



NEWBORN HEARING SCREENING IN THE PILSNER AND CARLSBAD REGIONS IN 2020 AND 2021

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SUMMARY AND AIM OF THE WORK

Hearing loss occurs in 0.1–0.4 % of healthy newborns, with a higher incidence of 2–5 % in the group of newborns at high-risk. In the Czech Republic, severe hearing loss occurs in 100-200 newborns per year. The aim of this study is to analyze the results of hearing screening in 2 regions for the years 2020 and 2021.

MATERIALS AND METHODS

According to the 2018 Methodological Guideline of the Ministry of Health, a total of 16 431 children were examined in the years under review. The methodology included 3 levels of screening (neonatology unit, rescreening ENT unit and regional rescreening center). Physiological newborns are screened by transient evoked otoacoustic emissions, at high-risk newborns by automatic auditory brainstem responses (automatic BERA) examination.

RESULTS

In the Pilsen region, 362 children (3.10 %) had a positive screening, 223 children (61.60 %) attended the first rescreening and 74 children had a positive rescreening. 14 children were evaluated as candidates for hearing aids (0.12 % of the number of children born), 2 children with cleft palate defect are expected to improve their hearing after the surgery. In the Carlsbad Region, 315 children (6.64 %) had a positive screening, 103 children (32.70 %) attended the first rescreening, 24 children had a positive rescreening. 1 child was evaluated as a candidate for a hearing aid (0.02 % of the number of children born). In both regions, no child was indicated for cochlear implantation or bone anchored hearing device.

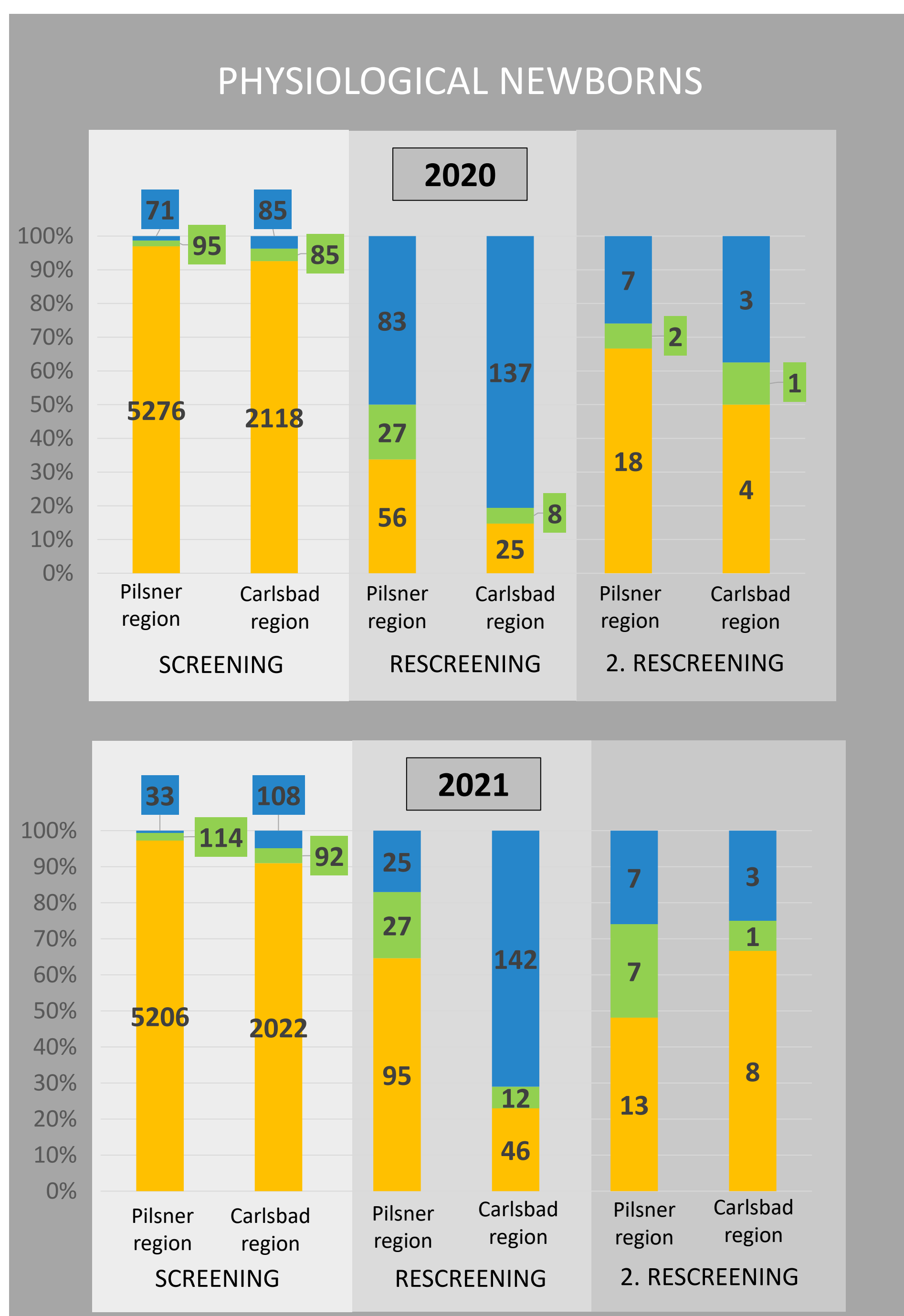


Figure 1

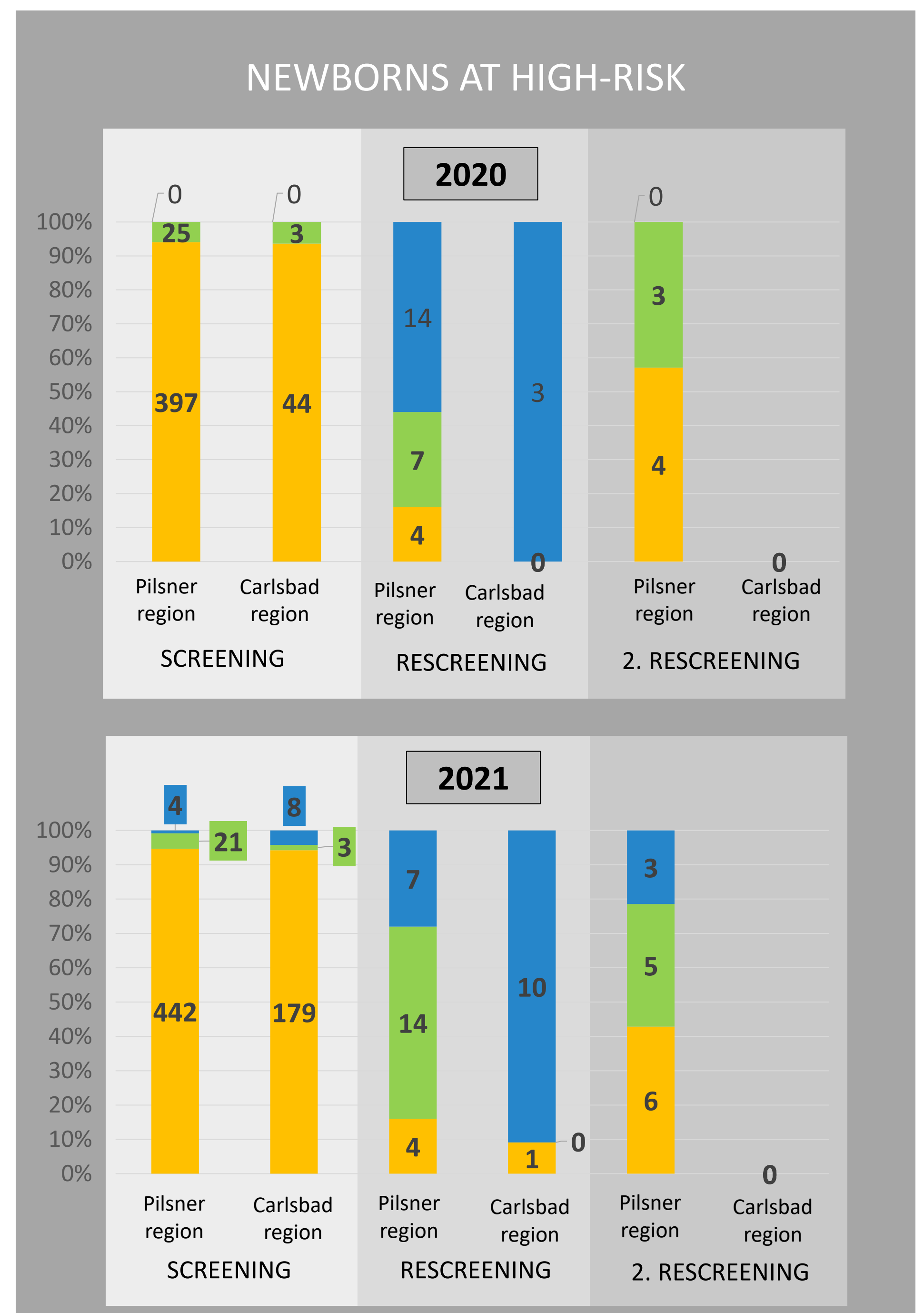


Figure 2

	Physiological newborns		Newborns at high-risk	
	Pilsner	Carlsbad	Pilsner	Carlsbad
2020	2 (0,04 %)	1 (0,04 %)	3 (0,71 %)	0 (0,00 %)
2021	7 (0,13 %)	1 (0,05 %)	5 (1,07 %)	0 (0,00 %)

Table 1

Figure 1 + 2 Distribution of children with OAE (●), non-OAE or pathological ABR (●) and not screened (●) at each screening level according to year and region of birth and general health status.

Table 1 Number of newborns diagnosed with hearing loss.

CONCLUSION

The total number of severe hearing impairments in both regions studied was minimal in 2020-2021. This may be partly due to low compliance with 2nd and 3rd level of the screening, which needs to be improved in the future, as well as the collaboration across all workplaces.