Using Quality Improvement Methodologies to Engage Medical Home in Early Hearing Detection and Intervention (EHDI) Programs

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Disclosure

We have nothing to disclose that would create a conflict of interest

“Within the past 12 months, we have had no financial relationships with proprietary entities that produce health care goods and services and we are not discussing any pharmaceuticals or med procedures & devices that are off-label and unapproved for use by the US FDA.”

Session Objectives

• Understand the use of quality improvement methodologies in improving engagement of Medical Homes in the follow-up of infants suspected of a hearing loss
• Recognize the significance and importance of early intervention an appropriate follow-up for infants with suspected hearing loss
• Describe the attributes of the Model for Improvement and the Plan-Do-Study-Act process as it relates to Universal Newborn Hearing Screening (UNBHS) and the public health role in assuring access to timely follow-up for infants suspected of a hearing loss
National Performance Measures

- **PM#01**: The % of screen positive newborns who received *timely followup* to definitive diagnosis and clinical management for conditions mandated by their state-sponsored newborn screening programs
- **PM#03**: The % of special health care needs age 0 to 18 who *receive coordinated, ongoing, comprehensive care* within a medical home.

Why this project? Just the FACTS...

- *Every day, 33 babies (or 12,000 each year) are born in the United States with permanent hearing loss.* With 3 of every 1,000 newborns having a hearing loss, it is the most frequently occurring birth defect. ²
- In a 1988 report to Congress and the President, the Commission on Education of the Deaf estimated that in the United States, the average age that children with congenital hearing loss were identified was 2-1/2 to 3 years of age, with many children not being identified until 5 or 6 years of age.²
- “If hearing impaired children are not identified early, it is difficult, if not impossible, for many of them to acquire the fundamental language, social, and cognitive skills that provide the foundation for later schooling and success in society.”³
- The *cost per child* identified with congenital hearing loss is about 1/10th the cost per child identified with PKU, hypothyroidism, or sickle cell anemia in metabolic disorder screening programs. Such metabolic disorder screening programs are required in all 50 states.⁴
- Research shows that by the time a child with hearing loss graduates from high school, more than $400,000 per child can be saved in special education costs *IF* the child is identified early and given appropriate educational, medical, and audiological services. These savings in special education costs will pay for universal newborn hearing screening many times over.⁵

Other Important Factors...

- Loss to diagnosis rates around 50% infants with permanent hearing loss may be *missing the benefits* associated with the Early Hearing Detection & Intervention (EHDI) newborn hearing screening program.
- Less than half of CSHCN are currently linked with a Medical Home (MH).
- Delays in care are worsened by a shortage of pediatric audiology specialty services (audiologists, pediatric ENT/ORL)(White, 2003) especially in rural and underserved areas.
Why Medical Homes?

- Physicians reported a **high level of support** for universal newborn hearing screening;
  - 81.6% judged it to be **very important** to screen all newborns for hearing loss at birth.
- Although physicians reported confidence in talking with parents about screening results, they indicated a lack of confidence in discussing follow-up procedures and intervention needs.

Why Medical Homes (continued)?

- Several important gaps in knowledge were identified;
  - priorities for education, as based on medical management and parent support.
- Physicians expressed a strong preference for action-oriented resources.

Conclusions

- Pediatricians and other primary care providers (PCPs) recognize the benefits of **early detection** and **intervention** for permanent hearing loss in infants.
- The current system of newborn hearing screening can be enhanced by strengthening the medical community’s involvement in the process from screening to follow-up.
- Physician roles will be supported through the provision of **action-oriented resources that educate parents and providers** about the **importance** of follow-up and that prepare professionals to incorporate appropriate surveillance procedures in daily practice.
Where did we start?

Model for Improvement

From: Associates in Process Improvement

MODEL FOR IMPROVEMENT

Act

Plan

Study

Do

Act

Plan

Study

Do
Our PDSA

- **Change/Idea** – Reviewing ideas for EHDI Toolkit for Primary Care Providers (PCPs)
- **Purpose** - Obtain feedback on contents of Early Hearing Detection & Intervention (EHDI) Toolkit and determine best method to disseminate

The PDSA

**Questions to be Answered**

What kinds of information does the PCP need to know after notification that a child has missed or did not pass second hearing screening?

- PCPs might not be aware of EHDI protocols, types of hearing tests, equipment used, how they differ
- Not clear understanding of acronyms in the EHDI/NBHS world
- Where can screens/diagnostic testing be done?
- How much does it cost?
- How to explain information to families.

The PDSA

**Questions to be Answered**

How does PCP want to receive EHDI information?

- Electronic/paperless; email notifications, list serves, twitter, Facebook
- Not via lunch & learns
- Table sessions at conferences; something to take away for easy reminder
- Periodic updates of developments regarding Newborn Hearing Screening
- Likes flowcharts/ algorithms
- Pop-ups in Electronic Medical Record
The PDSA

Questions to be Answered
What is the PCPs opinion on contents of the toolkit today?

• Information is valuable, but way too much
• Like idea of a flash drive; organization, folder structure, links
• Less is better

The PDSA

Questions to be Answered
How likely is the PCP to use the items in the toolkit?

• Very likely to use flash drive
• Office Manager, RN would likely use as well, and would handle hard copies for distribution to rest of office
• Delivery of toolkit might be different by physician/clinic; face-to-face, US Mail (direct to Office Manager/RN)

The PDSA

Predictions

• Less is more
• Timing is important (“Just in Time” materials)
• Electronic (no snail mail)
• Evidence-based, factual information
• Action-oriented resources
• Easily accessible information (Internet? Flash drives? Interactive, web-based?)
• Multi-tiered approach??? 1-Magnet; 2-Post Card; 3-Flash Drive;
The PDSA

Do

- Understanding current process; if child did not pass or missed their birth screen, letter is sent a letter to families and PCP notifying them of next steps
- PCPs not aware of EHDI in general or costs associated with screening/diagnostics
- Where do PCPs go for education on the importance of early detection and intervention related to hearing loss.
- PCPs don’t always know who is responsible to do what and when. Their role and responsibility is unclear with regard to EHDI process.

The PDSA

Study

- There is not one “best” method to disseminate toolkits; should use multiple methods; electronic/hard copy, list serves, etc.
- Surprised to the lukewarm response to receive continuing education over “lunch and learn”.
- Using a flash drive or any other electronic form was accurate prediction.
- Continue to talk with other PCPs to determine if this is a common mindset and will help us determine how many resources we need for our toolkits.
- Are physicians being overwhelmed or inundated with multiple areas regarding children and youth with special health care needs (CYSHCN).

The PDSA

Act

- Use our state system to identify PCPs with children who miss or did not pass outpatient hearing screen and visit with them about the toolkit
- Continue to develop file structure for flash drive; links, develop Iowa EHDI “look/feel”
- What about a smart phone app?
- Ensure MAC/PC/iPad compatibility
- Include CDC ‘widget’, Text4baby
- Determine how to package ‘hard copies’ of toolkit
- How will we determine/measure the effectiveness of the toolkit?
- What will be our pilot area for distribution?
Where are we now?

Can our babies hear?

Early detection... Every infant... Every time!!!

What’s on the CD/Flash Drive?
Conclusion

• Started with a problem to solve
• Used methodology to work through it, document it
• Used small tests of change (PDSAs)
• Made some adjustments
• Now working toward final packaging and design
• Then a couple more PDSAs before final

In Closing

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Early detection...
Every infant...
Every time!
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Questions?
Thanks!

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