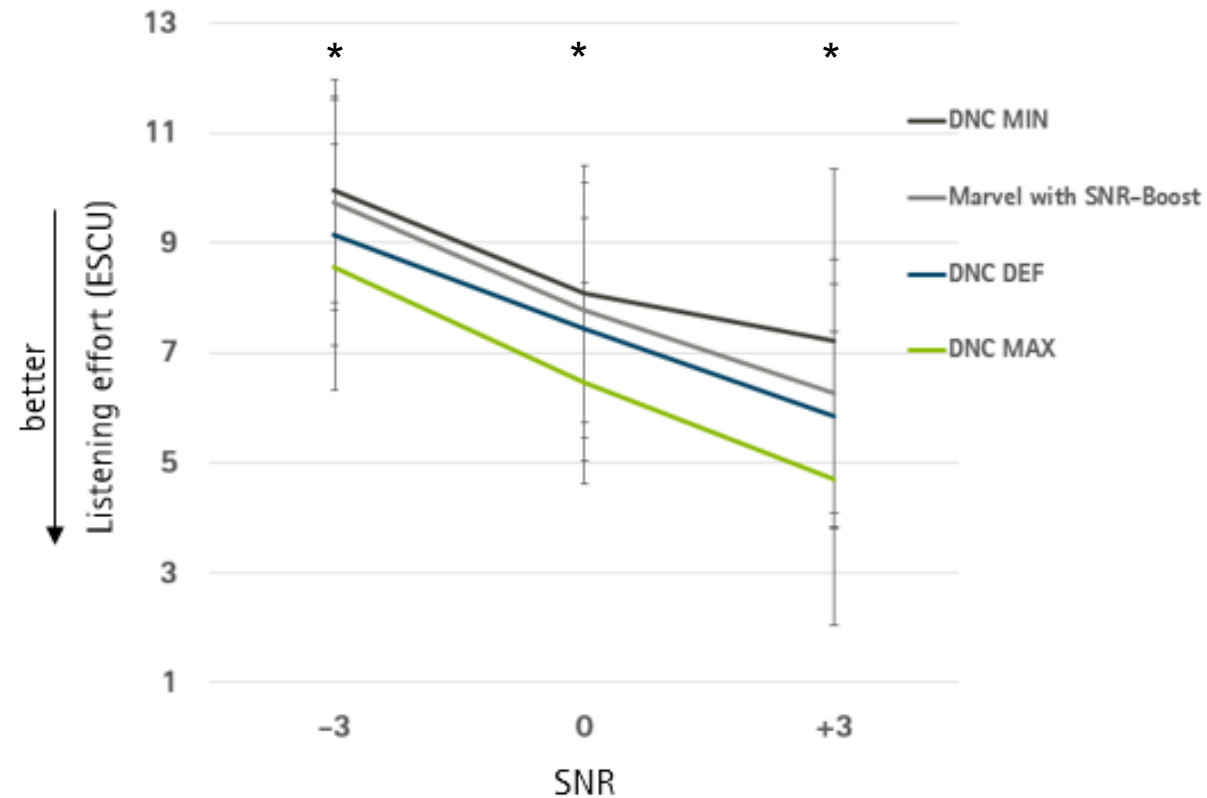
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### Solution

Spatial noise cancellation system that works in combination with a directional beamformer



# Listening effort decreases with increasing strength



Dynamic Noise Cancellation  
was shown to **reduce listening effort.**

# Physical well-being

## Environmental awareness & mental effort

Hearing well allows us to monitor changes in the acoustical environment<sup>1</sup>

Listeners with hearing loss likely spend more effort on maintaining awareness of their surroundings<sup>2</sup>

<sup>1</sup> Brungart, D.S., Cohen, J., Cord, M., Zion, D., & Kalluri, S. (2014). Assessment of auditory spatial awareness in complex listening environments. *The Journal of the Acoustical Society of America*, 136(4), 1808

<sup>2</sup> Edwards, B. (2016). A Model of Auditory-Cognitive Processing and Relevance to Clinical Applicability. *Ear and Hearing*, 37(suppl. 1), A86S-91S

# Motion Sensor Hearing



## Motion Sensor Hearing for listening situations on the go

### Challenge

Having a conversation with someone while walking  
(talker is to the side or behind)

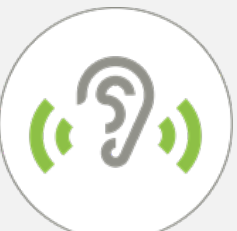
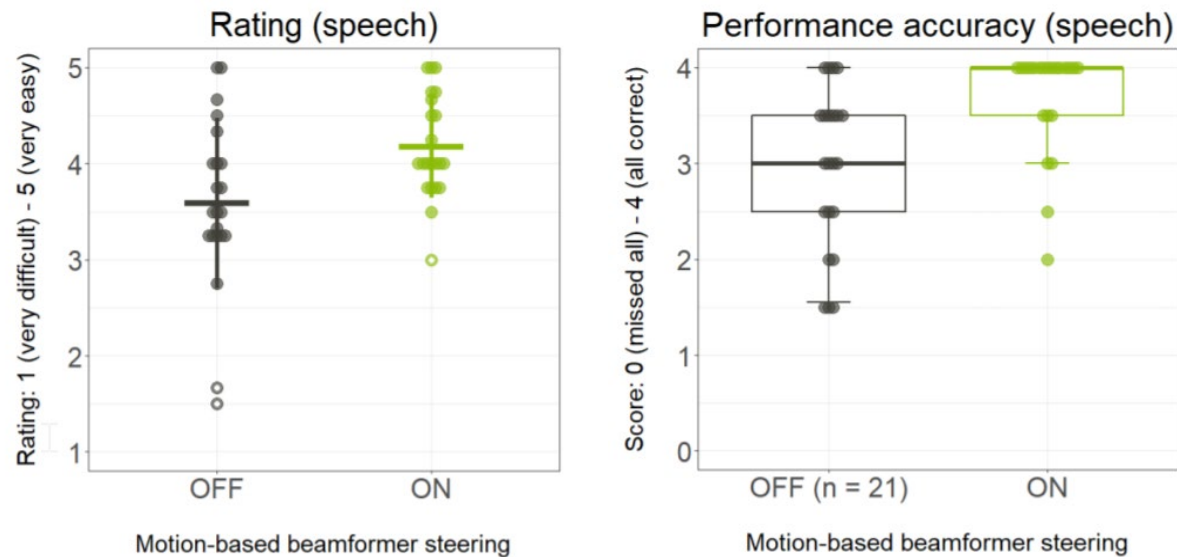
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### Solution

3D motion sensor detects movement and enables  
AutoSense OS 4.0 to steer both the directionality and  
Dynamic Noise Cancellation.

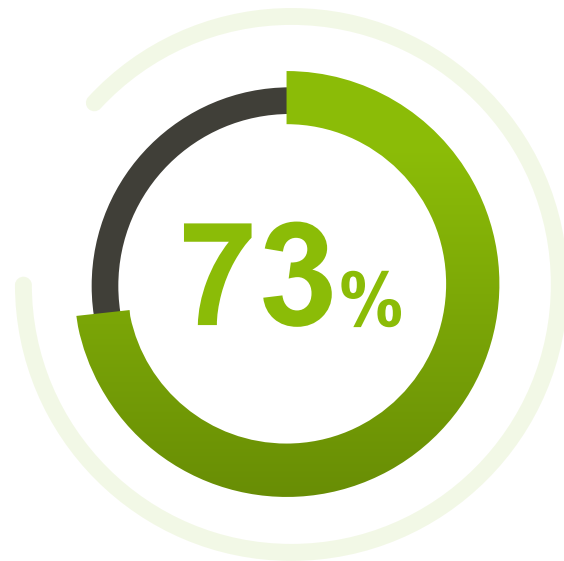


# Rated higher for ease of speech

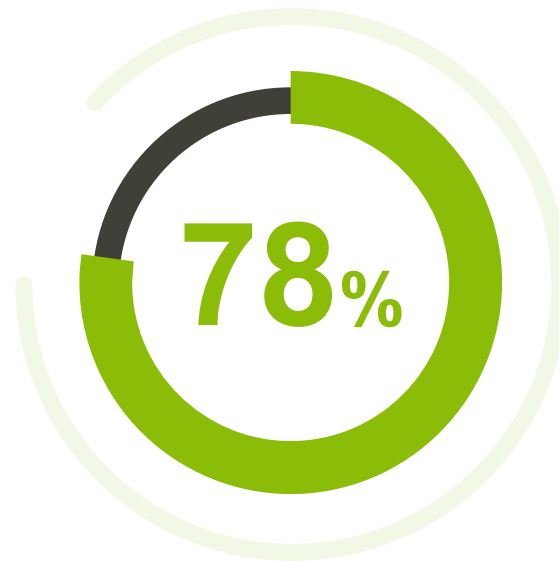


Motion Sensor Hearing  
**improves speech understanding**  
while in motion versus a standard  
speech in noise program.

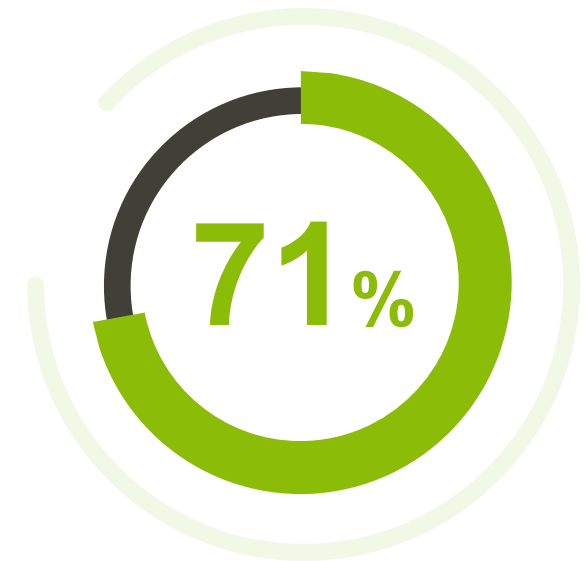
# Overall better listening experience



Preferred MSH for  
speech understanding



Preferred MSH for  
environmental  
awareness



Preferred MSH for  
sound quality

## Social connections matter

Having supportive social ties is linked to better health outcomes:



Longer life expectancy<sup>1</sup>



Better physical health<sup>2</sup>



Better mental health<sup>3</sup>



Better cognitive and  
emotional health<sup>4</sup>

<sup>1</sup> Holt-Lunstad, J., Smith, T.B., & Layton, J.B. (2010). Social Relationships and Mortality Risk: A Meta-analytic Review. PLoS Medicine, 7(7), e1000316.

<sup>2</sup> Eisenberger, N.I., & Cole, S.W. (2012). Social neuroscience and health: neurophysiological mechanisms linking social ties with physical health. Nature Neuroscience, 15(5), 669–674.

<sup>3</sup> Meyer-Lindenberg, A., & Tost, H. (2012). Neural mechanisms of social risk for psychiatric disorders. Nature Neuroscience, 15(5), 663–668.

<sup>4</sup> Malone, J.C., Liu, S.R., Vaillant, G.E., Rentz, D.M., & Waldinger, R.J. (2016). Midlife Eriksonian psychosocial development: Setting the stage for late-life cognitive and emotional health. Developmental Psychology, 52(3), 496–508.



Together,  
we change lives

# 20 Questions: Barriers to Hearing Health Care

Lorienne Jenstad, PhD, Sarah Mason



Lorienne Jenstad, PhD, is an audiologist and Associate Professor at the University of British Columbia's School of Audiology and Speech Sciences. Her teaching and research interests include hearing and aging, hearing aid processing, and hearing health care for older adults. She is currently conducting research studies on hearing aids, communication between patients and health care providers, and treatment strategies for workers with hearing loss.

## Learning Objectives

- Describe many of the barriers to hearing health in Canada
- Understand the role of audiologists in facilitating access to hearing health by adults
- Articulate the role of physicians in encouraging hearing health uptake

# *Q&A: HEARING HEALTH ACCESS FOR ADULTS CAA 2021*

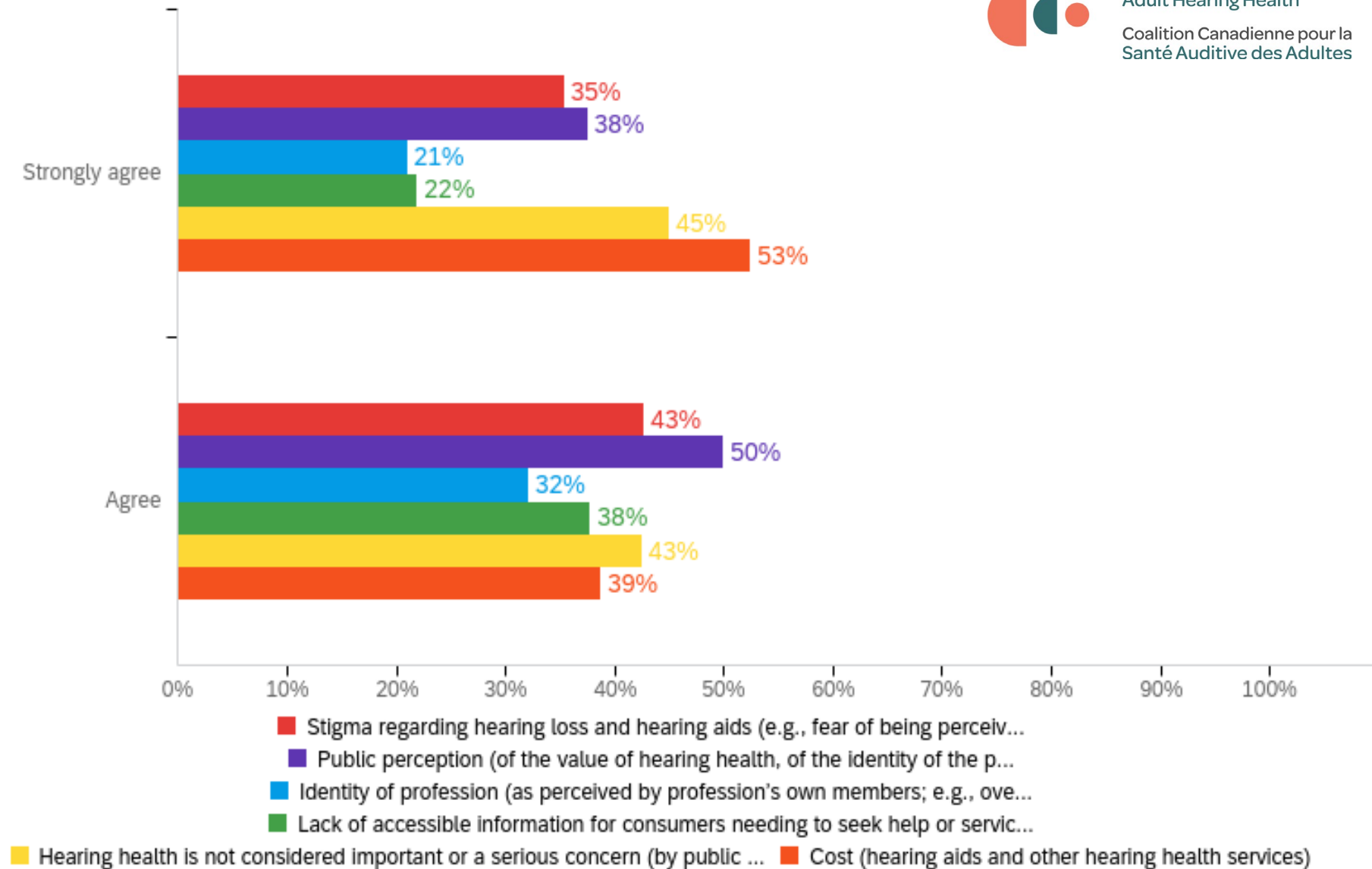
Lorienne M. Jenstad, Associate Professor,  
School of Audiology and Speech Sciences



# Results from a nation-wide study of barriers.



Canadian Coalition for  
Adult Hearing Health  
Coalition Canadienne pour la  
Santé Auditive des Adultes

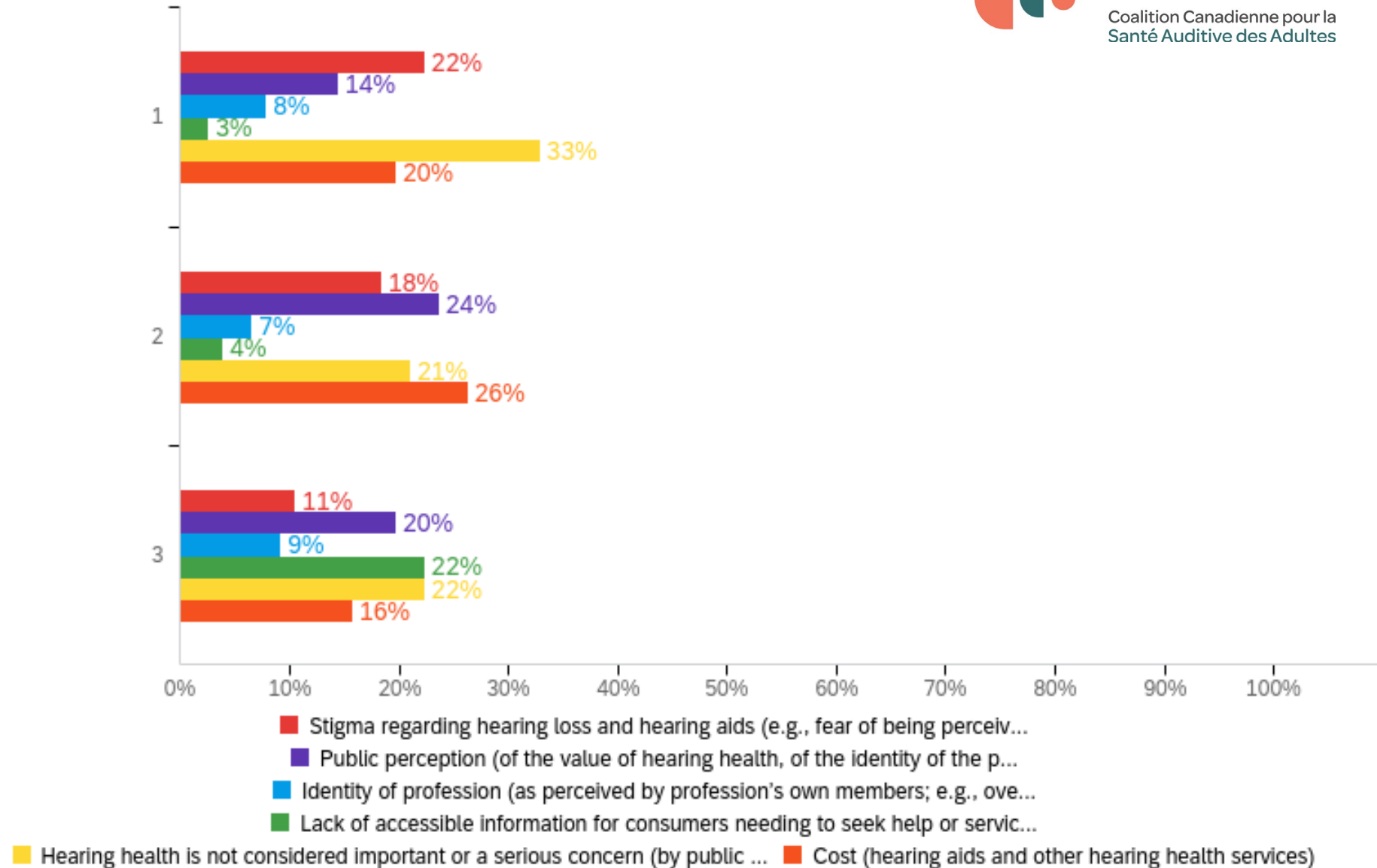


#	Question	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree		Total
1	Stigma regarding hearing loss and hearing aids (e.g., fear of being perceived as “old” or “stupid”)	35.37%	29	42.68%	35	17.07%	14	3.66%	3	1.22%	1	82
2	Public perception (of the value of hearing health, of the identity of the profession as only hearing aid salespeople, of the value of hearing aids)	37.50%	30	50.00%	40	10.00%	8	2.50%	2	0.00%	0	80
3	Identity of profession (as perceived by profession’s own members; e.g., overemphasis on hearing aids)	20.99%	17	32.10%	26	28.40%	23	16.05%	13	2.47%	2	81
4	Lack of accessible information for consumers needing to seek help or services for their hearing health (i.e., many people are not aware of how to seek help or the process for hearing health care)	21.95%	18	37.80%	31	18.29%	15	20.73%	17	1.22%	1	82
5	Hearing health is not considered important or a serious concern (by public or other health professionals)	45.00%	36	42.50%	34	5.00%	4	6.25%	5	1.25%	1	80
6	Cost (hearing aids and other hearing health services)	52.50%	42	38.75%	31	2.50%	2	3.75%	3	2.50%	2	80

# Results from a nation-wide study of barriers.

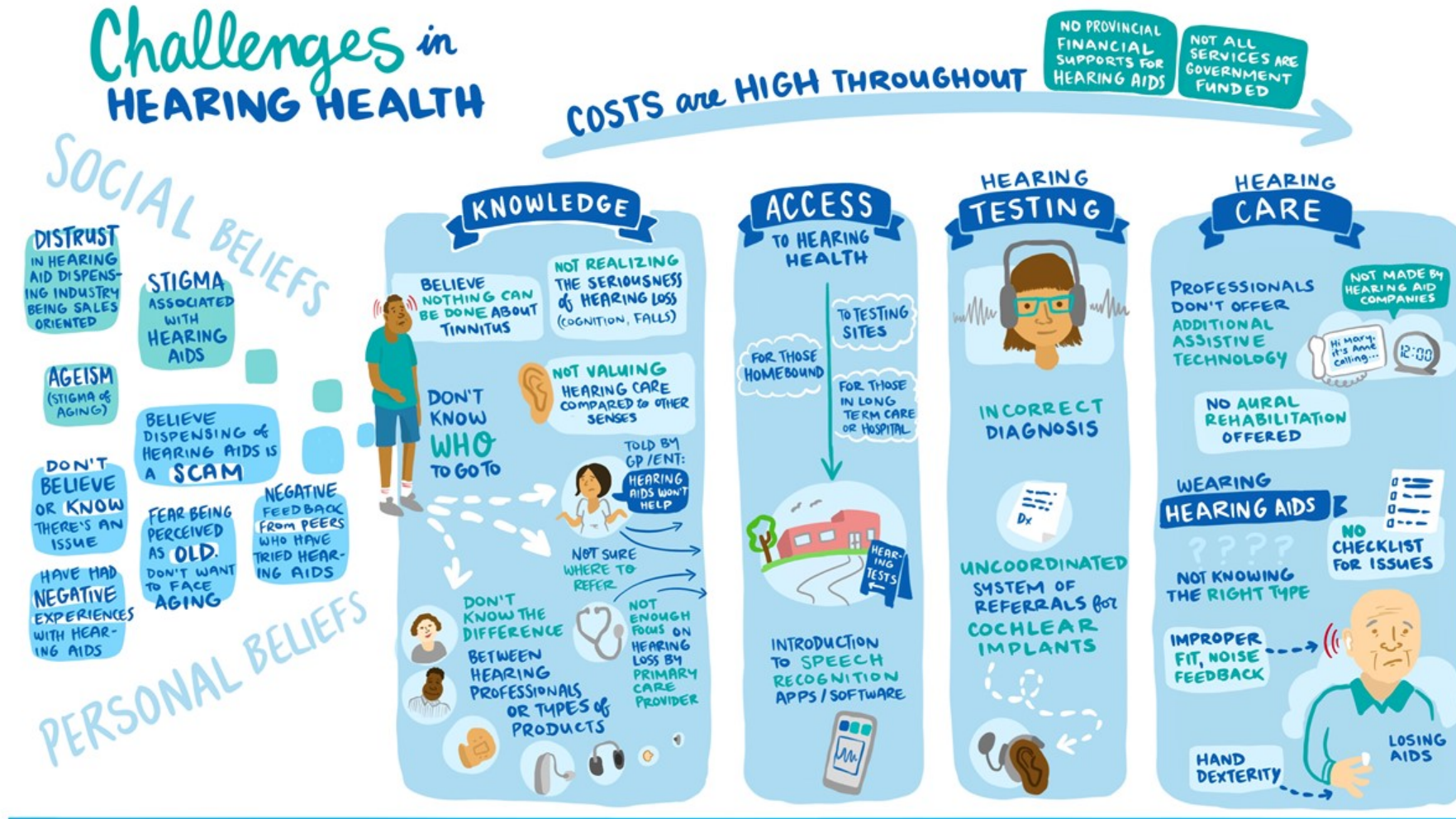


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#	Question	1		2		3		4		5		6		Total
1	Stigma regarding hearing loss and hearing aids (e.g., fear of being perceived as “old” or “stupid”)	22.37%	17	18.42%	14	10.53%	8	17.11%	13	21.05%	16	10.53%	8	76
2	Public perception (of the value of hearing health, of the identity of the profession as only hearing aid salespeople, of the value of hearing aids)	14.47%	11	23.68%	18	19.74%	15	18.42%	14	15.79%	12	7.89%	6	76
3	Identity of profession (as perceived by profession’s own members; e.g., overemphasis on hearing aids)	7.89%	6	6.58%	5	9.21%	7	17.11%	13	25.00%	19	34.21%	26	76
4	Lack of accessible information for consumers needing to seek help or services for their hearing health (i.e., many people are not aware of how to seek help or the process for hearing health care)	2.63%	2	3.95%	3	22.37%	17	22.37%	17	19.74%	15	28.95%	22	76
5	Hearing health is not considered important or a serious concern (by public or other health professionals)	32.89%	25	21.05%	16	22.37%	17	13.16%	10	2.63%	2	7.89%	6	76
6	Cost (hearing aids and other hearing health services)	19.74%	15	26.32%	20	15.79%	12	11.84%	9	15.79%	12	10.53%	8	76

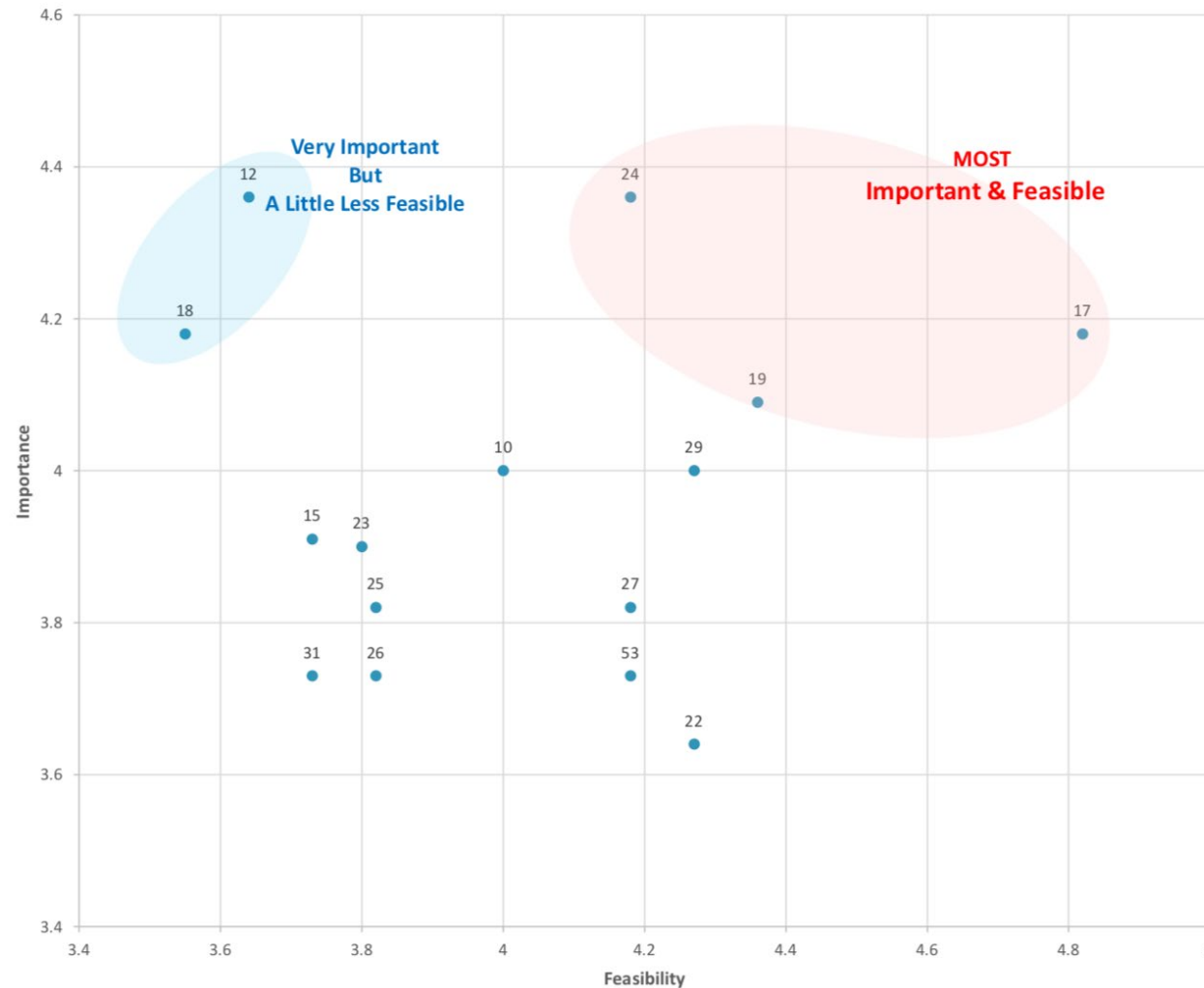
## Results from a BC study of Challenges (barriers)



## Results from a BC study of solutions/ facilitators



GoZone - Items Rated as MOST Important and Feasible



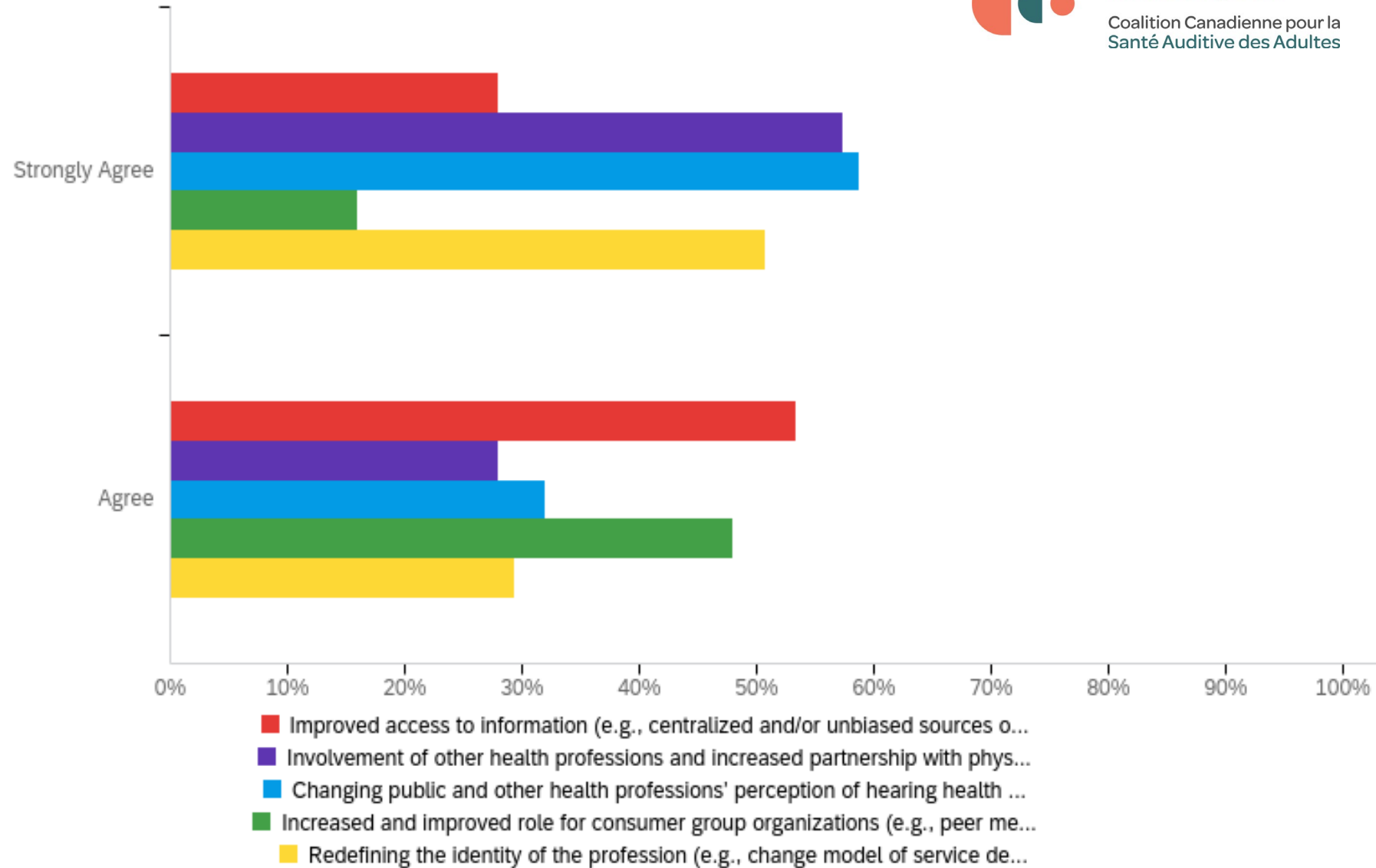
## Action Items

- 17 - Lack of recognition of the seriousness of hearing loss
- 24 - Primary care providers not knowing where to refer
- 19 - Adults with hearing loss don't understand the importance of taking care of their hearing
- 29 - Not enough attention is given to hearing loss by primary family physicians
- 10 - No aural rehabilitation provided e.g., additional communication strategies that do where a hearing aid can't
- 27 - Many adults have been told by their GP / ENT that hearing aids will not help
- 53 - Accessibility to services while in long term care/ the hospital
- 22 - Adults with hearing loss not valuing their hearing compared to other senses
- 12 - Proper fitting of hearing aids
- 18 - Misleading advertising around the relationship between dementia and hearing
- 15 - No checklist for consideration about hearing care and testing to determine there may be an issue
- 23 - Adults with hearing loss don't know who to turn to for help
- 25 - Many adults believe nothing can be done about their tinnitus
- 26 - Being introduced to assistive technology
- 31 - No checklist for consideration about hearing aids to determine there may be an issue

# Results from a nation-wide study of facilitators.



Canadian Coalition for  
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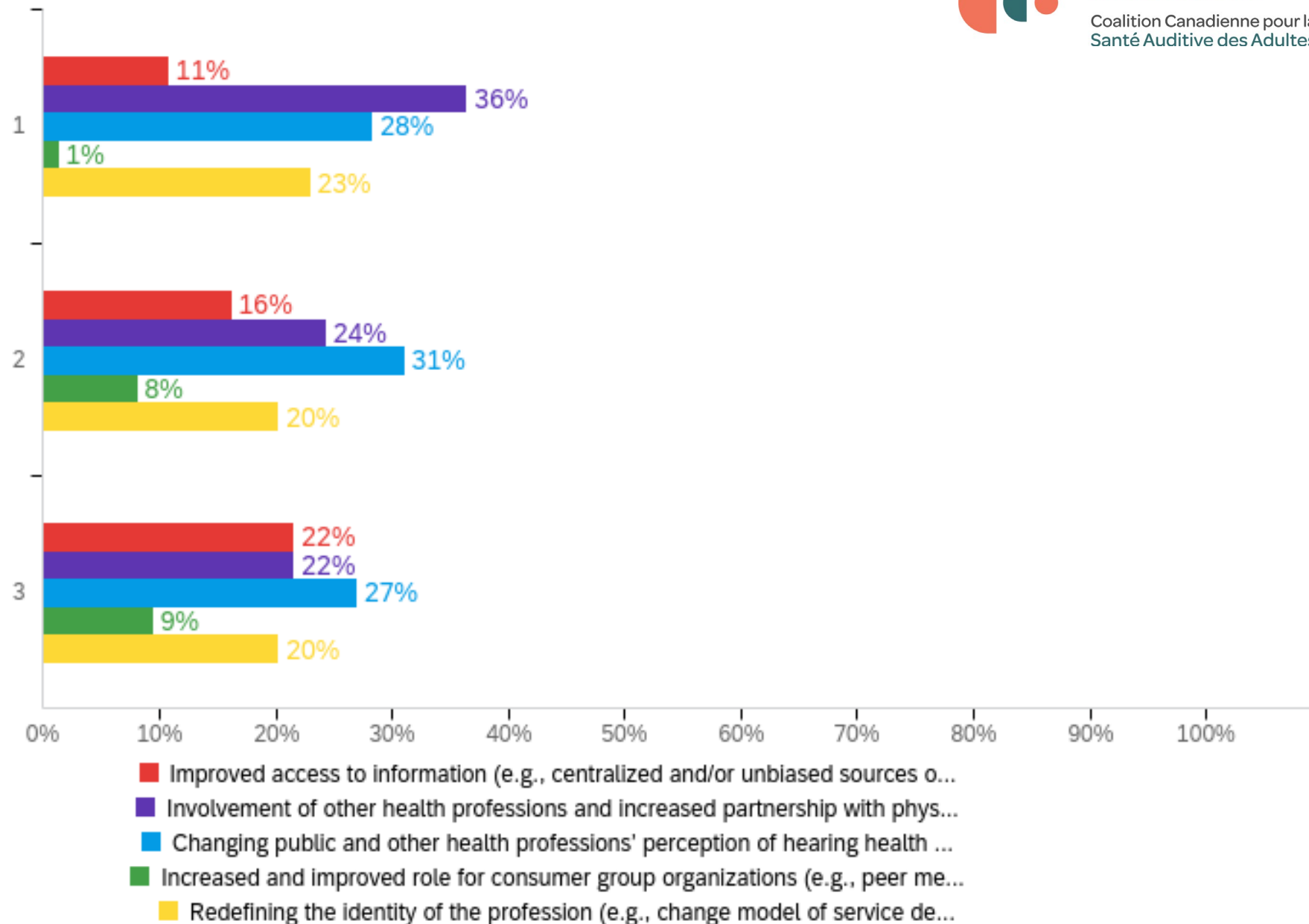
#	Question	Strongly Agree		Agree		Neither agree nor disagree		Disagree		Strongly Disagree		Total
1	Improved access to information (e.g., centralized and/or unbiased sources of complete information)	28.00%	21	53.33%	40	16.00%	12	0.00%	0	2.67%	2	75
2	Involvement of other health professions and increased partnership with physicians in hearing health care	57.33%	43	28.00%	21	12.00%	9	1.33%	1	1.33%	1	75
3	Changing public and other health professions' perception of hearing health care (via messaging or awareness campaigns)	58.67%	44	32.00%	24	6.67%	5	1.33%	1	1.33%	1	75
4	Increased and improved role for consumer group organizations (e.g., peer mentoring, education)	16.00%	12	48.00%	36	26.67%	20	8.00%	6	1.33%	1	75
5	Redefining the identity of the profession (e.g., change model of service delivery; implement person-centred care; refocus our services away from sales and towards health care; broaden rehabilitation options beyond hearing aids)	50.67%	38	29.33%	22	12.00%	9	6.67%	5	1.33%	1	75

# Results from a nation-wide study of facilitators



Canadian Coalition for  
Adult Hearing Health

Coalition Canadienne pour la  
Santé Auditive des Adultes



#	Question	1		2		3		4		5		Total
1	Improved access to information (e.g., centralized and/or unbiased sources of complete information)	10.81%	8	16.22%	12	21.62%	16	35.14%	26	16.22%	12	74
2	Involvement of other health professions and increased partnership with physicians in hearing health care	36.49%	27	24.32%	18	21.62%	16	10.81%	8	6.76%	5	74
3	Changing public and other health professions' perception of hearing health care (via messaging or awareness campaigns)	28.38%	21	31.08%	23	27.03%	20	9.46%	7	4.05%	3	74
4	Increased and improved role for consumer group organizations (e.g., peer mentoring, education)	1.35%	1	8.11%	6	9.46%	7	25.68%	19	55.41%	41	74
5	Redefining the identity of the profession (e.g., change model of service delivery; implement person-centred care; refocus our services away from sales and towards health care; broaden rehabilitation options beyond hearing aids)	22.97%	17	20.27%	15	20.27%	15	18.92%	14	17.57%	13	74



THE UNIVERSITY OF BRITISH COLUMBIA

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# Upcoming CAA Events



## **Saturday November 13 , 2021, 11AM-1PM ET - Implantable Hearing Technologies**

Moderator – Justyn Pisa with Keynote speaker Dr. Griet Mertens, University of Antwerp

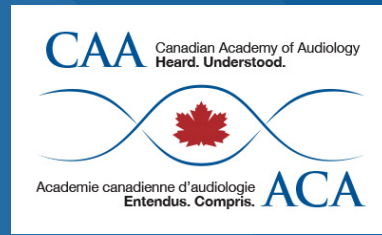
Q&A on **Bone Conduction** with Justyn Pisa and Bill Hodgetts

## **Saturday December 4 , 2021, 11AM-1PM ET - Industry Roundtable**

### **The Future of Hearing Aid Technology**

Moderator – Steve Aiken - featuring international speakers from 5 industry leading companies

# Contact Us



## Contact

- [CanadianAudiology.ca](http://CanadianAudiology.ca)
- [Contact@CanadianAudiology.ca](mailto:Contact@CanadianAudiology.ca)
- Webinar recording, and PDF will be posted to the CAA website within a few business days.
- For those attending this session live you will receive a thank you for attending email. That is your record of attendance and CEU.

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