

An investigation of the effectiveness of remote microphone technology for hearing aid users

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Introduction

Audiology practitioners are well placed to identify patients who would potentially benefit from provision of Assistive Listening Devices (ALDs). There are various useful ALDs available for Audiology patients; one example is the ReSound Multi Mic™ (MM) that can stream sound directly to a hearing aid (HA) via bluetooth. The MM can be used as a remote mic, table mic or by directly connecting to a device via headphone socket. Some ALDs can be issued by social services, however MMs are not routinely issued by social services in North Wales. Therefore, often these need to be purchased by the patient themselves, which presents as a barrier to accessing this beneficial technology.

There is currently no NICE recommendation on the evidence of benefit from the use of ALDs such as MMs. This project aims to look at the effectiveness of MMs for various Audiology patients.

Method

Certain patient groups were chosen for inclusion in the project; based on presumed likely benefit and to show the diversity of benefit, these were:

1. Severe-profound hearing loss (outside criteria or not eligible for CI)
2. Patients in employment
3. Unilateral hearing loss / Single-sided deafness
4. Patients in full/part-time education or attending University/college
5. Patients transitioning from paediatric to adult service

A total of 184 MMs were available to be issued to the above patient groups across BCUHB Audiology. Patients were identified for participation in the project during Adult Hearing Pathway assessments, reassessments or booked repair appointments, with appropriate needs set in their Individual Management Plan (IMP) relevant to the potential use of the MM. The MMs were issued to the patient at their hearing aid fitting or exchange appointment. The device was paired to their hearing aid(s) and patients were given instructions on how to use the MM device.

The use of the MM was then evaluated as part of the follow up appointment by reviewing the IMP outcome scores linked to reported clinical need and patient feedback. Here we present the outcome findings of the project.

Results

- 149 MMs issued to patients
- 33/149 (22%) patients did not use their MMs (see issues reported)
- 25/149 (17%) did not respond/attend FU
- Largest number fitted in Severe-Profound category
- Overall average IMP-OS score = **77/100**
- 50-60% of patients that got issued MM used it effectively
- Highly motivated patients were more likely to use their MM

Conclusion

- MMs are an useful, beneficial device for the hearing aid recipient.
- Success of MM use seems to be correlated to user's motivation.
- Audiology practitioners are:
 - well placed to identify patients who have a clinical need for additional ALDs such as MMs,
 - comfortable advising and discussing the devices with patients,
 - confident in fitting these devices alongside a hearing aid(s).

Patient feedback:

"Really helpful, helps me communicate with my wife, we can now walk together and talk, can converse easily in the car, eating out is successful and watching TV... can see potential for even more situations"

"Brilliant piece of kit – made me feel a lot more confident"

"Without the MM I would score the HA 13 but with the MM I would score 75, significant benefit at home, in car and in café"

"Using MM all the time, finding it is a significant improvement - before using the MM I wasn't hearing anything from the right side but I can now hear my wife clearly round the house. Still some residual difficulty in groups but hearing much better" (Unilateral hearing loss patient)

"Extremely happy, MM is a great help in all situations but especially outdoors, in background noise and in restaurants."

"I'm hearing better in work meetings, social situations and conference talks"

"MM is brilliant for hearing speech in noise and I can't fault it"

"I'm finding the MM a lot more effective than previous Cros aid, sound is a lot clearer, using for in the car, at home and the TV, struggling a lot less"

Issues reported by patients:

- Fiddly
- Too much hassle
- Management – difficult to use, struggle to connect
- Self-conscious
- Battery life
- Picking up BGN – rustling of clothes/hair, breathing
- Too old for technology

Patient category	MMs issued	Average IMP-OS score	% scoring a 80+ on IMP-OS
Severe-profound	62	75	47%
Education	5	95	100%
Employment	42	87	81%
Unilateral Hearing Loss	31	72	47%

With thanks to ReSound™ for their support in conducting this investigation.

