



# Adult hearing loss and tinnitus health research: roundtable discussion

15 December 2020



# AGENDA

- Welcome and opening comments
- Research commissioners / funders
- Scene setting
- Roundtable discussions
- Closing remarks

# Opening comments

## Lord Bethell of Romford



Parliamentary Under Secretary of State  
(Minister for Innovation)

# Research commissioners / funders

## **National Institute for Health Research (NIHR)**

*Claire Kidgell*

## **British Tinnitus Association (BTA)**

*David Stockdale*

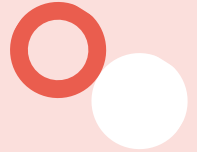
## **Royal National Institute for Deaf People (RNID)**

*Ralph Holme*

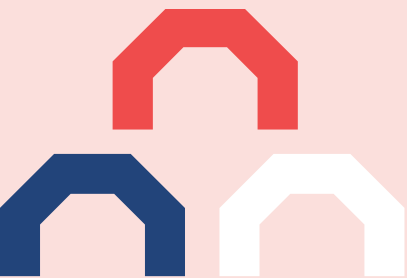
## **UKRI Medical Research Council (MRC)**

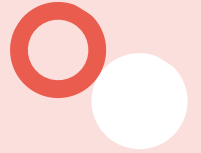
*Clara Fons*

# Setting the scene



- GENERATE & ENT hearing and balance national priorities (Anne Schilder)
- Priority setting partnerships and Cochrane reviews (Derek J Hoare)
- NICE clinical guidelines and research recommendations for hearing loss and tinnitus (Kevin J Munro)

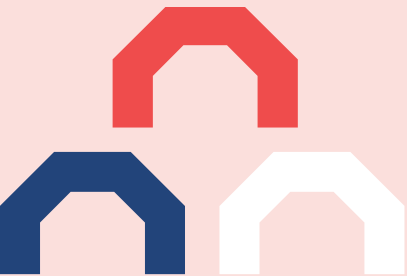




# GENERATE & ENT hearing and balance national priorities

Anne Schilder

NIHR University College London Hospitals BRC



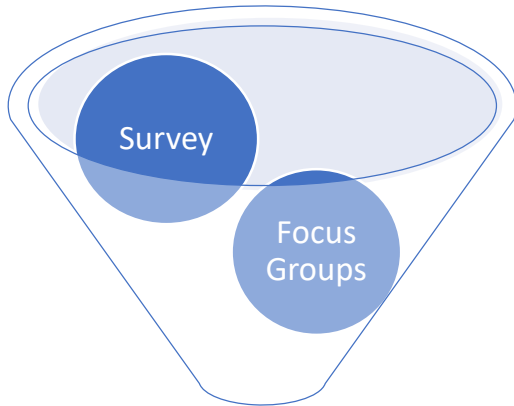
# The Research Agenda for ENT, Hearing and Balance Care

## A UK Partnership of Patients, Professionals and the Public



**GENERATE**

Patients, Professionals and the  
Public in Partnership



# GENERATE

Patients, Professionals and the Public in Partnership

1500 research ideas



670 research ideas



99 research ideas



21 research priorities

## Framework for GENERATE research agenda



Expert forum

Consensus Conference



## Adult Hearing Loss and Tinnitus

- What is the burden and impact of hearing loss on an individual, family and population level?
- Which hearing aid strategies work best for adults with hearing loss?
- What are the best management strategies for tinnitus?
- What are the effects and costs of novel medical and biological treatments for sensorineural hearing loss?

# REgeneration of inner ear hair cells with a GAMMA-secretase inhibitor. A phase I/II regenerative drug trial for hearing loss

- EU Horizon 2020 consortium UK, Greece, Germany, Netherlands, Denmark - €5.8 M
- Phase I trial 2017-18: approach is safe
- Phase II trial 2019-20: write up
- Worldwide interest:
  - 4,907 patients wanting to take part
  - features in international media



# Next steps

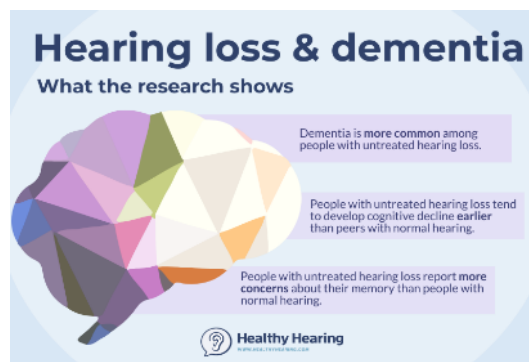
# GENERATE

Patients, Professionals and the  
Public in Partnership

- Build capacity and capability to deliver prioritised research



- Foster research collaborations to develop and deliver cross-specialty research

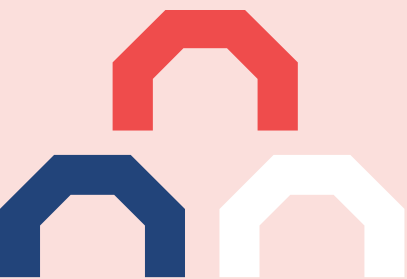




# Priority setting partnerships and Cochrane reviews

Derek J Hoare

NIHR Nottingham BRC



# JLA Priority Setting Partnerships



James  
Lind  
Alliance

Priority Setting Partnerships

- Steered by patients and professionals
- Decisions about project scope, information, and dissemination made by the steering group
- Information co-produced

# JLA Priority Setting Partnerships

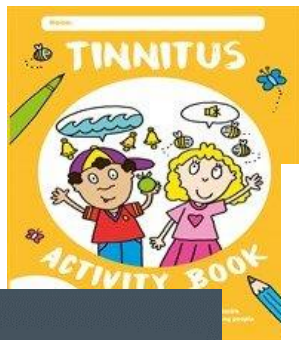
<p><b>ENT aspects of balance (2011)</b></p> <ul style="list-style-type: none"><li>• Training health professionals</li><li>• Treatment (drug, surgical)</li><li>• Diet, exercise, stress</li></ul>	<p><b>Tinnitus (2012)</b></p> <ul style="list-style-type: none"><li>• Treatment (psychological, drugs, hearing aids)</li><li>• Population (children, Deaf)</li><li>• Subtyping and mechanism</li></ul>
<p><b>Mild to moderate hearing loss (2015)</b></p> <ul style="list-style-type: none"><li>• Hearing aid use and benefits</li><li>• Hearing preservation</li><li>• Hearing test accuracy</li><li>• Stem cell</li></ul>	<p><b>Hyperacusis (2018)</b></p> <ul style="list-style-type: none"><li>• Training health professions</li><li>• Populations (children, autism)</li><li>• Treatment (self-help, psychological, sound therapy)</li></ul>



# JLA Priority Setting Partnership progress

## Tinnitus

- Paediatric tinnitus guidelines
- Trials of CBT
- Trails of hearing aids
- Doctoral training programme
- Systematic reviews



( T )  
British Tinnitus  
Association

The Ear Foundation 

  
EUROPEAN COOPERATION  
IN SCIENCE AND TECHNOLOGY

British Society of Audiology   
KNOWLEDGE | LEARNING | PRACTICE | IMPACT

## Mild to moderate hearing loss

NIHR Career Development  
Fellowship

**Dr Helen Henshaw**

Behavioural intervention to  
improve beneficial use of  
hearing technology for adults



## Hyperacusis

NIHR postdoctoral fellowship

**Dr Kathryn Fackrell**

A digital intervention for  
education and  
self-management of  
hyperacusis



# Cochrane reviews

- Systematic review to answer a specific research question (intervention, diagnostic test accuracy, prognosis,..)
- Identify, appraise and synthesise all the empirical evidence that meets pre-specified eligibility criteria.
- Minimise bias and inform decision making.



**Cochrane**



# Cochrane reviews

## Hearing aids for mild to moderate hearing loss in adults


✉ Melanie A Ferguson, Pádraig T Kitterick, Lee Yee Chong, Mark Edmondson-Jones, Fiona Barker, Derek J Hoare

## Bilateral versus unilateral hearing aids for bilateral hearing impairment in adults

✉ Anne GM Schilder, Lee Yee Chong, Saoussen Ftouh, Martin J Burton Authors' declarations of interest

Technical Reports

## A process for prioritising systematic reviews in tinnitus

Magdalena Sereda ✉ , Don McFerran , Emma Axon, David M. Baguley, Deborah A. Hall , Iskra Potgieter, Rilana Cima, Samantha Cox & Derek J. Hoare  [... show less](#)

Pages 640-646 | Received 19 Oct 2018, Accepted 18 Feb 2020, Published online: 05 Mar 2020



# Taking priorities forward



James  
Lind  
Alliance

Priority Setting Partnerships



**Cochrane**


Priority questions

Evidence synthesis, further questions,  
methodological recommendations



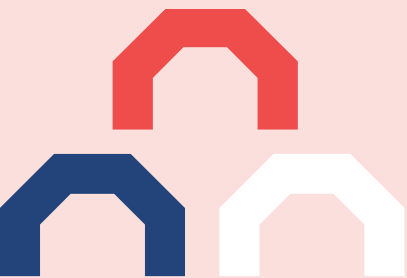
**Researcher-led funding application**

**Work with funders to inform commissioned calls**



# National Institute for Health and Care Excellence (NICE): Clinical Guidelines and Research Recommendations

Kevin J Munro  
NIHR Manchester BRC



# NG 98 (2018): hearing loss in adults

# NG 155 (2020): tinnitus

**NICE** National Institute for  
Health and Care Excellence



## Hearing loss in adults: assessment and management

NICE guideline

Published: 21 June 2018

[www.nice.org.uk/guidance/ng98](http://www.nice.org.uk/guidance/ng98)

**NICE** National Institute for  
Health and Care Excellence



## Tinnitus: assessment and management

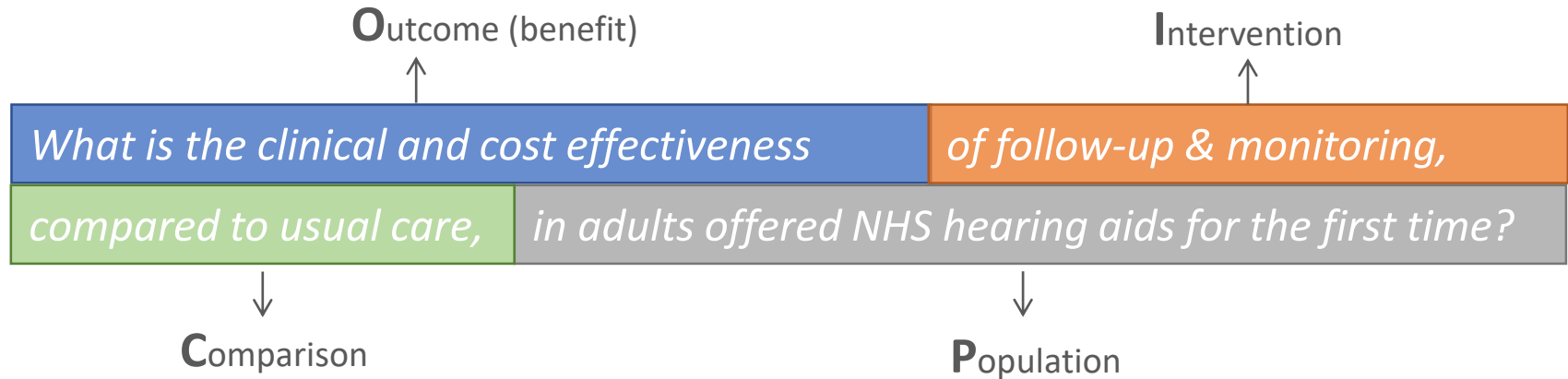
NICE guideline

Published: 11 March 2020

[www.nice.org.uk/guidance/ng155](http://www.nice.org.uk/guidance/ng155)

# Examples of priorities

## Hearing loss in adults



## Tinnitus



# Recommendations for clinical practice

For 50-60% of the priority topics, no evidence on which to base clinical recommendations

Where evidence was identified, the quality was typically low

# Recommendations for research

## HEARING LOSS:

- Follow-up and monitoring of new hearing aid users
- Earwax management
- Hearing aids and dementia
- Prevalence in under-represented groups
- Treatment of idiopathic sudden hearing loss

Funded

Grant outcome pending

## TINNITUS:

- Sound therapy and support
- CBT by professionals other than psychologists
- Assessing in general practice
- Neuromodulation
- Therapies for children

Commissioning under consideration

# HTA commissioned research

# FAMOUS

A stylized blue icon of a hearing aid, showing the earpiece and a coiled tube.

Follow-up and monitoring of  
new users of NHS hearing aids



# BRCs: catalyst for national initiatives

Hearing partnership (Manchester, Nottingham, UCLH)

## National research infrastructure

- NIHR Hearing Health Informatics Collaborative
- Hearing Medicines Discovery Catapult

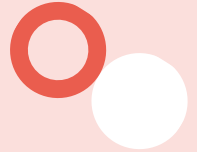
## National research projects

- Population survey on public perception of prevalence and risk

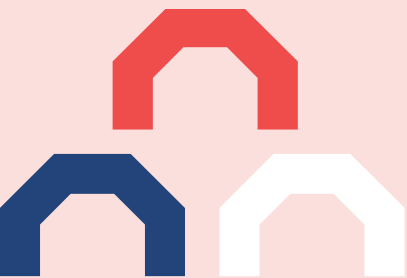
## Large-scale research projects

- NIHR HTA funding: Follow-up and monitoring of adults with hearing loss
- FUNDED: NIHR development grant on eHealth adult hearing screening and intervention

# Roundtable discussions



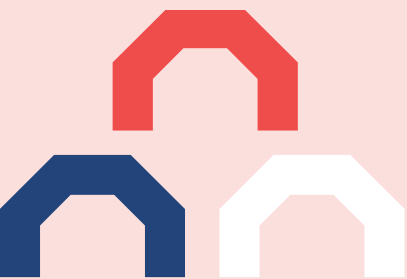
- Hearing loss, tinnitus and healthy ageing (KJM)
- Understanding causes and risks for adult hearing loss and tinnitus (DJH)
- Infrastructure & training for adult hearing loss and tinnitus (AS)





# Hearing loss, tinnitus and healthy ageing

Kevin J Munro  
NIHR Manchester BRC



# Context

- No 1 for years lived with disability
- Impact
  - Communication and social interactions
  - Anxiety, isolation, depression
  - Associated with cognitive decline
- Cost (hearing loss and tinnitus)
  - Economy and NHS
- Interventions
  - Devices
  - Tinnitus Management Strategies

# Selected examples of research needs

## POPULATION DATA

- Validity of UK data?
- An inevitable consequence of ageing?

## SERVICES & INTERVENTIONS

- Uptake
- Adult hearing screening
- Interventions: devices, drugs, genes and cells
- Behaviour change

## ASSOCIATION WITH HEALTH CONDITIONS

- Brain & physical health
- Do treatments delay adverse functional outcomes?

## INEQUALITIES

- High burden, low access
- Mechanisms & clinical pathways
- Cross-cutting

# HEARING LOSS, TINNITUS AND HEALTHY AGEING

## SHORT TERM

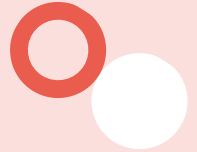
What is needed NOW? Opportunities and low hanging fruit.

## MEDIUM TERM

What is needed in the NEXT 5 YEARS?

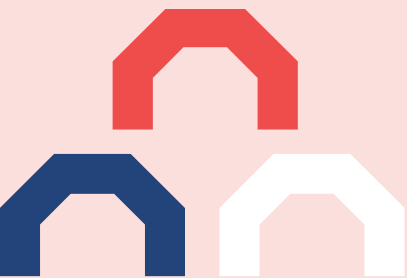
## LONG TERM

Long-term research aspirations for adult hearing loss and tinnitus?



# Understanding causes, risk factors, and diagnostics of adult hearing loss and tinnitus

Derek J Hoare  
NIHR Nottingham BRC



# Context



- Studying the hearing and genetic characteristics of large cohorts of people can provide key insights into causes (e.g. noise exposure, aging) and risk factors (e.g. genetics)
- Understanding causes and risk factors essential to informing research to prevent, modifying risk, or treat hearing loss and tinnitus



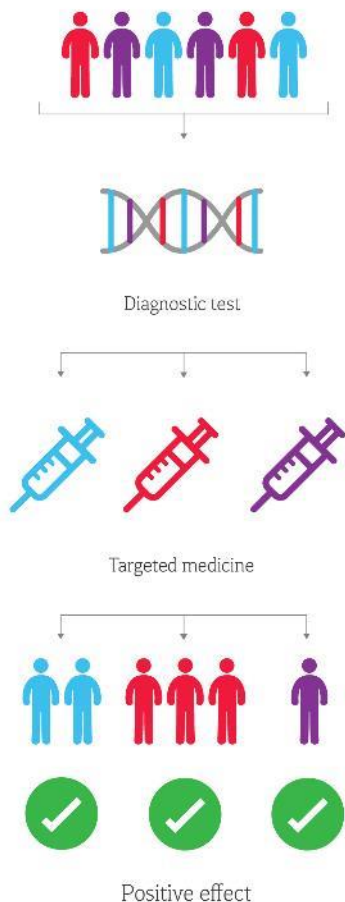
# Context

- Systematic reviews
- Programmes of basic research
- Work to advance understanding of noise-induced hearing loss involving Department of Defence
- Large longitudinal datasets (UK Biobank)
- NIHR Health Informatics Collaborative
- National Registry of Hearing Implants



# Context

Personalised approach



## Example challenge

New drug and advanced (gene & cell) therapies are in development, and these will need to be targeted at specific individuals based on detailed understanding of the cause(s) and characteristics of their hearing loss or tinnitus

Existing large research cohorts (e.g. UK Biobank) do not involve detailed information about hearing status

Detailed hearing status also not captured in routine primary care records.

# CAUSES, RISK FACTORS, DIAGNOSTICS

## SHORT TERM

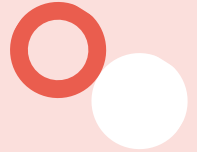
**What is needed NOW? Opportunities and low hanging fruit.**

## MEDIUM TERM

**What is needed in the NEXT 5 YEARS?**

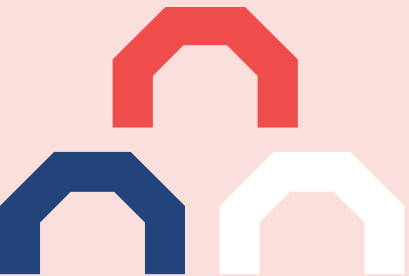
## LONG TERM

**Long-term research aspirations for adult hearing loss and tinnitus?**



# Infrastructure and training for research into adult hearing loss and tinnitus

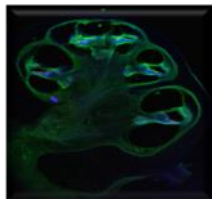
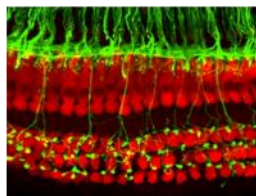
Anne Schilder  
NIHR UCLH BRC



# Disciplines involved in hearing and tinnitus research and care

- Cell biologist
- Neuroscientist
- Geneticist
- Acoustics engineer
- Datascientist
- Audiologist
- ENT surgeon
- Audiovestibular physician
- Speech language therapist
- Psychologist
- Clinical trials methodologist
- Health economist
- Epidemiologist
- GP
- Old age psychiatrist
- Neurologist

*And their trainees....*



# Building hearing & tinnitus research infrastructure

## 1. Generating and leading research

**NIHR** | Academy **NIHR** | Biomedical Research Centre

- MRC, Wellcome, NIHR fellowships

## 2. Delivering research

  
*Health Education England*

  
e-Learning for Healthcare

- NIHR CRN Workforce Development
- Utilise trials to develop capacity and capability

# Building hearing & tinnitus research infrastructure



- NIHR CRN Audiology Champions and Trainee Leads



- Management and outcome of sudden onset hearing loss
- 70 NHS hospital teams and 280 participants so far
- Builds infrastructure for upcoming trials

# INFRASTRUCTURE AND TRAINING FOR RESEARCH INTO ADULTS HEARING LOSS AND TINNITUS

**SHORT TERM**      **What is needed NOW? Opportunities and low hanging fruit.**

**MEDIUM TERM**      **What is needed in the NEXT 5 YEARS?**

**LONG TERM**      **Long-term research aspirations for adult hearing loss and tinnitus?**





# Closing remarks

If you would like to share any thoughts / comments on any of the topics covered in the discussions that you couldn't raise today, or about this event generally, then please contact

[jason.cox@dhsc.gov.uk](mailto:jason.cox@dhsc.gov.uk)

