Laboratoire en audition et vieillissement
Centre de recherche de l'Institut universitaire de gériatrie de Montréal

Centre de recherche iugm
Institut universitaire de gériatrie de Montréal

Université de Montréal

AUDVIE – Hébergement

A Self-directed Hearing and Aging Training Program for Long-Term Care Staff

CAA Conference 2026 | Moncton, NB | October 15th, 2026

Presentation by Adriana Lacerda, Ph. D. and Claudy Bourgeois, M.P.A.

Presentation

Adriana Lacerda, Ph. D.

- Associate Professor at School of Speech-Language Pathology and Audiology, Faculty of Medicine, Université de Montréal - UdeM
- Researcher at Centre de recherche de l'Institut universitaire de gériatrie de Montréal - CRIUGM
- Co-chair of the Caroline Durand Foundation Chair in Hearing and Aging at UdeM



Claudy Bourgeois, M.P.A.

- Masters degree in Audiology, UdeM
- Research manager at CRIUGM



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AUDVIE team

Investigators and co-investigators	• **Adriana Lacerda (Ph.D.) :** Principal investigator, CRIUGM, Université de Montréal • **Jean-Pierre Gagné (Ph.D.) :** Co-investigator, retired (CRIUGM, Université de Montréal), • **Mathieu Hotton (Ph.D.) :** Co-investigator, Université Laval
Clinicians who contributed to the project	• **Wendy Tat (M.P.A.) ,** audiologist, IUGM • **Sandra Darbouze (M.O.A.),** audiologist, IUGM • **Ronald Choquette (M.O.A., Au.D.),** audiologist and professor, Université de Montréal
Research team	• **Claudy Bourgeois (M.P.A) :** research manager • **Ana Carla Garcia (Ph.D.) :** postdoctoral fellow • **Sandie Poulin (M.P.A.)** audiologist ans doctoral candidate

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Plan

- How the project started
  - The idea behind the project
  - Pilot project and its findings
- First trial in long-term care facilities
  - Objectives and hypotheses
  - Recruitment and selection of participants
  - Study design
  - AUDVIE : The intervention and training structure
  - Outcome measures
  - Results
- What’s next for AUDVIE ?

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How The Project Started

- The Idea Behind The Project
- The Pilot Project And Its Findings

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Background

- 60 to 80 % of elders in long-term care facilities have hearing problems (Cohen-Mansfield & Taylor, 2004)
- Communication is a key element of staff's jobs in LTCF
- Hearing aids are underutilized (less than 50%) (Bennett, Meyer, Eikelboom, & Atlas, 2018; Palmer, Mulla, Dervin, & Coyan, 2017).
- Good communication = good quality of care (Gagné, Besser, & Lemke, 2017)

BUT

- Information regarding hearing problems and hearing aids are lacking, especially in French.
- Hearing aids alone aren't enough → communication strategies are key

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The Idea Behind The Project

Better understanding of hearing impairment

+

Improved abilities for manipulating hearing aids and use of communication strategies

=

Better care for hearing impaired residents of LTCF

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Pilot project and its findings



Leslie Gauthier-Cossette

- Pilot project : offer an in-person formation to health staff working in the Intensive Functional Rehabilitation Unit of the IUGM

- Improvement of the knowledge and abilities of the participants

BUT

- In-person is more time consuming and isn't realistic if we want to make the training accessible to most LTCF employees.

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The Beginning of AUDVIE - Hébergement



Wendy tat

- **Built from a successful face-to-face program**
  - Based on a pilot program that improved knowledge, skills and self-efficacy related to hearing aids, while addressing scalability challenges in healthcare settings
- **Self-directed learning**
  - Flexible video modules completed at the learner's own pace over several weeks.
- **Hands-on experiential training**
  - Learners practice with real hearing-care equipment and guided exercises while watching the modules.
- **Focus on communication, not only hearing aids**
  - Combines hearing-aid management with practical communication strategies for interacting with older adults with hearing loss
  - Tailored specifically to personal support workers in long-term care settings.

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Enhancing communication in healthcare: Supports for interactions between adults with hearing loss and healthcare providers

Ana Carla Garcia, Ali Arabi, Claire Croteau, Adriana Lacerda

Supports for interactions between adults with hearing loss (AwHL) and healthcare providers (HCP)

SUPPORTIVE NON-VERBAL STRATEGIES

Use facial expressions, eye contact, and looks.
Write, draw, read, or use notes to communicate.
Talk face-to-face and look at the patient.
Use hand signs, gestures, and body movements.
Give the patient enough time to understand and respond.
Use cards, pictures, and videos to help communicate.
Let the patient read lips.
Show steps on a screen.

SUPPORTIVE VERBAL STRATEGIES

Speak clearly at a normal volume and slow pace.
Use simple words, short sentences, and key points.
Repeat and rephrase words as needed.
Let the patient finish speaking without interrupting.
Use medical terms that are easy to understand.
Match your communication to the patient's level.
Avoid abstract terms, double negatives, and technical jargon.
Ask for the patient's opinions, reassurance, and permission.
Explain symptoms using stories or clear examples.
Choose open-ended or closed-ended questions based on the situation.

ENVIRONMENTAL AND PHYSICAL ADAPTATIONS

Use visual demonstrations and signs.
Add noise-dampening materials.
Set up alerting devices in waiting rooms
Adjust lighting and space in the waiting room.
Change your position and distance to suit the patient.
Include tactile features in the space or clinic.

EDUCATION AND TRAINING

Join virtual workshops on hearing loss knowledge.
Take short courses on hearing aids.
Raise awareness among colleagues and partners about the patient's condition.

Audiologists
Community health workers
Dentists
EMS practitioners
Nurses
Nursing assistants
Nutrition specialists
Physicians
Physiotherapists
Psychologists
Speech-language therapists
Social workers

TECHNOLOGICAL SUPPORT

Use adaptive hearing devices.
Use amplified phones, FM systems, and microphones.
Communicate through text messages and email instead of phones. Use speakerphone or a two-way headset.

HUMAN SUPPORT

Use sign language interpreters or healthcare translators.
Ask family members to help with translation.
Build a network of community interpreters.

PSYCHOLOGICAL SUPPORT AND COUNSELING

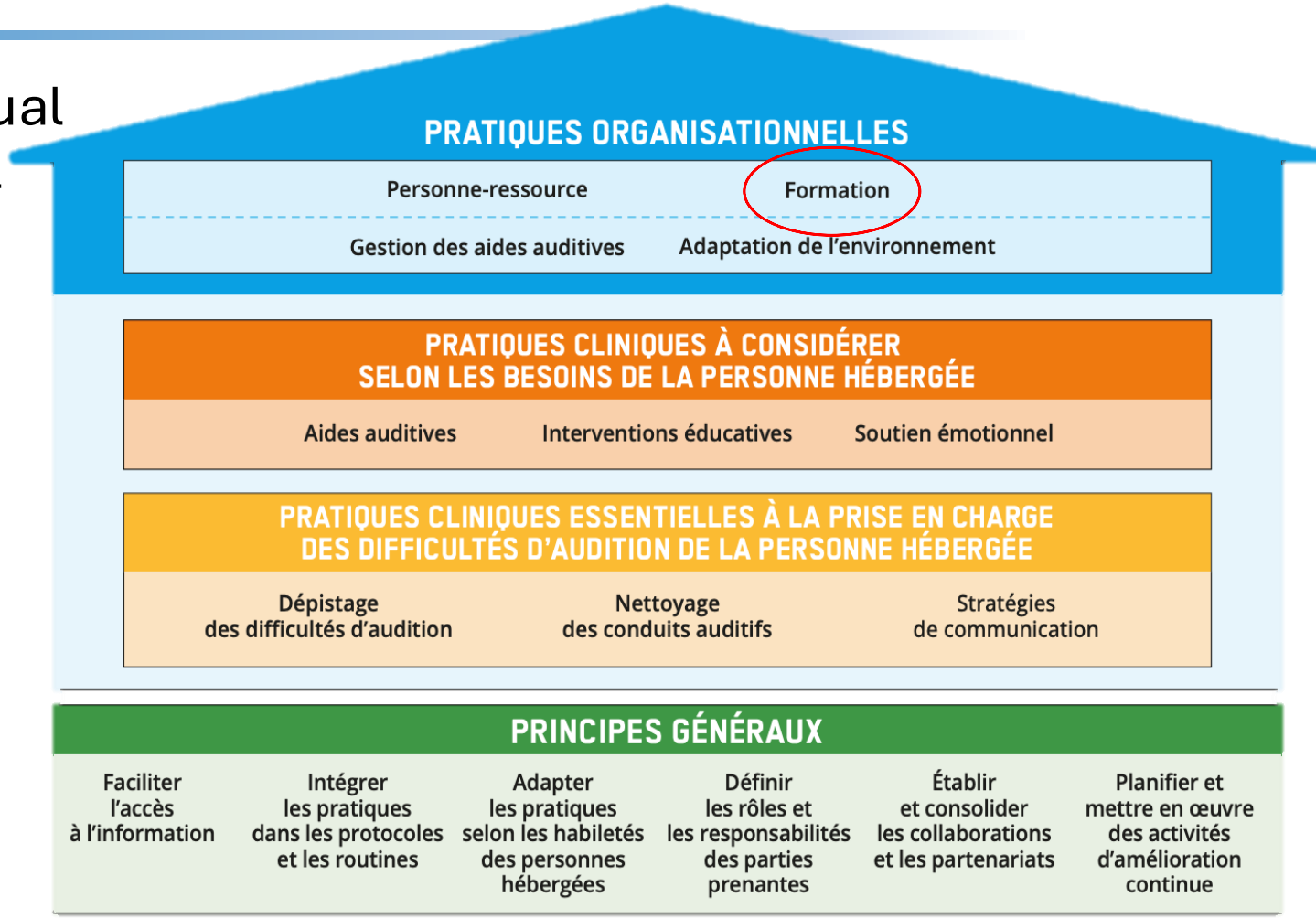
Address psychosocial issues during diagnosis and treatment.
Help manage communication breakdowns.
Show empathy, agreement, or disagreement with the patient.
Recognize negative emotions caused by hearing loss.

Full article

Organizational practices

- AUDVIE is aligned with the actual gold standard in organizational practices:

- Identifying Hearing Difficulties
- Adapted Communication
- Checking Hearing Aids
- Support for Daily Use



Recommandation en hébergement (MSSS, 2022; INESSS, 2023)

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Claudy Bourgeois



Ana Carla Garcia



Sandie Poulin

AUDVIE: Long-Term Care Facilities

- Objectives and hypotheses
- Recruitment and selection of participants
- Study design
- AUDVIE : The intervention and training structure
- Outcome measures
- Results

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Objectives and Hypotheses

Explore the impacts of a self-direct training program

- O1 : Effects on abilities, knowledge and self-efficacy of participants
- O2 : Maintained 3 months post training
- O3 : link between self-efficacy and abilities
- O4 : satisfaction

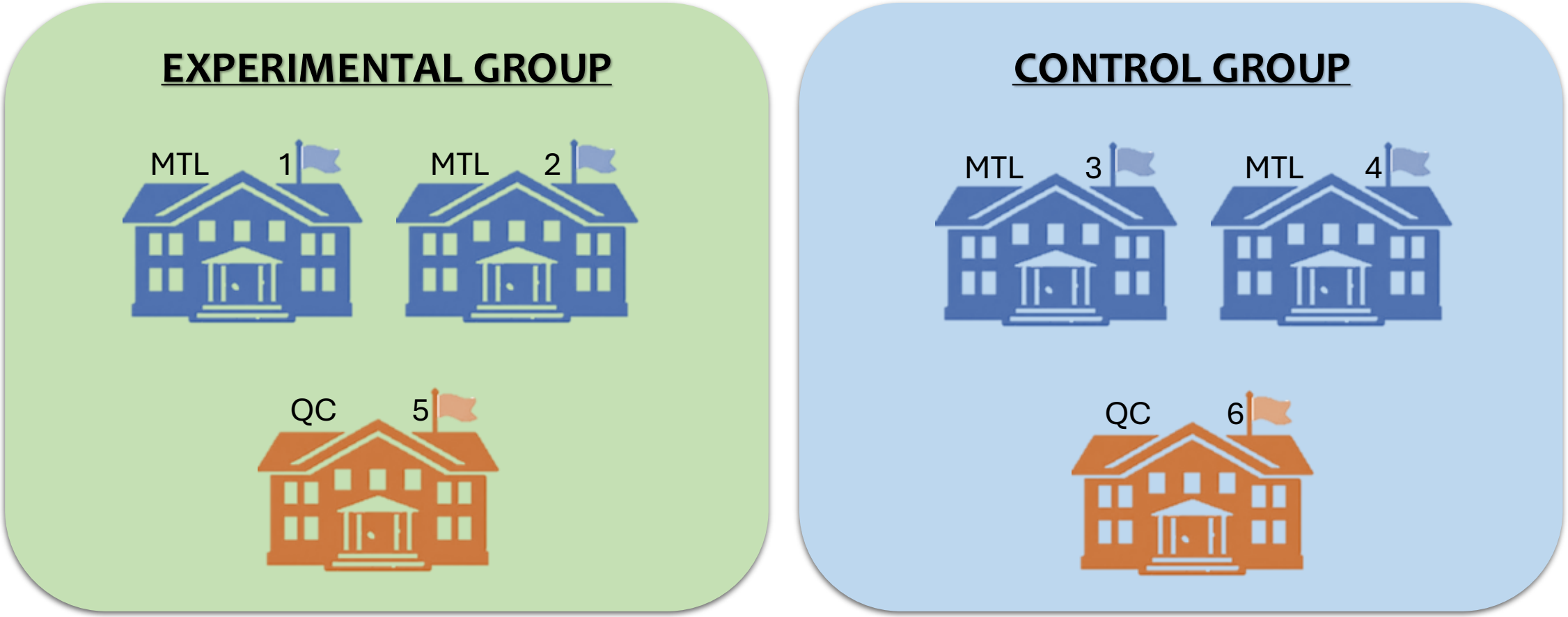
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Recruitment

- **Meeting with LTCF's managers**
- Presentation of the project
- Anticipation of difficulties and identification of solutions (place for listening to the capsules undisturbed, place to keep the suitcase, release time for training, etc.)
- Checking for bias
  - One site removed from project for previous activities with UdeM
- Verifying interest

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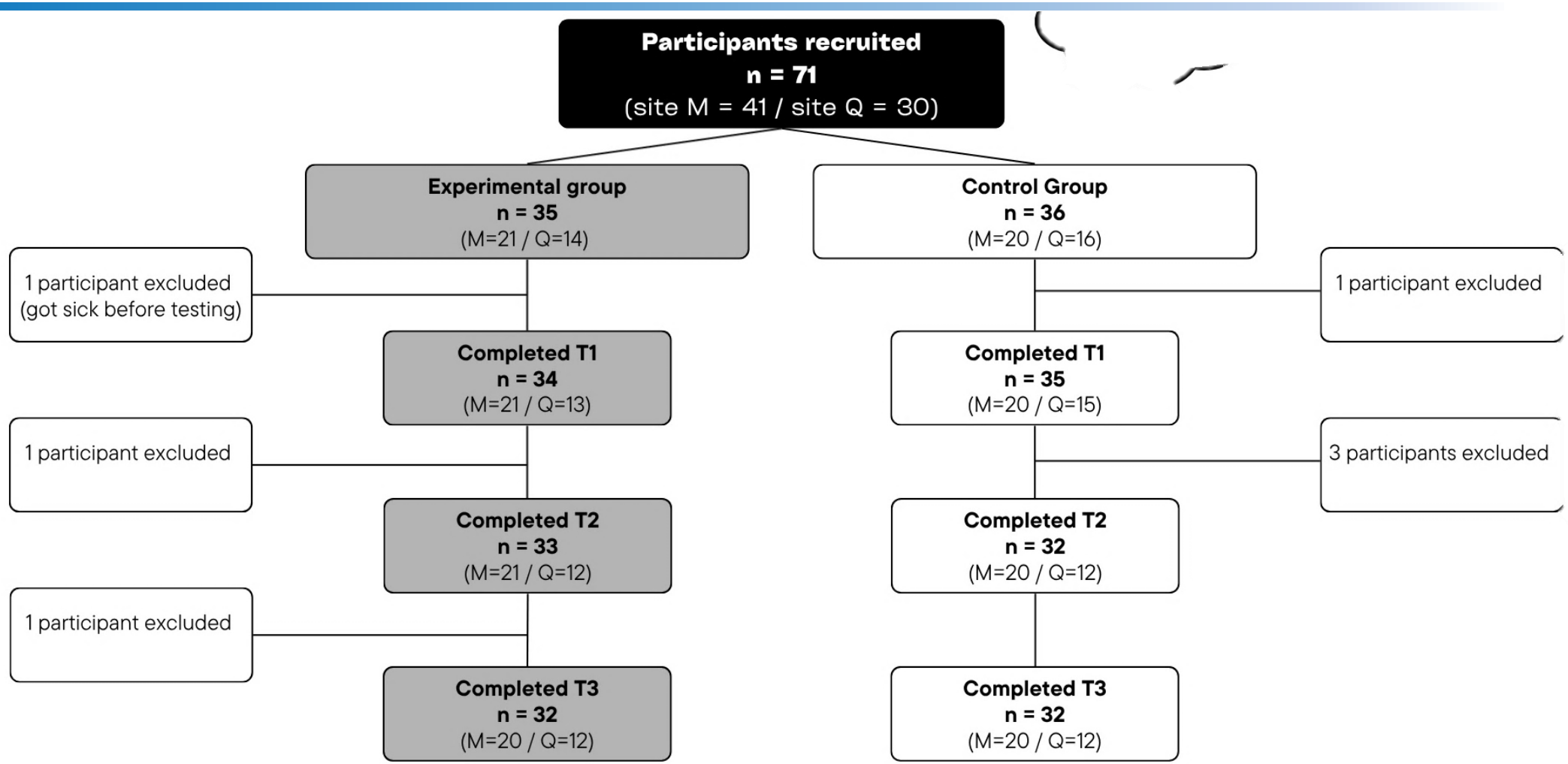
Participants



Total : 70 participants

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Participants



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Study design

EXPERIMENTAL GROUP

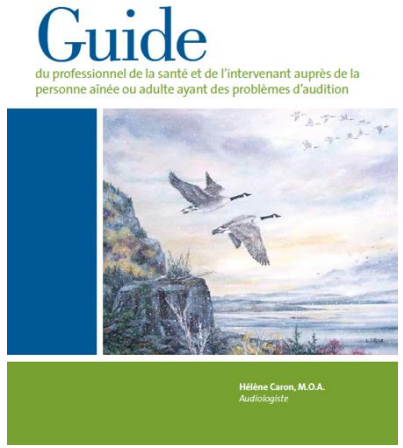
AUDVIE : self-directed training program

(video capsules + material + learner's manual)

CONTROL GROUP

Reading of the guide

(*Guide du professionnel de la santé et de l'intervenant auprès de la personne aînée ou adulte ayant des problèmes d'audition,* Caron 2014)



Initial measures → **Training** (4-week period at most) → **Measures post-training** → **Measures 3 months post-training**

T1 : 60 min | T2 : 45 min | T3 : 45 min

*A randomized controlled intervention study with a longitudinal design, including pre- and post-intervention repeated measures and a 3-month follow-up.

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Intervention components

The Video Capsules : AUDVIE-Hébergement - <u>4 themes</u>

- Hearing loss in older adults
- Communication strategies
- Hearing aids
- Personal amplification systems

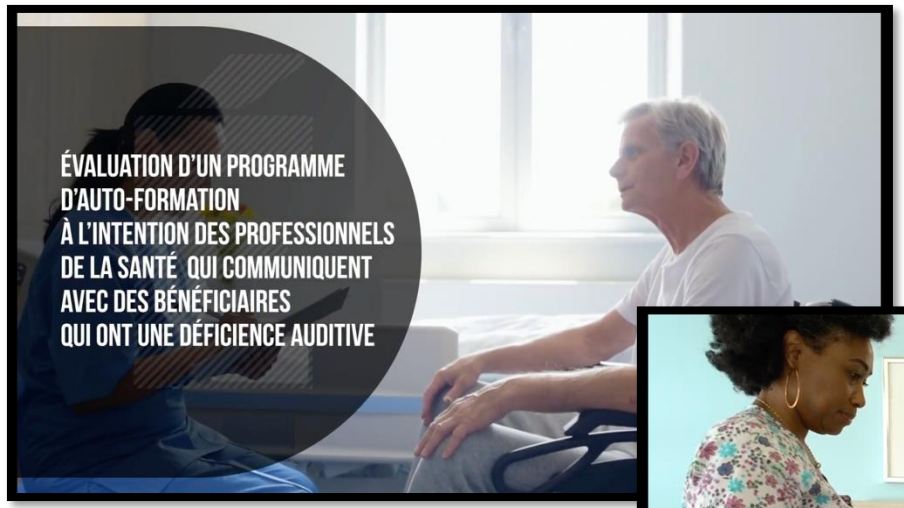
<u>10 modules / capsules →</u>

Hearing loss and its prevalence	Impacts and manifestations of HL	Types of HA and their components
Techniques for insertion and removal of a HA	Batteries	General maintenance of a HA
Steps to verify operation of a HA	Troubleshooting steps to follow when the HA whistles or stops working	Communication strategies
	Use of personal amplification system (Audioport et Pocketalker)	

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Training structure

- 60 minutes to watch it all (and do the manipulations)
- Would it really be enough to make a change?









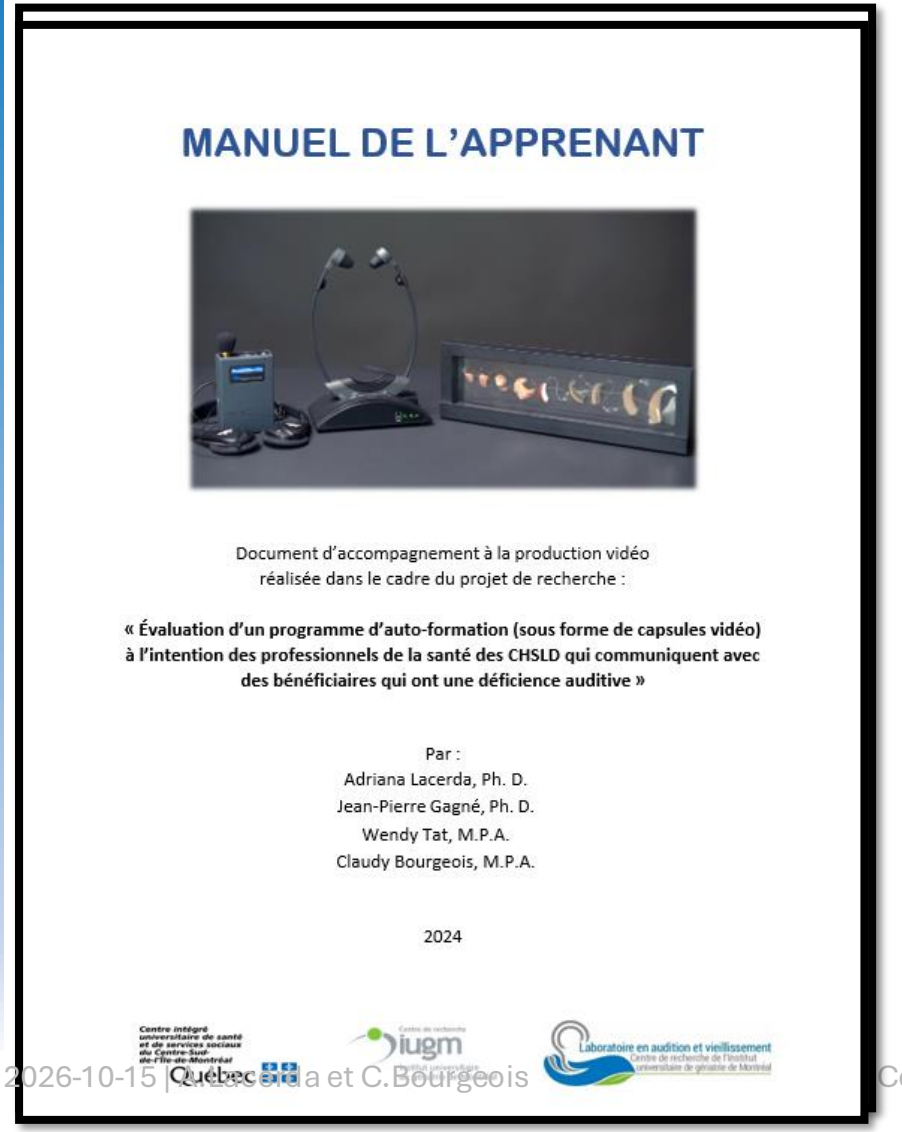
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The Video Capsules : AUDVIE-Hébergement

CAPSULE AUDVIE

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The Learner's Manual


MANUEL DE L'APPRENANT

Document d'accompagnement à la production vidéo
réalisée dans le cadre du projet de recherche :

« Évaluation d'un programme d'auto-formation (sous forme de capsules vidéo) à l'intention des professionnels de la santé des CHSLD qui communiquent avec des bénéficiaires qui ont une déficience auditive »

Par :
Adriana Lacerda, Ph. D.
Jean-Pierre Gagné, Ph. D.
Wendy Tat, M.P.A.
Claudy Bourgeois, M.P.A.

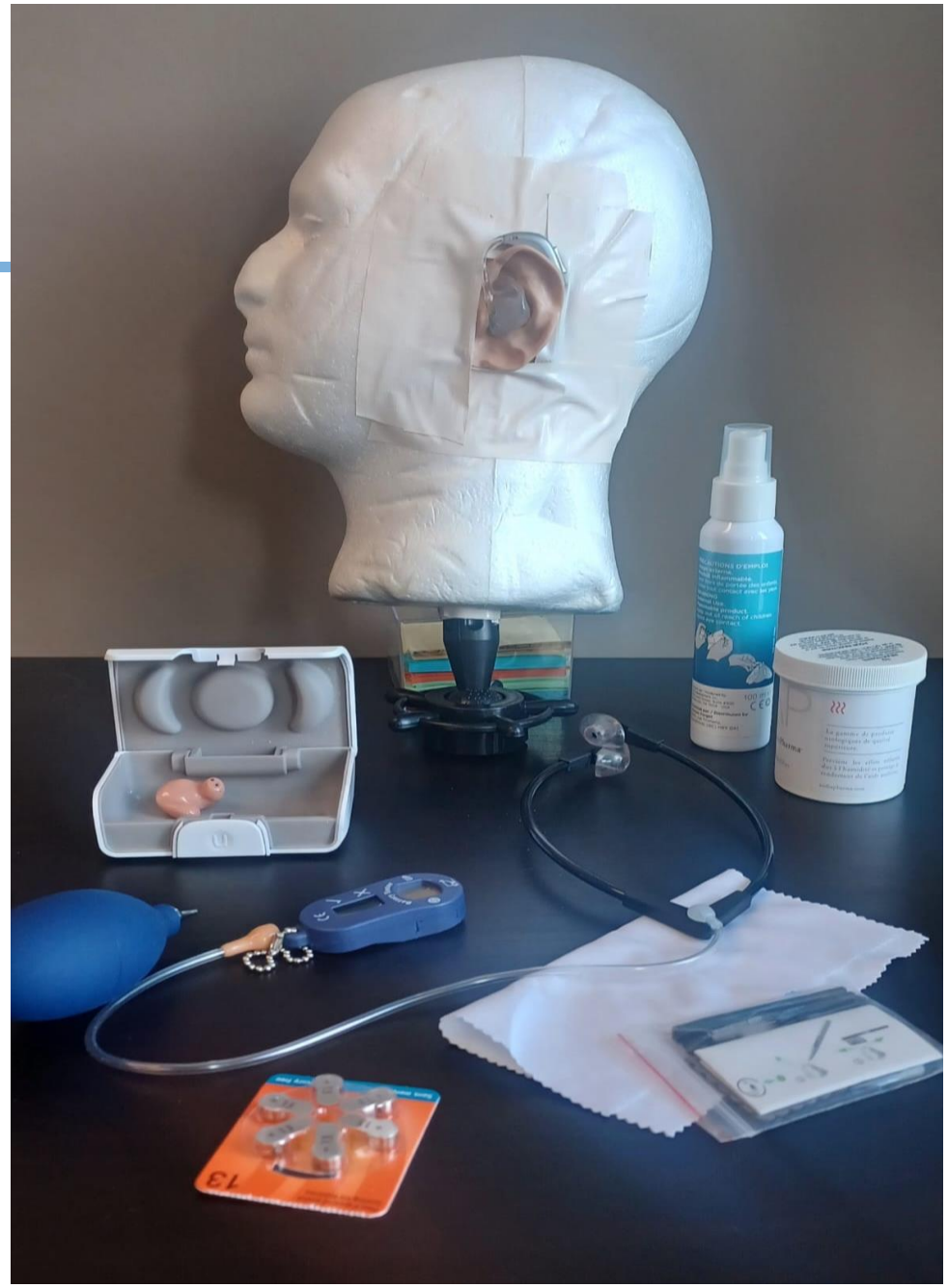
2024

Centre intégré universitaire de santé et de services sociaux du Centre-Sud-de-l'Île-de-Montréal
Québec
iugm
Laboratoire en audition et vieillissement

1 module per chapter

The Support Material

- Hearing aids (ITE and BTE)
- Pocketalker
- Cleaning and disinfecting tools
- Troubleshooting tools



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Outcome measures

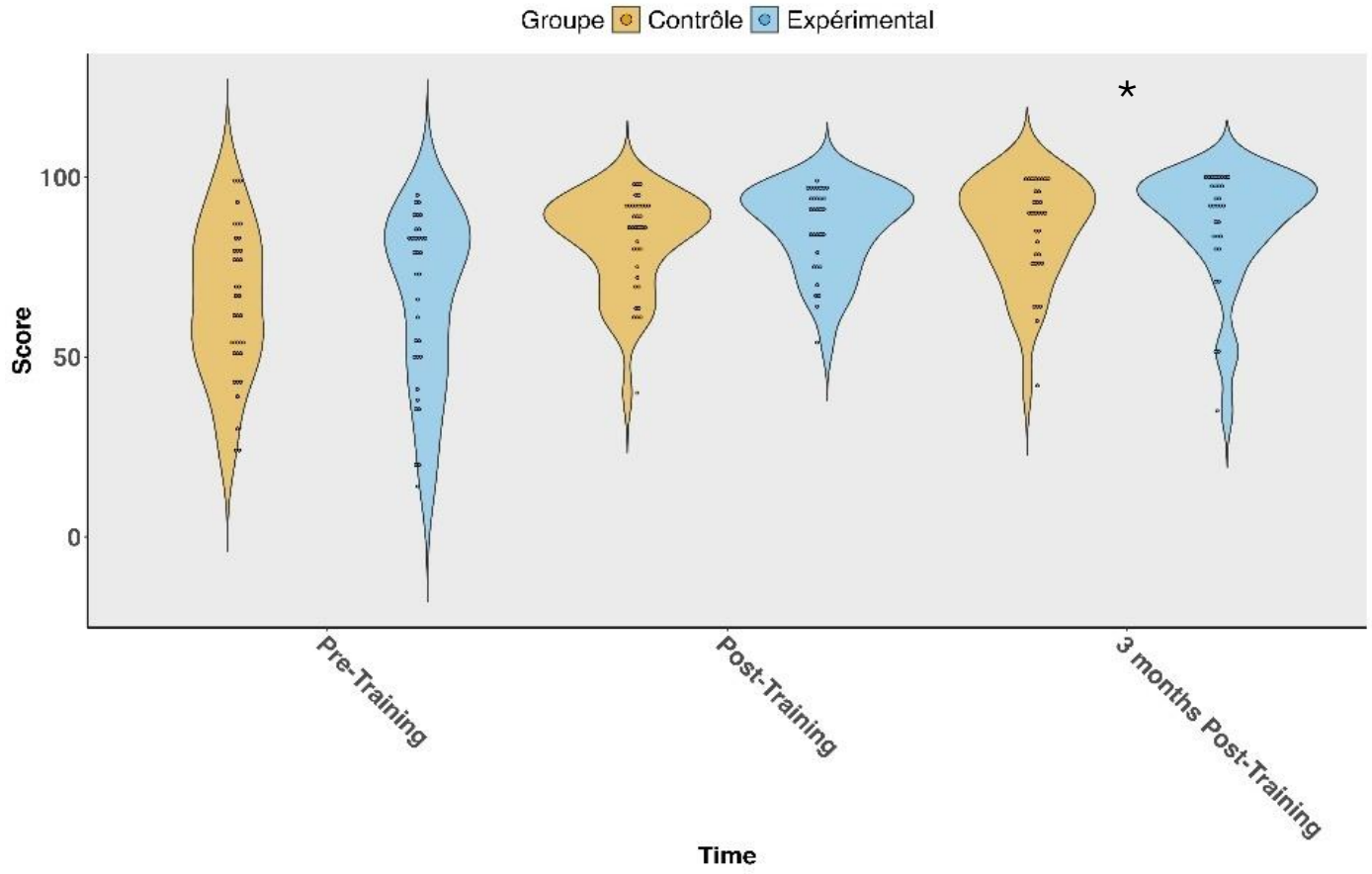
	1. Socio-demographic questionnaire (SDQ)	T1
Hearing Aids	2. Measure of Audiologic Rehabilitation Self-Efficacy for Hearing Aids (MARS-HA-PP2)	T1
Hearing Aids	3. Grid for Assessing the Skills and Knowledge of Care Providers Regarding Hearing Aids (GECCH-AA)	T1
Communication strategies	4. Self-Efficacy for Situational Communication Management Questionnaire (SESMQ)	T2
Communication strategies	5. Assessment of knowledge regarding communication strategies (AKCS)	T3
	6. Satisfaction questionnaire (SQ)	T2
	7. Practice questionnaire following training (PQ)	T3

*Time : T1 = Pre-training ; T2 = Post-training ; T3 = 3 months post-training

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Results – Self-Efficacy for Hearing Aids

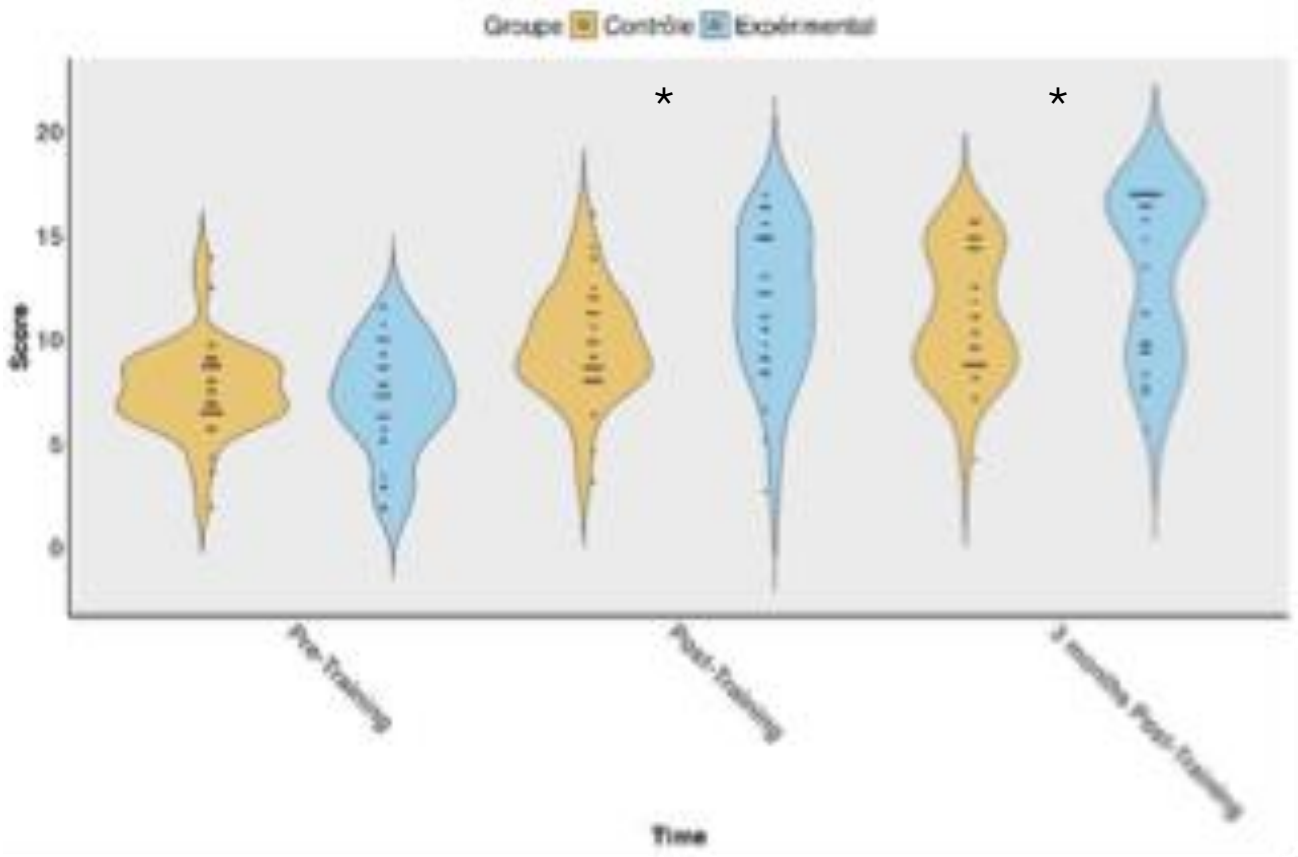
- MARS-HA-PP2 scores of self-efficacy for the 3 different time measures



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Results – Skills and Knowledge Regarding Hearing Aids

- GECCH -AA scores for the skills and knowledge to manipulate the hearing devices for both groups at each time of measures



- Highly significant main effect of time ($F(1,796; 105.951) = 87.564$; $p < 0.001$; partial $\eta^2 = 0.597$)
- Significant Group × Session interaction ($F(1,796; 105.951) = 7.820$; $p = 0.001$; partial $\eta^2 = 0.117$)

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Results – Link between self-efficacy and abilities

- Correlation test results between MARS-HA-PP2 and GECCH-AA

	rho	Pvalue
CTRL_T1	0,240465054	0,151680074
CTRL_T2	0,209861655	0,219271429
CTRL_T3	0,460640431	0,006982257
Exp_T1	0,132162353	0,463457045
Exp_T2	0,565685245	0,000740456
Exp_T3	0,553937964	0,001224783

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Site influenced outcomes

- Analysis of the Effect of Recruitment Site (Quebec City vs. Montreal)

- **Key Findings:**
- **No differences between sites at the start of the study** :No significant effect of site observed at T1 for the GECCH and MARS measures (all p-values > 0.05).

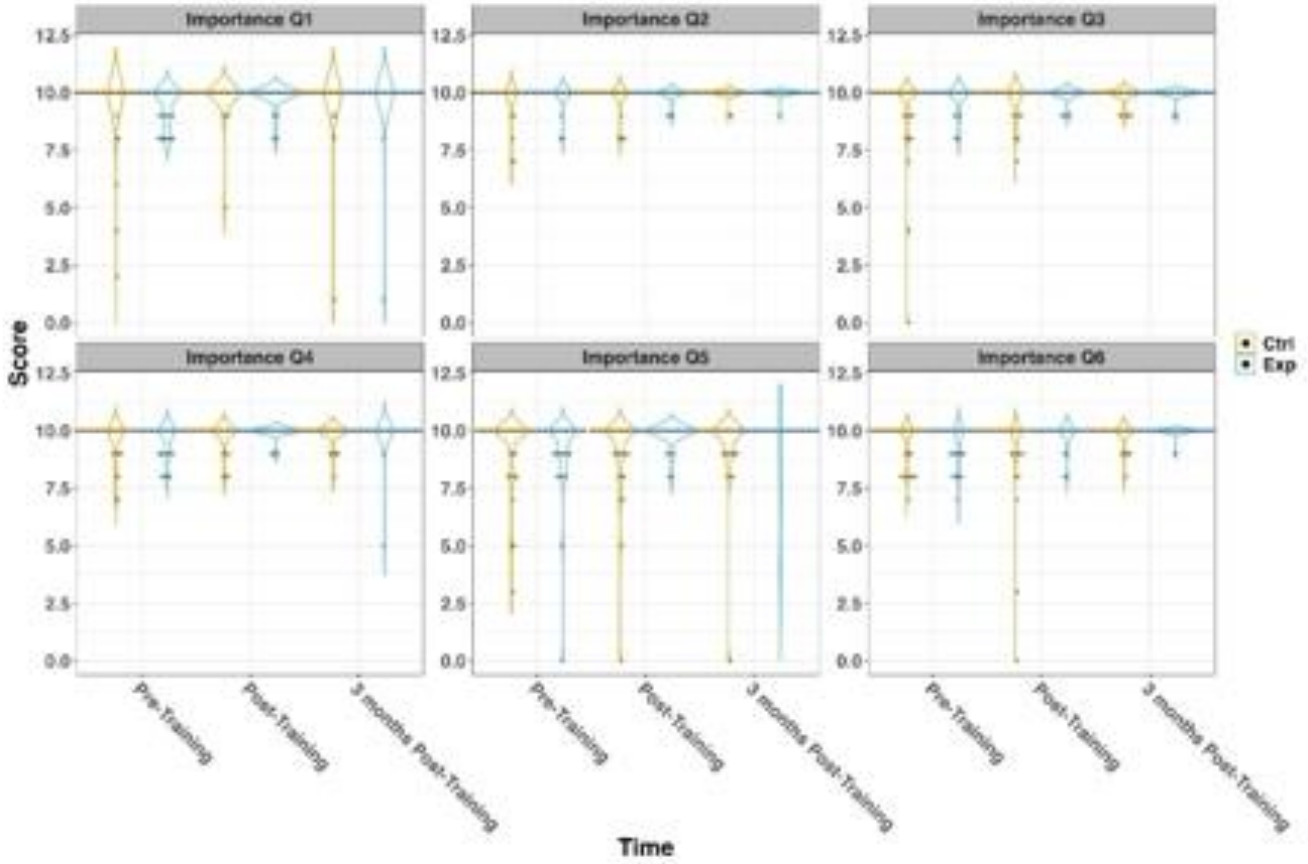
- **Effect of site on skills (GECCH) at follow-up**
- GECCH.1: significant effect at T3 ($p = 0.0005$)
- GECCH.2: significant effect at T2 ($p = 0.013$) and very pronounced at T3 ($p < 0.001$)

- **Limited effect of site on self-efficacy (MARS)**
- No significant effect of site for MARS.1
- Effect observed only for MARS.2 at T3 ($p = 0.004$)

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Results – Communication strategies

- Level of <u>importance</u> attributed to the communication strategies for both groups at each time of measures

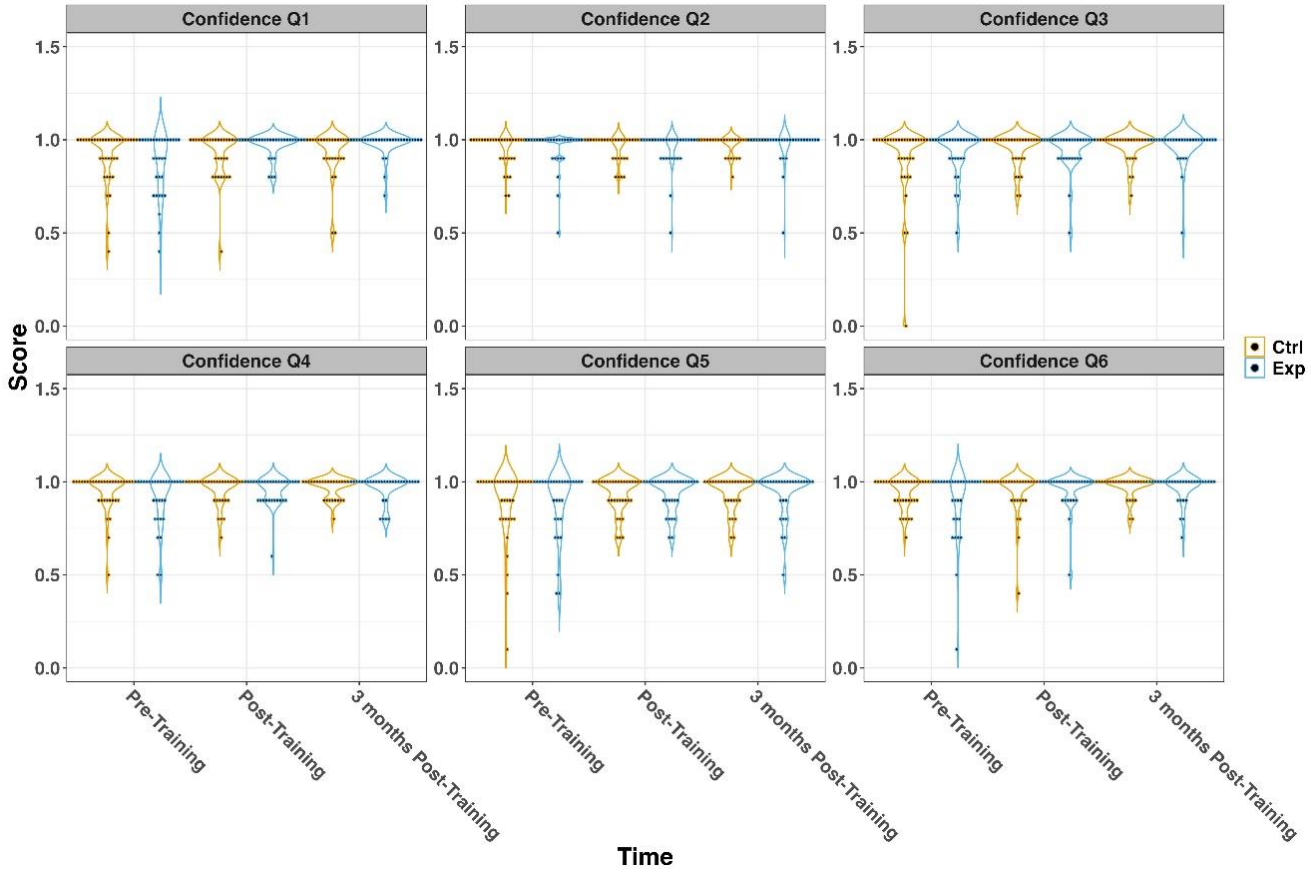


Q1: Background noise*
Q2:Face the listener
Q3: Speak more slowly
Q4: Visual support to reinforce the message*
Q5: Introduce the topic
Q6: simplify the message*

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Results – Communication strategies

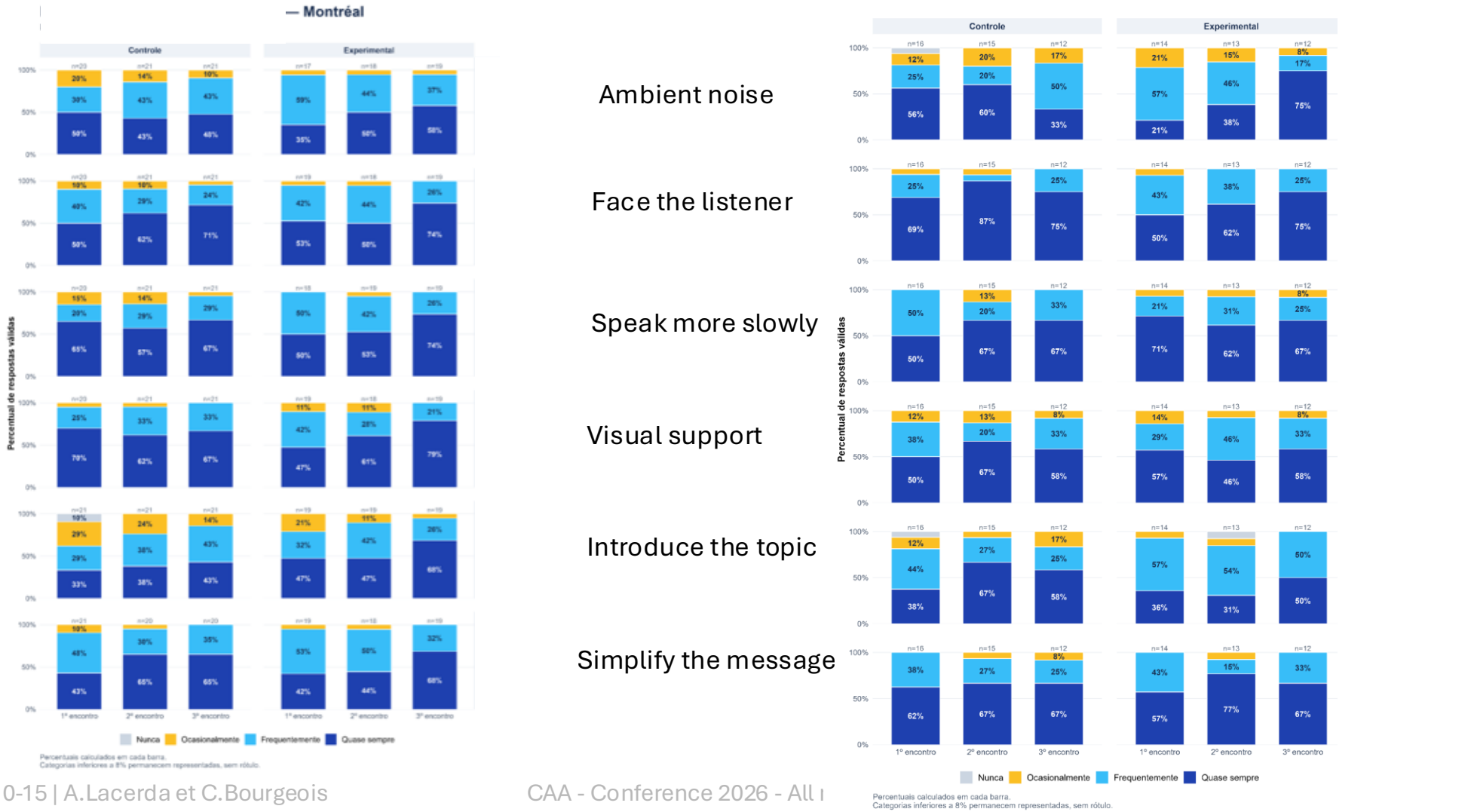
- Level of confidence to use adequately the communication strategies for both groups at each time of measures



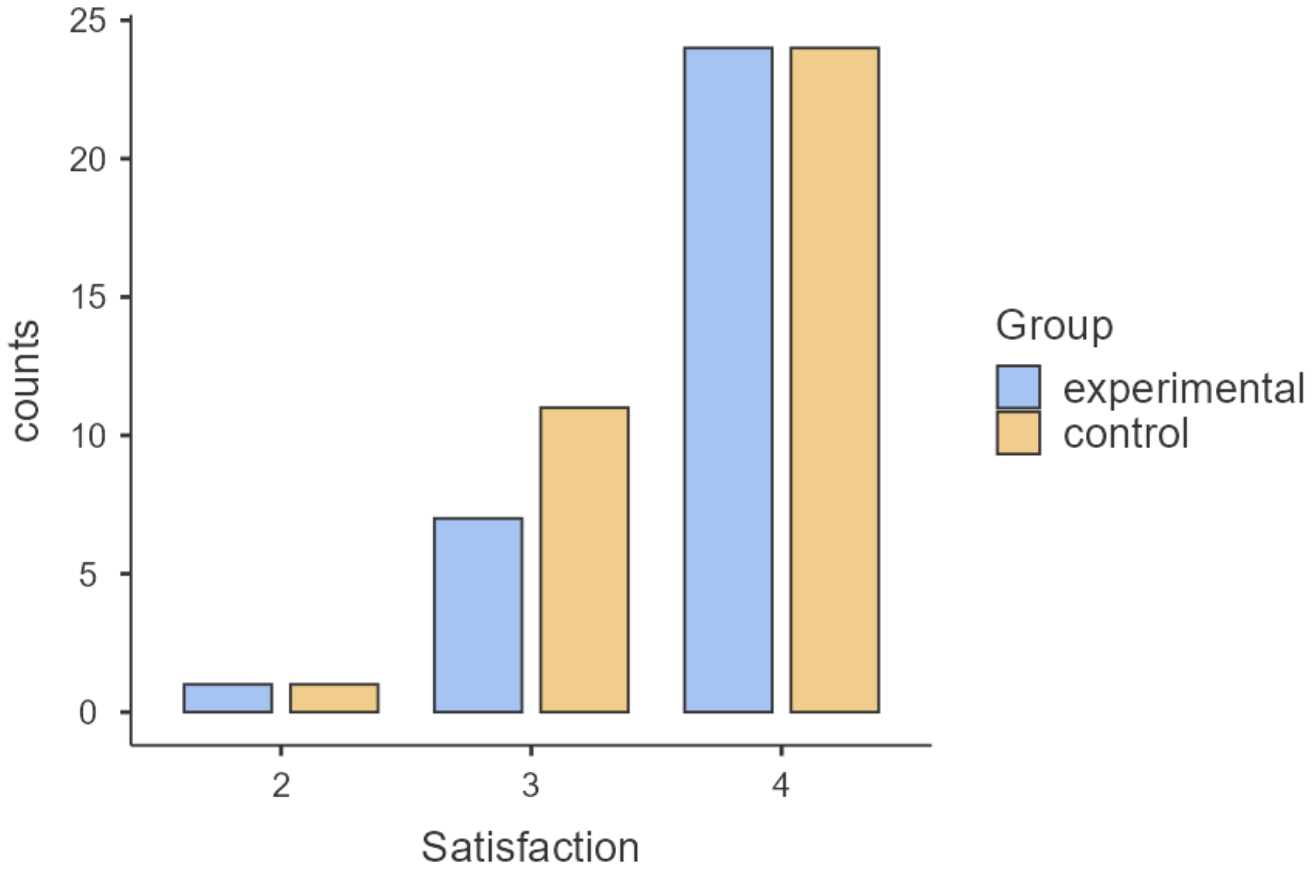
Q1: Ambient noise *
Q2:Face the listener
Q3: Speak more slowly
Q4: Visual support to reinforce the message
Q5: Introduce the topic
Q6: simplify the message

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Reported Use of Communication Strategies Over Time: Site



Results – Satisfaction



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Conclusion

- AUDVIE improved caregivers' **skills, knowledge, and confidence** in **hearing-aid** management and **communication** with older adults with hearing loss.
- Training effects were **maintained at 3 months**, supporting the value of **practical and engaging** learning activities.
- The self-directed video-based format was **feasible, well accepted, and compatible** with staff schedules, facilitating integration into **routine care**.
- By enhancing caregivers' competencies, AUDVIE has the potential to **improve person-centered care and communication** for residents with hearing loss

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What’s Next For AUDVIE ?

Publication

Expansion

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Improvement of the training program

- Manipulation in small groups
- Real patients to practice
- Additional information on cognition
- Integration of the training as part of the orientation of new staff

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What's next ?

- Publication (2 articles)
- Broadcasting of the content of the capsules by Santé Québec
- 17 LTCFs from Montreal
- Adaptation for the ENA (*Environnement numérique d'apprentissage*) to become a continuing education
- Improvement and expansion :
  - *AUDVIE - Hébergement* → *AUDVIE - Milieu de vie*
- Website of the Laboratoire en audition et vieillissement www.auditionvieillissement.com

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Acknowledgements

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- Special thanks to all the LTCFs staff (managers and orderlies especially)

- The SAPA team of the IUGM (*Soutien à l'autonomie des personnes âgées*)

- All the students who collaborated in the project since the pilot project

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Thank you!
Merci!

Question period

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Question period

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