



**THE KEY FACTS OF HEARING LOSS AND THE CONSEQUENCES
TO THE INDIVIDUAL AND THE SOCIETY**

2020

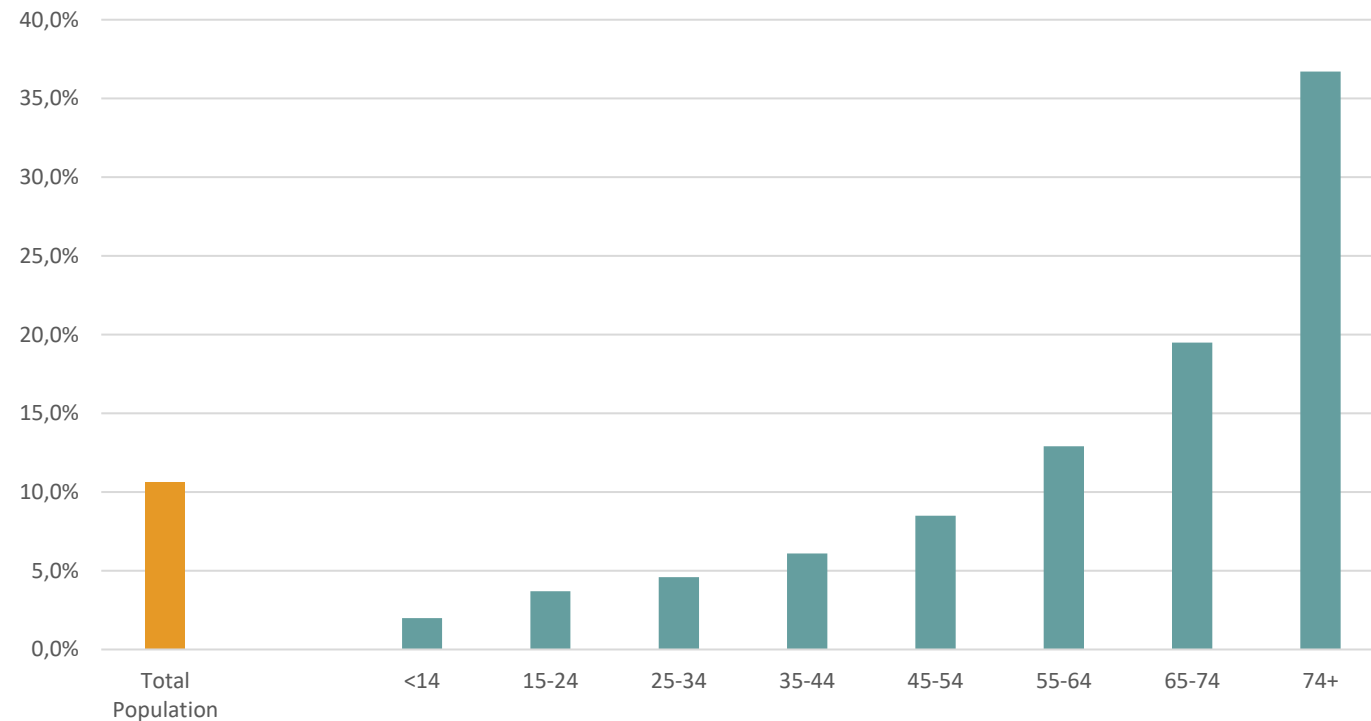
The size of the problem

**On average, 1 in 10 say they hearing loss.
(self-reported)**

Hearing loss prevalance increases with age.

Hearing loss prevalence increases with age

% prevalence of self-reported hearing loss across age



Source: EuroTrak pooled data GER, FRA, UK, 2018

1. Personal impact of hearing loss

Quality of life

Quality of life

- People with an untreated hearing loss experience lower quality of life. The more severe the hearing loss, the greater the loss in quality of life. Hearing loss has more of an impact on quality of life than many other chronic conditions.

Grade of HL	Mild 20-34 dB	Moderate 35-49 dB	Moderate /severe 50-64 dB	Severe 65-79 dB	Profound 80-94 dB
Health utilities index*	0.8	0.7	0.6	0.5	0.4
Loss in HUI due to HL	0.05	0.15	0.25	0.35	0.45

*HUI (Health Utilities Index) values assigned to grades of hearing loss.
The loss in HUI due to hearing loss again assumes a HUI of 0.85 for the general, unimpaired, population.

- According to Global Burden of Disease, hearing loss affects people’s lives more negatively than both blindness and vision impairments. And also more than Alzheimer’s and other dementias.

Quality of life

Global Burden of Disease:

- Hearing loss affects people's life more than blindness and vision impairments. And more than Alzheimer and Dementia

Shield-report for Hear-it AISBL, 2019:

Personal consequences of untreated hearing loss

- Lower quality of life
- The more severe the Hearing loss the higher the loss of quality of life
- Fatigue, both during and after work
- Worse sleep
- More depressive symptoms
- Less physical activity

Social withdrawal

Social withdrawal

Shield:

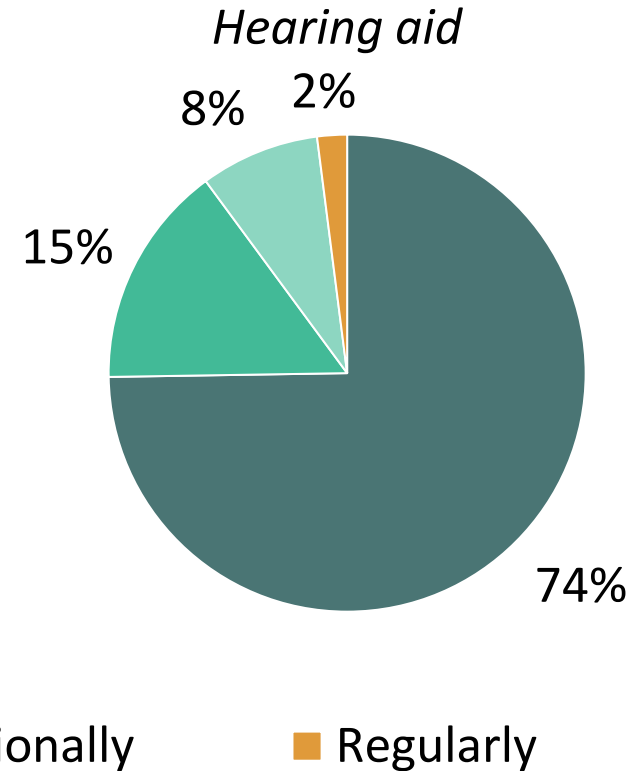
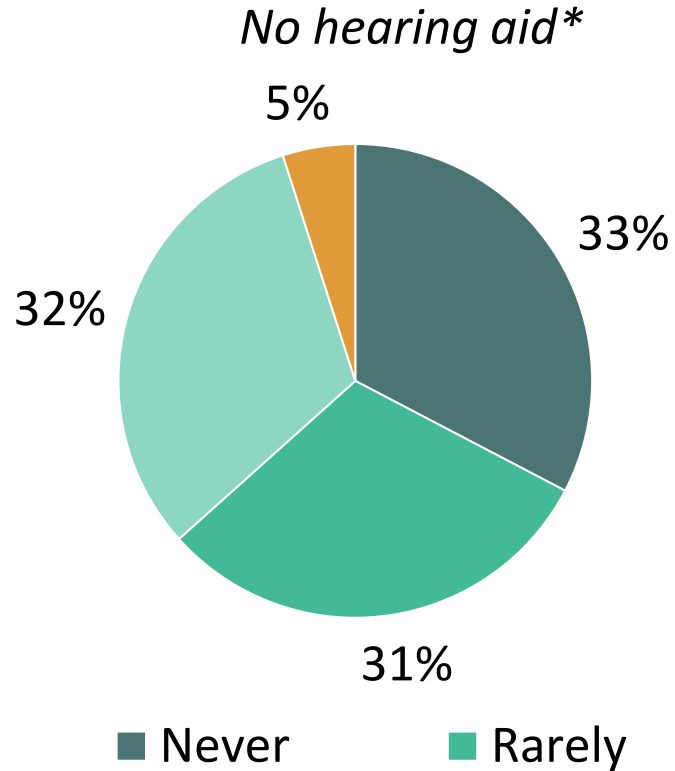
- Untreated hearing loss can lead to loneliness and social isolation
- Untreated hearing loss affects personal and family relationships negatively

Stigma

People make rather fun of untreated hearing loss than hearing aids

How often do people make fun of you because of your hearing loss?

How often do people make fun of you because of your HA's?

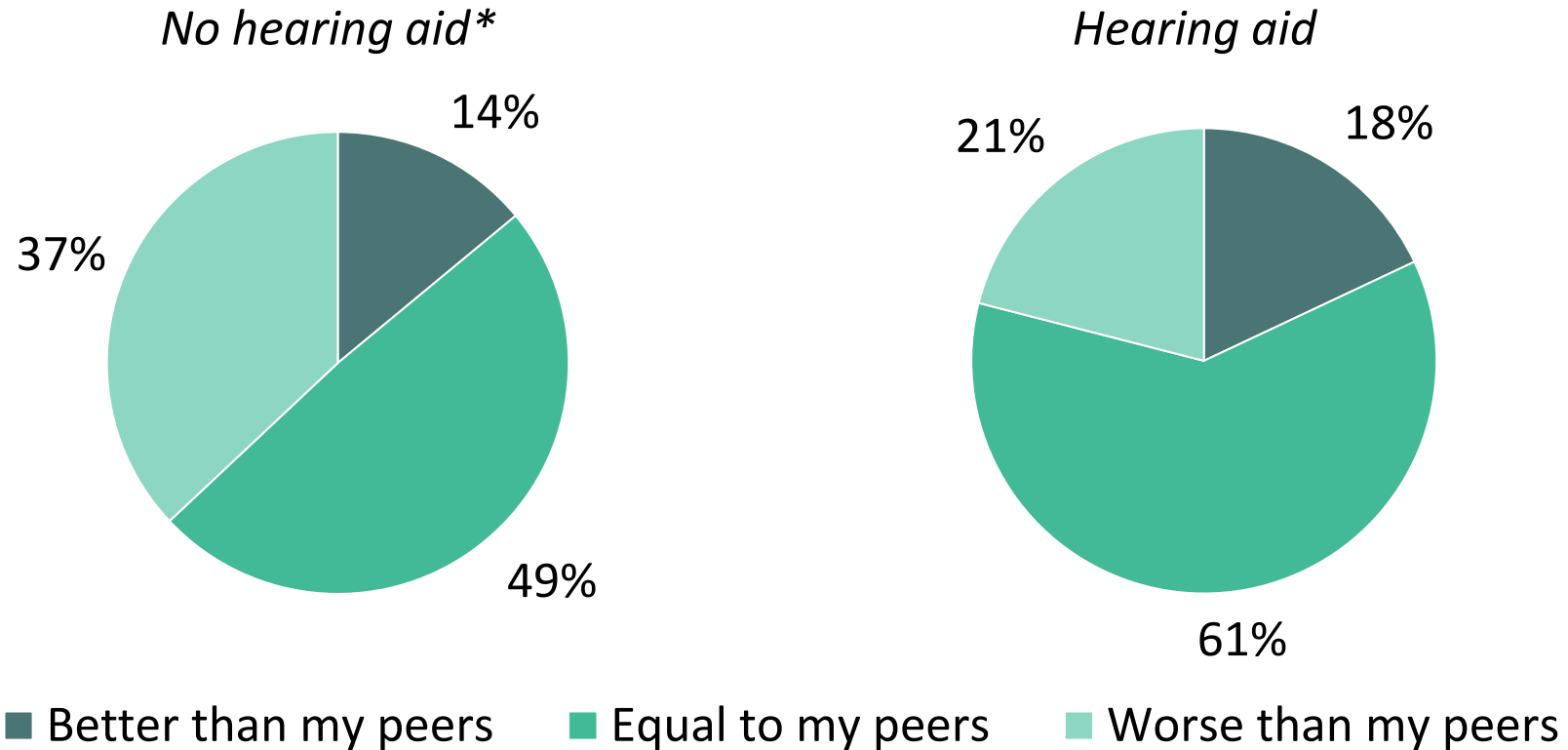


Source: EuroTrak pooled data GER, FRA, UK, 2018
 *top 50% HL (similar HL as HA owners)

Socio-economic consequences

Hearing impaired non-users declare more often to receive a lower salary than their peers

Compared to your peers of equal age, education and skill how would you rate the compensation that you receive for the job you perform?



Source: EuroTrak pooled data GER, FRA, UK, 2009, 2012, 2015, 2018

*top 50% HL (similar HL as HA owners)

Socio-economic consequences

Shield: People with a hearing loss...

- ...earn less
- ...have a higher unemployment rate
- ...experience early retirement and less demanding jobs
- ...and therefore, have an average income which is below that of people with normal hearing, being around 75% of those without hearing loss.

➔ Hard of hearing people (people who has a hearing loss) are poorer

2. The physiological aspects of hearing loss

Cognitive decline

Lancet: Risk factors for dementia

Mid-life hearing loss is the highest of 12 modifiable risk factors linked to dementia, and accounts for 8%, one fifth, of the modifiable risk factors

Source: Gill Livingston et.al. (2020) Dementia prevention, intervention, and care: 2020 report of the Lancet Commission, Vol 396 : The Lancet, Vol 396, August 8, 2020

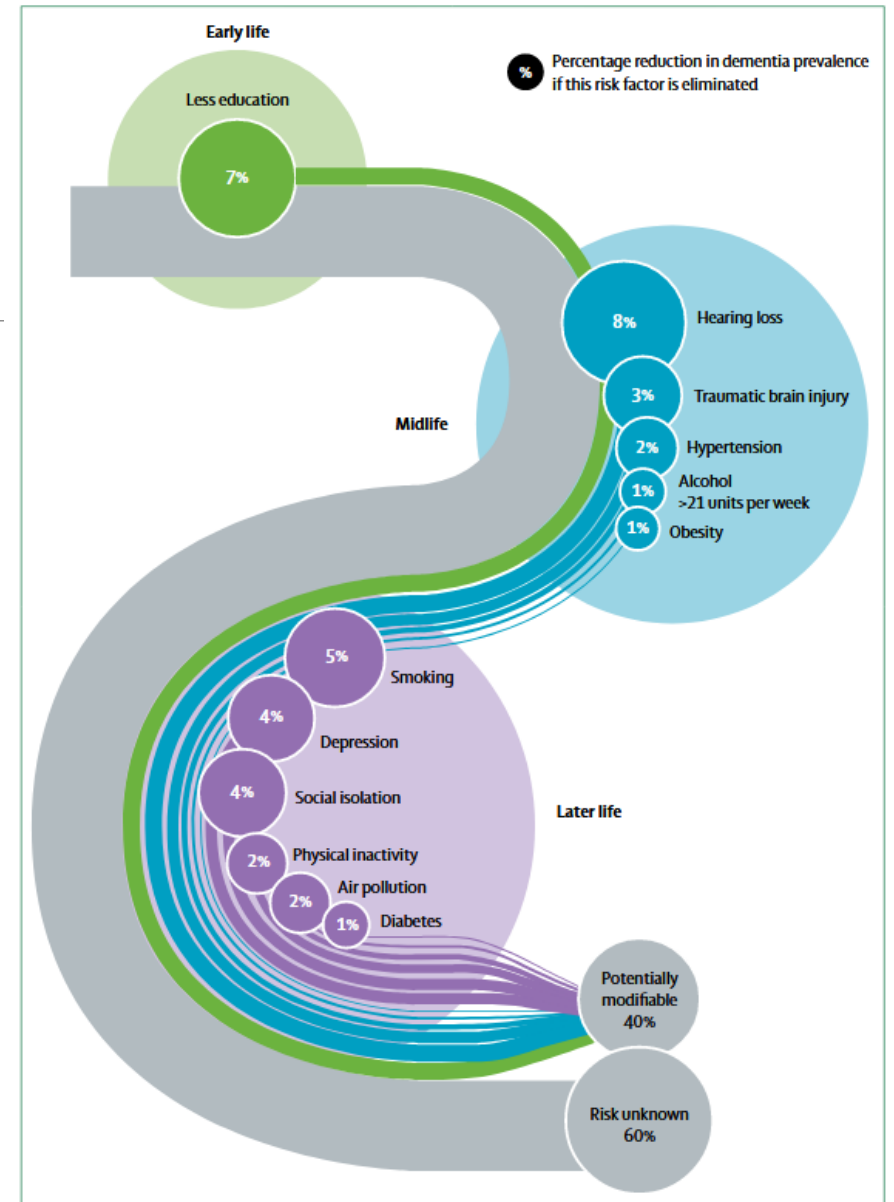


Figure 7: Population attributable fraction of potentially modifiable risk factors for dementia

Cognitive decline (1 of 2)

Lancet:

- The Lancet commission on dementia prevention has identified 12 modifiable risk factors of dementia.
- Of these 12, the highest risk factor linked to dementia is mid-life hearing loss.
- These factors account for about 40% of the overall risk of dementia. Aging and family history are more significant (but not modifiable) factors.

→ According to the Lancet : Hearing loss might either add to the cognitive load or lead to social disengagement or depression, all of which could contribute to accelerated cognitive decline.

Source: Gill Livingston et.al. (2020) Dementia prevention, intervention, and care: 2020 report of the Lancet Commission, The Lancet, Vol 396, August 8, 2020

Cognitive decline (2 of 2)

Amieva:

Amieva analysed how untreated hearing loss contributes to cognitive and physical decline.

Having an untreated hearing loss, meaning not using hearing aids, ...

- ...increases the risk of developing dementia by 21%.
- ...increases the risk of becoming dependent on others by 28%.
- ...increases the risk for men of suffering from depression by 43%.

→ According to Amieva: The use of hearing aids eliminates the increased risk.

Source: H el ene Amieva et.al. (2018): Death, Depression, Disability, and Dementia Associated with self-reported Hearing Problems: A 25-Years Study; in: The Journals of Gerontology, Series A, January 2018

Cognitive decline and cochlear implants

Mosnier:

- Mosnier analysed long-term cognitive status and function after cochlear implantation in profoundly deaf older adults
- ➔ According to Monsier: Cochlear implantation should be strongly considered in profoundly deaf older adults with a possible positive effect of hearing rehabilitation on neurocognitive functioning

Source: Isabelle Mosnier / et. al. (2018): Long-term cognitive prognosis of profoundly deaf older adults after hearing rehabilitation using cochlear implants; in: J Am Geriatr Soc., 2018, Aug., 66(8), 1553-1561

Further references on cognitive decline and hearing loss

- [Hearing Impairment, Mild Cognitive Impairment, and Dementia: A Meta-Analysis of Cohort Studies](#)
- [Use of Hearing Aids in Older Adults with Hearing Loss Is Associated with Improved Cognitive Trajectory](#)
- [Long-Term Cognitive Prognosis of Profoundly Deaf Older Adults After Hearing Rehabilitation Using Cochlear Implants.](#)
- [Improvement of cognitive function after cochlear implantation in elderly patients.](#)
- [Cognitive Performance of Severely Hearing-impaired Older Adults Before and After Cochlear Implantation: Preliminary Results of a Prospective, Longitudinal Cohort Study Using the RBANS-H.](#)
- [Cognitive outcomes after cochlear implantation in older adults: A systematic review.](#)

Comorbidities

Comorbidities

Condition	Prevalence % With HL	Prevalence % No HL
Back problems	27	8
Arthritis and related disorders	24	6
Hypertension	21	7
Head injury/brain damage	17	5
Depression/mood affective disorder	14	5
Asthma	11	6
Diabetes	9	3
Phobias and anxiety disorders	7	3
Nervous tension/stress	7	2
Migraine	7	3
Leg/knee/foot/hip damage	6	2
Arm/hand/shoulder damage	5	1

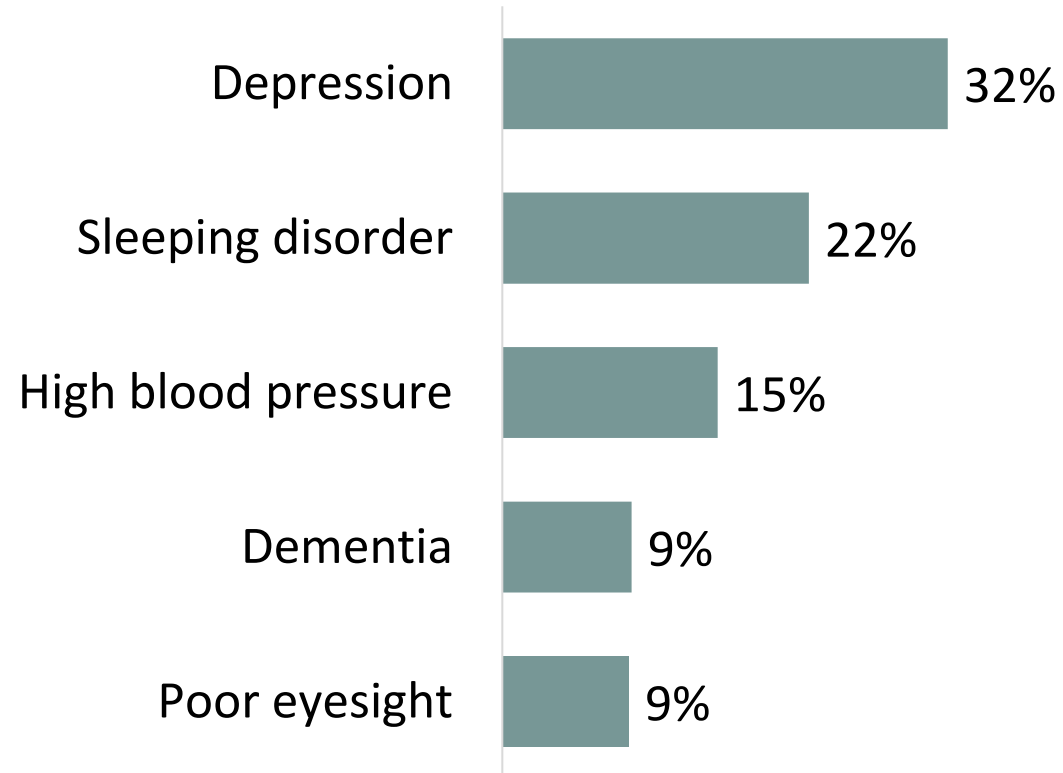


Table 6.3. Most common morbidities in people with hearing loss: prevalence in people with and without hearing loss (data approximated from Chart 5.3 in Deloitte Access Economics, 2017a)

Top 5 health issues perceived to be linked to hearing loss



Which health issues do you think could be linked to hearing loss?



Source: EuroTrak pooled data GER, FRA, UK, 2018: Hard of Hearing
N=3'689

3. The impact of hearing loss to society

Prevalence

Hearing loss prevalence

EuroTrak (self-reported hearing loss):

- Self-reported hearing loss prevalence remains stable over the years.
- 1 in 10 self-report a hearing loss
- Hearing loss increases with age.
- Hearing loss among men is a bit higher than among woman.

Measured hearing loss (professional hearing test):

Scientific studies: If a group of adults takes a hearing test, around one in six (16%) of them will have a measured hearing loss of 25 dB or greater on the better ear.

Hearing loss in numbers

Shield Report for Hear-it: (based on Global Burden of Disease – GBD):

- Europe: 47.9 mil. hard of hearing
- EU28: 34.4 mil. hard of hearing

WHO's projection of global hearing loss prevalence

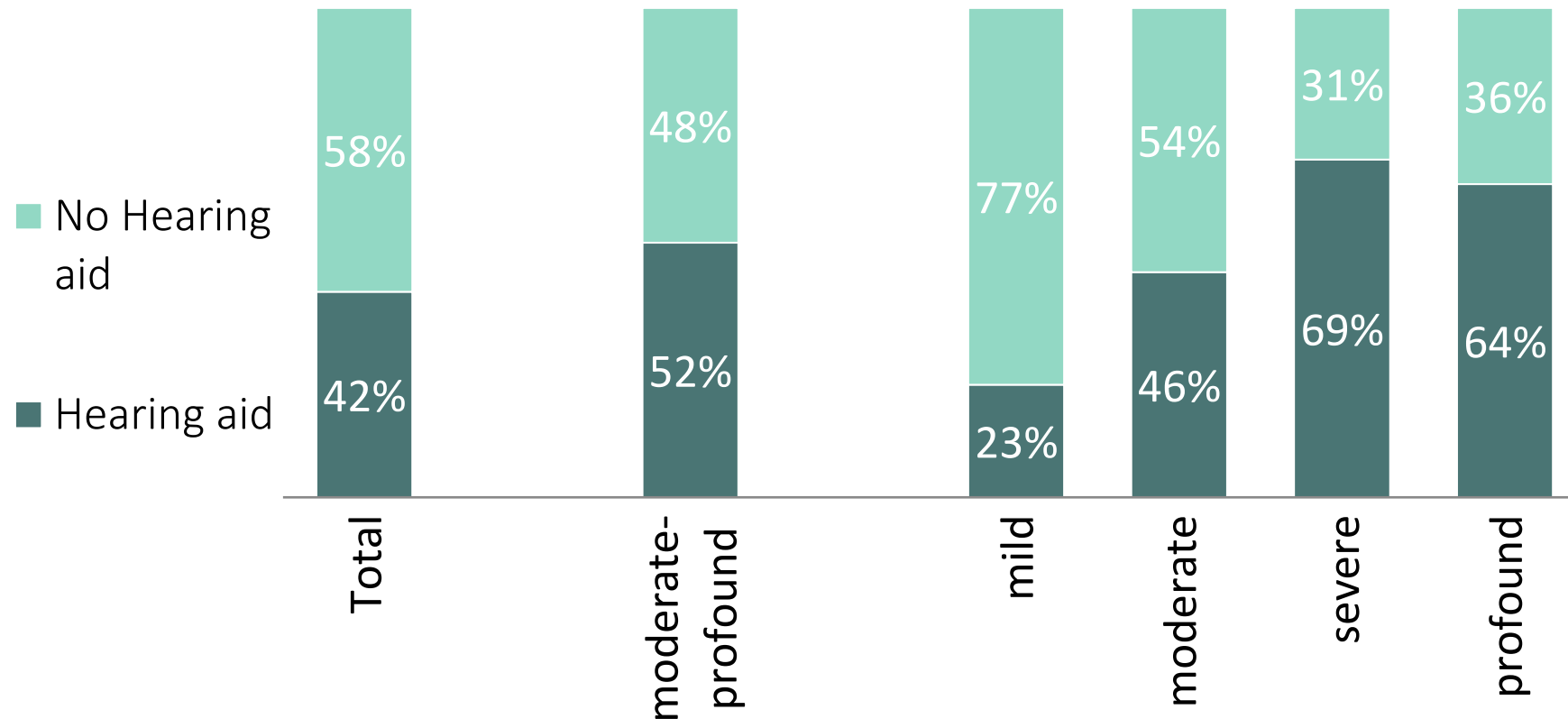
- 2018: 466 mil.
- 2030: 630 mil.
- 2050: 900 mil.

➔ Global trend: Hearing loss is on the rise

Adoption rate

Adoption rate by degree of self-reported* hearing loss

mild – moderate – severe - profound



*How would you describe the degree of your hearing difficulty: Mild, moderate, severe or profound?

Source: EuroTrak pooled data GER, FRA, UK 2018 (N=3'804)

Adoption rate

- EuroTrak average: 36% of the hard of hearing use hearing aids (Shield based on EuroTrak)
- GER+FRA+UK pooled: 42% of the hard of hearing use hearing aids (EuroTrak)
- Adoption rate by degree of self-reported hearing loss: 52% starting from “moderate” ($\approx 35\text{dB}$) to “profound” without “mild” (EuroTrak)

➔ The more severe the hearing loss, the higher the adoption rate.

Hearing loss ranking

Hearing loss ranking

Shield / Global Burden of Disease:

- Hearing loss affects people's lives more negatively than both blindness and vision impairments. And also more than Alzheimer's and other dementias.

Mortality

Mortality

- Depression and loneliness are serious consequences of hearing loss.
- As well as reducing quality of life, it is known that these conditions increase the likelihood of death in the elderly population.
- Both depression and feelings of loneliness are associated with excess mortality among men.
- Individuals with adequate social relationships have a 50% greater likelihood of survival compared to those with poor or insufficient social relationships.
- The magnitude of this effect is comparable with giving up smoking and exceeds that of many well-known risk factors for mortality such as obesity or physical inactivity.



Mortality

Shield report for hear-it:

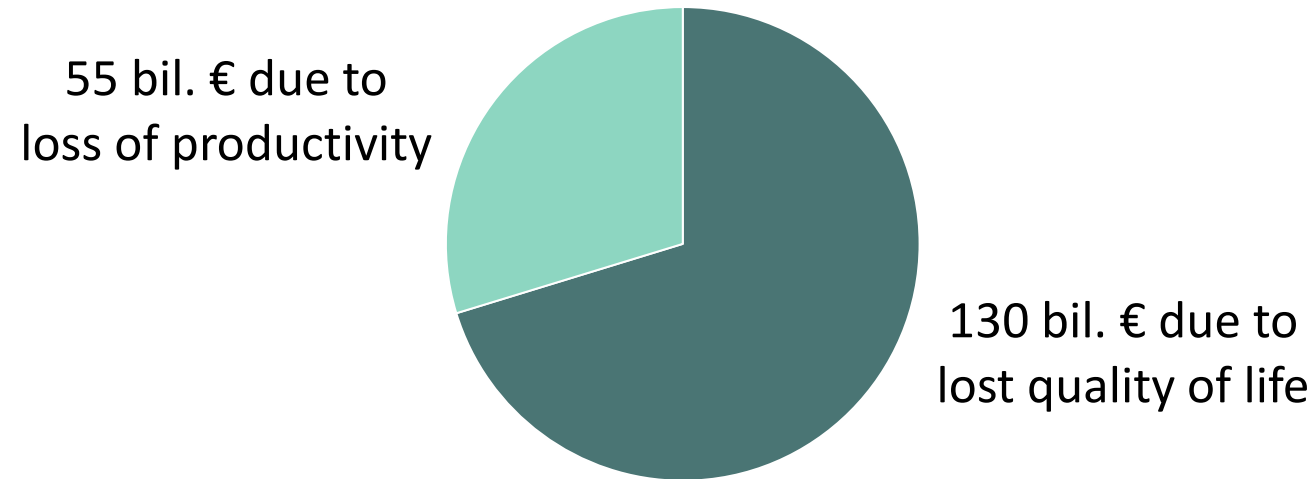
- Increased likelihood of death in elderly population with hearing loss
 - Excess mortality among men with hearing loss
 - Adequate social relationships increase chance of survival for hard of hearing
- ➔ The magnitude of this effect is comparable with quit smoking

Costs

Shield: Untreated hearing loss costs EU 185 bil. €



Costs of untreated hearing loss to EU28 each year



In total: 185 bil. € costs of untreated hearing loss to EU28 each year

Source: Bridget Shield (2019): Hearing Loss – Numbers and Costs. Evaluation of the social and economic costs of hearing impairment, Brunel University London (<https://www.ehima.com/documents/>)

4. Efficacy of treatment care for people with hearing loss

The patient journey

The road to hearing loss treatment

Recognition:

People are often late to recognise that they have a hearing loss

- Typically the hearing loss has been present in some years
- Often family and friends (especially spouse and children) are the first to notice the hearing loss

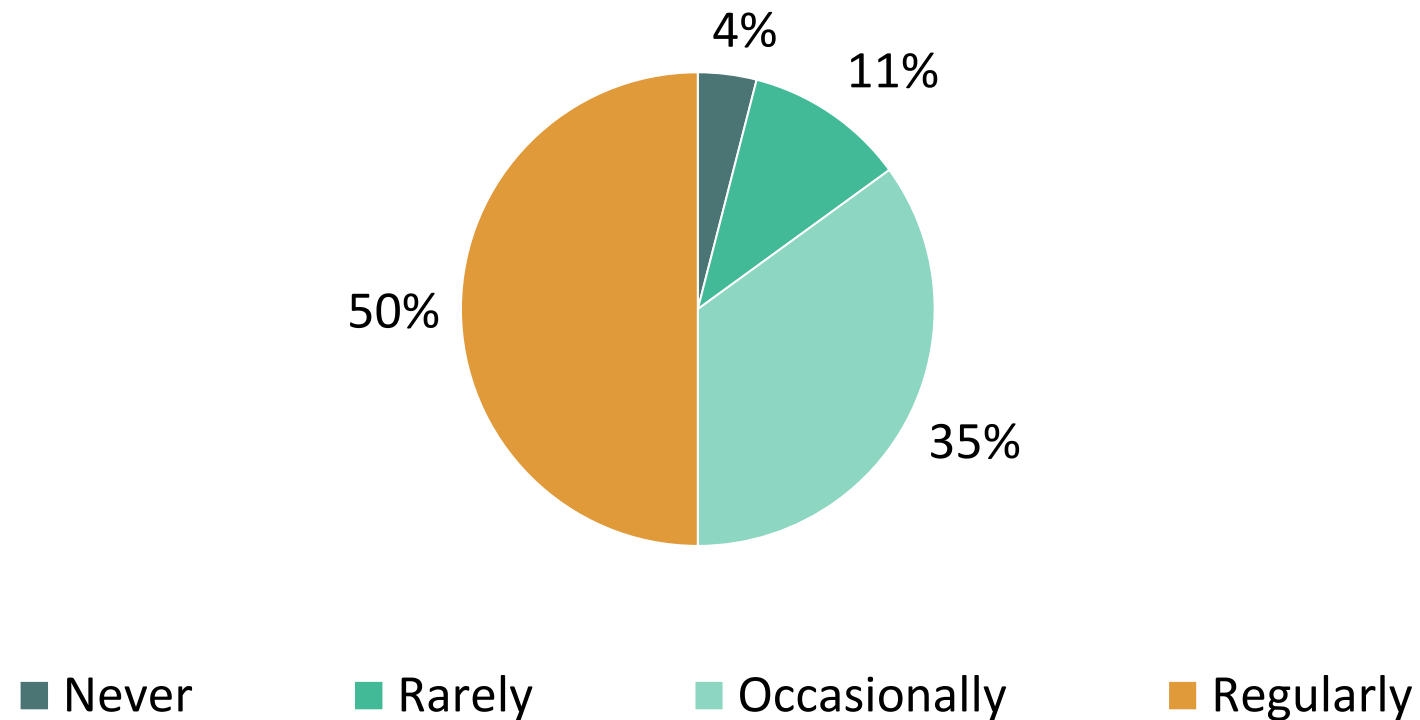
Getting hearing aids (EuroTrak surveys):

- When the hearing loss is recognised, 75% consult a medical professional (mostly their general practitioner or ENT specialist) for their hearing problems.
- The medical professionals refer 70% of these people to a hearing care professional.
- 73% of the people with a referral to a hearing care professional start using hearing aids.
- In total, 39% of the people persons with self-reported hearing loss start using hearing aids.

The positive impacts of using hearing aids

96%: “Hearing aids improve my quality of life!”

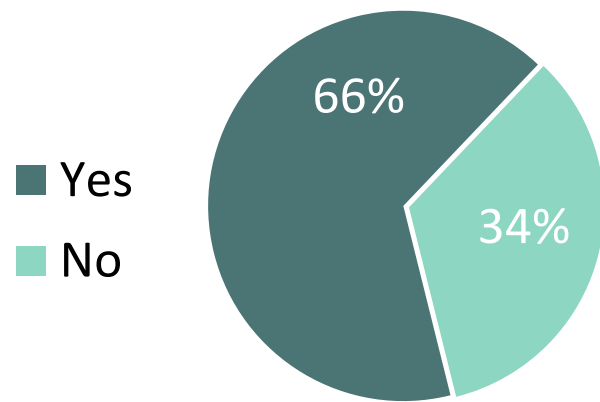
How often do your hearing aids improve your quality of life?



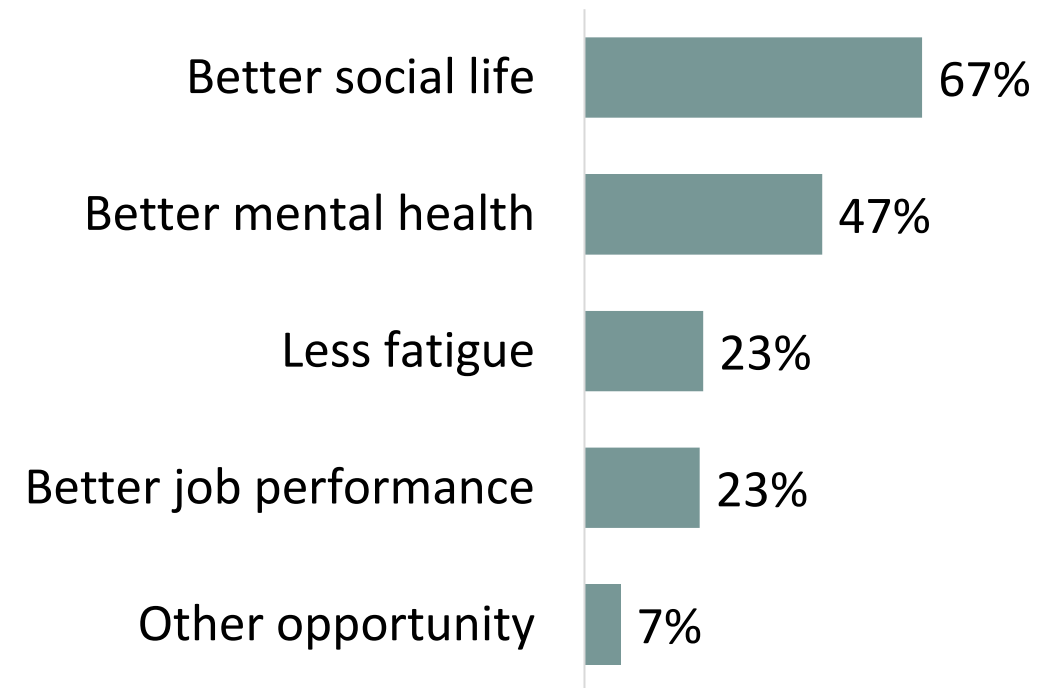
Source: EuroTrak pooled data GER, FRA, UK, 2018: Hearing aid owners

Two thirds would have gotten their hearing aids sooner

Thinking back before you obtained your first hearing aid(s): do you think, you should have gotten them sooner?



What are the reasons why you think you should have gotten your hearing aid(s) sooner? What are the opportunities you think you have missed because of this?



Source: EuroTrak pooled data GER, FRA, UK, 2018: Hearing aid owners
N=1'784 / 1'064

Positive impacts of hearing aids (1 of 2)

EuroTrak statements:

- 96% of hearing aid users report improved quality of life
- 91% say hearing aids are useful on the job
- 82% say their hearing aid works better than or as expected (ET Germany 2018)
- 2/3 would have gotten their hearing aids sooner
- 2/3 feel more confident moving in a city using hearing aids (ET Germany 2018)
- Hearing aid users recognize that hearing aids increase the chance of hearing impaired to get promoted, to get the right job and to get more salary

Positive impacts of hearing aids (2 of 2)

EuroTrak / Shield / Amieva:

- Less stress + less physically and mentally exhausted + better sleep + less depressive
- Reduced cognitive decline + Reduced risk of dementia, depression, developing disabilities in daily life + Better memory
- Better performance at work + Higher income + higher employment
- More social and family relationships and higher participation in group activities

➔ *Hearing aid users are happier, healthier and wealthier, with a better overall quality of life than people with a hearing loss, who do not treat their hearing loss.*

Usage and satisfaction

Hearing aid usage per day

Approximately how many hours/day do you wear your hearing aids?

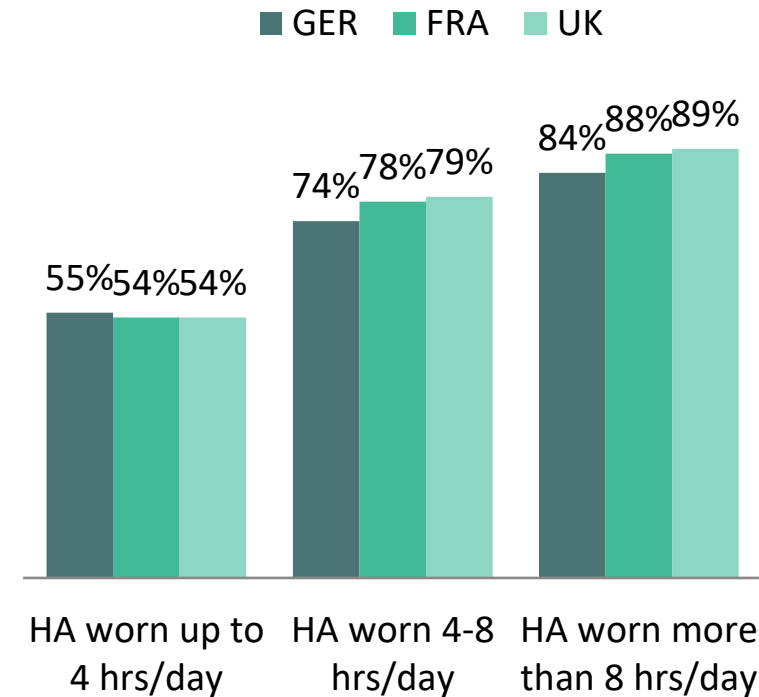
% satisfied

Average hours/day



2009 n=1,517, 2012 n=1,503, 2015 n=1,611, 2018 n=1,783
 Source: EuroTrak pooled data GER, FRA, UK, 2009, 2012, 2015, 2018 hearing aid owners

Overall satisfaction %



Source: EuroTrak pooled data GER, FRA, UK, 2018 Hearing aid owners

Usage and satisfaction

EuroTrak:

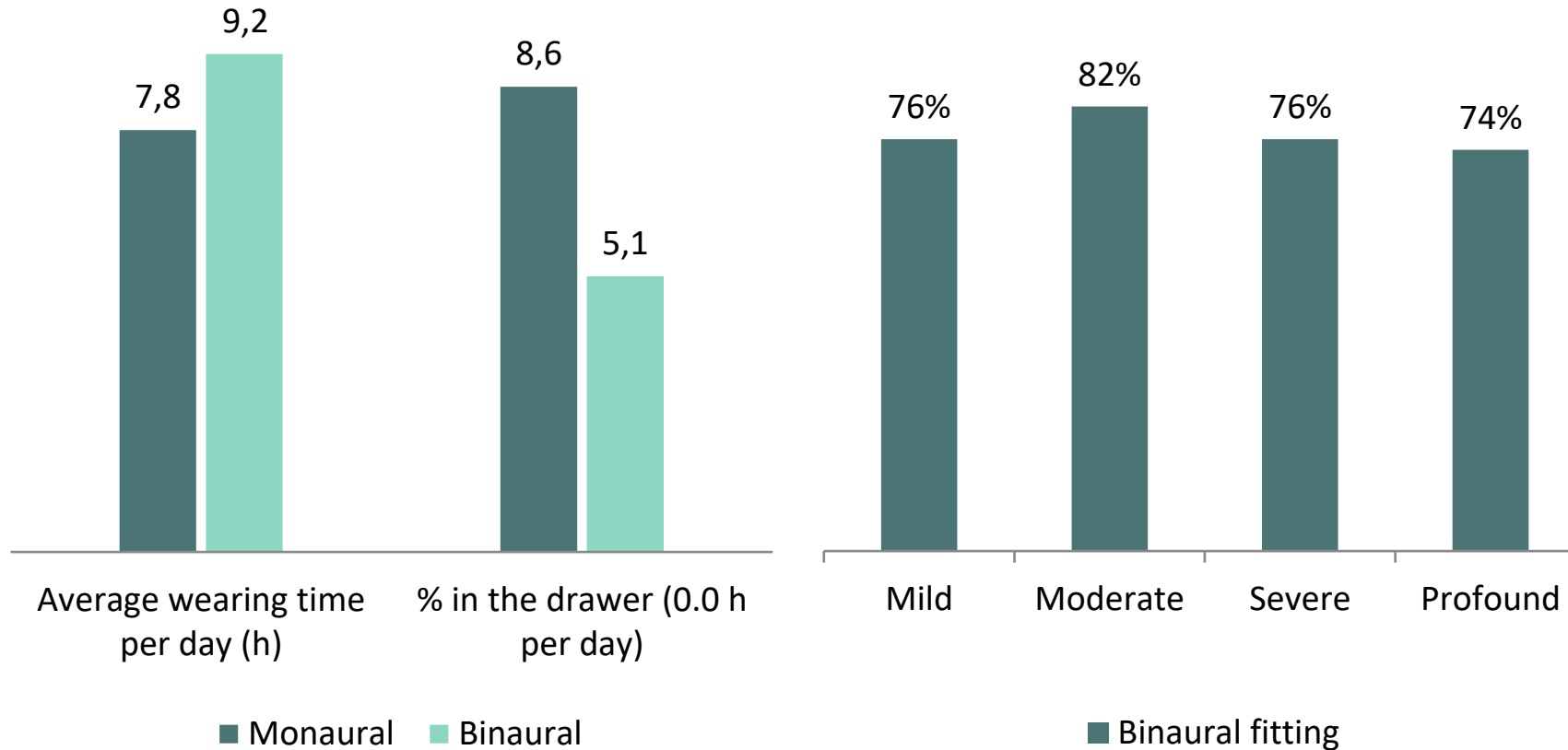
- The more hours/day Hearing aids are worn, the higher the satisfaction is.
- Satisfaction with newer hearing aids is higher than with older hearing aids.

Benefits of using two hearing aids

Benefits of using two hearing aids (binaural vs monoaural fitting)

Approximately how many hours/day do you wear your hearing aids?

% satisfied by degree of hearing loss



Monoaural n=2,390 Binaural n=4,025
 Source: EuroTrak pooled data GER, FRA, UK, 2009, 2012, 2015, 2018: Hearing aid owners

Source: EuroTrak pooled data GER, FRA, UK, 2009, 2012, 2015, 2018: Hearing aid owners

Benefits of binaural fitting

EuroTrak:

- Binaural fitting leads to longer use time/day
 - Binaural fitting leads to less unused hearing aids.
 - Binaural fitting leads to higher satisfaction.
- ➔ All in all: Binaural fitting is better than monaural fitting (bilateral hearing loss)

Annex: List of references

Main references

- Bridget Shield (2019): Hearing Loss – Numbers and Costs. Evaluation of the social and economic costs of hearing impairment, Brunel University London (<https://www.ehima.com/documents/>)
- Elham Mahmoudi et.al. (2019): Can Hearing Aids Delay Time to Diagnosis of Dementia, Depression, or Falls in Older Adults?; in: Journal of the American Geriatrics Society (<https://bit.ly/3eBgtoF>)
- EuroTrak – Surveys on Hearing Loss and Hearing Aid Usage (<https://www.ehima.com/eurotrak/>)
- Gill Livingston et.al. (2020) Dementia prevention, intervention, and care: 2020 report of the Lancet Commission, Vol 396: The Lancet, Vol 396, August 8, 2020
- Hélène Amieva et.al. (2018): Death, Depression, Disability, and Dementia Associated with self-reported Hearing Problems: A 25-Years Study; in: The Journals of Gerontology, Series A, January 2018
- Isabelle Mosnier / et. al. (2018): Long-term cognitive prognosis of profoundly deaf older adults after hearing rehabilitation using cochlear implants; in: J Am Geriatr Soc., 2018, Aug., 66(8), 1553-1561

EuroTrak

EuroTrak – Surveys on Hearing Loss and Hearing Aid Usage :

- EuroTrak is the largest comparative multi-country study on hearing loss and hearing aid usage.
- Initiated by EHIMA in 2009, EuroTrak was designed as a means for raising public awareness on key issues of hearing loss and hearing care. It sheds light on hearing loss prevalence as well as on the use of hearing aids and the experience of hard of hearing people with their hearing instruments. Initially conducted in Germany, France and United Kingdom, EuroTrak today covers over a wide range of countries across Europe and beyond. Repeating a national survey every three years allows to identify trends across time and borders.
- EuroTrak is designed as an online panel study, based on self-reported hearing loss of the participants. It is carried out by the market research institute ANOVUM on behalf of EHIMA.
- All EuroTrak-studies can be found here: <https://www.ehima.com/eurotrak/>