Evidence based practice in paediatric audiology

BY DAVE GORDEY AND SHEILA TF MOODIE

Audiology, like most of the health sciences professions, has been working on integrating evidence-based practice principles since the mid-1990s [1]. Professional organisations and regulatory colleges have produced evidence-based clinical practice guidelines, disseminated them to audiologists and collaborated with practitioners to ensure that they have the requisite knowledge and skills to implement the guidelines for the benefit of their individual patients [6,16]. Despite these efforts, adoption of evidence-based, best practice procedures has been varied. For example, real-ear probe-microphone measures for the fitting and verification of hearing aids have been an important component of clinical practice guidelines for adults and children for many years. In clinical practice, however, studies have shown that 59-75% of adult hearing aid fittings are not verified with real-ear measures of hearing aid performance [15], despite the fact that these measures are related to customer satisfaction [7]. A recent survey indicates that compliance with best practice amplification guidelines is better with children, but there may still be about 30% of hearing aids fitted to children that are not verified with probe-mic measures [11]. An examination of factors influencing the use of evidence in practice found that barriers to implementation might be associated with (1) the guideline; (2) the individual practitioner; (3) the context / environment in which the individual works; and (4) the broader healthcare system [13]. An examination of these numerous factors provides us with a better understanding of why there is a knowledge-to-action gap. It also underscores what complex processes diffusion of knowledge and behaviour change are; and how change might be better facilitated by early and ongoing involvement of researchers, practitioners, policy-makers and patients in the guideline development process. There are collaborative frameworks developed in the areas of knowledge translation and implementation science that have been used successfully to move evidence into practice [4,5,9,12]. The frameworks acknowledge that the creation and application of knowledge is facilitated by the social processes embedded within communities of practice. They also acknowledge that communities of practice have the potential to reduce the knowledge-to-action gap, assist with knowledge diffusion and be facilitators of practice change.

Communities of practice: A framework for creating collaborative networks in paediatric audiology

Jean Lave and Etienne Wenger (1991) developed the community of practice theory based on their beliefs that learning was a collaborative, community based, social practice. Within the community of practice theory they described three key components: domain, community and practice. According to Wenger, McDermott and Snyder (2002), domain was a shared space, grounded in common identity. Domain encourages individuals to contribute and interact, while providing guidance to their learning. Community created the social opportunity for learning; interactions were based upon mutual respect, and trust, in a safe environment that created a space to ask questions, share ideas, and listen. Wenger, McDermott and Snyder (2002) nicely summarised the final component of practice, as "a set of frameworks, ideas, tools, information, styles, languages, stories, and documents that community members share. The practice is the specific knowledge the community develops, shares, and maintains" [17,p29]. Important in the discussion and understanding of community of practice theory were the terms "legitimate" and "peripheral." Legitimate referred to the social organisation of the resources and having full access to the resources. Peripheral was used to differentiate those who are new learners versus those who are experienced. It was not an accumulation of information but the result of the learner moving from the peripheral to the centre, towards full membership. Learning occurred as participation increased in communities of practice [8].

Paediatric audiology community of practice networks

Using the key concepts of a community of practice, many have been inspired to create paediatric audiology professional groups. One example is the Network of Paediatric Audiologists of Canada. This community of practice has actively engaged with research partners to develop, disseminate and actively move a paediatric audiological outcomes measure guideline into practice [1]. More recently, they collaborated on the development of a calibrated computer-assisted version of the Ling 6 test [3]. A more recent community of practice network is the Knowledge and Implementation in Paediatric Audiology (KIPA) group. Created in 2010, KIPA is an organisation that was inspired by the idea that a group of clinical, research and industry audiologists could create a collaborative community network that would work to understand the challenges facing paediatric audiologists. Members of the KIPA group represent a diverse set of experiences and interests in paediatric audiology. By connecting with paediatric hearing care professionals across North America, we have been able to identify important topics relevant to their delivery of hearing services for children.

"There is a current trend to develop test protocols that are 'evidence based'. But, before we develop any new fitting guidelines, maybe we should first try to understand why there is so little adherence to the ones we already have" [14, p26]. Inspired by statements like this, KIPA's first project was to explore adherence to best practice in paediatric hearing aid fittings. We hoped to better understand: the clinical measures that

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were being used in North America; the barriers to implementing new protocols and / or guidelines; and what strategies might facilitate adoption of new protocols and / or guidelines. Data was gathered using an electronic survey, distributed to paediatric hearing care providers across North America. The survey asked questions about protocols for hearing assessment, hearing aid selection and fitting, and evaluation and outcome measurements. The results of the survey provided KIPA with a nice snapshot of the practices, behaviours and experiences of paediatric audiologists in North America. Results showed that following best practice guidelines were important to paediatric audiologists. They understood that their use would result in the most optimal outcome for children with hearing loss. As we investigated why best practice were not being followed, we did learn that there were many different types of challenges facing clinicians. Barriers included those related to their workplace setting, gaps in knowledge of the individual audiologist, and the structure of their health care system. Based on the outcomes of this survey, the members of KIPA considered how we might facilitate change in practice behaviour in the area of paediatric amplification. Facilitators and practical strategies were created and focused assisting the development of clinical knowledge, skill, and motivation to change. There was a general recognition that clinic / hospital infrastructure and broader health care issues were more difficult to address. Clinical practice facilitators or 'tips and tricks' were developed for some procedures to provide clinicians in-the-field with ideas that they could use with their paediatric patients. Dissemination of information by the KIPA group has occurred as education seminars and webinars at the American Academy of Audiology (AAA) annual conference, the Canadian Academy of Audiology (CAA) annual conference, Newborn Hearing Services (NHS) Como conference and hearing industry sponsored events. Support for the KIPA group and work with paediatric amplification has been

heard from researchers, clinicians, and administrators. New and experienced paediatric audiologists have shared that the KIPA work has helped promote change in their clinical practices and provided them with another avenue to obtain evidential information.

The goals of evidence-based practice are laudable. The community of practice framework offers paediatric audiologists a template to create professional community networks to enhance paediatric audiology services. Community networks thrive, as they are composed of professionals who share a common interest about a topic or problem, and who deepen their knowledge by collaborative inquiry and interacting with one another [17]. A community of practice, such as the KIPA group, can be a successful means to identify barriers and introduce appropriate strategies to facilitate implementation of guidelines and practice change.

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