

# Innovating around access to hearing services during the pandemic

BY MATTHEW BROMWICH

COVID-19 has also presented its challenges to hearing healthcare providers and to the industry and, similarly, called for innovation and creativity. **Dr Bromwich** describes how these sectors are rising to the challenge.

The reality of COVID-19 has been a challenging and, all too often, tragic one. However, meeting this challenge has encouraged organisations to take dramatic steps to innovate around the provision of access of hearing services. While generally innovation is a continuous process, it is often punctuated by dramatic changes in business models or technology that radically alter the landscape [1], particularly in desperate times when risk tolerance is high, as it is during a pandemic.

Henderson and Clark's 1990 model of innovation included incremental, architectural, modular and radical forms of innovation [2]. We understand incremental innovation refers to only minor changes in either technology or business practices, such as an improved version of an existing product, whereas architectural innovation refers to rearrangement of an organisation, relationship or business model such as direct-to-consumer hearing aids. Modular innovation refers to a significant change in component technology like self-fitting hearing aids. Finally, radical innovation connotes a change in both organisation and technology that might refer to online testing and self-fitting in a direct-to-consumer model.

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The new SHOEBOX online hearing test categorises users into normal, loss and severe loss groupings so appropriate care may be provided.

Many examples of each of these models can be found addressing the issue of access to hearing services. This article reviews examples of each with an eye towards improved access in a time of global pandemic. If we are to find redemption in this time of crisis, we must recognise and seize the opportunity to create positive change within the hearing service ecosystem.

With the recent challenges created by COVID-19, many hearing health providers have struggled to serve new patients due to closed storefronts. However, incremental innovation on the part of the large manufacturers has, in recent years, facilitated the maintenance of ongoing relationships with existing clients through remote counselling and fitting technologies. For example, some companies offer Android and iOS apps that enable video conferencing and remote fitting. In the case of Widex, an app called Remote Care connects directly to hearing aids, allowing the professional to fit using their standard Compass GPS software.

During the pandemic, access to professionals and testing has been limited but so to have the financial resources required to purchase devices for aural rehabilitation. With a relatively simple architectural innovation, managed care companies like TruHearing have reimaged workplace insurance benefits to include

direct access to hearing healthcare and reduce cost through bulk purchasing and a streamlined supply chain [3]. Interestingly, while traditional hearing aids may be less expensive when purchased this way, the architectural change in access through over-the-counter or OTC hearing aids will further lower the financial bar for access.

The sudden necessity for alternative methods of care due to the pandemic has created an incentive to move online for those who would have otherwise maintained the status quo. The adoption of modular innovations such as curbside testing, at home testing, online, and app testing has been remarkable. Rules around physical distancing have created a sudden need to move outside the sound booth using mobile technology. Curbside testing is a particularly creative solution whereby the patient remains in their car and the clinician passes a mobile audiometer, such as the iPad-based SHOEBOX® Audiometer through the window to conduct either a self-test or a clinician-guided test resulting in a standard audiogram. Alternatively, the clinician can either mail or drop off a tablet audiometer at the patient's house, enabling them to conduct full air conduction testing. Finally, online tests have long been available but largely avoided due to unreliability. Recently SHOEBOX introduced a unique online tool designed to categorise clients into normal,

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loss and severe loss groupings such that appropriate action could be taken [4]. The mix of dynamic range testing, frequency-specific tests and validated question sets produces an online test that can serve as another tool in the toolbox for remote servicing of clients.

Finally, there has been much discussion about the new category of OTC hearing aids soon to reach consumers in North America. These new devices will also be sold via new channels to the consumer, thus meeting the standard for radical innovation. That notwithstanding, other hearing devices with similar characteristics have already been available in the categories of wearables, hearables and personal sound amplification products (PSAPS). Companies like Audibene

and Hear.com are already delivering hearing aids through online storefronts but a complete online hearing test and fitting paradigm has yet to be developed. Companies like Clementine, SHOEBOX and others offer nearly complete solutions.

Access to hearing services has been particularly challenging during the current pandemic. However, we also have a unique opportunity to develop new workflows to improve access by leveraging remote systems and mobile technology. Interestingly, these technologies will also likely reduce the cost of services provision and the cost of accessing services, as neither party would have to travel to a specialised testing centre. Despite the current crisis, new workflows and novel technology promise to improve access to hearing services and democratise access to care.

**References**

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