



Screening/audiology facilities at the tip of your finger to benefit families and state systems

EHDI

Centers for Disease Control and Prevention

National Center on Birth Defects
and Developmental Disabilities

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Screening/audiology facilities at the tip of your finger to benefit families and state EHDI systems

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An Innovative Tool for Everyone

Introduction and Need

- To assist parents after their infants fail hearing screening, many states have attempted to survey audiology facilities within their state jurisdiction in order to compile a list of diagnostic resources. The list of audiology facilities is made available to the public in an electronic format or a printed brochure.
- Utilizing innovative technology, we propose a drastic departure from the above format
- This is part of a larger project of the EHDI PALS/ Advisory Group. The workgroup members are:



EHDI PALS Advisory Group members

Expert audiologists:

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Jackson Roush
Mary Pat Moeller

Patti Martin
Robert Fifer
Patricia Roush
Kathryn Beauchaine

Allan Diefendorf
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Hands & Voices/ parents:

Helen Cotton Leiser
Diane Muelleman

ASHA:

Pam Mason
Anne Oyler

NCHAM:

Karen Munoz

DSHPSHWA:

Michelle King

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CDC

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Craig Mason



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EHDI PALS Advisory Group Objectives

- Develop a standardized facility survey tool for state EHDI program to efficiently identify pediatric compatible audiology facilities in their community
- Using the clinical service characteristics revealed by the survey, organize audiology facilities into logical taxonomy (tiers) for ease of search, maintenance & development
- Develop a smart search tool for EHDI coordinators, parents, physicians and hospitals to find an audiology facility best suited to a child's need



Survey Tool Preliminary Draft

Audiologic Evaluation

The following services are provided at our facility for children ages birth to 5 years of age.

Outpatient Screening after newborn hearing screening

No Yes (Check all that apply)

What type of equipment do you use?

OAE

Automated ABR

Diagnostic ABR (used for screening purposes)

ABR Diagnostic evaluations

No Yes: (Select all that apply)

Click

Frequency specific

Bone Conduction

ABR Test Conditions

No Yes: ((Select all that apply))

Natural sleep

Conscious sedation

General anesthesia in the OR



Survey Tool Preliminary Draft

Sections of the survey:

1. Questions about the person who is filling out the survey
2. Questions about the facility: name, address, type of clinic etc
3. Questions about the facility's audiologic evaluation services and procedures
4. Questions about the facility's hearing aid services and process
5. Questions about the facility's cochlear implant services
6. Questions about the medical and rehabilitative services the facility collaborate with or refer to
7. Questions about the facility's accessibility accommodation: such as wheelchair accessibility and interpreter services
8. Questions about the types of insurance the facility accepts



Taxonomy (tiers) to group audiology facilities with similar service:

Infant compatible comprehensive facilities

An all-inclusive facility would have

- Diagnostic OAE
- HF tympanometry
- ABR (sedated)
- All types of behavioral audiometry
- Provide and service hearing aid and cochlear implant
- Collaborate with or have most of the related medical services in-house.

Infant compatible *almost* comprehensive facilities

Distinguishing feature from comprehensive facility: does not have sedated ABR services and some of the other medical services are not in-house



Taxonomy (tiers) to group audiology facilities with similar service:

Infant compatible diagnostic only facilities

Facilities that offer diagnostics evaluation but do not provide hearing aid services

Infant compatible hearing aid & CI facilities

Facility might do all of the HA and or CI work, but none of the diagnostics.





Provider/ Parent Search “Smart” Tool Mock-Up

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Illustration



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National Center on Birth Defects and Developmental Disabilities

Early Hearing Detection
and Intervention Program



Welcome to the EHDi Care Locator

The purpose of the EHDi Care Locator is to help connect families to appropriate services for newborn hearing screening, diagnosis, and service. Depending on your child's age, previous testing, and family preferences, different providers offer may offer different services and capabilities that may or may not be important for your child. Using information from your state or territory's EHDi program, the EHDi Care Locator can help you identify services close to home that are best suited for your child's specific individual needs. Simply answer the following questions, which will lead to an individualized recommendation for your child. You can follow your progress through the status bar at the bottom of this window.

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Early Hearing Detection
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Ehdi Care Locator – Background Information

Where do you live ? State:

City:

What is the age of your child *in months* ?

Did your child already received a hearing screening ?

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Progress

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Parent Feedback and Next Steps

Given your child's age, it will likely be useful to find a diagnostic center that offers sedation. For testing, it is important that the child be relatively still and quiet. The child sleeping through the procedure is ideal. However, children over 6 months of age may require sedation in order to sufficiently quiet them down for a valid test. Consequently, given your baby is 9 months old, it may be important that the diagnostic center offers sedation.

Sedation may be all the more important if you have to travel longer distances to find a provider. If the diagnostic center is a few hours away, it is all the more important that one does not require a return visit simply because the baby could not relax quietly.

....This report could include similar additional information based on other answers the parent gave that reflect the factors that went into deciding on the narrowed down list of providers...

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[Information on newborn hearing loss from the National Center on Birth Defects and Developmental Disabilities](#)

[Information regarding state/territorial EhDI programs](#)

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Parent Feedback and Next Steps – Map

The following screen indicates the nearest programs that satisfy the needs described in your report.

- ★ Audiological facilities that fully meet these criteria are identified with a green star
- ★ Other providers in the area that don't fully meet these criteria are identified with a blue star
- ★ For larger maps when no providers are nearby, the home town you indicated is identified with a black star.

One can click on markers in order to see additional information, such as services offered, contact information and provider email address (when available).

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Early Hearing Detection and Intervention Program **EHDI**



EHDI Care Locator – Map



Audiologist	ADDRESS	PHONE
Center for Disabilities & Development, University of Iowa Health Care	100 Hawkins Dr Iowa City IA 52242	319-356-1168/ 877-686-0031

Dept of Otolaryngology, University of Iowa Health Care	200 Hawkins Dr Iowa City IA 52242	319-356-2201
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Birthing Facility	ADDRESS	PHONE
Mercy Hospital - Iowa City	500 E. Market Street Iowa City IA 52245	

U of IA Hospitals and Clinics	200 Hawkins Dr. Iowa City IA 52242	
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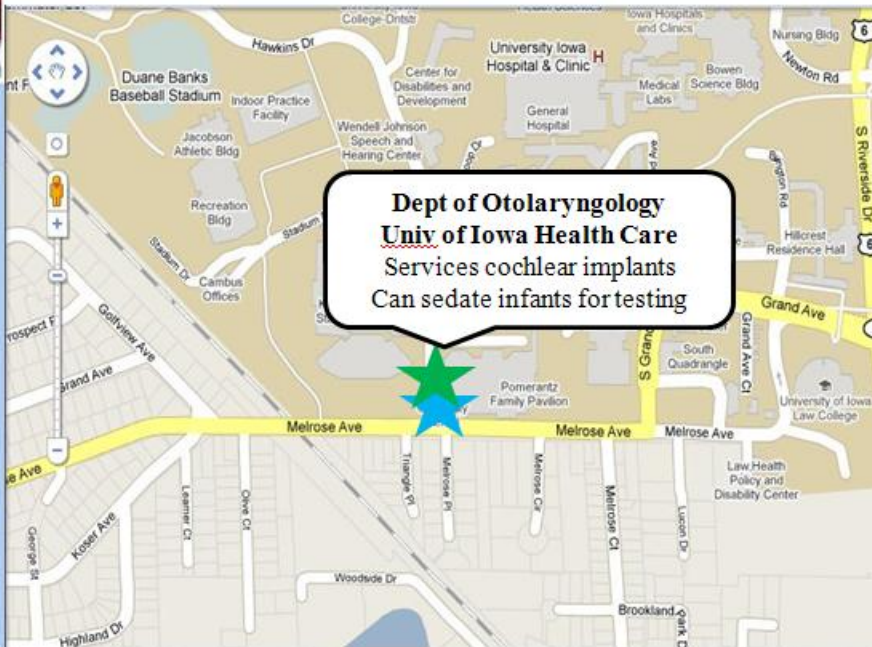


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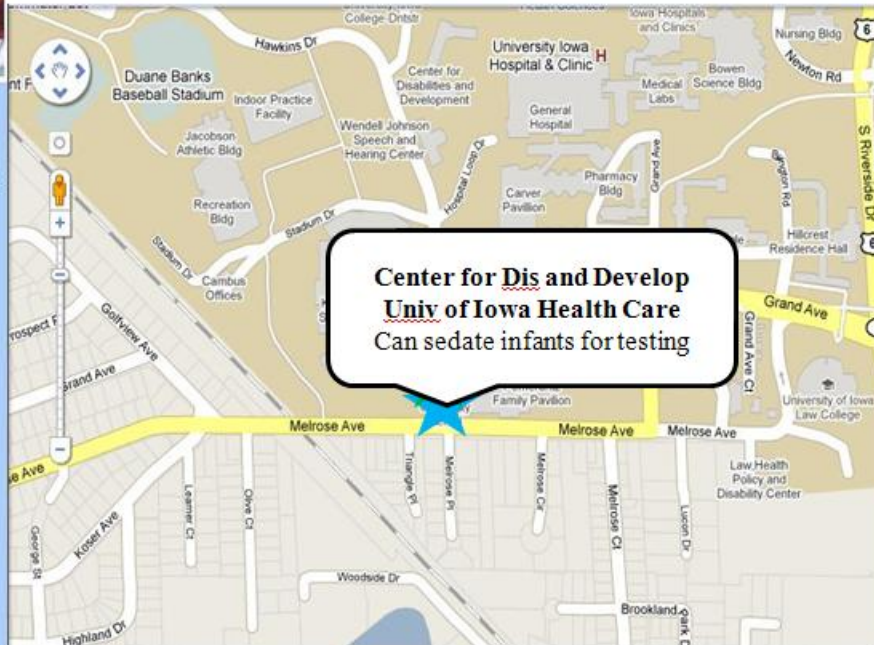


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What is Needed to Create this Smart Tool?

The design process



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What is Needed to Create this Smart Tool?

Iowa provided us with a high-level template called Iowa EHDI System of Care:

- Initial screen at birth
- Follow-up outpatient screening
- Diagnostic Assessment

The structure we follow:

1. Age of the baby
2. Parent's address
3. Well vs. NICU babies



What is Needed to Create this Smart Tool?

We build a smart search tool logic algorithm by simplifying all permutations of newborn screening process into scenarios that will fit most EHDI programs:

1. Different scenarios for a well baby
2. Different scenarios for a NICU baby



What is Needed to Create this Smart Tool?

Different scenarios for a well baby:

Scenario 1a- Well baby missed NBHS

Scenario 1b- Well baby failed NBHS no 2nd screen yet

Scenario 1c- Well baby failed NBHS and 2nd screen



What is Needed to Create this Smart Tool?

Different scenarios for a NICU baby:

Scenario 2a- NICU baby failed screen

Scenario 2b- NICU baby missed screen



Creating the Smart Tool Questions

Scenario 1a: Well Baby, Missed NBHS

When was your baby born? <enter birth date in mm/dd/yyyy format>

Where do you live? <enter address in street, city, zip code format>

Was your baby admitted to the NICU (info bubble: in some hospitals this is also called special care nursery)? **NO** <if they respond **YES**, see Scenario 2a/b)



Creating the Smart Tool Questions

Did your baby have a newborn hearing screen? **NO**
(drop down choices NO, YES, I DON'T KNOW*)

If **NO**, *the birth date entered will be auto-calculated to determine whether the infant is under three months of age.*

If under 3 months of age: Your baby needs a hearing screen and the following centers provide this service.

If infant is over 3 months of age: display diagnostic facilities.



Creating the Smart Tool Questions

*If I DON'T KNOW is chosen: parent will be routed to another screen to contact EHDI coordinator, baby's doctor, or birth hospital



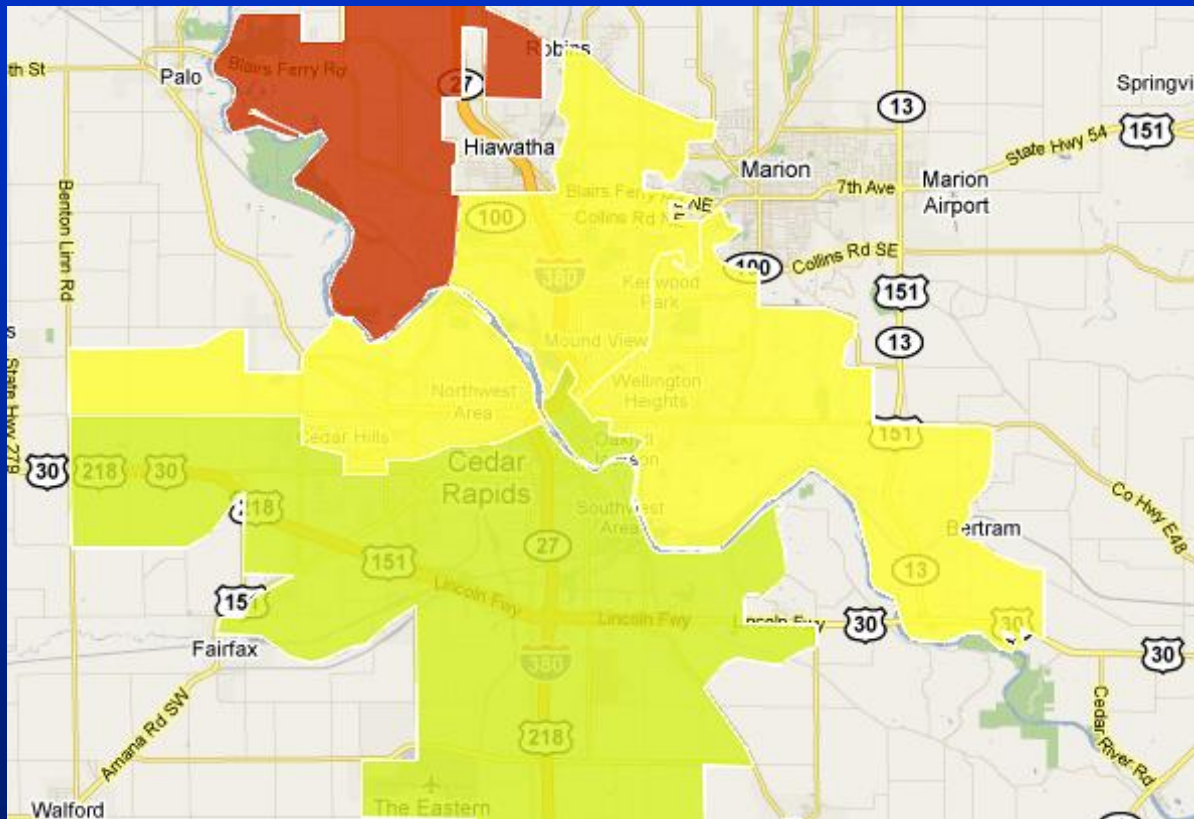
Smart Tool Future Potential

Endless!!

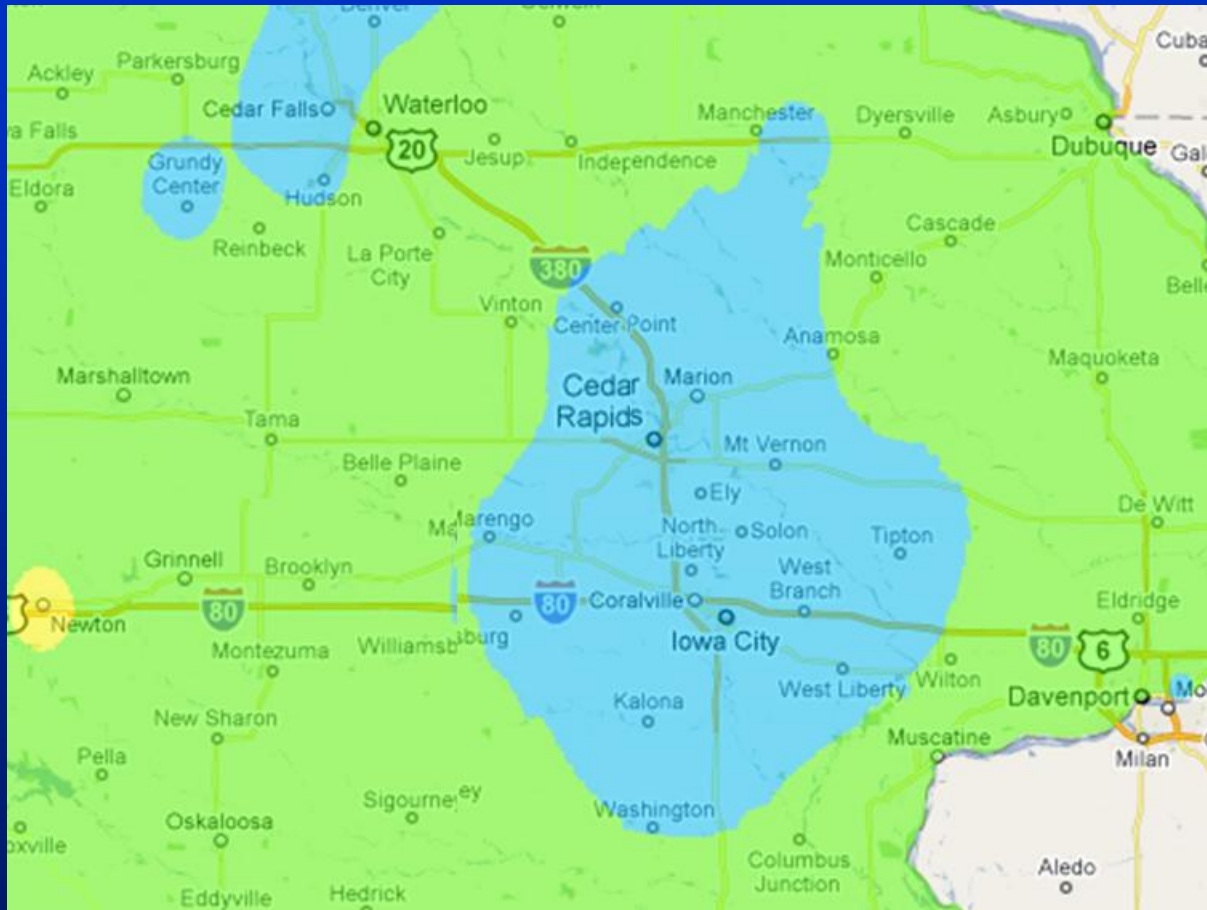


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Application to Policy and Research



Application to Policy and Research



Thank You

Stay tuned for these tools!!

Questions?????



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