

LEND: Justification of Early Childhood Screening Services Prior to Kindergarten

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INTRODUCTION

- Currently the field of audiology has no universal pediatric screening process for developmental differences prior to kindergarten.
- Audiologists see children ages 0-5 due to referrals for communication challenges, risk factors for hearing differences, or concerns regarding developmental differences (DD).
- Audiologists often see children before they receive a formal difference diagnosis, but also before a difference diagnosis is even considered.
- Audiologists should consider their role in DD identification and utilize screening tests to help direct the referral process for children who may be at risk for or have delays consistent with DD.
- This project provides a framework and resources for Audiologists to help with children ages 0-5 who may have further complexities other than but not limited to hearing difference, within their first consult with the child.

LITERATURE REVIEW

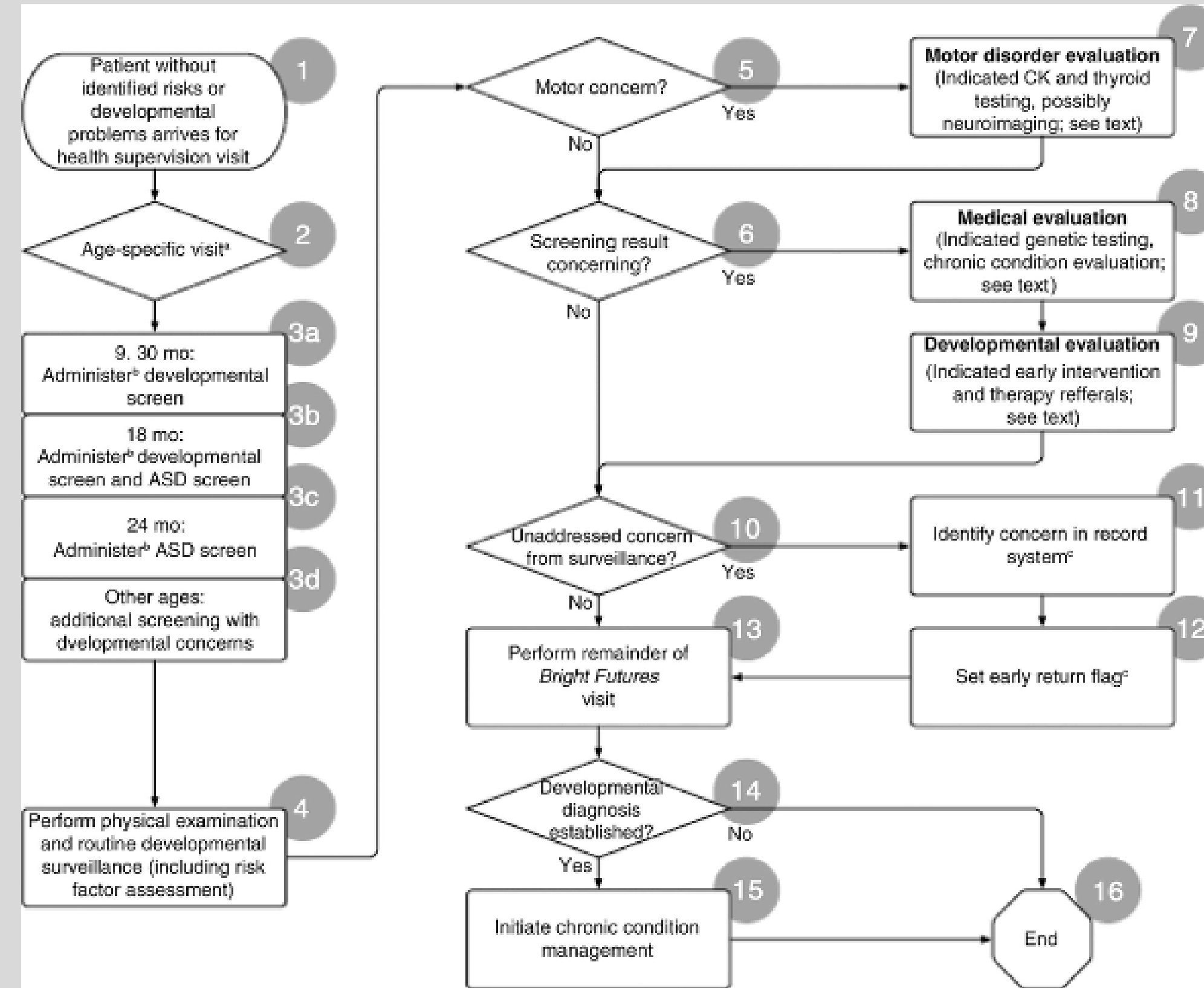
- Without routine screening, at least 50% of children with developmental or behavioral differences are not detected before kindergarten. (Rice et al., 2007)
- Developmental differences are detected at low rates when physicians rely on judgment alone. (Lipkin et al., 2020)
- Lipkin's model involves early identification of developmental differences in children using developmental screening.
 - Developmental screening is the use of standardized tools to identify the risk of developmental difference.
 - Refer to the Periodicity Schedule by the American Academy of Pediatrics (AAP) for addressing age and timing differences within intervention.
 - The Bright Futures Risk Assessment Framework is one algorithm of screening and evaluation through a child's medical journey in the first 5 years of life. (Lipkin et al., 2020)
- Meta-analysis of 17 different developmental screening tools across 56 studies demonstrate moderate pooled diagnostic accuracy.
 - Pooled sensitivity ~ 0.75 (95% CI = 0.69-0.80)
 - 25% false negative
 - Pooled specificity ~ 0.76 (95% CI = 0.71-0.80)
 - 24% false positive
 - ASQ3 ~ 0.71 sensitivity and specificity (Rah et al. 2023)
 - In summary, **standardized screening tools detect approximately 3 out of 4 children with developmental differences.**
- Qualitative research shows that parents value developmental screening and find the information informative to their child's developmental trajectory. (Traube et al. 2021)

OBJECTIVE

The goal of this project is to develop a streamlined algorithm for the screening of developmental differences to be used by audiologists, for children ages 0-5.

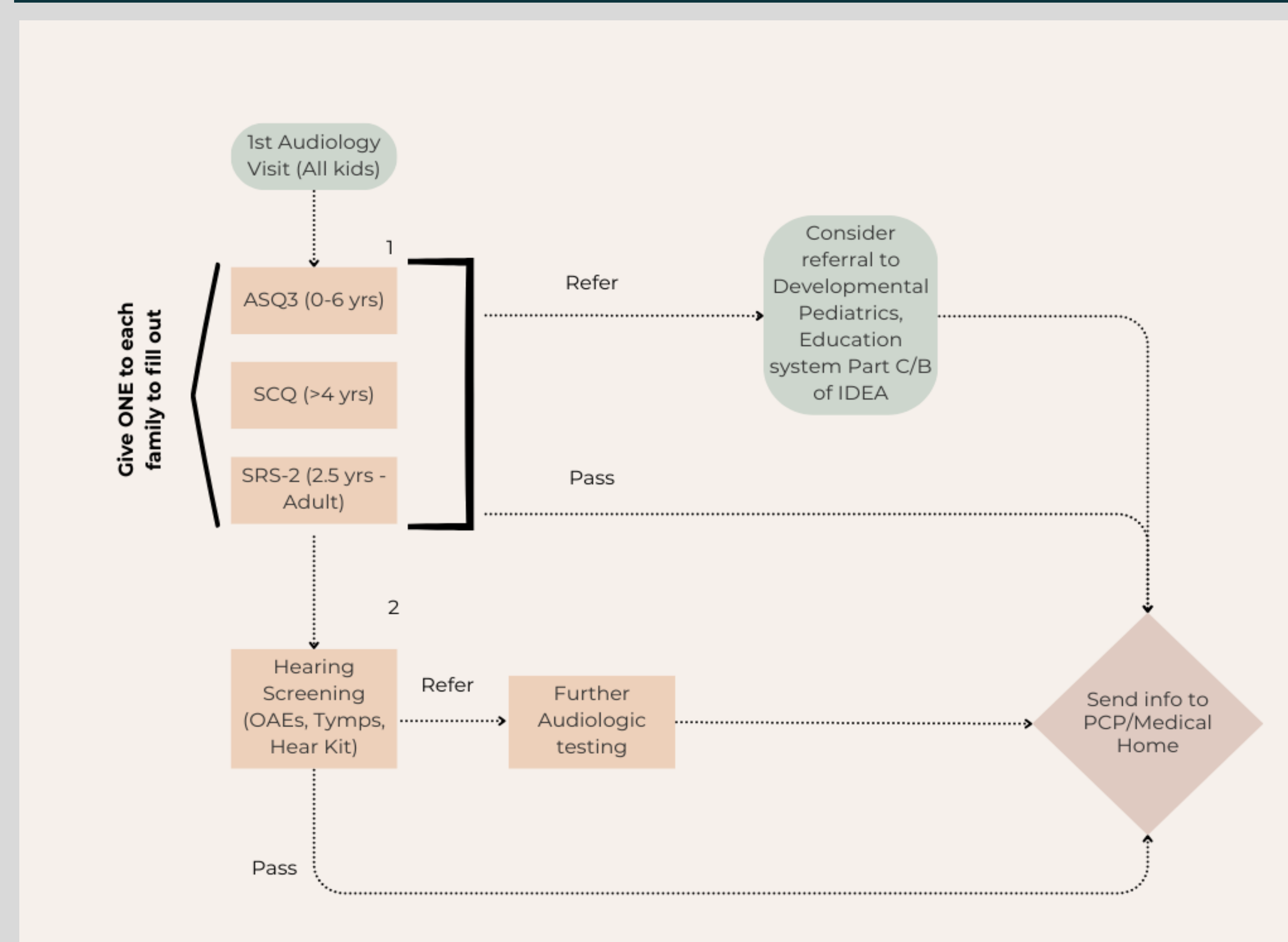
METHODOLOGY

1. Examine the Bright Futures Risk Assessment Screening Framework as cited within Lipkin et al. (2020)



2. Develop framework for pediatric audiologists, based on Bright Futures.
 - Framework should specifically be for the initial consult with a child.
 - Include ASD/DD screening for all children.
 - Effectively streamline information to child's primary care
 - Include other referrals to be made if initial screenings are a "refer".

SUGGESTED DEVELOPMENTAL SCREENING ALGORITHM WITHIN AN INITIAL AUDIOLOGIC DIAGNOSTIC APPOINTMENT



DD Screening Algorithm PDF



RESOURCES FOR AUDIOLOGISTS

- Bright Futures Materials and Tools
 - [Link to Bright Futures Materials](#)
- Periodicity Schedule (AAP) - Timing differences for screenings and assessments at well-child visits through adolescence.
 - [Link to Periodicity Schedule](#)
- Hearing First – Hearing loss and speech/language resources for pediatrics.
 - [Link to Hearing First Website](#)
- Marion Downs Center – Audiology clinic based in Denver, CO, with focus on adult and pediatric care, financial assistance, and best practices.
 - [Link to Marion Downs Center Website](#)

QR to Resources



CONCLUSIONS & DISCUSSION

- Audiologists should take further consideration of their role in the identification of DD.
- Audiologists should identify professional resources within their communities that play a role in the diagnoses of a child's DD.
- The suggested model for screening within this project is only for initial consults with children.
- Developmental screening tools help guide the referral process.
- Developmental screening tools have moderate diagnostic accuracy, and therefore should not replace clinical surveillance, but should complement it.
- The child's medical home should be a priority during the referral process.
- Developmental screening tools should always be utilized when DD is a consideration.
- The referral process after screening relies on parental preferences and the available resources within the community.
- Generally, parents and caretakers are open to developmental screenings.

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