

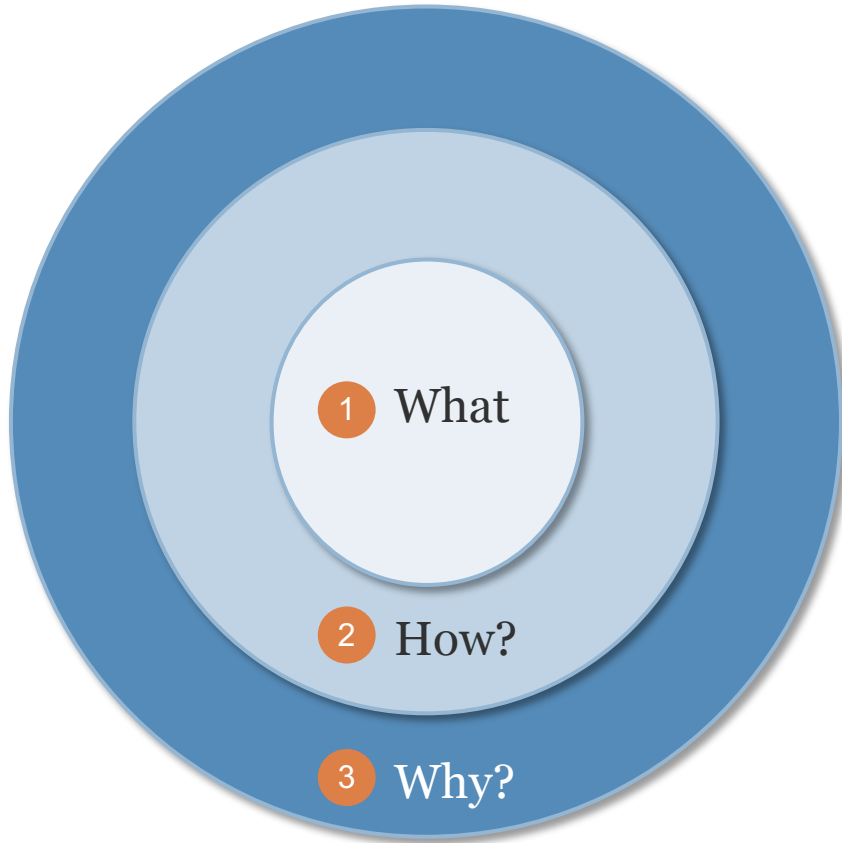
World Wide Hearing



World Wide Hearing Foundation International



World Wide Hearing: Mission



- 1 What?**
Providing hearing aids for children and youth in developing countries
- 2 How?**
Through a social enterprise model
- 3 Why?**
Make a powerful impact on poverty, mental health, and education

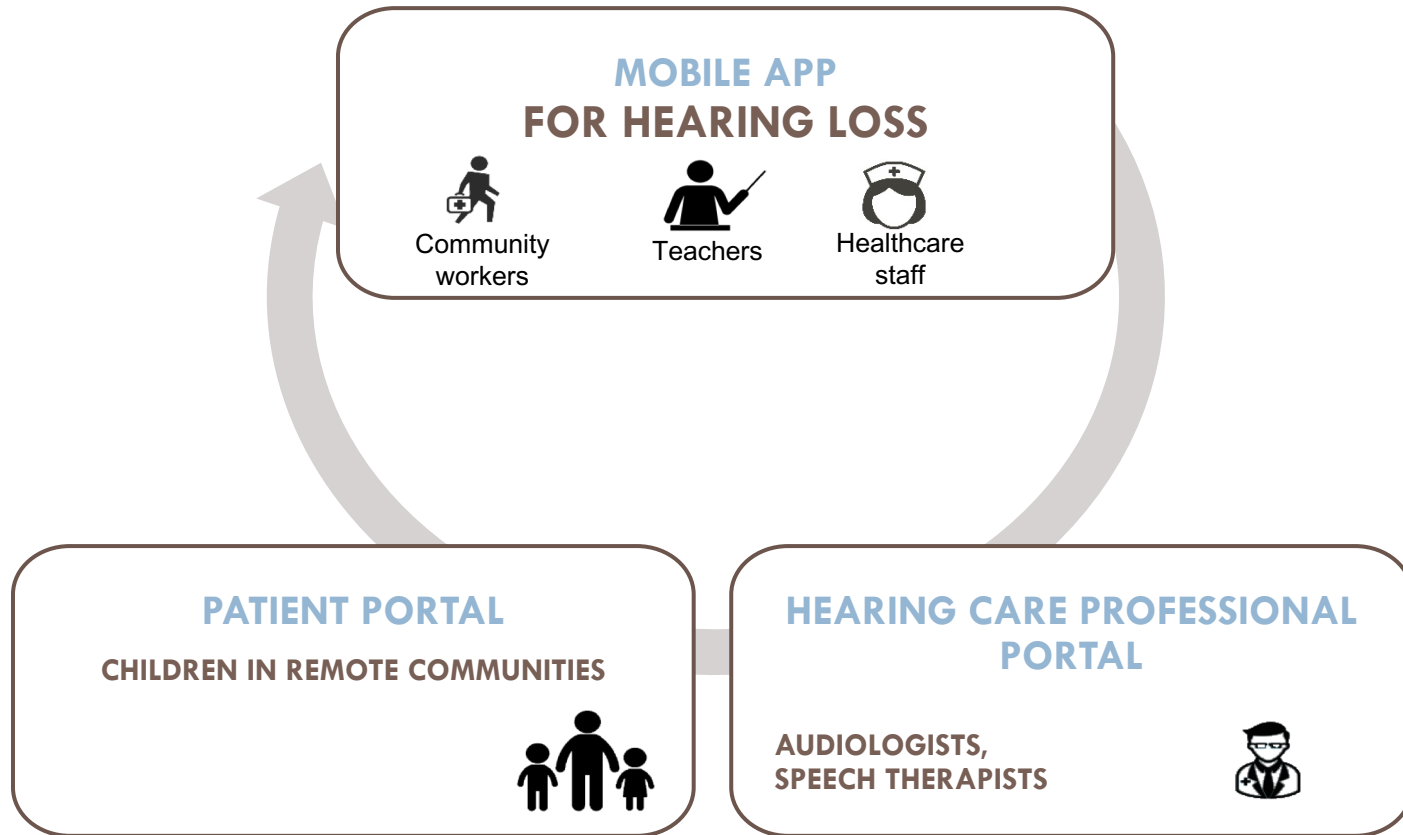
Remote Audiology System (RAS)



GOAL: increase the number of children and adults who receive hearing aids and hearing care, by:

- **Empowering** community-based hearing technicians to provide hearing aids and hearing care.
- **Facilitating** data collection and patient follow-up.
- **Connecting** frontline hearing care technicians with audiologists for support and follow-up.

Remote Audiology System (RAS)





RAS - Features

- Android-based app
 - Online / offline functionality
 - Languages: English (Spanish coming soon)
- Web portal
 - Dashboard
 - Reminders
 - Caregivers
- Follows HIPAA guidelines
- Free of charge (open-access)



RAS - Advantages

- **Portable** made for areas with **limited connectivity**.
- **Non-profit:** free for use by healthcare workers and hearing care experts. Impact-driven initiative.
- **Easy uptake:** made for people with limited audiology training (frontline health workers and hearing technicians).



Log In

Email Address

Password



[Forgot Password?](#)

LOG IN

[Contact Support](#)

[Can't login?](#)









Patient and Care-Network List



9:04

My Patients + 🔍

21 patients ↓

-  **Jaleel Balistreri**
43 y.o. • South Hilma
-  **Quinton Buckridge**
48 y.o. • Schneiderview
- John Doe**
0 y.o. • Ottawa
- Jane Doe**
0 y.o. • Ottawa
-  **Jaquan Hills**
23 y.o. • Creminmouth
- Kvjcjd Jcjcjd**
0 y.o. • Montreal
-  **Michael Kuvalis**
27 y.o. • Lake Minerva
-  **Reece Mitchell**
37 y.o. • East Lucyfort
-  **Constantin Parker**
26 y.o. • Port Caterinafort
- Test Patient**

Patients My Network My Profile


9:04

My Network 🔍

H

Hansen Chandra


M

-  **Molotovnik Alex**

R

Reedertest Ronnie

S

-  **SA Selma**

T

Test Test3

Patients My Network My Profile

Patient Records




10:03

← Patient

Quinton Buckridge

48 y.o. • male
Schneiderview



INFO RECORDS TIMELINE

Patient History

Consultation

Hearing questionnaire	1
Otoscopy	1
Tympanometry	2
Audiometry	2
OAE	4
Recommendation & reminder	2

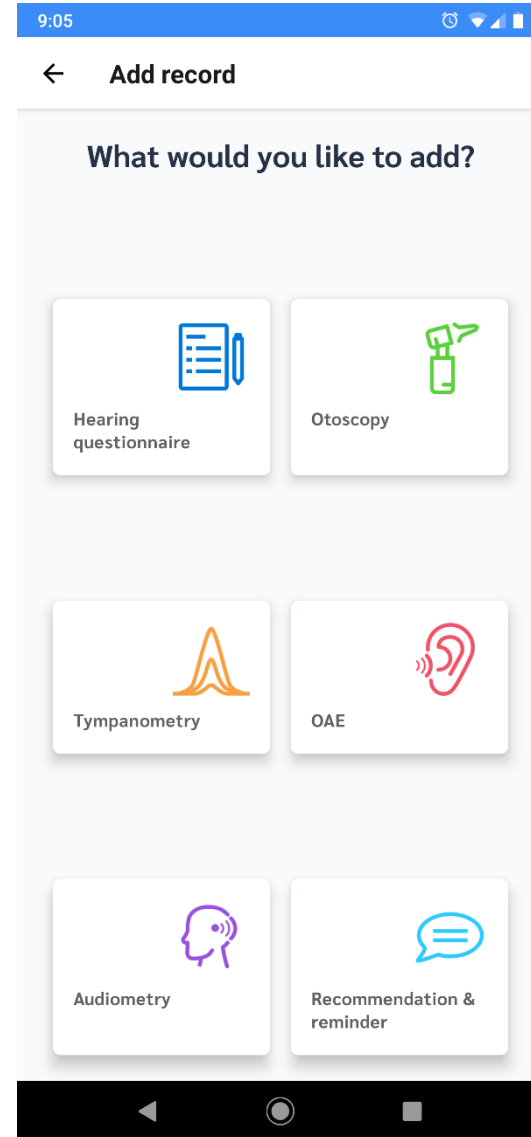
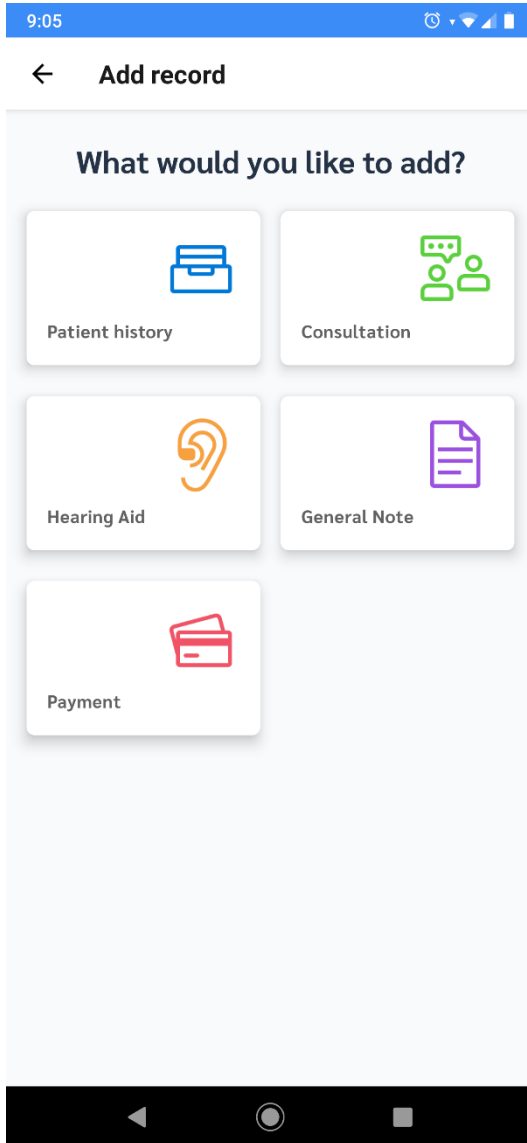
Hearing Aid 1

General Note 1

Payment 1

ADD RECORD

Add Patient Records



Patient History



10:57

← Patient history

Question 1 ▾ 1 of 9

How do you consider the speech development of the child?

Good

Some delay or trouble

Doesn't speak

I can't say

NEXT

9:06

← Patient history

2019-10-17 by Louise1 Garneau

Question 1

How do you consider the speech development of the child?

Good

Question 2

Were there any complication during the pregnancy, or after the child's birth?

No

Question 3

Which statement best describes the child's hearing when not using a hearing aid or listening device?

I can't say

Question 4

Have close relatives developed hearing difficulties before reaching 40 years old?

No

Question 5

Was your child ever diagnosed with a childhood or infectious disease?

Yes

If yes, please specify

HDMI

Question 6

Is your child frequently exposed to loud noises?

Hearing Questionnaire



10:57

← Hearing questionnaire

Question 2 ▾ 2 of 5

Did the client contract any middle ear infections, or have ear pain or discharge?

No

Yes

BACK NEXT

9:06

← Hearing questionnaire

2019-10-17 by Louise1 Garneau

Question 1
Who is accompanying the child?
Father

Question 2
Did the client contract any middle ear infections, or have ear pain or discharge?
No

Question 3
Did the client undergo ear surgery?
No

Question 4
Did the client ever receive a hearing aid?
No

Question 5
Do you have anything else to add?

Otoscopy



9:06    

← Otoscopy

* Left ear

1 of 2

- Normal
- Excess wax
- Infection / redness
- Perforation of the tympanic membrane
- Foreign objects
- Other

NEXT



Audiometry (manual entry or file/photo upload)



9:06

← **Audiometry**

2019-10-17 by Louise1 Garneau

Test performed

- In a soundproof booth

Frequency (Hz)	Left Ear (dB)	Right Ear (dB)
250	N/A	N/A
500	11	11
1000	20	20
2000	N/A	N/A
4000	35	30

Result

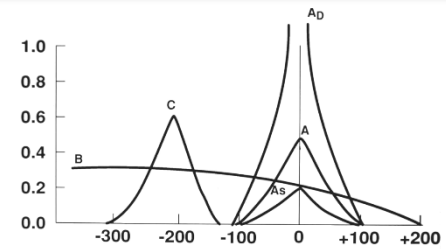
LEFT EAR	RIGHT EAR
250 Hz	N/A dB
500 Hz	11 dB
1000 Hz	20 dB
2000 Hz	N/A dB

Tympanometry (Screening or Full)



9:05 [status icons]

← Tympanometry



Type

- Full Screening

LEFT EAR

RIGHT EAR

* Type

- Type A Type B
 Type C Type As
 Type Ad TM perforation
 Uncertain

Max. pressure _____ daPa

Ear canal volume _____ cm³

Peak compliance _____ ml



OAE Screening



11:08 🕒 📶 🔋

← OAE

* Left ear

Pass Fail

* Right ear

Pass Fail

SAVE

◀ ○ ▶

Recommendation & Reminders



9:07

← Recommendation & reminder

Clinical notes

Enter comments here

Action needed No action needed

*** Recommendations**

Fit hearing aid

In the left ear In the right ear

Refer for further hearing assessment

Refer to medical professional

Reminders

* Title ×

Hearing aid follow-up





* Date

2019-11-01 📅

Note

Hearing Aid



9:07    

← **Hearing aid**


*** Ear**

Left only

Right only

Both

*** Fitting date for left**

2019-10-18 

*** Type**

BTE RIC

CIC ITE

*** Model**

*** Brand**


*** Serial # for left**

Ear tip type

Open dome

Closed dome

Custom



General Note & Payments



9:07

← **General Note**

This is a hearing aid follow-up note

How many hours a day is the hearing aid used?

Less than 1 hour

1-4 hours

4-8 hours

8-16 hours

Overall, how satisfied are you with your hearing aid(s)?

Very Dissatisfied

Dissatisfied

Neither Satisfied nor Dissatisfied

Satisfied

Very Satisfied

Notes

Attachments [Add](#)

9:08

← **Payment**

Otoscopy \$

Audiometry \$

Tympanometry \$

OAE \$

Other Services \$

Hearing Aid Left \$

Hearing Aid Right \$

Notes

SAVE

Portal Dashboard



33

Total number of patie...

4

Number of patients fitted

4

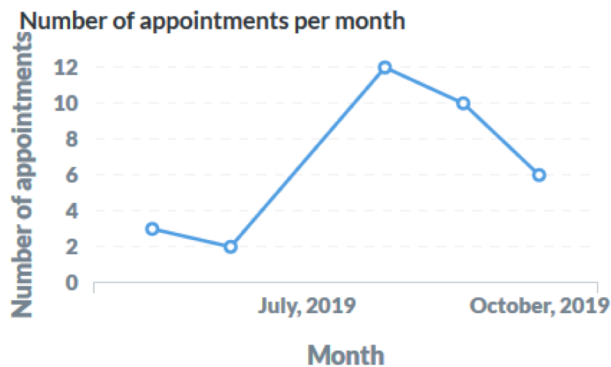
Total number of hearing aids

12%

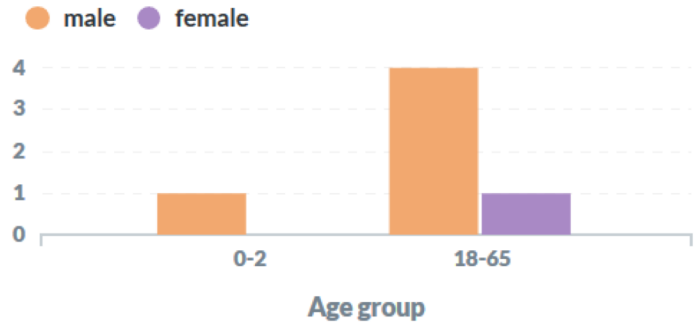
Conversion ratio

3

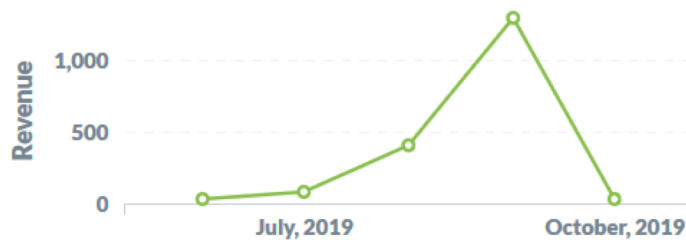
Reminders



Age and gender hearing aid fitting overview

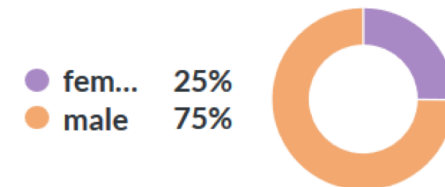


Revenue per month



1,878
Revenue YTD

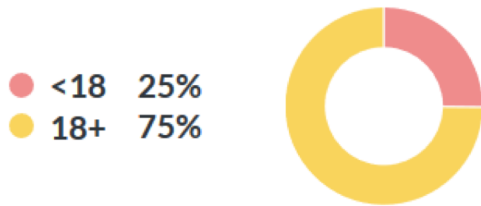
Hearing aids by sex



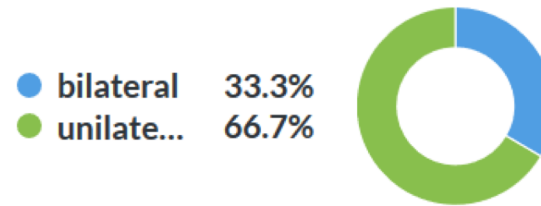
Portal Dashboard



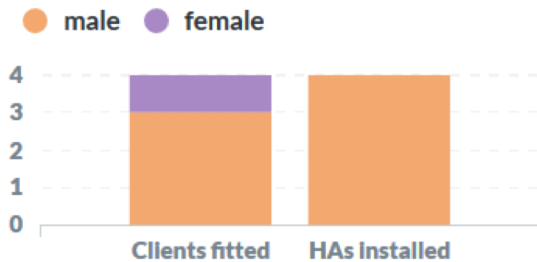
Hearing aids by age group



Bilateral vs. unilateral fitting



Hearing aid gender analysis



Average satisfactio...



50%
Hearing aid us...

Hearing aid per hearing loss ...



Portal Reminders



WWH

Users

Organisations

Reminders

Dashboard

Anton G.



Reminders

Search

Created by: All



Patient: All



Patient location: All



Organisation: All



Status: All



Reminder date:

From



To



Created date:

From



To



Filter

Clear filter

1-20 of 33

Status	Date	Title	Created by	Created	Reminder notes	Client	Location	Phone	Notes	Organisation
To do	17.01.2020	Hearing aid follow-up	Louise1 G.	17.10.2019		Test Test test	Montreal			World Wide Hearing
To do	17.10.2020	Hearing aid follow-up	Louise1 G.	17.10.2019		Test Test test	Montreal			World Wide Hearing
Done	31.10.2019	Hearing aid follow-up	Louise1 G.	17.10.2019		Test Test test	Montreal			World Wide Hearing

Lessons Learned



- **Discovery Phase:**
 - Patient journey mapping: not everyone had the same perception of where the bottlenecks lie and what the use cases are
 - Extensive consultation with field partners: easier to provide feedback on existing tech than ideate on possible tech solutions

- **Choosing the right developers:**
 - In-house vs. external
 - Healthcare vs. non-healthcare specialists
 - Ability to build tools that can work online/offline

- **Clearly defining scope, budget and timelines**
 - ...while still staying flexible and open to innovation!



Accessing the RAS

- **App Available in Google Play Store:**
 - play.google.com/store

- **Web Portal:**
 - web.remoteaudiologysystem.org

- **For login and support, please email:**
 - info@wwhearing.org

Audra Renyi
arenyi@wwhearing.org

RAS Tech Support:
info@wwhearing.org



WWW.WWHEARING.ORG

