NIHR | Imperial Biomedical Research Centre

Insight Report: Online public involvement session on proposed 'Healthy Homes Hub'

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Background

A team from Imperial College London's Environmental Research Group and Grantham Institute for Climate Change and the Environment, are jointly applying with the University of Swansea for a grant of £6 million over five years from the UK Research and Innovation (UKRI), co-funded by the National Institute for Health and Care Research (NIHR). The grant 'Realising the health co-benefits of the transition to net zero' will establish a set of transdisciplinary research hubs to develop new health-focused interventions to support the UK's transition to net zero by 2050.

The joint funding application focuses on the challenge area 'Indoor environments in a net zero world' which will be addressed through the formation of a proposed Healthy Homes Hub. The aim of the Hub is to provide evidence for policy makers and to develop practical solutions to make UK homes healthier while also helping the environment.

The Hub will have four workstreams:

- **Evaluation**: This workstream will look at how current policies affect our physical and mental health, and the health of the environment and will explore how changes in our homes can make a difference.
- **Solutions**: The Hub will find new ways to improve our home environments while also being kind to the planet. They will be working with communities to ensure that solutions are designed based on principles of fairness, efficiency, and accessibility.
- **Translation**: This workstream will help create information and tools accessible to all. It will connect different groups, like researchers, local authorities, and policymakers, even if they're not directly part of the Hub, ensuring the Hub's work has the widest possible impact.
- **Communication and co-design:** The foundation of the Hub, this workstream will help everyone talk to each other to make sure that all perspectives are included, unintended consequences avoided, and its principles followed throughout.

To assist with the development of the UKRI grant application, the NIHR Imperial Patient Experience Research Centre (PERC), a core facility of the Imperial Biomedical Research Centre (BRC), facilitated an online discussion session to gather insights from a selection of Imperial BRC Community Partners.

The Imperial BRC is a collaboration between Imperial College London and Imperial College Healthcare NHS Trust, which is funded by the NIHR until November 2027. The Imperial BRC has 14 areas of research focus, as well as PERC which spans across all the Imperial BRC themes. Community Partners are members of the public who work in partnership with each of the Imperial BRC 14 research themes and PERC, acting as a 'critical friend' to make sure the Imperial BRC's work is relevant and inclusive of its North West London population.

Public Involvement is defined by the NIHR as "research being carried out '**with**' or '**by**' members of the public rather than '**to**', '**about**' or '**for**' them"[1]

"Public" includes patients, potential patients, carers and people who use health and social care services as well as people from specific communities and from organisations that represent people

[1] https://www.nihr.ac.uk/documents/briefing-notes-for-researchers-public-involvement-in-nhs-health-and-social-care-research/27371#definitions-of-involvement-engagement-and-participation

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who use services. Also included are people with lived experience of one or more health conditions, whether they're current patients or not.

Approach and purpose

Public involvement and community engagement was considered a crucial component to the development of the UKRI grant application. The Imperial researchers and project team wanted to explore the Community Partners' views and obtain their feedback on the potential facilitators and barriers around home improvements faced by communities and individuals.

The session started with an introduction to the UKRI grant application, including the proposed research questions and how the research plans to answer these questions. This was followed by an opportunity for the attendees to ask questions for clarification. Attendees were then separated into three breakout rooms to facilitate discussion in smaller groups of four people. Within each breakout room, there was someone from the research or project team and a PERC team member. Discussion in the breakout rooms was guided by a series of questions which had been agreed with the research and project team ahead of the session. PERC staff members supported the facilitation of breakout room discussions and were there to assist if any technical difficulties arose.

Call overview and agenda

An online discussion was hosted on Wednesday 20 March 2024 (5:30pm to 7pm) via Zoom and was attended by 12 Imperial BRC Community Partners from a wide range of backgrounds (see Appendix 1 for attendee's demographic characteristics).

The aims of this online session were to:

1. Introduce and explain the UKRI funding application and the proposed research questions (15 minutes)
2. Give attendees an opportunity to ask questions (15 minutes)
3. Facilitate small group discussions in Zoom breakout rooms (discussion questions outlined below), with attendees divided into three breakout rooms (50 minutes):

- **What do you think makes a healthier home?**
    - Is this linked to quality of life (physical, mental, emotional wellbeing)

- **What changes have you made to make your home more comfortable?**
    - Are there home improvements that you are interested in having?
    - What would help you to make those changes happen?
    - What are the barriers that would prevent you?
    - Do you know people in your community who have made changes to make their homes more comfortable?

- **What do you think about home upgrades to achieve 'Net Zero' (e.g. installation of new heating/windows/insulation)?**

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  - What might make a home upgrade attractive?
  - What might make a home upgrade unattractive?

- **Do you think monitoring of a household appliance/s is intrusive? For example, through:**
  - energy usage of the appliance via meter readings or a device on the appliance
  - via interviews/questionnaires

- **What would you think about you/your children/parents being asked to provide the following things for this type of research:**
  - questions about your quality of life
  - nose or throat swabs and/or breathing tests
  - your health data
  - household samples: dust, air quality, mould, temperature

On 15 January 2024, an online discussion using a similar format took place on a research proposal to explore early life respiratory infections and their impact on lung age. As there is overlap in the proposed biological and household samples to be collected, which were discussed extensively in the January 2024 session, insights on the acceptability of collecting samples for research will be taken from that session, which was written up as an Insight Report[2].

Attendee recruitment

Given the relevance of the research to the Social, Genetic and Environmental Determinants of Health (SGE) Imperial BRC research theme, and the links of the Healthy Homes Hub Lead, Professor Benjamin Barratt, to the SGE theme, all SGE Community Partners were invited to participate in the online discussion session. Additional Community Partners from other Imperial BRC research themes were identified based on their lived experience and community connections.

Although 17 Community Partners were expected to attend, 12 Community Partners attended the session (see **Appendix 1** for demographics). The SGE Community Partners were grouped together in one breakout room, and the remaining Community Partners were randomly allocated to the two other breakout rooms. There were four Community Partners in each breakout room.

The Community Partners in attendance represented the following Imperial BRC research themes or facilities:

- Cardiovascular
- Digital Health
- Molecular Phenomics
- Patient Experience Research Centre

[2]Laura Alvarado-Cruz, Maria Piggin, Naomi Asantewa-Sechereh, Stephanie Ivie, Sejal Saglani, Dougal Hargreaves, Ben Barratt, Aubrey Cunnington. Online public involvement session on early life respiratory infections and their impact on lung age. NIHR Imperial Biomedical Research Centre (15-01-2024), doi: https://doi.org/10.25561/109078

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- Pregnancy and Prematurity
- Respiratory
- Social, Genetic and Environmental Determinants of Health

Feedback

Following the session, attendees were sent an anonymous online feedback form to provide their comments on the session more generally, and to provide any additional views on the discussion questions posed in the breakout rooms (see **Appendix 2**). Comments relating to the questions discussed in the breakout rooms were integrated into the Key Insights Summary below.

Payment

In accordance with the NIHR payment guidance (£25 p/h), attendees were paid £37.50 for their time participating in the session, plus a £5 contribution to Wi-Fi/data expenses for accessing a virtual meeting.

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Key Insights Summary

Insights raised by attendees during the session and any additional comments via the online feedback form are summarised below into themes.

Views on what makes a healthy home

Attendees agreed a healthy home was a combination of quality of life, physical, mental and emotional wellbeing as they were all linked, and that this should also include finance.

The importance of **ventilation** was mentioned across the breakout rooms. This included its perceived impact, for example on **damp and mould** problems, **air quality and "*air flow*"** in the home, and **temperature regulation**. However, attendees noted that noise from the local area can prevent some people from opening their windows: ***"the sounds of planes interrupt conversations and the television. Also, this is a reason not to use the garden."***

No extremes of temperature (hot or cold): One attendee shared their lived experience of a hidden disability and an autoimmune neuromuscular condition, which meant it was **necessary to keep their home adequately cool and adequately warm, so that they could manage their condition**.

Natural light in the home: Attendees highlighted the importance of sunlight for a comfortable home. The aspect of one attendee's flat made it **hard to get light at certain times of the day, which meant they needed to switch on the lights earlier**.

Appropriate space and number of rooms for people living in the home: Overcrowding in the home was seen as "unhealthy". **Having limited space also meant that space for exercise and other activities was not possible**. Ideally with more space "*it would be great to have a work room for everybody, which could also be beneficial to mental health*."

A home that is affordable to run: in terms of the ability of the home to retain heat, for example, and the affordability of energy services. One attendee thought it should be a standard requirement to make sure that social housing, homes, and new builds are energy efficient to ensure that they have an impact on healthy living within the homes.

Access to green spaces near the home was also noted as significant as "*in London, having a garden could be expensive"*.

Home improvements made to make the home more comfortable

Home improvements made by attendees included:

- **Windows:** some attendees had either installed double glazed windows or were currently in the process of replacing their windows. One attendee improved installation around their windows using extra wooden strips or rubbery foam material, which has made their rooms feel more comfortable and consistent.
- **Installing central heating** as the property had inadequate heating, which led to damp and mould, and impacted their health. This was challenging and stressful and had an impact on an attendee's metal wellbeing as well.

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- **Underfloor insulation**.
- **New doors**.
- **New boiler and new heating**.
- **New curtains** to keep the cool and heat in, which surprisingly made a big difference.
- One attendee proactively **cut back on the high maintenance of their garden**. They let their garden grow for longer and reduced mowing, which has encouraged more wildlife and made it more comfortable and interesting to be out in the garden.
- Using an **air purifier** in the home.

One attendee was motivated to make home upgrades by **household family members living with progressive health conditions**. One of the factors in making these upgrades to the home now was that they are in a good physical state to make the changes vs. 15- or 20-years' time when they might not be.

Barriers preventing individuals/families from making home improvements

Rented vs. home ownership: Beyond making **ad hoc interventions or superficial changes** to their home (e.g. through fixtures and fittings), one attendee **felt that it would never be within their control** to make their home more eco-friendly or energy efficient, as they did not own their home.

Affordability: cost of home improvement and who pays for it. The cost should not fall on renting tenants to improve their homes (e.g. by being added on to building service charges). Lower income households are not able to improve their homes, **improvements should be a standard expectation within all homes, and not just for the wealthy**.

Precarity of renting: as a renting tenant could be asked to leave the property at any moment (e.g. through no fault evictions) whatever gains and improvements they had made to the property could be lost to the individual in an instant.

Information gap: not being able to access trustworthy information from reliable sources was off putting. Currently, the public only have builders and people who sell equipment for home upgrades to turn to. Websites were considered to be commercial and selling a particular provider and solution, rather than informative. The attendees would like to be informed of **what the appropriate options were, depending on where they live**. They felt **most people don't have the time to do their own research but are open to making changes**. This information should be **available in a range of languages** for those who do not have English as their first language.

Opportunity cost: when planning home improvements various factors had to be taken into consideration and align to make it possible. For example, years of saving, or deciding when was right for the family/balancing caring responsibilities. One attendee did not feel they were currently in a position to withstand the **level of disruption over a number of months** required as part of a home upgrade, **even though it may mean something better for them in future**.

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Views on what makes net zero upgrades to the home attractive

Reduction to household energy bills: Solar panels were considered attractive as they reduce the cost of energy. Communal solar panels, where the **cost is shared with everyone, or the cost is subsidised**, were considered beneficial for the community.

One attendee would like to go for a heat pump solution and solar panels as they considered these options to be **most effective to head towards achieving net zero**. **Paying less for energy (particularly over the winter)** also makes it an attractive option.

Aesthetics: Flats with **living walls were seen as attractive and practical** as they also provide insulation to the flats.

Views on what makes net zero upgrades to the home unattractive

One attendee would like to go for a heat pump solution but had concerns around how much **space is needed for a heat pump**, the **noise produced** and **whether it would be maintainable**.

Loss of space: internal insulation means **loss of space inside the house**, and external insulation is **expensive and doesn't look nice**.

Visually unappealing: One attendee lives in a conservation area so cannot install PVC double glazing windows.

Longevity of new technology not yet known: as these are emerging technologies there was concern around **how long-lasting** they would be. For example, would they require an update in 2-5 years' time; or would they be efficient to last another 5-10 years? The **future implications of emerging technologies** prevented one attendee and others they know from pursuing these upgrades. Beyond immediate costs, they were questioning the **long-term costs** and **costs in terms of sustainability**.

Financially inaccessible: the costs of installing upgrades to the home can be prohibitive.

One attendee felt the smart meter is unattractive as it is **not friendly to use**. **Ineffective upgrades or upgrades requiring a lot of maintenance** were unattractive to them.

Acceptability of the monitoring of household appliances

The attendees were **generally supportive** of the monitoring of household appliances.

Adding a device to an appliance was considered a good idea. Some attendees already had smart meters installed as they believed them to be helpful. If meter readings were monitored, attendees would also like to **receive advice on how to reduce their household energy consumption**.

One attendee considered the monitoring of household appliances would not be intrusive ***"as long as you are not listening to my personal information."***

One attendee would **prefer to respond to questionnaires as this would give them the ability to only answer the questions they felt comfortable responding to**, rather than being monitored 24 hours.

One attendee shared via the anonymous feedback form that they would find the **monitoring of household appliances somewhat intrusive**.

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Acceptability of providing certain samples for the research

The attendees were generally supportive of providing certain samples for the research. There was **agreement that monitoring health as changes are implemented to homes would be useful to pursue**.

Some attendees shared that they would feel comfortable answering questions about quality of life; providing nose or throat swabs; providing their health data; and providing household samples. Knowing this could **help improve the community's health** and that it is **for everyone's benefit** were emphasised as motivating factors by attendees.

However, some attendees considered the collection of biological samples, or the collection of personal health data, to intrusive or not appropriate. One attendee was **apprehensive about being injected and having their blood taken**, preferring instead more simpler tests like blowing into a tube.

Suggestions to improve the acceptability of the collection of samples for research included:

- guarantee any information shared or collected would be **kept confidential**.
- **tests should be done near the participant's home** so as not to take too much of their time; otherwise, participants should receive **financial compensation**.

Water quality was suggested as an additional household sample it would be beneficial to measure.

Suggested additions to the research questions

- Attendees suggested including the question "Do you feel that your local authority does enough to improve your health, your home, and your quality of life?" as they considered local authorities to play a significant role in these things.
- Empowerment and control were also discussed in one of the breakout rooms. The researcher suggested this could be looked at through the question "How much control did you feel you had over the intervention and the works that were done, including the local authority but also the workers, etc?" It was agreed that a question about hyper local empowerment and control would be worth including as well.

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Appendix 1: Demographic characteristics of attendees

Table 1: Demographic characteristics of attendees provided during attendee expression of interest (provided voluntarily) (N=12)

Characteristics	n (%)
Age groups (in years)	
17-25	1 (8.3)
26-35	1 (8.3)
36-45	2 (16.7)
46-56	5 (41.7)
56-65	2 (16.7)
66 – 75	1 (8.3)
76+	0 (0.0)
Prefer not to say	
Gender	
Female	8 (66.7)
Male	4 (33.3)
Prefer not to say	0 (0.0)
Ethnic group	
White	
English/Welsh/Scottish/Northern Irish/British	1 (8.3)
Irish	0 (0.0)
Gypsy or Irish Traveller	0 (0.0)
Other White background	2 (16.7)
Mixed/Multiple Ethnicity	0 (0.0)
White and Black African	1 (8.3)
White and Black Caribbean	1 (8.3)
White and Asian	0 (0.0)
Other Mixed/Multiple background	0 (0.0)
Asian/Asian British	
Indian	2 (16.7)
Pakistani	1 (8.3)
Bangladeshi	1 (8.3)
Chinese	
Other Asian background	
Black/African/Caribbean/Black British	0 (0.0)
British	1 (8.3)
African	1 (8.3)
Caribbean	0 (0.0)
Other Black/African/Caribbean background	0 (0.0)
Other	
Arab	1 (8.3)

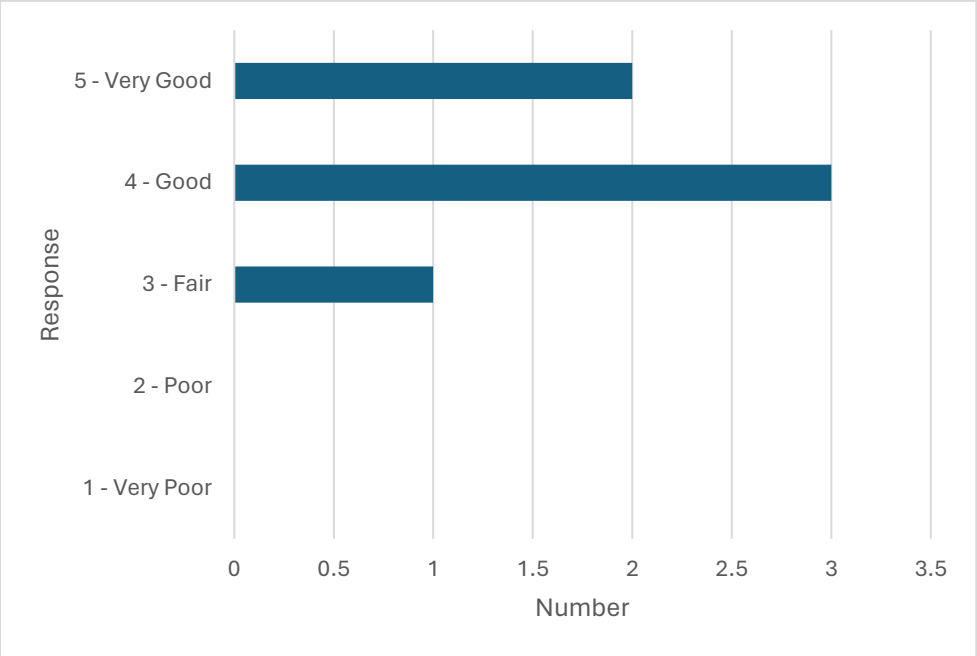
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Any other ethnic group	0 (0.0)
Prefer not to say	0 (0.0)

Appendix 2: Post-session feedback from attendees (n=6/12)

A post-session anonymous online feedback form was emailed to attendees who were asked practical questions about the session including how they rated it and their motivations for joining. Attendees were also asked if they had any further comments on the questions posed in the breakout rooms and these responses have been consolidated with those provided in the breakout rooms above in the Key Insight Summary.

Question 1.1: On a scale of 1-5, how would you rate the session?



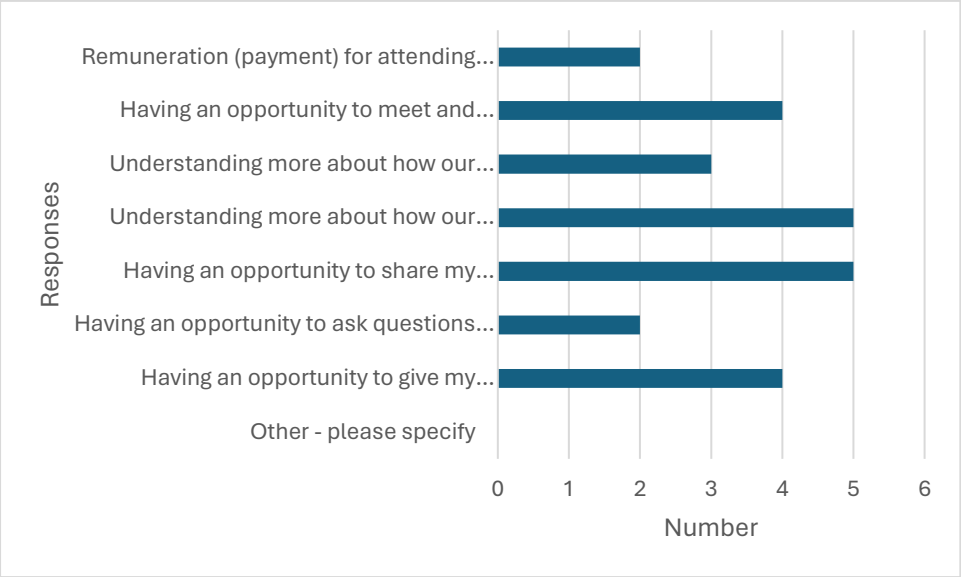
Response	Count	%
1 - Very Poor	0	0
2 - Poor	0	0
3 - Fair	1	16.7
4 - Good	3	50.0
5 - Very Good	2	33.3

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Question 1.2: Please tell us why you chose the above rating:

Productive and informative
Informative and relevant with opportunity to share personal information.
While the subject was interesting the breakout group wasn't moderated, so it became a whinging and advice session between a couple of members.
Content was good but could have had more depth.
The whole topic was explained very well.
It was interesting, well presented and I felt confident to contribute.

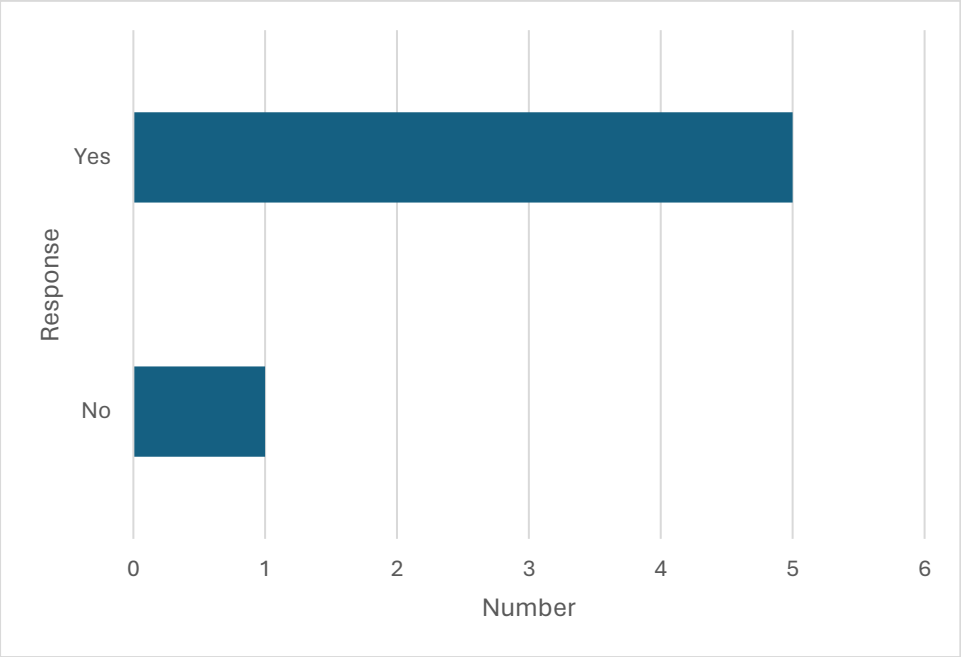
Question 2: What were your main motivations for attending the session? (Feel free to choose more than one)



Responses	Count	%
Having an opportunity to give my perspectives on research and its design	4	16
Having an opportunity to ask questions about the research and its design	2	8
Having an opportunity to share my insights and contribute to a research funding application	5	20
Understanding more about how our homes can affect our health	5	20
Understanding more about how our homes can have an impact on the environment	3	12
Having an opportunity to meet and engage with Community Partners from other Themes	4	16
Remuneration (payment) for attending the session	2	8
Other - please specify	0	0

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Question 3: Do you think you were provided with sufficient information about the session prior to attending?

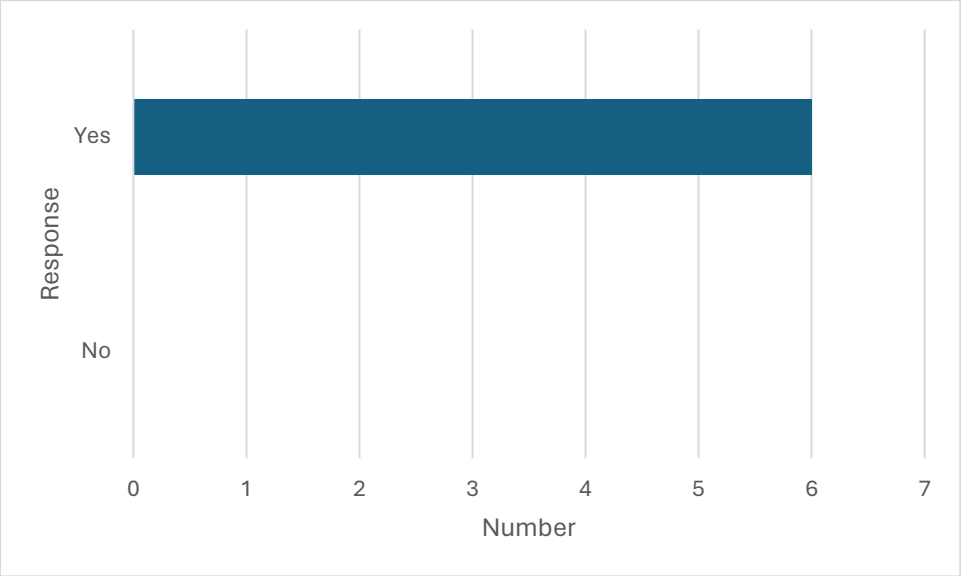


Response	Count	%
Yes	5	83.3
No, please tell us how this could be improved	1*	16.7

*Response: No, but no preparation made the answers more spontaneous and personal.

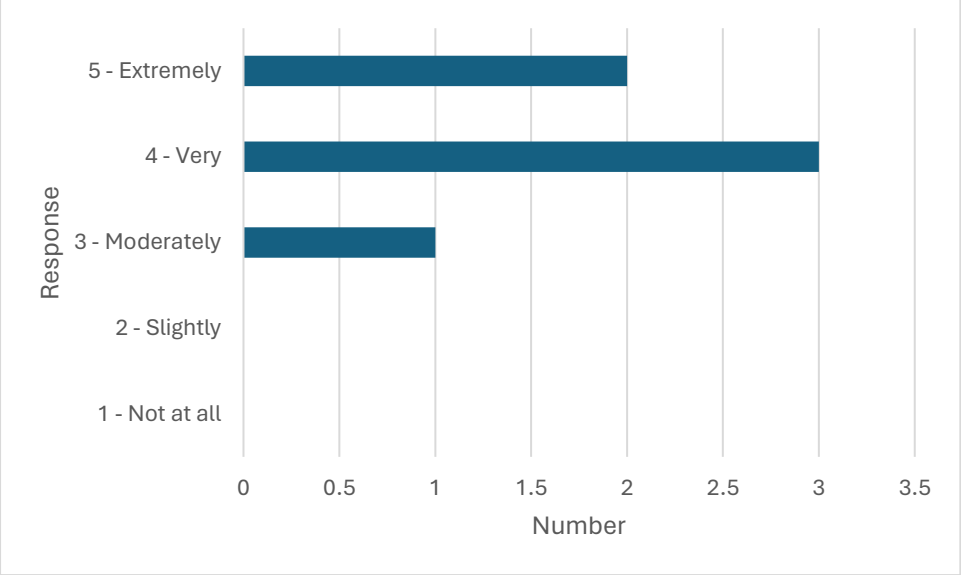
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Question 4: Did you find the presentations easy to understand?



Response	Count	%
Yes	6	100
No, please tell us how this could be improved	0	0

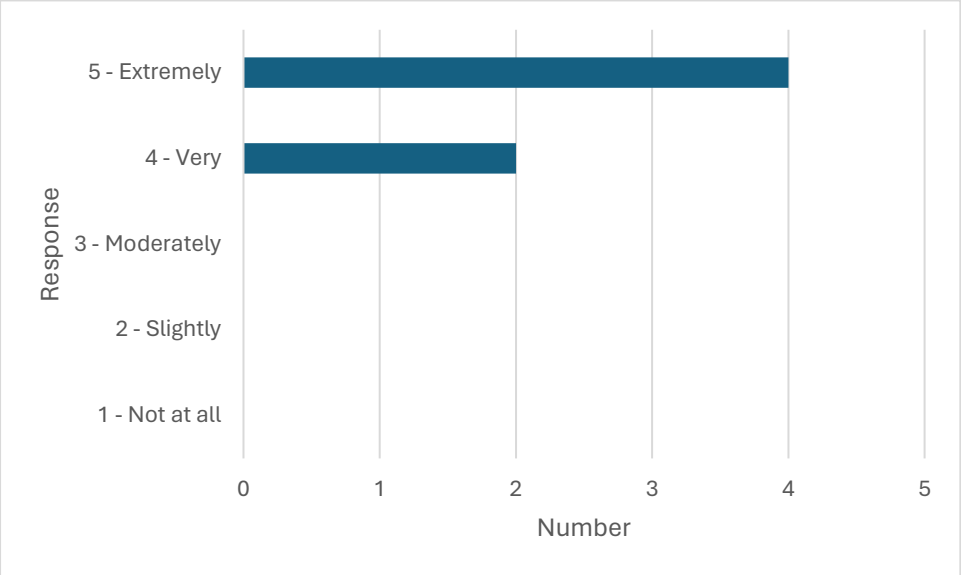
Question 5: How informative did you find this session?



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Response	Count	%
1 - Not at all	0	0
2 - Slightly	0	0
3 - Moderately	1	16.7
4 - Very	3	50.0
5 - Extremely	2	33.3

Question 6: How likely are you to attend a session like this again?



Response	Count	%
1 - Not at all	0	0
2 - Slightly	0	0
3 - Moderately	0	0
4 - Very	2	33.3
5 - Extremely	4	66.7

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