

**DHSC ROUNDTABLE MEETING
RESEARCH ON ADULT HEARING LOSS & TINNITUS
TUESDAY 15 DECEMBER 2020, 10AM – 1PM**

BACKGROUND – DISCUSSION THEMES / KEY ISSUES

This event will bring together a wide range of stakeholders and partners to discuss issues relating to research on adult hearing loss and tinnitus. The aim is to discuss research priorities and how we can address major outstanding issues by growing the capacity and capability of these research sectors. The focus will be on identifying specific short, medium and long term actions for how we can all work together to improve outcomes for people who experience these conditions.

Discussions on the day will be organised around three key topics:

- (A) Hearing, tinnitus, and healthy ageing
- (B) Understanding the causes of, and risk factors for, hearing loss & tinnitus
- (C) Infrastructure & training

Each discussion topic will be introduced with a short presentation, but additional background information to each topic is provided below.

(A) HEARING, TINNITUS, AND HEALTHY AGEING

Context

Hearing loss and tinnitus can be important markers of brain and physical health, and hearing loss is a leading cause of years lived with disability. The uptake of hearing-related devices is low, and the field is slow to adapt to emerging technologies. There is no routine screening/check for hearing loss or tinnitus in mid-life or old age.

Some key questions

1. *What should the focus of the research community, and funders of hearing research, be in relation to living well and supporting healthy aging in people with hearing loss and/or tinnitus?*
2. *How can research support the widespread delivery and take-up of effective devices and treatments?*
3. *How can we ensure every person who has treatable hearing loss and/or tinnitus is diagnosed and has access to hearing healthcare?*

Overview – some strengths / opportunities & challenges

- Strengths and opportunities: Hearing loss as an important marker of brain and physical health. Broad importance of hearing loss and tinnitus in our aging population. Research recommendations in guidance issued by National Institute for Health and Care Excellence.
- Key challenge: Lack of commissioned research related to hearing loss and tinnitus.
- Strengths and opportunities: Recent and ongoing work on over-the-counter hearing devices, 'hearables', and other assistive listening devices, and hearing aids for tinnitus.

- Key challenges: Determining who could benefit from these new forms of hearing devices, overcoming low and slow uptake of hearing devices generally, feasibility of implementing care pathways that represent substantial changes to current pathways.
- Strengths and opportunities: Ongoing NIHR Biomedical Research Centre work on hearing screening developments and barriers/facilitators to establishing routine screening. Key uncertainties highlighted in recent National Screening Committee recommendations.
- Key challenges: Lack of adult screening programme and associated commissioned research to address evidence gaps.

(B) - UNDERSTANDING THE CAUSES OF, AND RISK FACTORS FOR, HEARING LOSS & TINNITUS

Context

Studying the hearing, tinnitus, and genetic characteristics of large cohorts of people can provide key insights into causes (e.g. noise exposure, ageing) and risk factors (e.g. genetics). Hearing & tinnitus problems frequently co-occur with other health conditions. New drug and advanced (gene & cell) therapies are in development, which will need to be targeted at specific individuals based on these insights. Existing large research cohorts rarely provide adequate information about hearing and tinnitus status, and this information is poorly captured in routine healthcare records.

Some key questions

1. *What large-scale resources could be created to study causes and risk factors to support the development, targeting, and evaluation of future therapies for hearing loss and tinnitus?*
2. *How can we use research to study issues of multi-morbidity and the additional barriers that hearing loss and tinnitus can cause to health (e.g. awareness of illness, access to services)?*
3. *What is required to transform hearing and tinnitus services digitally to standardise clinical records and information about hearing healthcare to support large-scale 'big data' research?*

Overview – some strengths/opportunities & challenges

- Strengths and opportunities: Ongoing work to advance understanding of noise-induced hearing loss, including collaborations with Department of Defence. Hearing theme established within the NIHR Health Informatics Collaborative. Establishment of National Registry of Hearing Implants.
- Key challenges: Investment/support required to transform hearing and tinnitus services digitally, to standardise clinical records and information and make them discoverable for research. Investment in data science capability and capacity, and integration with NHS Innovation and Digital. Need to exploit digital services to meet challenges of COVID-19, drive service innovations to reduce hospital footfall, and create opportunities for research.

- **Strengths and opportunities:** Large-scale detailed pheno- and geno-typing can provide key insights into causes and risk factors. Understanding risk factors and causes can lay groundwork for precision medicine and target subpopulations of people with hearing loss and tinnitus for pharma and advanced therapies.
- **Key challenges:** Accessible large-scale resources (NIHR Bioresource, UK Biobank) contain minimal or very superficial phenotyping related to hearing and tinnitus. Accessible resources with phenotyping may not cover underserved communities, address diversity and inclusion in their design, and therefore may not be representative samples. Need to ensure resources consider and capture multimorbidity.

(C) INFRASTRUCTURE & TRAINING

Context

Health research infrastructure for hearing loss and tinnitus has developed at a rapid pace in recent years, in particular through the establishment of three NIHR Biomedical Research Centres with Hearing themes, but the broader research infrastructure is still underdeveloped compared to other areas of health with similar broad population impacts. Hearing healthcare professionals have limited research training and career development opportunities to both lead and deliver research. There is a lack of explicit calls or focus on ENT and audiology in fellowship programmes.

Some key questions

- *How can the health research infrastructure around hearing loss and tinnitus be levelled up to respond to the need for clinical trials of new treatments being developed?*
- *How can more medical and allied health professionals working in hearing and tinnitus services be supported to engage in and support clinical hearing research?*
- *How can the fields of hearing loss and tinnitus compete against more established areas of healthcare to develop talent that will advance these fields?*

Overview – some strengths / opportunities & challenges

- **Strengths and opportunities:** Examples of success including NIHR-funded and non-NIHR funded trials, non-commercial and commercial, our ability to pull companies into the UK to deliver their trials (e.g. Hearing Medicines Discovery Syndicate), and NIHR and non-NIHR funded (e.g. MRC) fellows.
- **Key challenges:** Limited capability (experience, role models) & capacity (high clinical demand/rapid patient turn-over) in hearing and tinnitus services to support wave of future trials already funded or in the pipeline.
- **Strengths and opportunities:** Success of NIHR Clinical Research Network (CRN) audiology champions and speech & language therapists, interaction with organisations responsible for training & education (RCS, ENTUK, SACs, BAA, BSA), support for ENT Trainee Research Networks (Integrate, SFO UK), NIHR Associate PI scheme.

- Key challenges: Need for investment (e.g. champion roles are currently not remunerated), challenges with career pathways & progression to more senior clinical academic posts, and limited training opportunities for discovery, translational, and applied researchers.
- Strengths and Opportunities: Incoming pharma and advanced therapies – Hearing Medicines Discovery Syndicate formed and close working with NIHR CRN Industry teams are examples of how the hearing and tinnitus community are tackling this challenge.
- Key challenges: How can the fields of hearing loss and tinnitus compete against more established areas of health research in order to develop talent that will advance these fields? Lack of explicit funding calls for ENT and audiology disciplines in existing NIHR fellowship programmes, and lack of calls for hearing researchers in discovery-science focussed fellowship programmes. Need for cross-specialty collaborations and increased number of commissioned funding calls.