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## The Role of Health Care Provider, Patient, and Device in the Treatment of Hearing Loss



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**A successful amplification experience is a collaboration between a hearing health care provider and the patient.** An effective hearing solution is one where both provider and patient agree to commit to mutually agreed upon goals. The efficacy of the hearing device depends on how well the device is customized to the needs of the person with hearing loss and by consistent use of a hearing device by the patient.

Health care is evolving rapidly and with it comes an ever-changing landscape of how care is provided and received. Within the health care space, the term consumer is used to describe an individual who is empowered to make decisions and actively participate in their care.

Today's health care consumer must make a lot of decisions that may have long-lasting effects on their well-being. Today's health care consumer needs to select from a wide variety of options like insurance plans, deductibles, and health care providers. In addition, consumers need to decide whether or not they can afford to pursue a line of treatment.

Over the past two decades, there has been a rapid increase in spending by pharmaceutical companies and medical device companies to market directly to consumers via various media outlets (Foley 2019). Direct-to-consumer advertising implies that the individual has all the necessary knowledge and information about how the product will work for them. It also assumes that consumer's satisfaction with the product is synonymous with the product functioning adequately. This has worked well for a wide variety of household goods like toasters, hair dryers, and cleaning products.

In the health care space, consumer electronics are experiencing tremendous growth. The global digital health market is expected to reach \$223.7 billion in market share by 2023 (PR news wire 2018). In hearing healthcare, direct-to-consumer options are emerging for treatment of hearing loss. There is considerable concern about the potential pitfalls of this model from hearing health care professionals.

The output of biosensor devices like heart rate, temperature, and blood glucose monitors are presented to the consumer with specified boundaries of normal limits of performance. If the outputs deviate from the desired range, the consumer knows to follow up with their health care provider.

In contrast, devices that deliver a prescribed treatment into the body need specialized monitoring by a health care provider. Devices like insulin pumps, pacemakers, or hearing aids are designed to deliver a prescribed input to the individual to improve function. The efficacy of these devices requires careful calibration and monitoring by a health care professional.

Classifying hearing devices as consumer electronics has the potential to decrease cost, decrease stigma, and improve access to amplification. This meets the recommendations of President Obama's Council of Advisors on Science and Technology (PCAST, 2015) and makes several hearing devices within reach of hearing-impaired individuals. It also has the potential to diminish the value of seeking input from hearing health care providers and access appropriate treatment for hearing-impairment. According to MarkeTrak 10 (MT 10, Powers et al 2019), over 70% of hearing aid owners consider their devices as medical devices versus only 6% who consider them consumer electronics.

Hearing impairment is a chronic health condition with long standing ramifications. Hearing health care involves a complex ecosystem that includes addressing hearing loss from an impairment/disease perspective, and from a rehabilitation perspective.

Hearing-impairment is a health care issue and needs appropriate treatment from trained professionals. The hearing care professional is the one who has the best knowledge and training to select and configure the device for the patient and make adjustments to the device down the road for optimal performance. Hearing healthcare providers need to use their knowledge, skill, and experience to diagnose and "treat" hearing impairment by recommending the best technology for addressing the listening needs of the patient.

Data from MT 10 show that 96% of patients who owned hearing aids reported undergoing a complete formal hearing evaluation with their hearing care professional versus only 55% of those who did not own hearing aids. Adults with hearing aids also spent a lot of time discussing their condition with their hearing care professional compared to those that did not. It is very clear from MT 10 data that hearing care providers are the single most effective influencers in the adoption of amplification.

The role of the hearing device is to provide a calibrated output to the patient's ear that will enable them to hear. The hearing care provider can adjust these outputs based on the configuration of the hearing loss and the needs of the patient.

Hearing aids and a variety of assistive listening devices are available for the treatment of hearing loss. They are typically not covered by most insurance plans including Medicare and very often, the patient needs to pay out of pocket for hearing aids. The cost can range for \$1500 to \$6500 for a pair of devices. Often, the price of the device includes the follow-up service and adjustments of the product. The patient is buying both a product and follow up care. Patients "shop" around for the best price and sometimes make a price-based decision without evaluating the service component. With the lack of differentiation between the role of provider and the role of the device often people with hearing loss are left with the question "How do I ensure I am getting the best hearing health care?"

Transparency in pricing that clearly differentiates between the provider expertise and device costs make it easier for a patient to understand the value of the fitting, adjusting, and the fine-tuning part of the hearing device fitting process.



## Hearing Healthcare Partnership

A partnership between the hearing healthcare provider, the patient and the hearing device each with clearly defined roles is key to a successful amplification experience. The hearing healthcare provider evaluates and provides recommendations for amplification. This includes a device recommendation and concomitant steps that both the provider and the patient must commit to for a successful outcome with amplification.

The device selected must be appropriate for the hearing configuration and be able to meet the needs of the patient. There may be more than one device selected to meet the communication needs of the patient.

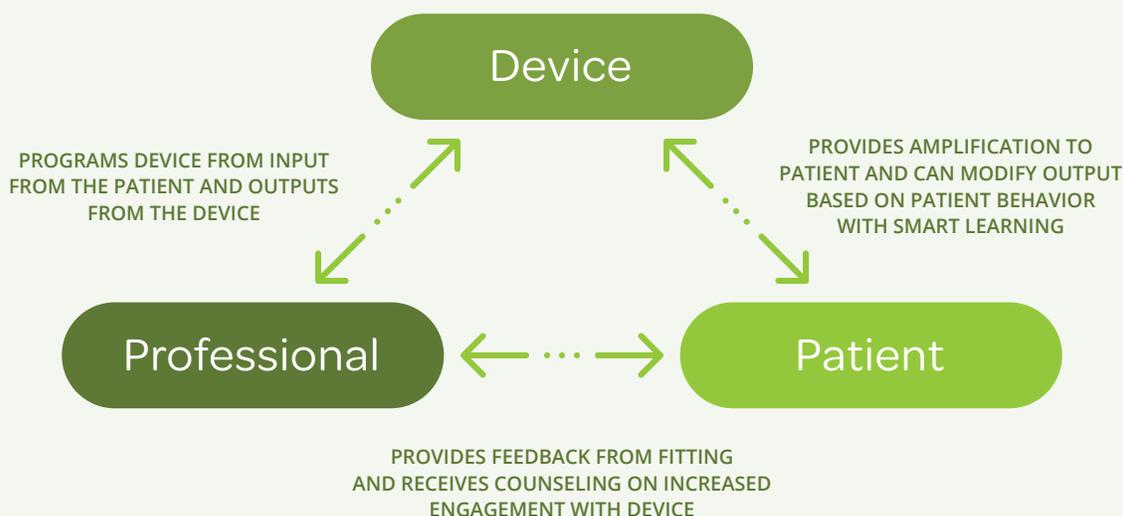
As can be seen from Figure A, the provider uses their expertise to recommend and program the hearing devices. They can also use the outputs from the device be it the performance or use statistics from data logging features and adjust the device to better serve the needs of the patient. The device is adjusted by the patient to meet their needs and the device in turn using smart logic learns the behavior and preferences of the patient and provides a more refined output each time.

The patient provides feedback on the performance of the device and in turn learns more about how the device can

be further used in different ways to provide benefit in a variety of situations. The amplification journey progresses through a multi-stage process till the patient reaches a point where they are confident that they are able to use the device in the prescribed way to get the optimum benefit in a wide variety of situations.

An astute health care consumer should follow up on the advice of the professional and ask for additional information about the treatment process. They must research credible sources of information and bring all their questions to the provider before the beginning of the amplification process. They must contact their insurance providers and verify their coverage, any limitations, or out of pocket costs that they might incur. They must ensure that the provider explains all the steps in the amplification process, including expectations of amplification, return and refund policies and warranty information. They need to feel confident that they have all the information they need to be successful with amplification. They must understand their role in ensuring the best outcomes with amplification. While this may be a time consuming process it will result in satisfaction with the process and better outcomes with amplification.

Figure A: Partnership between Provider, Patient and Device.





### Conclusion

In the health care space, greater transparency and accountability ensures that both providers and patients work together to ensure optimal outcomes. A partnership between the hearing health care provider and the patient in the role of an engaged health care consumer can achieve a successful experience navigating the many choices in today's hearing technology solutions.



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