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MCH Innovations Database Practice Summary & Implementation Guidance

Virtual training for Awake ABR services for non-audiology staff

Providing a culturally relevant virtual diagnostic teleaudiology training for public health staff to deliver remote services in FSM.



Location

Federated States of Micronesia



Topic Area

Telehealth/Emergency Preparedness



Setting

Community, Rural, Clinical



Population Focus

CYSHCN



NPM

NPM 6: Developmental Screening



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Section 1: Practice Summary



PRACTICE DESCRIPTION

The Federated States of Micronesia (FSM) is comprised of four states: Chuuk, Pohnpei, Yap, and Kosrae, spread across thousands of miles with diverse cultures and languages. FSM has faced challenges in implementing and providing services to EHDI and Title V/CYSHNCN programs. The lack of local professionals makes it challenging to identify and provide support, resources, and services. FSM does not receive early intervention funds from the U.S.

Because of the COVID-19 pandemic, the FSM government restricted their borders to incoming passengers from airlines and vessels on March 2020. No one was allowed to enter for over a year and although some repatriation flights have been conducted, most restrictions are still in place. This extreme measure is needed because FSM does not have the resources, such as medical personnel and equipment, to cope with a COVID-19 outbreak. The arrival of COVID-19 has clearly created new challenges for the Title V/CYSHNCN and EHDI programs. The professionals who typically travel to the islands cannot provide resources and services. Telehealth support is needed so that children can receive Diagnostic Audiological Evaluations and other needed services and resources.

After conducting a needs assessment with EHDI and Title V/CYSHNCN staff, parent leaders, and consultants, the FSM project goals were to (1) provide DAE equipment, (2) provide training on using the DAE equipment, and (3) provide a dedicated internet line for Yap Public Health.

Culturally relevant diagnostic teleaudiology training was provided for public health staff to deliver remote services in FSM. The training in diagnostic teleaudiology training was provided at the spoke sites virtually. The training was provided to three of the four FSM states with two people per island receiving the training. The training was provided in English by an audiologist in Guam who is nationally certified (CCC-A). Training was provided on how to use the teleaudiology equipment, set up the equipment, and prepare patients for the procedure. Practice was conducted on adult staff during the training. The training was tailored to the cultural and linguistic context of the trainees within the community. Time was provided for trainees to stop and use their own language with each other to assist and clarify points.

CORE COMPONENTS & PRACTICE ACTIVITIES

The goal of our program was to provide telehealth services including teleaudiology to the Federated States of Micronesia. To reach this goal, a dedicated internet line was established for Yap Public Health MCH/EHDI program, audiological equipment was procured, and staff were trained.

Core Components & Practice Activities

Core Component

Activities

Operational Details



Provide teleaudiology services	Procured audiological equipment Procured internet line for Yap Public Health	Awake ABR, portable audiometer, and portable middle-ear analyzer were purchased and distributed to the islands as needed.
Provide training on equipment	Local audiologist trained Training sessions held for staff	Local audiologist traveled to Oregon to receive training on the Awake ABR. Local audiologist trained two staff from each of the three islands as a group on the equipment. Each island had a separate training with an adult staff volunteer. Finally, diagnostic audiological evaluations were conducted on children on the wait list.

HEALTH EQUITY

Yap has a population of approximately 8,000 people on the main island and 4,000 on the surrounding islands. Although Yap’s population is small, there appears to be a higher incident of hearing loss related to atresia, preauricular skin tags, and ear pits. It is not uncommon to see people with these conditions in the community and causes are unknown.

The audiologist from Guam commented on the unusual number of ear deformities, and unilateral and conductive hearing loss cases, given the population size. This project provided an Awake ABR, portable audiometer, and portable middle-ear analyzer for Yap. All equipment listed allowed for complete flexibility by offering both screening and diagnostic testing protocols. In addition, an Awake ABR was ordered for Pohnpei and Chuuk. Kosrae (the 4th FSM state) was not included as their low population size and close proximity to Pohnpei means they can travel there for DAEs. Sedated ABRs were not an option for FSM because of the limited medical personnel. Unsedated ABR evaluations were stressful and difficult to coordinate. Evaluations were often rescheduled because the infant did not sleep or did not sleep long enough.

Because the ABRs are conducted through tele-audiology, it is even more critical that Awake ABR is used to eliminate some of those challenges. Often families are brought in via boat from the outlying islands to obtain DAEs which means the time needed to perform DAEs is severely restricted as boat transportation is limited to and from these outlying islands. Since the audiologist will not be on site, using the Awake ABR will make the process more effective and efficient for the children and families. FSM is the first in this region to offer Awake ABR evaluations. Guam does not offer Awake ABR and the Guam-based audiologist had to be trained in the use of the Awake ABR. She then trained FSM Title V/CYSHNCN/EHDI staff, two from each of the three islands, in using the Awake ABR and the other equipment.

Procurement of this audiological equipment also assisted in meeting the EHDI 1-3-6 guidelines. The EHDI audiologist’s contract is for one visit to the FSM states. Therefore, if a visit to Yap occurs in the beginning of the contract year, then a child needing DAE any time after that cannot be seen in a timely manner. This creates a ripple effect for services and ultimately can negatively affect the child’s growth and development if there is a hearing loss or other disability.

EVIDENCE OF EFFECTIVENESS



Since the project ended in March 2021, the FSM audiologist has conducted Awake ABRs in 10 children, with 6 being below the age of 3 and 4 being older children. A 2-month-old child from the island of Pohnpei was the first ever child who met the 1-3-6 mandate because of the Awake ABR being available, and speech therapy and early intervention services began shortly after being diagnosed with a mild to moderate hearing loss.

In the island of Yap, internet connection along with the audiology equipment allowed for teleaudiology and telehealth services for the first time.

Section 2: Implementation Guidance

STAKEHOLDER EMPOWERMENT & COLLABORATION

The provision of a dedicated internet line for the Yap program benefits Title V/CYSHNCN and EHDI programs to increase collaboration with off-island professionals and provide a system of care and online resources to assist families. The dedicated internet line allows for other Yap public health staff and departments to leverage this resource, too.

Having a local audiologist trained in Awake ABR builds capacity locally and the audiologist will provide training to audiologists on Guam and the Commonwealth of the Northern Mariana Islands when they obtain their equipment from other funding sources (such as IDEA Part C - Early Intervention). Guam EHDI and Guam Department of Education are looking at ways to procure an Awake ABR because of the positive feedback from the audiologist.

REPLICATION

This project has not been replicated.

INTERNAL CAPACITY

This project was overseen by a program coordinator. This person coordinated the procurement, payment, and delivery of the equipment to the Federated States of Micronesia, coordinated schedules for the training sessions, met with the project officer, and participated in the virtual round tables,

Other personnel included the Program Manager of FSM EHDI and MCH programs. He provided guidance and leadership and ensured staff participated in training.

PRACTICE TIMELINE

A needs assessment needs to be conducted to guide the different phases of this project. The location of FSM and Guam created additional challenges in regards to procurement and shipment of items. Items needed to be shipped to Guam, checked, and then shipped to FSM. In addition, because the Awake ABR equipment is not available on Guam or the FSM, the Guam-based audiologist flew to the mainland U.S. to receive training. These issues may not arise in other places.



Phase: Planning/Pre-Implementation

Activity Description	Time Needed	Responsible Party
Conduct needs assessment	1 month	Public health officials
Collaborate with partners	1 month	Public health officials
Identifying staff to be trained	1 month	Public health officials
Identify equipment and shipping methods	1 month	Public health officials/audiologist

Phase: Implementation

Activity Description	Time Needed	Responsible Party
Train audiologist (if needed): set up training dates and travel arrangements	1 month	Audiologist
Train staff: set up training dates within the different time zones	1 month	Audiologist
Deliver and use the equipment	2 months	Audiologist and PH staff
Develop standard operating procedures based on staff feedback	1 month	Audiologist and PH staff



Phase: Sustainability

Activity Description	Time Needed	Responsible Party
Continued training and check up with staff	Annually	Public health administrators
Funds for calibration of equipment after the first year	Annually	Public health administrators

PRACTICE COST

The distance from Guam to the continental US translates to higher costs for travel and supplies, and longer times for traveling and receiving items. In addition, although the FSM states are fairly close to Guam, shipping items is still costly and can take weeks because of the limited flights available.

Budget

Activity/Item	Brief Description	Quantity	Total
Training travel (if needed)	Travel for audiologist to be trained on new equipment	1	3000
Training of staff	Professional fees for audiologist to conduct training: as a whole group and then individual states	1	2500
Equipment – Awake ABR	Includes equipment cost, shipping to Guam then FSM states, and testing of equipment	3	60,000
Equipment Calibration	Calibration of equipment annually includes travel to all 4 states	1	4000



Consumables	Ear probes/covers, gel, electrodes, includes shipping to Guam and then FSM	3	1500
Storage at the spoke site	Provide a safe, climate-controlled place to store equipment	3	1500
Total Amount:			\$71,000.00

LESSONS LEARNED

Standard operating procedures and a checklist needs to be developed for the different machines that staff were trained on. Because the audiologist is not on site, these procedures and checklists make it easier for staff to prepare for patients and use the screening equipment on their own.

Training needs to consider the level and languages of the staff. Although all staff can speak English, English is not their first language. Therefore, the use of pictures and photographs on how to setup the equipment was helpful. Repeated demonstrations and directions, and extra time after major directions needs to be provided so that staff can process, and then clarify with the trainer and/or their colleagues for better understanding. The trainer also provided some videos before and after the training.

Although the Awake ABR allows the children to be tested without being sedated, distraction items still need to be provided. This is especially important because the time for testing can be lengthy when there is a suspected hearing loss.

NEXT STEPS

The next step for this project would be to determine if expansion to outlying islands is feasible. Solar power and use of radio frequency may be considerations.

Many older children, and even young adults, need to be tested to document and determine the level of hearing loss, if any. Lack of hearing tests in the past may have led to misdiagnosis, such as for those with autism. Hearing tests could rule out a hearing loss.

Set up a schedule for repeated training on all equipment.

RESOURCES PROVIDED

- None

APPENDIX

- None

