

Elevating Pediatric Audiology Practice: Assessing Best Practices and Policy Improvements

National EHDI Conference – March 2024

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Presentation Learning Objectives

1. Identify strengths and best practices in pediatric diagnostic centers for newborn hearing testing.
2. Learn about audiology center technical assistance needs.
3. Determine areas for improvement within the Michigan EHDI program.

How is Michigan doing?

	1	3	6	LTF
Michigan 2021	95.9%	25.2%	46.4%	45.0%
Michigan 2022	96.0%	32.1%	44.7%	43.2%
United States 2021	97.4%	42.7%	42.2%	32.4%

Michigan data source: Michigan Department of Health & Human Services, EHDI program

United States data source: CDC EHDI website, <https://www.cdc.gov/ncbddd/hearingloss/ehdi-data2021.html>

Hearing Screening no later than 1 month

First Screen

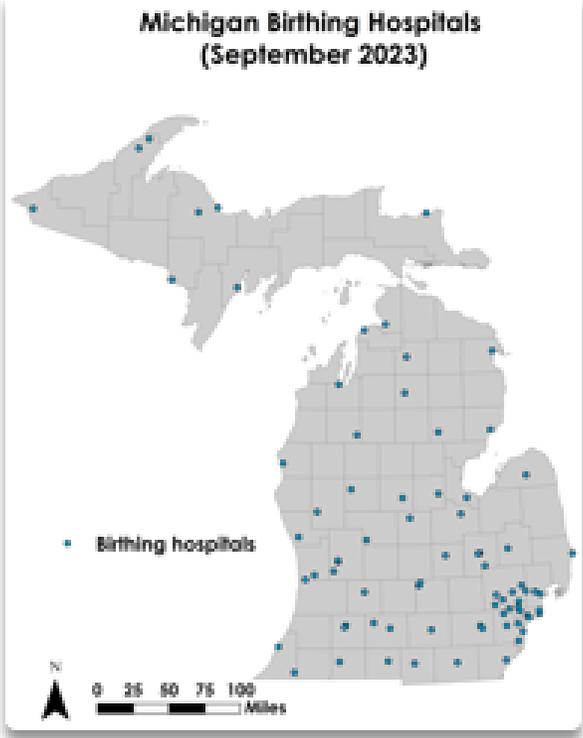
- Completed at birth hospital or by midwife.
- 75 birth hospitals use A-ABR.
- One hospital uses OAE.
- Loaner program: 28 A-ABR across state for midwives.

Rescreens

- Hospital (35)
- Audiology Department (39)
- Other (2):
 - Part C/Early On (1)
 - Subspecialty Clinic (1)
- A-ABR or ABR screen
- Three sites use OAE for outpatient screen (hospital, audiology clinic, and Part C/Early On).

Michigan Maps of Facilities: September 2023

Birthing Hospitals



Diagnostic Centers



Best Practice Guidelines

- Equipment requirements.
- Diagnostic evaluation battery.
- Minimal staff requirements.
- Procedures following diagnosis of hearing loss.
- Required protocols/tracking.

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 three months.
- Family sent to wrong clinic without proper equipment or experience.
- Diagnostic centers not completing appropriate testing.

Audiology Visits: Purpose

Effective tool in helping improve communication and quality of newborn hearing testing.

- Identify strengths and best practices in pediatric diagnostic centers for newborn hearing screening/testing.
- Learn about audiology center technical assistance needs.
- Determine areas for improvement within the Michigan EHDI Program.

How are visits implemented?

- Presentation and audiology rubric.
- Summary report with action steps.
- Virtual visits.
- Attendees: audiologists and staff who help with EHDI coordination.

Audiology Rubric References

National Institute for Children's
Health Quality, Improving Follow-Up
after Newborn Hearing Screening
An Action Kit for Audiologists.



Michigan EHDI Best
Practice Guidelines



Audiology Rubric Sections

(Handout on conference site)

- Minimum staff requirements.
- Rescreens.
- Pre-appointment activities.
- Diagnostic evaluation battery.
- Appointment logistics.
- Reporting results.
- Next steps following diagnosis.
- Required protocols/tracking.
- EHDI follow-up.

Diagnostic Rubric

Minimum Staff Requirements

Score: # out of 8

Meeting/Exceeding Expectations (2)	Making Progress (1)	Improvement Needed (0)
All audiologists have Michigan audiology licensure.	Most audiologists have Michigan audiology licensure.	Audiologists do not have Michigan audiology licensure.
At least one staff member has two years of experience working with children. Mentorship of staff members with less experience is encouraged.	One staff member has experience working with children but it's less than 2 years.	Staff does not have experience working with infants and young children.
Experience and expertise in	The clinic meets 1 of the 3	The clinic meets 1 or less criteria in

Visits Completed

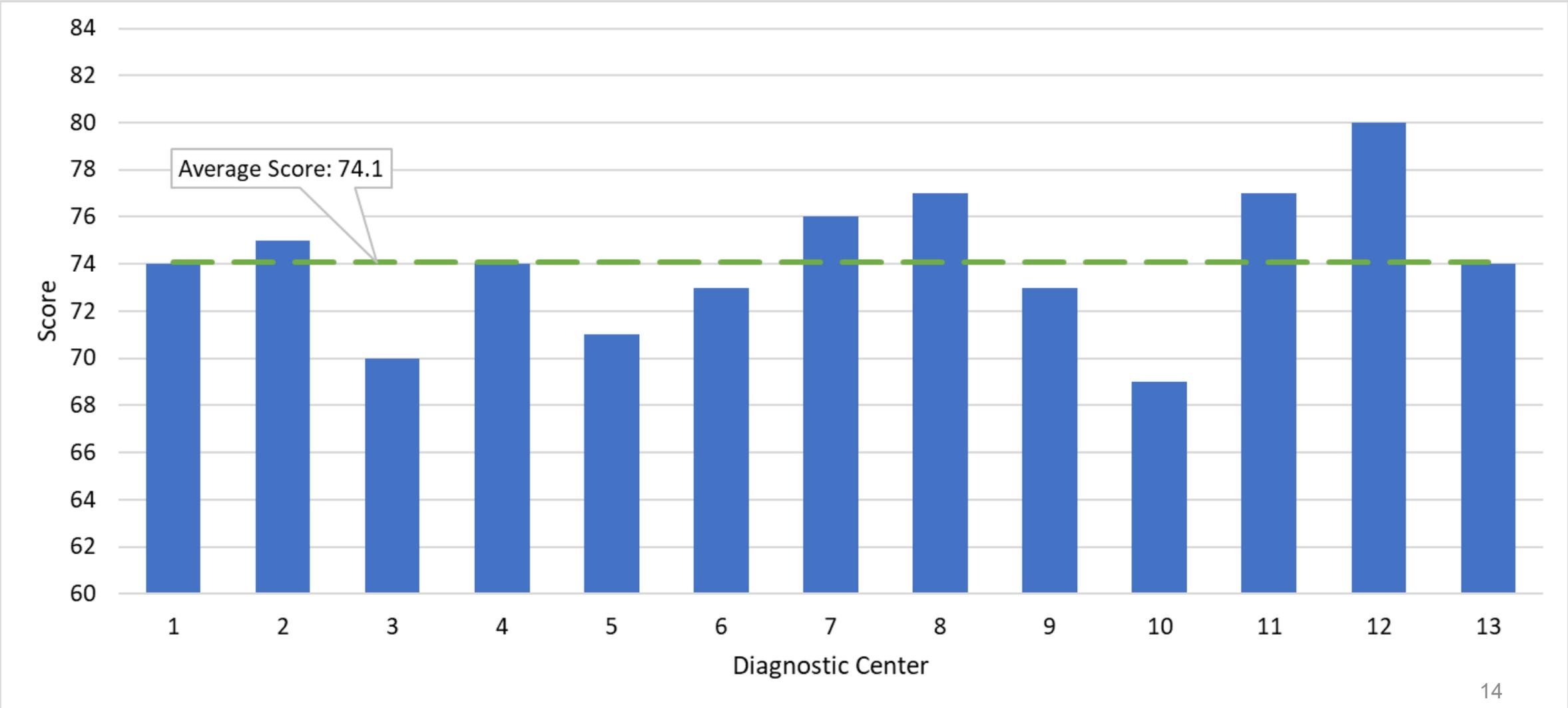


Timeframe: May-November 2023

*One site was new facility as of January 2023

Sites Visits Completed	# Participants	Met 1-3 per 1,000 (2022 birth year)
14	53	8*

Overall Rubric Scores: 84 Points

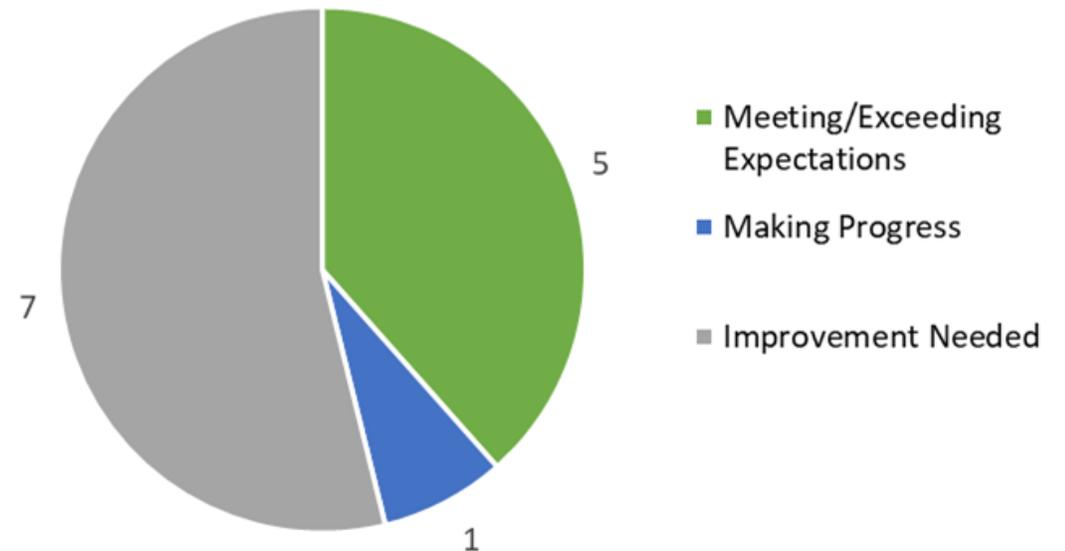


Low Scoring Areas

Pre-Appointment Activities

The family receives written, pre-appointment instructions in the mail, in the family's first language, prior to the appointment.

Pre-Appointment Activities: Mailed Pre-Appointment Instructions

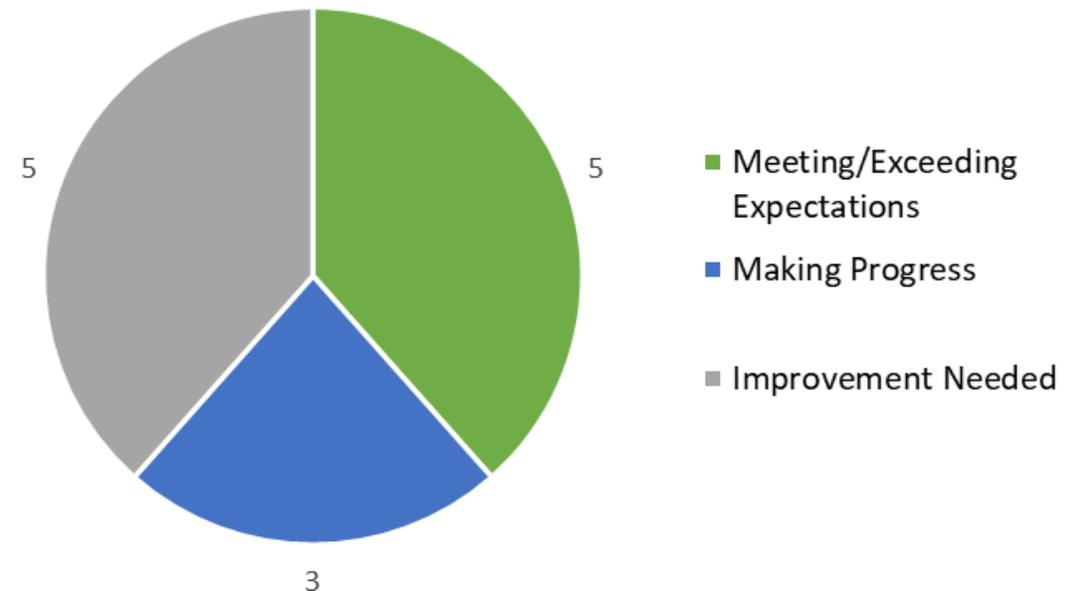


Low Scoring Areas

Appointment Logistics

The family can restate the next steps following the diagnostic appointment

Appointment Logistics: Family Can Restate the Next Steps Following the Diagnostic Appointment



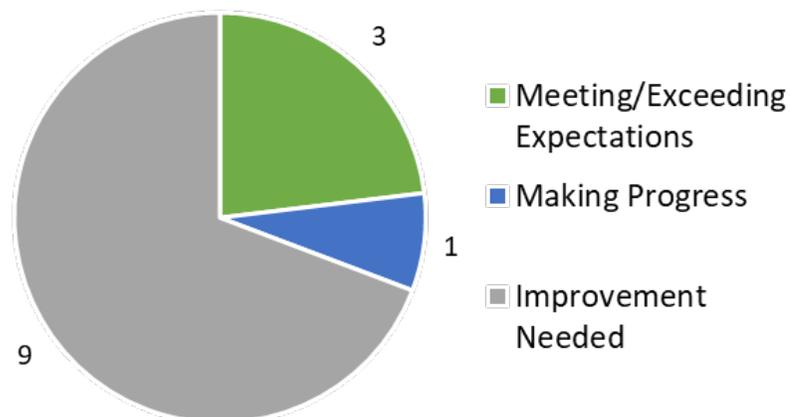
Low Scoring Areas

Next Steps Following Diagnosis

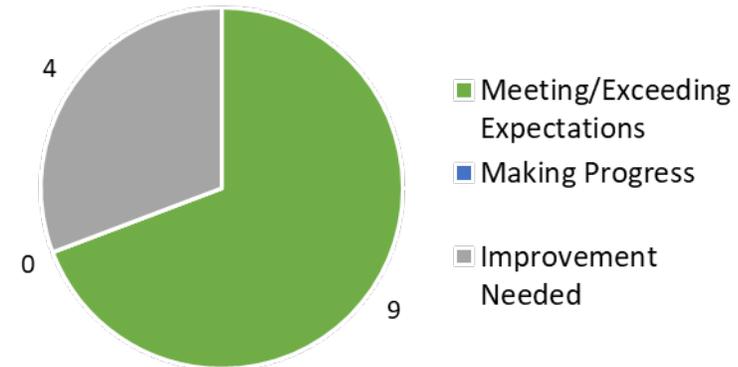
A referral to Parent-to-Parent support organizations such as Michigan Hands & Voices Guide By Your Side Program.

Parents are given written and electronic resources regarding hearing loss that represent all communication modes.

Next Step Following Diagnosis:
Referral to Parent-to-Parent



Next Steps Following Diagnosis:
Parents Given Hearing Loss
Resources that Represent All
Communication Modes

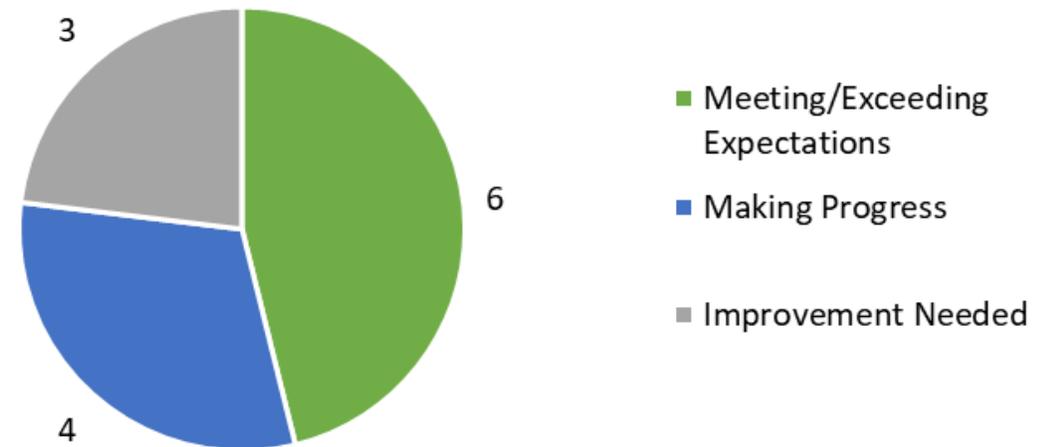


Low Scoring Areas

Required Protocols/Tracking

Clinic reviews and updates protocols on an annual basis.

Required Protocols/Tracking: Review and Update Protocols Annually

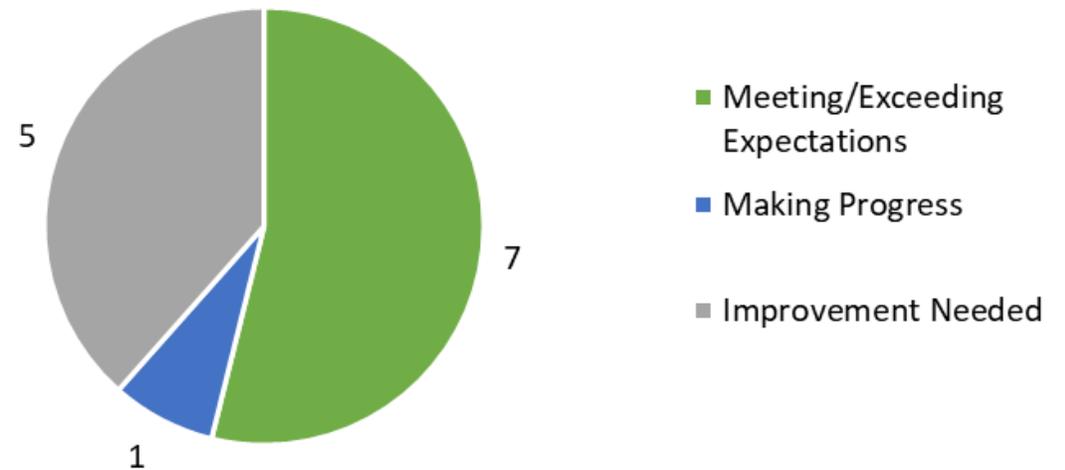


Low Scoring Areas

EHDI Follow-Up

Clinic reports diagnosed hearing loss for children ages 13 months – three years.

EHDI Follow-Up: Reports Diagnosed Hearing Loss for Children 13 months - 3 years

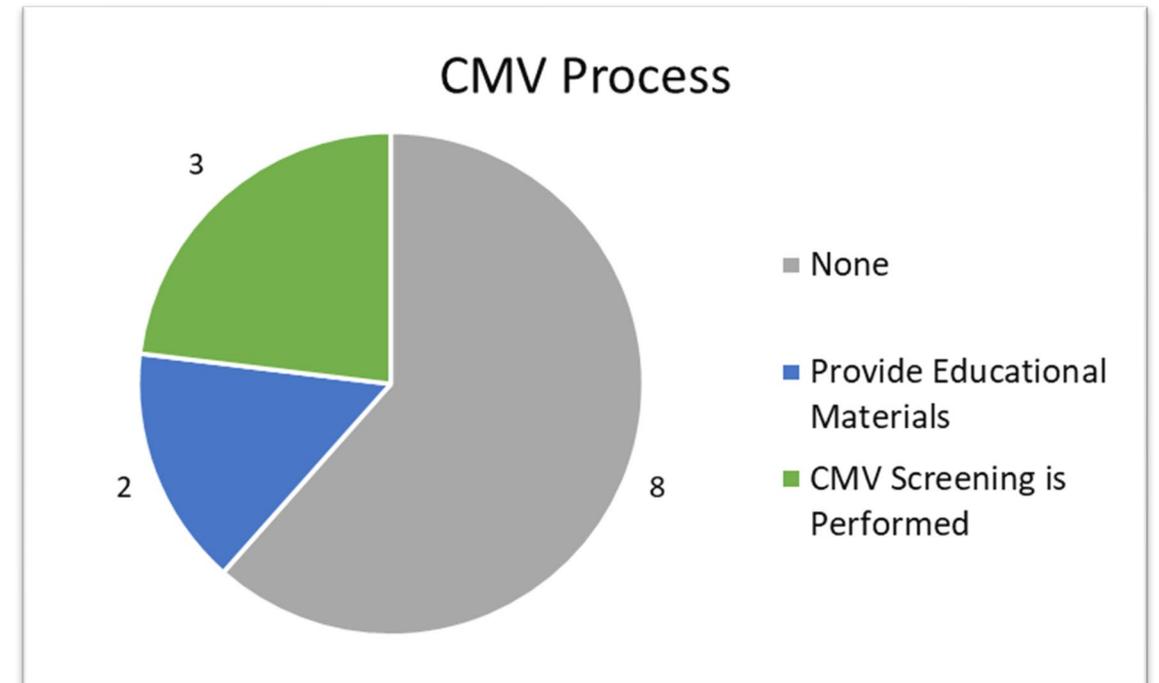


CMV Process

CMV Process

Three sites are within ENT clinics where CMV screening is done frequently.

Two sites give CMV educational materials.



Lessons Learned

Audiologists collaborate with colleagues to cross-check ABR results by reviewing waveforms.

Lesson's Learned: 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.**

Lesson's Learned: Minimal staff requirements

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

- > 20% of client population is younger than 24 months.
- On average each week, > 3 patients are under the age of 24 months.
- At least two diagnostic threshold ABRs are 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).

Next Steps: Areas of Improvements

Update Best Practice Guidelines

- Considerations:
 - Clause for removal of sites.
 - Review waveforms requirement.
 - Modify renewal process.
- Follow-up visits with sites.
- Provide education on low-scoring areas issues.
- How do we tackle the sites that aren't centers?

Questions?

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[Michigan.gov/EHDI](https://michigan.gov/EHDI)

