



Impact of COVID-19 on Newborn Screening Follow-Up in Rhode Island

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Background

- Approximately one to two per thousand infants in the US are born deaf or hard of hearing (DHH) each year. Newborn screening and early diagnosis and referral to early intervention services are key factors in improving the outcomes of children who have congenital hearing loss. The onset of the COVID-19 pandemic in February 2020 had a significant impact on newborn hearing screening programs in the US.
- An Executive Order declaring a State of Emergency due to the COVID-19 pandemic was signed by Rhode Island's governor in March 2020. This impacted the delivery of diagnostic audiology follow-up in Rhode Island.

Purpose

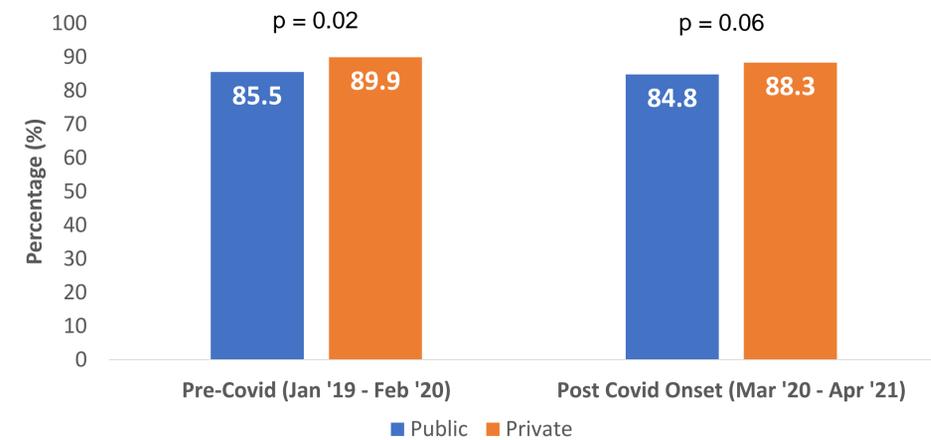
- This study reports the impact of the COVID-19 pandemic on newborn hearing screening and diagnostic follow-up, by type of health insurance (private versus public), as a marker of poverty during the first 13 months of the pandemic.

Methodology

- Two cohorts of infants born pre-COVID-19 (January 1, 2019 to February 29, 2020; N=12,448) and those born post-COVID-19 onset (March 1, 2020 to April 30, 2021; N= 12,197) were selected for this study.
- Comparisons of completion of rescreens and receipt of a final diagnosis between the post-COVID-19 and pre-COVID-19 cohorts were completed.
- Sub-analysis, looking at differences in completion of rescreen and diagnosis by health insurance status (public versus private) was done to estimate any impacts that poverty may have played in receiving Early Hearing Detection and Intervention (EHDI) follow-up.
- Chi-square tests were performed for statistical significance (p<.05 level).

Results

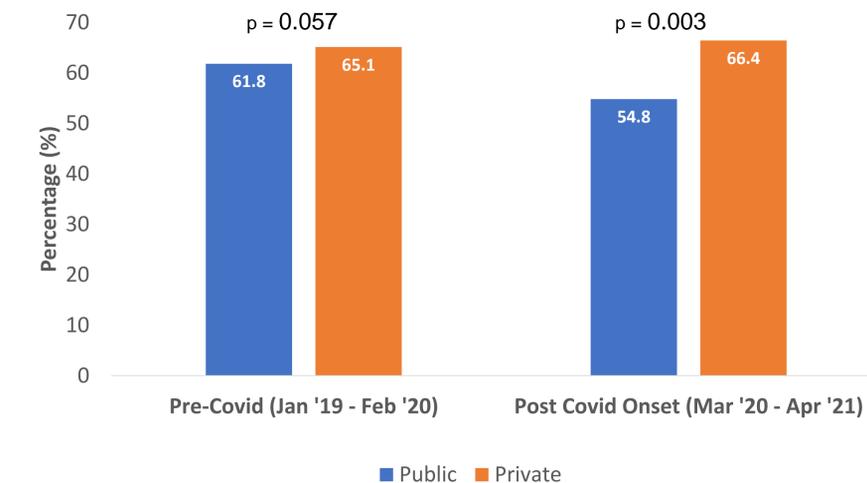
Figure 1: Percentage of Hearing Rescreen Completion Among Infants, by Type of Health Insurance, Rhode Island



Data source: Center for Health Data and Analysis, Rhode Island Department of Health

Findings show that infants with public health insurance were less likely to complete the diagnostic process during the COVID-19 pandemic than those with private insurance.

Figure 2: Percentage of Reported Final Diagnosis Completion Among Infants, by Type of Health Insurance, Rhode Island



Data source: Center for Health Data and Analysis, Rhode Island Department of Health

	Pre-COVID-19 Onset (Jan. 2019 – Feb. 2020)			Post-COVID-19 Onset (March 2020 - April 2021)		
	n	Percent	p-value	n	Percent	p-value
Had Rescreen	1,105	87.4		1,220	86.3	
Public	596	85.5	0.02	637	84.8	0.06
Private	502	89.9		581	88.3	
Had Final Diagnosis	178	63.1		212	59.7	
Public	105	61.8	0.57	101	54.8	0.03
Private	71	65.1		109	66.4	

- Although the rate of completion of the rescreen process was significantly lower for publicly insured infants pre-COVID-19 (85.5%, p=0.02) versus publicly insured (89.9%), we do not see a significant difference between groups during the pandemic (p=0.06).
- Completion of final diagnosis for publicly insured infants (54.8%) was significantly lower (p=0.03) versus privately insured infants (66.4%) after the onset of COVID-19.

Discussion

- Factors other than health insurance may have influenced differences in rescreen and diagnostic completion.
- We speculate that low-resource families were more impacted by the many challenges associated with the pandemic, such as transportation concerns and inability to bring other children to appointments.
- Similar decreases and disparities in immunization and lead screening suggest these differences are not limited to EHDI.

Conclusions

- These findings suggest that increased challenges completing the diagnostic process, due to COVID-19, were greater for families with public insurance, suggesting healthcare disparities.
- Enhanced supports may decrease future barriers to care.