

Health Fact Sheets

Hearing loss of Canadians, 2012 and 2013



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- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- ^P preliminary
- ^r revised
- X suppressed to meet the confidentiality requirements of the *Statistics Act*
- ^E use with caution
- F too unreliable to be published
- * significantly different from reference category ($p < 0.05$)

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Hearing loss of Canadians, 2012 and 2013

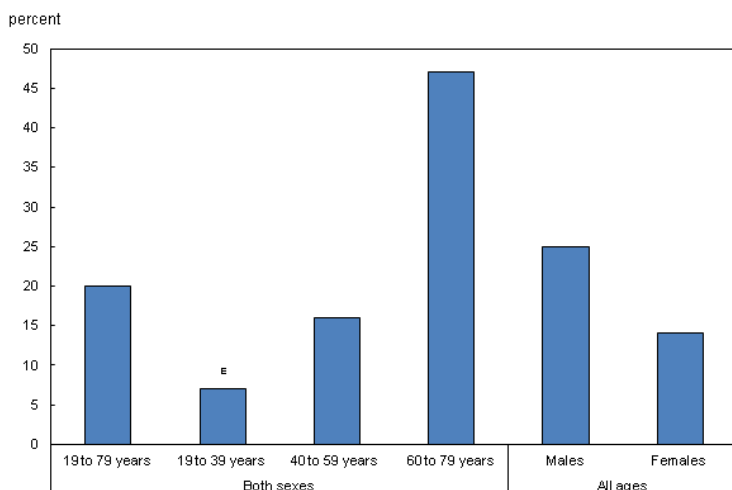
Hearing loss is an important health concern which is often unrecognized and undertreated.^{1,2,3} Hearing loss can have many emotional and social consequences including social isolation, depression, safety issues, mobility limitations and reduced income and employment opportunities.^{4,5,6} In older adults, hearing loss has also been shown to be associated with poor quality of life and functional limitations.^{1,2} In children and youth, there is evidence that hearing loss negatively affects academic performance and language development needed for classroom learning and vocational achievement.



Hearing loss in adults

Audiometry results from the 2012 and 2013 Canadian Health Measures Survey (CHMS) indicate that 20% of adults aged 19 to 79 years had at least mild hearing loss in at least one ear (Chart 1). Hearing loss was more prevalent in older age groups. Adults aged 60 to 79 years were significantly more likely to have hearing loss (47%) compared with younger adults aged 40 to 59 years (16%) and 19 to 39 years (7%). Males (25%) were significantly more likely to have hearing loss compared with females (14%) (Chart 1).

Chart 1
Hearing loss¹ among adults aged 19 to 79 years, by sex and age group, Canada, 2012 and 2013



^E use with caution (data with a coefficient of variation from 16.6% to 33.3%)
 1. Hearing loss is defined as a speech-frequency pure-tone average consistent with at least mild hearing loss (> 25 decibels in adults aged 19 to 79 or > 20 decibels in children and youth aged 6 to 18) in at least one ear.
 Source: Canadian Health Measures Survey, 2012 and 2013.

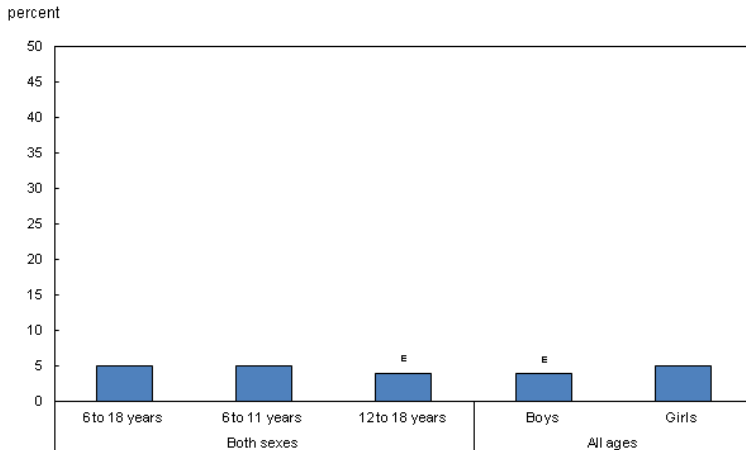
The survey assessed hearing loss as either unilateral (occurring in only one ear) or bilateral (occurring in both ears). Hearing loss was unilateral in 48% and bilateral in 52% of adults with at least mild hearing loss (data not shown). Bilateral hearing loss was significantly more likely in the older age groups. Nearly 2 in 10 adults aged 19 to 39 with hearing loss had bilateral loss compared with 5 in 10 of those aged 40 to 59 and 7 in 10 of those aged 60 to 79 (data not shown).

Hearing loss in children and youth

Audiometry results indicate that 5% of children and youth aged 6 to 18 years had hearing loss that was considered mild or worse (Chart 2). The prevalence of hearing loss was 4% for boys and 5% for girls. Among children and youth with hearing loss, the majority (90%) had hearing loss in only one ear (unilateral, data not shown).

Audiometry tests were not conducted on children aged 3 to 5. However, results from the otoacoustic emissions testing indicate that about 7% of children aged 3 to 5 had results consistent with conductive hearing loss (data not shown, see About hearing). Conductive hearing loss can indicate the potential for temporary or permanent hearing loss.⁷

Chart 2
Hearing loss¹ in children and youth aged 6 to 18 years, by sex and age group, Canada, 2012 and 2013

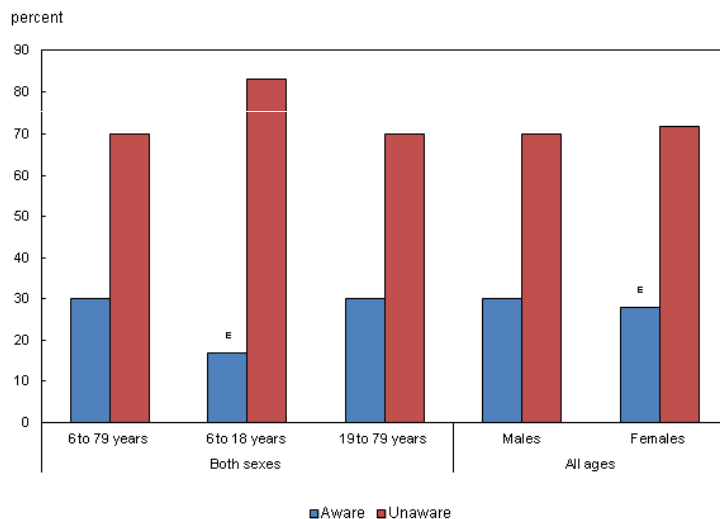


^E use with caution (data with a coefficient of variation from 16.6% to 33.3%)
¹ Hearing loss is defined as a speech-frequency pure-tone average consistent with at least mild hearing loss (> 25 decibels in adults aged 19 to 79 or > 20 decibels in children and youth aged 6 to 18) in at least one ear.
Source: Canadian Health Measures Survey, 2012 and 2013.

Awareness of hearing loss

The majority of Canadians with measured hearing loss were not aware they had any hearing problems (Chart 3). About 70% of adults with measured hearing loss did not report any diagnosis by a health care professional, while the same occurred in 83% of children and youth. Males and females were similar in that 70% of males and 72% of females with measured hearing loss did not report having been diagnosed with a hearing loss.

Chart 3
Awareness¹ of hearing loss among those aged 6 to 79 years with measured hearing loss,² by sex and age group, Canada, 2012 and 2013



^E use with caution (data with a coefficient of variation from 16.6% to 33.3%)
¹ Awareness of hearing loss was based on whether or not the respondent has ever been diagnosed with a hearing problem by a health professional.
² Based on audiometric evaluation of the speech frequencies.
Source: Canadian Health Measures Survey, 2012 and 2013.

Noise exposure among Canadians

- 42% of Canadians aged 16 to 79 years have worked or currently work in an environment where it is required to speak in a raised voice to communicate with someone standing an arm's length away. Among these individuals, 22% always used hearing protection, while 39% never did. The remaining 39% used hearing protection often, sometimes, or rarely.
- 51% of Canadians aged 3 to 79 years have used earbuds or headphones to listen to music, movies or other types of audio in the last 12 months. One-third of those individuals regularly listened at a volume that was at or above three quarters of the maximum volume.
- 41% of Canadians aged 3 to 79 have experienced tinnitus (hissing, buzzing, ringing, rushing or roaring sounds in the ears). Among these people, 1 in 5 reported that the tinnitus was severe enough that it affected their sleep, concentration, or mood.⁸

About hearing

Sensorineural hearing loss is the most common type of permanent hearing loss and occurs when there is damage to the inner ear or the nerve pathways from the ear to the brain. Sensorineural hearing loss can result following exposure to loud and prolonged noise which may be experienced in work environments without hearing protection and/or during noisy leisure activities such as listening to music with headphones/earbuds with the volume setting at one-half of maximum or higher, attending sporting events or concerts. Other possible causes of sensorineural hearing loss include aging, drug use toxic to hearing, hereditary or genetic factors, smoking, head trauma and malformation of the inner ear.⁹

Audiometric tests were administered as part of the Canadian Health Measures Survey to assess sensorineural hearing loss in children and adults aged 6 to 79. In this article, hearing loss was defined as an audiometric speech-frequency (0.5, 1, 2 and 4 kHz frequencies) pure-tone average greater than 25 decibels (dB) for adults aged 19 to 79 years, or greater than 20 dB for children and youth aged 6 to 18 years, or use of a cochlear implant or hearing aid, in one or both ears. Awareness of hearing loss was based on whether or not the respondent answered "yes" to the question "Has a health professional ever diagnosed you with a hearing problem?"

Otосcopy, tympanometry and distortion product otoacoustic emissions (DPOAE) tests were also conducted on respondents aged 3 to 79. Tympanometry measures the mobility of the ear drum and the pressure of the middle ear system. DPOAE (distortion product otoacoustic emissions) measures function of the cochlea in the inner ear. Both DPOAE (distortion product otoacoustic emissions) and tympanometry can be used to evaluate conductive hearing loss, which is caused by problems in the outer and/or middle ear, such as excessive wax, ear infections or fluid build-up. This form of hearing loss can occur independently or in conjunction with sensorineural hearing loss.

Notes

- ¹ Dalton, D.S., Cruickshanks, K.J., Klein, B.E.K., Klein, R., Wiley, T.L., and Nondahl, D.M. 2003. "The impact of hearing loss on quality of life in older adults." *The Gerontologist*, vol. (volume) 43, no. (number) 5.
- ² Uhlmann, R.F., Larson, E.B., Rees, T.S., Koepsell, T.D., and Duckert, L.G. 1989. "Relationship of hearing impairment to dementia and cognitive dysfunction in older adults." *Journal of the American Medical Association*, vol. (volume) 261, no. (number) 13.
- ³ Mitchell, P., Gopinath, B., Wang, J.J., McMahon, C.M., Schneider, J., Rochtchina, E., and Leeder, S.R. 2011. "Five-year incidence of hearing impairment in an older population." *Ear & Hearing*, vol. (volume) 32, no. (number) 2.

- 4 Chen, H.L. 1994. Hearing in the elderly. Relation of hearing loss, loneliness, and self esteem. *Journal of Gerontological Nursing*, vol. (volume) 20, no. (number) 6.
- 5 Kramer, S.E., Kapteyn, T.S, Kuik, D.J., and Deeg, D.J. 2002. "The association of hearing impairment and chronic diseases with psychosocial health status in older age." *Journal of Aging and Health*, vol. (volume) 14, no. (number) 1.
- 6 Strawbridge, W.J., Wallhagen, M.I., Shema, S.J., and Kaplan, G.A. 2000. "Negative consequences of hearing impairment in old age: A longitudinal analysis." *The Gerontologist*, vol. (volume) 40.
- 7 Gates, G.A. 1996. "Central auditory dysfunction, cognitive dysfunction, and dementia in older people." *Archives of Otolaryngology and Head and Neck Surgery*, vol. (volume) 122, no. (number) 2.
- 8 In children aged 11 years and younger, questions were answered by a parent or guardian.
- 9 Speech-Language and Audiology Canada. Adults. Ottawa: Speech-Language & Audiology Canada. Available at www.sac-oac.ca/public/adults. Accessed February 23, 2015.

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Data

Additional Canadian Health Measures Survey data on this topic are available in CANSIM table 117-0022.

For more information on the Canadian Health Measures Survey, please contact Statistics Canada's National Contact Centre (toll-free 1-800-263-1136; 1-514-283-8300; infostats@statcan.gc.ca).