

ADULT HEARING LOSS: EUROPE'S GROWING CHALLENGE

Investing in hearing technology improves lives and saves society money

Hearing loss is one of the most challenging health and social issues facing Europe. Communication 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 robs us of the ability to communicate and therefore impacts on every facet of life. Yet its impact often goes unnoticed and unaddressed.

- **51 million adults** across Europe have hearing loss and this number is growing (*EFHOH 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** (*Cohen 1995*) 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 (*Friburg 2014, Contrera 2015*)
- Hearing loss is associated with **greater use of medical and social services**
- Those with hearing loss have **higher rates of unemployment** and underemployment (*Kochkin 2015*)

Report and research supported by an educational grant from Cochlear. The report is the work of the authors Brian Lamb OBE, Sue Archbold PhD and Ciaran O'Neill.



"...you lose self-esteem, you don't want to mix, anything like that because that's what deafness does to you."

"No social life. Feelings of isolation. Frustration. Unable to mix even with family."

"That was actually quite frightening. I was possibly going so deaf that I wouldn't be able to work properly."

Adult with hearing loss



Hearing Loss is a major unaddressed public health issue across Europe which leads to substantial costs to the individual and to public services.

Today's hearing aids and implants can change this:

- The latest hearing technologies, including hearing aids and implants, have been shown to change the lives of those with hearing loss and to be cost effective (Morris, 2012; Perez & Edmonds, 2012; Bond, 2009)
- The use of hearing aids and cochlear implants increases employability and earning power (Kochkin, 2010; Clinkard, 2015)
- The use of hearing aids is associated with less cognitive decline (Deal, 2015)
- Hard of hearing people are significantly less embarrassed to wear hearing aids and users are more satisfied in 2015 compared to 2009 (Ehima-Anovum, EuroTrak)
- There is great variation across Europe of utilisation of hearing technologies such as hearing aids and cochlear implants: for example, for hearing aids: Spain has 2.8 per 1,000 population and Denmark has 22.4 per 1,000
- For the people with self-reported hearing loss, the average of 29 countries is 53% uptake for hearing aids. Nine countries do 10% better than this; four countries are within 10% and sixteen countries are more than 10% below (Ehima-Anovum, EuroTrak)
- In European countries with greatest access to hearing technologies, such as Denmark, the cost associated with use of other services such as primary care and inpatient stays by those with hearing loss is lower (Lamb, 2016)
- In many countries access to cochlear implantation is low; for example Raine (2013) estimated 5% of those who could benefit receive an implant
- People with hearing loss put a very high economic value on the benefit of their cochlear implant (Ng, 2015)
- Criteria and access for cochlear implantation varies a great deal across countries (Archbold, 2014)



"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 cochlear implants

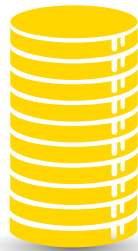
Hearing aids are a long established intervention bringing very significant benefits in enhancing communication and ensuring higher quality of life with less risk of developing costly associated health problems such as dementia, depression and mental health issues, falls and social isolation.

People with hearing loss fitted with cochlear implants describe profound changes to their lives, including greater ability to communicate, less reliance on others for communication support, gaining and retaining employment, and increased independence for themselves, with less reliance on health and social care services.

The real cost of hearing loss . . .

There is increasing evidence within Europe and across the world of the economic impact of hearing loss to society to meet the increased medical and social costs incurred, and take into account lost earnings. The annual economic costs to European countries has been estimated as:

GERMANY €30 BILLION
FRANCE €22 BILLION
UNITED KINGDOM €22 BILLION
ITALY €21 BILLION
SPAIN €16 BILLION
POLAND €14 BILLION
THE NETHERLANDS €6 BILLION



(Duthey, 2013)

A more recent study in England found the costs associated with hearing loss were estimated at £30.13 billion per year, including loss of medical and social costs *(Archbold, Lamb, O'Neil, 2015)*. In France, a recent estimation was 23.4 billion euros. *(Kervasdoué, J. Hartmann, L. 2016)*

The cost of **NOT** providing hearing technologies has been shown to be greater than the cost of providing them. *(O'Neil et al., 2016)*

Health systems need to calculate the real health costs of hearing loss. Not providing hearing aids and cochlear implants should be seen as a massive risk. It stores up more costly demands on health services and social care for the future.

We need to change thinking and ensure that we include the cost of **NOT** addressing hearing loss when we calculate the public health costs of addressing hearing loss.

"Very confusing in meetings, not really knowing what was going on. I felt that I couldn't do my job."

"I lost my hearing suddenly and completely at the age of 24. I had a new baby so was on maternity leave. It was life changing. I lost all my confidence and was afraid of being left alone. I was unable to return to my job, as a solicitor."

Adults with hearing loss

Recommendations

Never have the opportunities been so great to address the communication and health needs of those with hearing loss. There have been advances in hearing aids and implants which has revolutionised their impact for those with hearing loss. The cost effectiveness of these hearing technologies has been proven and increases as their prices have fallen significantly and their effectiveness increased.

Hearing loss has a considerable impact for both the individual and society, but today something can be done about this to ensure today's technologies are available for all who need them:

- National Adult Hearing Screening Programmes should be introduced to ensure that people are more aware of hearing loss and take action early to improve health and wellbeing and prevent additional costs later
- Funding of hearing technologies should take into account the high cost of NOT treating hearing loss
- Funding schemes should include the full cost of hearing aids and cochlear implants as this would save money overall for the health, social care and welfare systems of states
- Public health strategy should be developed in each European jurisdiction along the lines of the UK Action Plan on Hearing Loss to make hearing loss a focus of public health services
- A review of candidacy criteria for cochlear implants and hearing aids in those European states with restrictive measures
- Develop innovative service models including the latest innovations in teletherapy and health provision so that services can be delivered cost effectively
- A new EU standard for patient provision for cochlear implants that mirrors EN 15927:2010 for hearing aid users should be introduced.

Increasing access to hearing technologies changes lives and saves society money. For the full report 'Spend to Save, a European strategy' visit www.earfoundation.org.uk

References

Bond M, Mealing S, Anderson R, Elston J, Weiner G, Taylor RS, Hoyle M, Liu Z, Price A, Stein. (2009) The effectiveness and cost effectiveness of cochlear implants for severe and profound deafness in children and adults: a systematic review and economic model. *K Health Technol Assess* 2009. Sep; 13 (44).

Clinkard D, Barbic S, Amodi H, Shipp D, Lin V. (2015) The economic and societal benefits of adult cochlear implant implantation: A pilot exploratory study.

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

Duthey, B. A Public Health Approach to Innovation. Update on 2004 Background Paper Background Paper. 6.21 Hearing Loss. 2013.

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 (2015) The Action Plan on Hearing Loss. London: Department of Health and NHS England. www.england.nhs.uk/2015/03/23/hearing-loss/

EFHOH 2016 Survey European Standard EN 15927:2010. Services offered by hearing aid professionals. http://media.wix.com/ugd/c2e099_f1cb79cf2a7e48b58bc9b1a12d7d4a3c.pdf

EuroStat 2015 data retrieved at <http://ec.europa.eu/eurostat>

EuroTrak data retrieved at www.ehima.com/documents/

Kervasdoué, J. Hartmann, L. (2016) Economic Impact of Hearing Loss in France and Developed Countries A survey of academic literature 2005-2015.

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. (2013). Adult Cochlear Implantation: Evidence and experience. The Case for a Review of Provision. Ear Foundation.

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.

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.

Lin FR, Yaffe K, Xia J, Xue QL, Harris TB, Purchase-Helzner E, et al. (2013) Hearing loss and cognitive decline in older adults. *JAMA Intern Med*. 2013; 173.

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.

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:sup1, 31-35

Raine, C. 2013. Cochlear implants in the UK: Awareness and utilisation. *Cochlear Implants International Supplement* 1, vol. 14: S32-S37.

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

Ng Z, Brian Lamb, Suzanne Harrigan, Sue Archbold, Sheetal Athalye & Sarah Allen (2016) Perspectives of adults with cochlear implants on current CI services and daily life, *Cochlear Implants International*, 17:sup1, 89-93.



The Ear Foundation®

Marjorie Sherman House,
83 Sherwin Road,
Lenton,
Nottingham,
NG7 2FB

Tel: 0115 942 1985 Email: info@earfoundation.org.uk

www.earfoundation.org.uk

Charity Number: 1068077

