

Impacts of JCIH 2019 and COVID-19 on Newborn Hearing Screening



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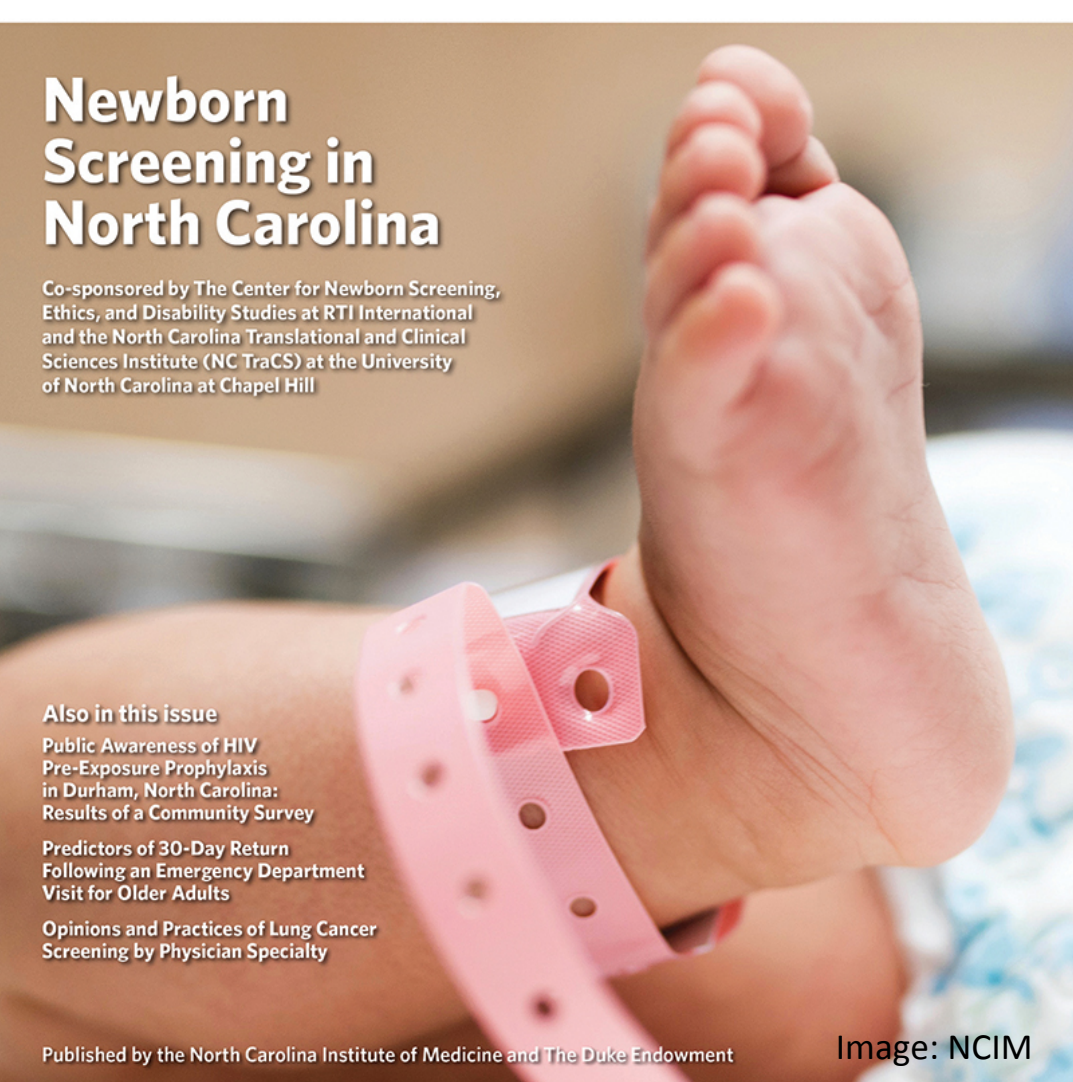
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About the Authors

The authors are full-time graduate students in UNC's Doctor of Audiology (AuD) program. They are conducting this investigation in cooperation with the North Carolina EHDI Program (NC-EHDI) in conjunction with their participation as audiology trainees in the North Carolina LEND Program (Leadership Education in Neurodevelopmental and Related Disabilities) with mentoring provided by UNC faculty and North Carolina's Unit Manager for Genetics and Newborn Screening. The project is a continuation of a 2020 LEND project conducted by an earlier student cohort (Khin et al., 2020) that investigated hearing screening in North Carolina's 24 Level III and Level IV NICUs. The authors of the current study, from the 2020-2021 LEND audiology cohort, are focusing this phase of the investigation on hearing screening in North Carolina's 88 well baby nurseries with emphasis on: 1) impacts of the JCIH Year 2019 Position Statement, and 2) impacts of COVID-19.

Introduction

Hearing screening in the well-baby nursery (WBN) is critical to ensuring early identification and treatment of infants with congenital hearing loss. In recent months, two important events have impacted newborn hearing screening in the United States: the October, 2019 publication of the Joint Committee on Infant Hearing (JCIH) Year 2019 Position Statement: *Principles and Guidelines for Early Hearing Detection and Intervention Programs*, and the ongoing COVID-19 pandemic. Also in 2020, the U.S. Health Resources and Services Administration (HRSA) provided additional funding to states to report the effects of COVID-19 on newborn hearing screening by April, 2021. This poster will report the findings of a project undertaken to explore the impact of these events on North Carolina's 88 birthing hospitals.



Specific Aims

The specific aims of this study are:

- To investigate the impacts of the COVID-19 pandemic on in-hospital hearing screening and outpatient rescreening in North Carolina.
- To investigate compliance with JCIH 2019 recommendations for hearing screenings in the well baby nursery including:
 - Technology and protocols (for referral/follow-up of infants who do not pass their hearing screening)
 - Calibration and equipment maintenance
 - Training of screening personnel
 - Communication with families
 - Linkages to the state EHDI program
 - Audiology oversight of the hearing screening program

Methods

On February 4th, 2021, a 32-item Qualtrics electronic survey was distributed to North Carolina's 88 birthing hospitals and directed to an individual known by the NC-EHDI staff to be familiar with hearing screening practices. The survey consisted of two parts. Part one included 21 questions pertaining to hearing screening prior to the COVID-19 pandemic. Part two included 11 questions investigating the impact of COVID-19 on WBN hearing screening. At the time of publication for this poster, 44 out of 88 hospitals have responded, a 50% response rate.

Preliminary Findings

We are pleased to report that our birthing hospitals, based on responses to date from 44 (50%) of 88 nurseries, are fully engaged and committed to their hearing screening programs.

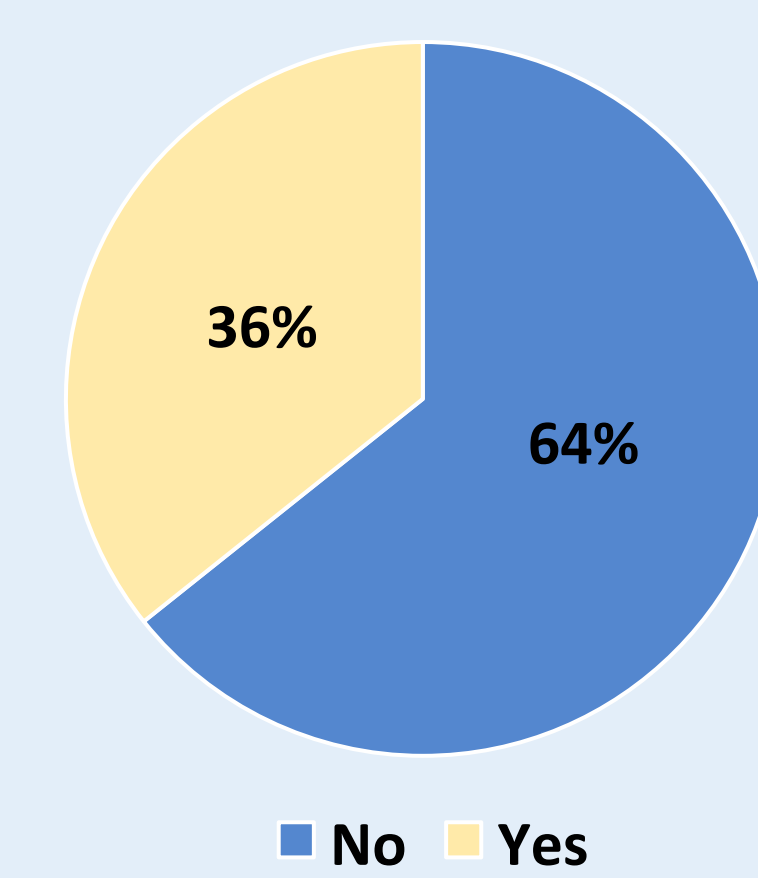
Compliance with JCIH-2019:

- Many hospitals report lack of audiology oversight for their hearing screening programs.
- There is variability in protocols for screening and communication with families.
- Most hospitals do not have a formal protocol for infants with aural atresia or visible ear abnormalities.
- Some hospitals are not making direct referral to an audiologist when a baby fails an outpatient rescreening.

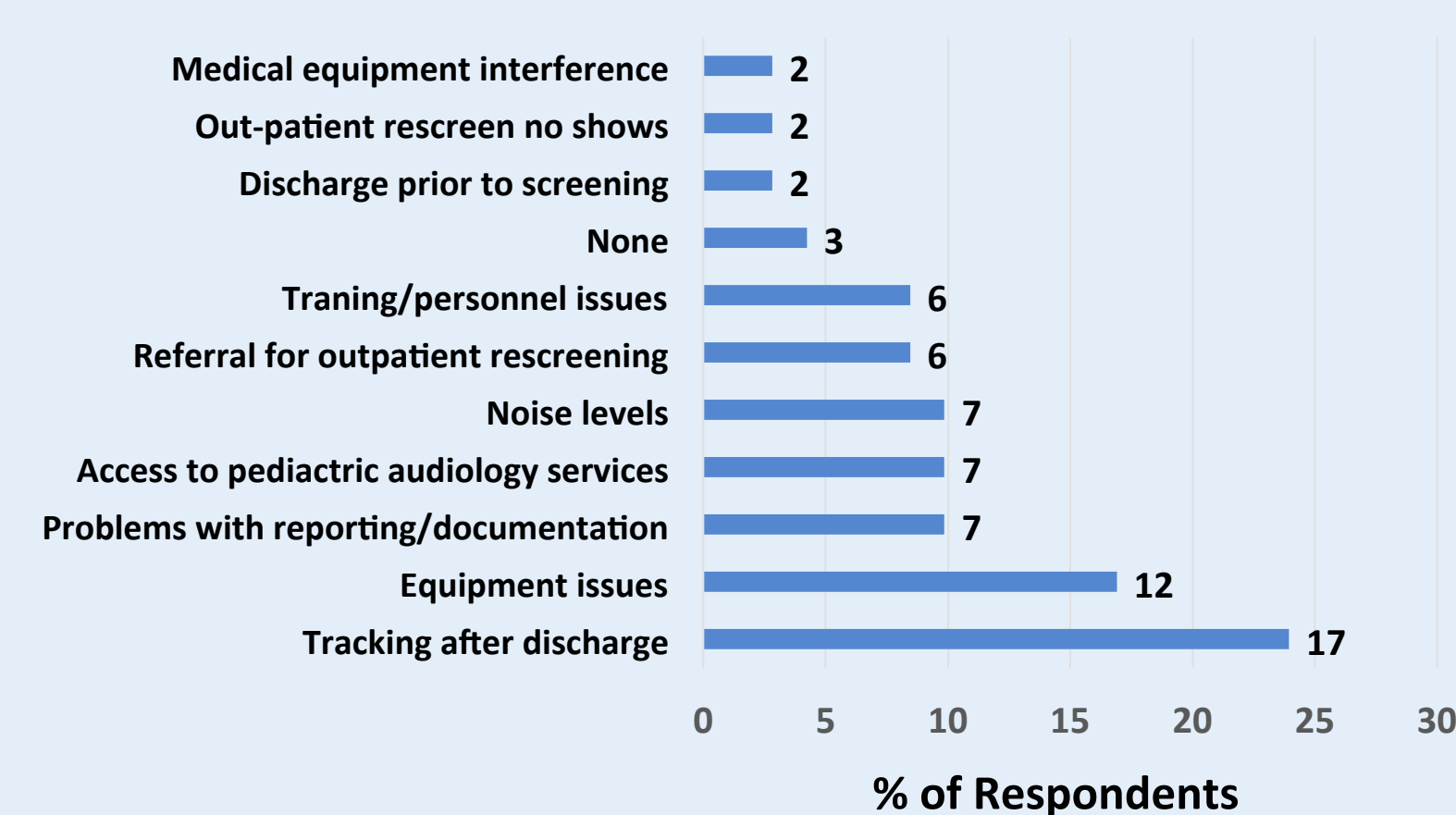
Other Key Findings:

- All hospitals to date report AABR as the sole technology used for in-hospital and outpatient screening.
- A nurse or hospital technician is most likely to administer the in-hospital screening.
- A nurse or pediatrician is most likely to discuss recommendations for babies who fail the in-hospital screening.
- Many hospitals report challenges with tracking and surveillance of newborns who did not pass their screenings.
- Only a few hospitals are screening for CMV at this time but several are planning to implement in the future.

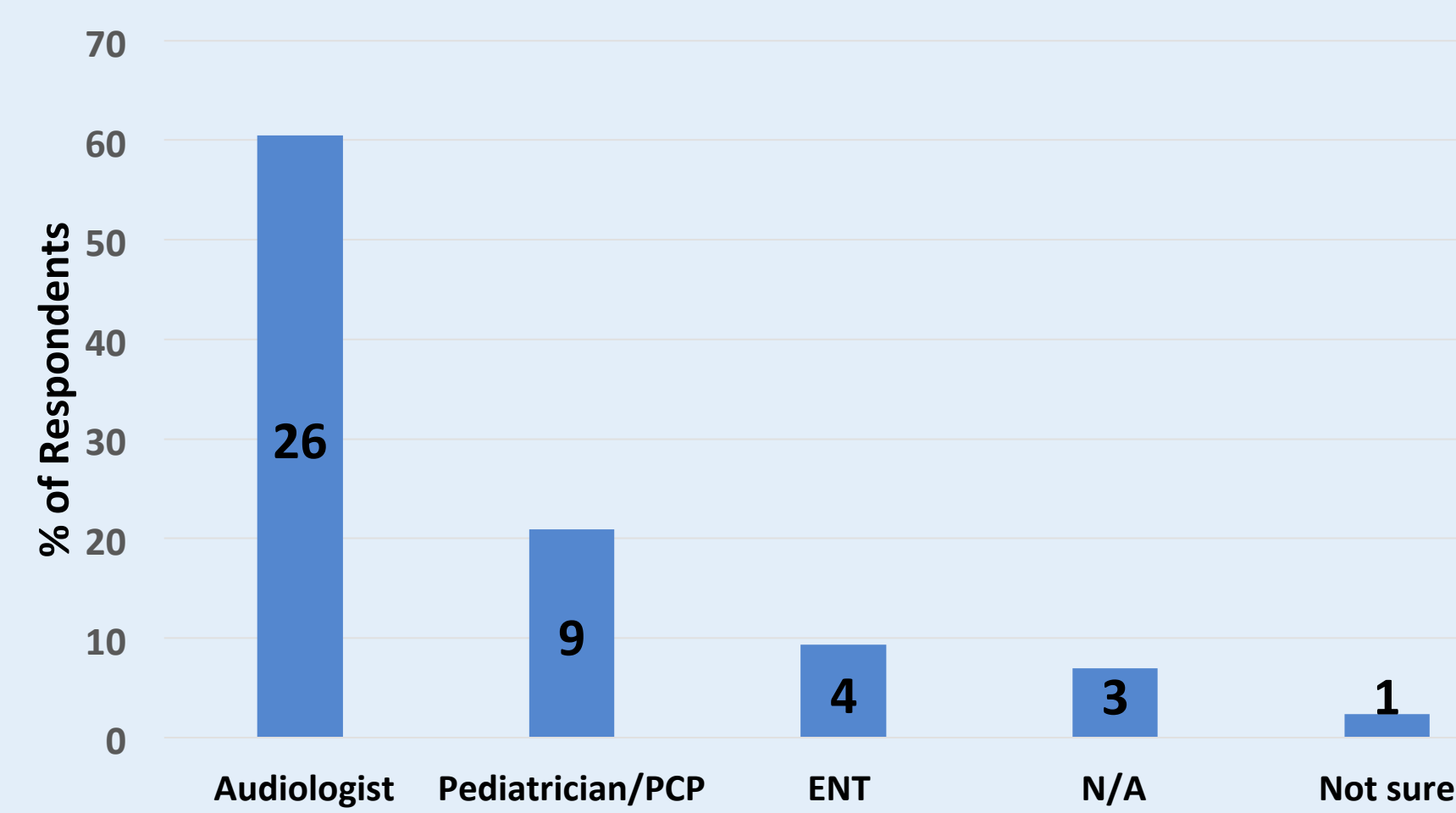
Does the Screening Program have Audiology Oversight?



Pre-COVID-19 In-Hospital Hearing Screening Challenges



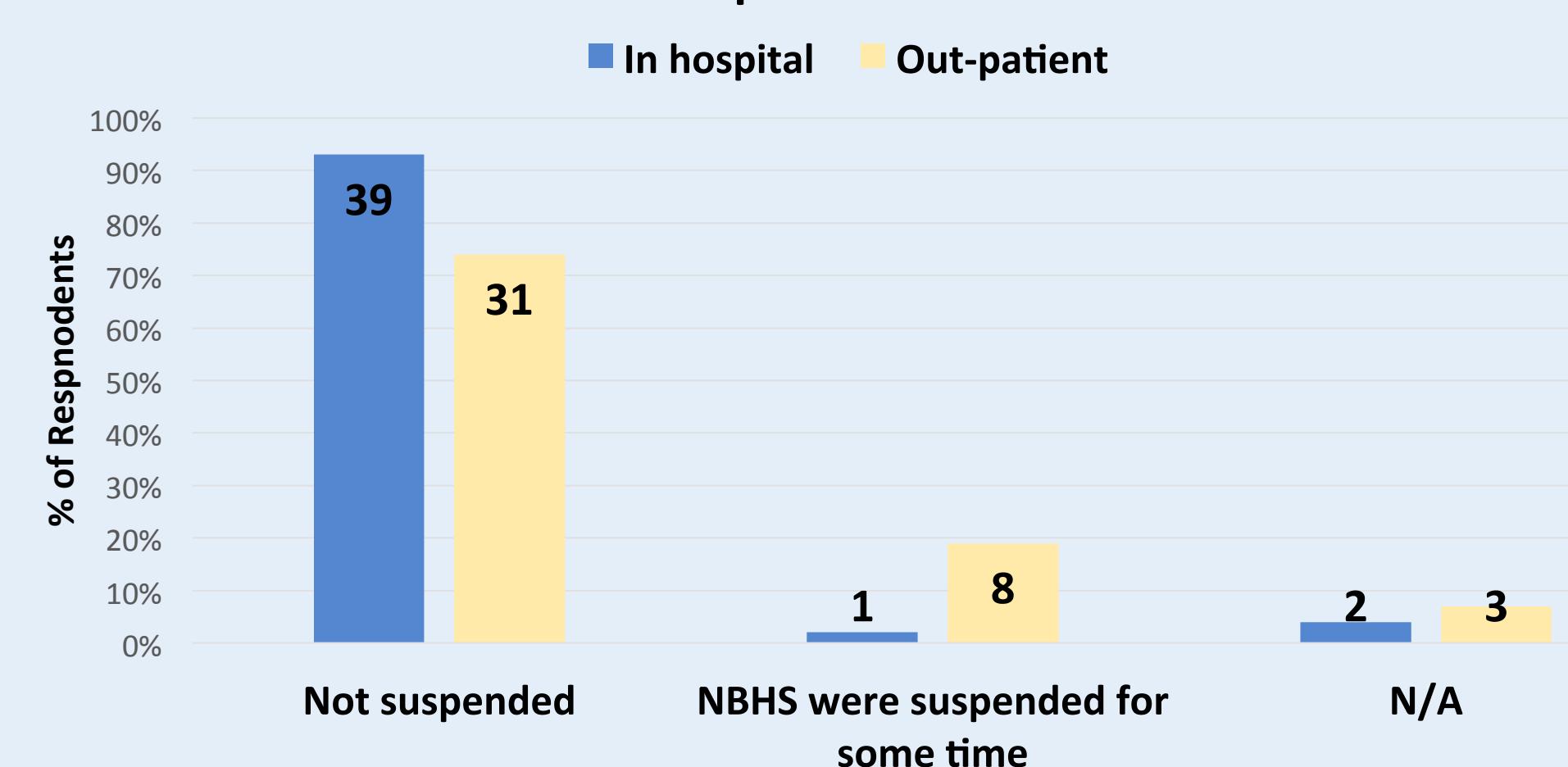
Referral After Failed Outpatient Rescreen



Impact of COVID-19 on Well Baby Hearing Screening

- Most in-hospital screening continued unless the baby had a COVID+ mother; if so:
 - Infants were scheduled for outpatient screening at a later date.
 - Many hospitals implemented additional precautions to enable screening of babies with COVID+ mothers
- Some hospitals temporarily suspended outpatient rescreening and added protocols for scheduling return at a later date for outpatient rescreening.
- A few hospitals are not currently screening babies with COVID-19 positive mothers.

Were NBHS Suspended Due to COVID-19?



Next Steps

- Continue data collection through February, 2021, with the goal of a 100% response rate by March, 2021.
- Report findings to the North Carolina EHDI Program in March, 2021 (COVID-19 impacts will be included in a report from NC-EHDI to HRSA in April, 2021).
- Present our findings and recommendations to the NC-EHDI advisory committee.
- Share our Qualtrics survey and methodology with other state EHDI programs interested in conducting similar studies.

JCIH 2019 and Well Baby Hearing Screening

The Joint Committee Recommends:

- Automated auditory brainstem response (AABR) and/or otoacoustic emissions (OAE) for hearing screening in the well baby nursery.
- Because of the low incidence of auditory neuropathy in the well baby population and the relative convenience of OAE screening, for infants who do not pass the initial screening, JCIH 2019 endorses rescreening with either technology.
- Infants who fail their in-hospital screening should receive outpatient rescreening of both ears in the same session, before one month of age or as soon as possible.
- Infants who fail their outpatient rescreening in one or both ears should be referred to a pediatric audiologist.

The Role of the Audiologist, in newborn hearing screening, is among the key recommendations of JCIH 2019. Specifically, the Joint Committee recommends audiology oversight for all state/territory hearing screening programs, at both the systems level and at the individual program level.

Systems Level Audiology Oversight Includes:

- Periodic on-site and/or remote surveillance of individual hospital programs
- Oversight and participation in writing policies and procedures
- Monitoring of program statistics
- Development of referral pathways and timelines with community resources and the state EHDI program

Hospital Level Audiology Oversight Includes:

- Selection of screening technology
- Confirmation of equipment calibration
- Protocols for training and certifying competence of screeners
- Development of policies, procedures, and protocols
- Quality assurance procedures; program staffing requirements and relevant assignments of staff/team members
- Procedures for discharge or transfer plans; assurance of, "acceptable, independent, on-site oversight by an audiologist who is either employed by the hospital or is otherwise independent of the contracted entity in screening programs where services are contracted through an outside entity" (JCIH, 2019 p. 5-7).

COVID-19 and Well Baby Hearing Screening

The National Center for Hearing Assessment and Management (NCHAM) has compiled a number of helpful COVID-19 resources and documents, among them a statement from the American Academy of Pediatrics noting that continuation of newborn hearing screening amid COVID-19 "is essential to ensure healthy and appropriate development. According to the CDC, vertical transmission of COVID-19 is rare between mother and baby, but all providers who come in contact with the newborn should take infection control measures. AAP furthermore recommends that "Healthcare workers should use gowns, gloves, standard procedural masks, and eye protection (face shields or goggles) when providing care for well infants. When this care is provided in the same room as a mother with COVID-19, healthcare workers may opt to use N95 respirators in place of standard procedural masks, if available" (NCHAM, 2021).



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