

Summary

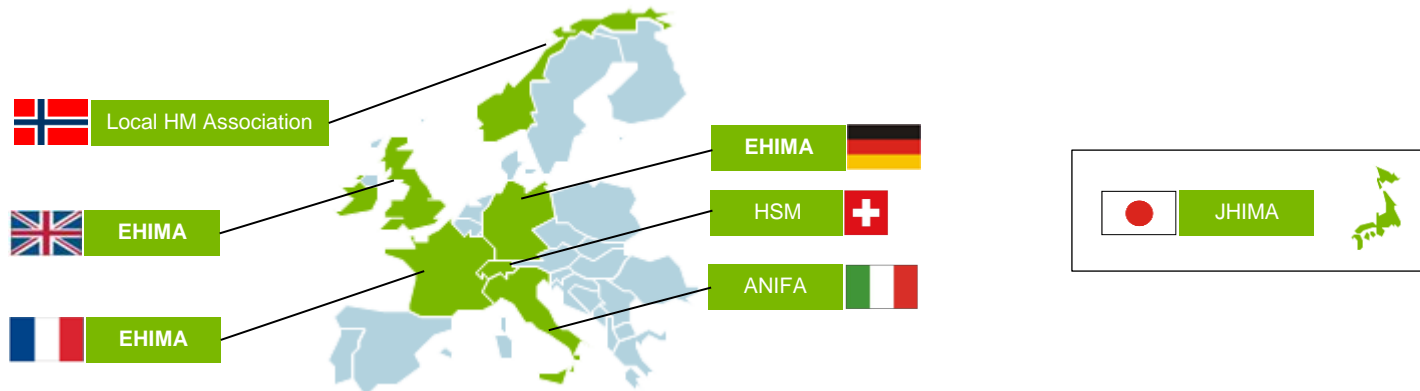
EuroTrak NORWAY 2012

1. Introduction
2. Market overview
3. Analysis of hearing aid owners
4. Analysis of hearing impaired non-owners

Summary

1. Introduction

- EuroTrak Norway 2012 was designed and executed by Anovum (Zurich) on behalf of GN Resound, Oticon, Phonak, Siemens and Widex Norway.
- Sample sizes Norway 2012:
 - Representative sample (sample 1): n=14'866 people
 - Hearing impaired (sample 2): n=1'309 people
 - Hearing impaired non-owners: n=618 people with hearing loss (**HL**)
 - HA owners: n=691 people with hearing aid (**HA**)
- EuroTrak Norway 2012 is part of the EuroTrak studies:



Summary

2. Market overview

- Stated hearing loss prevalence
 - Total: 8.8% (18+: 10.8%).
 - Binaural hearing loss: HA owners: 82%, HA non-owners: 65%.
 - Tinnitus prevalence 26% (self stated, sometimes or permanently).
 - Hearing Tests: 78% had a hearing test in the last 5 years.
- Hearing aid adoption rate (HA penetration)
 - Total: 42.5%.
 - Total age group 18+: 43.3 %.
 - 74% of HA owners have binaural treatment. Trend rising.
- The route to the hearing aid
 - 76% of the hearing impaired discussed hearing loss with an ENT doctor or family doctor.
 - 58% got hearing aids recommended from the ENT or family doctor (drop out rate = 23%).
 - 55% of the GP consultations referred to an ENT. 13% recommended no action.
 - 49% of ENT consultations referred to a audiologist, 39% recommended to get a hearing aid, 26% recommended no action.
- Potential social cost-savings due to the use of hearing aids
 - Hearing aids are believed to have a positive impact on the job.
 - People with hearing aids tend to have a slightly higher personal income.
 - Hearing aid owners have a lower risk of being depressed and a lower risk of being forgetful compared to impaired non-owners.

Summary

3. Analysis of hearing aid owners

- Hearing aid ownership and usage
 - 94% received some kind of 3rd party reimbursement.
 - 67% of the currently owned HAs were fitted in 2009 or later.
 - The average age of the currently owned HAs is 2.7 years.
 - The median age of hearing aids before replacement is 6 years.
 - On average, HAs are worn 7.9 hours a day.
 - 37% of hearing aid owners have never heard of wireless technology in connection with hearing aids. 32% rate wireless technology as very important.
- Satisfaction with HAs
 - 72% of the HA owners are satisfied with their HAs.
 - The more hours worn per day, the higher the satisfaction.
 - Satisfaction with HAs bought 2010 or after is higher than with HAs bought before.
- Positive impact of HAs
 - Significant positive impact of HAs on different aspects – especially communication, social life and sense of safety.

Summary

4. Analysis of hearing impaired non-owners

- Reasons not to own/use HAs
 - Information deficit non-owners: 63% don't know whether any third party would pay, 10% assume no third party would pay (Insurance, Government,...).
 - The main reasons for not using hearing aids are that people say they do not work well in noisy situations, they hear well enough, their hearing loss was not severe enough and that hearing aids are uncomfortable.
 - In Norway, costs of hearing aids are not an issue.
 - 10% who own HAs don't use them at all; 24% use them less than one hour/day. Main reasons for this are: "They do not work well in noisy situations", "Hear well enough in most situations" "HAs do not restore hearing to normal" and "have tried and they do not work".
- Negative impact of hearing loss and buying intentions
 - Compared to impaired hearing aid non-owners with significant hearing loss (Top 50% hearing loss-group), hearing aid owners feel less exhausted in the evenings.
 - 12% of non-owners intend to get a hearing aid within the next year.
 - The most important influencing factors are worsening hearing loss, ENT and significant others plus audiologist for the owners.

Results

EuroTrak NORWAY 2012

1. Introduction
2. Market overview
3. Analysis of hearing aid owners
4. Analysis of hearing impaired non-owners

Detailed Results: Roadmap

1. Introduction

- Objectives and organisation
- Field research specification

2. Market overview

- Prevalence of hearing loss and hearing aid adoption rate
- Hearing tests and prevalence of tinnitus
- The route to the hearing aid: Drop-out rates and reasons for drop-outs
- Potential social cost-savings due to the use of hearing aids: Work competitiveness, depressive and dementia symptoms

3. Analysis of hearing aid owners

- Hearing aid ownership, lifetime and usage
- Awareness and importance of wireless technology
- Satisfaction with hearing aids and drivers
- Positive impact of hearing aids

4. Analysis of hearing impaired non-owners

- Reasons for not having a hearing aid
- Negative impact of hearing loss
- Buying intentions

5. Appendix

- Demographics: Hearing instrument adoption rates and populations

1. Introduction

Objectives and organisation

EuroTrak objectives

EuroTrak 2012

- **Generate baseline survey data for Norway**
 - Measure stated hearing loss prevalence and adoption rates of hearing aids (HA).
 - Analyse drop-outs on the “route/journey to the HA”.
 - Identify potential social cost savings due to HA.
 - Analyse usage and satisfaction with HA.
 - Evaluate positive Impacts of HA.
 - Find reasons why impaired people don’t use HA.
 - Discover triggers that make people get HA.
- **Comparison with other countries**

Organisation of EuroTrak 2012

Organisation

- Principal of the project EuroTrak Norway are GN Resound, Oticon, Phonak, Siemens and Widex Norway.
- Anovum Zurich developed the concept of EuroTrak, designed the questionnaire and conducted the fieldwork in cooperation with a panel company. Furthermore Anovum analysed the data and prepared the presentation.
- The European Hearing Instrument Manufacturers Association [EHIMA] approved the questionnaire in cooperation with Sergei Kochkin, Ph.D., Executive Director, Better Hearing Institute.

Use of the data

- GN Resound, Oticon, Phonak, Siemens and Widex Norway may use the anonymous delivered tables, charts, reports and conclusions of the survey for further research projects, for archiving and publication in any form whatsoever.
- The raw dataset remains at Anovum. If GN Resound, Oticon, Phonak, Siemens and Widex Norway use the anonymous data (delivered tables, charts, reports) and conclusions of the survey for publications the source of the data needs to be mentioned in the following way:
“Source: Anovum – EuroTrak – Norway/2012/n=[relevant sample size]”
- GN Resound, Oticon, Phonak, Siemens and Widex Norway can ask Anovum to further analyse the raw data in specific ways at their own expense.

Field research specification

Recruitment process: In search of hearing impaired people

Step 1: Screening interviews

Objective: Prevalence of hearing loss and hearing aid ownership

Process:

1. Representative sample with strict quotas that represent the overall population (Age/Gender interlocked; soft quota on region)
2. Contacts from panellist pools of more than 100'000 people
3. Screening questionnaire: Stated hearing loss and hearing aid usage + demographics
4. Result: Representative sample of **n=14'866** people based on census data.

Step 2: Target population interviews

Objective: Details about satisfaction with hearing aids and reasons for non-adoption

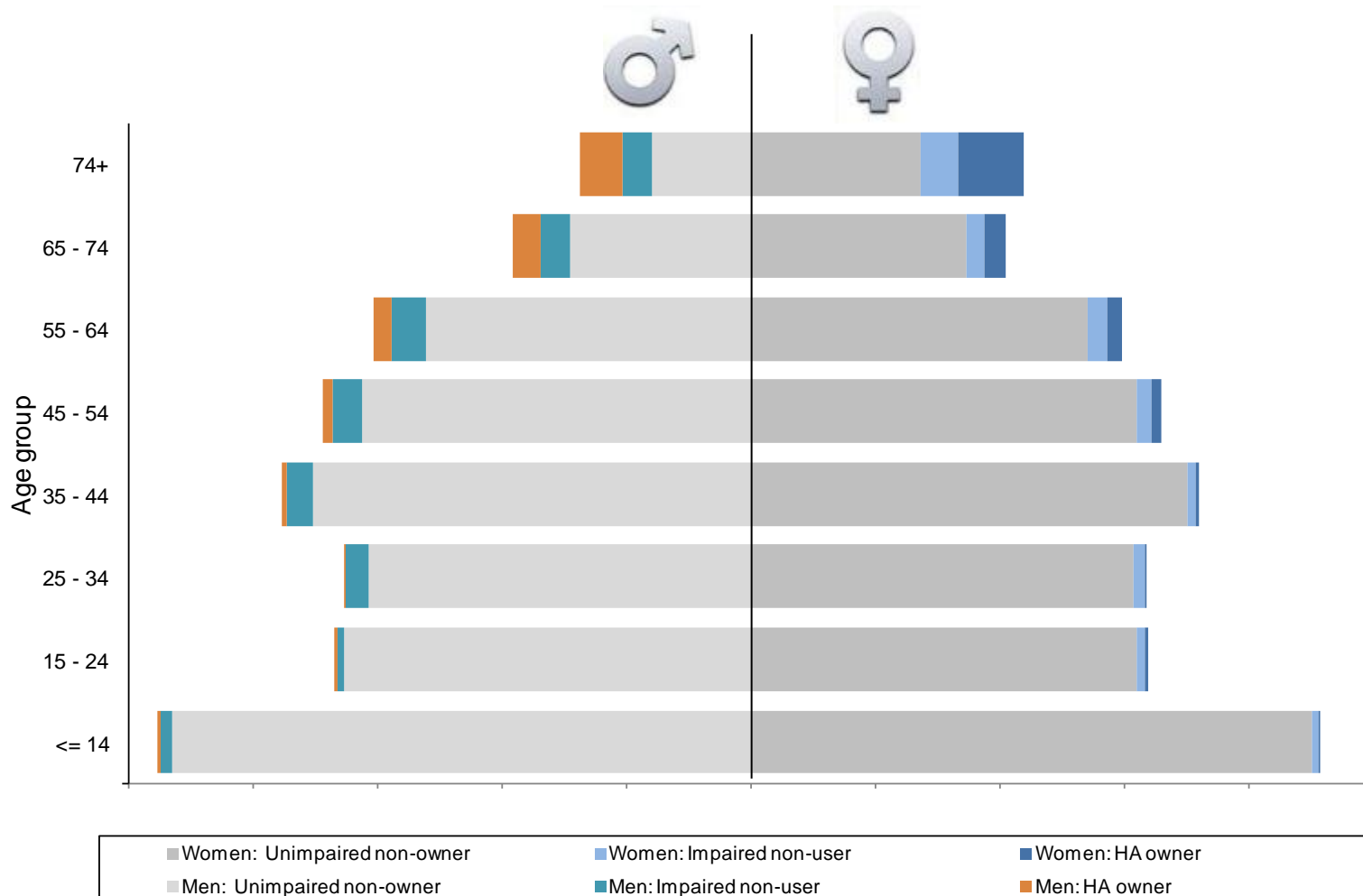
Process:

1. Main questionnaires: Owners and hearing impaired non-owners
2. Balancing through weighting according to representative screening interviews
3. Resulting sample: **n=691** hearing aid owners and **n=618** hearing impaired non-owners

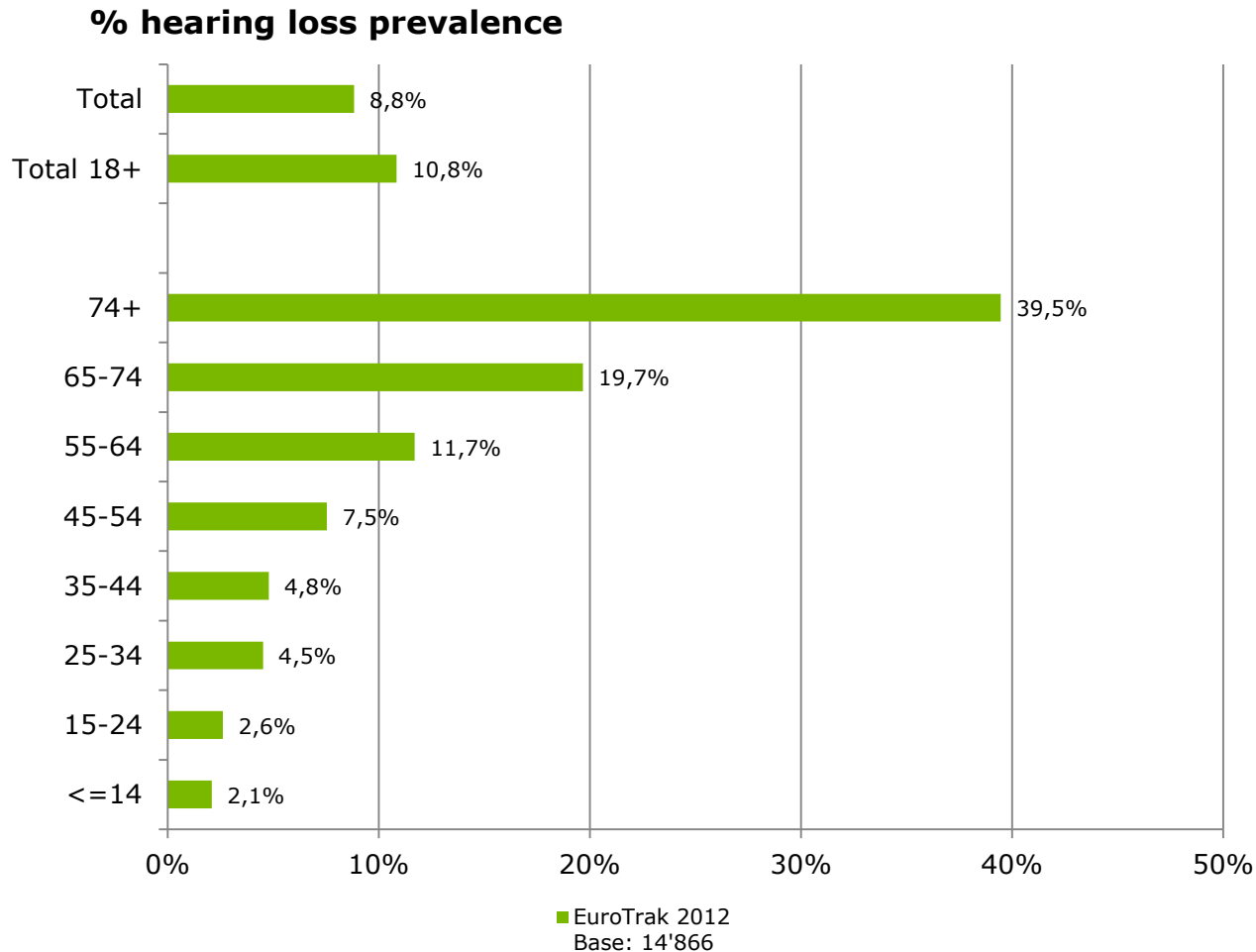
2. Market overview

Prevalence of hearing loss and adoption rate

Hearing loss and hearing instrument ownership by gender/age

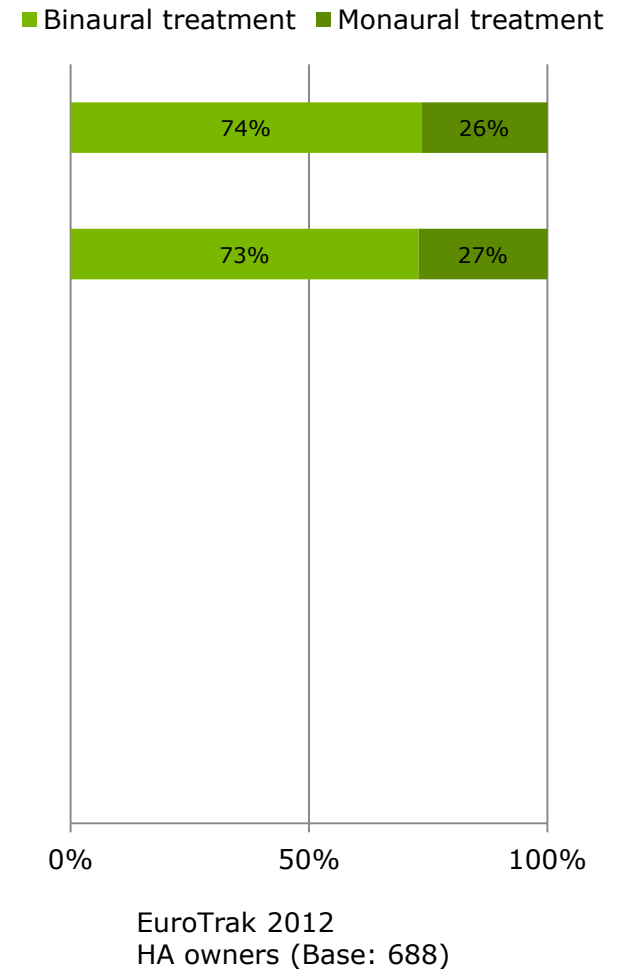
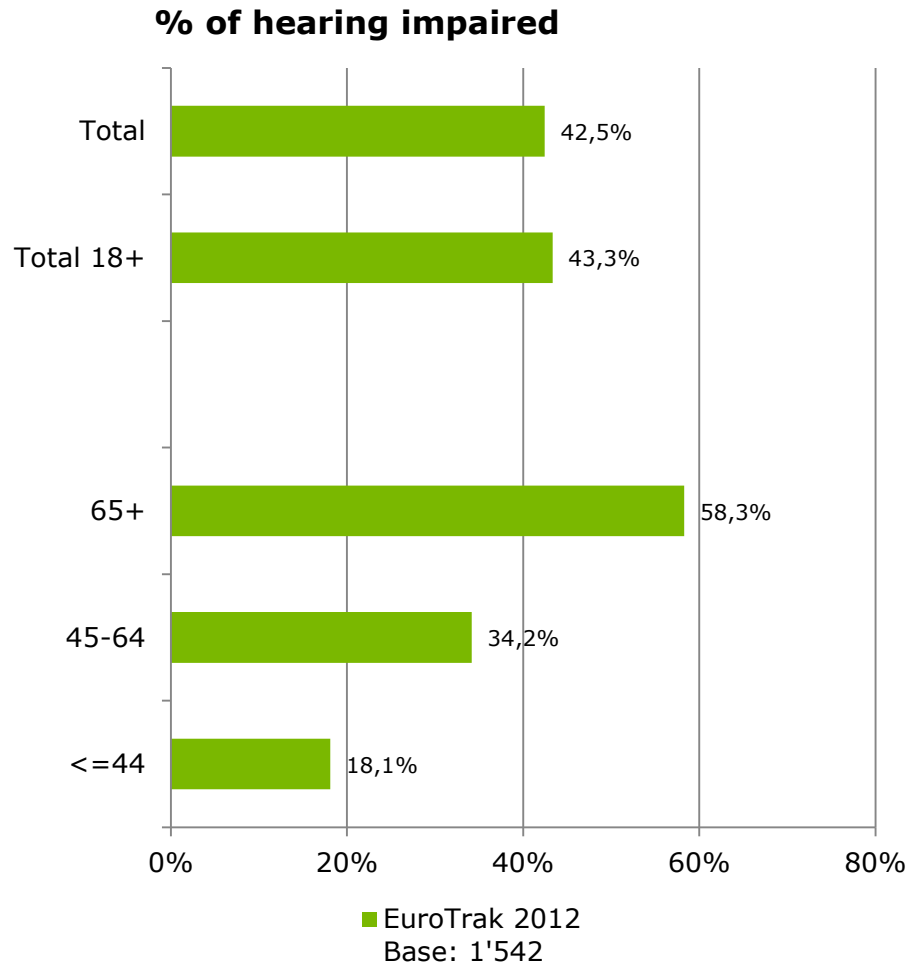


Hearing loss prevalence Norway 2012

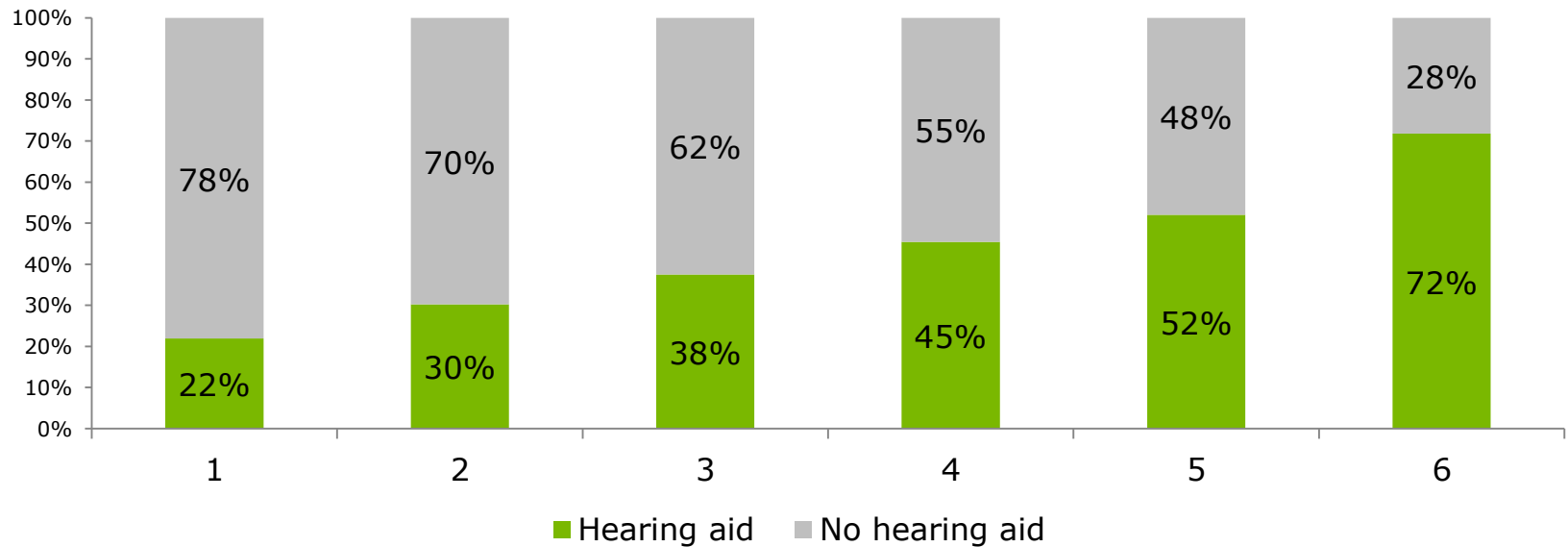


Hearing aid adoption rate Norway 2012

42.5% of hearing impaired have hearing aid(s), 74% of them have binaural treatment



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



Hearing loss 6-groups

HA-non-owner, n=618
HA-owner, n=691

* Construction of 6-groups: A factor analysis was performed to identify one factor "degree of hearing loss". The following questions were included in the factor:

- Number of ears impaired (one or two)
 - Stated hearing loss (Mild to Profound)
 - Scores on 6 APHAB-EC – like questions (Scaled 1-5)
 - When NOT using a hearing aid, how difficult is it for you to follow conversations in the presence of noise
- People were segmented into 6 groups of same size (16.67% of all hearing impaired in the sample).



Hearing loss

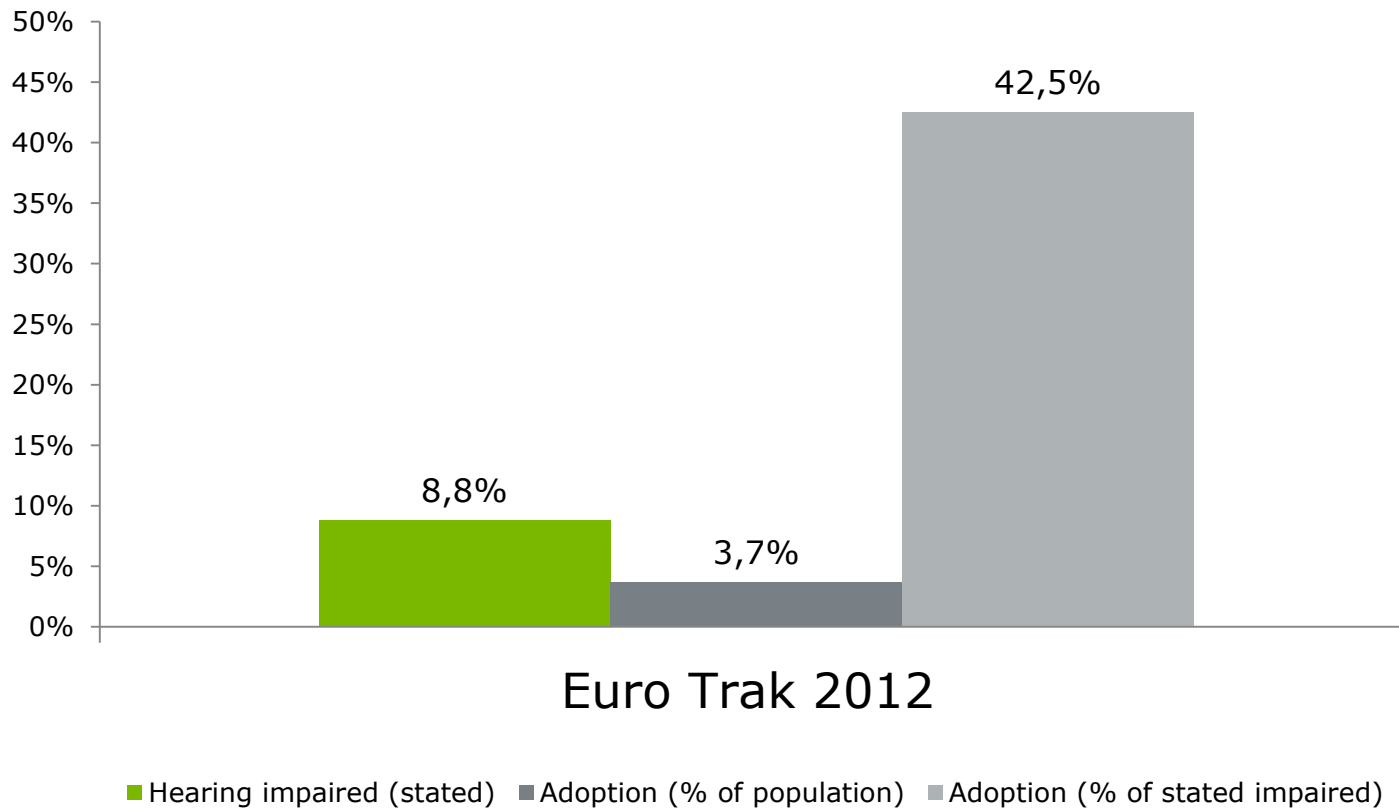
Hearing loss characteristics: Owners compared to non-owners

	HA-Non-owner n=618	HA Owner n= 691	Hearing Aid Adoption (%)
Ears impaired (stated)			
Unilateral loss	35%	18%	29%
Bilateral loss	65%	82%	50%
Perceived loss			
Mild	33%	17%	26%
Moderate	53%	52%	40%
Severe	11%	24%	60%*
Profound	3%	7%	

n's are unweighted whereas the shown results are weighted

* combined "severe" and "profound" because n is too small

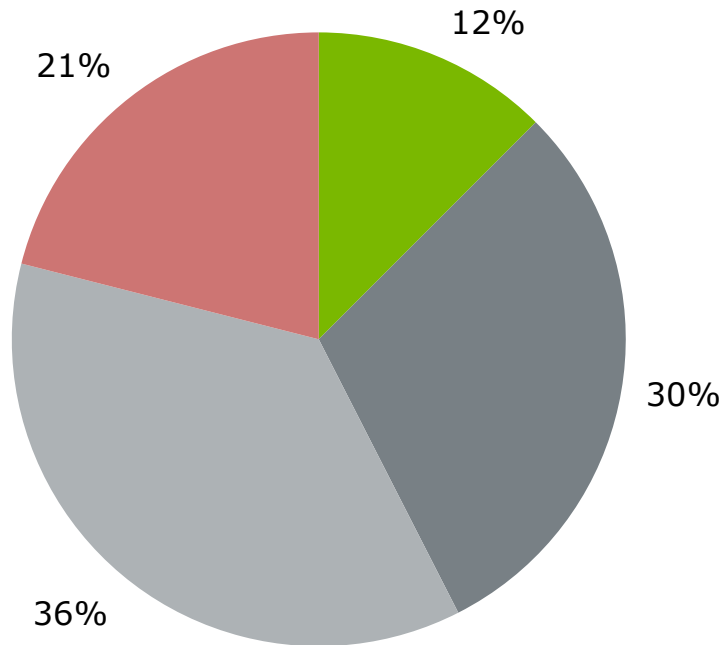
Overview hearing loss prevalence and hearing aid adoption



Hearing tests and prevalence of tinnitus

Only 21% state their hearing has never been tested

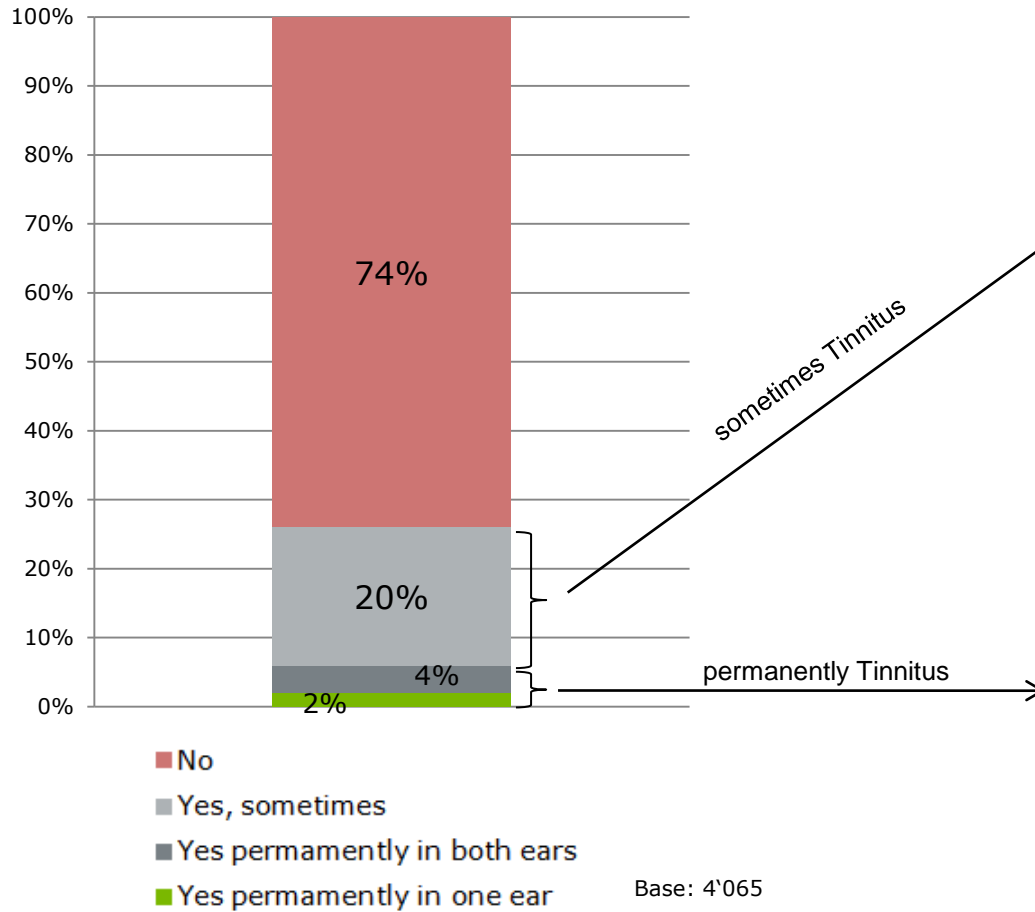
■ Yes, in the last 12 months
 ■ Yes, in the last 1-5 years
■ Yes, more than 5 years ago
 ■ No, never



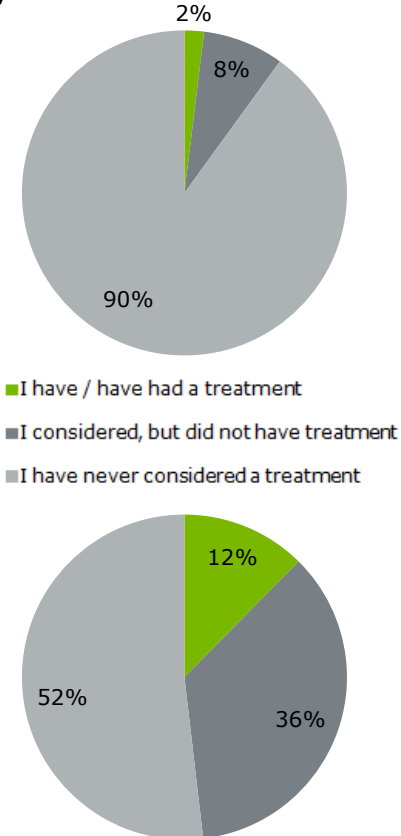
Base= 10'352

Prevalence of tinnitus

Do you have tinnitus (ringing or other noises in the ears or head) in one or both ears ?

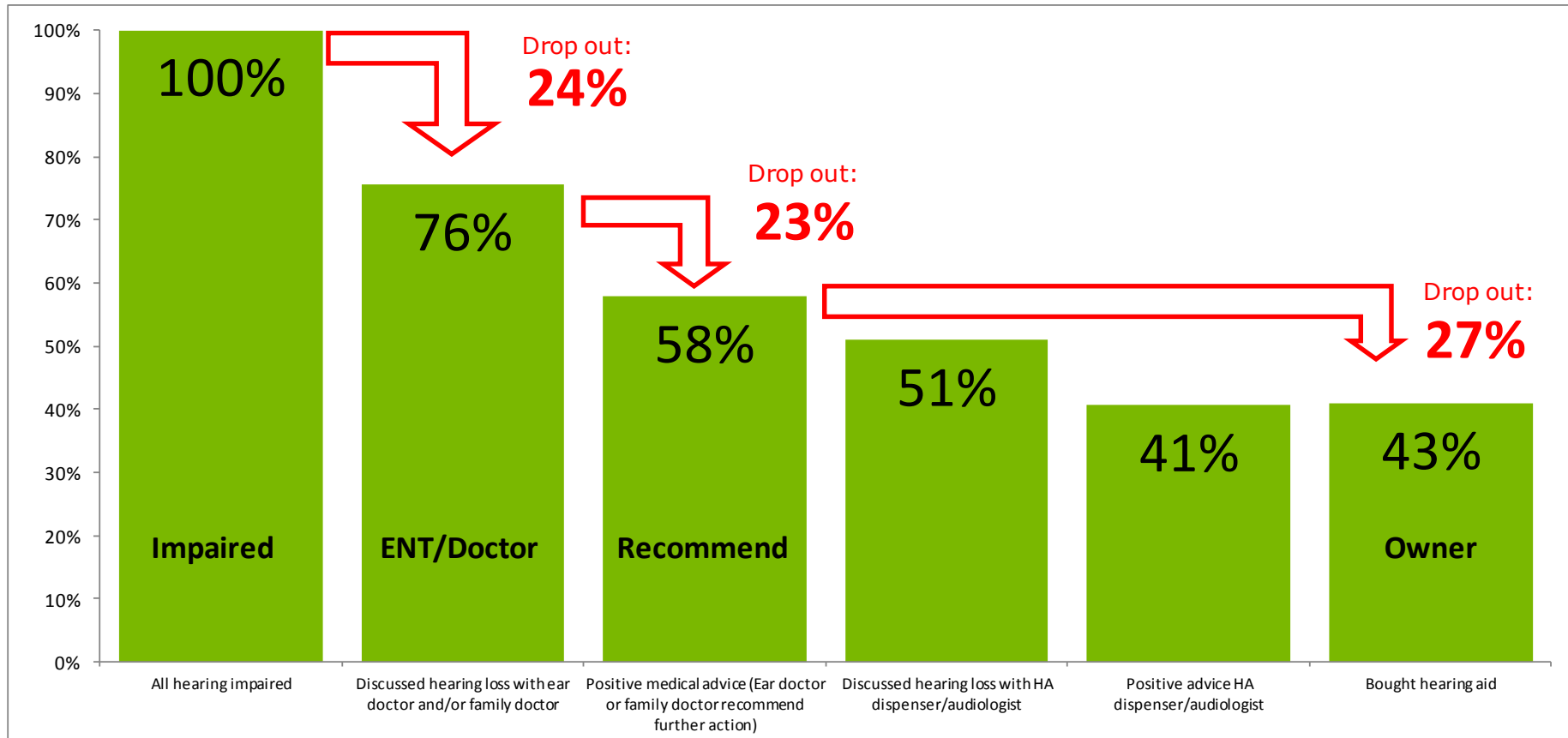


Have you ever thought about a treatment of your tinnitus?



The route to the hearing aid: Drop-out rates and reasons for drop-outs

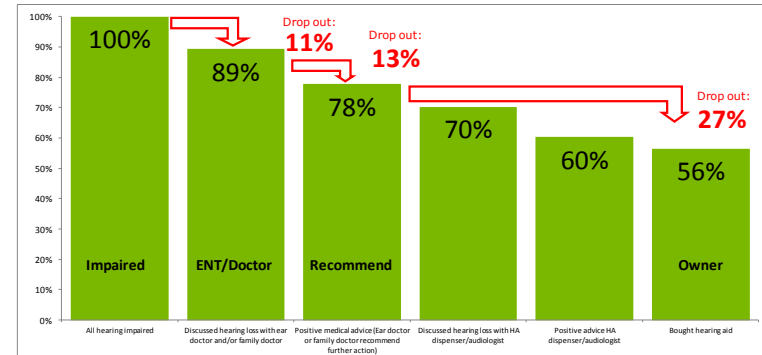
The route to the hearing aid: Overview



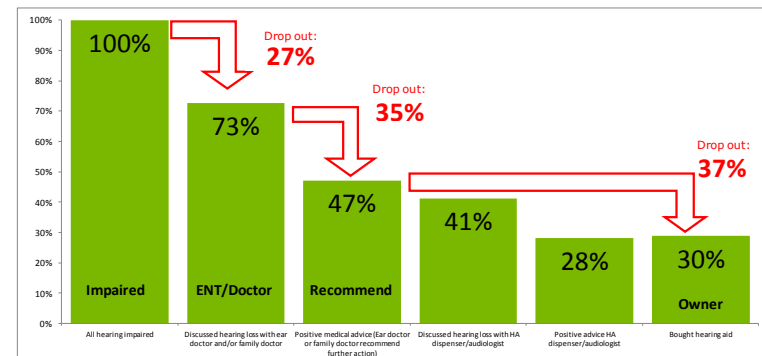
Base: n=1'309

Much higher drop-out-rates for the lower hearing loss segments

Top 50% hearing loss*



Low 50% hearing loss*



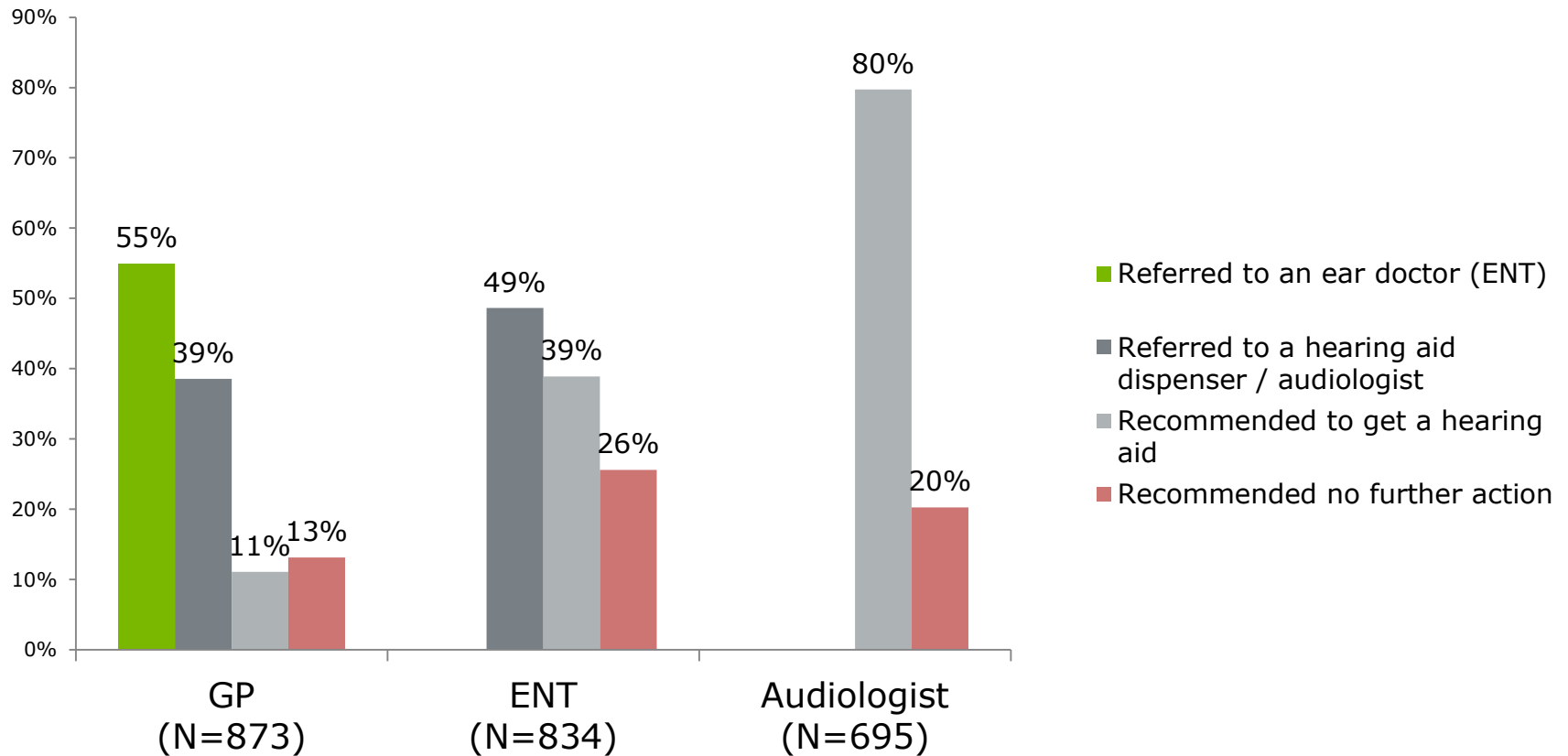
Base: n=1'309

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- Number of ears impaired (one or two)
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 - Scores on 6 APHAB-EC – like questions (Scaled 1-5)
 - When NOT using a hearing aid, how difficult is it for you to follow conversations in the presence of noise
- People were segmented into 6 groups of same size (16.67% of all hearing impaired in the sample).



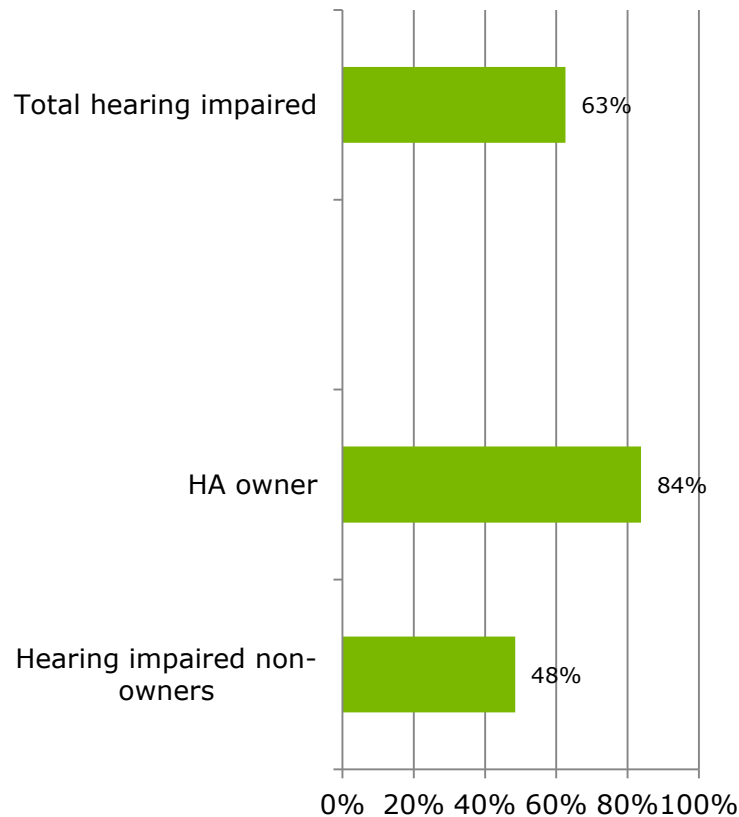
Recommendations by profession



The route to the hearing aid: GP/Family doctor

Have you discussed your hearing problem with your family doctor?

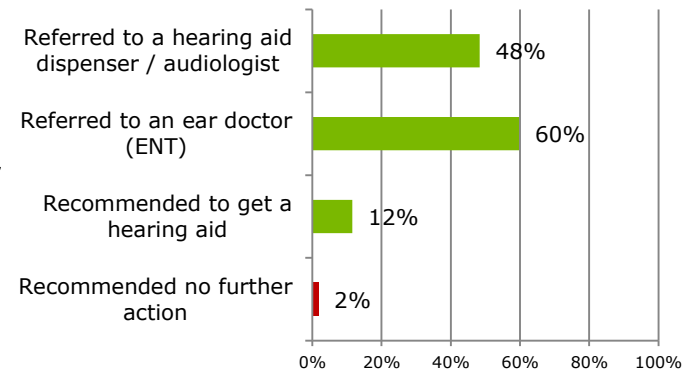
% Discussed with GP



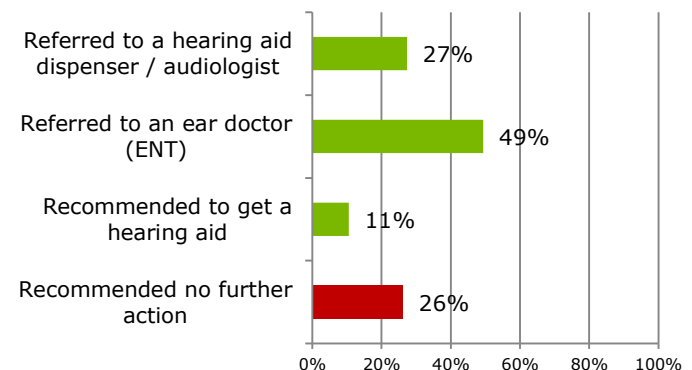
■ EuroTrak 2012
Base: 1'309

What did he/she recommend ?

HA owner (Base: 573)

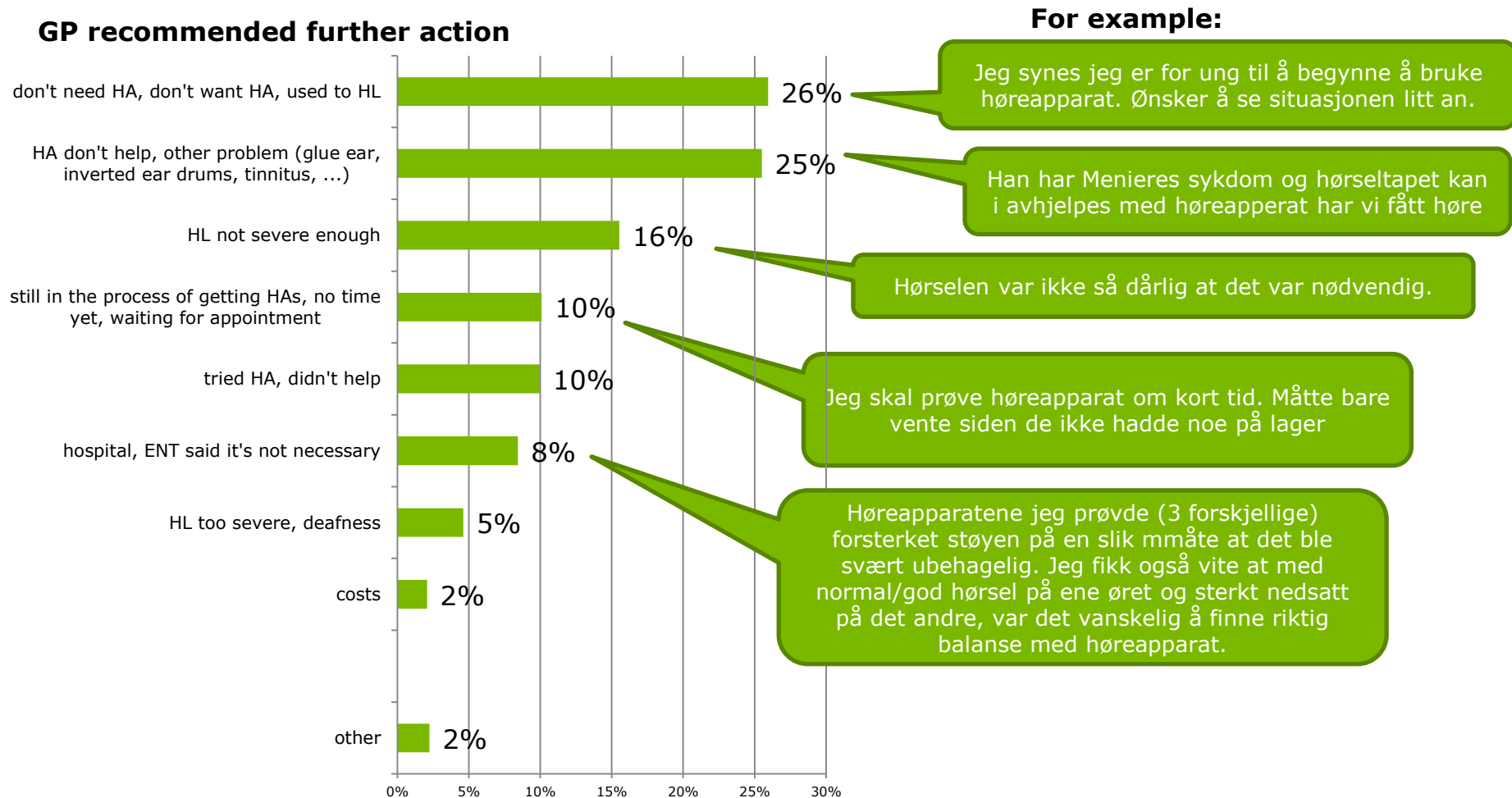


Impaired non-owner (Base: 300)



Non-owners: Reasons for not owning a HA

If GP recommended further action (open ended question, coded)

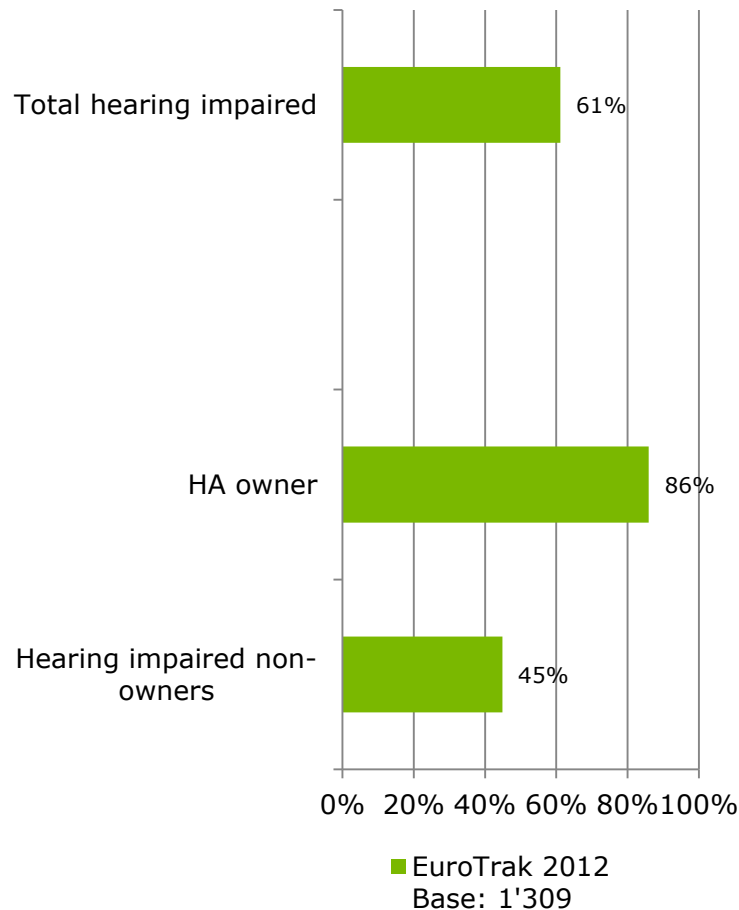


Base: 195

The route to the hearing aid: ENT

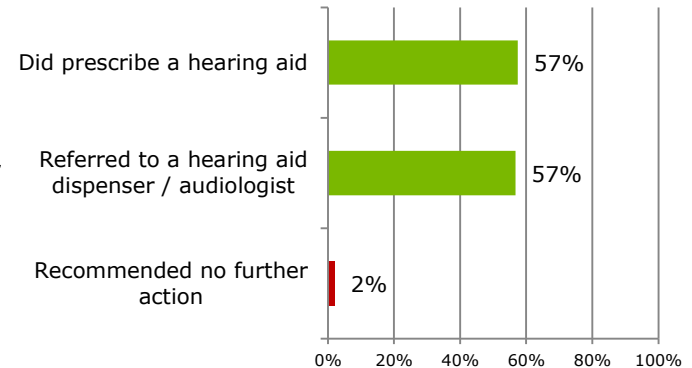
Have you discussed your hearing problem with an ear doctor (ENT)?

% Discussed with ENT

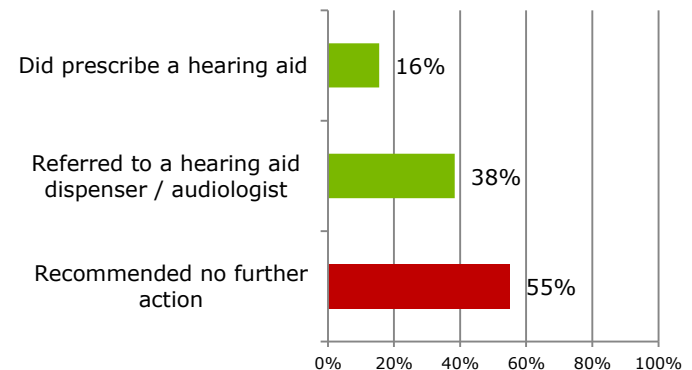


What did he/she recommend ?

HA owner (Base: 554)

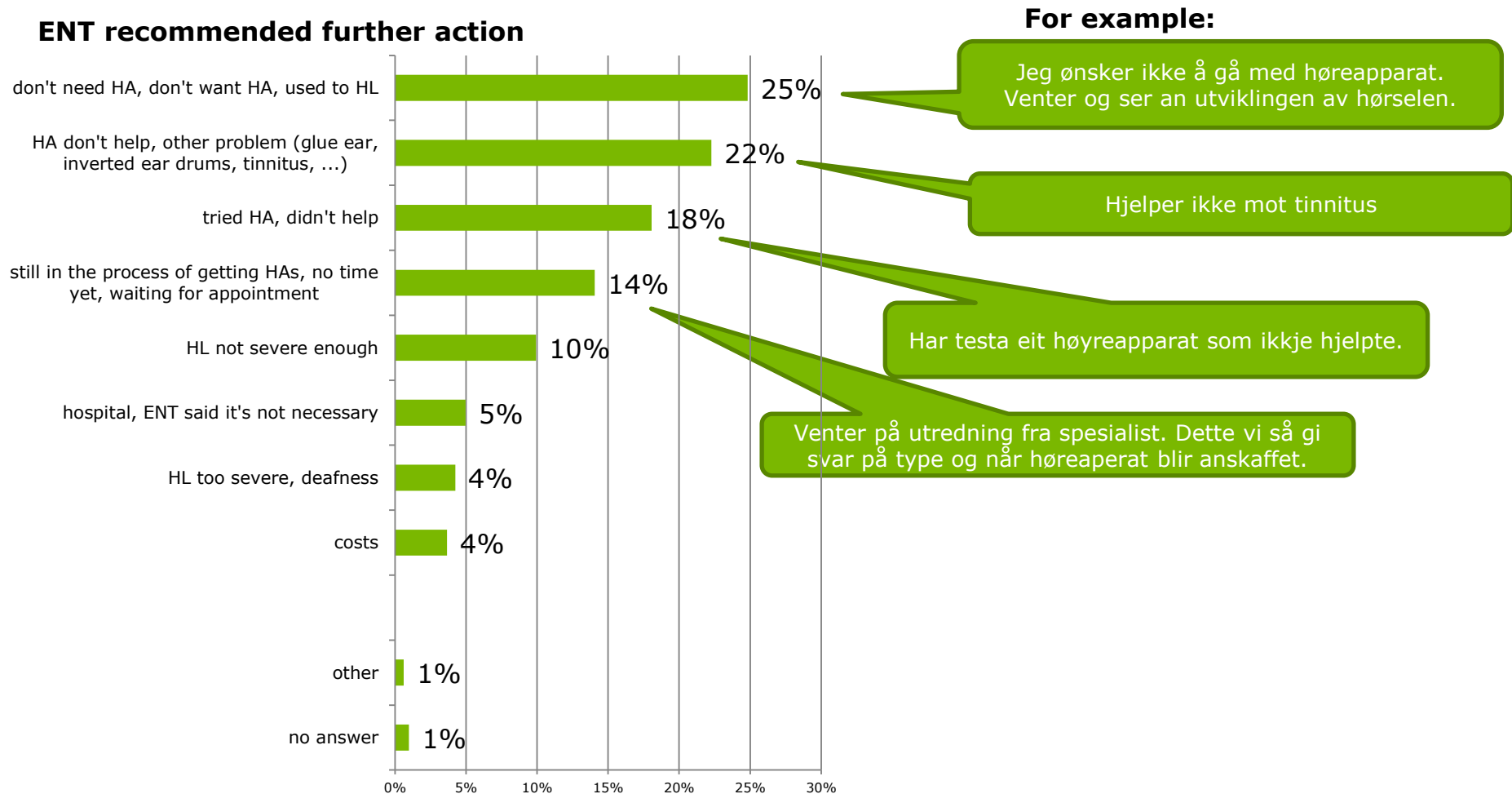


Impaired non-owner (Base: 302)



Non-owners: Reasons for not owning a HA

If ENT recommended further action (open ended question, coded)

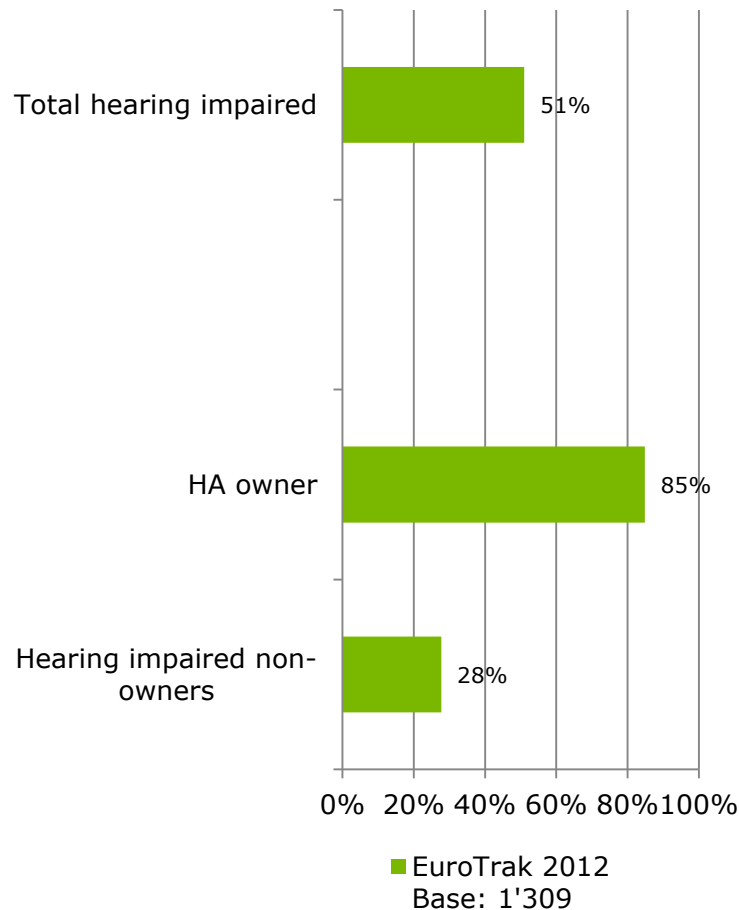


Base: 108

The route to the hearing aid: Audiologist

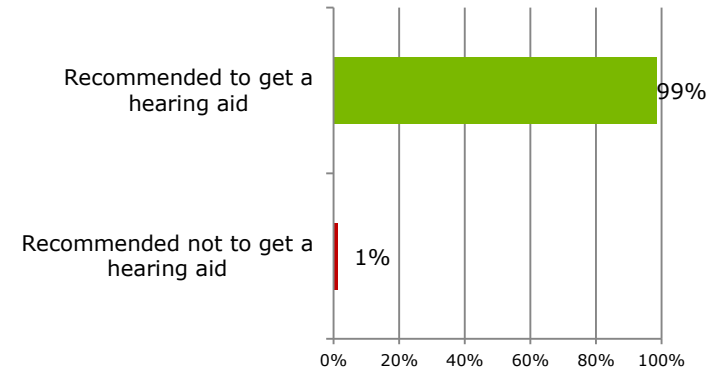
Have you discussed your hearing problem with a Hearing Aid Dispenser/Audiologist?

% Discussed with Audiologist

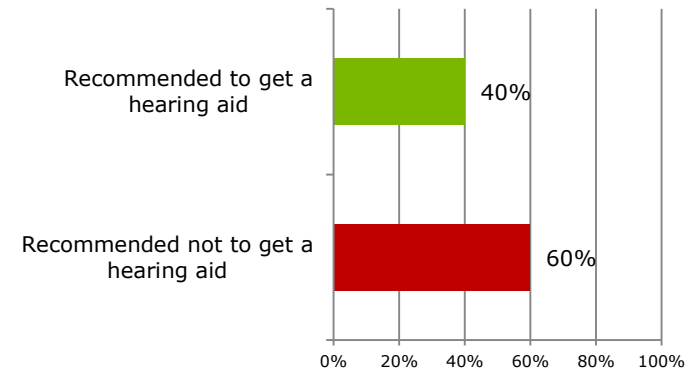


What did he/she recommend ?

HA owner (Base: 539)



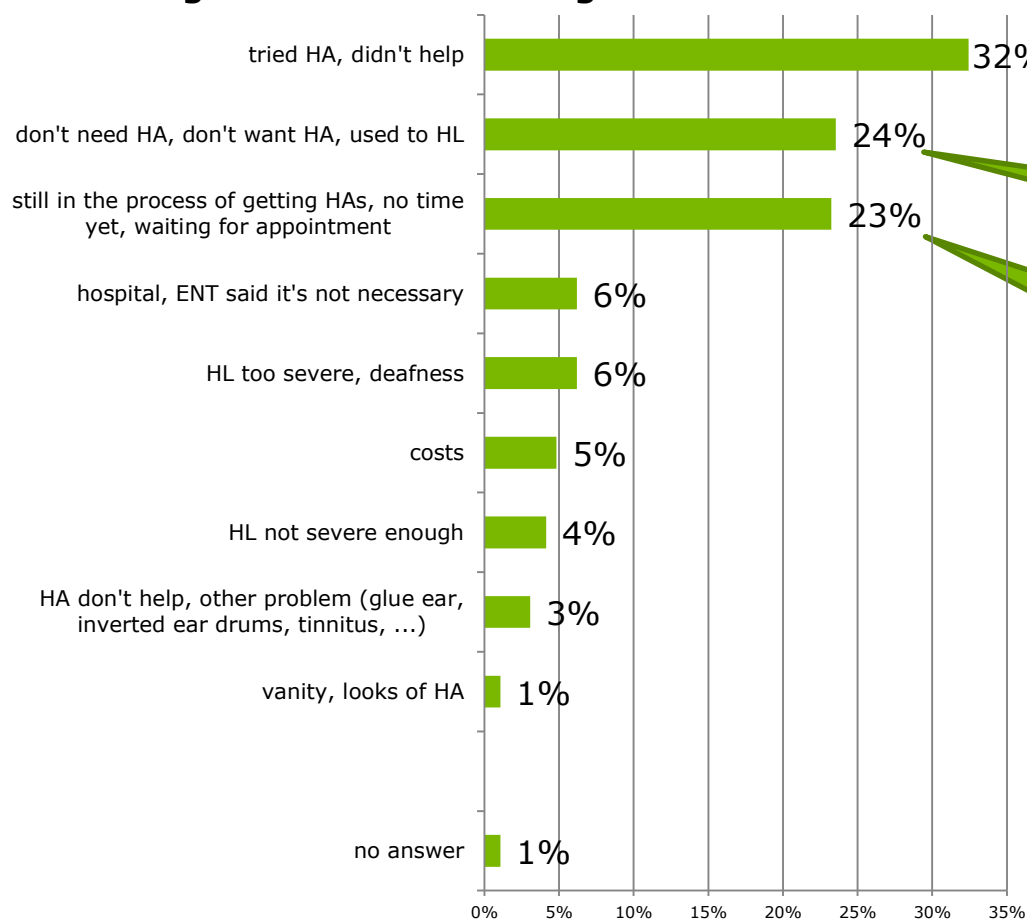
Impaired non-owner (Base: 156)



Non-owners: Reasons for not owning a HA

If Audiologist recommended to get HA (open ended question, coded)

Audiologist recommended to get HA



For example:

Fordi jeg prøvde uten nevneverdig forbedring av hørselen

Føler at jeg ikke trenger det enda. Det fungerer rimelig bra.

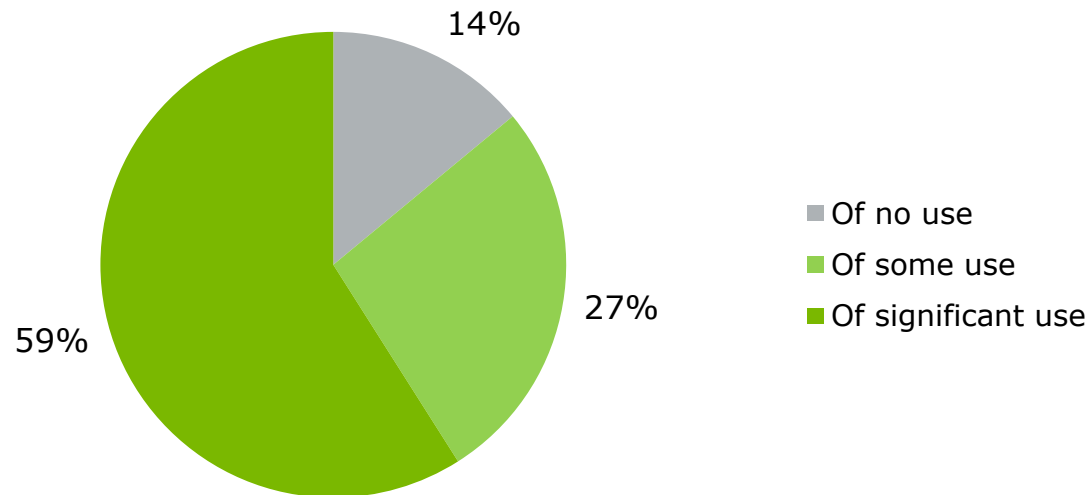
Har aldri fått svar fra audiograf.

Base: 49 (low sample size!)

Potential social cost-savings due to the use of hearing aids: Work competitiveness, depressive and dementia symptoms

Work competitiveness: 86% of the working hearing aid owners state their hearing aid(s) are useful on their job.

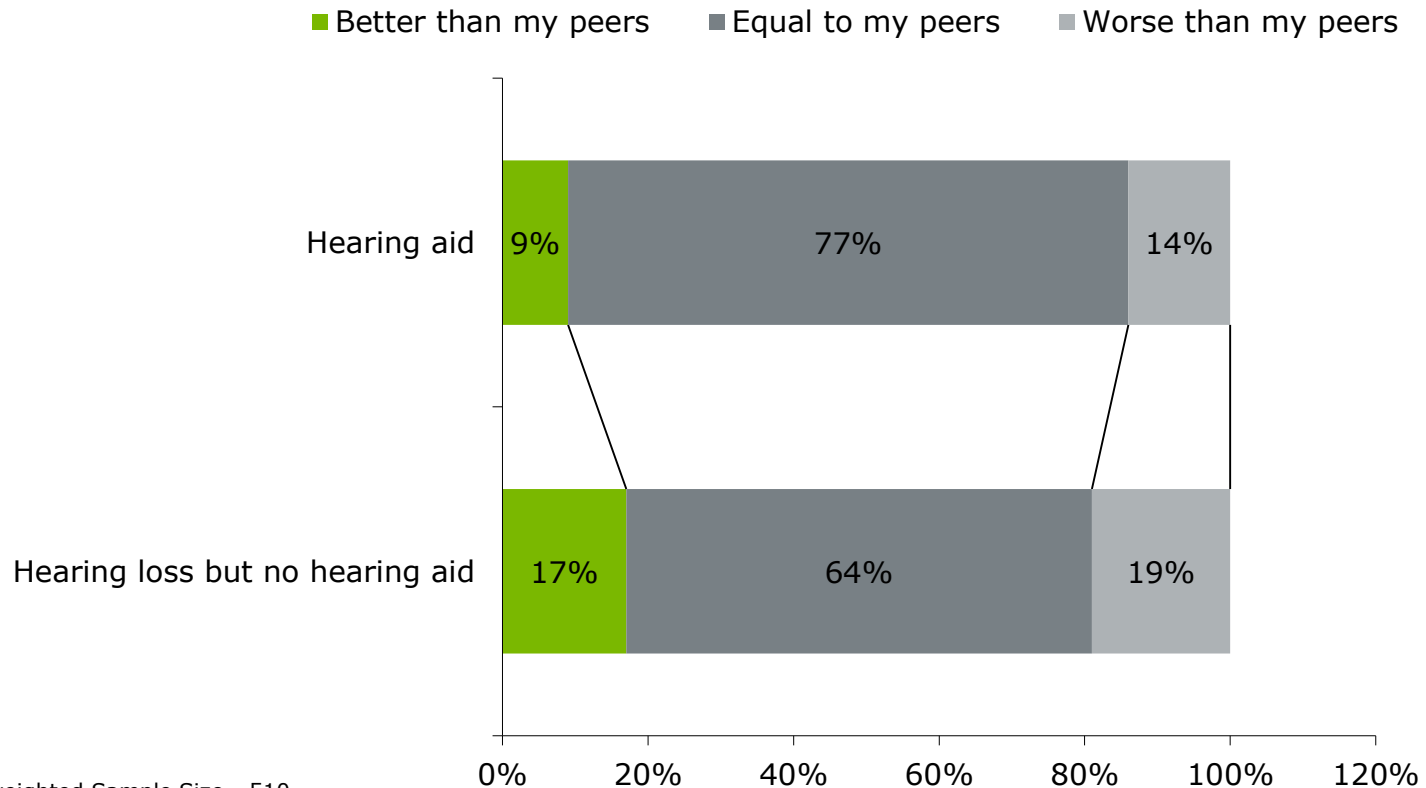
How useful are your hearing aids on your job?



Work competitiveness : 19% of impaired people without hearing aid tend to think they receive a worse compensation for their jobs than their peers (14% of hearing aid owners)

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

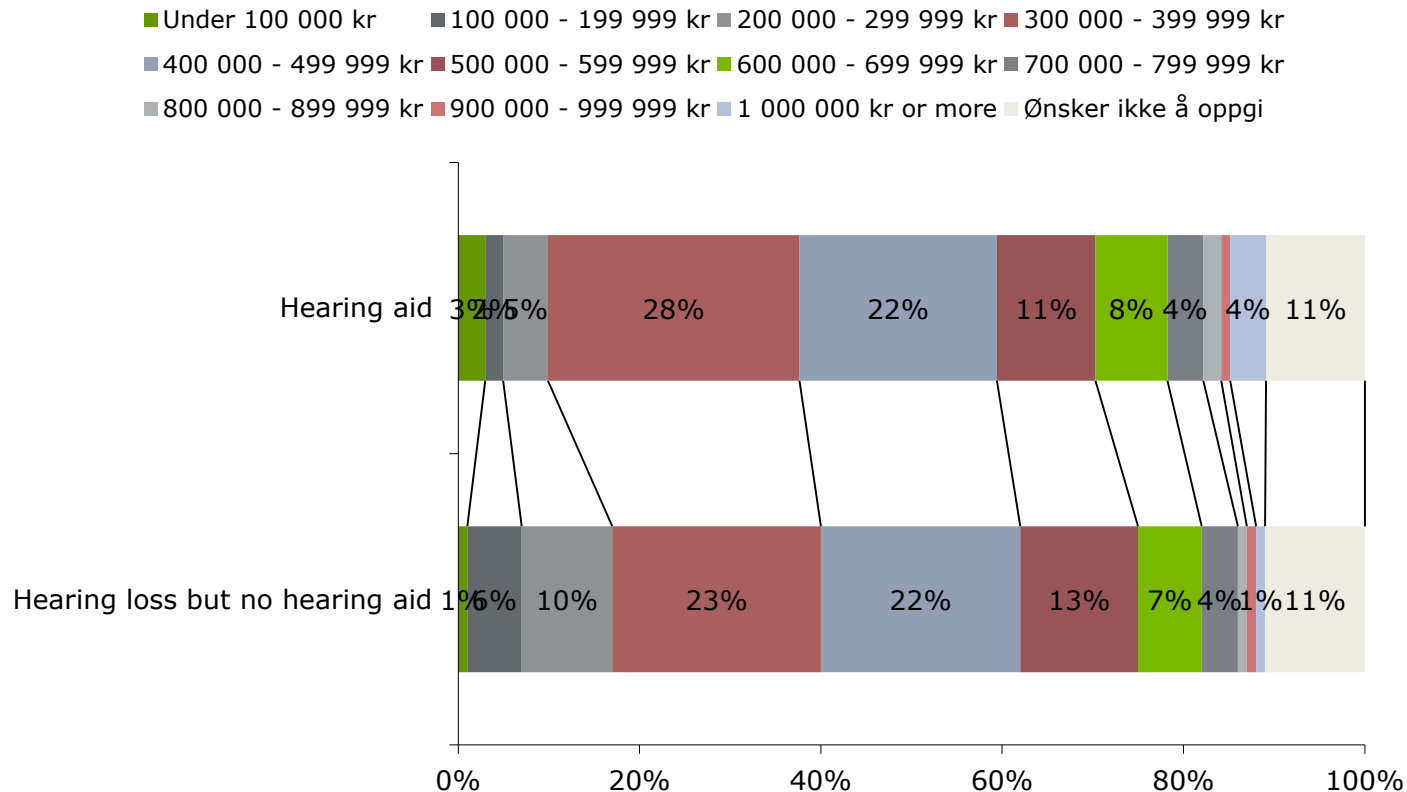
Base: Employed (full/part time)



Work competitiveness: People with hearing aid(s) tend to have a little higher personal income compared to impaired non-owners.

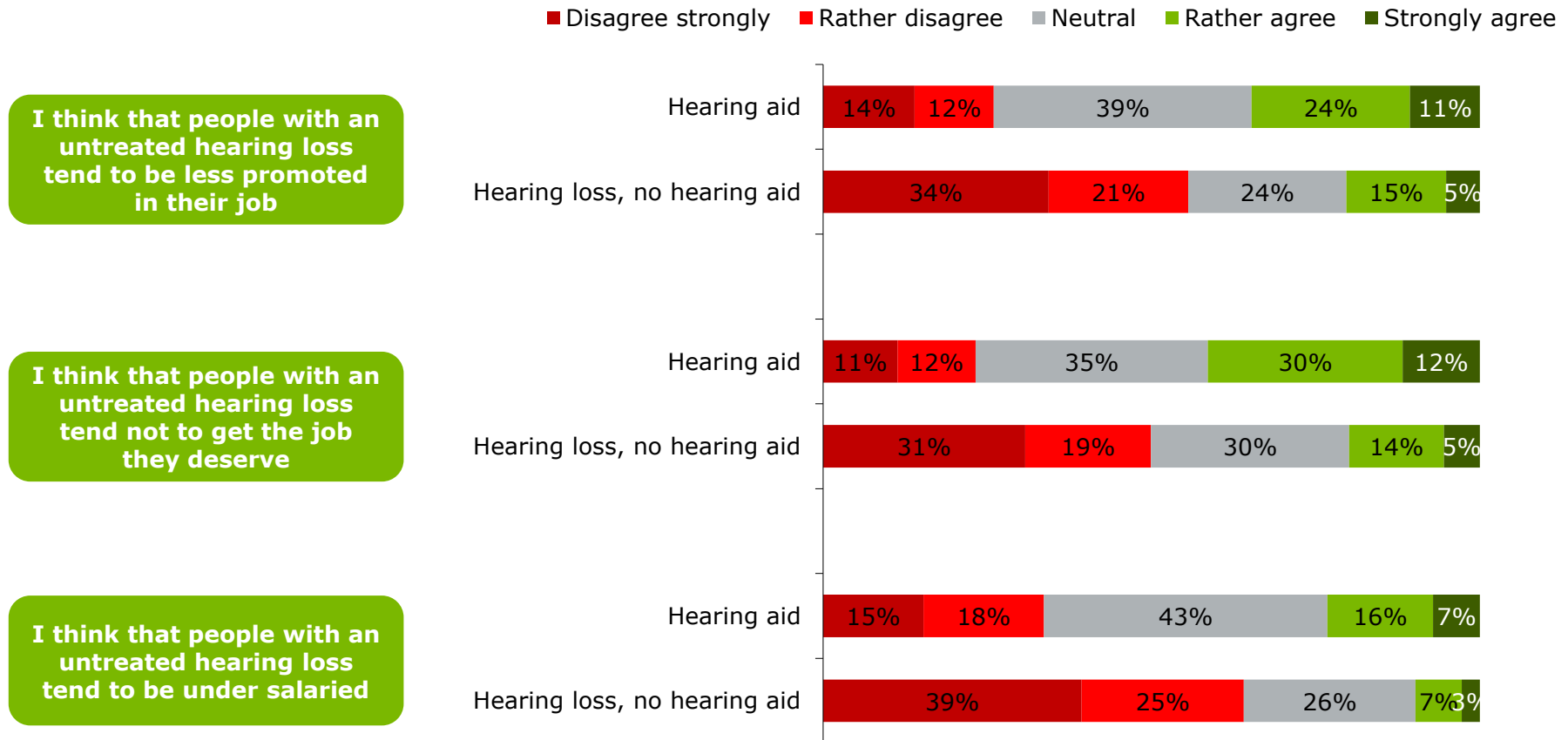
Personal income

Base: Employed (full/part time)



Unweighted Sample Size = 554

Work competitiveness: People with hearing aids recognize that hearing aids increase the chance of hearing impaired to get promoted, to get the right job and to get more salary.



Base: Step2 : Hearing loss, no hearing aid =400/ hearing aid n=498

Health problems: Hearing aid owners have a lower risk of being depressed (PHQ-2 Screening) and a lower risk of being forgetful compared to impaired non-owners with comparable hearing loss (Top50% hearing loss group*).

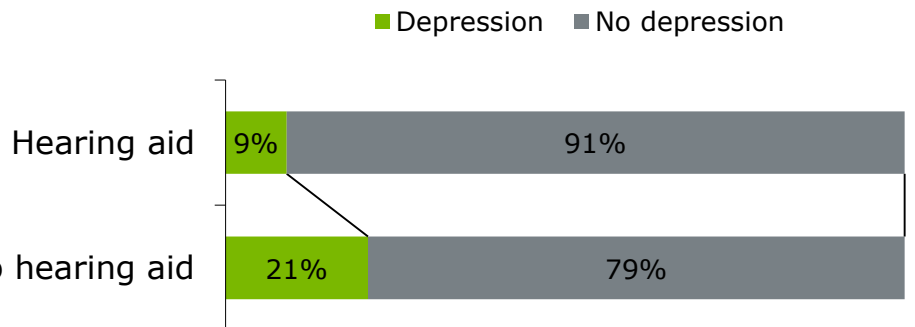
Depression symptoms:

PHQ-2 Screening:

In the last 2 weeks:

- Little interest or pleasure
- Feeling down, depressed, hopeless

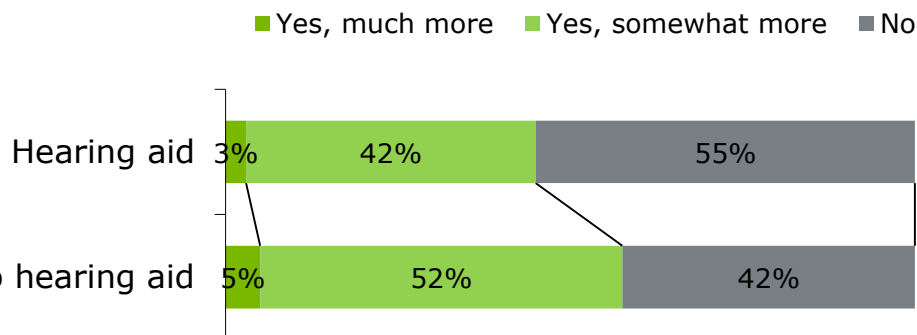
Top 50% hearing loss, no hearing aid



Dementia symptom:

Getting more forgetful in the last year?

Top 50% hearing loss, no hearing aid



Base: hearing aid n=548 / no hearing aid =144

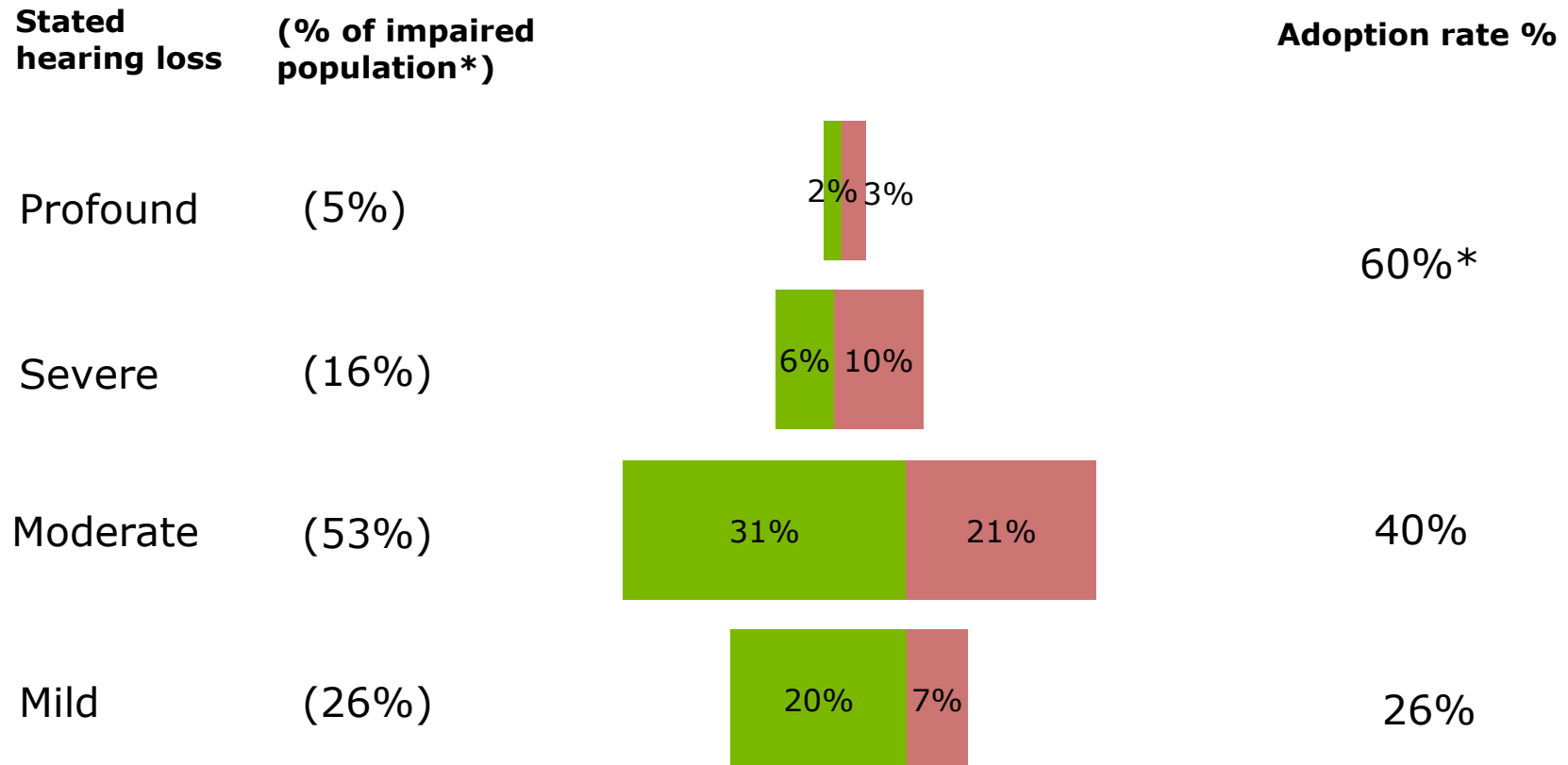
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 - Scores on 6 APHAB-EC – like questions (Scaled 1-5)
 - When NOT using a hearing aid, how difficult is it for you to follow conversations in the presence of noise
- People were segmented into 6 groups of same size (16.67% of all hearing impaired in the sample).

3. Analysis of hearing aid owners

Hearing aid ownership and usage

Low adoption rates within mild and moderate hearing loss



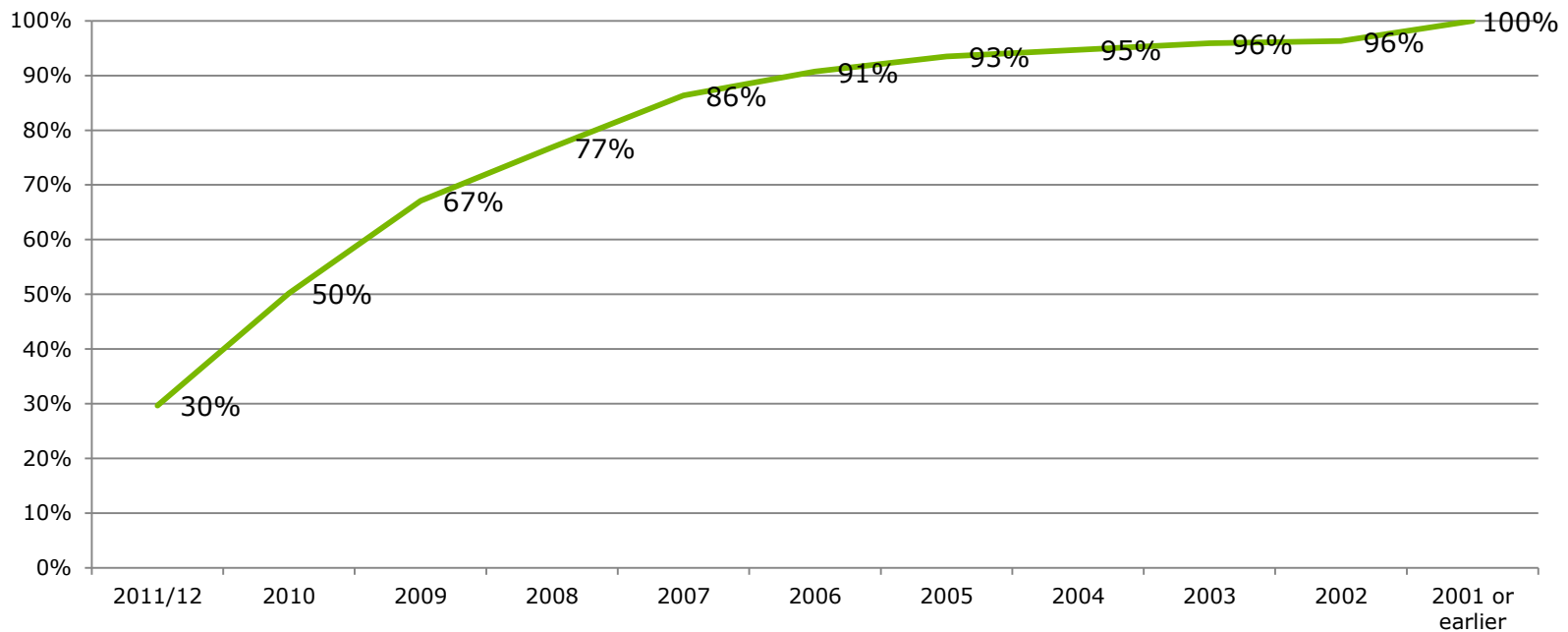
Base: n=1'309

Sums can differ from 100% due to rounding

* combined "severe" and "profound" because n is too small

67% of the currently owned HAs were bought in 2009 or later

Year of purchase

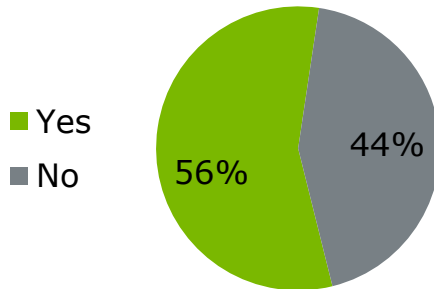


Age of currently owned HAs (Mean):
2012: 2.7 years

HA-owner, n=691

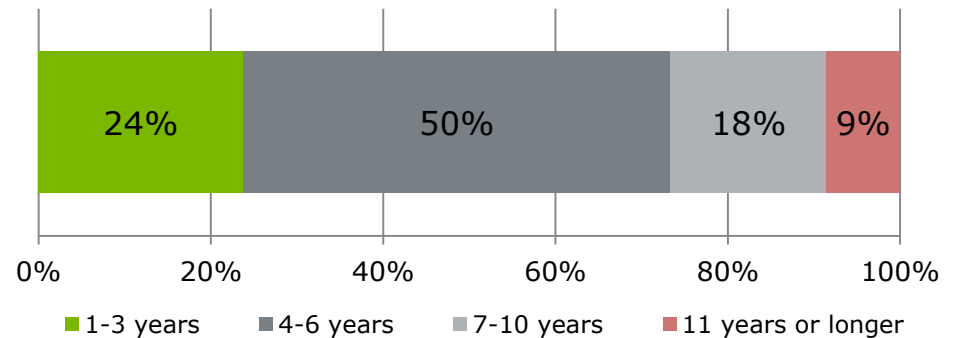
56% are first time HA users – non first time users kept their HAs for 6 years on average

Current HAs = first HAs?



HA-owner, n=691

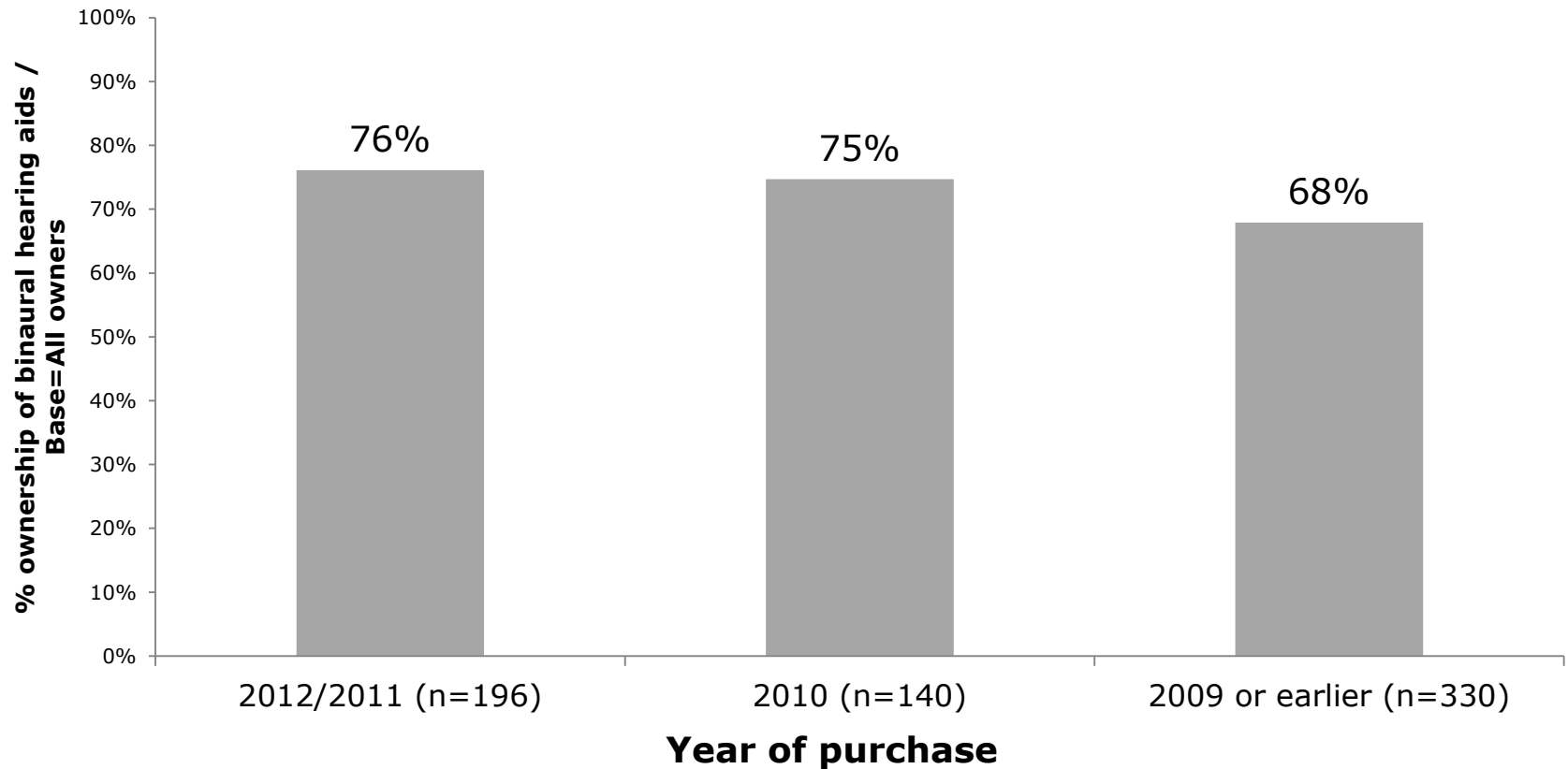
How many years did you own your previous HAs?



Base: n=316

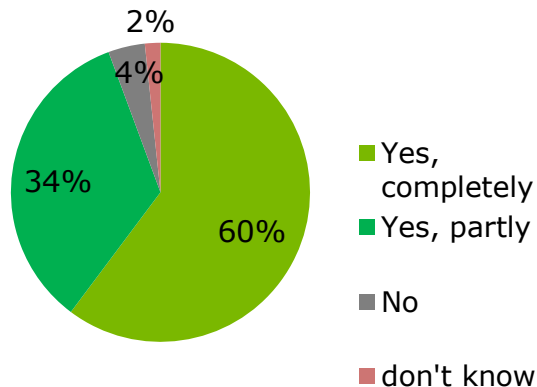
**Age of HA before it has been replaced:
2012: 6 years (median)**

Monaural-binaural treatment by purchase date



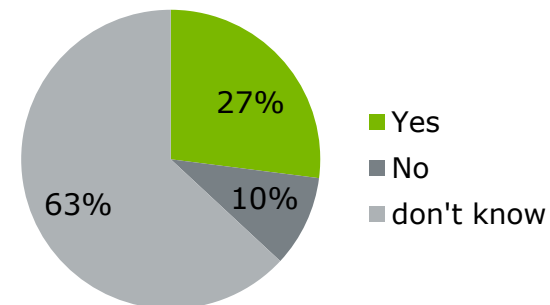
94% received some kind of 3rd party reimbursement. Information deficit non-owners: only 27% know whether government/insurance would pay

Owners: Was any part or all of your hearing aid(s) paid for by a third party ?
(Insurance, Government, ...)



HA-owner, n=691

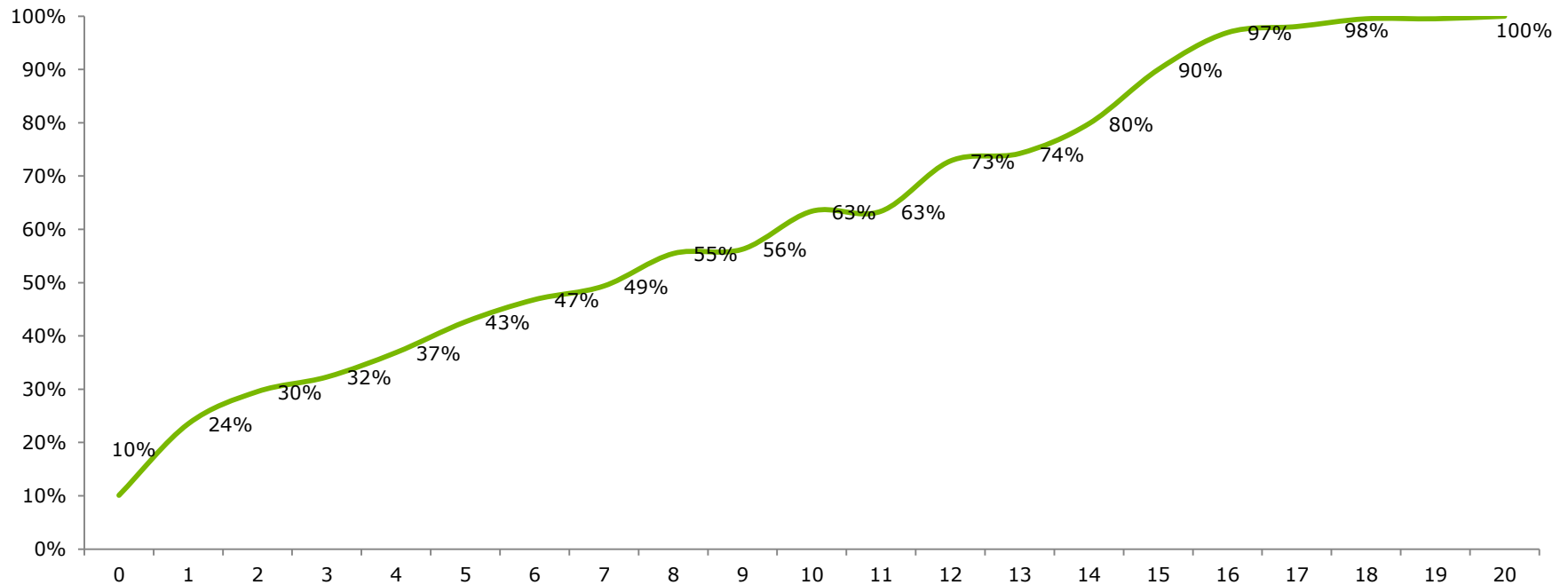
Non-owners: Based on your current knowledge, would any part or all of your hearing aid(s) be paid for by a third party? (Insurance, Government, ...)



HA-non-owners, n=618

On average, HAs are worn 7.9 hours a day

How many hours a day are HA worn? (cum. %)

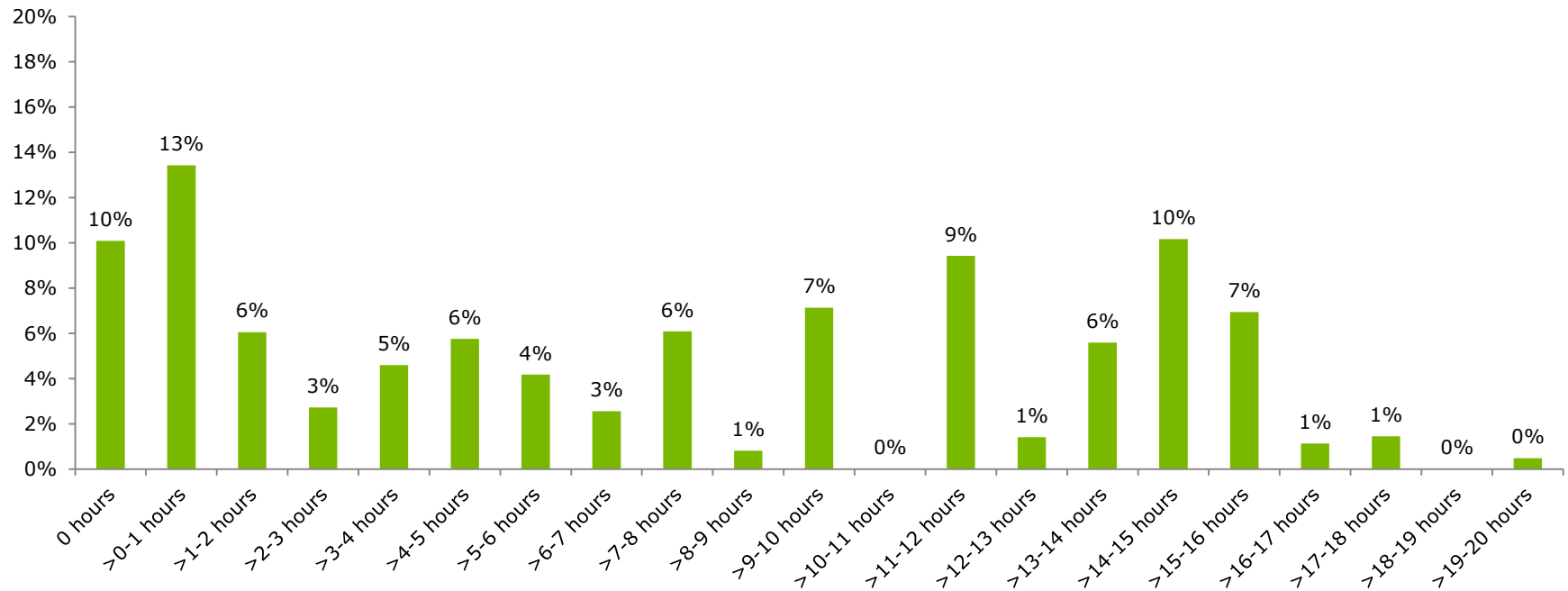


HA worn:
Mean: 7.9 hours/day

HA-owner, n=691

On average, HAs are worn 7.9 hours a day

How many hours a day are HA worn?

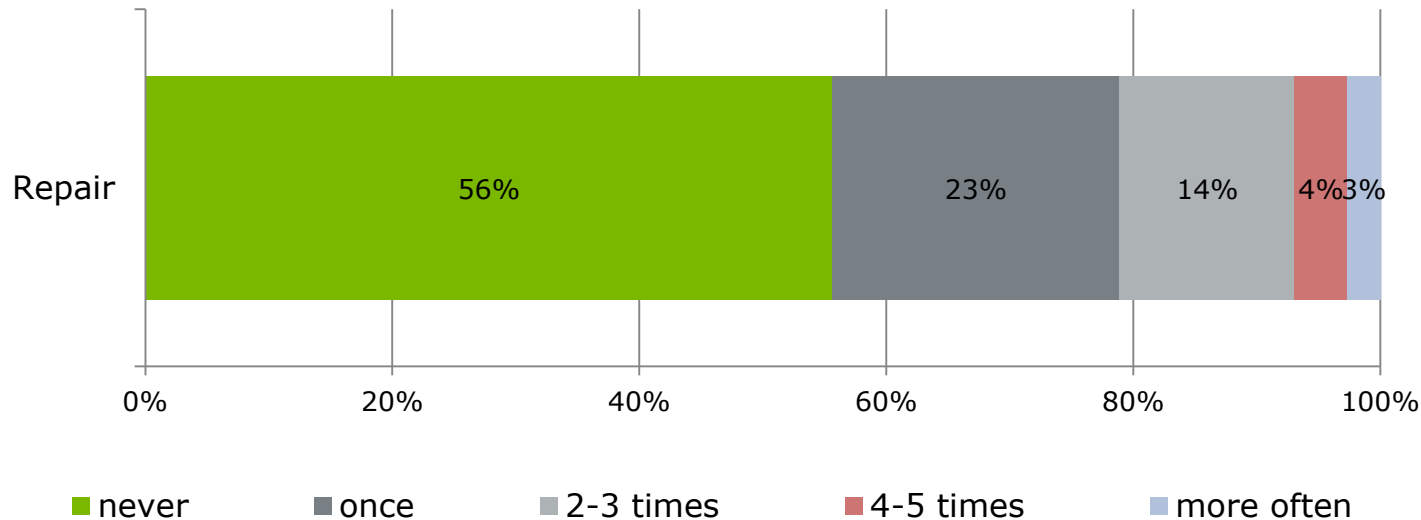


HA worn:
Mean: 7.9 hours/day

HA-owner, n=691

79% of the currently owned HAs either had no repair need or only once

How often has your current hearing aid required a repair because it was not working properly?

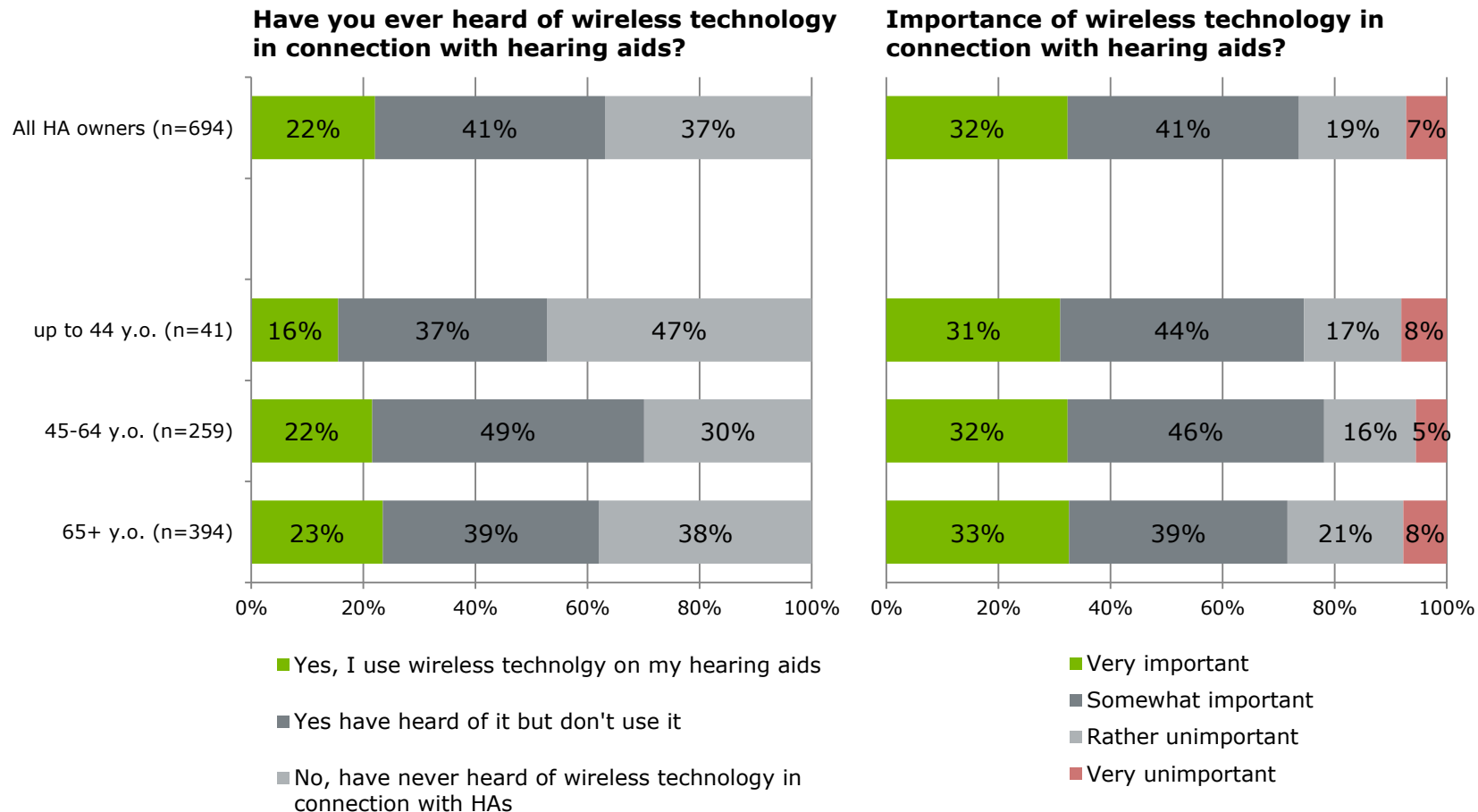


HA-owner, n=691

Awareness and importance of wireless technology

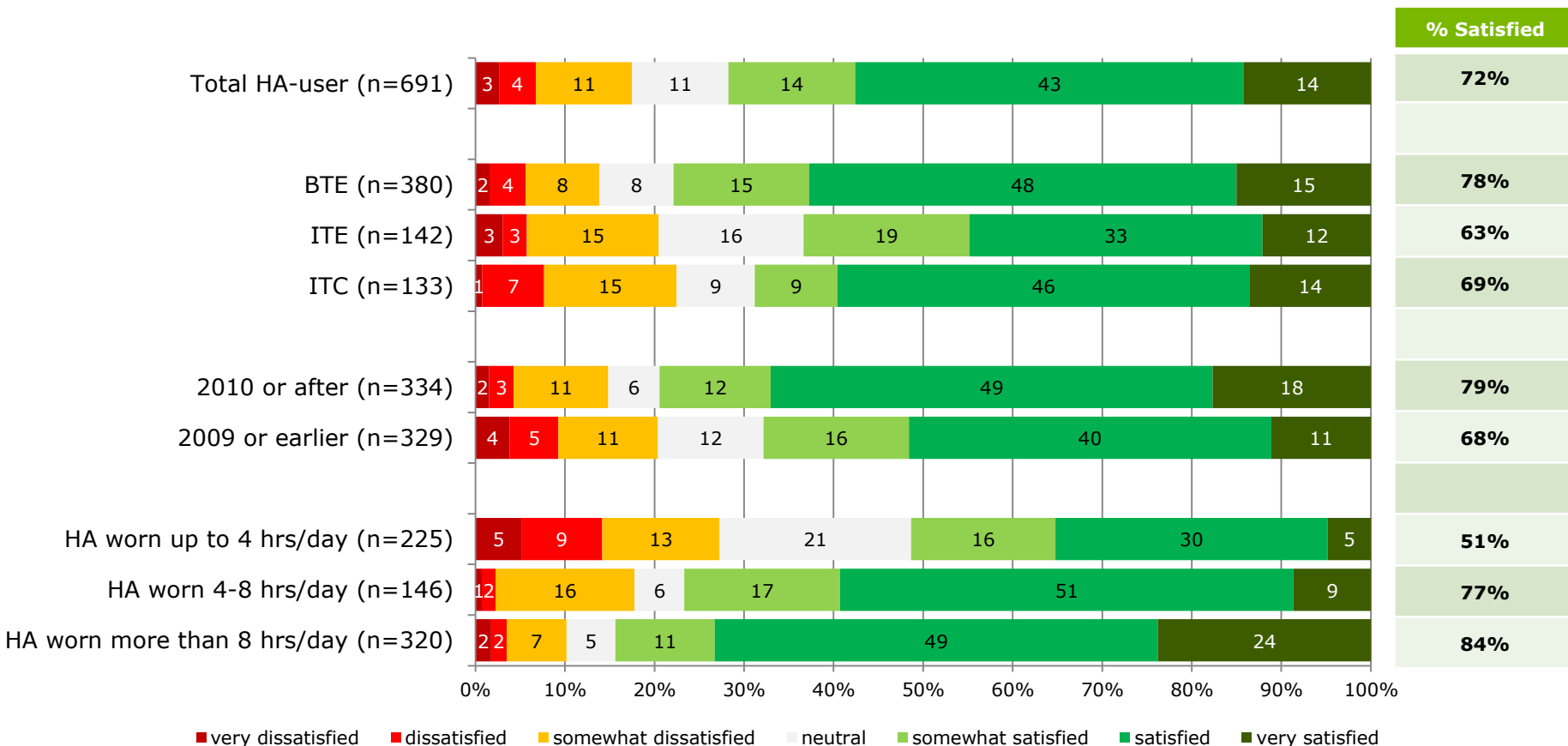
Only 1 out of 5 hearing aid owners uses wireless technology

Wireless Technology

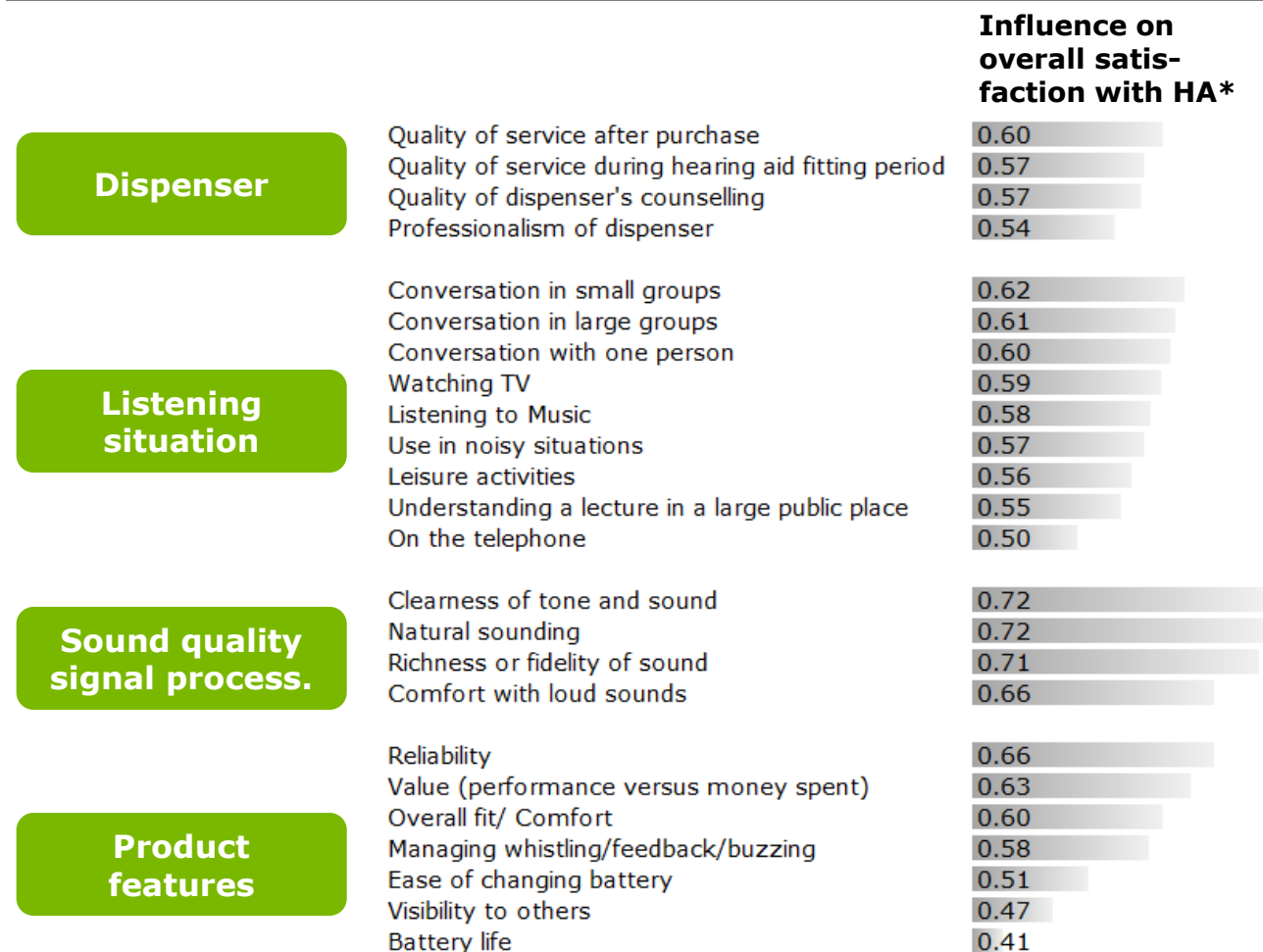


Satisfaction with HA and drivers

Overall satisfaction with HA: Highest satisfaction for the following groups: BTEs, purchased 2010 or after, worn more than 8 hrs/day

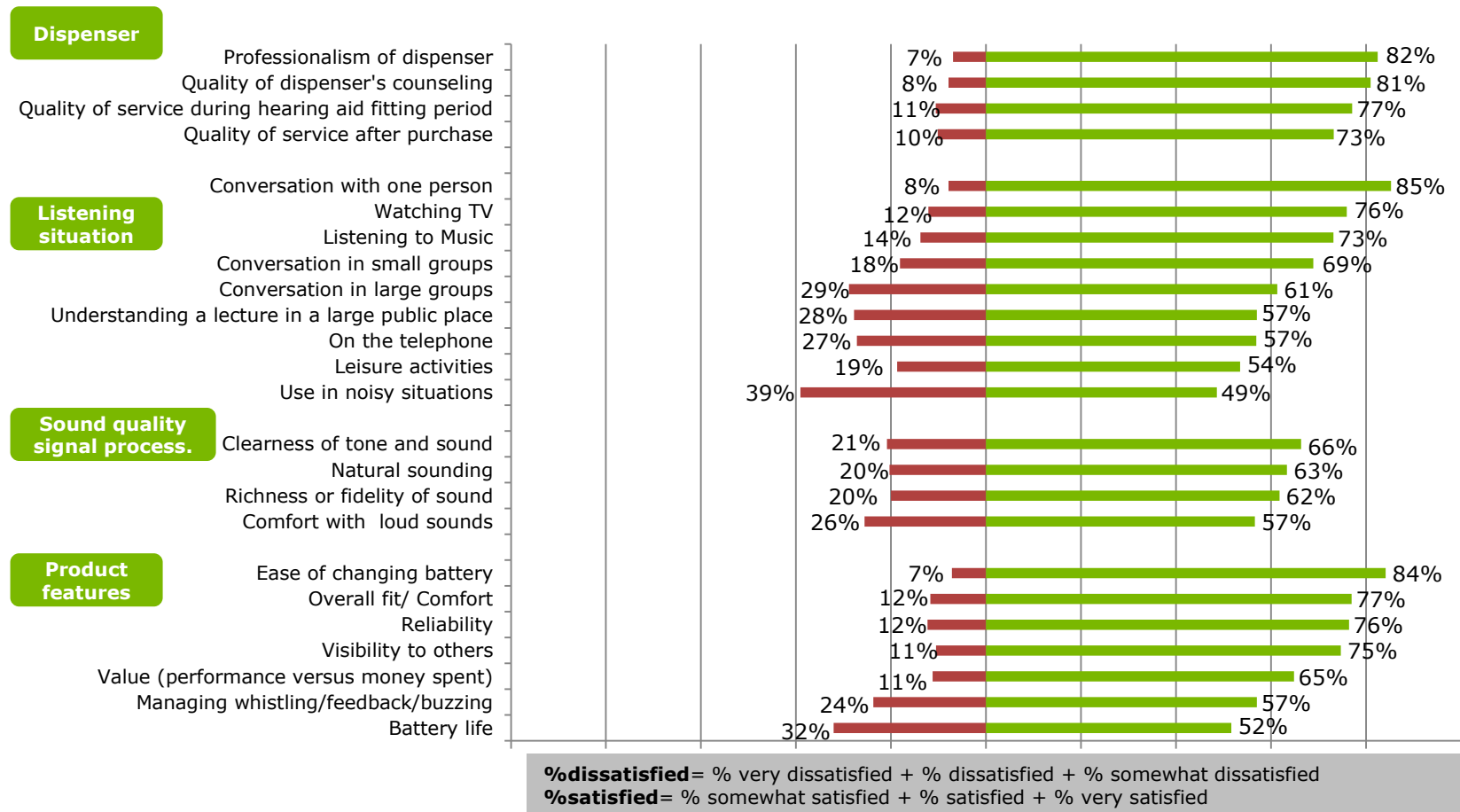


Factors influencing satisfaction with current HA: Sound quality/signal processing is most important for overall satisfaction with HA



*The Influence has been calculated with a correlation: 0 means no relation between a criterion and overall satisfaction ; 1 means a maximal relationship. **Read:** clearness of tone and sound is the most important criterion for satisfaction.

Satisfaction with current HA



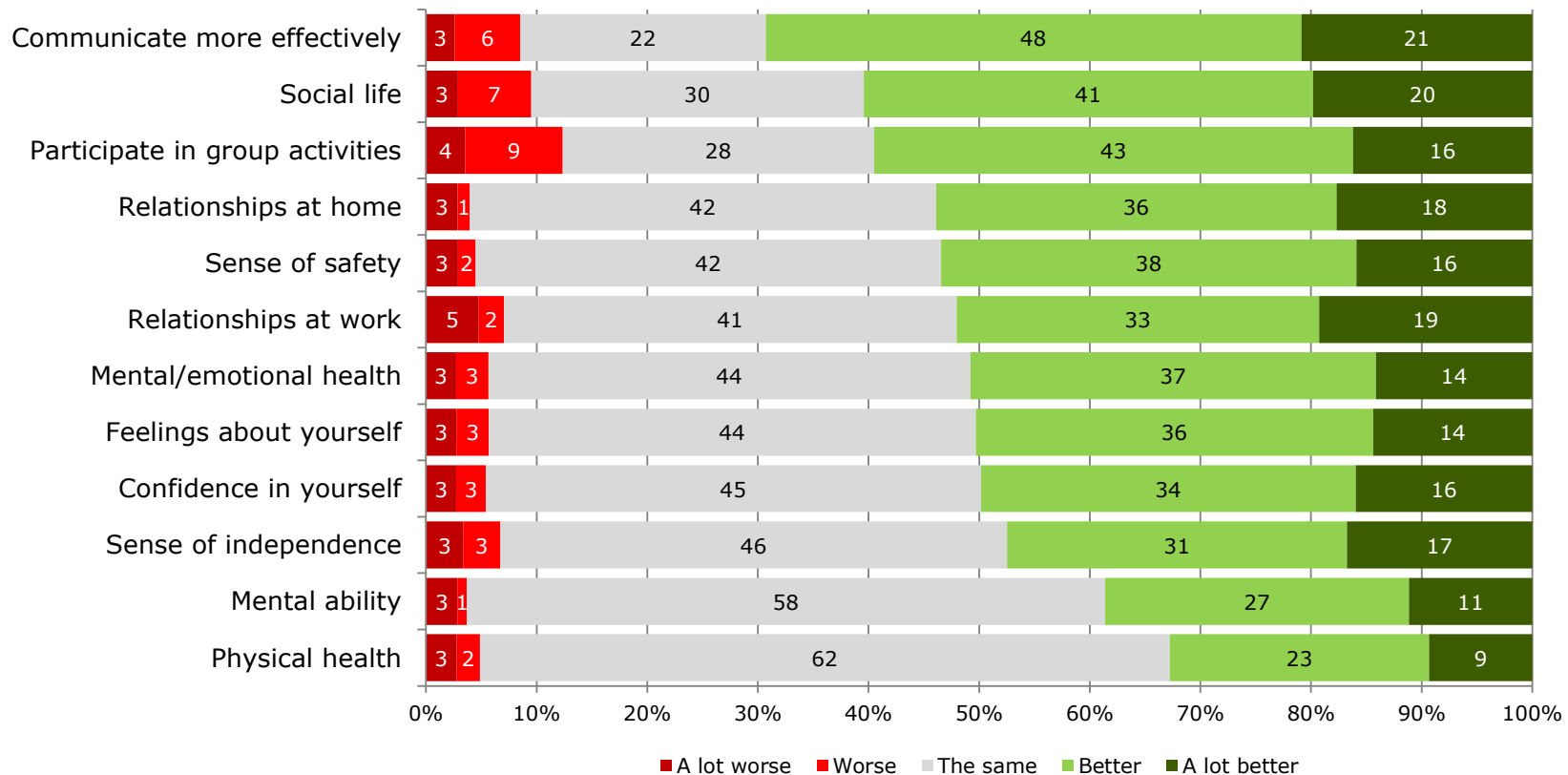
■ dissatisfied ■ satisfied

HA-owner, n=691



Positive impact of HAs

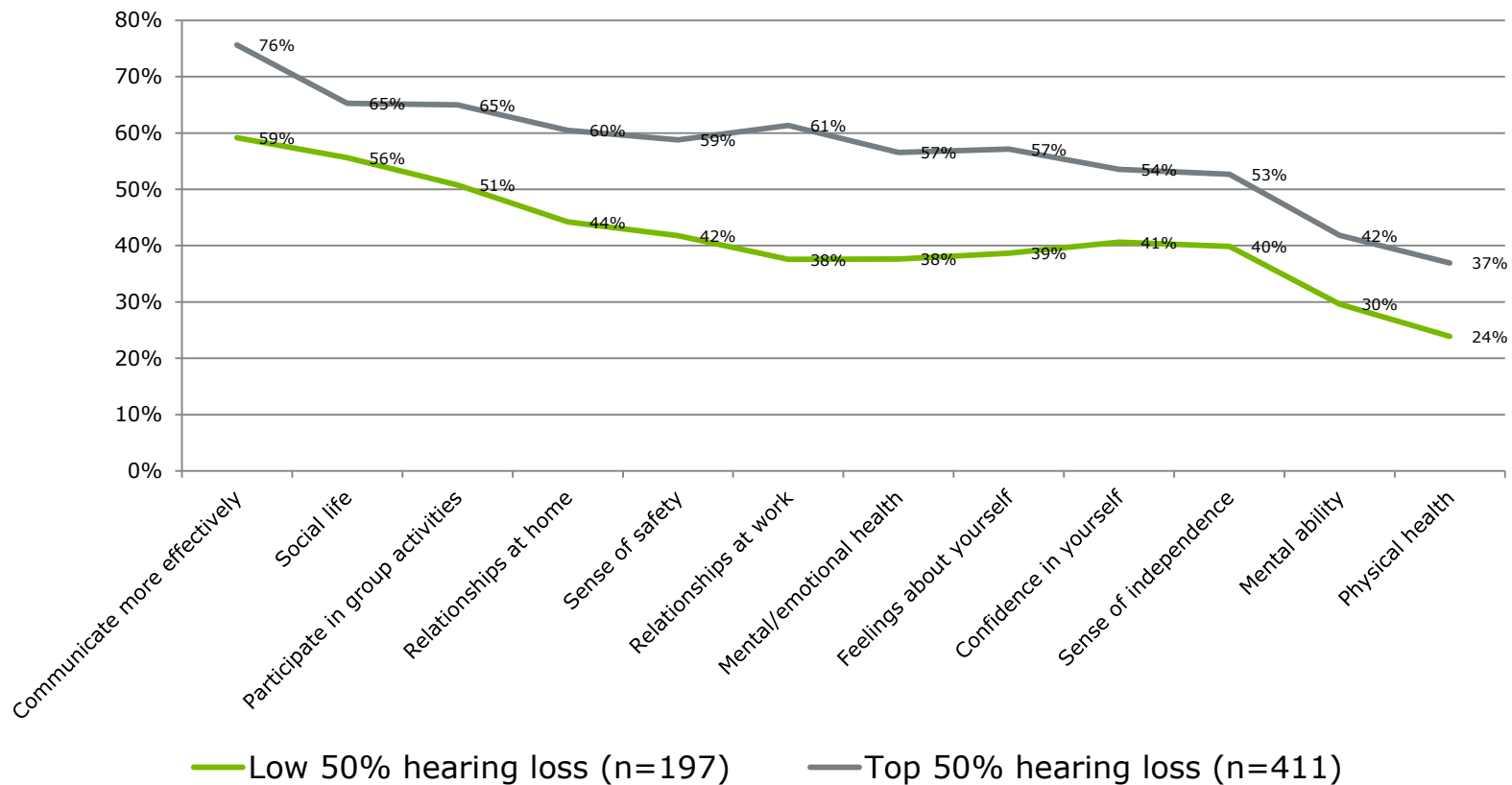
Significant positive impact of HAs on different aspects – especially communication effectiveness, social life and participating in group activities have improved



HA-owner, n=691

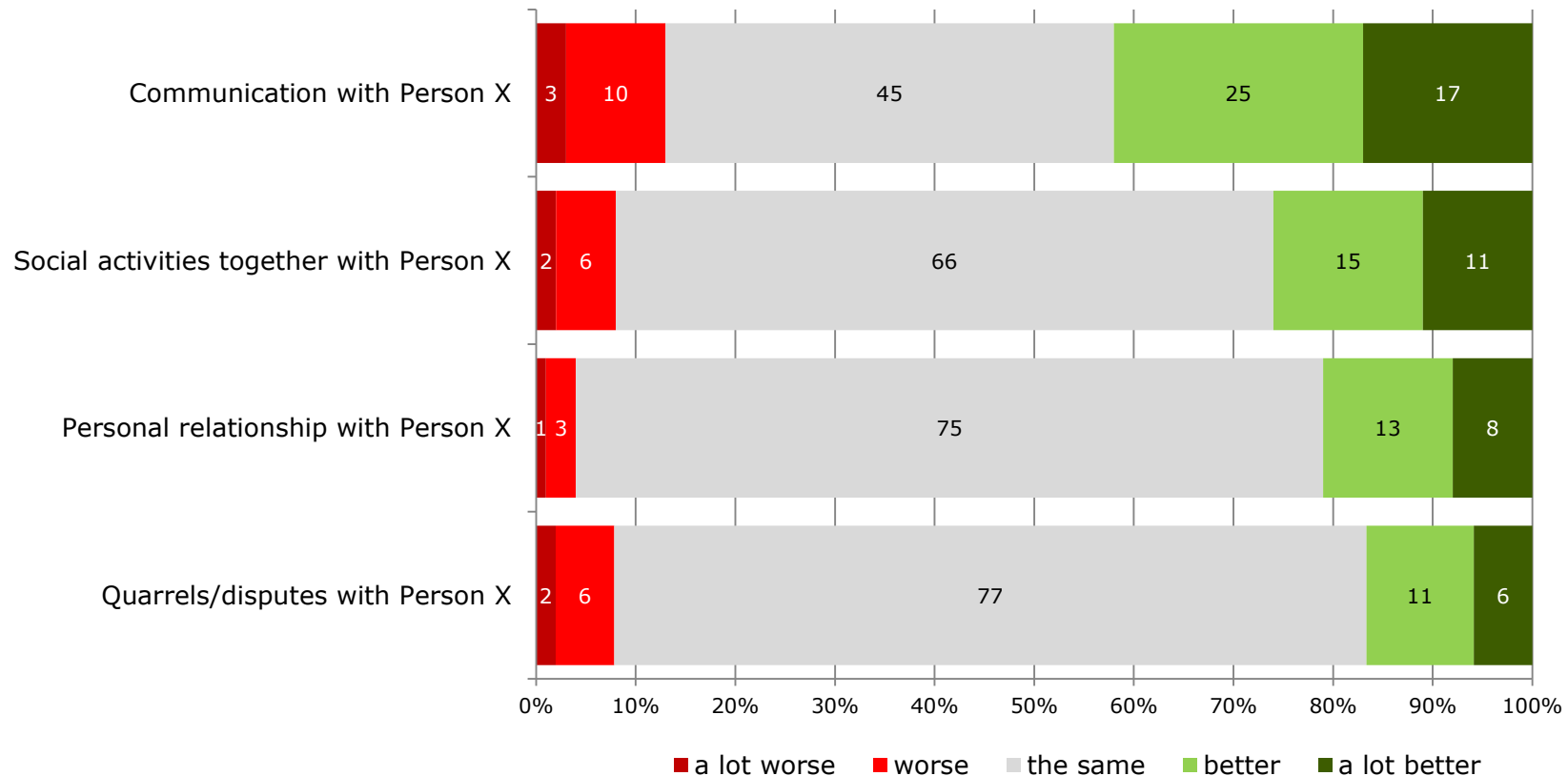
Impact of HAs is perceived more positive by patients with a Top 50% hearing loss in all aspects

% of HA owners feeling better/a lot better



For the significant others, the situation has improved, since person in household/parent is wearing hearing aids

How did the following aspects change since person X is wearing hearing aids?



Someone in HH / parent have HA, n=548

4. Analysis of hearing impaired non-owners

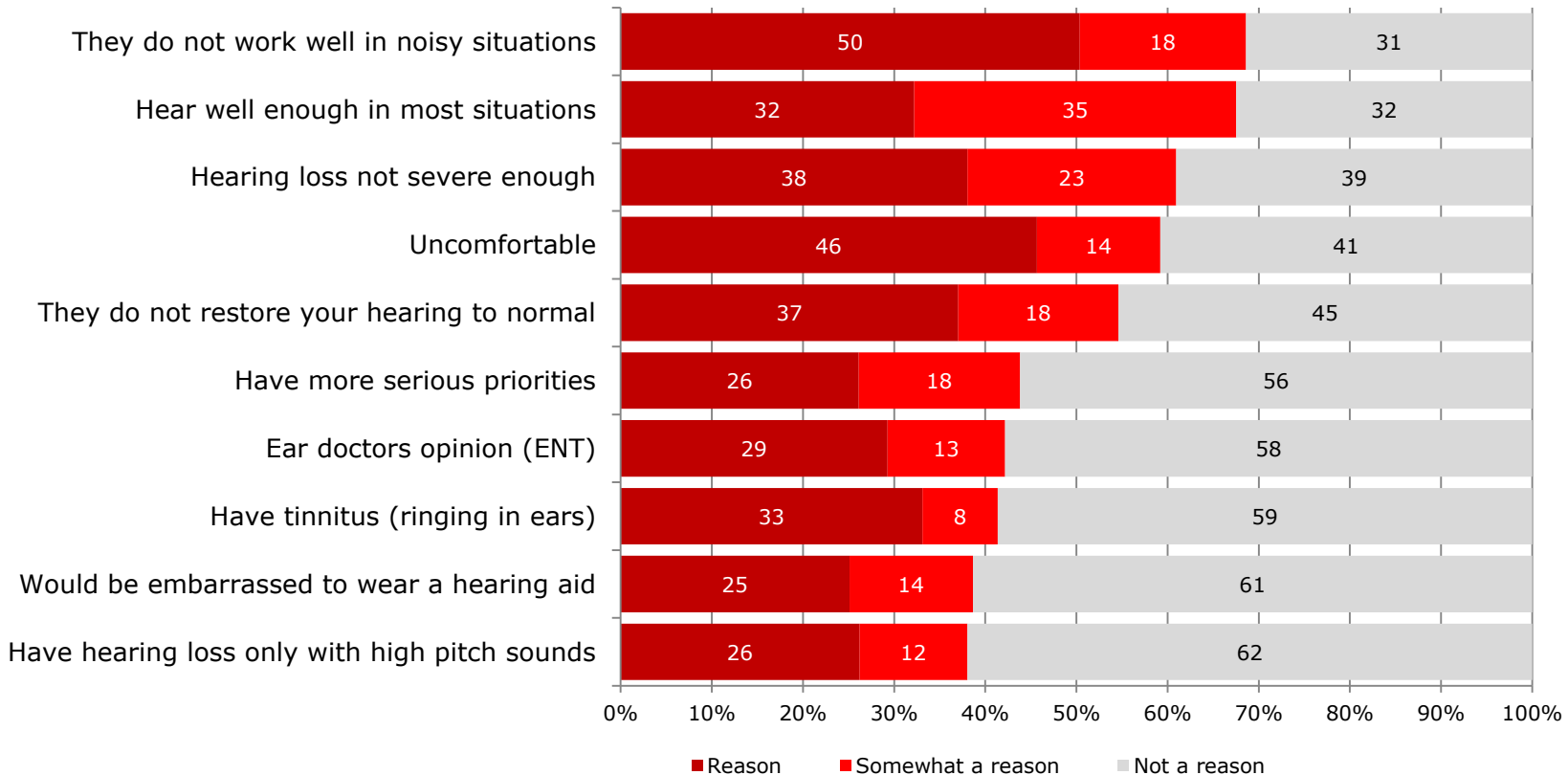
Reasons for not having a hearing aid

To analyse reasons of non-adoption we look at the Top 50% HL group, as the structure of hearing loss is more similar to that of HA owners

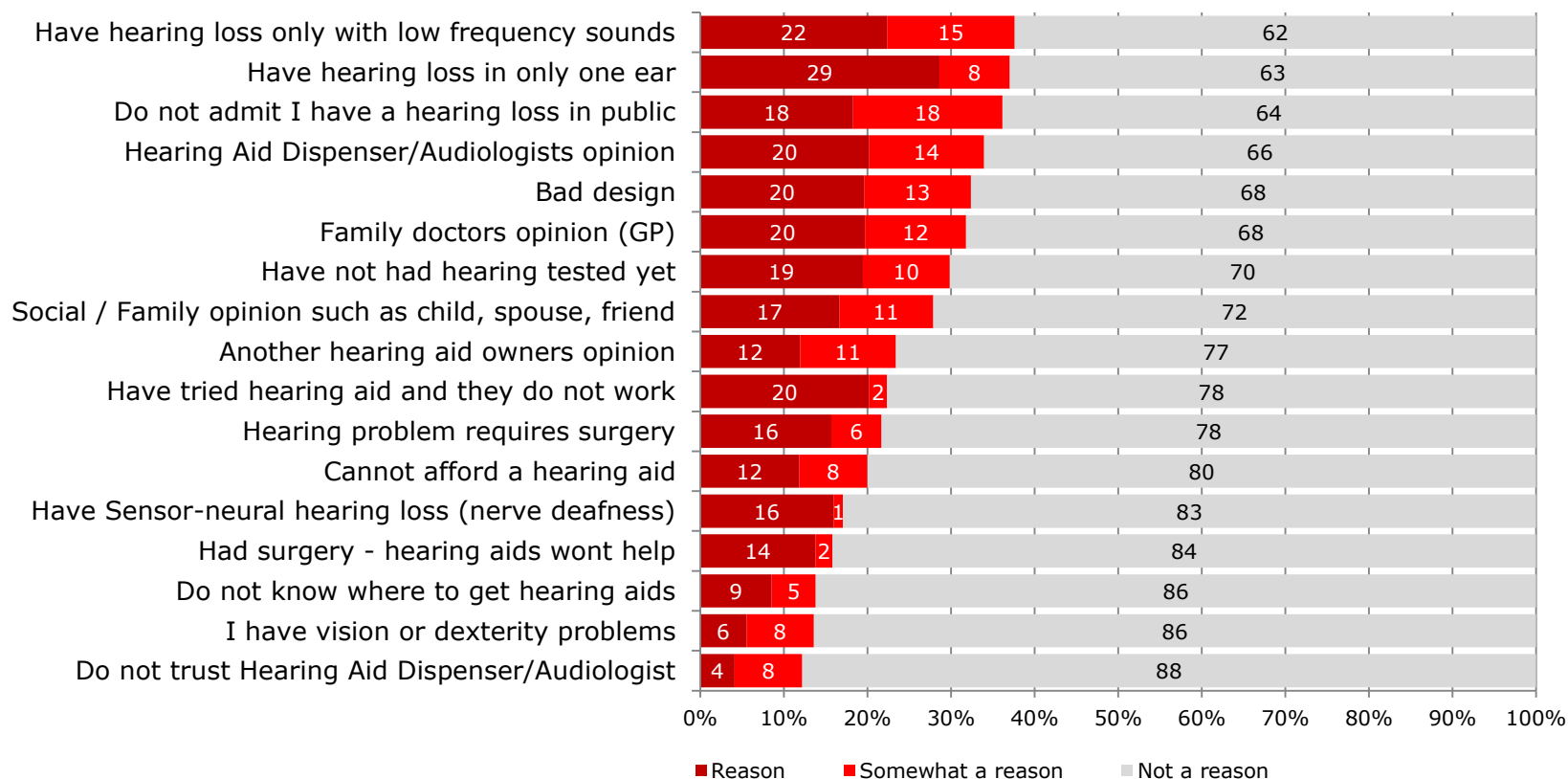
Hearing loss characteristics: Owners compared to non-owners

	% HA Owner (n=691)	%HA-Non- owner Low 50% HL	%HA-Non- owner Top 50% HL
Ears impaired			
Unilateral loss	18%	37%	29%
Bilateral loss	82%	63%	71%
Perceived loss		More similar hearing loss- structure	
Mild	17%	43%	7%
Moderate	52%	52%	62%
Severe	24%	3%	24%
Profound	7%	2%	7%

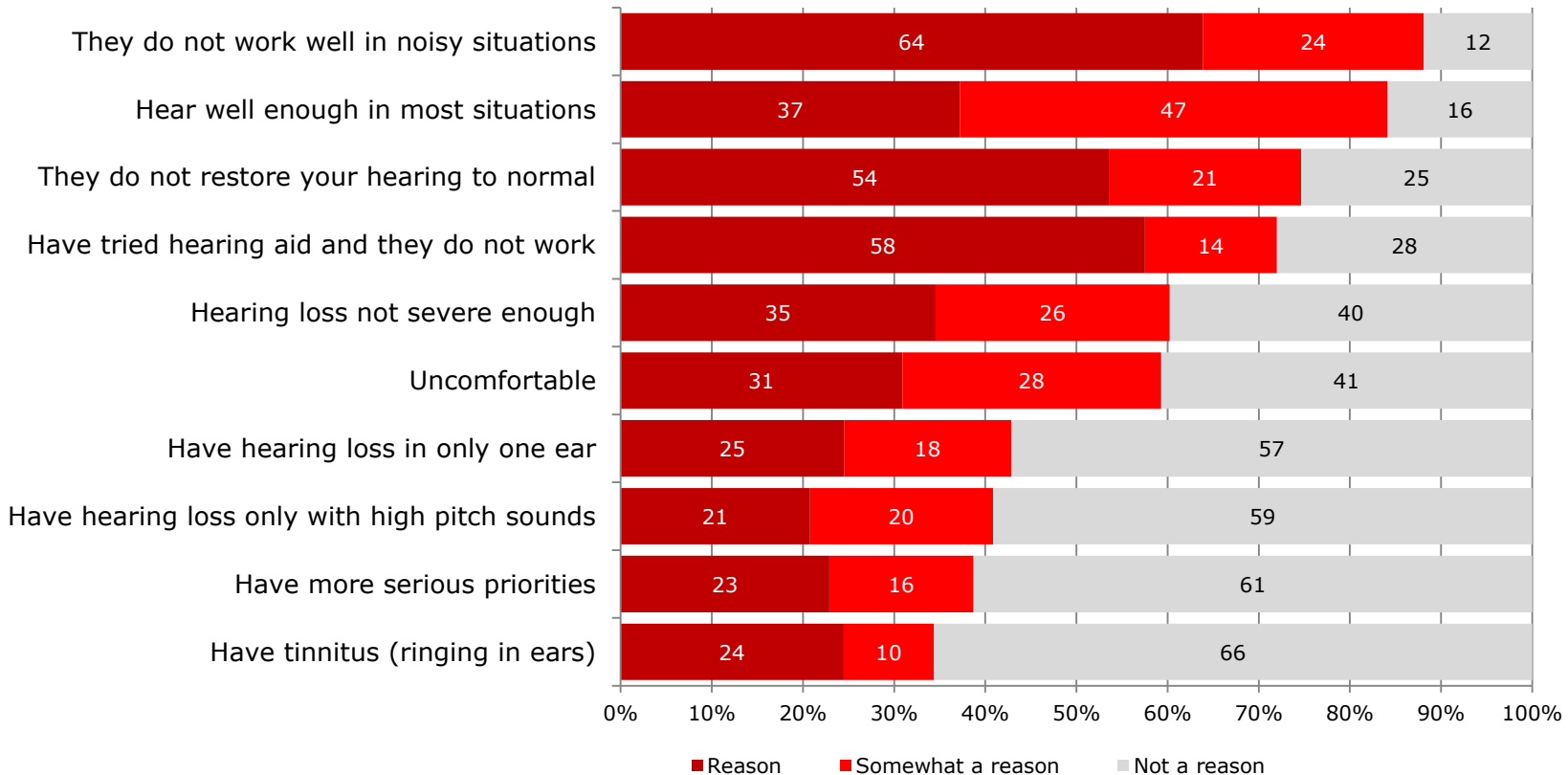
Top 10 reasons for not having a hearing aid (I/II)



Less important reasons for not having a hearing aid (II/II)



Top 10 reasons for HA owners NOT using them



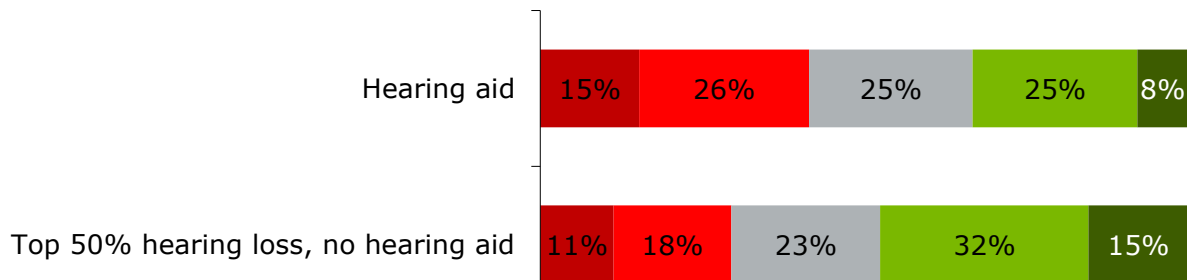
Owners who don't use, n=71

Negative impact of hearing loss

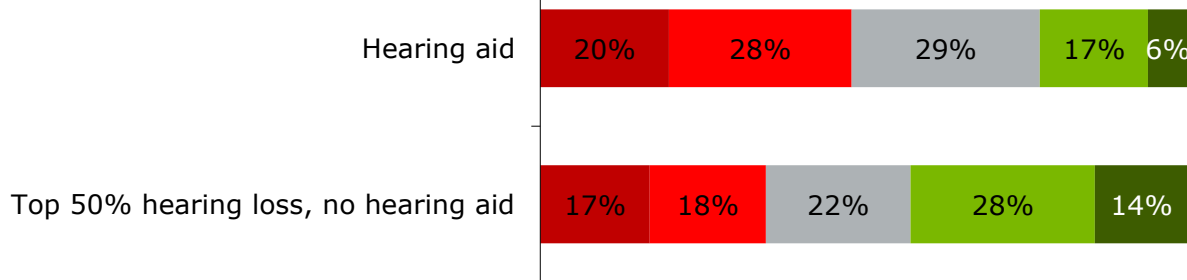
Compared to impaired hearing aid non-owners with significant hearing loss (Top 50% hearing loss group*), hearing aid owners feel less exhausted in the evenings

■ Disagree strongly ■ Rather disagree ■ Neutral ■ Rather agree ■ Strongly agree

In the evenings I often feel physically exhausted



In the evenings I often feel mentally exhausted



Base : Top 50% n=186 / hearing aid n=669

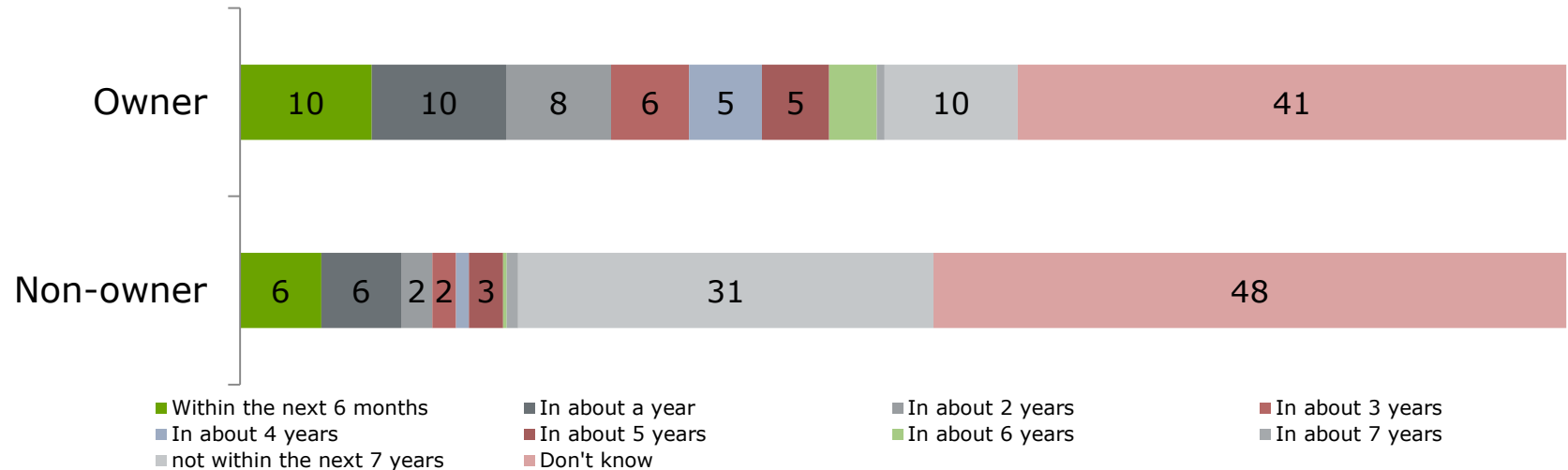
*Construction of 6-groups: A factor analysis was performed to identify one factor "degree of hearing loss". The following questions were included in the factor:

- Number of ears impaired (one or two)
 - Stated hearing loss (Mild to Profound)
 - Scores on 6 APHAB-EC – like questions (Scaled 1-5)
 - When NOT using a hearing aid, how difficult is it for you to follow conversations in the presence of noise
- People were segmented into 6 groups of same size (16.67% of all hearing impaired in the sample).

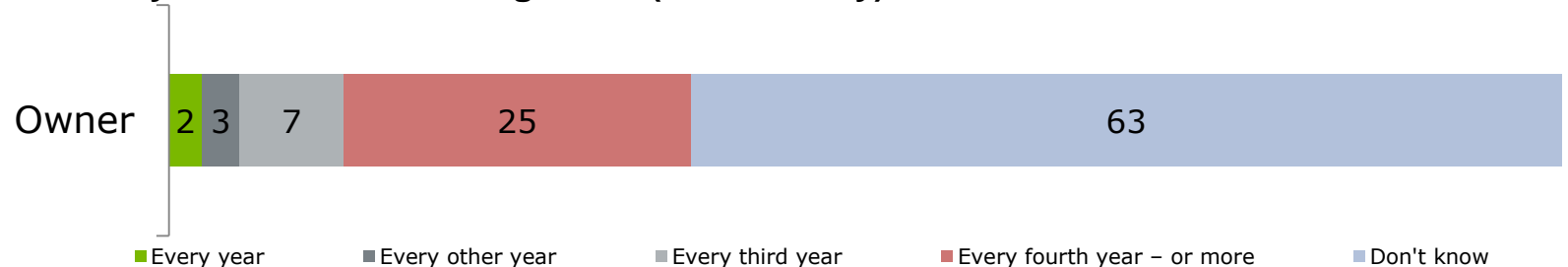
Intentions to get a HA

12% of non-owners intend to get a hearing aid within the next year. Re-buying intention is higher than first-buying intention

Buying intention hearing impaired in %

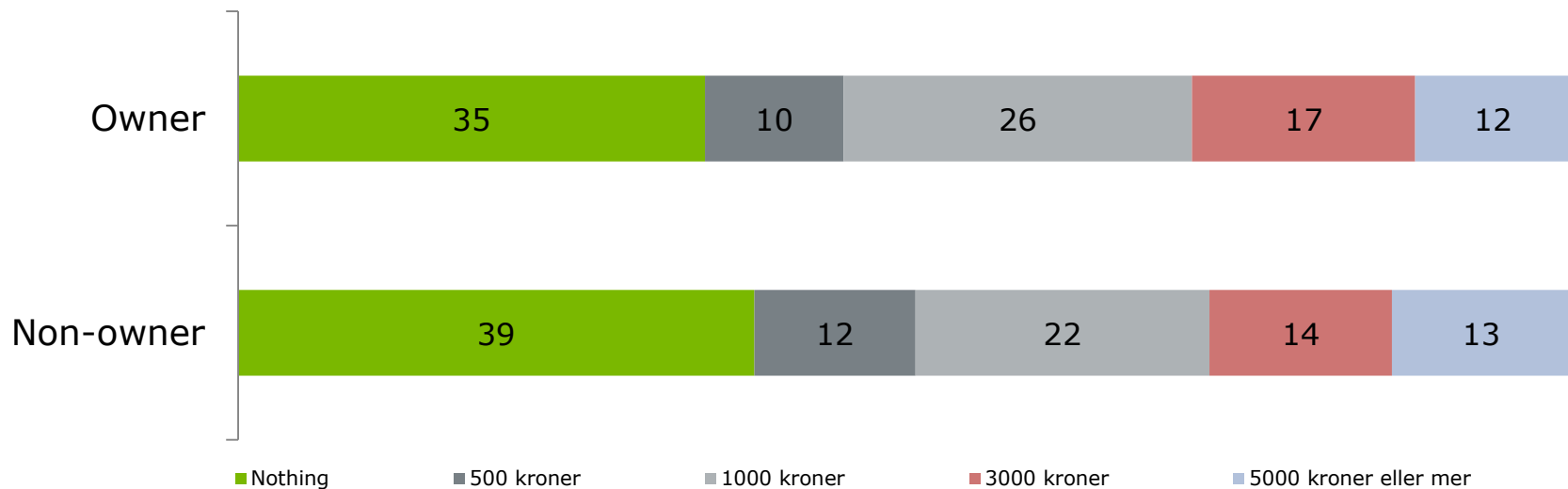


How often do you need new hearing aids? (owners only)



Willingness to pay additionally is relatively low – only 29% of the owners (27% of the non-owners) would contribute 3'000 or more kroner towards a HA

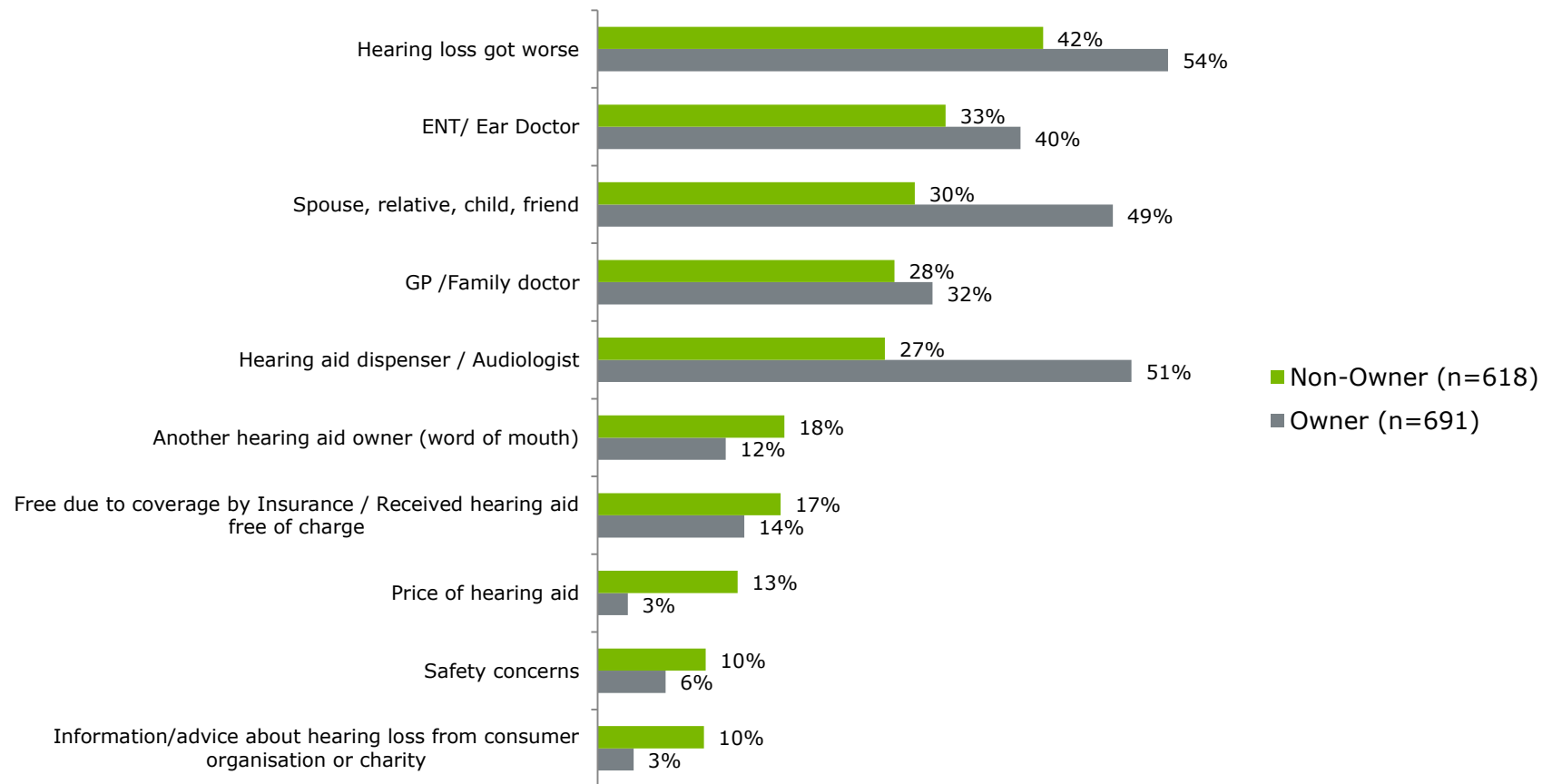
Today, the Norwegian Government pays for hearing aids up to a certain limit, p.t. 6190 NKR. How much are you willing to pay additionally yourself for ONE hearing aid?



The most important influencing factors are worsening hearing loss, ENT and significant others plus audiologist for the owners

Owner: Thinking back to when you obtained your first hearing aid(s), what influenced you to obtain /purchase the hearing aid(s)?

Non-owner: Think about the option to obtain / purchase a hearing aid. What do you think would influence you to obtain / purchase a hearing aid ?





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APPENDIX

Demographics (1) Hearing instrument adoption rates and populations

Profiles: Categories add to 100%*

	Count	Hearing difficulty	Hearing aid adoption rate % (Base=hearing impaired)	No hearing loss	Hearing loss but no hearing aid	Hearing aid
Gender						
Male	7425	10.3%	36.5%	49.4%	61.2%	47.6%
Female	7431	8.2%	49.9%	50.6%	38.8%	52.4%
Age recoded						
1 - 14	2779	2.2%	21.9%	20.1%	6.0%	2.3%
15 - 24	1942	2.6%	24.7%	14.0%	5.1%	2.3%
25 - 34	1914	4.9%	9.4%	13.5%	10.4%	1.5%
35 - 44	2191	4.9%	20.0%	15.4%	11.1%	3.8%
45 - 54	2003	7.6%	29.4%	13.7%	14.1%	8.0%
55 - 64	1786	12.1%	37.6%	11.6%	17.3%	14.1%
65 - 74	1179	20.6%	52.2%	7.0%	14.7%	21.7%
74+	1063	41.8%	61.6%	4.7%	21.3%	46.4%
Type of household						
single household	1854	19.6%	52.9%	11.1%	21.8%	33.1%
Couple, no kids	3083	14.7%	47.1%	19.5%	30.8%	37.1%
Couple with kid(s)	7587	4.7%	28.3%	53.5%	32.3%	17.3%
Single mom/dad with kid(s)	1029	4.7%	28.8%	7.2%	4.6%	2.5%
Retirement home, hospital etc.	131	42.2%	60.6%	0.6%	2.7%	5.5%
Other	1164	8.2%	29.2%	8.0%	7.8%	4.4%

Demographics (2) Hearing instrument adoption rates and populations

Profiles: Categories add to 100%*

	Count	Hearing difficulty	Hearing aid adoption rate % (Base=hearing impaired)		No hearing loss	Hearing loss but no hearing aid	Hearing aid
Status							
The head of the household (alone or together with someone)	7190	13.0%	44.3%		46.9%	68.9%	76.0%
The spouse of the head of the household	2572	9.2%	41.3%		17.5%	18.3%	17.9%
Daughter/son of head of household	4158	2.1%	26.0%		30.4%	8.7%	4.2%
Other Person	738	6.3%	25.4%		5.2%	4.1%	1.9%
Employment							
Full time employed	5612	6.4%	22.7%		49.4%	38.4%	14.8%
Part time employed	1169	6.3%	31.6%		10.3%	6.7%	4.0%
Unemployed / not working	701	7.1%	22.7%		6.1%	5.3%	2.0%
Retired under a disability pension scheme (fully or partly)	948	17.0%	49.7%		7.4%	11.1%	14.3%
Early retired under an early retirement benefit scheme	310	22.7%	53.3%		2.3%	4.5%	6.6%
Retired (at the official retirement age)	1624	33.5%	59.1%		10.4%	29.7%	56.1%
Student / pupil / in training	1523	2.8%	27.2%		13.9%	4.4%	2.1%
Education							
Grunnskole	709	31.9%	58.3%		4.6%	12.8%	23.4%
Ungdomsskole	1297	13.7%	42.8%		10.6%	14.1%	13.8%
Videregående	4840	8.5%	40.1%		41.8%	33.4%	29.2%
Universitet eller høyskole, 1-3 år	2435	9.1%	38.5%		20.9%	18.1%	14.8%
Universitet eller høyskole, over 3 år	2010	8.4%	35.6%		17.4%	14.9%	10.7%
Annet	595	16.4%	48.0%		4.7%	6.7%	8.1%