

# Hearing loss due to amplified music

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## Executive summary

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Health Council of the Netherlands



Frequent or extended exposure to loud noise caused, for instance, by attending concerts or a sports centre or by using personal music players, can lead to hearing loss. This is irreversible and has a major impact on one's quality of life. The three most common forms of noise-induced damage are hearing loss, tinnitus (ringing in the ears) and hyperacusis (over-sensitivity to noise). Noise-induced hearing loss can lead to concentration problems, sleeping problems, anxiety and depression, and can also affect learning achievements and social participation.

In order to prevent hearing loss from noise in the private sphere, the government has defined five policy tracks. Following on from this, the government has concluded the *Covenant for prevention of hearing loss due to amplified music* to implement these policy tracks. In this covenant, pop venues, event and party organisers, sports centres, clubs and cinemas undertake to observe various measures to limit exposure to loud music. The current, third

covenant ends in 2023. As part of preparations for follow-up policy, the State Secretary for Health, Welfare and Sport has asked the Health Council of the Netherlands for advice on prioritising national preventative measures and about the maximum noise level for listening to amplified music. The advice has been issued by the Council's temporary Committee for Prevention of Hearing Loss.

Noise-induced hearing loss results from cumulative exposure to various sources of loud noise over time. Since it is a very gradual process, there is often a long period between exposure and the time when hearing loss becomes evident. This makes it difficult to determine which source of loud noise has caused hearing loss to what extent. It is also difficult to gain insight into the seriousness and extent of hearing loss in the Netherlands because little research has been done in this area, and there is no registration system. However, there are estimates regarding the increased risk of hearing loss due to amplified

music. Dutch research among youth aged 12 to 19 indicates that 54% are at risk for hearing loss, for instance due to the use of personal music players or exposure to loud music at discotheques, clubs, concerts, etc.

Government policy for preventing hearing loss due to loud noise in the private sphere is focused on limiting the exposure. Efforts are undertaken to reduce noise levels and to increase the use of hearing protection. Another strategy is to inform and raise consciousness among the public and to conduct research into the prevention of hearing loss.

With the covenant, the government has chosen to focus on self-regulation: the involved organisations commit to enforce the agreements in the covenant. The government could also choose to make the measures mandatory. To investigate whether more far-reaching measures are justified, the committee has created an assessment framework. This framework derives from existing ethical and legal frames of



reference for policy interventions intended to promote public health.

One important criterion in the framework is the effectiveness of a measure. However, it is difficult to measure the relationship between a specific intervention and the risk of noise-induced hearing loss. After all, hearing loss is caused by cumulative exposure to various sources of loud noise. According to the committee, every measure that helps to reduce cumulative exposure to amplified noise contributes to a lower risk of hearing loss. The committee bases its opinion on scientific insights into the causes and prevention of hearing loss from noise and on its expert judgement. The committee advises the State Secretary to prioritise policy for reducing noise levels and the use of hearing protection. With respect to the noise level, based on the precautionary principle, the committee recommends a maximum noise level of 100 decibel (dB(A)), measured as an average over fifteen minutes. This is in line with a

recommendation recently issued by the WHO and in line with policy in neighbouring countries. Wearing hearing protection is advised for the maximum noise level of 100 dB(A), especially when the exposure is frequent. When defining this noise level, the WHO took into account the importance of the musical experience and the importance that people attach to music.

Further prioritisation within the policy tracks is not possible because they are closely interrelated. Implementing one policy track is often a precondition for another policy track. The committee recommends continuation of the other measures contained in the policy tracks and that these actions be properly evaluated to determine whether more rigorous interventions are necessary and justified. Finally, the committee advises the State Secretary to increase the number of partners in any new covenant.



The Health Council of the Netherlands, established in 1902, is an independent scientific advisory body. Its remit is “to advise the government and Parliament on the current level of knowledge with respect to public health issues and health (services) research...” (Section 22, Health Act).

The Health Council receives most requests for advice from the Ministers of Health, Welfare and Sport, Infrastructure and Water Management, Social Affairs and Employment, and Agriculture, Nature and Food Quality. The Council can publish advisory reports on its own initiative. It usually does this in order to ask attention for developments or trends that are thought to be relevant to government policy.

Most Health Council reports are prepared by multidisciplinary committees of Dutch or, sometimes, foreign experts, appointed in a personal capacity. The reports are available to the public.

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