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## **Research Behind NAL-NL3: The Next Generation Hearing Aid Fitting System**

### **Introduction**

Best-practice hearing aid fitting involves the use of a prescriptive method to derive appropriate gain targets based on the characteristics of the client.

### **Current Status**

NAL-NL2 continues to be the standard worldwide for fitting targets for adults, but was only designed to maximise speech intelligibility in quiet.

### **Problem/Motivation**

The needs of today's clients and hearing aid technology has changed since the introduction of NAL-NL2. The purpose of this work was to develop a modular fitting system that meets those needs.

### **Material and Method**

Novel algorithms were developed using large-scale data on hearing aid fittings, machine learning, psychoacoustic models, and both laboratory and real-world testing with new and experienced hearing aid users.

### **Results or Expected Results**

The new algorithms generated gain targets that departed significantly from NAL-NL2. Prospectively-collected data confirmed they achieved their design goals of improving speech intelligibility in noise for people with minimal hearing loss, and improving comfort in noise for existing hearing aid users while maintaining intelligibility.