



**Hearing loss and role of ICTs  
WHO's initiative to Make Listening  
Safe through use of ICTs**

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**World Health  
Organization**

# HEARING LOSS SIMULATOR

Profound Hearing Loss



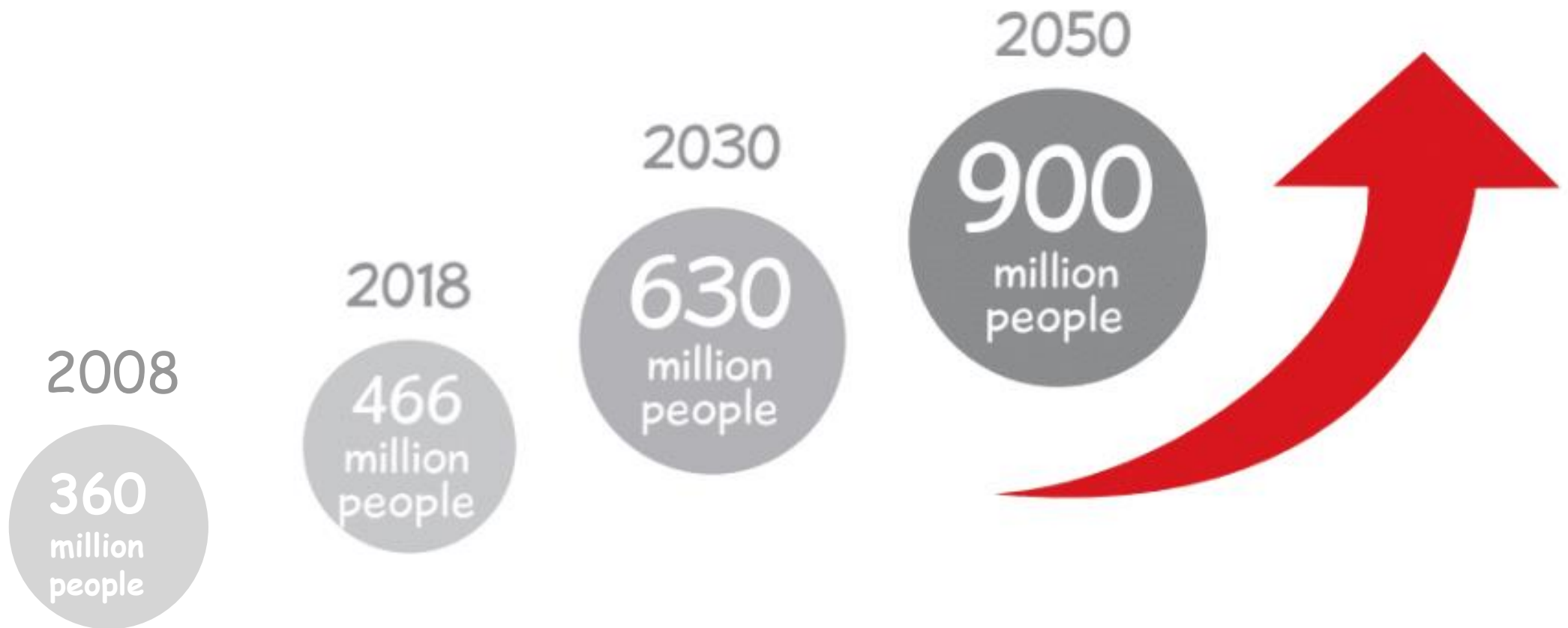
[Facebook.com/EarScience](https://www.facebook.com/EarScience)

[Facebook.com/OliveMusicOfficial](https://www.facebook.com/OliveMusicOfficial)

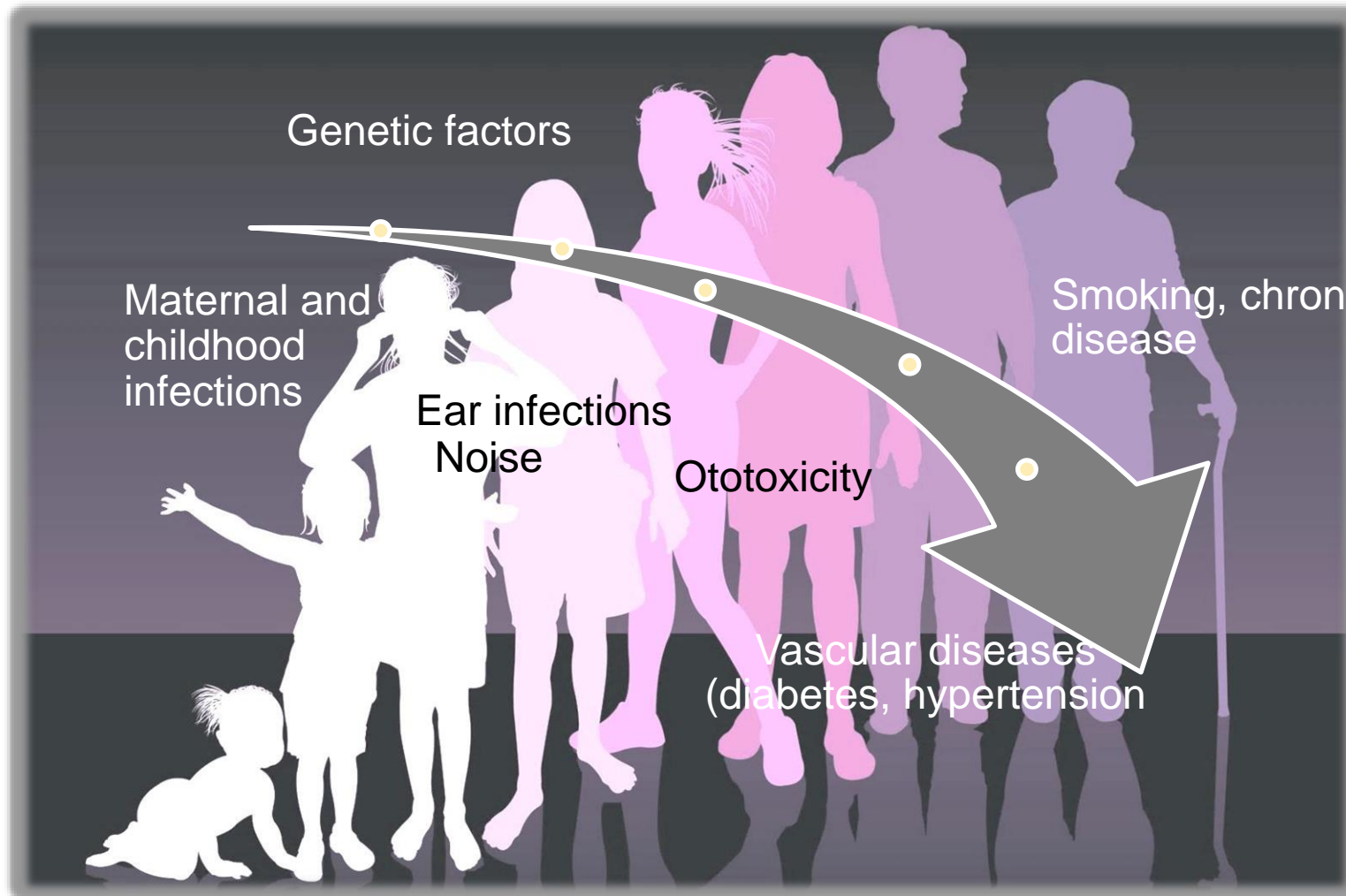
[Hearing loss simulator](#)



# Hearing loss is on the rise!



# Causes of hearing loss across the lifespan



**Many causes of hearing loss are preventable**

# Many risk factors are preventable

## Ear infections

- Affects nearly 330 million people globally
- This can be avoided by early diagnosis and treatment

## Ototoxic hearing loss

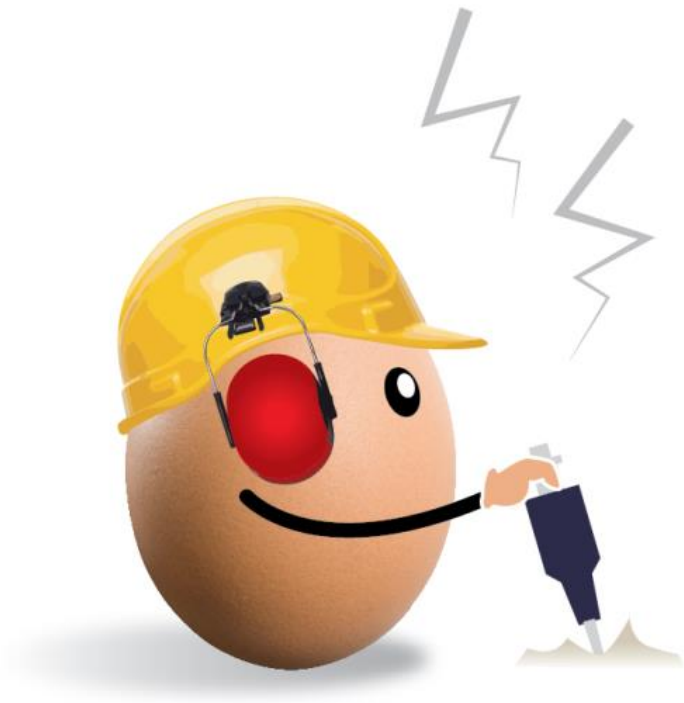
- Common ototoxic medications include:
  - Aminoglycosides
  - Chemotherapeutic agents
- They are powerful tools of medical care, but must be used wisely to prevent hearing damage.



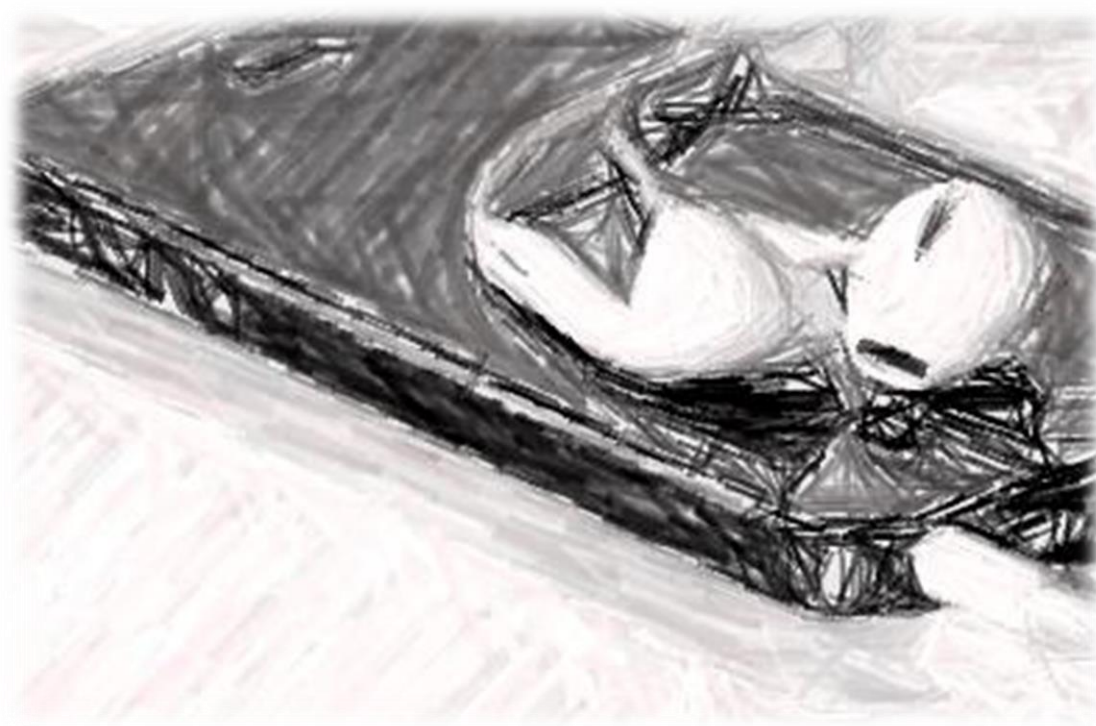
# Noise-induced hearing loss (NIHL)

## Occupational

- The second most common risk factor in the workplace
- Some countries have implemented policy to prevent occupational NIHL
- Use of protective devices and regular audiological monitoring can reduce this risk



# Noise-induced hearing loss (NIHL)

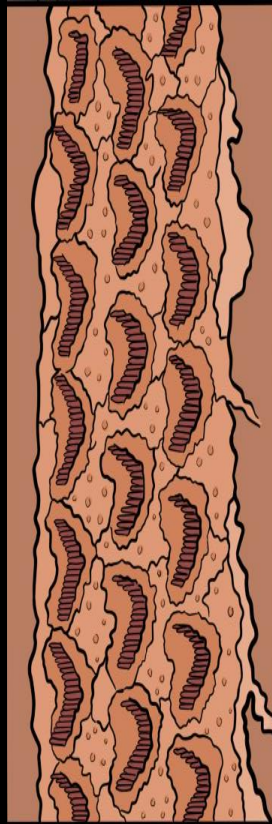
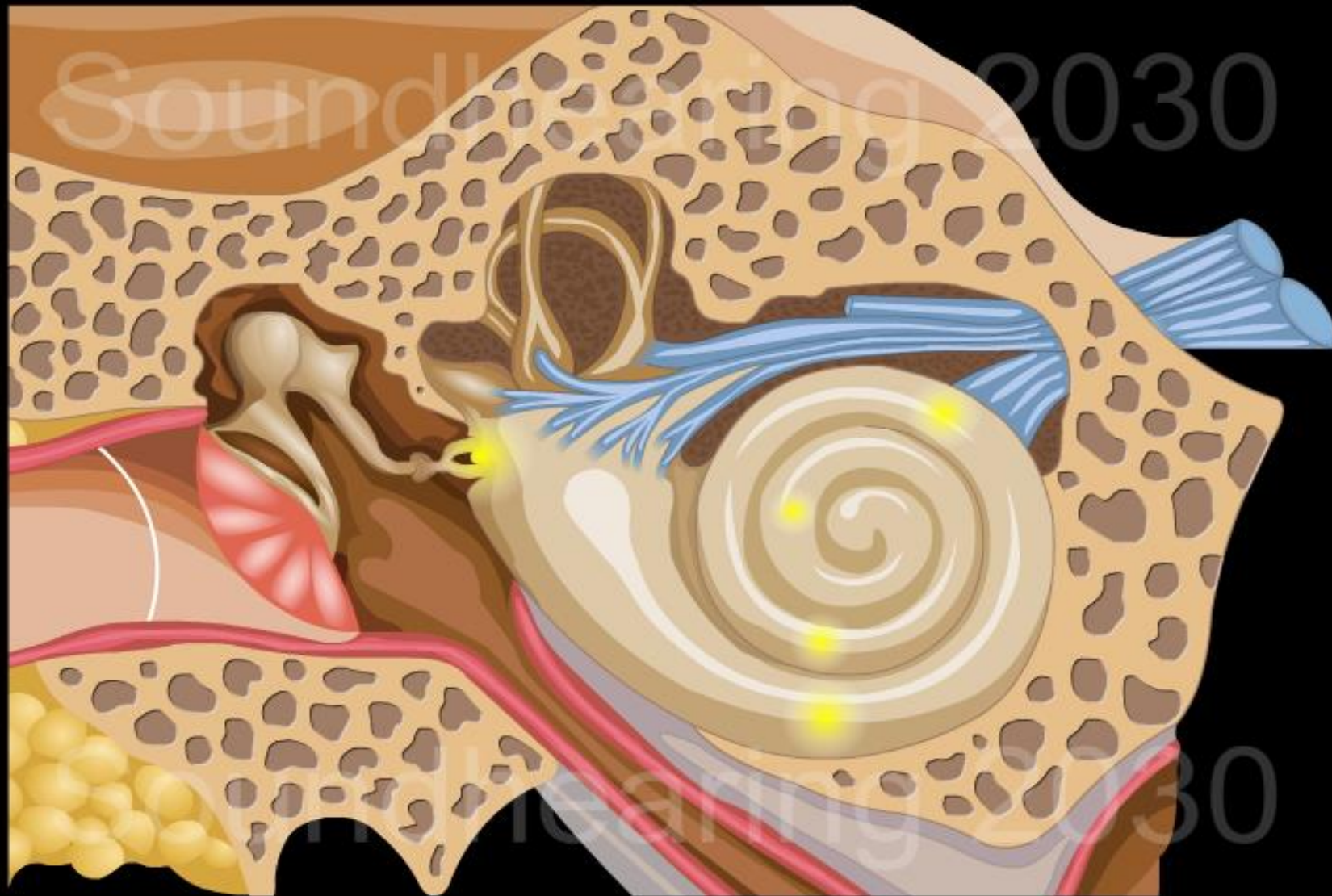


## Recreational

- Over a billion young people are at risk of hearing loss due to the way they listen to music:
  - on personal music players
  - In entertainment venues (concerts, sporting events, bars)
- Increasing awareness and appropriate legislation can reduce this risk

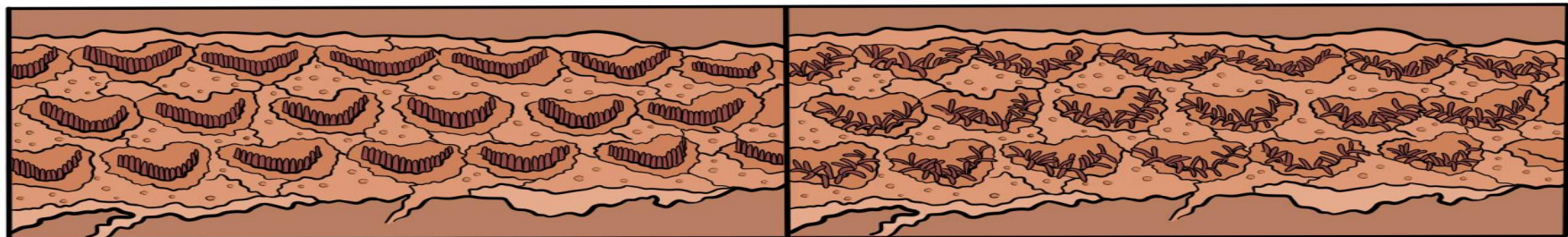
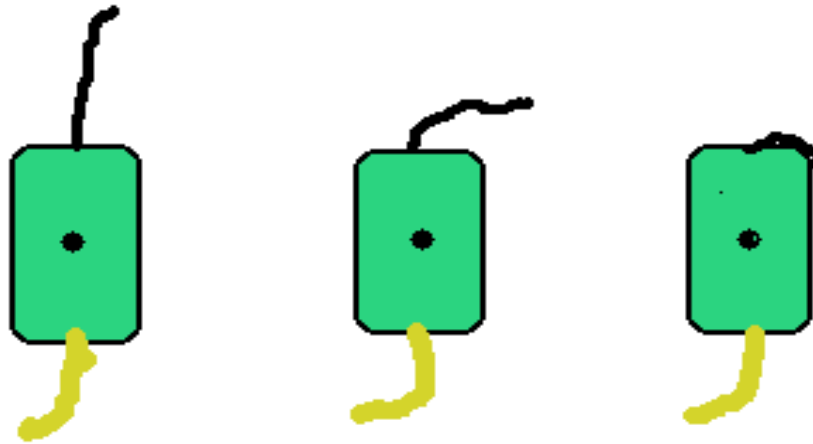
Read more <http://www.who.int/deafness/make-listening-safe/FAQs/en/>

# How do we hear sounds?





# Effect of loud sounds on our ears



# Hearing loss due to loud sounds

Irreversible.....



.....but preventable through  
*safe listening practices*

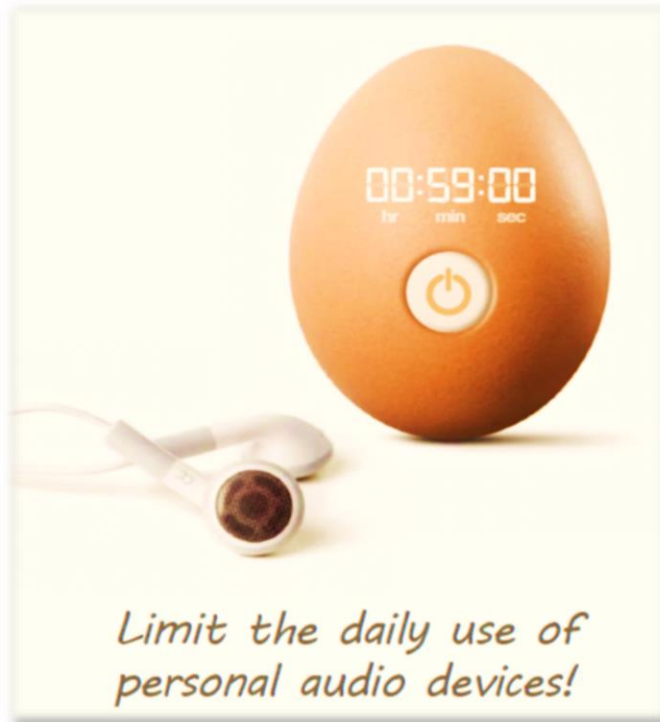


# Safe listening...?



*Keep the volume down!*

**Reduce!** *the volume*



*Limit the daily use of  
personal audio devices!*

**Limit!** *the time spent  
listening*



*Use earplugs in noisy  
surroundings!*

**Protect!** *from noise*

# How much and for how long?

What makes that sound?	dB	How long is it safe?
Jet engine at take-off	130	less than 1 second
Vuvuzela	120	9 seconds
Rock concert	115	28 seconds
Chain saw	110	1.5 minute
Bulldozer	105	4 minutes
Blow dryer	100	15 minutes
Motorcycle	95	47 minutes
Lawn Mower	90	2 hours 30 minutes
Traffic while inside a car	85	8 hours
Alarm clock	80	unlimited
Vaccum cleaner	75	unlimited
Washing machine	70	unlimited
Normal conversation	60	unlimited
Moderate rainfall	50	unlimited
Refrigerator	40	unlimited
Whisper,	30	unlimited
Watch ticking	20	unlimited

**Volumes of 85dB heard for more than recommended 8-hour duration is harmful.**



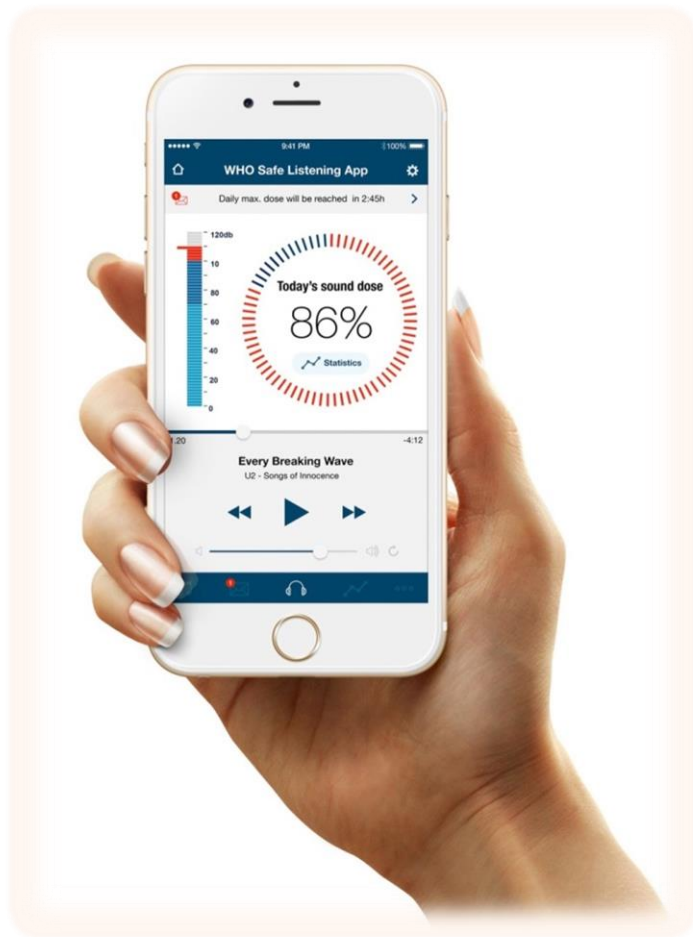
**World Health Organization**

# How much?



- Keep below 60%
- Determine the comfortable listening level on your device in a quiet environment such that you can hear conversation around you while using the device.
- Use apps to assess your sound dose
- Use noise-cancelling earphones, in noisy surroundings.

# How long?



- Monitor the sound levels with use of apps.
- Remain below the recommended time level.
- Or, limit listening time to 60-90 minutes

# In noisy environment



- Limit the time and frequency
- Use earplugs
- Take small listening breaks.
- Move away from sound sources.

# WHO's response



*Make Listening Safe*



# Make Listening Safe: rationale



listen to unsafe levels of sound through personal audio devices (MP3 players, smartphones, and others)



are exposed to potentially damaging levels of sound at nightclubs, bars and sporting events

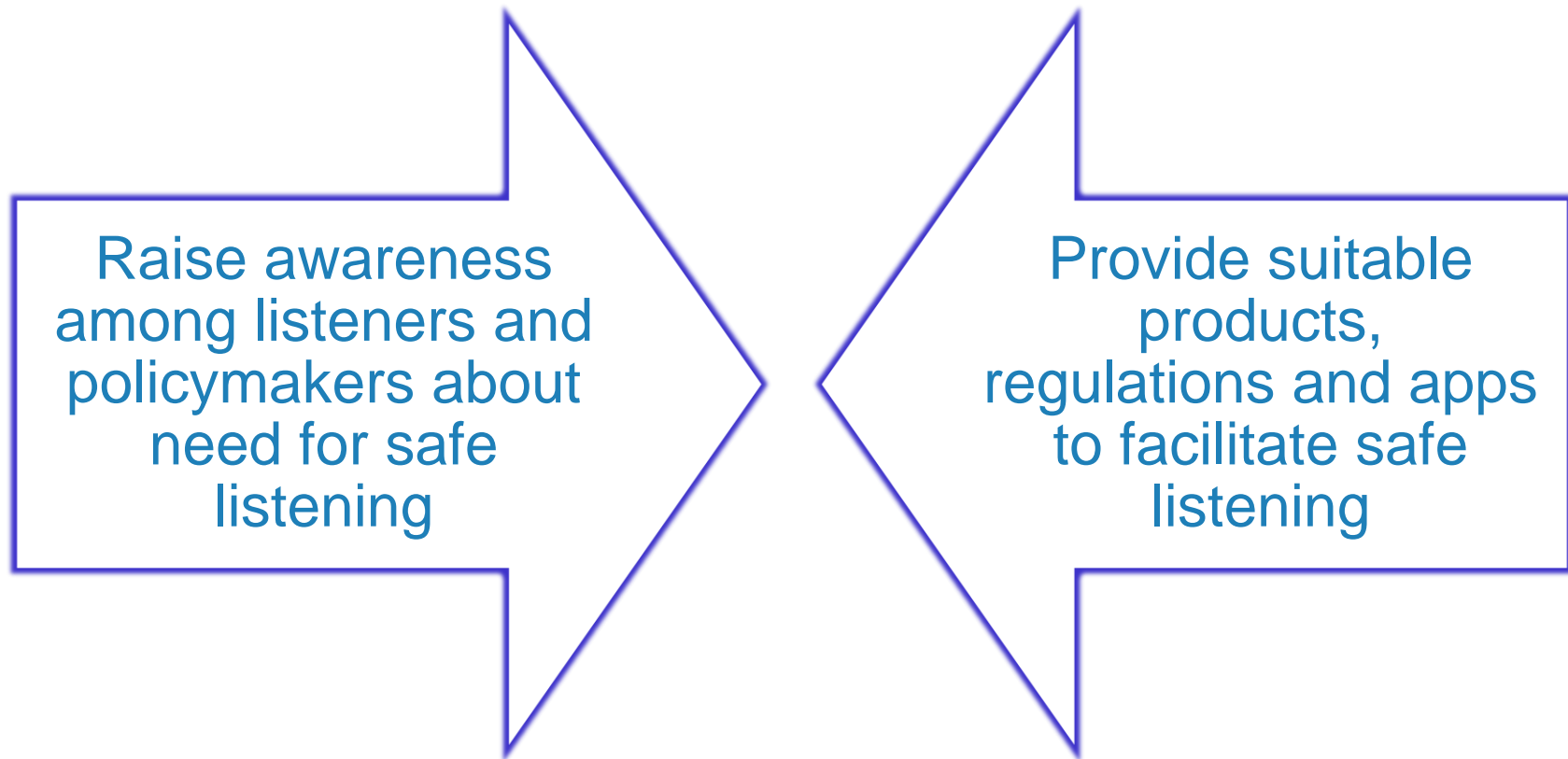
# Make Listening Safe: rationale

- Irreversible..... but preventable through safe listening practices



- Technology (& ICTs) that are posing the challenge can become part of the solution by:
  - Reducing risk
  - Raising awareness

# Approach



# 3 strategic targets

Safe listening *personal audio systems*

Safe listening *behaviour*

Safe listening *entertainment venues*



# Strategy 1: Safe listening personal audio systems

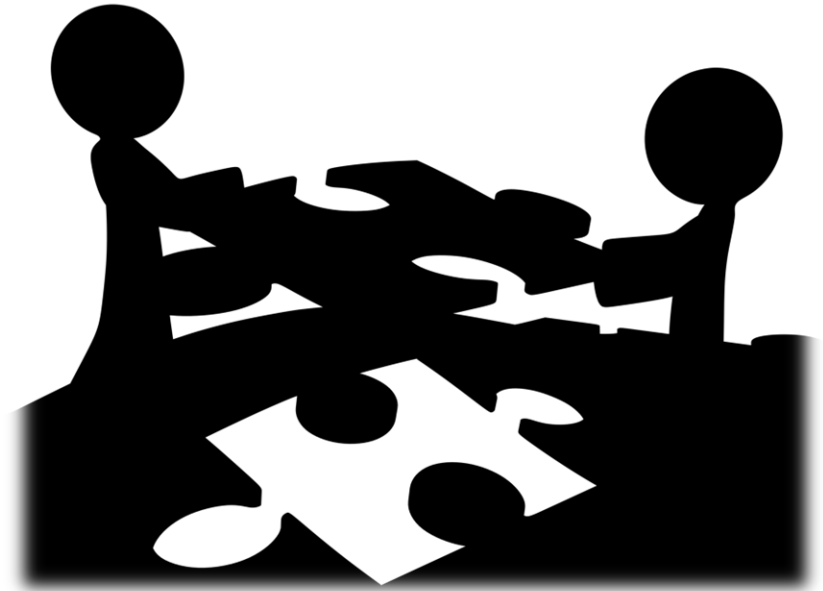
- Development and implementation of standards for safe listening.
- Development in collaboration with International Telecommunication Union and all stakeholders.



**Standards pertain to personal audio systems including smartphones, MP3 players etc**

# Global standards for safe listening devices

- Devices such as smartphones, MP3 players
- Make them a part of the solution
- Devices with
  - smart options,
  - monitoring of daily sound allowance,
  - information,
  - messages



# Standards for safe listening devices

## Monitor, inform, guide

### Monitor

- Volume levels (in dB)
- Time spent listening
- Use of sound allowance

### Give warnings and information

- When volume/ use exceeds recommended level
- Link to information sites

### Guide

- Give messages/notifications with suggestions
- Reduce volume



# Strategy 2: Raise awareness

- Undertake a campaign for listening behaviour change.
- Working in collaboration with health communication experts.



**Objective: To change listening behaviour, especially in the ‘at-risk’ population (12-35 years old)**



# Development of materials and social media campaigns #safelistening



# Development of materials and social media campaigns #safelistening

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*How much sound can your ears  
safely take in a day?*



# MaLiSa

An educational app to promote safe listening practices

## Information on safe listening

- How loud music affects ears
- Safe listening
- Hearing loss

## Media player to listen to music and assess

- Listening level
- Duration
- Daily sound allowance used

## Features

- Notifications
- Smart volume
- Daily messages



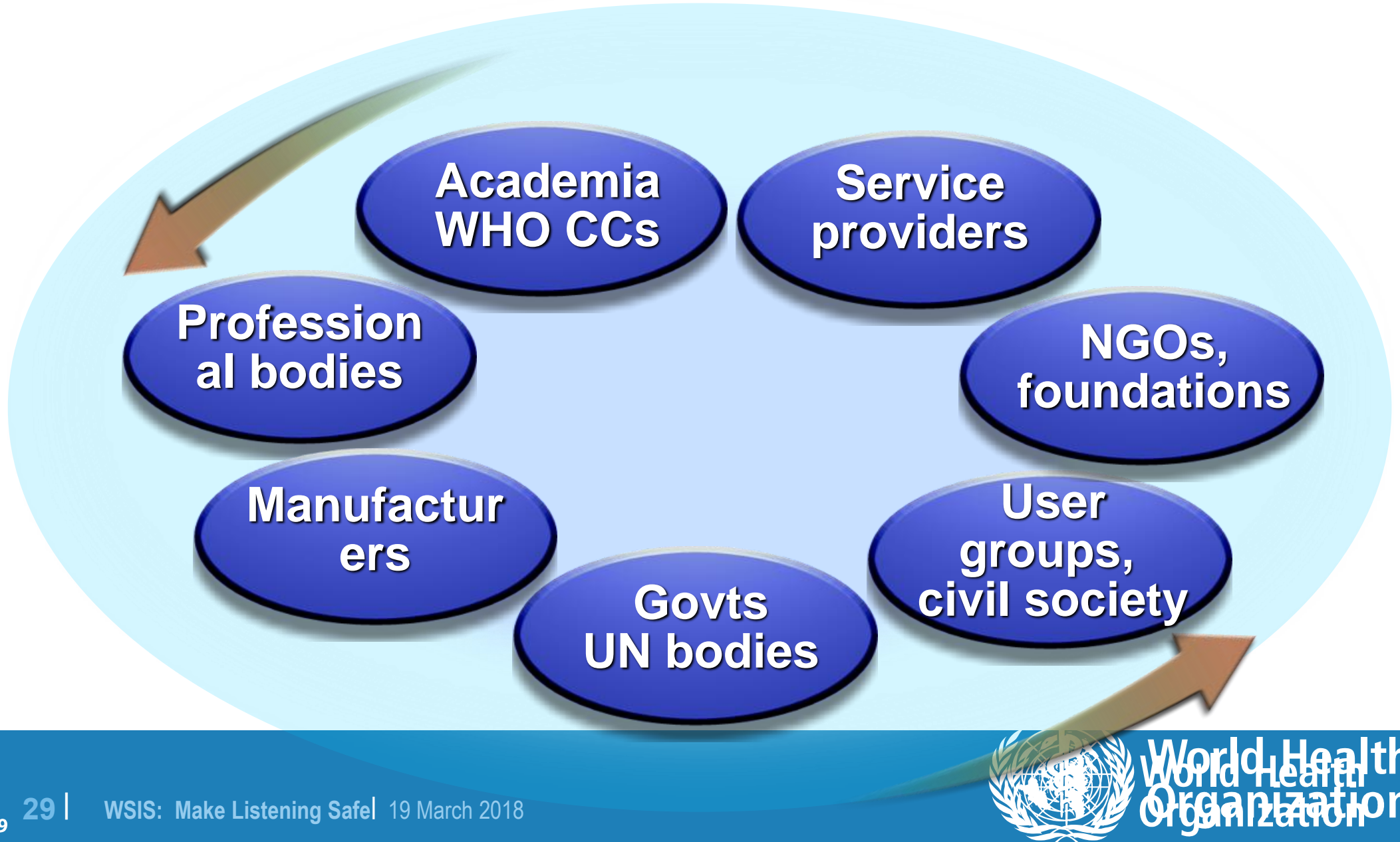
# Strategies: 3

- Regulatory framework for control of recreational sound exposure eg
  - Maximum limit
  - Earplug provision
  - Information
  - Quiet zones

**Objective: Regulate exposure to loud sounds in the broader (recreational) environment.**



# WHO works in partnership





Let us make noise to  
reduce noise!

Hear  
the  
future

**....and Make Listening Safe!**

**Thank you!**

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