

The Rotary Hearing Center of San Felipe

A MODEL FOR
SUSTAINABILITY

Contributors



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San Felipe Mexico



Women's Cancer Care Center of San Felipe

In 2016, IHF partnered with Rotary to create The Rotary Hearing Center of San Felipe

Project Goals

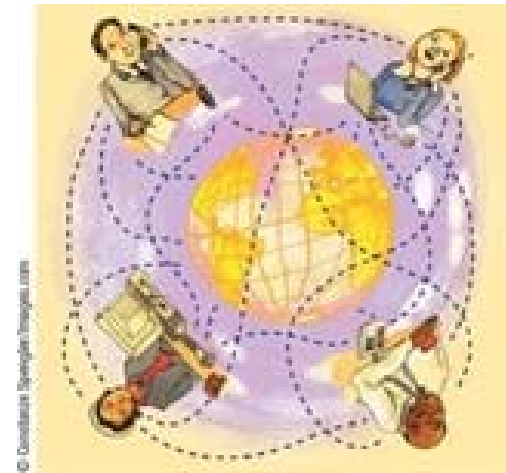


- To establish a model for the delivery of hearing health services using tele-audiology that can be replicated in other under-served areas
- Provide tele-audiology training for ASU Doctor of Audiology students

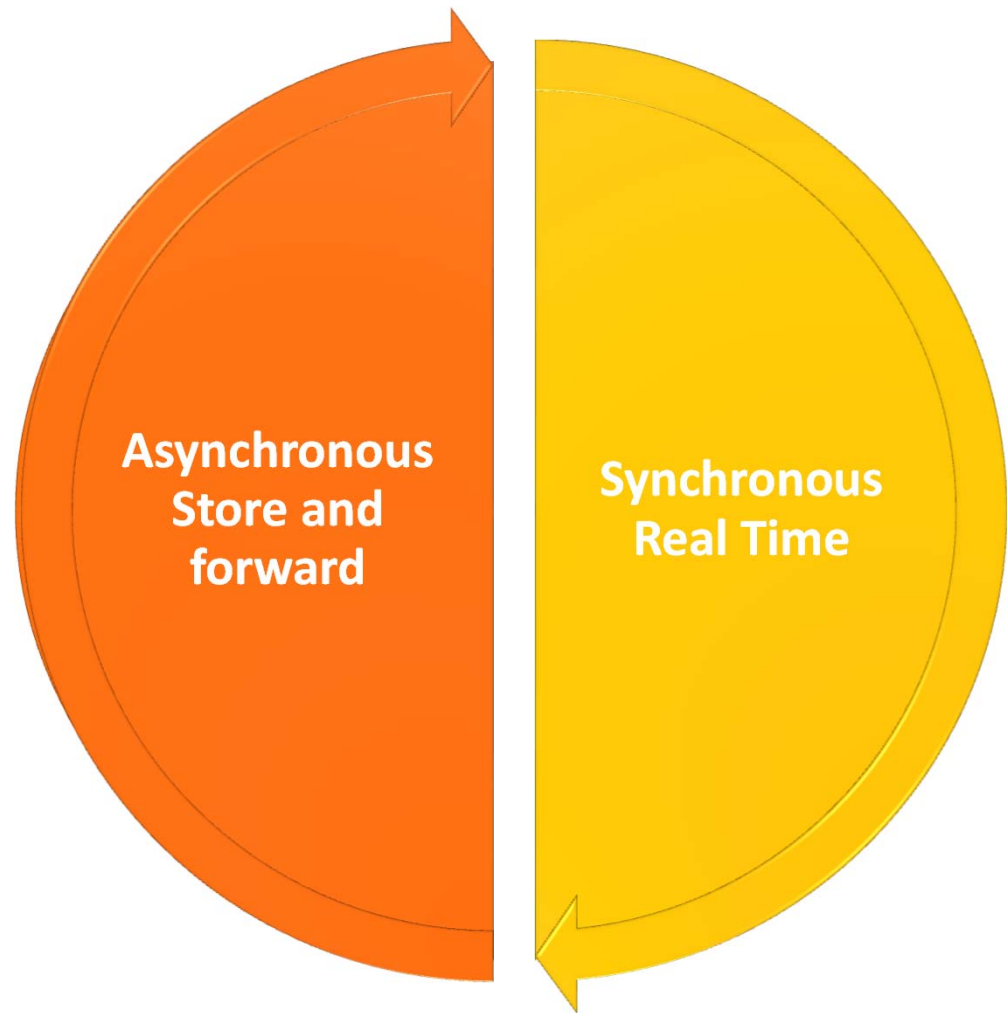
Tele-audiology: A model for sustainability

Tele-audiology- the delivery of audiological services and information via telehealth technologies rather than traditional in-the-room face-to-face care

- Possible benefits
 - Increased access to hearing healthcare
 - Reduced costs of delivering global care
 - Improved clinical outcomes



Two Primary Types of Tele- Audiology



San Felipe model primarily uses
Synchronous Real Time interaction

San Felipe Tele- audiology Model

Two technicians work face-to-face with patients at the San Felipe clinic

A cancer clinic physician provides medical support when needed

Audiologist/student observe and supervise from a remote site (ASU)

Provide tele-audiology two mornings per week(8:00 am to 12:00 pm) with four to five patients scheduled for each half day



Key Members of the Teleaudiology Team

Tele-audiology Clinical Technicians

- Bertha Quintanilla
- Mimi De La Cruz

Nurse and Physician

- Dr. Liliana Elizabeth Preciado Gonzalez
- Edith Fuentes Castillas



Key Members of the Teleaudiology Team

Rotary Audiologists
Robert Margolis, Ph.D.
Jerry Yanz, Ph.D

ASU audiologist
Ingrid McBride, Au.D



Key Members of the Teleaudiology Team

ASU students

Nancy Flores

Itzel Padilla

Colton Clayton

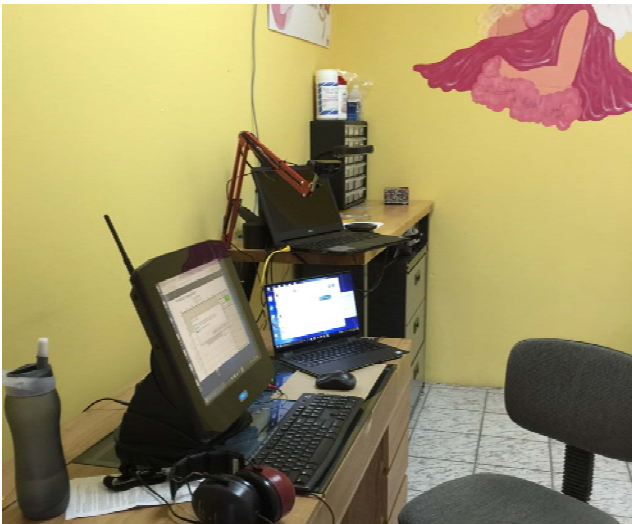
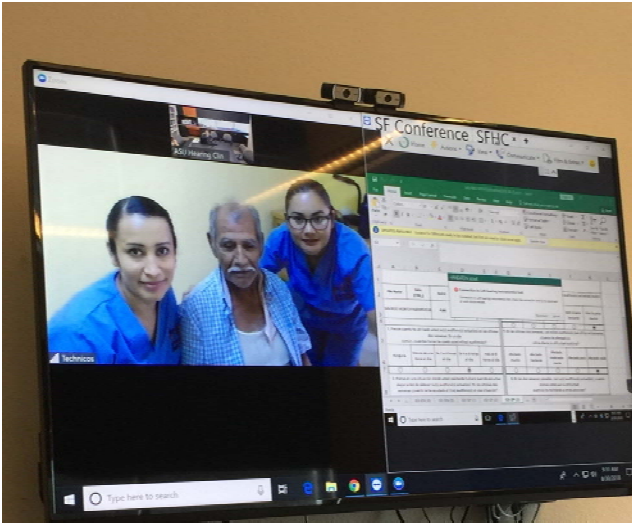
Scott McGrath

Technical Consultant

George Saly, B.Sc.



ASU



SF Clinic

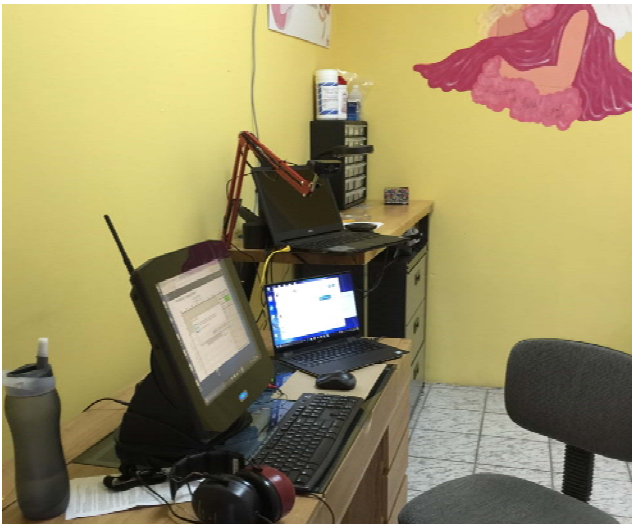
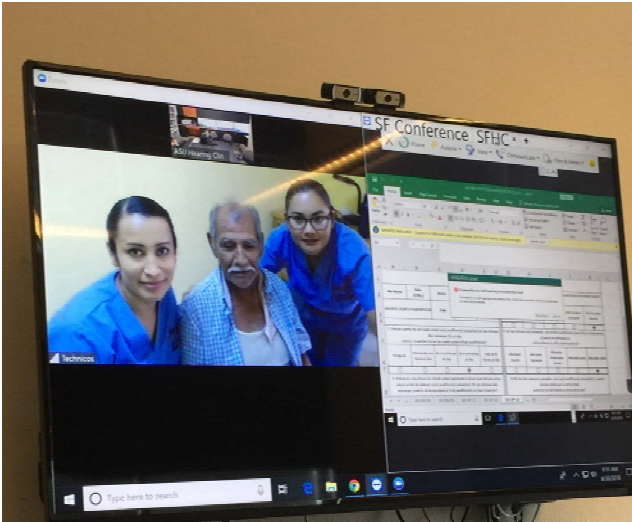
Tele-Audiology Setup

Videoconferencing equipment (SF and ASU)

- 2 Logitech C930e 1080P HD video webcams and 2 Jabra Speak 410 conference speakerphones
- Zoom video conferencing software
 - Live communication with technicians and patient
- TeamViewer remote desktop software
 - View testing and test results in real time
 - Control computer for hearing aid programming

Allows live communication between the Audiologist and technicians without interruption while testing or while fitting hearing aids.

ASU



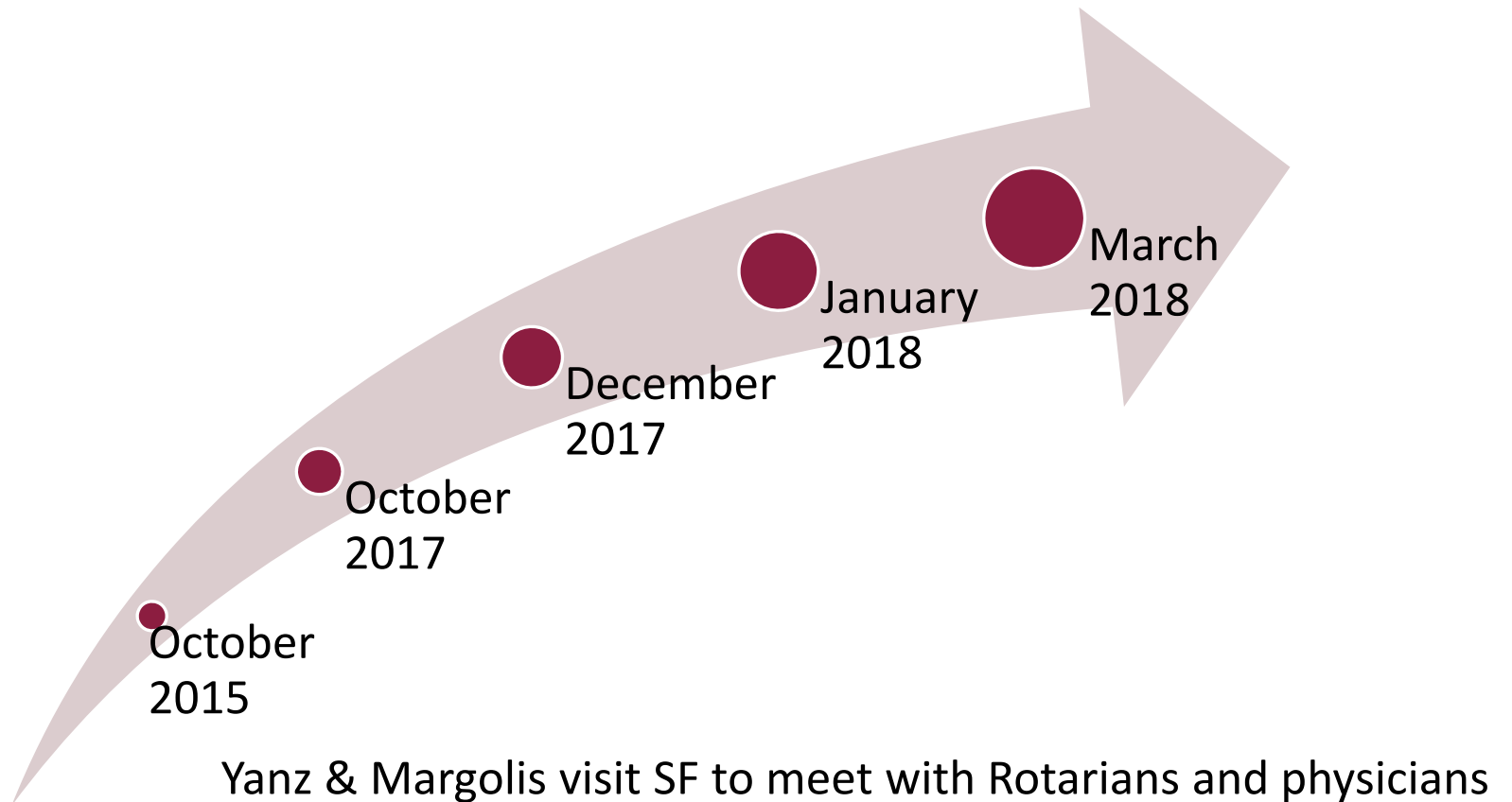
SF Clinic

Tele-Audiology Setup

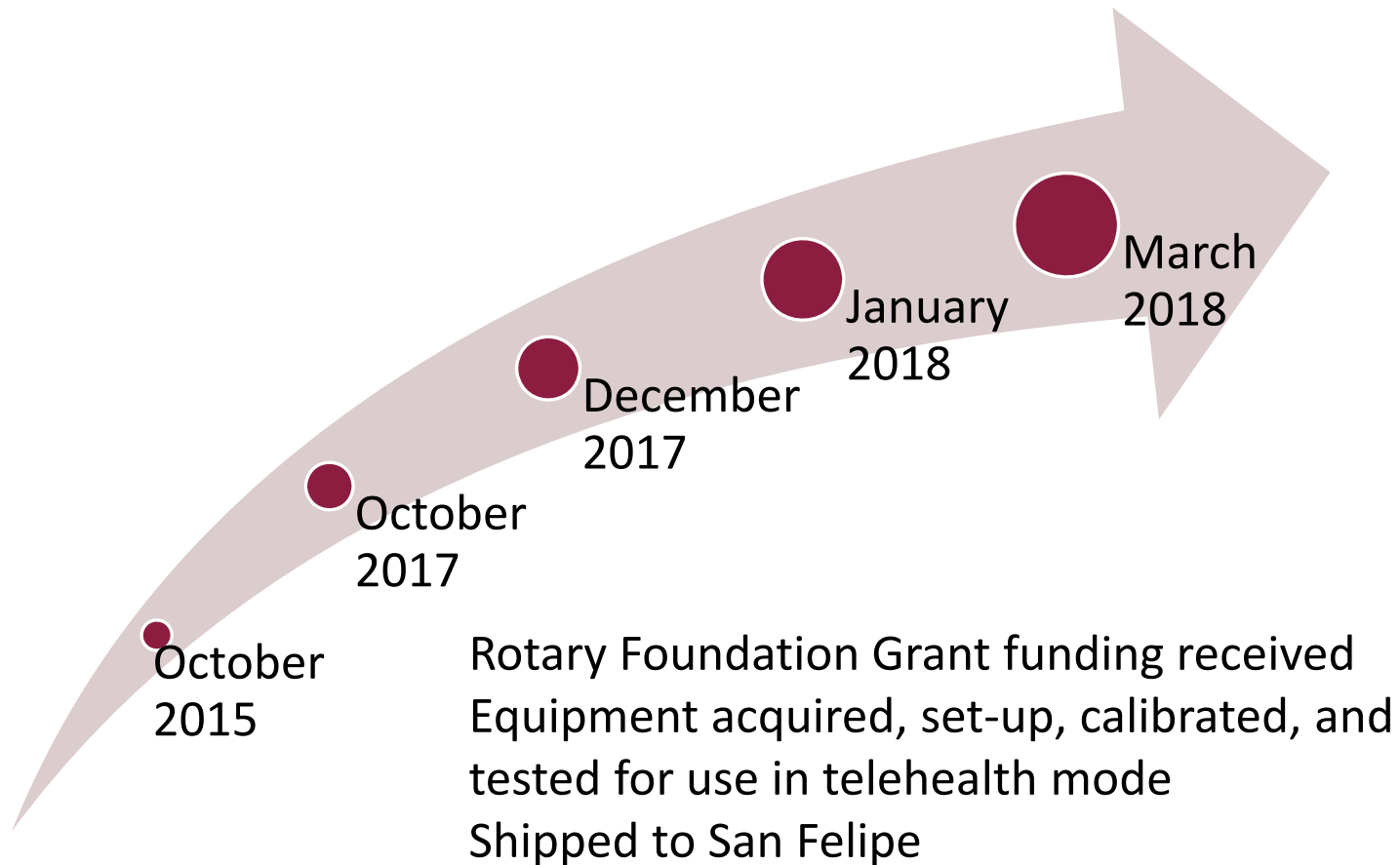
SF Audiology-specific Hardware and Software

- Desktop test computer
- AMTAS (Automated Method for Testing Auditory Sensitivity)
- NOAH
 - Interacoustics Viot video otoscope
 - Interacoustics Titan tympanometer
 - Manufacturer fitting modules
 - HiPro box
- Conference laptop computer
 - Technicians and patients can view and communicate with the ASU team

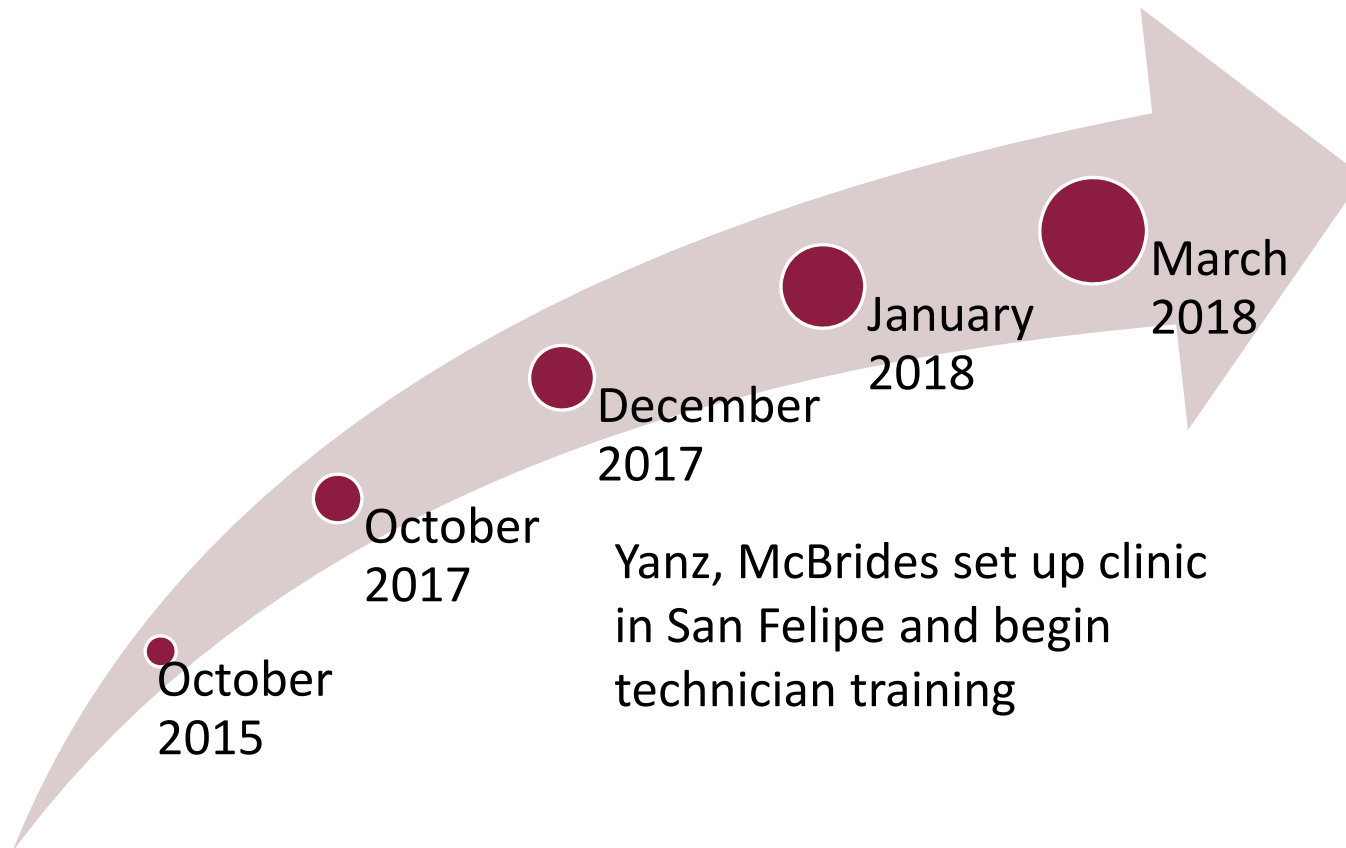
Project Time Line



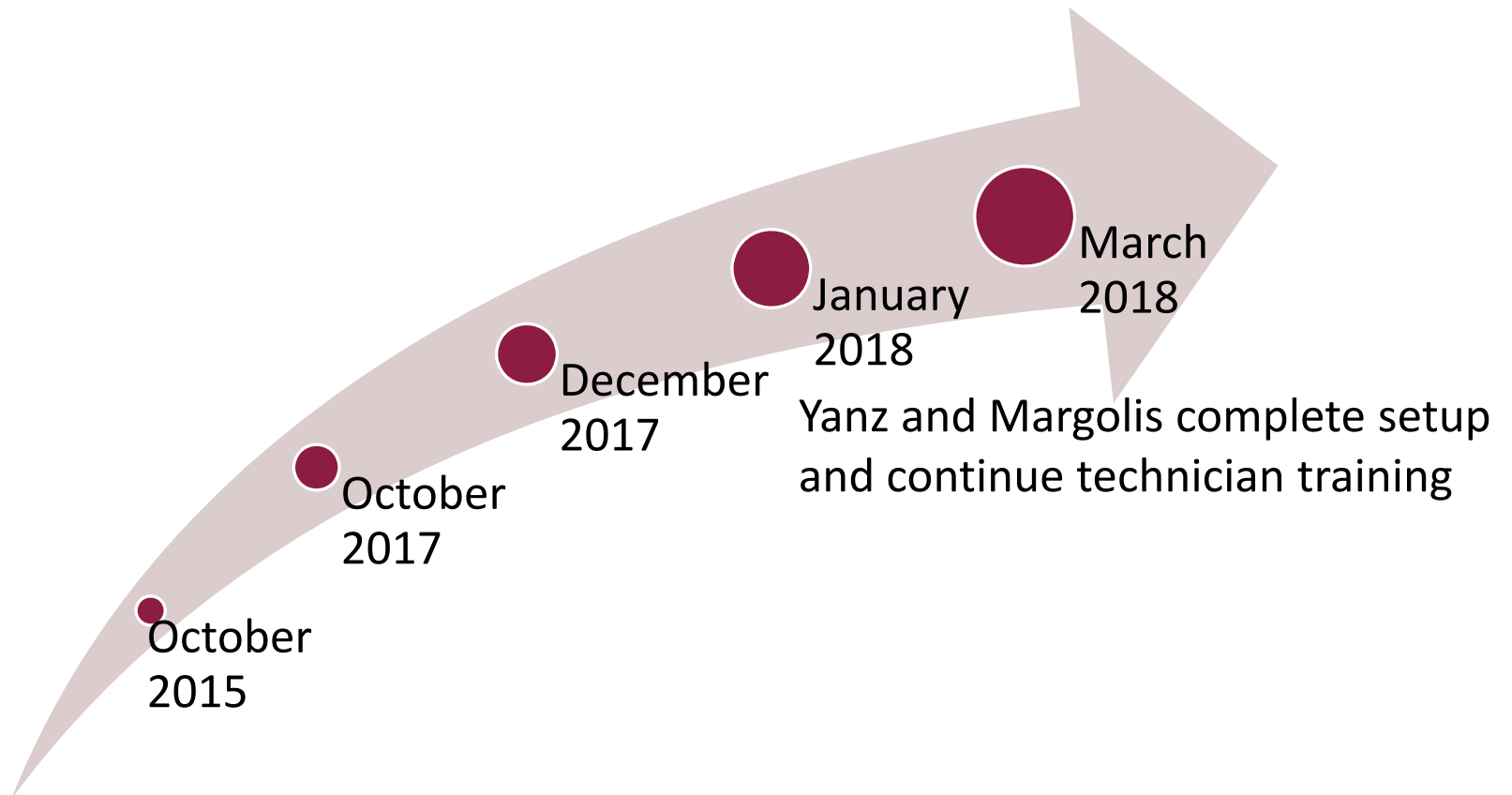
Project Time Line



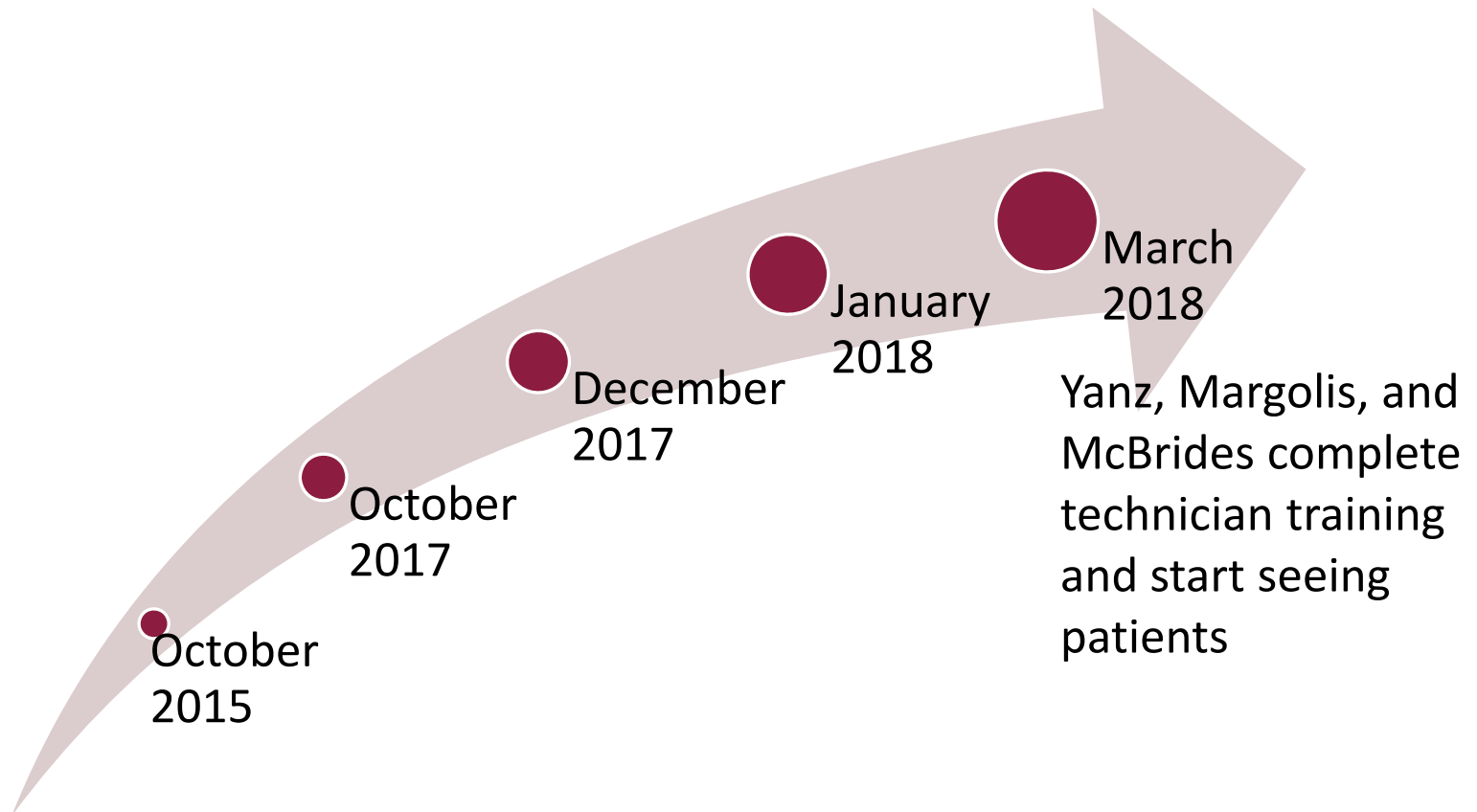
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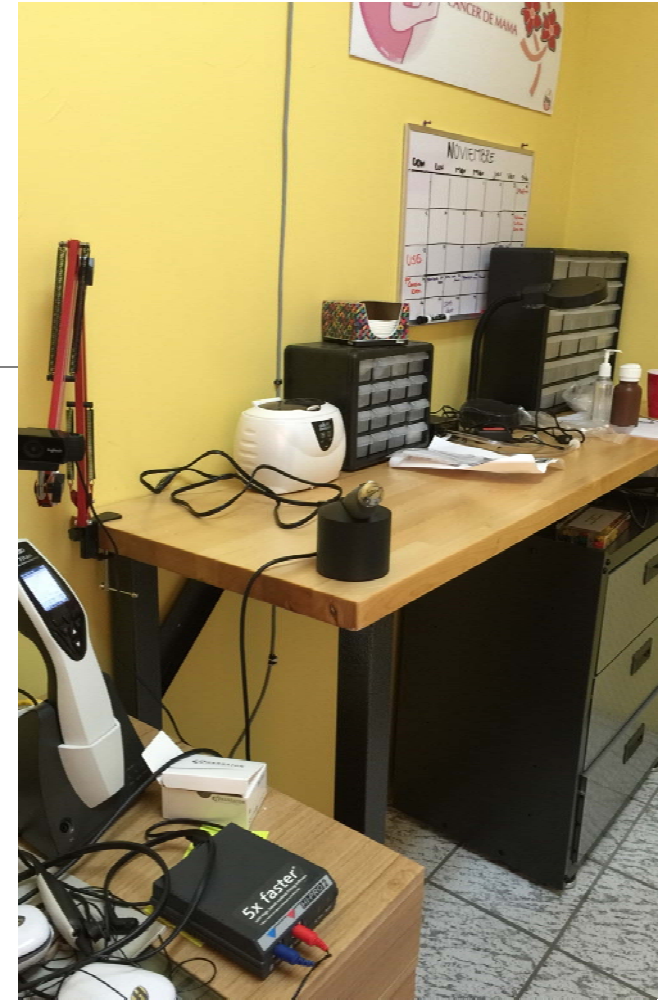


Project Time Line



Project Time Line





Rotary Hearing Clinic Opened March 28, 2018

SF Hearing Care Program

DIAGNOSIS

- History
- Video-Otoscopy
- Tympanometry
- Audiogram—Automated audiometry (AMTAS)

TREATMENT

- Cerumen removal
- Hearing aid Fitting
- Medical referral, as needed

AFTERCARE SERVICES

- HA adjustment
- EM modification
- Counseling
- Outcome Measures

ESCUCHAR ES IMPORTANTE PORQUE...



... una buena audición permite un buen aprendizaje especialmente para los niños de temprana edad que aprenden muy rápido.



... lo mantiene conectado y en convivencia con su familia y amigos para su vida social.



... en el trabajo, una mala audición perjudica la comunicación que es esencial para entender y realizar un buen trabajo.

SÍNTOMAS DE PROBLEMA AUDITIVO

- Escucha a la gente hablando, pero no entiende lo que dicen.
- Problemas para entender una conversación en lugares con ruido.
- Pedir a la gente que repitan lo que dicen.
- Escuchar un timbre u otros sonidos en sus oídos.
- Sentir dolor en uno o ambos oídos.

SI EXPERIMENTA ALGUNO DE ESTOS SÍNTOMAS, ES NECESARIO HACERSE UNA PRUEBA DE AUDICIÓN

Medicamente, una prueba de audición es importante porque algunos tipos de pérdida auditiva son causados por problemas médicos subyacentes que pueden tener otras consecuencias que la pérdida en sí.

La detección temprana de estos problemas ayudará a asegurar un tratamiento médico exitoso.

Si se presenta una pérdida auditiva que no se pueda tratar médicamente, los audífonos pueden ayudar a escuchar mejor y evitar las frustraciones y el aislamiento que resultan de no poder oír mejor.

¿A DÓNDE ACUDIR?

Centro de Detección y Educación de Cáncer, ubicado en Calle Chetumal s/n Col. Poniente, manzana 009 San Felipe, Mexicali, B. C.

En la clínica, técnicos entrenados en audición harán pruebas de audición para diagnosticar si la persona presenta algún problema.

Si la prueba muestra que el problema es médico, el técnico de atención auditiva lo va a referir a un médico para hablar sobre el tratamiento.

Si la prueba muestra pérdida auditiva que no es médicamente tratable, el técnico recomendará el uso de audífonos y cómo obtenerlos, también ayudará a aprender a utilizarlos con el mayor éxito.



Escuchar bien es importante para cada aspecto de su vida. Aprendiendo, socializando, funcionando bien en el lugar de trabajo, disfrutando de la familia y amigos, participando plenamente en buenas relaciones personales.

Apóyalos, desde pequeños es mejor.



Mexicali
22 AYUNTAMIENTO
Juntos, claro que podemos



LA CAMINATA EN CONTRA DEL CÁNCER DE SAN FELIPE, A.C.



Su audición es importante y hay ayuda disponible!



Hearing Clinic Brochure



Clinical Technician Training

Core set of training modules

Familiarization and practice using the diagnostic equipment and test protocols





Clinical Technician Training—Ear impressions,
 earmolds



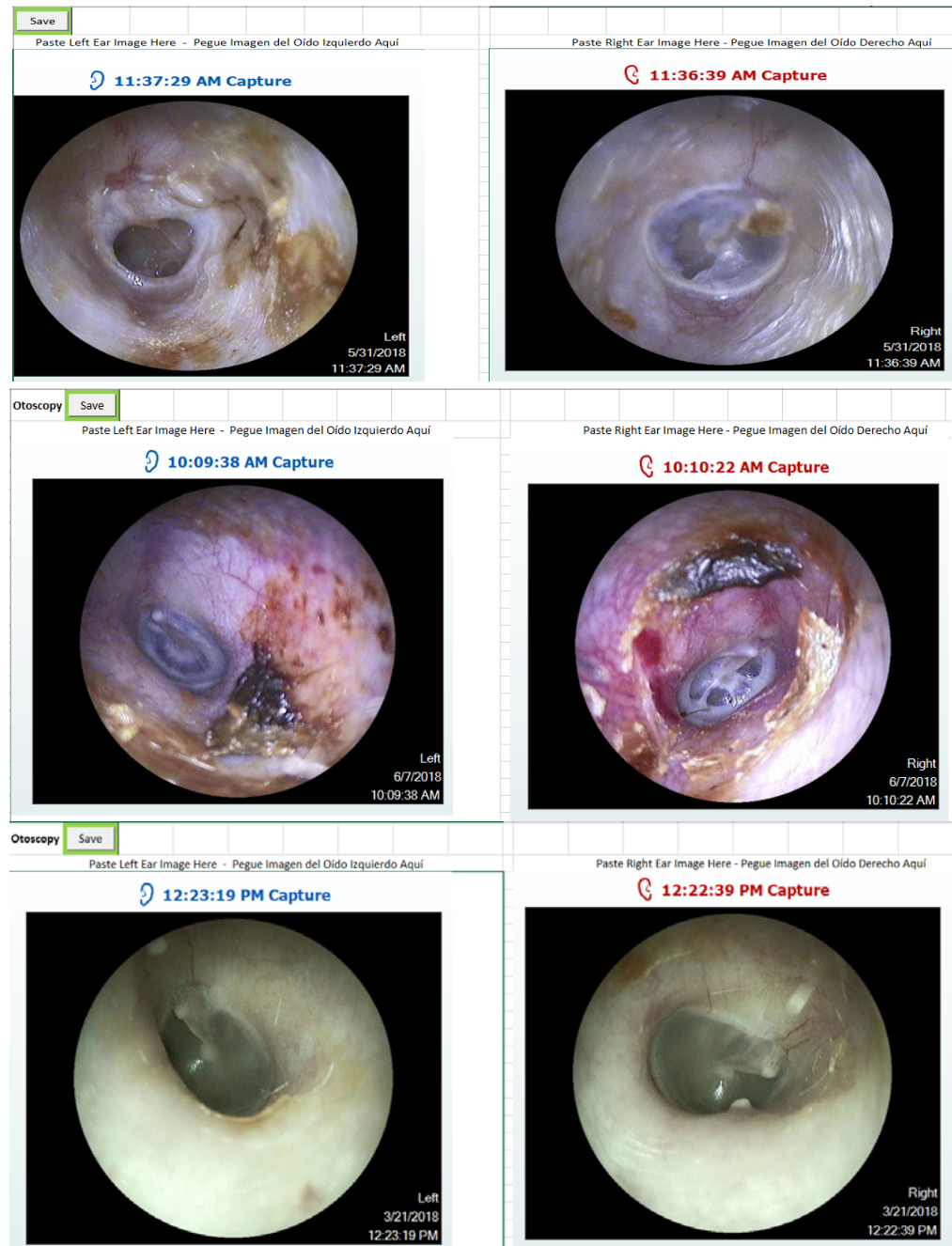
Clinical Technician Training

HEARING AID FITTING

Synchronous Real Time Tele- audiology: Video- otoscopy

Ear canal and
tympanic membrane
visualized remotely

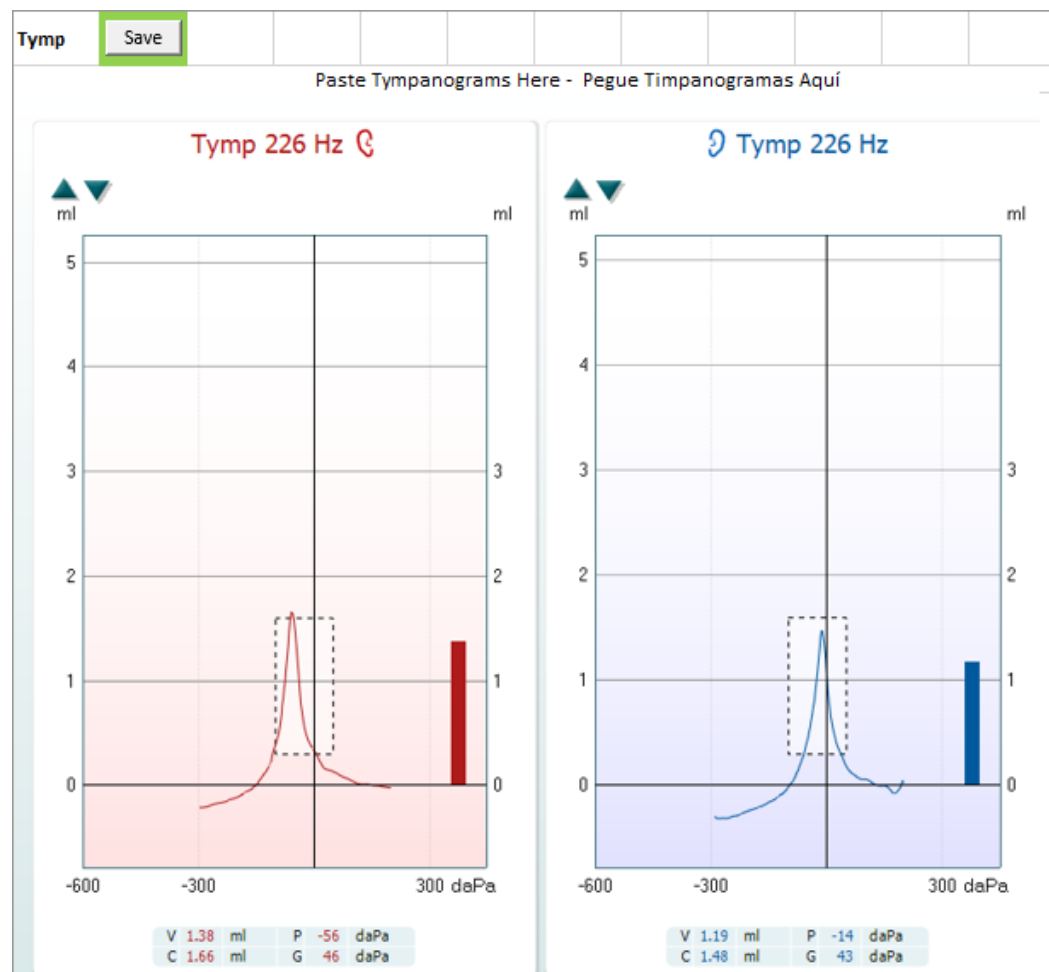
Technician
copies/pastes into
patient report



Synchronous Real Time Tele- audiology: Tympanometry

Audiologist views
video-Tympanometry
in real time

Technician
copies/pastes into
patient report



Synchronous Real Time Tele- audiology: Audiometry

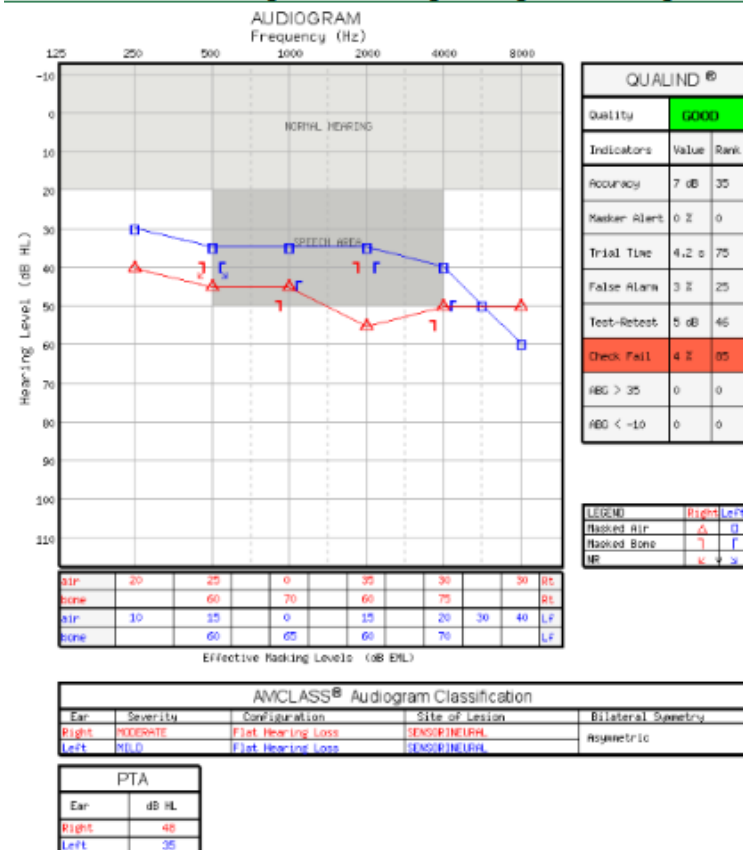
Audiologist views
automated testing
via AMTAS once it is
completed

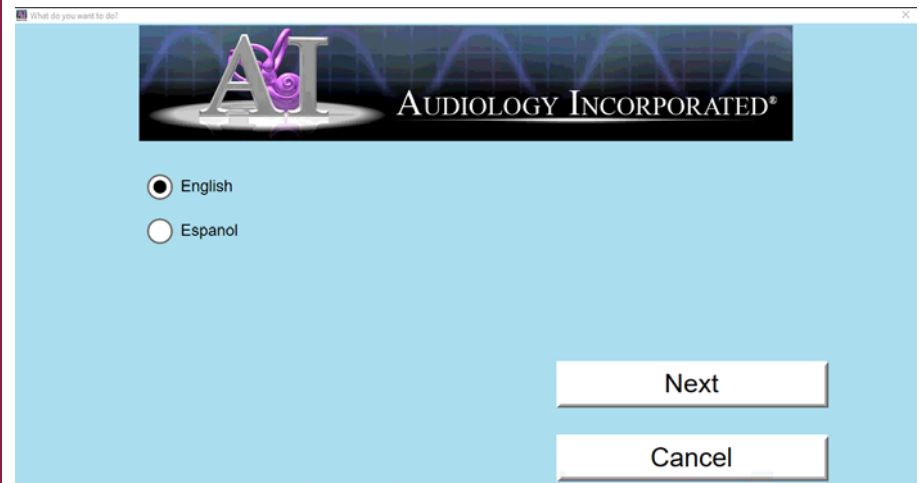
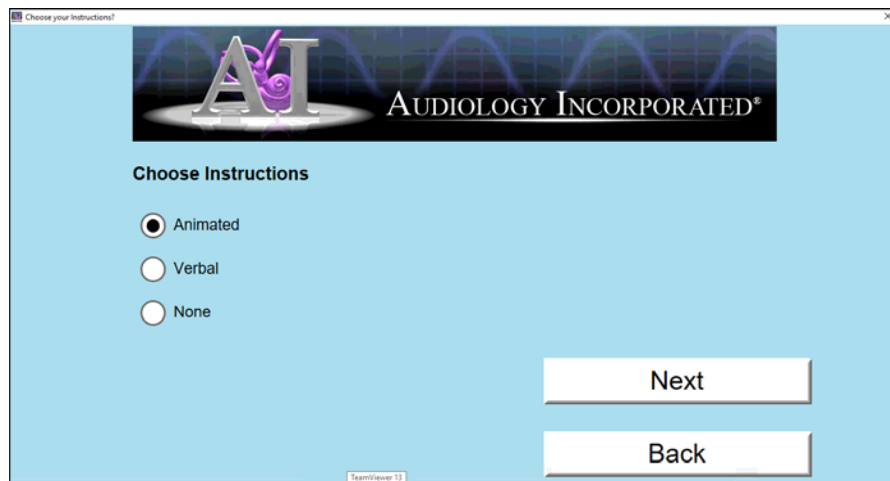
Technician
copies/pastes into
patient report

Audio

Save

Paste Audiogram Here - Pegue Imagen de Audiograma Aquí





AMTAS Patient Instructions

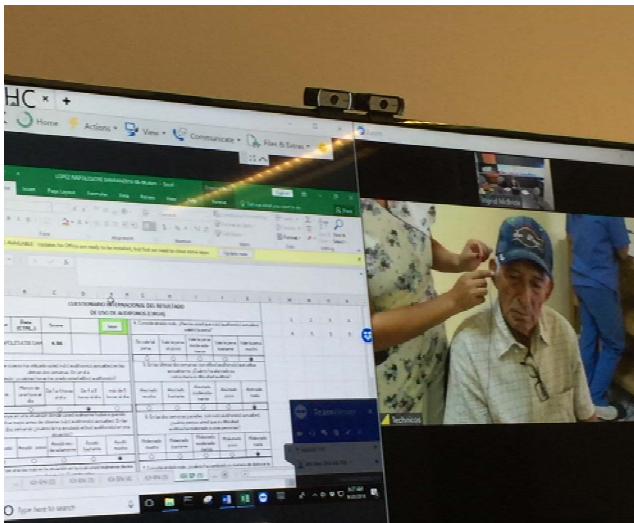
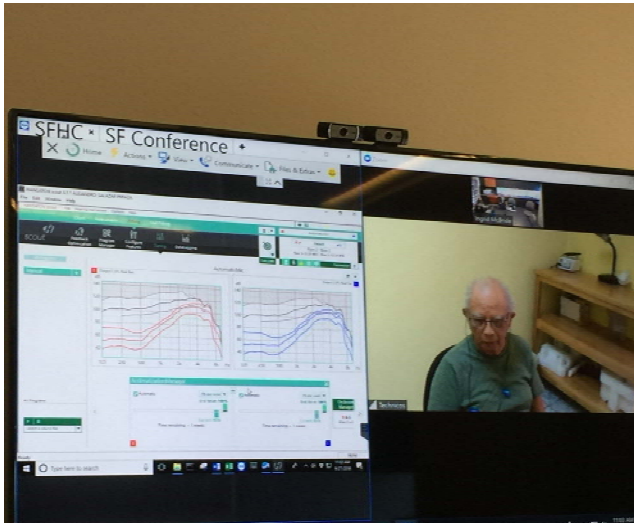
Tele-audiology Legal & Regulatory Considerations

HIPAA-related concerns

- For the SF program, legal counsel confirmed that HIPAA does not apply
 - Entity providing the services is a Mexican legal entity and legally separate from the ASU Clinic
 - The program, through the Mexican entity, does not provide services to patients in the USA
 - The Mexican entity does not engage in any HIPAA-covered transactions

Liability and licensure

- The University provides medical malpractice coverage for ASU employees as well as students acting in course and scope of a student placement agreement in Mexico
- There is no professional licensure for audiologists in Mexico



After Care Services

Follow-up appointments scheduled for 1-2 weeks and 4 weeks post hearing aid fitting

- Perform visual inspection of earmold and hearing aid
- Listening check of hearing aid
- Review data logging
- Programming adjustments as needed
- Administer HA Follow-up Questionnaire
- Administer IOI-HA
- Review care and handling

Outcome Measures

| International Outcome Inventory | | | | | | | | | |
|--|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| File Name | Date (CTRL) | Score | Save | | | | | | |
| Nombre1 | Nombre2 | 1900-01-00 | 0.00 | | | | | | |
| 1. Think about how much you used your present hearing aid(s) over the past two weeks. On an average day, how many hours did you use the hearing aid(s)? | | | | 4. Considering everything, do you think your present hearing aid(s) is worth the trouble? | | | | | |
| none | less than 1 hr/day | 1 to 4 hr/day | 4 to 8 hr/day | more than 8 hr/day | not at all worth it | slightly worth it | moderately worth it | quite a lot worth it | very much worth it |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Think about the situation where you most wanted to hear better, before you got your present hearing aid(s). Over the past two weeks, how much has the hearing aid helped in that situation? | | | | 5. Over the past two weeks, with your present hearing aid(s), how much have your hearing difficulties affected the things you can do? | | | | | |
| helped not at all | helped slightly | helped moderately | helped quite a lot | helped very much | affected very much | affected quite a lot | affected moderately | affected slightly | affected not at all |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Think again about the situation where you most wanted to hear better. When you use your present hearing aid(s), how much difficulty do you STILL have in that situation? | | | | 6. Over the past two weeks, with your present hearing aid(s), how much do you think other people were bothered by your hearing difficulties? | | | | | |
| very much | quite a lot of | moderate | slight | no difficulty | bothered very much | bothered quite a lot | bothered moderately | bothered slightly | bothered not at all |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. Considering everything, how much has your present hearing aid(s) changed your enjoyment of life? | | | | | | | | | |
| worse | no change | slightly | quite a lot | very much | | | | | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | | | |

IOI-HA

Hearing Aid Follow-up Questionnaire

Is the hearing aid comfortable in your ear?

◦ Right ___ Yes ___ No

◦ Left ___ Yes ___ No

Does the hearing aid cause any pain in your ear?

◦ Right ___ Yes ___ No

◦ Left ___ Yes ___ No

Does the hearing aid help you hear in quiet situations?

___ Yes ___ No

Does the hearing aid help you hear in noisy situations?

___ Yes ___ No

How many hours per day do you wear the hearing aid?

___ Less than 1

___ 1-3

___ 3-5

___ more than 5

Comments

Summary: Tele-audiology Model

Program sustainability

- Provide tele-audiology services and hearing aids to American and Canadian residents for a significantly lower cost than they would pay north of the border
- The revenue stream provides the needed funds to serve the local population at no cost to the patients

SF tele-audiology model has:

- Increased access to hearing healthcare in San Felipe Mexico
- Provided quality diagnostic and rehabilitative services; focus is not on quantity
- Permitted continuity of care with a focus on after-care appointments

Thank you to all the partners who have made this project possible

Minneapolis-University Rotary Club

San Felipe Rotary Club

International Hearing Foundation

Arizona State University

Rotary Cancer Clinic of San Felipe



Questions??