Building A Screening Infrastructure for Children’s Success
BASICS Phase II

14th Annual Early Hearing Detection & Intervention Meeting
March 10, 2015

* Melissa Selbst, MPH
  * Executive Director and BASICS Program Administrator

* Randi Winston, AuD, CCC-A
  * Consulting Audiologist

* Lylis Olsen, MS, MPH, CCC-A
  * Consulting Audiologist
Learning Objectives

- Identify key characteristics of the BASICS program
- Identify long term and short term goals of the BASICS program
- Evaluate the program effectiveness through statistical analysis
BASICS Team

Melissa Selbst  Sherry Fronterhouse  Randi Winston  Lylis Olsen  Shelby Willa

Dawn Kempton  Jennifer Ellis  Jordyn James  Brooke Hall  Pamela Black  Stephanie Blaire
BASICS
Building a Screening Infrastructure for Children’s Success

Hearing and vision screening for children ages six months to five years

* Private childcare centers
* Community locations
* Physician offices
* Protect children’s futures through early detection
* Add to body of knowledge of early childhood screening outside of EHS and HS
* Increase awareness of the importance of early and continuous sensory screening
* Identify children with late onset and progressive hearing loss and vision problems prior to entering school
* Increase coordination and collaboration among agencies standardize screening and follow up procedures and practices
* Vision

* All Arizona’s Children are ready to succeed in school and in life.

* Mission

* First Things First is one of the critical partners in creating a family-centered, comprehensive, collaborative and high-quality childhood system that supports the development, health and early education of all Arizona’s children birth through age five.

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2016-19</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>$115,493,400</td>
<td>$141,907,487</td>
<td>$117,763,095</td>
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<tr>
<td>Preventative Health</td>
<td>$17,931,300</td>
<td>$19,824,335</td>
<td>$15,919,711</td>
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<tr>
<td>Sensory Screening</td>
<td>$567,000 ($100,000 for Equipment)</td>
<td>$567,000 ($100,000 for equipment)</td>
<td>$350,000</td>
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<tr>
<td>Sensory % of Total</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.3%</td>
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<tr>
<td>Sensory % of preventative health</td>
<td>3.2%</td>
<td>2.9%</td>
<td>2.2%</td>
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</tbody>
</table>

* Data from FTF Annual Reports 2013/2014 and SFY 2016 Funding Plans
2014 EFAz Survey of Early Childhood Hearing Screening Programs Statewide

* 83 surveys submitted from Early Intervention Program Contractors, CHC, HS and EHS, preschools, midwife practices, home visiting programs, doctor offices, and others

* Number Screened
  * # of children screened by each program varies considerably from 12 per year to 7,074
  * Largest were Child Find, the Phoenix Head Start Health Fair, and EFAz’s BASICS program
  * 48% of the 2,777 children screened under the age of two were screened by BASICS

* Results
  * significant overuse of OAE in children 3-5 years of age and inappropriate use of observation and checklist on all ages
  * 6 of 14 programs that reported screening children in the 0-2 age group incorrectly responded that they were not required to report

* Data
  * Most programs indicated they did not keep electronic records and a significant # skipped the question
  * Less than 25% indicted they keep track of information regarding contacts made for follow-up
  * 34% collected data identifying the medical home
Program Components

- Materials and documents
  - Center director packets
  - Parent packets
  - Referral information sheets
  - Education sheets
  - Disposables
  - Incentives

- Follow up with parents and providers
  - Case management files
  - Referral system
  - Final disposition including parent refusal and disenrollment
  - Participation data
  - Center director surveys
Reinforcing Best Practices

- Standards of Practice for FTF
- HEAR to Train Curriculum
  - Birth-3
  - School Age
- Vision
Equipment Selection

Pure Tone

Plusoptix

Spot

OAE

EyeSpy
Otoacoustic Emissions

* Objective screening method for children not developmentally ready for Pure tone screening
* Tympanometry performed on all refers
* Re-screens occur 6-8 weeks after initial screen

8,768 Initial and Re-screens Performed
6,337 Passes
2,431 Fails
Pure Tone Screening

* All developmentally ready children
* Tympanometry screen for all refers
* Re-screens 6-8 weeks after initial screen

4,524 Screens Performed
4,105 Passes
419 Refers
Tympanometry

2014 Tympanometry Data
459 fail screening; fail tympanometry results
23 fail screening; pass tympanometry results
  7 OAE fail/pass in initial screens
  1 OAE fail/pass in rescreens
  2 Pure Tone fail/pass in rescreens

* Tympanometry screening implications:
  * Over referral to specialists without screening
  * Causes late ID due to loss in ENT/PCP loop without screening
  * Unit cost
  * Training
Screening Sites

- 63 Child Care Centers
- 19 Faith-Based
- 5 Community Colleges/Libraries
- 2 Resource Centers
- 11 Public Preschools
- 3 Shelters
- 2 Special Needs
- 1 Health Fair
- EAR Foundation Office

*Screening sites also includes 2 pediatric practices and 1 FQHCs*
**Bi-Directional Consent Form**

**Consent Form**

*Healthy hearing and vision is important for your child’s development. Help protect their future through early detection!*

The EAR Foundation of Arizona’s BASICS program will provide HEARING and VISION screening at your child care center through a grant from First Things First. Your child’s results will be provided to you after all participating children have been screened. Children who do not pass the hearing screening will be re-screened in approximately 8 weeks. BASICS will contact you if your child needs to be seen by a hearing and/or vision specialist.

<table>
<thead>
<tr>
<th>Child(ren) Name(s)</th>
<th>DOB (Date of Birth)</th>
<th>Teacher/ Class</th>
<th>Previously Diagnosed Loss? Hearing</th>
<th>Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Loss? Left Right</td>
<td>Left</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P/E Tobe? Left Right</td>
<td>Right</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Loss? Left Right</td>
<td>Left</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P/E Tobe? Left Right</td>
<td>Right</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Loss? Left Right</td>
<td>Left</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P/E Tobe? Left Right</td>
<td>Right</td>
</tr>
</tbody>
</table>

**Parent/Guardian Print Name:**

**Phone:**

**Email:**

**Parent/guardian signature:**

Date:

*Your signature authorizes BASICS to provide screening results to your child’s doctors/providers, to receive diagnoses/diagnoses from doctors/providers and to provide hearing screening results of children up to age 24 months to the Arizona Department of Health Services Newborn Hearing Screening Program. A summary of the screening results will be provided to the center director or program representative.*

**Children’s Doctor:**

**Doctor’s Phone:**

Insurance Provider: □ AHCCCS □ Indian Health Services □ Private □ Uninsured

**CHILDREN UP TO 24 MONTHS OF AGE – PLEASE COMPLETE THE FOLLOWING (If Known):**

This form is for reporting to Arizona Department of Health Services Newborn Screening Program, per Arizona Revised Statute 36-696.

Birth Mother’s First Name: ______________________ Last Name: ______________________

Birth Mother’s DOB: ______________________ Children’s Birth Hospital: ______________________

* Fax results to doctor
* Referral to specialists Receive diagnosis and treatment reports
* Follow-up through disposition
* Provide parent support
Medical Home Care Coordination

* Coordinates care for patients identified who require sub-specialty referrals and diagnostic follow-up
  * Pass results are provided to medical homes reinforcing the importance of continuous standardized hearing and vision screening during well visits
* Assist PCPs in guiding families to services and resources, such as HEAR for Kids, Hands & Voices, Early Intervention, etc.
* Guide providers with the development and implementation regarding referral protocols ensuring continued communication between the health professionals involved in care
  * Promote importance of rescreens after treatment
## Outcomes Year One and Two

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>#</th>
<th>Treatment</th>
<th>#</th>
<th>Other</th>
<th>#</th>
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</thead>
<tbody>
<tr>
<td>Cold/allergies/Respiratory</td>
<td>7</td>
<td>Antibiotics/other prescription</td>
<td>16</td>
<td>No Show</td>
<td>4</td>
</tr>
<tr>
<td>Conductive Loss</td>
<td>8</td>
<td>Tonsil/Adenoectomy</td>
<td>14</td>
<td>Closed w/o resolve</td>
<td>102</td>
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<tr>
<td>Enlarged Adenoids/Tonsils</td>
<td>5</td>
<td>PE Tubes</td>
<td>26</td>
<td>Failed yr 2 FU continued</td>
<td>9</td>
</tr>
<tr>
<td>Known Condition</td>
<td>14</td>
<td>No treatment needed</td>
<td>21</td>
<td>Not Disclosed</td>
<td>4</td>
</tr>
<tr>
<td>Middle Ear Effusion/Otitis Media</td>
<td>69</td>
<td>Referral to Specialist</td>
<td>2</td>
<td>Parent Refusal</td>
<td>9</td>
</tr>
<tr>
<td>Normal Hearing</td>
<td>27</td>
<td>Wax/Debris Removed</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal Hearing Post Tx</td>
<td>18</td>
<td>Monitoring</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wax/Physical Blockage</td>
<td>6</td>
<td>Hearing Aids</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neural Loss</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hearing and Vision Screening Suites

* Training
  * Physician curriculum
  * MA curriculum
  * Hands on observation and ongoing technical assistance
    * duration varies 4-8 weeks, provide technical support, interim review of screens, documentation, referral, and follow-up

* Loaner equipment and resources
  * Spot autorefractor, GSI39-Audiometer with Tympanometry, Maico OAE Classic, lap top, printer
  * Disposables: Tips, probe nozzles, CPA toys, children’s books, stickers
  * Resource manual: Rescreen protocols, daily equipment check, daily screening spreadsheet, mandatory reporting form, referral protocols, resource sheets, and follow-up information
Physician Offices Goals

- To provide comprehensive model for integrating sensory screens into routine well-child visits
  - Promote advocacy to expand mandatory OAE screening
  - ICD 9 billing codes for vision screening via Autorefractors

- Enhancing medical professional training
  - Hearing screening is often not included in many medical training curricula
    - Train to ensure age appropriate screening
    - Review guidelines for periodicity, protocol recommendations, and follow-up
  - Grand rounds, physician office site visits, utilizing chapter champion to provide in-services
Pediatric Practices

* Children were screened that would have not had the opportunity to be screened at another setting

* Hearing
  * Diagnoses, treatment, and referrals have already been in place
    * Wax removal
    * Referral to ENT
    * HEAR for Kids safety net

* Vision
  * Autorefractor vs. wall chart screening
    * Child’s fail would have been missed with only wall chart screening
Program Overall Data

Hearing
- 13,292 total screens
- 10,442 passes
- 2,850 refers

Vision
- 10,537 total screens
- 9,221 passes
- 1,296 fail/refer by proctor
Data Overview

* Data collection, management, and storage
* Database dilemma
* Data Integration-custom combined hearing and vision reports
* Data analysis
  * Export individual child reports to disseminate to parents day of screening
  * Upload result to build case management data base
  * Add hearing rescreens and follow up activities through disposition/case closed
* Data sharing-aggregate data with partners, referral entities, other early childhood programs and policy/program development agencies
Implications for Screening Programs

- Equipment
  - Selection
  - Cost
  - Maintenance and calibration
  - Disposables
  - Storage
  - Replacement

- Training
  - Curriculum
  - Standardized screening practices
  - Hands-on practice
  - Reporting

- Program implementation
  - Scheduling
  - Collecting parental consents
  - Center staff and parent education

- Data
  - Collection
  - Integration
  - Sharing

- Follow-up: Ability to refer and follow-up or don’t bother to screen
  - parent refusal, disenrollment, or disposition
Sustainable and Replicable?

- Be realistic regarding number of screening to be conducted to staff ratio
- Adequate equipment accounting for back up units for screening days and during repairs
- Adequate conditions (space, noise, time restraints, # of children in room)
- Identify partners, assess capacity of your agency/program, assess fiscal impact of
- Purchasing equipment if a small number of children will be screened during the year
- Commitment to standardized training, screening practices, and equipment usage
- Commitment to intensive and continuous Provider training, ongoing technical assistance
  and hands on observation during screenings
- Realize the lengthy process from initial screening until Dx and commitment to follow the
  Child from screen to Dx/Tx and intervention
- Commit to data collection, reporting and sharing
- Join the conversation regarding public health policy to cover OAE screening for 1-3 year olds
“I noticed a big difference in speech when they got hearing aids. Before, Joel and Luis would cry or hit, now they can talk.”
- Rosario, Joel and Luis’ mom

“Because of your [organization's] service, we fixed 2 major medical problems and both children are doing great at school.”
- Robin, Drew and R.J’s Mom

“I have BASICS to thank for helping me make sure my child received tubes and glasses at an early age.”
- Theon, Ajamu’s mom

“Without your [organization], we never would have known how bad her hearing was until it might have been too late.”
- Michelle, Payton’s mom

“I am grateful for BASICS and their compassion and help for such an over looked concern with our children.”
- Courtney, McKenzie’s mom

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Learning Objectives

* Learning Objective 1: Identify key characteristics of the BASICS program
  * What we do
  * Where we do it
  * Whom we do it to
  * Purpose of the program

* Learning Objective 2: Identify long term and short term goals of the BASICS program
  * Long term
    * Reinforce the importance of continuous sensory screenings during early childhood to healthcare professionals
    * Support and influence of public health policy to ensure screening is covered
  * Short term
    * Perform sensory screenings for children not involved in HS and EHS
    * Demonstrate best practices among other programs
    * Increase the body of knowledge regarding sensory screenings

* Learning Objective 3: Evaluate the program effectiveness through statistical analysis
  * Collect data
  * Follow-up
  * Continuous re-evaluation