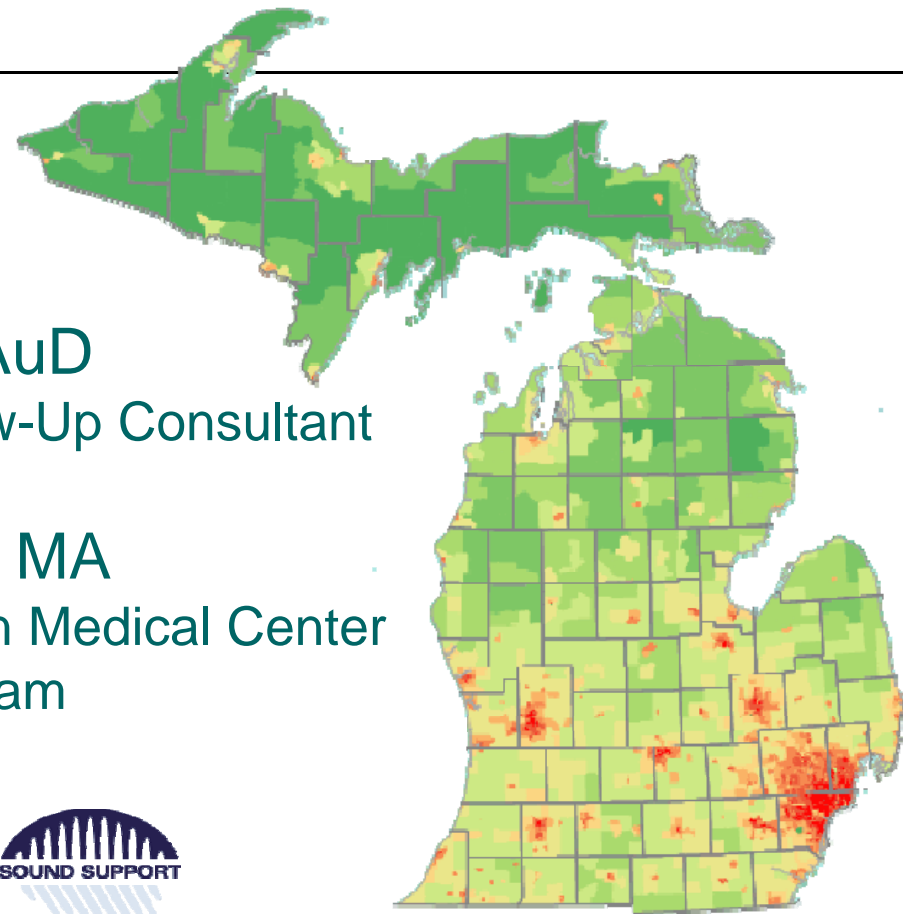


It Takes a State to Create a Guideline

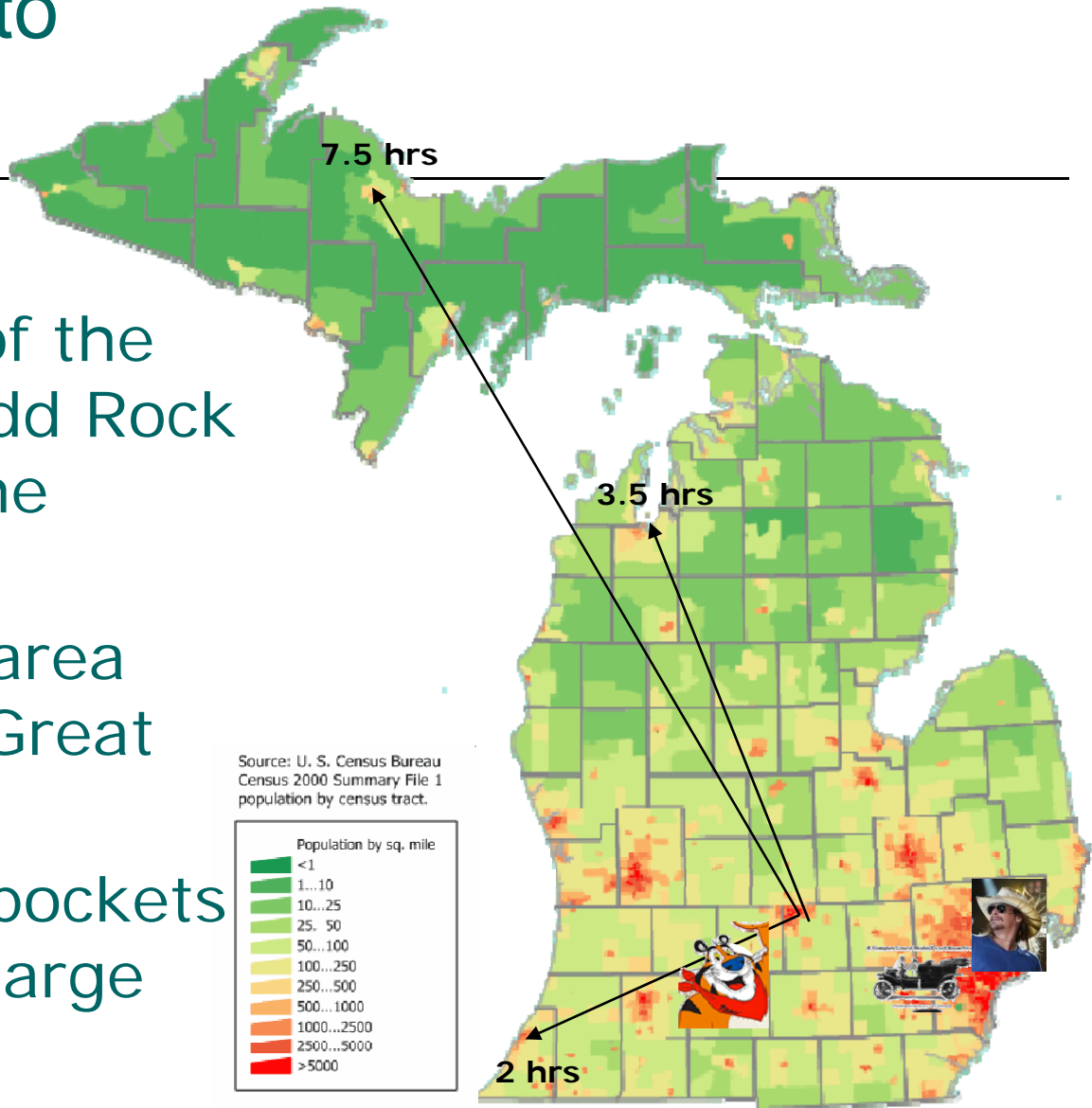
Michelle Garcia, AuD
Michigan EHDI Follow-Up Consultant

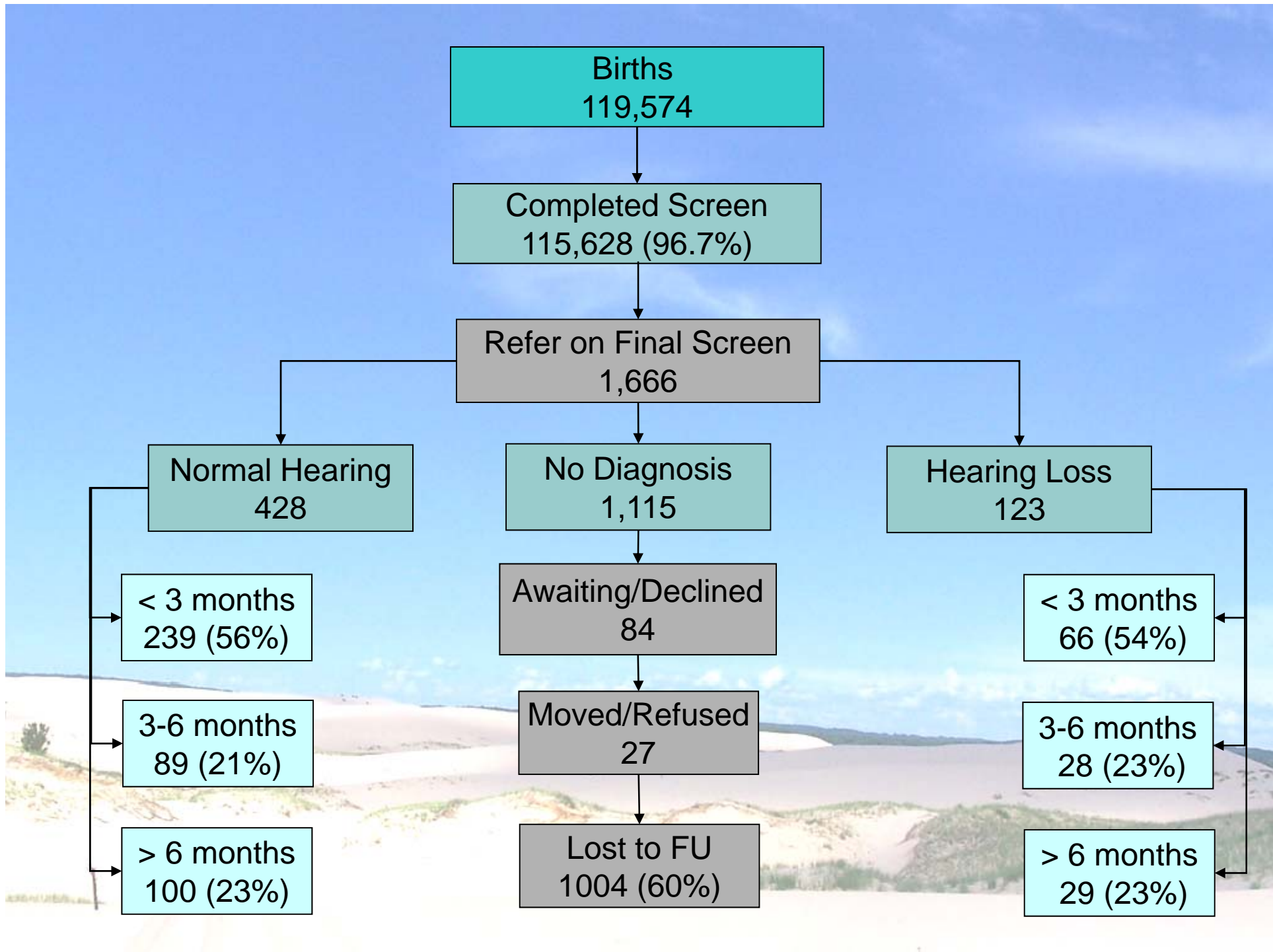
Angelique Boerst, MA
University of Michigan Medical Center
Sound Support Program



Welcome to Michigan

- Birthplace of the Model T, Kidd Rock and Tony the Tiger.
- Large land area divided by Great Lakes.
- Population pockets with many large rural areas.





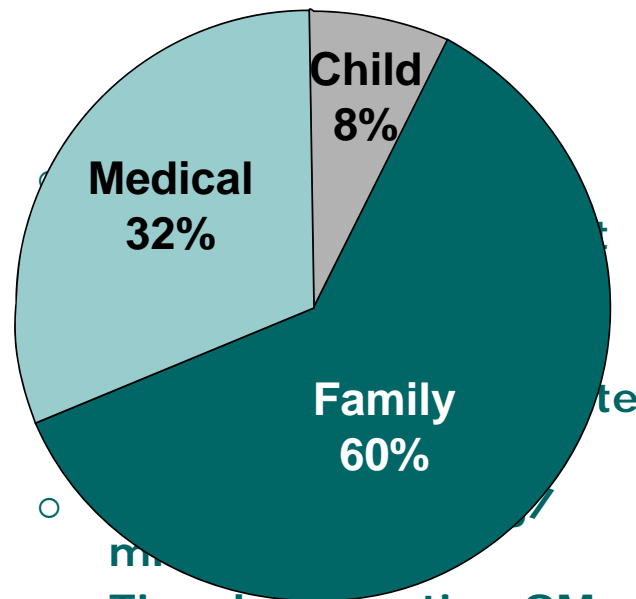
What are the barriers to timely diagnosis?

- Michigan audiologists and early interventionists think:

Family (60%)

Medical (32%)

Child (8%)



- Lack of follow up
- Family denial
- Lack of knowledge
- No insurance
- Transportation
- Family moves
- Language barrier
- Unable to contact family
- Job/Work interferences
- Parent not concerned
- Basic needs come first

- **Time lost treating OM vs SNHL**
- **Inexperienced providers in testing peds**

- Other medical concerns
- Late onset HL
- Developmental response to sound vs HL
- Difficult to test
- Foster/adopted no previous med hx



Current Dx Center List in Michigan

- First completed in 2003.
- Survey taken by audiologists.
- Primarily based upon equipment available in clinic.
- List compiled and updated frequently.



National EHDI Goal 2: 2.3

List of diagnostic audiologic providers.

Each state will maintain a current resource list of diagnostic centers and/or pediatric audiologists who have experience and expertise in administering diagnostic audiologic evaluations for infants, according to the protocol and guidelines.

- a. List of diagnostic centers and audiologists that have experience or expertise in conducting pediatric audiologic assessments.
- b. Number of centers and audiologists that have appropriate equipment for diagnostic evaluation of infants.
- c. Number of hospitals or referral personnel that maintain a list of diagnostic centers or audiologists EHDI Programs will maintain a list of pediatric audiologists in the state.



Current List does not consider:

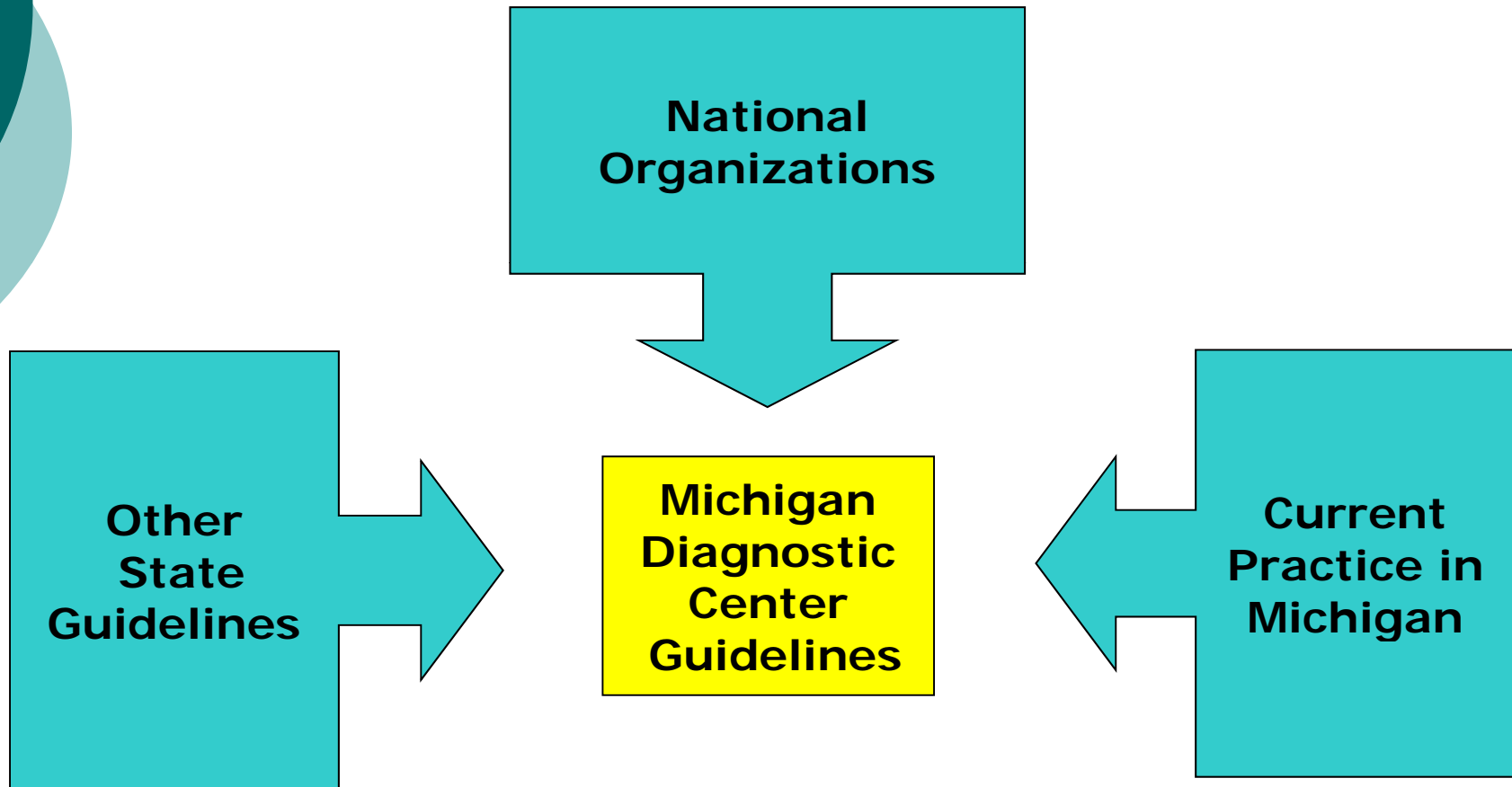
- How often equipment is used.
- Experience working with infants and families, other factors important to family-centered care.
- How can these factors be included?



Steps Towards Goal

- Creation of subcommittee through EHDI advisory.
- Small group of audiologists from a variety of backgrounds:
 - Michigan EHDI program.
 - Private Practice diagnostic center.
 - Training Institution.
 - Educational.
 - Hospital EHDI program coordinator.
 - Hospital-based diagnostic center.

What can we learn from others?

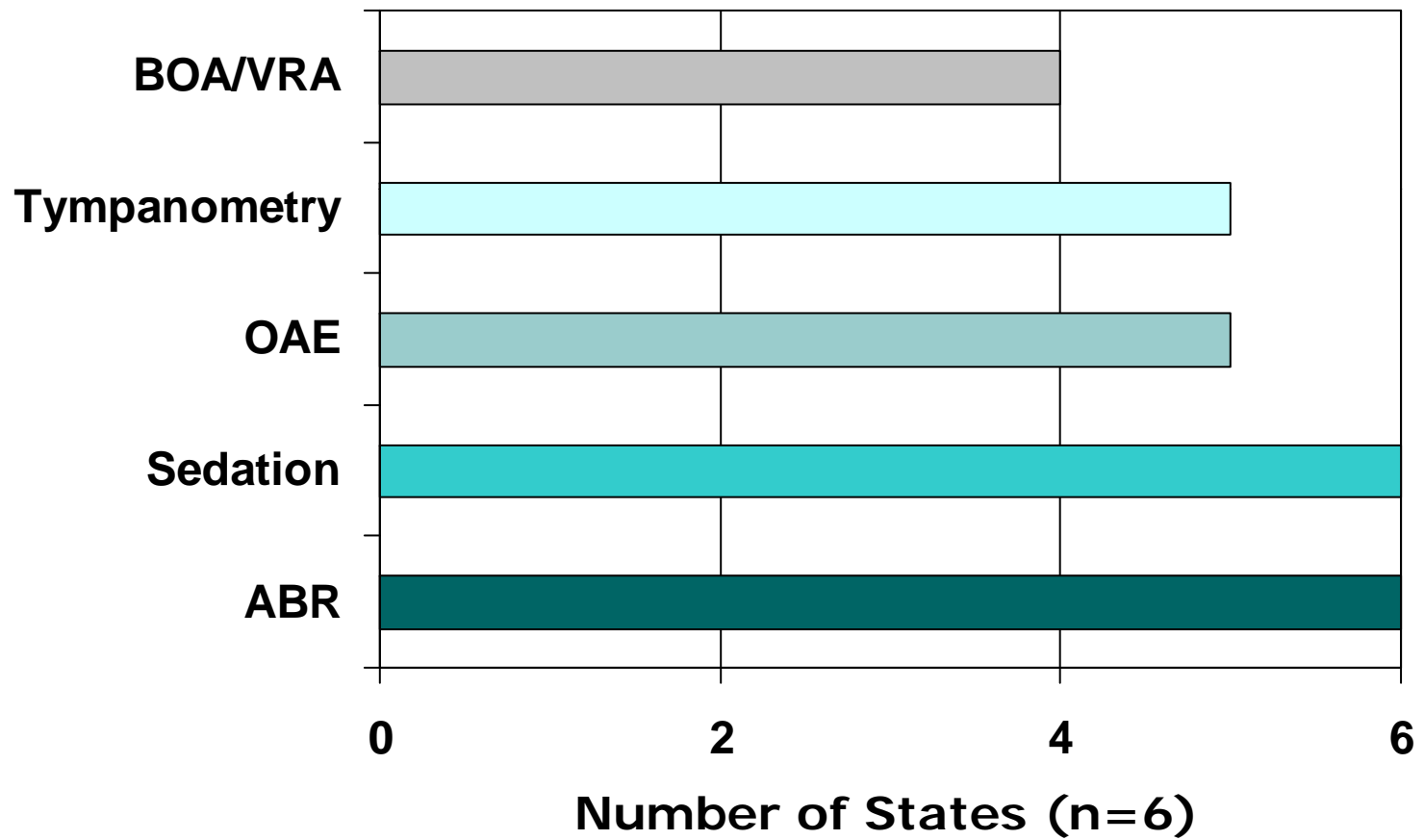




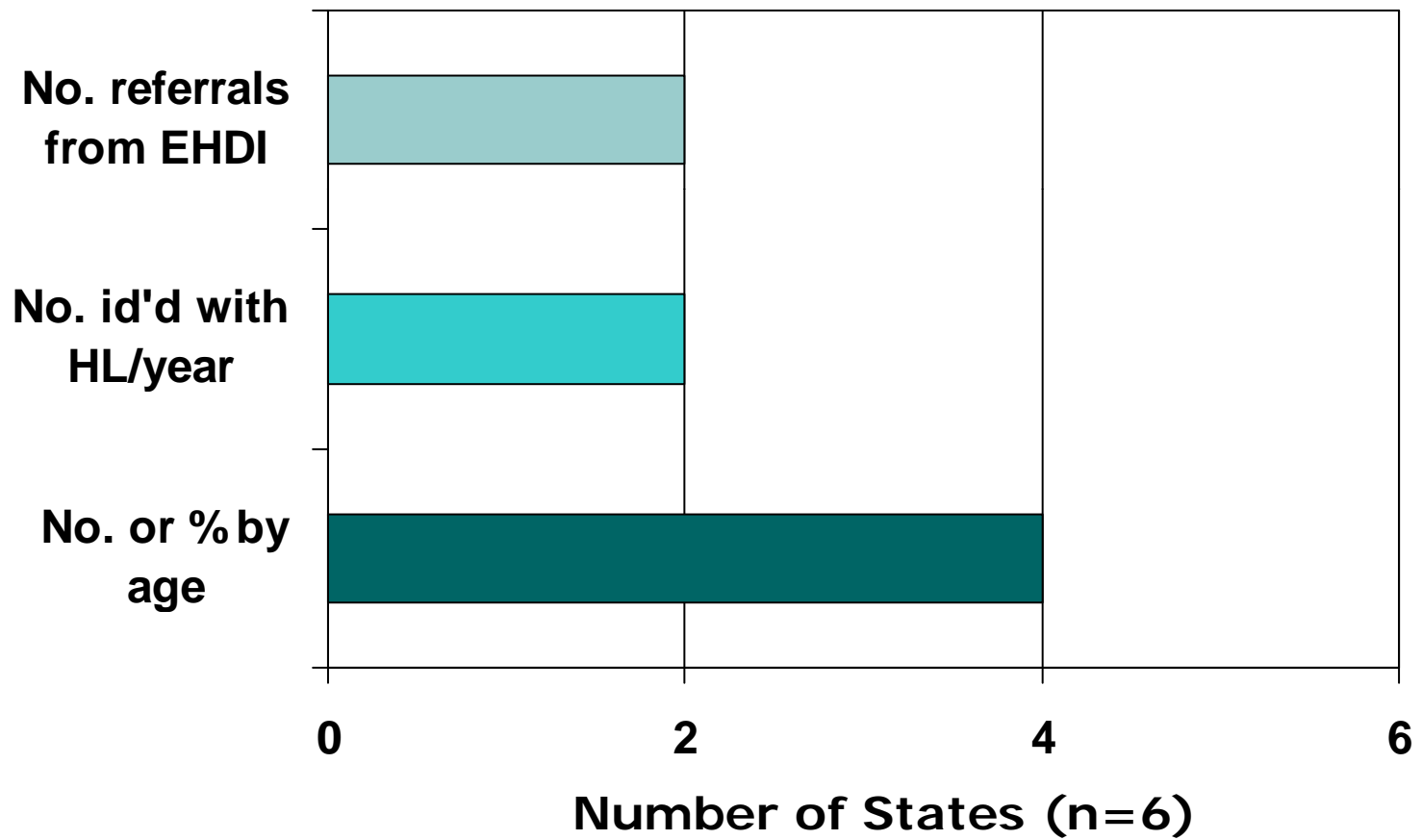
What do other states say?

- Review of information on NCHAM website.
- Question posted on CDC listserv.
- Information collected and collated.
- Six states using surveys to identify diagnostic centers.

“Equipment type” queried in survey:



“Experience” queried in survey:





Other “experience” factors

- Number of diagnostic ABR/week.
- Number of infants tested in last 2 years.
- Number of infants identified with hearing loss.
- Number of years experience per audiologist.
- Age of identification.



National Organizations: AAA

Audiologists are autonomous professionals who diagnose and treat individuals with auditory, balance, and related disorders. Audiologists have Masters and/or Doctoral degrees in Audiology from regionally accredited universities. Most states have audiology licensure, certification, or registration. National professional organizations have codes of ethics and specific credentials for clinical practice; the American Speech-Language-Hearing Association requires the Certificate of Clinical Competence-Audiology (CCC-A) and the American Academy of Audiology recommends Board Certification in Audiology, American Board of Audiology.

Excerpt from: *Joint Audiology Committee Statement on Pediatric Audiology Assessment (developmental age neonate – 5 years)*.



National Center for Hearing Assessment and Management:

“A Pediatric Audiologist is an individual who is a professional who has a Master’s, or doctorate in Audiology and has the technical expertise and *desire* to work with the infant population. The Audiologist performs an audiological test battery to include physiologic measures and developmentally appropriate behavioral techniques.”

Excerpt from www.infanthearing.org/audiology.



Joint Committee on Infant Hearing

“Audiologists with skills and expertise in evaluating newborn and young infants with hearing loss should provide audiology diagnostic and auditory habilitation services (selection and fitting of amplification device)”.

Excerpt from: *2007 JCIH Position Statement.*



ASHA

Diagnostic audiologic services for children can be rendered in a variety of settings. However, children age 5 years and under and their families require child-friendly and child-knowledgeable staff, facilities, services, and equipment to facilitate optimal comprehensive audiologic assessment and management (see ASHA, 2004a). A family-centered and culturally competent approach that advocates involvement of the family to the fullest extent they desire must be maintained throughout the diagnostic and intervention process.

Excerpt from: *(2006) Roles, Knowledge, and Skills: Audiologists Providing Clinical Services to Infants and Young Children Birth to 5 Years of Age* [Knowledge and Skills].

BIG BUN

"WHERE'S THE DEFINITION?"

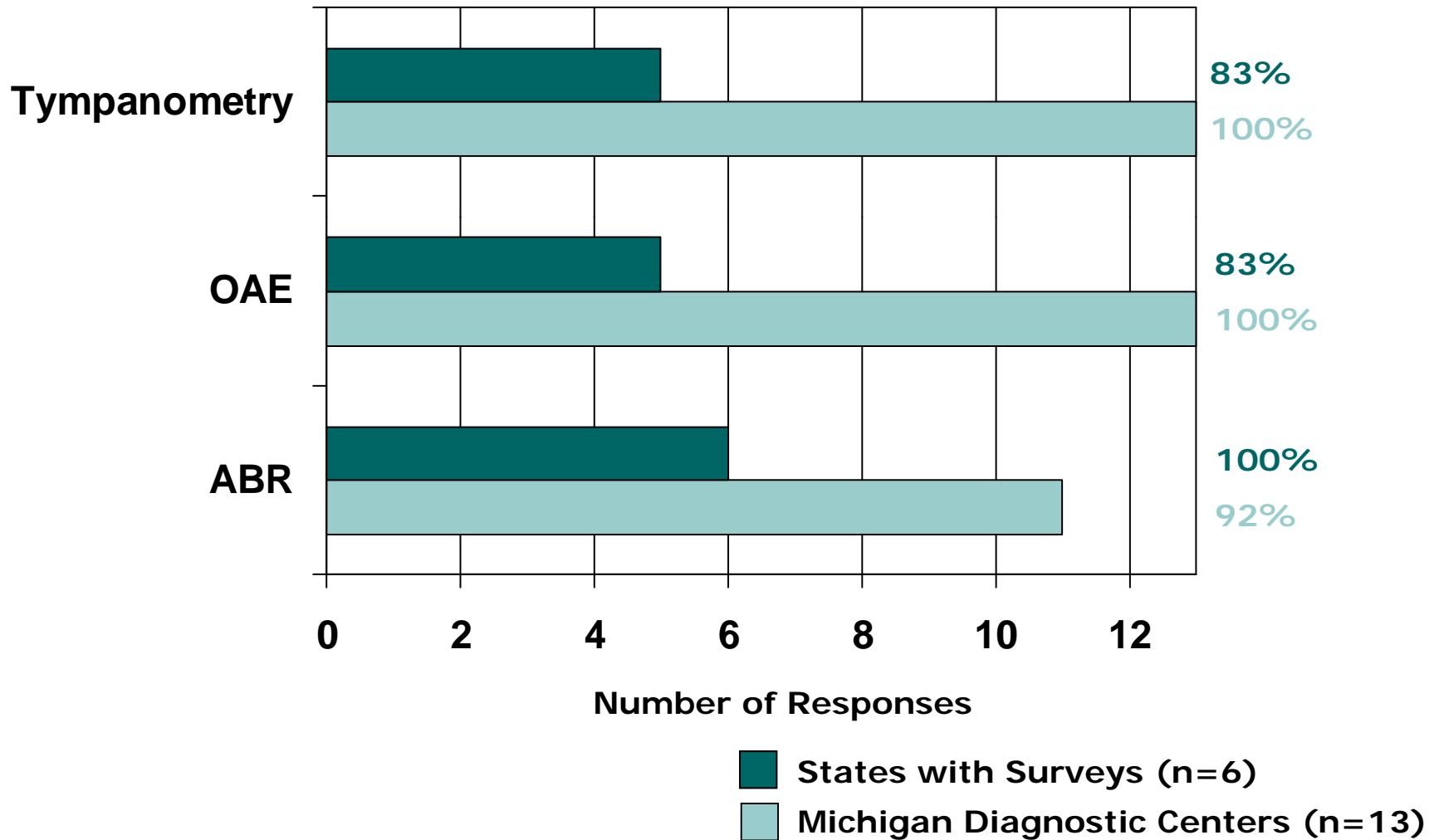




Input from Michigan stakeholders

- What is currently being done in Michigan diagnostic centers?
- Survey created consisting of 7 questions.
- Sent to all 22 diagnostic centers on current list.
- 14 surveys returned.

If hearing loss is diagnosed, what is the minimum amount of information you obtain before fitting hearing aids ?



Slide 20

MCIT15 Not sure if it is helpful to have the comparison with the state surveys. Trying to show that it seems like there is at least minimum agreement about what equipment should be part of a diagnostic eval.

University of Michigan, 2/9/2010



What parameters would you suggest to classify a facility as an “Infant Diagnostic Center”

- Open-ended question with a variety of responses.
- Responses generally fell into one of these categories:
 - Equipment.
 - ABR, OAE, Tympanometer.
 - Experience.
 - Training.
 - Caseload.



Experience – 9 comments

- At least one year experience with testing infants.
- The more testing performed, the more accurate the results are. Infants tested weekly (screen and diagnostics).
- Minimum 3 years experience diagnosing and fitting pediatrics.
- Masters/AuD training specific classes, experience in CFY year, experience (years) within clinic.



Training – 7 responses

- Clinicians that have been trained in pediatric diagnostics.
- Ongoing attendance/on-line courses regarding pediatric Audiology and newborn testing, pediatric hearing aid fittings.
- Need staff interested and trained in pediatric Audiology.
- Ideal would be PhD/AuD.
- There is no shortcut to experience. Resources include workshops and visit to other facilities, books by Dr. Hall and Linda Hood are a few that we have utilized.



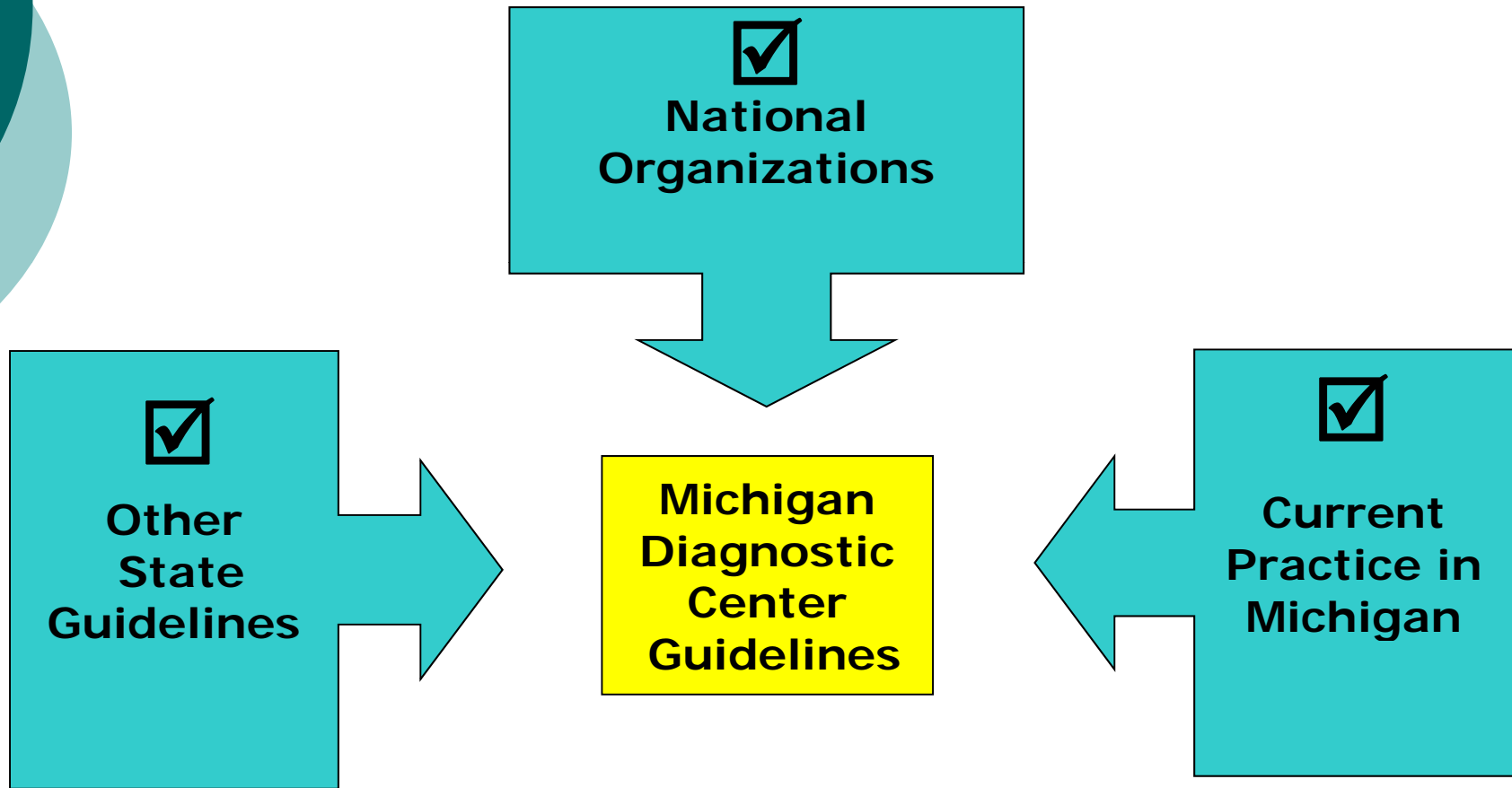
Caseload – 6 responses

- We perform approximately 100 ABRs per year, some of which are neurological assessments.
- Population that is at least 30% 2 years or younger.
- Sees infants \geq 3-5 times per week per audiologist.
- More than 30% pediatrics within clinic, educational Audiology experience.



Other Comments

- Provide counseling and recommendations to families when a hearing loss is diagnosed.
- Should also have skills in parent/family counseling.
- Knowledgeable in the referral process for support services.
- Should know referral sources (ie For ENT) and have local resources for the family.
- Must provide amplification services for infants OR have good working relationship with local pediatric audiologist who can provide amplification.



More information needed...

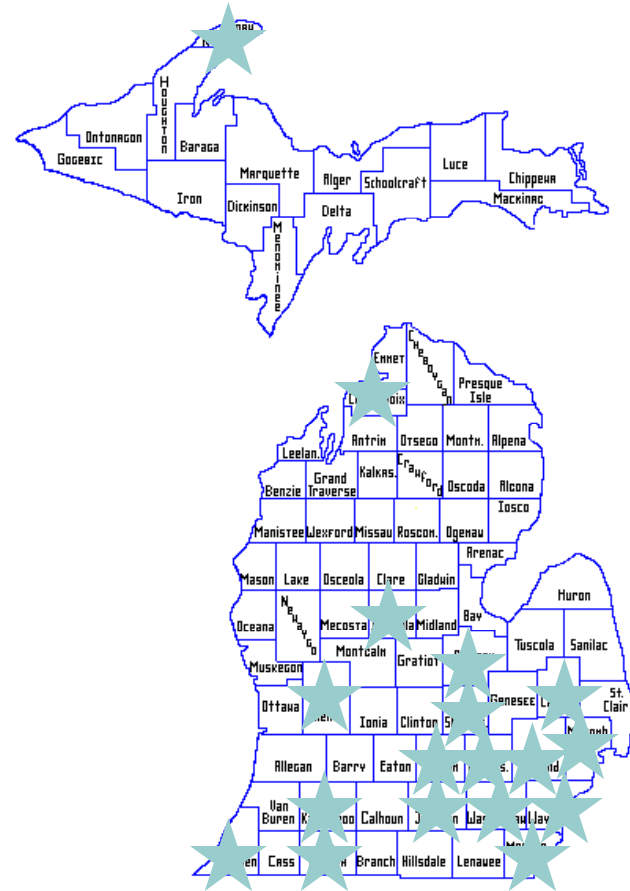
Next Step: Pre-MAC Session

- MAC is the primary conference for audiologists across the state.
- A half day preconference session was sponsored by EHDI.
- Goal of session was to obtain feedback from a variety of audiologists.



Pre-MAC Session Attendees

- 58 Audiologists in attendance.
- 18 counties represented.
- Various practice settings (educational, hospital, training institute, private practice).





Session Agenda: Two Sections

- Information Giving.
- Information Taking.



Information Giving

- Goals:
 - Provide basic level of information for all participants.
 - Update audiologists about EHDI issues.
 - Set tone for later discussions.
- History of EHDI in Michigan.
- What's Happening in EHDI:
 - National and Michigan.
 - Reviewed data from other states, professional organizations and survey.



Information Taking: Group Discussions

- Small groups discussed and generated comments on different characteristics of “Infant Diagnostic Center.”
- Four general topics were outlined:
 - Facility.
 - Staff.
 - Diagnostic Evaluation Criteria.
 - Follow up steps needed after diagnosis.



Group Discussions

- Each topic was introduced by guest presenter and a time limit set.
- Each small group recorded comments on “post-it” note. Guest speaker facilitated discussion of comments with entire group. Post-it notes were collected for analysis.

Information Taking: Exit Survey

- Each participant asked to complete.
- 41 surveys completed (17 missing).





Facility

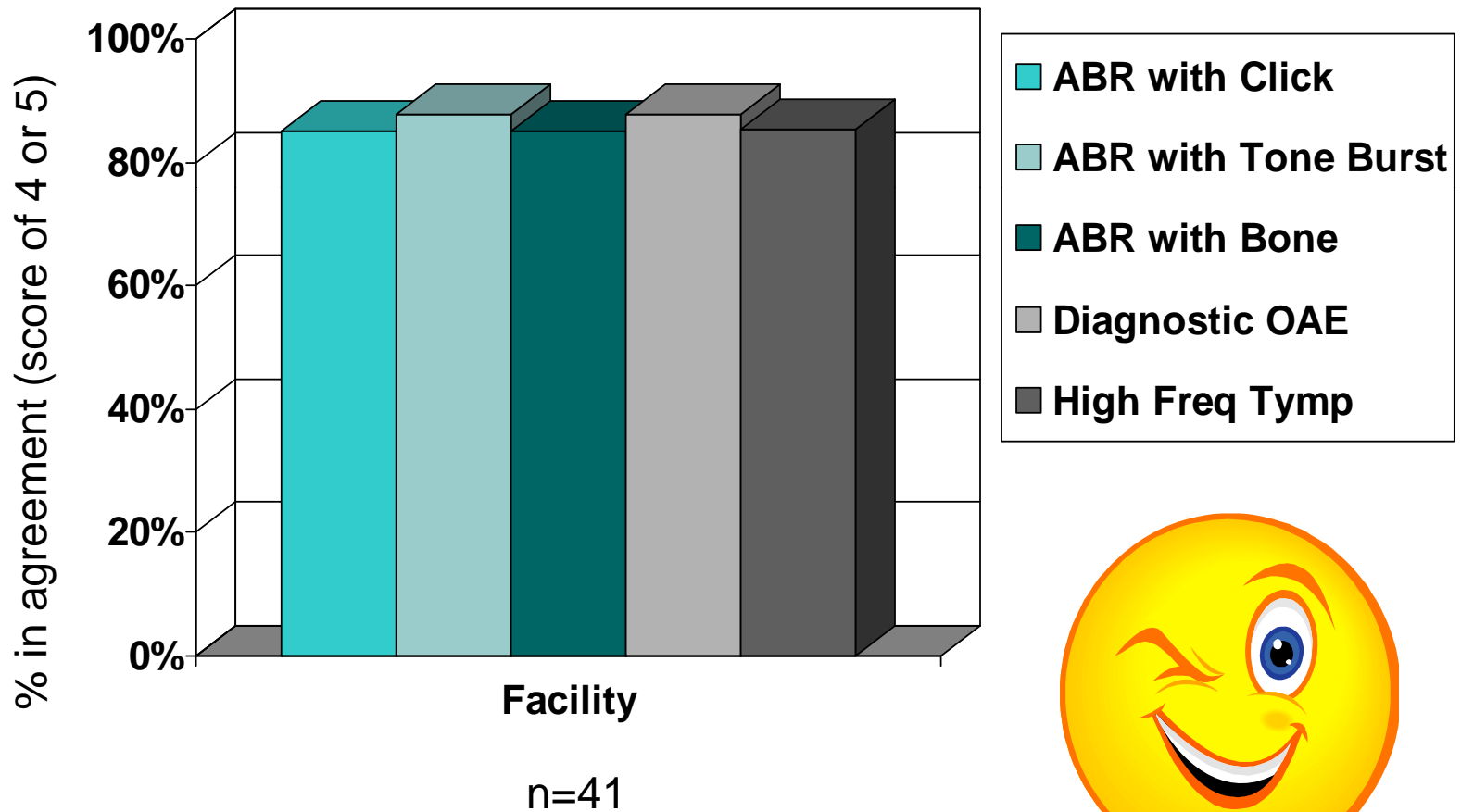
“To complete a comprehensive diagnostic evaluation on an infant, the following equipment is recommended...”



Facility-Concensus reached:

- Equipment
 - Minimum is diagnostic ABR & OAE, high frequency tympanometry.
- Sedation
 - Not needed to be diagnostic center, but protocol should be in place when sedation recommended.
- Other considerations:
 - Use of BOA, better delineation of rescreen/diagnostic center.

Exit Survey Results: Facility





Diagnostic Evaluation

“The following are considered to be minimal components of infant diagnostic evaluation...”



Dx Evaluation-Concensus reached:

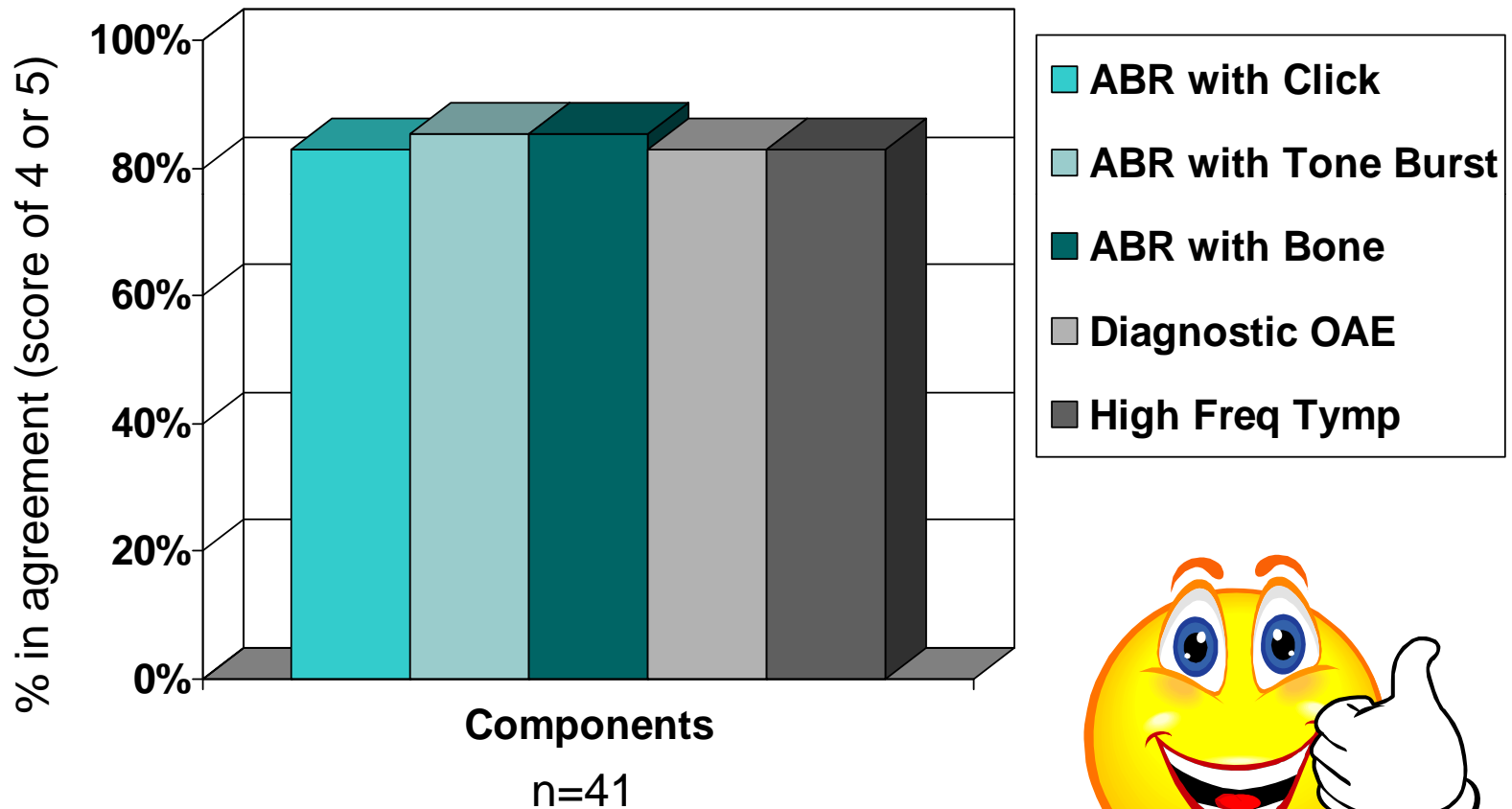
- ABR Thresholds.
 - Click or Tone Burst stimuli with at least one low frequency and one high frequency.
- Information regarding nature of hearing loss,
 - preferably bone conduction thresholds by ABR, or high frequency tympanometry.
- Diagnostic OAE.



Dx Evaluation-Concensus reached:

- High frequency tympanometry
- Other considerations:
 - What is normal ABR threshold?
 - Add BOA, otoscopy, family history?
 - R/O ANSD?

Diagnostic Evaluation: Exit Survey Results





Procedures Following Confirmation

“Following diagnosis, these steps should be taken...”

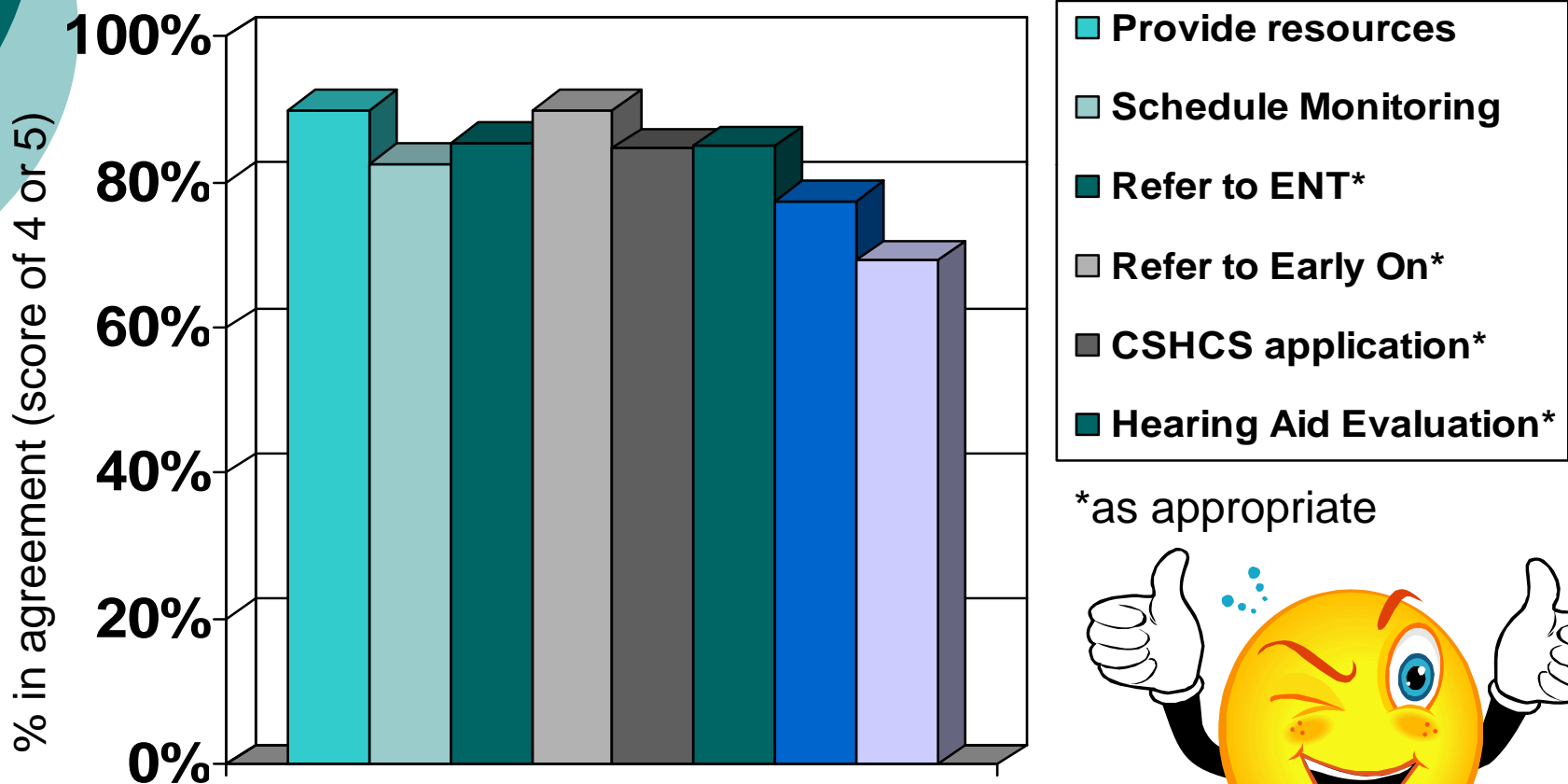


Procedures Following - Concensus

- Provide written and/or electronic resources regarding hearing loss.
- Report results to MI EHDI!
- Schedule monitoring appointments
- Refer to Otolaryngologist.
- As needed:
 - Referral to Early On (Part C).
 - Medicaid/CSHCS application.
 - Hearing Aid Evaluation with audiologist.
 - Other medical referrals.

Procedures following Diagnosis

(What do you think is important to do after diagnosis?)



n=39-41

*as appropriate





Staff Requirements

“Experience and expertise in assessment of hearing in infants, defined as...”

- Prompts included:
 - Make up of total population.
 - Distribution of infants and toddlers across specific time frame.
 - Frequency of diagnostic threshold ABR.
 - Average number of children identified with hearing loss over time.

Staff Requirements- Consensus reached



Sample of written comments Make up of total client population:

👎 Total Client
Population – **NO**.

👎 Experience/Training
rather than numbers
seen.

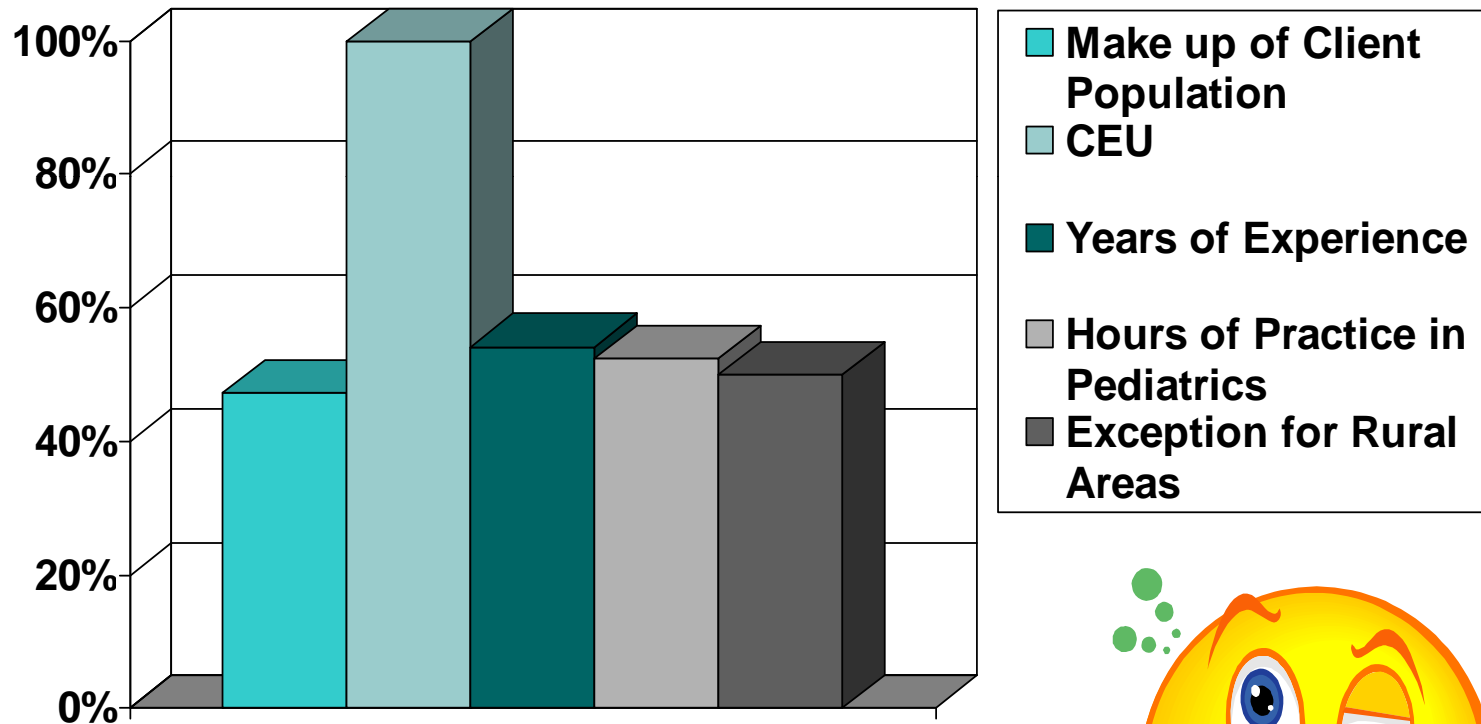
👍 Client population,
distribution and
frequency are
crucial.

👍 Affirm – makeup
of total client
population.



Minimal Staff Requirements

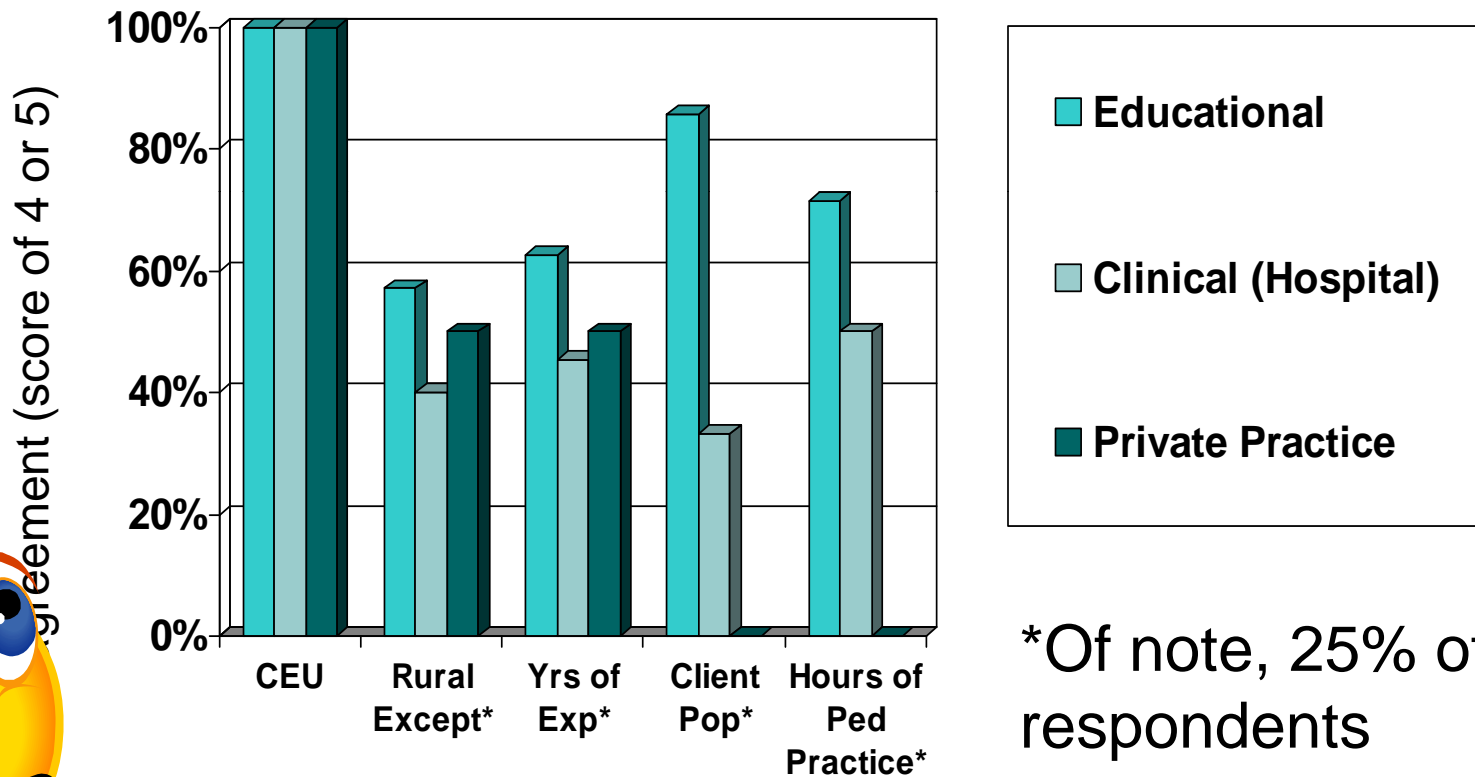
% in agreement (score of 4 or 5)



n=19-24



Minimal Staff Requirements



n=19-24

*Of note, 25% of respondents selected "neutral" in these categories





Minimal Staff Requirements

- Professional background impacts opinion on importance of different aspects of working with infants and children.
- Given the apparent differences in opinion, reaching consensus will be difficult.



Feedback

- “Thanks for the opportunity-it is what we need as a State to move forward.”
- “Wonderful session, need to continue the sessions with physicians and school systems!”



Next Steps

- Finalizing 1st draft of guidelines.
- Will request public comment via online survey.
- Once guidelines finalized, diagnostic center list will be updated.



Advantages

Michigan audiologists have ownership of “Best Practice Guidelines”.

Improve lost to follow-up numbers.

Improve age of diagnosis.