



Michigan Audiology Coalition Conference

October 2023

Presenters

- ▶ **Michelle Garcia, Au.D., CCC-A**
Michigan Department of Health and Human Services
Michigan Early Hearing Detection & Intervention (EHDI)
EHDI Follow-Up Consultant
- ▶ **Jennifer Dakers, M.A., CCC-A**
Michigan Department of Health and Human Services
Preschool and School-Age Hearing Screening Program
Hearing Program Consultant

Agenda

Early Hearing Detection and Intervention (EHDI) Program

Preschool and School Age Hearing Screening

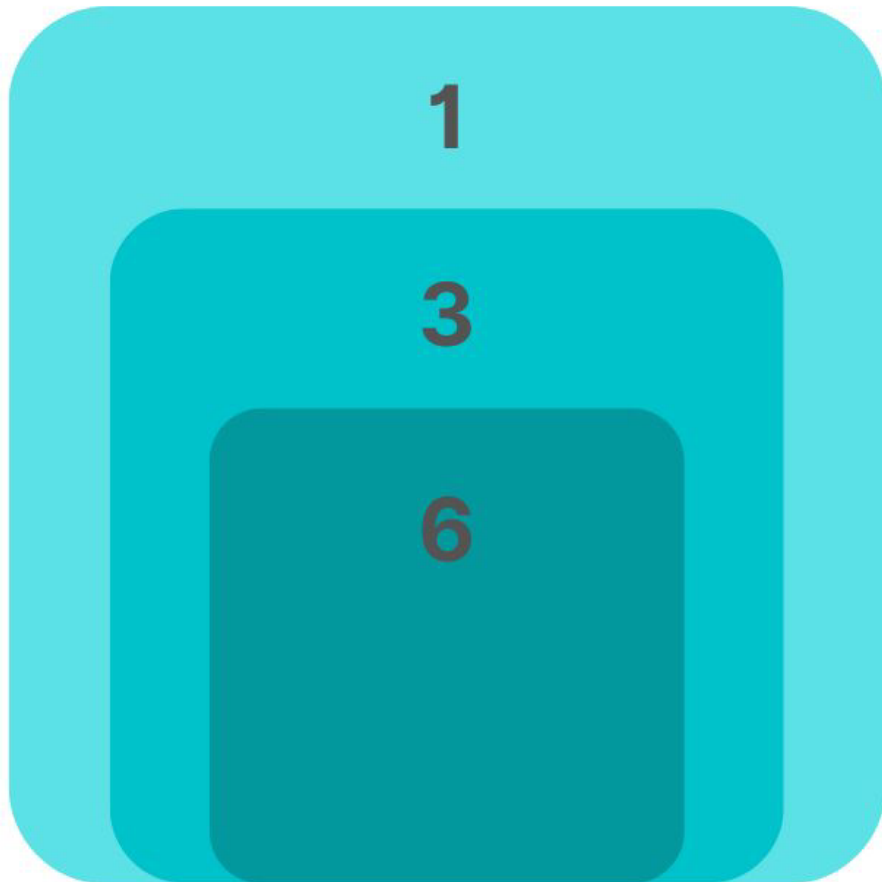
Questions



Know your why

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=1YTFB8TRKTO](https://www.youtube.com/watch?v=1YTFB8TRKTO)

EHDI Goals



1 Hearing Screen / Rescreen

All infants are screened for hearing loss **before 1 month** of age, preferably before hospital discharge. If needed, an outpatient rescreen is completed no later than 1 month of age.

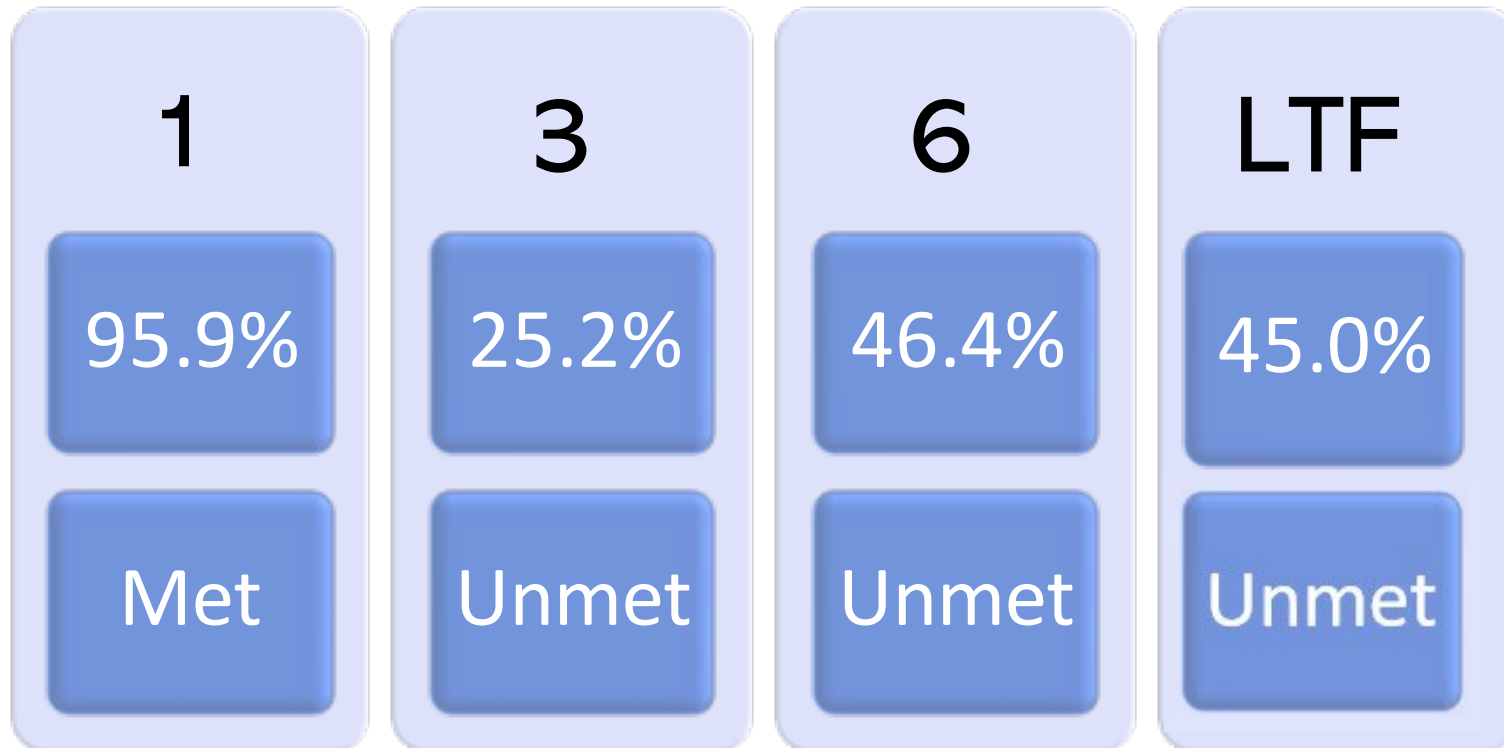
3 Diagnostic Hearing Evaluation

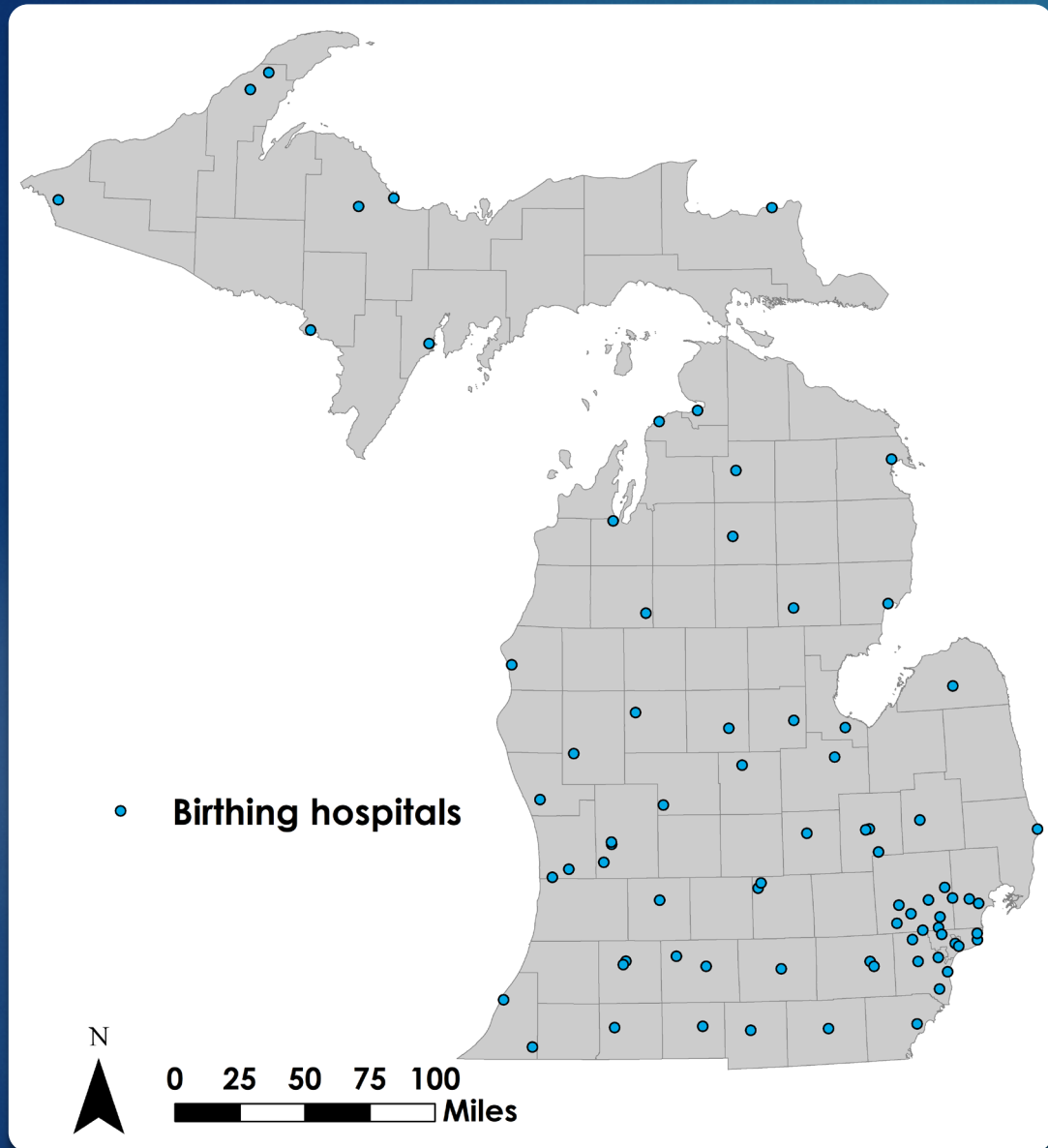
All infants who do not pass the hearing screen will have a diagnostic evaluation no later than **3 months** of age.

6 Early Intervention

All infants with a hearing loss are enrolled in early intervention services no later than **6 months** of age.

How is Michigan doing? (2021 Birth Data)





Michigan Birthing Hospitals (September 2023)

Hearing Screening no later than 1 month

- ▶ COMPLETED AT BIRTH HOSPITAL OR BY MIDWIFE.
- ▶ 76 BIRTH HOSPITALS USE A-ABR
- ▶ 1 HOSPITAL USES OAE
- ▶ LOANER PROGRAM: 28 A-ABR ACROSS STATE FOR MIDWIVES.



Challenges in screening

Parent message
(physician,
screener, nurse,
family member)

Incorrect
reporting

Equipment
(equipment
failure/no
supplies)

Repetitive
screening

Flip/Flop Ears

Rotation of staff

Number of staff
completing
hearing screens

Hearing Screening no later than 1 month

- ▶ Outpatient Rescreens
 - ▶ Hospital (36)
 - ▶ Audiology Department (39)
 - ▶ Other (2): Early On (1), Subspecialty Clinic (1)
 - ▶ A-ABR or ABR screen
 - ▶ 3 sites use OAE for outpatient screen (hospital, audiology clinic, and Early On)

CHALLENGES TO RECEIVING FOLLOW-UP SCREENING

Transportation

Unable to contact family—no updated phone and address

Insurance

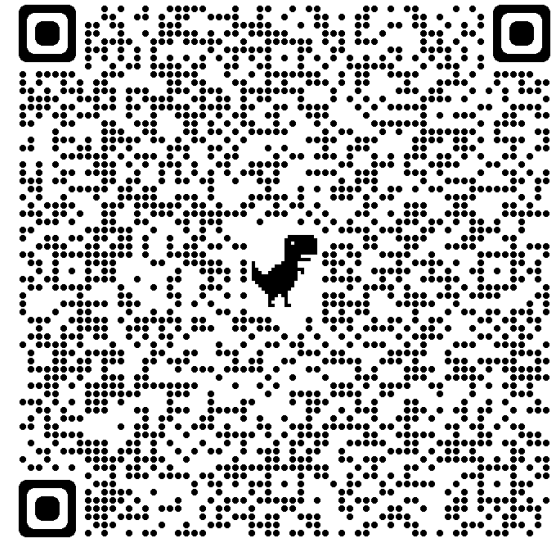
No referral completed—family hasn't gone to pcp

“My baby can hear just fine”

Inaccurate reporting and follow-up by providers

Diagnostics no later than 3 months

- ▶ EHDI Audiology Centers
- ▶ Specific information about hearing status for each ear - not just pass/did not pass
- ▶ Battery of tests
- ▶ Audiologist experienced working with infants
- ▶ Best Practice Guidelines



Best Practice Guidelines

- ▶ Equipment Requirements
- ▶ Diagnostic Evaluation Battery
- ▶ Minimal Staff Requirements
- ▶ Procedures Following Diagnosis of Hearing Loss
- ▶ Required Protocols/Tracking

Diagnostic Testing

Case history to
include family
and medical
history

Otoscopy

Diagnostic
OAE

ABR Thresholds

ABR Thresholds

Click and Tone Burst stimuli which represent at least one low frequency and one high frequency.

Additional tone burst thresholds and /or Auditory Steady-State Response (ASSR) information as time allows.

Bone Conduction and/or high frequency tympanometry to rule out conductive and mixed hearing loss.

Recording of cochlear microphonic and/or acoustic reflex testing to rule out neural loss.

Minimal staff requirements

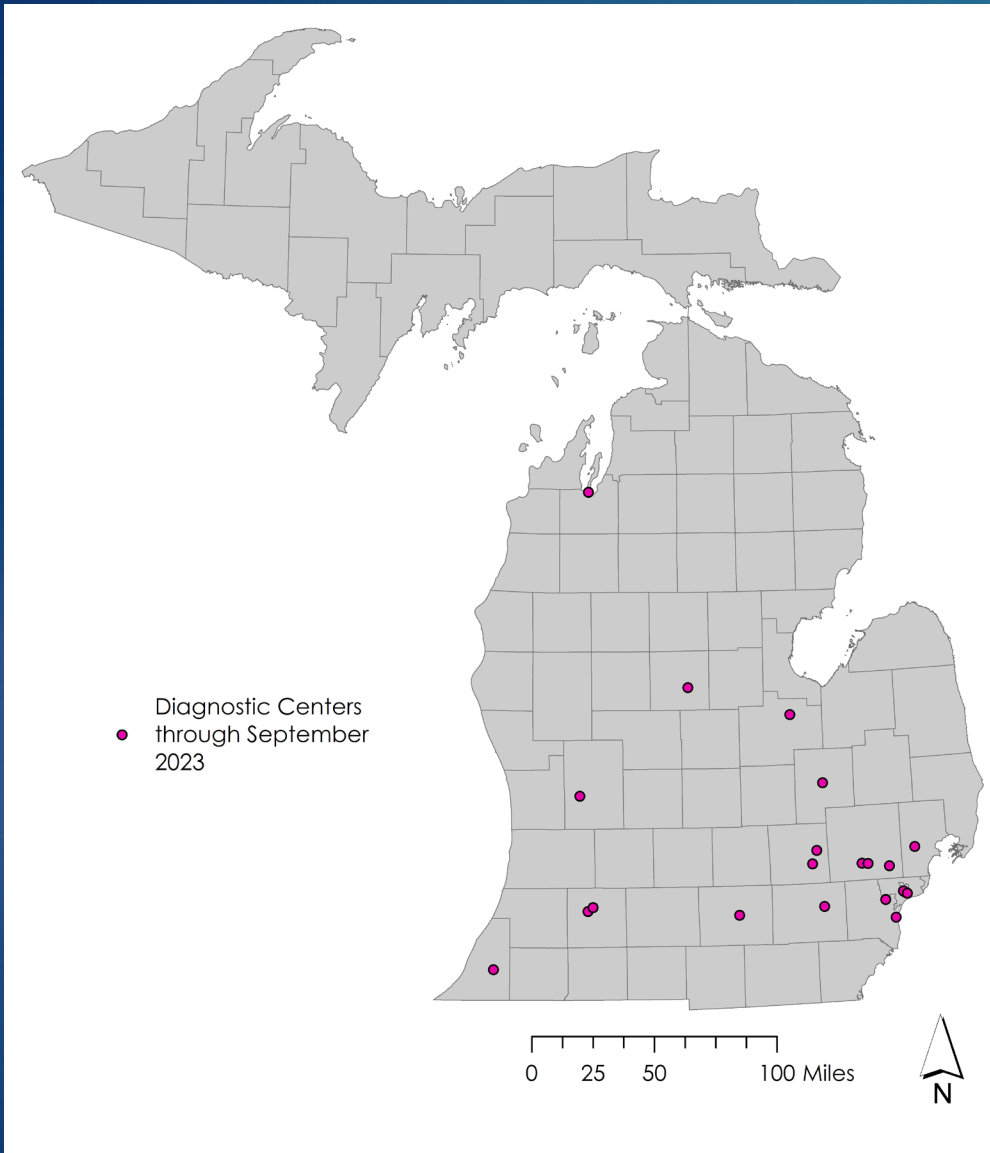
Experience and expertise in assessment of hearing in infants, defined as (must meet at least 3 criteria):

> 20% of client population is younger than 24 months.

On average each week, > 3 patients under the age of 24 months.

At least two diagnostic threshold ABRs completed each month.

Identification of hearing loss in children less than 12 months of age should be commensurate with area birth rates (i.e., not less than 1-3 babies with hearing loss per 1,000 births).



Diagnostic Centers in Michigan - September 2023

Challenges to diagnostic testing

- ▶ Facility not close to family
- ▶ Wrong appointment type scheduled
- ▶ Family worried about length of appointment and unable to have baby sleep
- ▶ Family unaware diagnostic needs to be done no later than 3 months
- ▶ Family sent to wrong clinic without proper equipment



EHDI 2021 Screening Data

105,022 Births

101,521 Completed Screens (96.7%)

Pass on Final Screen
100,270 (98.8%)

Refer on Final Screen
1,272 (1.3%)

Normal Hearing
310 (24.4%)

No Diagnosis
684 (53.8%)

Hearing Loss
192 (15.1%)

- Diagnosed:
- <3 Months: 195 (62.9%)
 - >3 Months: 115 (37.1%)

- Lost to Follow-Up: 572 (45.0%)**
- Parents/family contacted but Unresponsive: 363
 - Unable to Contact: 164
 - Unknown: 45

- Diagnosed:
- <3 Months: 126 (65.6%)
 - >3 Months: 66 (34.4%)

- Awaiting Diagnosis: 2
- Parent Decline: 51
- Moved/Non-Resident: 15
 - Infant Died: 16
- Unable Due to Medical Reasons: 16
 - Other: 12

Enrolled in
Early
Intervention
112 (58.3%)

No
Intervention
80 (41.7%)

Action steps....



- ▶ Earlier is better: The clock is ticking!
- ▶ The message to the family matters
- ▶ It's a process not an event.
- ▶ Remember your why! Approximately 200 babies each year in Michigan depend on you to reach their full potential!

Thank you!





michigan

HEARING & VISION

screening programs

MDHHS
Preschool &
School Age
Hearing
Screening
Program



Hearing Technician Giving Barbara
the Pure Tone Audiometer Test

Public Act 368 of 1978, Part 93 Hearing & Vision The Law



- ▶ Hearing & Vision Programs have been legislated since 1949, revised in 1978
- ▶ Sec. 9301. A local health department shall conduct periodic hearing and vision testing and screening programs without charge for children residing in its jurisdiction. The local health department shall publicize the free testing and screening services and the time and place of the clinics.

Public Act 368 of 1978, Part 93 Hearing & Vision The Law





- ▶ Sec. 9307. (1) A parent, guardian, or person in loco parentis applying to have a child registered for the first time in a kindergarten or first grade in a school in this state shall present to school officials, at the time of registration or not later than the first day of school, a certificate of hearing and vision testing or screening or statement of exemption under section 9311.

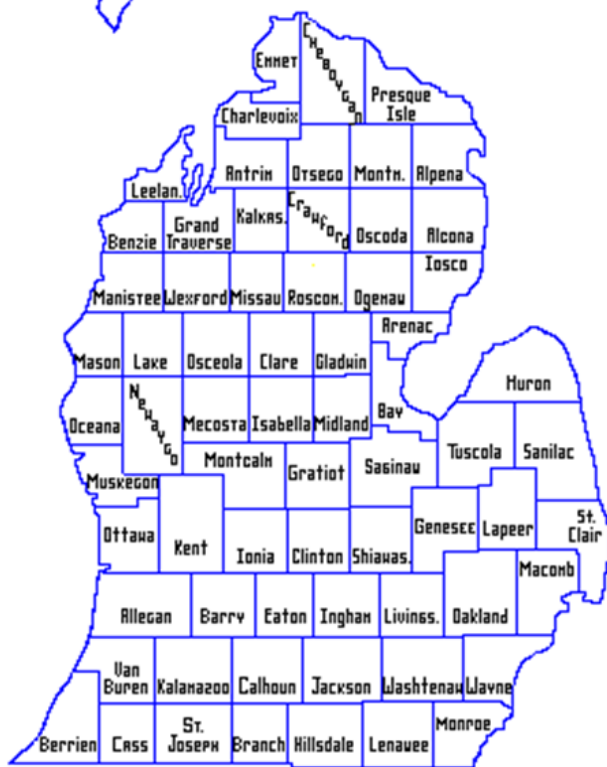
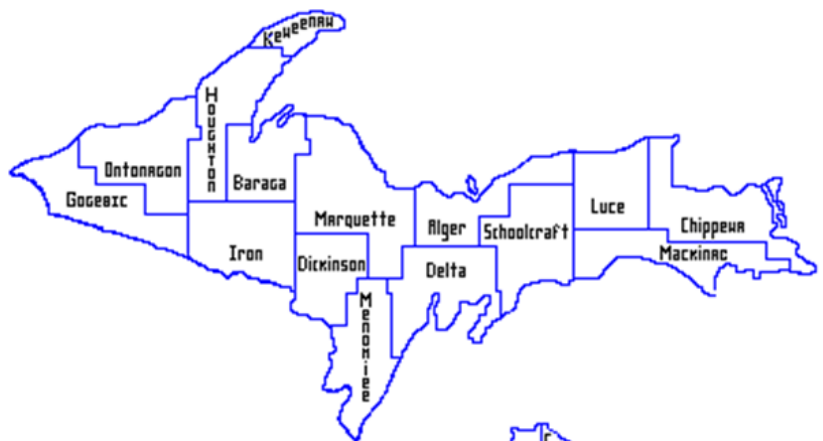
Public Act 368 of 1978, Part 93

Hearing The Rules

- ▶ R325.3274.
- ▶ Frequency of Screening
- ▶ Rule 4. (1) Hearing screening of preschool children shall be done at least once during the ages of 3 to 5 years.
- ▶ Rule 4. (2) Hearing screening of school-aged children shall be done at least in grades K, 2, and 4, or screening shall be done biennially starting at age 5 and continuing at least to age 10.

MDHHS Hearing & Vision Screening Requirements		
Preschool	X	X
Kindergarten Entry	X	X
Kindergarten	X	
1 st Grade		X
2 nd Grade	X	
3 rd Grade		X
4 th Grade	X	
5 th Grade		X
7 th Grade		X
9 th Grade		X

*Some local health departments may schedule screenings at different intervals. Call your local health department for more information.



Public Health in Michigan

- ▶ 83 COUNTIES
- ▶ 45 LOCAL HEALTH DEPARTMENTS
- ▶ 45 HEARING SCREENING PROGRAMS
- ▶ OVER 150 HEARING TECHNICIANS STATEWIDE
- ▶ 1 HEARING PROGRAM CONSULTANT

HEARING PROGRAM CONSULTANT ROLE

- ▶ Provide training and oversight to all Local Health Departments
 - ▶ Trainings typically occur in fall or 'as needed'
 - ▶ 2-3 per year
- ▶ Conduct Accreditation Site Visits for all 45 counties
 - ▶ 1 cycle completed over 3 years, 15 visits per year
- ▶ Annual Hearing Program Technician Workshops
 - ▶ Continuing Education required through Minimum Program Requirements
- ▶ Manage Technician Observation Program (TOP)
 - ▶ 5 State of Michigan Contractors who conduct observations, plus myself
- ▶ Provide OAE training to Head Start, Early Head Start, and Early On staff

Preschool Hearing Screening

- ▶ Public Health Code requires Local Health Departments (LHD) to provide screenings
 - ▶ At least once between the ages of 3 & 5
 - ▶ And prior to kindergarten entry
- ▶ Screenings take place in Head Start centers, GSRP, large childcare centers, and other public and private programs
- ▶ Primary equipment used is the Audiometer
- ▶ Some LHDs have Otoacoustic Emissions but is not a requirement
- ▶ Family is notified of children who do NOT pass. Each school is provided a copy of all class lists so outcomes can be reviewed





School Age Hearing Screening

- ▶ Frequency of Screening includes kindergarten, second, and fourth grades or biennially starting at age 5 and continuing at least through age 10
- ▶ Initial screening and rescreen performed on-site with 4-weeks between screens
- ▶ Families receive written notification of a medical referral with recommendation to see a physician (PCP, ENT, or audiologist)
- ▶ All children who are medically referred receive an audiogram annually until 2 normal, consecutive results are obtained

Technician Training Requirements

- ▶ Must attend and pass the MDHHS Comprehensive Hearing Training Course
- ▶ 2 weeks in duration
- ▶ Hands on experience in preschools and elementary schools 9 of 10 days
- ▶ Must pass written quiz and final exam
- ▶ Receive a certificate of "qualification"-not certification
- ▶ Continuous Quality Improvement through Technician Observation Program (TOP)
 - ▶ Technician observation while screening at a school once within the 1st year of training
 - ▶ Observed every 3 years after initial observation
- ▶ Must attend continuing education Technician Workshop biennially



Screening Protocols

▶ PRELIMINARY SCREENING

- ▶ 1000 Hz, 2000 Hz, 4000 Hz @ 20, 20, 25 dBHL, respectively
- ▶ Child must hear all 6 tones to pass

▶ INTERMEDIATE SWEEP

- ▶ For children who did not pass the preliminary screening
- ▶ Performed approximately 4 weeks after preliminary screening
- ▶ 250 Hz, 500 Hz, 1000 Hz, 2000 Hz, 4000 Hz, 8000 Hz @ 30, 25, 20, 15, 25, 40 dBHL, respectively
- ▶ Must hear all sounds. If any missed, sweep is discontinued, and audiogram performed

▶ AUDIOGRAM

- ▶ Air conduction 250 Hz-8000 Hz, Bone conduction 250 Hz-4000 Hz unmasked



Referral Criteria



- ▶ Air conduction
 - ▶ 2 frequencies in one ear with levels greater than:
 - ▶ 30 dB at 250 Hz, 25 dB at 500 Hz, 20 dB at 1000 Hz, 15 dB at 2000 Hz, 25 dB at 4000 Hz and 40 dB at 8000 Hz
- ▶ Air/bone gap
 - ▶ A gap of at least 15 dB at 250 Hz, 15 dB at 500 Hz, and 10 dB at 1000 Hz at all 3 frequencies when comparing bone conduction to 'better ear' air conduction, based on Pure Tone Average (PTA)
- ▶ Difference between ears
 - ▶ A difference of 10 dB or more between the PTAs in each ear
- ▶ History

Follow Up Protocol



All children who meet the referral criteria are sent a referral letter indicating that medical attention should be sought



Included with the letter is a form for the physician to complete and return to the local health department



A 2nd contact to family if no response to initial letter



All 'medical referrals' receive audiograms annually until two normal, consecutive results are obtained



Known hearing losses are screened every year, unless parents opt out or local school district has an educational audiologist who sees the child

Technician dos and don'ts

- ▶ Technicians screen approximately 450,000/year
- ▶ Technicians do not diagnose hearing loss
- ▶ Technicians do screen children with known hearing losses
 - ▶ Monitor from year to year
 - ▶ Unless directed by the parents not to screen
- ▶ Technicians do not screen children with medically implanted devices
 - ▶ Digitally programmable shunts, Baclofen pumps, Vegas Nerve Stimulators, Pacemakers, Insulin pumps (creating new policy-positive consent for screening)

Local Health Department Challenges

- ▶ OVERALL STATE FUNDING FOR THE HEARING SCREENING PROGRAM HAS NOT INCREASED IN OVER 25 YEARS
- ▶ GENERAL FUND DOLLARS MEAN THAT MONEY IS 'AT RISK' DURING RECESSIONS
- ▶ STAFFING/RETENTION ISSUES SINCE COVID
- ▶ OTOLOGY CLINICS ONLY CONDUCTED AT 1 LOCAL HEALTH DEPARTMENT POST COVID
- ▶ GETTING **FOLLOW-UP** INFORMATION FROM PARENTS/MEDICAL COMMUNITY
- ▶ STATEWIDE DATABASE FOR HEARING AND VISION PROGRAMS, IN PROCESS, INTERMITTENTLY FOR PAST 10-12 YEARS WITH LITTLE PROGRESS

Thank you!

