

## CIICA CONVERSATION: Defining Green CI Services

**14 April 2026** **Facilitators:** Ariane Laplante Levesque, Linköping University; Melis Durmaz Yildris, Language Specialist/Translator & CI User, International Communications Coordinator, Cochlear Implant Association (CID) Türkiye, Jack Stancel Lewis, Audiologist and Research Associate at the University of Nottingham, UK & Senior Innovation Manager in Estates Sustainability for the NHS

**Observers:** Sue Archbold, CIICA/UK

There were 24 attendees from 13 countries: Belgium, Brazil, Canada, Denmark, Finland, Ghana, Iceland, India, Netherlands, Spain, Turkey, UK, USA.


### Introduction:

Ariane set the context and driver for this Conversation:

- Webinar hosted by International Society of Audiology in January 2026
- Article in ENT & Audiology News later this year
- Overall goal: To build a community of interest, share initiatives, and create momentum to make a difference together.

### Why Environmental Sustainability Matters to Audiology

Jack Stancel Lewis shared these slides below summarising his findings from his UK survey of public sector audiologists on environmental sustainability.



### Why environmental sustainability matters to audiology: Jack's contribution

#### Some background

- **In England the National Health Service is responsible for 4 to 5 % of the UK Carbon Emissions:** 10 billion road miles a year - 590,000 tonnes of waste, 156,000 tonnes of which is clinical
- **Two million audiology outpatient patient appointments in England = ~41,667 tCO<sub>2</sub>e** (NHS England HES 2024, PSSRU 2019)  
Equivalent to ~70,000 return flights from London to New York
- **Strong support for sustainability:** 79% of audiologists agree climate change is a health emergency, showing strong sustainability support- 96.5% of average importance or more (n=191) – Stancel-Lewis and Timmons (unpublished)
- **Low awareness of policy:** 67% of respondents were unaware or slightly aware of NHS Net Zero environmental targets. Stancel-Lewis and Timmons (unpublished)

National Health Service (NHS) England. (2022). *Delivering a net zero NHS: July 2022 report*. NHS England. <https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2022/07/B1728-delivering-a-net-zero-nhs-july-2022.pdf>

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## Insights from the UK Public Sector

### Current practices: 70.5% of respondents have a hearing aid reuse scheme

Theme	Activity
(S) System Change	<ul style="list-style-type: none"> <li>Expand audiologists' roles (prevention / MRI)</li> <li>Audit, Quality improvement projects and share learning</li> <li>Education and training</li> </ul>
(T) Low carbon care treatments	<ul style="list-style-type: none"> <li>Rechargeable devices</li> <li>Digitalise instructions / leaflets</li> </ul>
(E) Efficiency: Right care, right place, right time	<ul style="list-style-type: none"> <li>Community pharmacy/primary care first point of contact</li> <li>Reducing DNAs – patient centred booking / text message reminders</li> <li>Straight to Test audiology/ENT pathway integration</li> <li>One stop clinics, with PIFU</li> <li>Digital hearing care pathway / Telehealth</li> </ul>
(P) Prevention: Keeping people healthy	<ul style="list-style-type: none"> <li>Early intervention</li> <li>CMV screening</li> <li>Self-management/care</li> </ul>
(S) Low carbon settings	<ul style="list-style-type: none"> <li>Implement power down initiatives,</li> <li>Refuse / recycling (5 R's)</li> <li>Hearing aid repair and reuse</li> </ul>

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## Insights from the UK Public Sector

### Perceived Environmental Impact and Barriers

(Survey – N=191)

#### Top impacts:

- Waste (87%)
- Supply Chain (51%)
- Patient Travel (39%)

#### Barriers:

- Low priority
- Lack of time and resources
- Suppliers (packaging, upgrade cycles)
- Knowledge/training

*“The smallest but most noticeable opportunity on a day-to-day basis could be for hearing aid manufacturers to reduce their waste. Why do I need colour markers in single use plastic wrapping with so many sheets of information which inevitably all go in the bin” (SR32)*

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Jack highlighted that healthcare in England contributes significantly to global carbon emissions (around 5%), with audiology services alone generating substantial emissions due to:

- High volumes of outpatient appointments
- Patient travel
- Energy use and waste
- Device production and supply chains

Despite strong agreement among audiologists that climate change is a health emergency, awareness of sustainability policies (e.g., NHS net-zero goals) remains low, and competing clinical pressures often take priority. However:

*What is really encouraging is even though audiologists didn't necessarily know what constituted at times to lower carbon care, they were implementing actions that would result in improved sustainability, thinking particularly about reusable hearing aids or reuse or repair schemes.*

Jack raised many questions as a result of his survey:

*How can we improve the efficiency of our care, whilst maintaining, patient-centred care and equitable care?*

*Where is waste not from a physical perspective, but where are the non value adding steps in the pathway? People come in for multiple visits whereas maybe it could be done in one visit, or by tele-audiology.*

He was also asked if there had been any change as a result of the survey?

*Yes, I have engaged with a number of universities to try and embed some of the learning in the curriculum, which has been a really big step.*

He left the group with the question:

*Where do you see the biggest waste in your care as a service user or as the practitioner in service delivery? How do you think we can change it?*

Ariane commented on the point that:

*What is environmentally sustainable care versus what is patient-centred care, versus what is clinically efficient care, care that works? There is probably more overlap than we realise at the moment.*

Melis, a CI user from Türkiye, working with their CI Association, followed with these slides from the user perspective: *from the inside you notice where resources quietly leak* and emphasising, as had Jack, that there must be collaboration on this issue.

**Melis:**

**A HA or CI user does not just pass through the system once...**

**From the inside, you notice where resources quietly leak.**

- Premature replacement of devices / parts instead of repair
- Upgrading to new devices unnecessarily
- Old devices/parts can be donated to users in need:
  - CID's green initiative: spare parts pool**
- Repeated tests and appointments: avoidable travel and logistics, at-home care
- Information that does not travel with the user
- Real waste that can be avoided: single vs. rechargeable parts, digital instead of paper
- People with disabilities need better **accessibility in disasters**
- **Eco-ableism**: making life difficult for people with disabilities



Melis highlighted the service provided by her user organisation:

*Our spare parts pool: when users upgrade they donate their old ones to the pool which can go to people who need them. This has worked for a number of years now.*

Her second slide emphasised again the collaborative approach and how user insights are important.

She also returned to the point that Ariane raised:

*Person-centred care just makes better choices and better choices mean less waste.*

## User insight is important.

- Users notice the warning signs first: they detect failure early
- **Listening to users** is not just kind, it's how we can stay sustainable:
- **Designing systems with users in mind** reduces unnecessary interventions, avoid repeat appointments and extend the life of devices
- **The greenest replacement is the one you never need to make**

## We can work together.

- Users, clinicians, researchers, and industry
- Design services that listen and adapt
- Continuity over repetition: repair over replacement
- **Less waste, more care:** less fragmentation, more connection
- Person-centered care to help prevent waste



She also left a question:

*We can start with one appointment for the audiologist or one habit for the CI user. What would you do differently, starting next week?*

### Main Themes from the Group Discussion, live and in the Chat Room

#### 1. Waste and Overproduction

Participants—especially CI users—identified excessive packaging and unnecessary accessories as major sources of waste:

- Large packaging for small components
- Redundant accessories (e.g., drying boxes not always used)
- Lack of personalization in device kits

There was strong support for:

- Leaner, needs-based packaging
- “Just-in-time” provision of accessories
- Standardised, user-friendly storage systems (e.g., “emergency kits”)

In India leaner packaging has been achieved:

*In India, Cochlear started this after feedback from professionals that devices come with several accessories which are not always useful for recipients. As a result the cost has reduced marginally, which is advantageous for recipients. Now we are receiving leaner processor packages with fewer accessories and smaller packaging.*

*So through advocacy to the manufacturers, some system change has been achieved – great to hear!*

The suggestion was made for personalised CI packages – a “tick list” or a smart system.

The discussion continued:

*In Finland the old processors are usually collected but the accessories like remote controls, magnets etc are not collected. What are we supposed to do with them?*

## **2. Device Lifecycle and Sustainability**

Key issues included:

- Forced upgrades due to lack of spare parts
- Limited recycling or refurbishment pathways
- Financial and environmental costs of replacement

Promising solutions discussed:

- Donation and reuse systems (e.g., “spare part pools”)
- Partnerships with nonprofits for refurbishing devices
- Extending device lifespans through repair rather than replacement

There was a lot of enthusiasm from the participants to refurbish and reuse and the Turkish model was cited.

*If we were able to donate our “obsolete” devices to nonprofits without losing the “upgrade” deal as our devices could go to a community that desperately needs them, I would love that as a green solution.*

## **3. Transport and Access to Care**

Patient travel was identified as one of the **largest contributors to carbon emissions** and a barrier to access:

- Some patients travel hours for appointments
- Rural populations are disproportionately affected

Suggested solutions:

- Remote care (tele-audiology, remote mapping)
- Community-based services closer to home: *moving care out of hospitals into the community makes it more accessible, makes it easier to access, reduces the energy we use, the amount of travel.*
- Training community-based professionals
- Better appointment planning to reduce unnecessary visits

However, barriers include:

- Poor internet access, limited computer or mobile access
- Digital literacy challenges
- Suitability for certain populations (e.g., children with additional needs)

*The technology only works when it works...being in an area where coverage is consistent, digital literacy is an issue, with remote care requiring a very good understanding of the technology, and*

*being able to read and write in the language used.... It can lead to huge problems in terms of care equity.*

#### **4. Remote Care, AI, and Technology**

Remote services were widely seen as a key sustainability strategy and were valued by users:

- Reduce travel and emissions
- Improve access and efficiency

There was also discussion of AI:

- Potential for automating routine testing
- Improving consistency and reducing clinic visits

But concerns included:

- High energy use of AI systems
- Need for better data infrastructure : *the need for hearing services generally to have much better data bases*
- Risk of excluding certain populations eg complex children.

*We use remote services a lot – but we do have issues with internet in some areas. We need to figure out ways to reduce barriers.*

It was suggested that a topic for a future Conversation should be AI and CI management:

*AI in service delivery would be a great topic that CIICA could look at doing a conversation on at some point in time.*

*I know the young adults talked about the use of AI in another conversation.*

#### **5. Person-Centred vs Sustainable Care**

A central insight was that **sustainability and person-centred care are closely aligned**:

- Avoiding unnecessary appointments reduces emissions *and* improves patient experience
- Tailoring care prevents waste of time, resources, and devices
- “The greenest care is care that is not needed”

Examples included:

- Reducing routine follow-ups when not clinically necessary
- Allowing flexible appointment schedules : *a missed appointment is a wasted appointment*
- Matching patients with preferred clinicians

#### **6. Professional and System-Level Barriers**

Barriers to change included:

- Lack of training and awareness
- Time and resource constraints
- Organisational inertia
- Financial incentives that favour less sustainable practices

Progress is being made through:

- Education and curriculum changes
- Policy shifts toward community-based care
- Embedding sustainability into service design

One participant commented that they had deliberately reduced their clinic visits by 20/25% and they were planning to extend remote programming, but were meeting reluctance by staff.

### **Role of Users and Co-Design**

A strong theme was the importance of involving CI users:

- Users identify real-world inefficiencies and waste
- Co-design leads to more effective and sustainable solutions
- Listening to user experience reduces unnecessary interventions

One student audiologist commented that she was taking away a lot to reflect upon to influence her future practice.

### **Key Takeaways**

- Sustainability in audiology is a **global issue requiring system-wide change**
- The biggest impacts come from **travel, energy use, and device lifecycle**, not just visible waste
- **Remote care and service redesign** offer major opportunities
- **Repair, reuse, and reduced overproduction** are critical
- Sustainability and patient-centred care are **not competing goals—they reinforce each other**

### **Final Reflection**

Raising awareness was seen as an important first step to change: *People who use our services will identify areas where they see waste and should speak up: co production, codesign and involving service users.*

Participants were encouraged to consider a simple but powerful question:

*What is one change you could make next week to make hearing care more sustainable?*

The discussion concluded that meaningful change does not always require large-scale reform—small, practical improvements in everyday practice can collectively have a significant impact.

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