

Adult Cochlear Implant Action Group

Improving awareness and access



Hearing Loss and Cochlear Implants

Hearing loss is one of the most challenging health and social issues facing the UK. Being able to communicate defines us and underlies our ability to function in the world: to relate to family, friends and partners, have a job, lead productive lives and maintain our health and wellbeing through social connections. Hearing Loss risks destroying the ability to communicate and be part of the world. Those with hearing loss have higher rates of unemployment and underemployment. Hearing loss is associated with the risk of developing dementia and those with severe hearing loss have five times the risk of developing dementia as those with normal hearing. In older age people with hearing loss are at greater risk of social isolation and reduced mental well-being. (DoH & NHS England 2015)

Yet we have never had better solutions to address hearing loss.

The Costs of Hearing Loss

- In England the additional costs associated with hearing loss are estimated at £30.13 billion per year, including medical and social costs (Archbold, 2014; Lamb, 2016)
- Hearing loss is associated with greater use of medical and social services but increased use of hearing aids and cochlear implants leads to less use of health and social care services (O'Neil, 2016)
- Hearing Loss is the number one cause of Years Lost to Disability in those over 70 in Western Europe (Davis, 2016)
- Those with severe hearing loss are at five times the risk of developing dementia as those with normal hearing (Lin, 2012)
- In older age people with hearing loss are at greater risk of social isolation and reduced mental well-being (Shield, 2006)
- Older people with hearing loss are two and half times more likely to experience depression than those without hearing loss (Mathews, 2013) and are also at increased risk of major depression (Davis, 2011)
- Social isolation has an effect on health and in older people there is a strong correlation between hearing loss and cognitive decline (Lin, 2013), mental illness and dementia (Lin, 2011) and premature death (Contrera, 2015)
- Those with hearing loss have higher rates of unemployment and underemployment (Kochkin, 2007; 2010)

The Benefits of Cochlear Implants

Hearing aids can make a huge difference to the majority of people, but for those who are severely or profoundly deaf, cochlear implantation offers the main way of hearing spoken language again. **We now have world leading technology in cochlear implants to address hearing loss but many more people could benefit from this transformative technology than currently do.**

All the research on those with cochlear implants describe the profound changes to their lives, including greater ability to communicate, less reliance on others, increased self-esteem, being able to gain and retain employment. They have increased independence with less reliance on health and

Adult Cochlear Implant Action Group

Improving awareness and access



social care services and better health for longer. Recent research also shows that using hearing devices delays cognitive decline compared to those who do not. (Amieva, 2015; Deal, 2015)

"I feel that so much of my previous life and true self has been restored, regaining my pride and ability to contribute actively in society on an equal basis." (Adult with a cochlear implant)

Numbers of People who could benefit from a Cochlear Implant

The number of people who could benefit from cochlear implants in the UK is significant. **There are an estimated 100,000 people with a profound hearing loss and 360,000 with a severe hearing loss who might benefit from implantation at any one time. However recent figures show that at best only a very small proportion of adults of around 5% with profound hearing loss are implanted.**

(Raine, 2016) Yet the benefits of cochlear implants have been proven now over many years. Cochlear implants are cost effective on any current cost benefit measure but particularly if **the true costs of hearing loss are considered including the cost of NOT addressing hearing loss.** The cost benefit analysis for Cochlear Implants would be even more positive if these costs are taken into account. Further widening candidacy could be funded without additional longer term public costs through the savings made to other health budgets according to new research from the Ear Foundation (Lamb et al., 2015; 16; O'Neill, 2016). The World Health Organisation, on world hearing day, argued for expansion of access to cochlear implantation, confirming the cost-effectiveness of the intervention. (WHO 2017)

The Costs of Hearing Loss

Unaddressed hearing loss also places untold and mainly unacknowledged burdens on our health service as well as our lives. Recent research from the Ear Foundation found that in England **the additional costs associated with hearing loss are soaring to over £30.13 billion per year, for medical and social costs.** Hearing loss is associated with greater use of medical and social services but increased use of hearing aids and cochlear implants leads to less use of health and social care services. (Ear Foundation, 2015; 2016)

What needs to happen?

While over 14,000 children and adults now enjoy the advantages of Cochlear Implants in the UK many more people could benefit. Investing in hearing leads to a reduction in the costs of health, social care and statutory services associated with hearing loss. We cannot afford not to address hearing loss.

The single most important step is that NICE need review the current candidacy criteria and that new clinical guidance needs to be issued. The Action Group are calling on NICE to ensure an urgent review of the guidelines and for new clinical guidance to be issued extending the criteria.

The UK currently has one of the most restrictive tests across the whole of Europe, insisting on a level of hearing loss which is far above the point at which people have been proven to benefit. In this country it is not until the hearing loss is over 90 dB HL that people qualify while across the world the

Adult Cochlear Implant Action Group

Improving awareness and access



majority of clinics use a measure between 75–80 dB HL at frequencies above 1 kHz (Vickers, 2016a) and there is a trend towards using a threshold of 70 dB HL. We therefore have one of the lowest numbers of people benefiting from Cochlear Implants across Europe and in the developed world (Lamb, 2015, 16; O’Neil, 2016). Lovett (2015) in an observational controlled study looking at the hearing threshold level at which an individual is likely to benefit from receiving a cochlear implant recommended that criteria should be changed to 80 dB HL. This finding has been supported by other recent research to suggest that lower hearing threshold criteria would be appropriate (Lamb 2016, Vickers 2016b).

We also use a sentence test, **the BKB test, which is no longer fit for purpose** according to a recent review by experts in the field who concluded, *“Use of this measure (the BKB test) alone to assess hearing function has become inappropriate as the assessment is not suitable for use with the diverse range of implant candidates today.”* (Vickers 2016b)

A recent consensus meeting was held by the British Cochlear Implant Group Candidacy Working Party because its members thought this was the most pressing issues faced by the sector. That meeting of over 40 experts in the sector concluded that the current guidelines are too restrictive and that performance of cochlear implant recipients is much higher than it was in 2004 when the current candidacy rules were derived. The group agreed that the current guidelines should be changed and are developing a complete set of recommendations that will be posted in due course (<https://www.cicandidacy.co.uk/>). Some of the main conclusions suggest that;

- With hearing thresholds equal to or above 80 dBHL in better ear both unilateral and bilateral implantation is appropriate for a number of groups of people with hearing loss.
- BKB sentences are not accurate for assessing hearing aid benefit and measures should reflect demands of everyday listening. The group thought that a more reliable measure should be used such as a combination of assessments or word tests such as the AB words, scored by phoneme.
- Greater flexibility is required for the multi-disciplinary team to be able to make decisions to ensure that individuals with unusual configurations of hearing loss are not disadvantaged.

In making the criteria so restrictive **we are storing up massive additional costs to the NHS** in increased ill health and visits to doctors, increased mental health, larger social care bills and lost tax revenues. The guidelines have been in place since 2009 and not reviewed since 2011. While they were positive at the time, the costs have decreased in real terms, technology and surgical innovation have improved. **Cochlear Implants are a huge success story for the NHS but we need to ensure all who could benefit can receive one.**

There are others steps that the Government could directly do to ensure we improve lives and invest to save. **The Action Plan on Hearing Loss (DoH and NHS England 2015) made clear that there should be “timely access to specialist services when required, including assessment for cochlear implants”** we now need to ensure that is a reality for all those who could benefit.

Adult Cochlear Implant Action Group

Improving awareness and access



To achieve the vision of the Action Plan we need;

- NICE to issue new guidance on candidacy;
- NHS commissioners, NHS Improvement and NHS England to take into account the current overwhelming evidence of the benefits of cochlear implants in improving health and wellbeing and the potential savings over time to health and social care budgets in commissioning decisions and ensuring that funding is available;
- In line with the Action Plan on Hearing Loss commissioners of health care should look at more innovative models of funding and service delivery including opportunities created by telemedicine, service innovation and new delivery models to ensure more people can access implants;
- The National Health Service (NHS), working with the audiology, medical professions and users should develop a targeted programme to promote greater awareness of the benefits of cochlear implants for GPs and other health professionals including the importance of early intervention and integrated planned support as part of the Action Plan in England;
- Professionals in Audiology and related services have the training and support to ensure that they can properly identify and refer those who could benefit from cochlear implantation;
- More research into the links between hearing loss and dementia and mental health issues.

Government Response

In a recent debate on assessment for CI's in the House of Commons responding to the Chair of All Party Group on Deafness Jim Fitzpatrick MP the Health Minister David Mowat said;

"I will also see to it that the issues raised in this debate, in both the hon. Gentleman's remarks and my remarks, go to NICE as part of the process, so that it is under no illusion as to whether Parliament has considered the matter, and so that it knows that we are extremely keen that it comes to the right answer. It is for NICE to decide whether the BKB test is right and whether 90 dB HL is the right measure."

The Minister also noted that there is an issue around provision for older people getting access to cochlear implants; *"The hon. Gentleman talked about 5% of adults being able to benefit from the technology. My figure is 7%, but that is not something that we will quibble about. The uptake is much higher among children with profound hearing loss, with 74% of children under the age of three and 94% of under-17s having an implant. That could lead us to think that commissioners do not always consider the technology as an appropriate solution when a retired or older person has profound hearing loss. In a sense, I suppose that is age discrimination."*

And that supported the fact that CI's need greater promotion within the health system;

"We will make sure that the fact that cochlear implants can make such a radical difference to people's lives is emphasised with GPs as part of the process."

Hansard 24th March 2017.

Adult Cochlear Implant Action Group

Improving awareness and access



The NHS has been a leader on Cochlear Implant technology and helped transform many people's lives. The NICE guidance was welcome when originally produced in 2009 but we are now falling behind the access available in many developed countries. It is our health and social care services which will pay the cost of not intervening early for those who could benefit. We are also failing all those people whose lives could be transformed by this technology.

References

Amieva, H. Ouvrard, C. Giulioni, C. Meillon, C. Rullie, R. L. Dartigues, JF. Self-Reported Hearing Loss, Hearing Aids, and Cognitive Decline in Elderly Adults: A 25-Year Study. *J Am Geriatr Soc.* 2015 Oct;63(10):2099-104.

Cohen, S. Psychological stress and susceptibility to upper respiratory infections. *Am J Respir Crit Care Med*, 152: S53-S58, 1995

Contrera, K, J. Betz, J. Genther, D, J. Lin, F R. (2015) Association of Hearing Impairment and Mortality in the National Health and Nutrition Examination Survey. *JAMA Otolaryngol Head Neck. Surg.* Pub online Sep 2015.

Davis, A. (2011) National Survey of Hearing and Communication.

Deal, J.A. Sharrett, A.R. Albert, M.S. Coresh, J. Mosley, T.H. Knopman, D. Wruck, L.M. Lin, F.R. Hearing impairment and cognitive decline: A pilot study conducted within the atherosclerosis risk in communities neurocognitive study. *Am J Epidemiol.* 2015;181 (9):680-690.

Department of Health and NHS England. Action Plan on Hearing Loss 2015.

Kochkin, K. (2007) The Impact of Untreated Hearing Loss on Household Income. Better Hearing Institute instruments on quality of life. *Hearing Review* 7(1).

Kochkin, S. (2010). The efficacy of hearing aids in achieving compensation equity in the workplace. *The Hearing Journal*, 63(10): 19–28. *Medicine*; 172:369-71.

Lamb, B. Archbold, S. O'Neill, C. Bending the Spend: Expanding technology to improve health, wellbeing and save public money. *Ear Foundation* 2015.

Lamb, B. Archbold, S. O'Neill, C. Investing in Hearing Technology Improves Lives and Saves Society Money. *Ear Foundation* 2016.

Lamb, B. (2016) Expert opinion: Can different assessments be used to overcome current candidacy issues?, *Cochlear Implants International*, 17:sup1, 3-7,

Matthews, L. (2013) Hearing Loss, Tinnitus and Mental Health. A literature review. *Action on Hearing Loss*.

Morris, A.E. Lutman, M.E. Cook, A.J. Turner, D. An economic evaluation of screening 60- to 70-year-old adults for hearing loss. *Journal of Public Health* 2012.

Adult Cochlear Implant Action Group

Improving awareness and access



Lin, F.R. Metter, E. O'Brien, R.J. Resnick, S.M. Zonderman AB, Ferrucci L. Hearing Loss and Incident Dementia. Arch Neurol. (2011); 68 (2):214-220.

Lin and Ferrucci (2012) Hearing loss and falls among older adults in the United States. Archives of Internal Medicine 172(4): 369-371.

Lovett RE, Vickers DA, Summerfield AQ. Bilateral cochlear implantation for hearing-impaired children: criterion of candidacy derived from an observational study. Ear Hear. 2015 Jan; 36(1):14-23

O'Neill, C., Lamb, B., Archbold, S. (2016) Cost implications for changing candidacy or access to service within a publicly funded healthcare system? Cochlear Implants International, 17: S1, 31-35

Raine, C., Atkinson, H., Strachan, D, R., & Martin, J M. (2016) Access to cochlear implants: Time to reflect, Cochlear Implants International, 17: S1, 42-46.

Shield, B, 'Evaluation of the social and economic costs of hearing impairment'. A report for Hear-It AISBL, 2006.

Vickers, D, De Raeve L, and Graham J (2016a) International survey of cochlear implant candidacy Cochlear Implants International 17: S1, 36-41

Vickers, D. Kitterick, P. Verschuur, C. Leal, C. Jenkinson, L. Vickers, F. & Graham, J. (2016b) Issues in Cochlear Implant Candidacy. Cochlear Implants International, 17: S1, 1-2.

WHO Report for World Hearing Day. 2017. <http://www.who.int/pbd/deafness/world-hearing-day/2017/en/> for their report Global cost of unaddressed hearing loss and the cost-effectiveness of interventions.

For more information on this briefing please contact Brian Lamb OBE, Chair of the Action Group, brian.publicaffairs@gmail.com Tel 07779 146 022 or 01727 853 066.

The Adult Cochlear Implant Action Group includes Action on Hearing Loss, British Academy of Audiology, British Cochlear Implant Group, British Society for Audiology, Cochlear Implanted Children's Support Group, Ear Foundation, Hearing Link, National Cochlear Implant Users' Association, National Association of Deafened People and implant centres throughout the UK. It thus brings together clinicians, health professionals, researchers, charities and cochlear implant users who share a common commitment to make cochlear implants available to all adults who stand to benefit from this technology. Marjorie Sherman House, 83 Sherwin Road, Nottingham NG7 2FB. Telephone 0115 942 1985 or 07779 146022.