The safety and efficacy/effectiveness of using automated testing devices for universal newborn hearing screening: an update

Institute of Health Economics

Record Status
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Authors' conclusions
Based on the results reported by three systematic reviews, this review confirms previous findings that UNHS using AOAE (TEOAE) followed by AABR testing in a two-stage protocol is effective in increasing early identification of moderate to profound PCHL and early intervention in diagnosed infants. The available evidence indicates that referral for confirmatory diagnostic testing and PCHL management commonly occurs earlier and more frequently with a UNHS using this protocol than without UNHS. It also indicates that early identification and treatment of infants with hearing loss may be associated with advantages in language development. The risks and harms of UNHS seem slight. However, the data on early detection of hearing loss in newborns and infants are not very robust. Further investigation is warranted, particularly as to the effect on longer-term patient-relevant outcomes such as quality of life and educational development. Currently, no definitive data exists to determine which is the best of the AOAE and/or AABR devices currently available on the market in Canada. These devices still await prospective validation against an accepted gold standard. UNHS using the automated testing devices represents only one component of a well-integrated and structured system of early identification and management for all infants who have hearing loss that enables confirmation of hearing loss by 3 months of age, and enrolment in a family-centered intervention program by 6 months of age. Resources need to be available for diagnosis and intervention before UNHS can be considered. An important measure for the practical realization of early detection of hearing impairments in newborns and infants seems to be the installation of a functioning system for registering and tracking both non-screened children and screened children with a conspicuous screening result.

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