

"How can we leverage the World Report on Hearing (WHO) to minimize the impact of untreated hearing loss?"

Mark Laureyns

- WHO – Make Listening Safe Workgroup & World Hearing Forum
- AEA – European Association of Hearing Aid Professionals – Brussels - Belgium
- Thomas More University College – Department of Audiology – Antwerp - Belgium
- CRS – Amplifon Centre for Research & Studies – Milan - Italy



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Cochlear implants now and in the future:
What do we know and what can we expect?



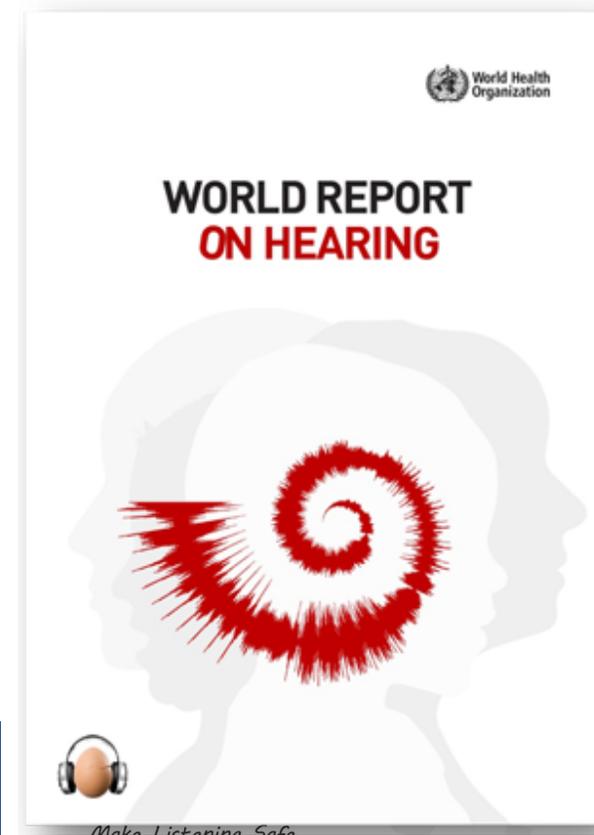
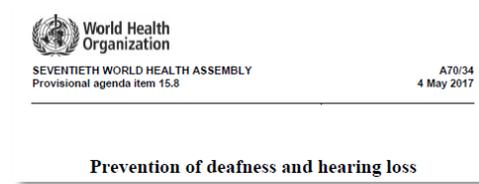
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The WHO – World Report on Hearing



- The 70th World Health Assembly (2017) approved and released resolution (WHA70.13) on “Prevention of deafness and hearing loss”.
- In this resolution, states that “**a world report on ear and hearing care, based on the best available scientific evidence shall be created.**”
- WHO’s programme for ear and hearing care, took on the task to develop this world report in collaboration with experts and stakeholders in the field of ear and hearing care.
- The **World Hearing Forum**, created a workgroup to help promote the **World Report on Hearing**, which was launched on the 3rd of March 2021



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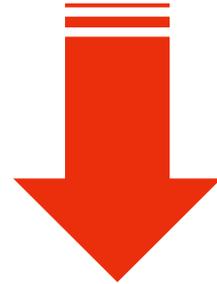
Impact of unaddressed hearing loss - maintaining Communication with others in their environment



The Association Between Hearing Loss and Surgical Complications in Older Adults

Ryan J. Huang¹, Kristal M. Riska^{1,4}, Alexander Gordee², Sarah B. Peskoe², Howard W. Francis¹, David L. Witsell¹, and Sherri L. Smith^{1,3,4,5}

EAR & HEARING, VOL. 43 – May/June 2022, NO. 3, 961–971



Every 10 dB increase in hearing loss was associated with a 14% increase in the odds of developing a postoperative complication

After adjusting for age, sex, race, and comorbidities, hearing loss was associated with an increase in the odds of developing postoperative complications

SECTION 1 THE IMPORTANCE OF HEARING ACROSS THE LIFE COURSE

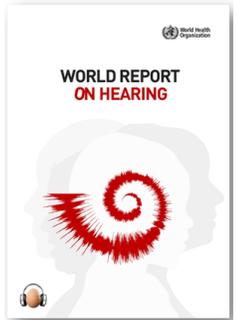
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1.4.1 IMPACT AT THE INDIVIDUAL LEVEL

When unaddressed, hearing loss impacts many aspects of life:

LISTENING AND COMMUNICATION (162)

The greatest challenge for people with unaddressed hearing loss is in maintaining communication with others in their environment. The extent of the problem varies depending on the determinants listed above and may range from a person finding it difficult to listen to quiet speech or speech in noisy surroundings, to inability to hear even loud warning sounds including alarms. People with hearing loss often need to ask others to repeat themselves and may find it difficult to communicate in the workplace or to carry on a routine conversation. These difficulties have been further exacerbated as a result of the essential preventive measures against COVID-19 (163). While masks and social distancing are undisputed allies in the fight against the virus, these create additional obstacles for people with hearing loss, who often rely on lip reading and other facial and physical clues to communicate (163).



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Impact of unaddressed hearing loss - Employment in adults

The Journal of
**Laryngology
& Otology**

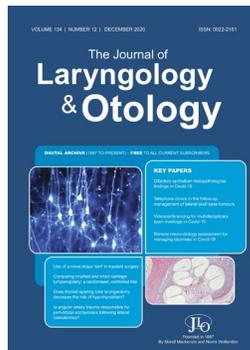
cambridge.org/jlo

Hearing loss and employment: a systematic review of the association between hearing loss and employment among adults

A Shan¹, J S Ting¹, C Price², A M Goman¹, A Willink^{1,3}, N S Reed^{1,4} and C L Nieman^{1,5}

J Laryngol Otol 2020;134:387–397

Conclusion. The highest quality studies currently available indicate that adult-onset hearing loss is associated with unemployment.



In northern Finland, people with unaddressed hearing loss are twice as likely to be unemployed as those with normal hearing (181).

EMPLOYMENT

An association between hearing loss and employment in adults is evident. Students with hearing loss often demonstrate a lack of career-planning and decision-making which are required for success in the workplace (182, 183). Overall, adults with hearing loss have increased odds of unemployment or underemployment (184–186). In northern Finland, a longitudinal study showed that those aged 25 years, with clinically measured hearing loss, were twice as likely to be unemployed as those

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Impact of unaddressed hearing loss - Burnout Signals

Hasson et al. *BMC Public Health* 2011, 11:130
<http://www.biomedcentral.com/1471-2458/11/130>



RESEARCH ARTICLE

Open Access

Stress and prevalence of hearing problems in the Swedish working population

Dan Hasson^{1,2*}, Töres Theorell², Martin Benka Wallén^{1,2}, Constanze Leineweber², Barbara Canlon¹

Burnout

There was a statistically **significant difference in the prevalence of hearing problems** between those with **higher burnout scores** compared to those with **lower scores**



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Impact of unaddressed hearing loss - Burnout Signals

Mark Laureyns^{1, 2, 3} - Dutré Lotte¹, Cloots Van de Wouwer Kirsten¹, Verbist Anke¹, et al, Thomas More University College 2022 (253 subjects - 180 machet subjects)

new



Results.

Primary Burnout Signals associated with:

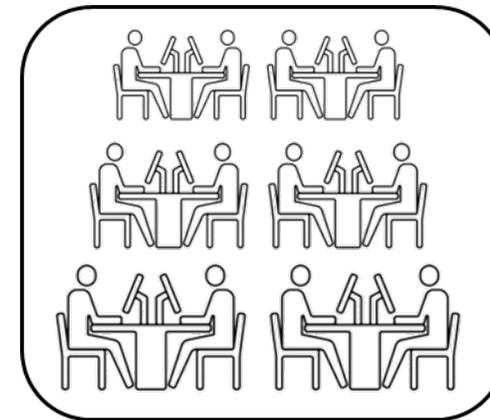
- **ANL Acceptable Noise Level test** (p -value = 0.002**)
- self-reported **noise acceptance** (p -value = 0.005**)
- self-reported **understanding speech in noise** (p -value = 0.02*)
- self-reported **auditory concentration** (p -value = 0.002**)
- self-reported **tinnitus** (p -value = 0.02* - large group $N = 253$)

Harvard
Business
Review

The Truth About Open Offices

There are reasons why they don't produce the desired interactions. by
Ethan Bernstein and Ben Waber

From the Magazine (November-December 2019)



<https://hbr.org/2019/11/the-truth-about-open-offices>



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Impact of unaddressed hearing loss - Social isolation and Loneliness



Conclusions : We found significant adverse effects of poor hearing on emotional and social loneliness for specific subgroups of older persons.

People with hearing loss, particularly those who do not use hearing aids, show elevated levels of loneliness

SECTION 1 THE IMPORTANCE OF HEARING ACROSS THE LIFE COURSE

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SOCIAL ISOLATION AND LONELINESS

Hearing loss contributes to both social isolation and loneliness at all ages, more specifically in women and older adults (188, 189), possibly because of decreased participation in activities, or by having a smaller social network. This is observed especially in places where access to ear and hearing care is limited (190). The impaired ability to comprehend auditory information and maintain conversations (191) may lead to avoidance of potentially embarrassing social situations by the affected persons (192). Hence, people with hearing loss, particularly those who do not use hearing aids, show elevated levels of loneliness (188, 193, 194).

Social isolation and loneliness due to hearing loss can have important implications for the psychosocial and cognitive health of older adults. Lack of engagement and feeling lonely may mediate the pathway linking hearing loss and cognitive decline (195, 196). Furthermore, both can contribute to worsened mental health, leading to experience of depression and distress (189, 197, 198).



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Impact of unaddressed hearing loss - Social isolation and Loneliness

Otolaryngology–Head and Neck Surgery

> Otolaryngol Head Neck Surg. 2020 May;162(5):622-633. doi: 10.1177/0194599820910377. Epub 2020 Mar 10.

Hearing Loss, Loneliness, and Social Isolation: A Systematic Review

Aishwarya Shukla^{1 2}, Michael Harper¹, Emily Pedersen², Adele Goman^{2 3}, Jonathan J Suen^{2 4}, Carrie Price⁵, Jeremy Applebaum¹, Matthew Hoyer¹, Frank R Lin^{2 3 6}, Nicholas S Reed^{2 3 6}

Conclusions. Our findings that hearing loss is associated with loneliness and social isolation have important implications for the cognitive and psychosocial health of older adults.

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Impact of unaddressed hearing loss - Depression and report lower Quality of Life



Regular Research Article

Association of Hearing Loss With Neuropsychiatric Symptoms in Older Adults With Cognitive Impairment

Alexander S. Kim, M.T.M., Emmanuel E. Garcia Morales, Ph.D., Halima Amjad, M.D., M.P.H., Valerie T. Cotter, Dr.N.P., Frank R. Lin, M.D., Ph.D., Constantine G. Lyketsos, M.D., Milap A. Nourangi, M.D., M.Be., Sara K. Mamo, Au.D., Ph.D., Nicholas S. Reed, Au.D., Sevil Yasar, M.D., Ph.D., Esther S. Ob, M.D., Ph.D., Carrie L. Nieman, M.D., M.P.H.

2020 The American Journal of Geriatric Psychiatry Oct 14; S1064-7481(20)30510-8. Online ahead of print. p. 1-10

Positive association between audiometric hearing loss and depressive symptom severity. Additionally, the use of hearing aids was inversely associated depressive symptom severity

MENTAL HEALTH

Across the life course, people with hearing loss commonly have higher rates of depression and report lower quality of life compared with their hearing peers (199–201). Social withdrawal and altered social interactions are frequently observed in persons with hearing loss, as well as feelings of embarrassment, rejection and anxiety (162). Often, during conversation, their communication partners experience frustration and anger (162).

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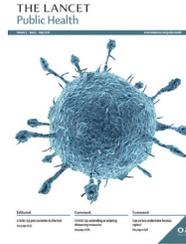
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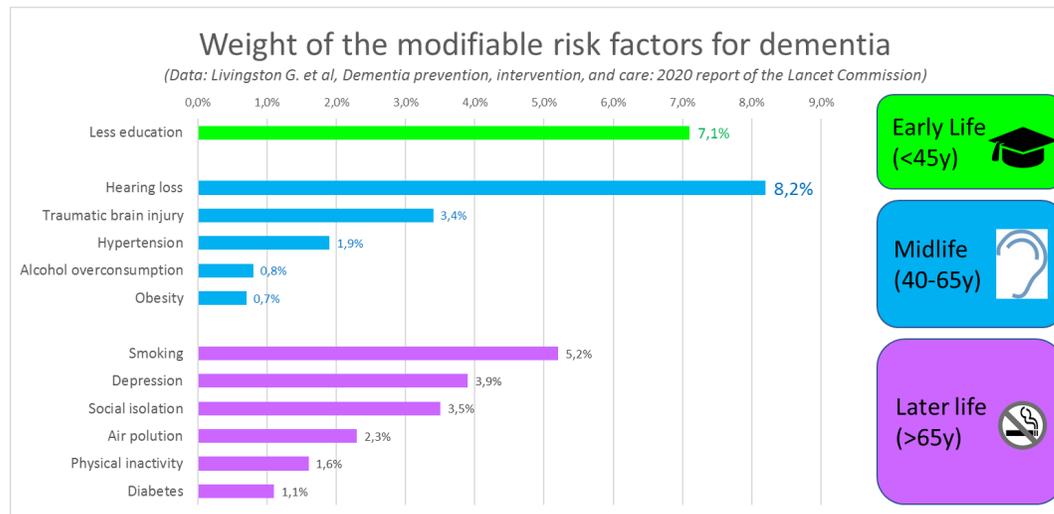
Impact of unaddressed hearing loss - age-related Dementia

Dementia prevention, intervention, and care: 2020 report of the Lancet Commission

Gill Livingston, Jonathan Huntley, Andrew Sommerlad, David Ames, Clive Ballard, Sube Banerjee, Carol Brayne, Alistair Burns, Jiska Cohen-Mansfield, Claudia Cooper, Sergi G Costafreda, Amit Dias, Nick Fox, Laura N Gitlin, Robert Howard, Helen C Kales, Mika Kivimäki, Eric B Larson, Adesola Ogunniyi, Vasiliki Orgeta, Karen Ritchie, Kenneth Rockwood, Elizabeth L Sampson, Quincy Samus, Lon S Schneider, Geir Selbæk, Linda Teri, Naaheed Mukadam



Modifying 12 risk factors might prevent or delay up to 40% of dementias. **At Midlife (age 45–65 years), Hearing Loss represents 8% of 40% of modifiable risk factors**



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COGNITION

Language deprivation risks delayed cognitive development in children, which can be avoided if they receive suitable intervention during the initial years of life (170, 172). Even unilateral hearing loss, occurring in children, affects the development of cognitive skills (168). The impact on cognition is not limited to children but is clearly evident in adult-onset hearing loss as well. **Hearing loss is the largest potentially modifiable risk factor for age-related dementia (173, 174).**



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What are the Consequences of Untreated Hearing Loss?



Communication
(e.g. impact on health)

Employment
& Burn-out

Quality of life

Social Isolation

Depression

Psychosocial and
cognitive health

Loneliness

Dementia



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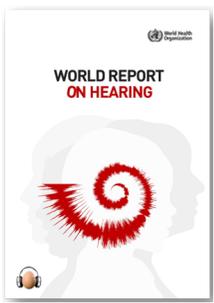




World Health Organization

ACTION PLAN

WHO Action & Intervention Plan



Prevention

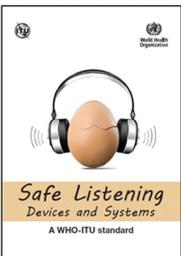


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#safelistening standards:

- Devices & Systems
- Personal Amplifiers
- Venues & Events



WHO/ITU SL
Devices & Systems



ITU H.870 SL
Devices & Systems



ITU H.871 SL
Personal Amplifiers

Screening



hearWHO



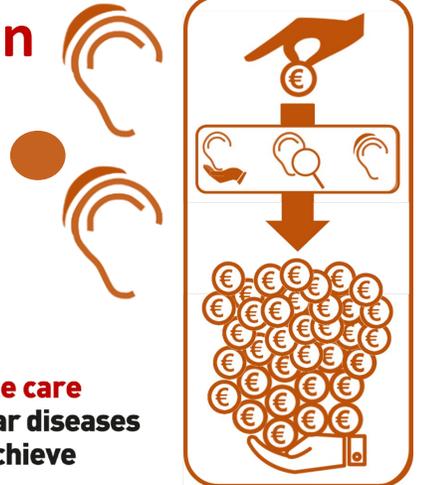
- All adults
 - 50—64 years: every 5 years
 - Above 65 years: every 1-3 years
 - Align with other health checks

Hearing Screening:

- Newborns & Infants
- Schoolbased
- Adults: from 50 years onwards

Intervention

PATIENT-, CLIENT-, PERSON- OR PEOPLE-CENTRED CARE in General Health Care and Hearing Care A CES White Paper



Timely and appropriate care ensures people with ear diseases and hearing loss can achieve their full potential

Intervention:

- Timely and appropriate hearing care
- Investing in hearing care is cost-effective: € 31 to € 1 in W. Europe
- Importance of Person Centred Care



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World Health Organization

ACTION PLAN

INTERVENTION



EAR AND HEARING CARE

WHO European Region

TODAY,

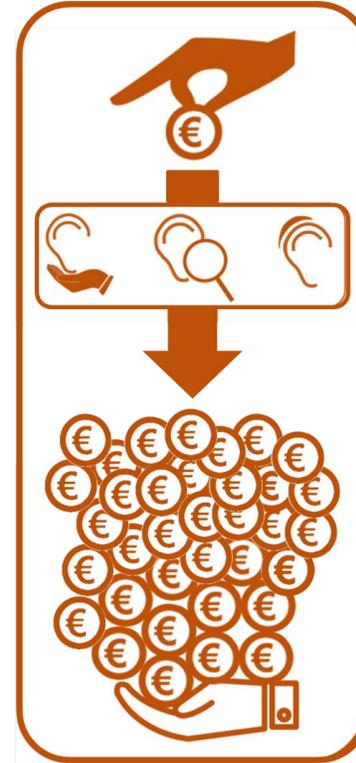
196
MILLION

PEOPLE IN THE REGION LIVE WITH HEARING LOSS

BY 2050,

236
MILLION

PEOPLE ARE PROJECTED TO HAVE PROBLEMS WITH THEIR HEARING



Ear and hearing care interventions are cost-effective



US\$ 1.20



An annual additional investment of less than US\$ 1.20 per person is needed to provide ear and hearing care services

Hearing loss is expensive to communities and costs the region US\$ 225 billion annually



US\$ 225 billion



Over a 10-year period, this promises a return of nearly US\$ 31 for every US dollar invested

WHO/UCN/NCD/SDR 20.18
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For more details refer to: <https://www.who.int/health-topics/hearing-loss>



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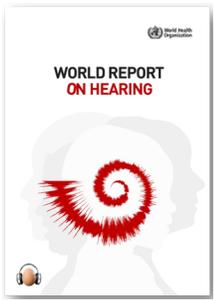




World Health Organization

ACTION PLAN

INTERVENTION



Timely and appropriate care ensures people with ear diseases and hearing loss can achieve their full potential



Medicines and surgery



Hearing aids and implants



Rehabilitative therapy



Sign language access



Hearing assistive technology



Captioning services

PATIENT-, CLIENT-, PERSON- OR PEOPLE-CENTRED CARE in General Health Care and Hearing Care

A CRS White Paper



2.4 Person centred ear and hearing care



CLINICAL PROFILE - WHICH INCLUDES:

Otological status

Audiological profile: degree; type; age of onset

Other functional limitations such as visual impairment; developmental disabilities e.g. autism

COMMUNICATION NEEDS - WHICH INCLUDE:

Hearing difficulties experienced

Communication requirements

COMMUNICATION PREFERENCES - SUCH AS:

Oral-aural

Visual/tactile

AVAILABLE RESOURCES

What resources are possible given the environment, health infrastructure and clinical services available

Assessing patient needs and values

Sharing power Patient involvement

Client Oriented Scale of Improvement – COSI

My specific personal auditory goals

- Goal 1: _____
- Goal 1: _____
- Goal 1: _____
- Goal 1: _____

Change

Final Ability

#hearingcare



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Come and join the World Hearing Forum

<https://www.who.int/activities/promoting-world-hearing-forum>



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- CRS Whitepaper “PATIENT-, CLIENT-, PERSON- OR PEOPLE-CENTRED CARE - General Health Care and Hearing Care”: <https://crs.amplifon.com/en/publications?yearFilter=2022>



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