

1 **Title page**
2 **Exploring virtual funding committee practices in the allocation of National Institute for Health and Care**

3 **Research funding: A netnographic study**

4

5 **Short title: Exploring virtual funding committee practices using a netnographic approach**

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16

17 **Abstract**

18 **Objectives:** Funding committees, comprising members with a range of knowledge, skills, and experience,
19 are considered integral to the decision-making process of funding organisations for recommending or
20 allocating research funding. However, there is limited research investigating the decision-making
21 processes, the role of members and their social interactions during funding committee meetings
22 conducted both virtually and face-to-face.

23

24 **Methods:** Using a mixed-methods design and following netnography principles, the study observed nine
25 National Institute for Health and Care Research programmes funding committee meetings conducted
26 virtually during October 2020 to December 2021; complemented by interviews with committee chairs and
27 members (18 interviews) and NIHR staff (12 interviews); an online survey (50 responses); and
28 documentary analysis. Personal reflections through immersive journals also formed part of the analysis.

29

30 **Results:** Three main themes were identified from the observations, interviews, and online survey:
31 *efficiency of virtual committee meetings* (importance of preparation, and the role of formality, process,
32 and structure); *understanding the effect of virtual committee meetings on well-being* (effects of fatigue
33 and apprehension, and the importance of work life balance); and, *understanding social interactions and*
34 *engagement* (levels of engagement, contribution and inclusivity, awareness of unconscious bias and the
35 value of social networking).

36

37 **Conclusions:** Examining the decision-making practices of one funding organisation across several research
38 programmes, across multiple committee meetings over one year has generated new insights around
39 funding committee practices that previous studies have not been able to explore or investigate. Overall,
40 it was observed that fair and transparent funding recommendations and outcomes can be achieved

41 through virtual funding committees. However, whilst virtual funding committees have many benefits and
42 opportunities, such as the potential to increase membership diversity and inclusivity, and be more
43 environmentally sustainable, more evidence is needed to evaluate their effectiveness, with particular
44 focus on issues of fatigue, engagement, and committee cohesion, especially when new committee
45 members join.

46

47 **INTRODUCTION**

48 Funding organisations rely on decision-making procedures to support them to make funding
49 recommendations that are effective, fair, and transparent.⁽¹⁾ An integral part of the process involves
50 members with a range of knowledge, skills, and experience (often referred to as funding committees or
51 panels) who convene to evaluate and recommend the allocation of research funding. Several assessments
52 and processes are carried out to support and enable funding committee decision-making. For example,
53 using external peer reviewers to offer an impartial, independent review that informs the funding
54 committee process for funding allocation.^(2, 3) Despite the valuable role these committees play to ensure
55 quality, fair and transparent allocation of research funding, there is a lack of empirical evidence on the
56 processes and functions of funding committee practices. For example, Guthrie *et al.*⁽⁴⁾ found no studies
57 examining the social processes of funding committees, despite their central role in the funding allocation
58 process. This could be related to the sensitivity and accessibility around the funding allocation processes
59 and procedures of funding organisations (e.g., funding committee discussions and confidentiality of
60 research applications).^(2, 3, 5-7) Challenges in gaining access to funding committees to undertake research
61 or through direct observations is also reported in the literature, along with a lack of well-conducted
62 research looking at more than one funding organisation or in more than one particular context (e.g., more
63 than one research grant programme).^(4, 5)

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66 ***Virtual interactions***

67 In 2020, the unprecedented global COVID-19 pandemic challenged the conduct of face-to-face funding
68 committee meetings. This resulted in rapid changes to how funding organisations continued the
69 assessment of research applications, whilst maintaining quality, transparency and fairness of their
70 research funding practices. Whilst most of the evidence focuses on committee members scoring and how

71 videoconferencing may influence final decision-making scores of funding panels, ^(2, 4, 8-10) there is limited
72 literature on the use of virtual online platforms as an alternative to face-to-face meetings. For example,
73 Pier *et al.* examined the degree of scoring variability across different panels and whether there were
74 differences between videoconferencing to in-person peer review of research proposals, as they did not
75 have access to actual National Institutes of Health (NIH) study designs.⁽⁹⁾ They found minimal variation on
76 the final scores between videoconference and in-person meetings, which also supported Gallo *et al.*'s
77 earlier findings that most review outcomes are not affected by the review setting.⁽¹¹⁾

78
79 Attempts to understand the social interactions and social dynamics taking place during the decision-
80 making practice of funding committees are complex, and cannot be understood by examining peer
81 reviewer or committee scores alone.⁽¹¹⁾ Gallo *et al.* conducted a survey with a cohort of biomedical
82 scientists to try and address the gap in the evidence by looking at the influence, quality, and effectiveness
83 of their most recent panel meeting experience (e.g., being either teleconferencing or face-to-face panels).
84 Although some panel members felt there was an unequal focus and limited engagement from unassigned
85 panel members reviewing the research applications, which could lead to or limit the discussion on scoring,
86 and possibly introduce bias, panel meeting discussions were viewed favourably (e.g., in terms of quality
87 and effectiveness) and were perceived to facilitate the recommended funding decision.^(6, 11) However, a
88 limitation to Gallo *et al.* study was that it only included a survey examining written/text responses. There
89 were no observations of the panel meeting to confirm the individual responses from the survey.

90
91 To contextualise and understand the more subtle and implicit social interactions of funding committee
92 practices, the exploration through surveys or interview methods alone may not be sufficient. Nonverbal
93 cues provide additional meaning and observing the interactions (along with written notes) provides a

94 more coherent and in-depth account of the social and interactional processes at work during online
95 community settings such as funding committee meetings.

96

97 ***Virtual funding committees and the role of netnography***

98 There are a range of approaches used to conceptualise and understand the virtual social environment we
99 now live in such as virtual ethnography, online ethnography, digital ethnography, and cyber
100 ethnography.⁽¹²⁻¹⁴⁾ What distinguishes netnography from these forms of ethnography is how the research
101 conducted follows a set of defined research tools, using a pragmatic approach, to study the cultural
102 context and contents, including social dynamics, of online communicative acts in a virtual setting.^{(15) (13, 16)}

103

104 The National Institute for Health and Care Research (NIHR), the UK's largest funders of health and social
105 care research, uses funding committees to evaluate research applications and reach a consensus on the
106 research to be recommended for funding. During the COVID-19 pandemic the NIHR ran virtual funding
107 committees in place of face-to-face meetings for their research programmes. Following and using the
108 principles of netnography, we explored, reflected, and investigated the new and changing landscape of
109 NHR funding committee practice (virtual meetings).

110

111 The aims of the study were to explore virtual funding committee meetings in terms of the formal
112 processes such as technology, resources and formality, and the informal processes such as the social
113 interactions, social dynamics, perceptions, attitudes, and expectations. This paper describes a
114 netnographic study on virtual funding committee practices to gain insight into using online forms of
115 communications (e.g., cultural changes), the benefits, challenges, and barriers to using online platforms
116 (e.g., future considerations) and understand the social interactions in virtual settings (e.g., members
117 participation).

118 **METHODS**

119 **Approach and study design**

120 Due to the delicate nature of funding committee meetings and the confidentiality around the discussions
121 and not attributing feedback to an individual committee member, netnography was particularly suited to
122 answer the research questions. The methodological approach offered insights into the cultural processes
123 in a virtual space that would not otherwise have been possible in a face-to-face setting. Netnography
124 allows you to observe in an unobtrusive and non-invasive way (e.g., no observer presence is required),
125 and although netnography shares similar foundations, perspectives and practices to ethnography, there
126 are distinct differences in term of research focus, research methods, data collection and analysis.^(13, 15, 17)
127 Exploring the nature and implications of the interrelationship between online social experience and how
128 individuals alter in response to these new technologies is the foundation for netnography.

129

130 Netnography follows several fundamental stages like other qualitative methodological approaches, that
131 are inclusive of

132 1) **research inquiry** (developing and initiating the research topic and approaches to formulate the research
133 questions)

134 2) **collecting the data** (gathering the data through observations, surveys, interviews, online mechanisms,
135 and through an immersive (self-reflective) journal)

136 3) **analysing and interpreting the data** (ongoing process of decoding, translating, and coding parts and
137 segments of the data to seek narrative and thematic analysis)

138 4) **sharing the research** (contextualising and presenting findings in an appropriate form to disseminate
139 the outcomes to the audience it was intended for).

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141 Following interactionist principles, it was possible to explore the virtual conversations about how, where
142 and when things were said, from the committee members through to the role of the chair in steering and
143 managing the discussions. This was important for understanding how virtual social interaction and social
144 encounters are different from physically embedded, face-to-face encounters.

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147 **Research inquiry**

148 To address the aims and objectives of virtual funding committees in terms of technology, resources, social
149 interaction, social dynamics, attitudes, perceptions, and expectations we proposed to answer the
150 following research questions:

- 151 1. How do virtual funding committee meetings provide an alternative approach for the
152 recommended allocation of research funding?
- 153 2. Was there any impact of virtual funding committee meetings on the decision-making
154 recommendations for research funding?
- 155 3. What were the key components and considerations of running and taking part in a virtual funding
156 committee meeting and do they affect members' experience?
- 157 4. How has the use of virtual online technology affected the social identity aspects of funding
158 committee meetings?
- 159 5. Were there behavioural, attitude and relationship considerations (and constraints) when
160 conducting virtual funding committee meetings?

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163 ***Sources of information***

164 To allow for divergent and in-depth interpretation of the online virtual funding committees observation,
165 interviews and a survey were conducted following the guiding principles of netnography.^(13, 15) The
166 interviews and survey were conducted after the funding committee meeting had taken place and the
167 observational material had been obtained. The sources of information were complementary in nature and
168 enabled cross validation of the observational data.

169
170 *Observations:* The virtual funding committees were recorded on the online platform used by NIHR staff
171 to enable and assist in the minutes of the meeting outcomes which are made publicly available on the
172 NIHR website. These recordings were used for observational purposes only and formed the basis of the
173 netnographic study. We aimed to recruit between 8 to 12 funding committees, one committee meeting
174 per NIHR research programme and funding committees were purposefully selected based on availability
175 and programme engagement, commitment, and approval from the Programme Director.

176
177 *Interviews:* We aimed to conduct 25-30 interviews with funding committee members to understand their
178 experience and expectations of a virtual funding committee meeting, and 10-15 interviews with NIHR staff
179 to explore the practical challenges and potential benefits of virtual funding committee meetings. Several
180 factors influenced the number of interviews needed to reach saturation, and methodologically, there is
181 no definitive number to determine when 'enough is enough'.⁽¹⁸⁻²⁰⁾ Research by Guest *et al.* (2006) and
182 Hagaman and Wutich (2016) suggested a range of 30 to 60 interviews for ethnographic studies.^(21, 22) We
183 aimed to conduct a total of 35-45 interviews or until saturation was reached (e.g., reoccurring
184 conversations with respondents did not emerge any new themes and sufficient data were retrieved to
185 address the research questions).

186

187 A purposive sample was used to select funding committee members and NIHR staff based on the NIHR
188 research programmes and on the role performed at the funding committee meeting (e.g., chair, clinician,
189 methodologist, health economist and public representative) to ensure breadth of perspective.⁽²³⁾
190 Invitations were sent to committee members and NIHR staff who attended the funding committee and all
191 committee members were also invited to show their interest in being interviewed as part of the online
192 survey. The interviews were recorded for audio and text data purposes only.

193
194 *Survey:* The survey was sent to all funding committee members included in the observational cohort to
195 gain further insight and understanding of funding committee practice. A link to the survey (including
196 online consent) to participate was sent to all committee members within four weeks of the virtual funding
197 committee meeting taking place. Committee members were given three weeks to respond to the survey,
198 with a two-week reminder, followed by a final reminder three days before the closure of the survey. We
199 aimed to receive a range of between 160 to 240 responses based on the average size of 20 committee
200 members per research programme. The survey was open for each research programme to participate
201 during the period from October 2020 to January 2022 (based on when the committee meeting took place).

202
203 *Documentary analysis:* All materials provided to funding committee members were collected for analysis
204 and provided a rich source of written text data to complement the material obtained from the online
205 video footage, interviews, and survey. These documents included the agenda, chair's brief, guidance for
206 committee members including duties of members, funding committee roles and any After Action Reviews
207 (AAR).

208
209 *Immersive journal:* The immersive journal was used to capture reflections, reactions, perceptions and
210 meanings throughout data collection and during data analysis.⁽¹⁵⁾ This type of journal writing reflects on

211 the process of doing the research, exploring new ideas, contextualising the data, capturing experiences,
212 and providing extensive detail into the fragments of data. Immersive journals often contain the
213 combination of what was seen but also what the individual experiences. Capturing these reflections
214 allowed the research team to keep a record and provide any provisional thoughts for wider team
215 discussion (see quality assurance section).

216

217 ***Identification and community sampling selection***

218 All NIHR research programme funding committees conducted during October 2020 to December 2021
219 were eligible to participate in the study, including, Artificial Intelligence in Health and Care Award (AI
220 award), Efficacy and Mechanism Evaluation (EME), Evidence Synthesis (ES), Global Health Research (GHR),
221 Health and Social Care Delivery Research (HSDR) (formerly known as Health Service and Delivery Research
222 (HS&DR)), Health Technology Assessment (HTA), Programme Grants for Applied Research (PGfAR), Public
223 Health Research (PHR), and Research for Patient Benefit (RfPB). Each funding committee was classified as
224 a single online community, based on its activity, interaction, size, and research focus.

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227 ***Piloting***

228 The netnographic study involved several methods and these were designed, developed, and piloted with
229 a small sample to ensure their appropriateness. The sample consisted of NIHR staff from the application
230 and funding teams, NIHR Patient and Public Involvement and Engagement (PPIE), programme chairs from
231 the NIHR research programmes, and members of the research team. Particular attention was paid to the
232 observation framework used to facilitate the pre-recorded online video footage from the funding
233 committee meetings, questions in the online survey and the interview schedule. Modifications to the pilot
234 were documented as part of the learning process (e.g., research focus and data collection).

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Data collection and ethical process

The study was approved by the University of Southampton, Faculty of Medicine Ethics Committee (ID 57541, November 2020).

Observations: All NIHR funding committees conducted during October 2020 to December 2021 were invited to take part. Only NIHR funding committees that had approval and agreement from Programme Directors and Chairs were included. Pre-emptive opt-out was used for the approval of using the video footage for research purposes only. This was explained in a covering letter accompanying the Participant Information Sheet (PIS) and was sent to the funding committee members and staff two weeks prior to the meeting, or at a convenient time agreed with NIHR staff. Attendees of the meeting had five working days to consider the option to opt-out of the observational study. There were no opt-outs (**see supporting materials S1 Appendix: Observation guide**).

Observations of the funding committee meetings were first viewed for immersive purposes only to allow for personal reflections and initial impressions. This was followed up by a more semi-structured process, focusing on key elements noted in the observation schedule paying particular attention to the processes and practice of using virtual online technology as they emerged (and importantly related to the research questions). A passive-observer position was taken (the research team was not present) as this was the most unobtrusive research approach. The online funding committee meeting recordings were deleted once they were analysed.

258 *Interviews:* Two interview guides were used for the two groups of participants: funding committee
259 members and NIHR staff (see supporting materials **S2 Appendix: Interview guide for committee**
260 **members; S3 Appendix: Interview guide for NIHR staff**). Where possible, interviews with NIHR staff took
261 take place within a week of the committee meeting, and interviews with the funding committee members
262 were conducted in parallel with the online survey. The participants were purposively selected and invited
263 from pre-defined lists (using Microsoft Excel random number generator), sorted by the relevant NIHR
264 programme. Identified committee members and NIHR staff were sent an invitation letter along with the
265 PIS. They were given two weeks to respond, and a reminder email was sent out after one week. If they
266 expressed an interest in participating, they were contacted to discuss the study requirements and a date
267 was arranged to conduct the interview. Where there was a non-response from the invitation, another set
268 of participants were randomly chosen until we had a sufficient number of committee members to
269 interview.

270
271 Any committee member who completed the online survey and expressed an interest to be interviewed,
272 was contacted, and included in the study. This enabled greater flexibility and inclusivity for those who may
273 have had additional experiences to share with the research team. The interviews took between 20-60
274 minutes, with an opportunity for the participant to follow up on any additional points not covered in the
275 survey or interview schedule. Semi-structured, open-ended questions with prompts were used to inform
276 the interviews. NIHR staff and funding committee member interviews followed the same structure
277 although the focus and topics of interest varied.

278
279 The interviews were conducted using Microsoft Teams, or if this was not feasible due to international
280 location or internet connection, Google Hangout and WhatsApp platforms were used. Research data was
281 recorded in the form of audio and visual files where applicable. Verbal consent was gained from all

282 participants prior to conducting the online interviews. None of the interviews were transcribed and the
283 interview recordings were deleted once they were listened to, and notes were taken (and as part of the
284 immersive journal).

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286 *Survey:* The survey for funding committee members was sent within four weeks of the virtual funding
287 committee meeting and included closed and open-ended questions and Likert scale responses (a total of
288 16 questions, with 5 follow up questions) (**see supporting materials S4 Appendix: Survey questions**). The
289 participants were given three weeks to respond to the survey with two follow up reminders (a two-week
290 reminder, followed by a further reminder three days before the closure of the survey). We anticipated
291 the online survey would take approximately 15-20 minutes. Online consent was required from all who
292 completed the survey. The online survey was hosted on a University of Southampton server and
293 participants could access the survey from anywhere that had an internet connection.

294

295 **Data analysis and interpretation**

296 As the study included several methods and approaches, these were drawn on to analyse and interpret the
297 concepts and constructs of virtual funding committees. Both qualitative and quantitative data arising from
298 the study were complementary in nature (rather than competitively) and integrated analytical and
299 interpretative data operations simultaneously.^(13, 15, 24)

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301 All qualitative materials (including text data from the virtual observations) were analysed using an
302 inductive approach, allowing the data to drive the thematic coding. Microsoft Excel and Nvivo software
303 were used to analyse the data, where appropriate. Online survey results were downloaded and initially
304 analysed using a Microsoft Excel spreadsheet, which were later imported into Nvivo to enable cross
305 validation with the observational and interview data.

306

307 The authors independently analysed the data collected from the observations, interviews, and open-
308 ended questions from the survey, which informed the development of the initial themes. The themes
309 were categorised, analysed, and compared across the three data collection approaches. The initial coding
310 and categorisation of the data provided key headlines to help establish and develop the main themes.
311 Within each of the main themes, sub-themes were used to represent the range of topics that were
312 extracted across the three main data sources (observations, interviews, and online survey). The themes
313 and categorisations were independently extracted for each of the data collection methods, and then
314 reviewed by the research team to determine where there were commonalities between what was
315 observed, what was spoken through interviews and what was reported in the online survey. The teams'
316 immersive journaling also formed part of the verification steps and consensus on emerging themes.
317 Translating the data and seeking consensus and agreement from the research team took place
318 simultaneously during data collection and amendments to categorisations or themes were recorded in
319 Nvivo for transparency purposes.

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322 ***Quality assurance***

323 In all qualitative research there is a question around the potential for researcher bias. Due to the research
324 team's experience and background in the allocation of research funding from the NIHR, there was the
325 potential for preconceptions and biases to occur. To minimise researcher bias, there was more than one
326 researcher on each type of data collection (e.g., interviews, online survey, and observations) to either
327 double code or to review and discuss the preliminary analysis. The research team was also encouraged to
328 keep an immersive journal noting down any reactions, feelings, and readings from the observations, which
329 were used to discuss different perspectives and understand any potential unconscious biases. The

330 research team was therefore confident that this helped to minimise individual and group bias. This was
331 led by the lead researcher to ensure continuity across the study.

332

333 For data processing, several approaches were used to not only process the data but also to maintain
334 quality assurance measures of the collected data in the study. The large volume of data consisted of audio,
335 videos, transcripts, text data, immersive journal notes and survey data, which were imported and held in
336 Nvivo software and Microsoft Excel. Combining the data allowed for more divergent thinking and allowed
337 for meaningful interpretation from different sources of data collection, including the verification and
338 validation of the research claims from the observational data. Collecting data using different approaches
339 also allowed for greater interpretation that would not otherwise be possible from the observational data
340 alone.

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345 **RESULTS**

346 A total of six of ten NIHR funding programmes agreed to take part in the study and nine funding committee
347 meetings during the period of October 2020 to December 2021 were included in the study. Having two
348 NIHR programmes include more than one meeting provided the opportunity to explore variations over
349 time through the observations but also through the follow up interviews. The online survey was active
350 from October 2020 and closed four weeks after the final committee meeting (January 2022). This allowed
351 all committee members from all committees to participate in the survey during the four-week timeframe
352 after the committee meeting took place. Fifty responses were received from a total of 222 invited
353 respondents (response rate of 22.5%). An invitation to participate in an interview was sent to 60
354 committee members. Eighteen interviews were conducted with funding committee members across the
355 nine funding committees and included a range of committee roles such as public contributors,
356 statisticians, health economists, clinicians, funding committee Chairs and NIHR programme directors
357 (response rate of 26.6% (16/60) from the invitation to participate, and two from self-selection from the
358 online survey). Twelve interviews were conducted with NIHR staff who participated in one of the nine
359 funding committees and included senior research managers, research managers and assistant research
360 managers (response rate of 44.4%, 27 invitations were sent to NIHR staff).

361
362 The demographic characteristics of the participants involved in the study and the online survey were not
363 collected due to confidentiality. There was wide coverage across all groups of committee members
364 ranging from patient and public representatives to health economists. To further prevent the possibility
365 of individual exposure a high cloaking level was taken across all forms of data analysis and verbatim quotes
366 were amended to remove any associations with funding committee members. All quotes (written and
367 verbal), used from the three sources of data collection, were therefore labelled as P1 (survey), P2
368 (interview) and P3 (observations).

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Emergent themes

Three main themes, each with two or three subthemes, were extracted across the three main data sources (observations, interviews, and online survey). Data also revealed a range of experiences between the NIHR funding programmes, but this was not explored further due to potential exposure of participating committee members. **Fig 1** illustrates the three themes followed by the sub-themes. It is important to note that it was common for participants to make comparisons with face-to-face funding committee meetings during the interviews and survey, and whilst these comparisons are reported they were not observed directly.

ADD Fig 1. HERE

1. Efficiency of virtual committee meetings

The function and structure of virtual funding committee meetings were a key consideration for all respondents, particularly around the duration of the meeting and the effort required to prepare and run these meetings virtually (particularly for NIHR staff and the Chair). A majority of respondents (37/50, 74%) felt that you could achieve the same outcome through online virtual funding committees compared to face-to-face meetings, and 94% (47/50) of respondents felt that virtual committee meetings have a role to play for the future allocation of research funding (**Table 1**).

“Yes, most of the process is the same. You can still read the projects beforehand and score them as it was done before. The discussion is the same and the decision can still be made in the same way using technology (e.g., to vote).” (P1)

393 *"I've now attended two virtual meetings and they went much better than I expected. I had worried my*
 394 *participation would be negatively affected from being on a screen all day but that doesn't appear to have*
 395 *happened. I feel that I've been able to contribute fully as if it were an in-person meeting."* (P1)

396
 397 In addition, although 86% (43/50) of respondents felt that there were potential opportunities and/or
 398 benefits to using virtual online platforms to allocate research funding, 72% (36/50) also felt that there
 399 were potential barriers and/or challenges (**see Table 1**). Thus, funding organisations need to carefully
 400 consider the potential trade-offs of conducting funding committee meetings virtually.

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 404
 405 **Table 1. Responses to whether respondents saw any potential opportunities, benefits, barriers, or**
 406 **challenges to using virtual online platforms to allocate research funding.**

| Survey responses | Yes | No | Did not respond | Total |
|---|----------|----------|-----------------|-----------|
| Do you see any potential opportunities and / or benefits to using virtual online platforms to allocate research funding? | 43 (86%) | 4 (8%) | 3 (6%) | 50 (100%) |
| Do you see any potential barriers and/or challenges to using virtual online platforms to allocate research funding? | 36 (72%) | 12 (24%) | 2 (4%) | 50 (100%) |
| Do you feel you can achieve the same outcome through online virtual funding committees compared to face-to-face meetings? | 37 (74%) | 13 (26%) | 0 | 50 (100%) |
| Do you feel that conducting funding committees virtually | 47 (94%) | 3 (6%) | 0 | 50 (100%) |

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| have a role to play for the future allocation of research funding? | | | | |
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409 Included in the benefits of virtual meetings, multiple respondents highlighted the cost and environmental
 410 benefits to running these committees virtually and this was a strong motivator across respondents for
 411 using virtual platforms for committee meetings in the future. For example, *“efficient use of time, travel,
 412 environmentally more friendly – better for inclusivity and diversity.”* (P2) By contrast, fatigue and social
 413 disconnectedness was frequently mentioned by both committee members and NIHR staff as the main
 414 challenges with running these committee meetings virtually. For example, *“Of all of those fears - gave it
 415 a thorough test out, it worked really well. There was no residual doubts. It does work, it’s a different
 416 challenge...some of the anxieties are unfounded. It’s physically and mentally exhausting...mentally more
 417 demanding.”* (P2)

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419

420 ***The importance of preparation for virtual committee meetings.***

421 The level of appreciation for the preparatory work in coordinating virtual committee meetings was
 422 noticeable by all committee members and NIHR staff. Having reservations about conducting committee
 423 meetings virtually were a concern for committee members (including the chairs), which resulted in several
 424 preparatory steps by NIHR staff to support attendees and alleviate any known anxieties.

425

426 *“You’ve got to really really sing the praises of the secretariat here I mean, they gave it a huge amount of
 427 thought beforehand and they tested it out and they made sure me and XX and other senior members
 428 were prepped [...] it was a real testament to them, the secretariat, that they anticipated what the*

429 *problems were and simplified things to a point that busy people could interact and they didn't stick to*
430 *what was convenient to them. They took on board the kind of feedback and simplified it." (P2)*

431
432 As noted by the NIHR staff there was a tremendous amount of work undertaken prior to the meeting,
433 such as testing, piloting, carrying out pre-runs of the committee meetings, working out how to use the
434 virtual platforms (for conflict of interest on applications) and voting systems. The amount and level of
435 prior preparation for virtual committee meetings was frequently mentioned by NIHR staff and all
436 eventualities were considered to try and prevent any delays during the actual committee meeting.

437
438 *"We do one re-run to make sure everything works together. Use Teams, but the presentation is on a*
439 *different package, voting is on another. So we need to make sure everything works together to run but*
440 *also be in sync with one another. Lots of preparation required especially when there are updates to the*
441 *platforms prior to meetings, so this is intense for the secretariat staff." (P2)*

442
443 For some NIHR programmes, there was an added level of complexity, as some committees had new
444 members (or were a new committee group) and some committees included international members which
445 meant time zone differences needed to be considered during the preparation. To accommodate new
446 membership, the NIHR staff prepared and run induction and introductory sessions prior to the committee
447 meeting, so that members were familiar with each other and how the committee meetings are run. The
448 chairs were also involved in these sessions, as there were also new chairs and deputy chairs running the
449 committee meetings as well as conducting them virtually. These challenges can have an additional impact
450 on time keeping and trying to maintain the order of the agenda.

451

452 Although, the set up and preparation involved more staff and more time, there was general consensus
453 that it worked well and met the needs and purpose of running committee meetings: to make
454 recommendations to fund research.

455

456 *“The most important thing is quality and decisions, we have decades of doing it face-to-face, we*
457 *understand that approach, we have a relatively limited, forced into it limited exposure to virtual. So far*
458 *so good” (P2)*

459

460 *“We are now seriously talking about now having more meetings as actually through choice making most*
461 *of those meetings online so I think clearly if it hadn’t worked, we wouldn’t be having those conversations.*
462 *So, I think that is a testament to how well it’s worked.” (P2)*

463

464 It was clear that virtual committee meetings are conducted differently to face-to-face meetings for several
465 reasons, which need to be considered if virtual platforms are considered in the future. For example, one
466 interviewee commented that virtual meetings were *“less free flowing and more structured.”* However, it
467 is important to note that NIHR staff followed the same structural format in terms of paperwork, reviewing,
468 preparation and decision-making. The process to decision-making didn’t change, only that it was
469 conducted online rather than in a room face-to-face.

470

471

472 ***The role of formality, process, and structure of virtual committee meetings***

473 Providing clear structure at the beginning of the committee meeting helped to prepare committee
474 members on what was required of them, the order of the discussions and to ensure all attendees
475 contributed to the discussion. The intensity and increased number of staff required to run these meetings

476 virtually was recognised by both committee members and NIHR staff. For all committee meetings, more
477 NIHR staff were required to ensure every aspect of the meetings ran smoothly, and in some instances
478 NIHR staff also had to manage separate online chats to coordinate and manage the running of the
479 committee meeting on Microsoft Teams or Zoom. However, similar to preparation for meetings, the
480 challenges of virtual meetings became less as more experience was gained from conducting these
481 committee meetings virtually. Several respondents highlighted how the process and structure became
482 easier second time round, as they knew what they were doing.

483

484 *“Now we are in the flow of the meetings, it’s the new normal and that’s the way it is and we kinda know*
485 *what we are doing and we have had to adapt to it. But we are used to it and it works well, I think a lot of*
486 *colleagues prefer it this way. There are no other superficial problems to deal with such as the venue with*
487 *food or a room or the air con. It simplifies the meeting in a lot of ways.” (P2)*

488

489 It was noticeable in all committee meetings that there were clear boundaries, guidance and expectations
490 set out at the beginning of the day, to ensure that all members understood how the day was going to be
491 run. Setting out how the meeting was going to be handled was inclusive, with the committees spending
492 time introducing themselves and encouraging members to turn their cameras on when discussing an
493 application or wishing to participate in the discussion. Although this took time out from the committee
494 discussions, it was appreciated by committee members, especially when there were new members or a
495 whole new committee. However, it was also notable that committees who were more established and
496 known to each other, the flow and structure appeared less formal. This did not deter away from the
497 purpose of the committee meetings, rather it provided a more relaxed atmosphere at a very intense and
498 demanding time. There were also notable differences to the formality of the discussions based on the size

499 of the committee, which did affect the running of the meeting virtually in terms of technology and ability
500 to have cameras on for a committee size of seven compared to 29.

501
502 *"I did wonder about new committee members joining [...] so at the moment we got a committee that*
503 *knew how the face to face ran and know each other, and how that might play into things moving*
504 *forward making sure that people are supported coming into this format if it continues." (P2)*

505
506 Almost all committees used the Vevox system to produce the final scores on each application (identical
507 system used in face-to-face committee meetings). The use of the software was extensively tested prior to
508 the committee meeting, and all committees tested the software at the beginning of the meeting (e.g., all
509 members could access and cast their vote, and the results could be presented on screen for committee
510 members). Although there were some glitches across all committee meetings, with varying ways to
511 resolve these issues, it did not appear to impact the overall decision-making for funding
512 recommendations. All chairs provided clear guidance around the threshold scoring, which was universal
513 across all committee meetings.

514
515 For most committee members, the voting system was familiar to members, so despite some technical
516 issues, respondents were encouraging about its use. For those that did not use Vevox for scoring, other
517 methods included using an excel spreadsheet and individual committee members scores being vocally
518 given at the end of the application. The size of the committee and how well established they are was
519 factored in during the preparatory work for the committee meeting and to determine the appropriate
520 approach for scoring. All the scores, for all programmes were collated by an NIHR staff member and all
521 applications when ranked were discussed.

522

523 Conflict of interests were given adequate time and attention during the preparation of the meeting,
524 particularly for the order of applications. This becomes even more important when running committee
525 meetings virtually but even more so when committees included members from different geographical
526 locations (e.g., international locations). Unlike face-to-face meetings, where committee members leave
527 the room, this is more complex to manage virtually. A similar process to deal with conflict of interests was
528 used by all committees, although there were variations between different virtual platforms due to the
529 functionality options available at the time. Over time, this also meant virtual platform updates enabled
530 more options for NIHR staff and the committee to consider as part of the planning prior to the committee
531 meeting.

532

533 *"So, whatever I am saying now is based on having run it twice, whereas things may change, the software*
534 *may change we have already found between the first and second one that some of the functionalities are*
535 *improving the more we do these remote...we are just running them remotely as general working."* (P2)

536

537 For some committees it was challenging to manage the conflict of interests, which meant that the NIHR
538 staff needed to be fully engaged to ensure all those with conflicts did not return to the meeting until the
539 scoring outcome was removed. Conflict of interests were a particular concern if comments were written
540 in the chat function as everybody, including those who had left the meeting, can see the comments made.
541 Decisions were made early on by the NIHR staff, that the chat functionality was not to be used for
542 comments, only to raise a hand, inform the committee they were stepping away from the meeting, or
543 would like to contribute to the discussion. Over time, there were adaptations to the process and some
544 committees reviewed the process and made relevant changes to accommodate members and make it
545 more streamlined.

546

547 *“It is trying to make the whole experience easier and better for them in every round that we do*
548 *Some committees are more adept to changes than others, it’s not that they are resistant to it, it’s just*
549 *the nature of the committee and they are not able to move as quickly as some of the other committees.*

550 *We have to be mindful of that as well.” (P2)*

551
552 As mentioned by respondents, the chairs’ role is challenging and requires different skills in the virtual
553 environment. Different chairs had different styles of chairing and contributed to different levels in the
554 discussion. However, all chairs frequently reminded committee members about the review and decision-
555 making process of the committee, enabling constructive feedback around what was typically referred to
556 as ‘fixable flaws’, ‘fixable faults’ or ‘fundamental flaws’, *“could you go through any fundamental issues*
557 *and anything that could be fixable please?” (P3)*. Whilst sometimes the transition between chairs wasn’t
558 always smooth, each chair encouraged all members to contribute to discussion. It was suggested and
559 observed that the quality of the chairing made the discussions what they were.

560
561 *“Chairing these things effectively - you don’t know how difficult it is...a good chair makes it look*
562 *easy...chairing is hard work.” (P2)*

563
564 *“Good chairing helps to ensure that people are able to ask questions and make comments, although*
565 *discussion dynamics are much easier in person, when you can see everyone in the room.” (P1)*

566
567

568 **2. Understanding the effects of virtual committee meetings on well-being**

569 As raised in theme one, adopting and changing a critical part of the decision-making process for the
570 allocation of funding due to the COVID-19 pandemic has allowed for alternative approaches to be used.

571 Most respondents have adopted and embraced the changes however, it is important to understand that
572 not everybody is comfortable with virtual environments, and the effects of virtual meetings on well-being
573 raises important considerations around the future recruitment and retainment of committee members.
574 Committees are made up of a diverse group of individuals, and what may work for some may not work
575 for others, and this can have important repercussions for committee members not feeling fully inclusive
576 or equal to other members of the committee.

577

578 *"Given that it worked, and I suspect that it will continue to work, I think it's really a different style of*
579 *solicitation of views, quite a few people could find it easier, Designated Committee Members find it*
580 *easier talking into a machine. Could be easier for some but harder for others." (P2)*

581

582

583 ***The effects of fatigue and apprehension***

584 In earlier committee meetings, there was apprehension about how it was going to work, and it required
585 extensive preparation and resourcing to try and have a plan for every eventuality. As a result, the planning
586 and preparation, alongside attempts to resolve any uneasiness from committee members, resulted in
587 fatigue for NIHR staff.

588

589 *"We had worked out a way for delivering them face-to-face and therefore there was some anxiety when*
590 *we were forced to do them online, it was either online or not do them and not doing them was just*
591 *incomprehensible, you just couldn't work out what would happen if we didn't do them." (P2)*

592

593 This was also coupled with the fact that the meetings were conducted over two or three long days, and
594 often over ran which meant reducing the scheduled break time or continuing until after the proposed

595 finish time. All participants (NIHR staff and committee members) acknowledged that these meetings were
596 always intense and required significant work, however, it was felt that participation and contribution to
597 virtual committee meetings presented different challenges and issues than those experienced at face-to-
598 face meetings.

599

600 *“It is tiring working online for two consecutive days and one is less able to concentrate to the same*
601 *degree and over the same period of time as in the in-person meetings. It is easier to disengage.” (P2)*

602

603 *“As chair I found it physically and mentally exhausting - more than face-to-face – it’s more demanding*
604 *online - as you are not getting all of the visual cues. It’s not the same thing, some are out of focus, poor*
605 *signal.” (P2)*

606

607 For example, respondents highlighted several key concerns such as eye strain from staring at a screen all
608 day, back pain from sitting looking at a screen in one position for longer, and mental fatigue from
609 additional demands in keeping up with conversations online. These issues often made it challenging to
610 be attentive for the whole duration of the meeting.

611

612 *“The agenda needed to be more realistic, with more time for breaks. I had serious screen fatigue!” (P1)*

613

614 Due to this, some participants reported that virtual meetings had more challenges and longer-term
615 implications for their wellbeing. For others, virtual meetings were helpful, and for one participant who
616 was hard of hearing commented:

617

618 *One issue that is surprisingly better for me - against expectations – [...] If you can't hear someone on a*
619 *virtual meeting you just say speak up and people do, automatically! (P1)*

620
621 Another compounding factor on tiredness and fatigue was the duration and frequency of breaks. Although
622 NIHR staff built in breaks and tried to allow for more breaks, compared to face-to-face meetings, they did
623 not always happen as often the virtual meetings were over-running and so breaks were sometimes
624 delayed or cut short. In addition, participants commented that breaks in virtual meetings are different
625 from those experienced at face-to-face meetings. For example, at face-to-face meetings the drink and
626 food is prepared for you, whereas in virtual meetings participants had to factor making food or drinks into
627 the break time. It was felt that this resulted in less free time or break from their screens.

628
629 *“...it's a long time to concentrate. You have to prepare your own food, so break time is down time to*
630 *quickly prepare food and run back to your desk. It's harder in that respect, as longer breaks would be*
631 *better.” (P2)*

632
633 Some committee members also felt that they got more breaks in face-to-face meetings as often they
634 would have to step out of the meeting because of conflicts of interest. In the virtual environment,
635 participants reported that they could never step too far away from the computer as they were not sure
636 when they might be called back in again and so were always on alert.

637
638
639 ***The importance of work life balance***

640 All respondents appreciated there were benefits and challenges associated with virtual committee
641 meetings. For most it was welcomed due to not having to travel and stay overnight, no early mornings or

642 late evenings, taking additional time away from other work or family commitments, ease of participation
643 and more efficient use of time without jeopardising the process.

644
645 *"...you can sleep in your own bed, you don't have a thousand-mile round trip, because that is tiring in its
646 own right." (P2)*

647
648 *"Not having to get up at 4am to make it to London for a meeting and being tired all day. Not having to
649 be away from family and my usual routines. Being able to exercise and eat properly at home and follow
650 my usual routines. Being more relaxed when it wasn't "my turn", but still being able to contribute well,
651 listen effectively, and vote." (P1)*

652
653 Thus, for some, virtual meetings offered greater flexibility to manage a work-life balance, and many
654 respondents indicated that this better accessibility might encourage and/or facilitate more people to
655 become committee members and allow for more diverse membership. However, given the need to move
656 to virtual meetings because of the pandemic, challenges due to all schools and colleges being closed and
657 other restrictions on activities, resulted in additional complexities and requirements during home
658 working. From observing the committees, all members and NIHR staff were sympathetic to the demands
659 placed on individuals and there was regular commentary from the chairs.

660
661 *"...what a challenging time we are living in...well done for balancing childcare" Or "...let the committee
662 know if you have to leave by using the chat as we, the secretariat appreciate that working from home
663 means that some of us will have personal commitments to deal with." (P3)*

664

665 There were also comments about virtual platforms allowing a glimpse into colleagues lives that might not
666 otherwise be shared. Although these comments were said in a positive way and participants enjoyed
667 seeing personal backgrounds and pets, for some it added to the blurring of home and work life which they
668 preferred to keep more distinct.

669

670 *“...one of the nice things about virtual are seeing other people’s backgrounds - is fascinating; and*
671 *produced a new angle on getting to know people.” (P2)*

672

673

674 **3. Understanding social interactions and engagement**

675 ***Level of engagement, contribution, and inclusivity***

676 Throughout the observations and responses from the survey and follow up interviews with respondents,
677 it was evident that engagement, inclusivity of members, and contribution to the discussions were
678 prominent areas of consideration for virtual committee meetings.

679

680 *“Structure and pace of the meeting was excellent, and it was very well chaired. Keeping to time and*
681 *encouraging contributions from all members of the committee.” (P1)*

682

683 Although for many virtual meetings were not a new concept, for some there were practical challenges
684 associated to having the committee meetings virtually. This was particularly relevant for those that did
685 not have the space or sufficient computer equipment such as having two screen monitors or a good
686 internet connection. These issues were seen as being disruptive and problematic, and meant engagement
687 and conversation was at times challenging.

688

689 *“Very much dependent on internet - so when there is a delay it can feel awkward, especially for voting.*

690 *Some people do not like the long silences and find it hard to cope with.” (P2)*

691

692 The committee meetings observed showed that there was good quality discussion with input from a
693 variety of members (and equal opportunities provided to contribute to the discussion), providing diverse
694 discussion and indicating member engagement. However, judging the engagement levels in virtual
695 meetings is difficult, especially if someone has their camera off. Indeed, there were challenges around
696 having cameras on for some committees and although NIHR staff and the chair tried to encourage
697 members to have their cameras on whilst presenting or joining the conversation, there were technological
698 issues associated to this.

699

700 Those that were on camera were not always looking at the screen. Although some committee members
701 indicated that this was to reduce eye strain or because they were looking at another screen or writing
702 notes, this sometimes gave the impression that they were not engaged with the discussion. Interviews
703 and survey responses also indicated that committee members felt it was harder to concentrate for long
704 periods of time during virtual meetings and they had more distractions to contend with in the home
705 setting.

706

707 *“...it’s mentally more demanding...it’s more difficult to keep the conversation going...in a room you can*
708 *pick up on the visual cues, you can’t do that online.” (P2)*

709

710 *“If in face to face you know that you are committing a whole entire day to be there so out of office is on,*
711 *don’t check emails etc BUT in virtual you can get distracted by emails more easily; virtual gives you*
712 *flexibility to switch on and off and so may lose concentration.” (P2)*

713

714 Furthermore, because of the virtual environment, some members were at work or had just arrived home
715 from a day's work (this was particularly true for non-European countries and the time zone variations).
716 Although this demonstrated inclusivity and allowed diversity of membership, this added an extra layer of
717 distraction and fatigue to these members which may have had an impact on their level of engagement
718 during the committee meeting. For example, attendance at meetings with international members was
719 often found to drop off as the day went on due to different time-zones.

720

721 Having cameras off was found to make it difficult to read social cues and body language. The value and
722 importance of 'reading the room' for some was just as important as the conversation itself, and some felt
723 that this social connectedness was totally missing through virtual platforms.

724

725 *"You do have some visual cues online but it's just not the same as being in a room, the visual cues are*
726 *just different. The quality of the cameras vary, the connections vary."* (P2)

727

728 *"When you're in a room there is a way to negotiate time, in a sort of untold way by using visual cues and*
729 *looks and all kinds of things you can do to create your space. This is missing completely."* (P2)

730

731 This was found to be particularly challenging for chairs because it was harder to know if further discussion
732 was needed or if the committee were generally happy with the decision. Chairs encouraged inclusivity
733 but found it more difficult to ensure they were providing sufficient opportunity for all committee
734 members to contribute to the discussion in a virtual setting due to the lack of social cues. This was
735 particularly noted as the meeting progressed throughout the day. However, all chairs continuously

736 engaged with the committee, openly providing members the opportunity to contribute, and therefore
737 maintaining a quorum.

738 *“Earlier proposals in the day received wider participation but by the end of the meeting, few people could
739 contribute, understandable as it was a long day.” (P2)*

740
741 *“The breaks were brief, and people were tiring and as the meeting went on more cameras went off and
742 people were becoming less engaging.” (P2)*

743
744 *“I am not sure how to improve the inertia towards the end of the meeting - understandably the members
745 were tired, and the chair and secretariat did an amazing job of ensuring that the last proposals were also
746 discussed in depth.” (P2)*

747 Chairs found it difficult to always spot when someone had something to say and how to bring different
748 members into the discussion, noting that *‘it is a lot harder than it looks’*. Different techniques were used
749 between programmes and the level of support from NIHR staff varied by committee meeting. In line with
750 this, some members commented that they felt it was more difficult to follow the conversation, to interrupt
751 discussion and to add their contributions during the committee meeting.

752 *“Etiquette is that you keep camera off unless speaking so most chairing is done in the dark” (P2)*

753
754 *“The introverts who are waiting to contribute and Teams does not do them justice. I am see that in a
755 room but not online - it’s really hard...it’s a big committee and the noisy voices are heard more. So, I have
756 to invite members to talk.” (P2)*

757

758 There were differences across the programmes on how long the Designated Committee Members (DCMs)
759 spoke for about an application and what was included in their summaries. However, the purpose of stage
760 1 applications is different to stage 2, in that stage 1 applications are shorter, and the primary purpose of
761 the committee is to assess the quality and value of the research question. For stage 2 applications, the
762 role of the committee is to make a funding decision based on the full application. From the observations,
763 at stage 1, decision making often relied more on committee member comments and there was less
764 discussion. At stage 2, discussions were fairly varied as members with different roles were assigned as
765 DCMs for each application – e.g., clinician, methodologist and patient and public contributor, so each
766 reviewed the proposal with a different perspective. This resulted in some applications having less or more
767 time allocated, as the chair typically but not exclusively would do a final summary of each application prior
768 to the scoring of the application.

769

770 *“Pace sometimes quite fast but generally sufficient discussion.” (P1)*

771 *“...it is faster paced online, and you need to be quick to jump in.” (P2)*

772

773 Nevertheless, all data sources indicated that moving to virtual does not seem to have had an impact on
774 the overall decision making. It was felt that the virtual setting made the discussion more focused and
775 there was less deliberating over every point. It was also felt that contributions were made by different
776 members, which indicated that committee members were engaged with the process.

777 *“...think that it is highly unlikely that virtual impacts on the quality of the decision, as most of the
778 preparation happens beforehand.” (P2)*

779 *“From the quality of the contributions going remotely hasn't had any impact in terms of engagement.*

780 *Where I think it's impossible to make a call is when the most interesting conversations happen when you
781 push it out to the floor... it is infinitely more difficult to do that remotely.” (P2)*

782

783

784 ***Awareness of unconscious bias***

785 Unconscious bias is a function of being human and so it is unlikely that any decision-making by a funding
786 committee will be completely free from bias in whatever format committee meetings are conducted
787 (virtual or face to face) but recognising such biases may be present and acting upon them is important.^{(25,}

788 ²⁶⁾

789

790 Unsurprisingly committee meetings with many members, some behaviours were observed in this case
791 that could potentially reflect unconscious bias. All respondents were clear that it was essential that all
792 applications were given a fair hearing, and overall, this is what was observed in the virtual context.
793 However, as with face-to-face committees, when time was short, or the committees were over running,
794 there were instances when the committee might not spend as long discussing applications with a clear
795 trajectory of a very low or high score.

796

797 *“Very positive comments indeed. External peer review comments are also very positive so don't want to*
798 *spend too long on this.” (P3)*

799

800 It was observed that a lot of emphasis was placed on external reviewers and DCMs (three or four
801 committee members who were assigned to review a particular application) scores in the assessment
802 process. This is usual practice, and there was no variation between the virtual setting to face-to-face. All
803 committee members had the opportunity to contribute to discussions on an application. However, there
804 were examples of some mismatch in the scores and written comments given (from the external reviewers
805 and DCMs) and some clustering of scores. For example, written comments might highlight multiple and

806 significant flaws in a study and a score of four is given (which is fundable) or lots of strengths of the
807 application are given and then it wasn't scored highly. The interviews highlighted that NIHR staff, and
808 some committee members were aware of this issue, in that the committee scores were the only ones
809 considered in the overall ranking of the applications. Pre committee scores can, however, change because
810 of committee meeting discussions as other members raise issues on an application. Chairs would
811 encourage committee members to use the range of scores available (1-6) and described what the
812 numerical scores meant at the start of the committee meeting. This was repeated throughout the
813 committee meetings to ensure balance across all applications.

814 It was also observed that how things were said and by whom can also contribute to potential unconscious
815 bias by framing an application in a positive or negative light. For example, *"beautifully written"* or *"This*
816 *is the first time I've given a 6; it's very impressive, one of my favourites"* presented applications in a positive
817 light, whereas *"eye wateringly expensive"*, or *"this one is a bit of a marmite application"* suggested room
818 for improvement (P3). Some respondents expressed that they felt this happened more with experienced
819 or senior members and in committees that had more established members rather than several new
820 members of the committee.

821 *"When certain people have opinions and say something in an authoritative tone it can become the mood*
822 *of the room"* (P2)

823 *"Perhaps one thing is the virtual space allows for the dominant characters to dominate...There are*
824 *people who dominate more and it's transferred to the virtual space. So, it's finding ways to deal with this*
825 *- mechanisms to ensure everyone has a voice using the virtual space as the platform for committee*
826 *meetings."* (P2)

827

828 There were some instances when committees paid particular attention to an applicant's gender or career
829 stage. For example, in a summary of an application one committee member noted, "*led by two female*
830 *PIs.*" It was felt that this comment was meant as a positive one, by which committee members were paying
831 particular attention to improve research equality, diversity, and inclusion. Another example was when a
832 dedicated committee member stated when introducing an application "*this is one where there is a junior*
833 *PI and I think they provide quite good justification for that.*" (P3)

834
835 Across all programmes, the observations found that some members of the committee were referred to
836 by their role in the discussions. Although, often this was done in a factual way or because they needed
837 certain expert advice (e.g., health economics), this was most notable for patient and public contributors.
838 For some respondents, it was also felt that the larger the committee the more opportunities for bias could
839 be introduced.

840
841 From the observations, it was noted that one NIHR committee was actively engaged in increasing
842 awareness of unconscious bias through the use of a video training. In the second observation of this
843 committee, members were observed to recognise unconscious bias on occasion indicating an increased
844 awareness in this topic. There was also the discouragement of using the chat function as it could have
845 been seen to introduce bias.

846
847 *'...this is probably my unconscious bias but...'* (P3)

848
849 ***The value of social networking***

850 One of the biggest challenges with conducting committee meetings virtually was the lack of social
851 interaction and networking opportunities. The importance of social networking was frequently mentioned

852 by members of the committee and NIHR staff. The survey data found that 54% (27/50) of respondents
853 considered face to face networking at funding committees as very important to them and 34% (17/50)
854 reporting it was somewhat important (see Fig 2).

855

856 **ADD Fig 2. HERE**

857

858 A range of social aspects were described by respondents as lacking through having to conduct the
859 committee meetings virtually, which were not entirely related to just the meeting itself. The survey
860 reported that 66% (33/50) of respondents did not consider the additional features of using virtual
861 platforms to conduct funding committees (e.g., chat function, raising your hand, and voting methods)
862 provided more opportunities for members to engage in the committee discussions. Several committee
863 members and NIHR staff also reported missing the chance to socialise during break time and the social
864 gathering and networking after the committee meeting during virtual meetings.

865

866 *"...we did set out what we wanted to achieve, it was three incredibly long days without the nice sort of*
867 *nice relaxation at the end...you all go out for a nice meal and relax and talk to the committee members in*
868 *a more relaxed and social environment. That social aspect was missed and although that social aspect is*
869 *not vital it's not what we are there for it oils the wheels." (P2)*

870

871 Getting to know other committee members was suggested to help with understanding context for
872 comments from certain members and it was evident that more established committees had more
873 conversational dialogues and light-hearted comments.

874

875 *“Miss out on the conversations at coffee time - discussions more around general things and helps us to*
876 *understand where each other comes from. But you still learn from this. You're able to ask questions for*
877 *example, about a particular point or method. We can go and talk about it, about what do you think*
878 *about this. So, it's the whole, not just the yes no we approve an application, there is more to it than that*
879 *and we miss out on that. It becomes very process driven, a tick box process in some respect.” (P2)*

880
881 Social networking was also suggested to be particularly important for new members to ‘get to know’ the
882 other committee members. For some respondents, it is during these social interactions that collaborations
883 and networks are formed, and this was seen as an important part of becoming a member of a committee.
884 It was also seen as a positive benefit from spending what would ordinarily be non-work time with existing
885 committee members, given the level of commitment required during funding committee meetings.
886 Participants reported that this lack of social and networking engagement for future committee members
887 could impact whether individuals choose to join a committee in the future. These opportunities provide
888 new members with a sense of feeling included and key to being integrated as part of that committee and
889 developing oneself at a personal level. Without these social interactions, for some respondents, there was
890 a loss of a sense of belonging as joining a committee the first time was described as ‘daunting’.

891
892 *“It is daunting when you’re a new member and social engagement and interaction is key to feeling*
893 *integrated and part of the committee.” (P2)*

894
895 Several committees encouraged social networking as part of the preparation of the meeting, especially
896 for those committees that were newly established, had several new members or involved several
897 international members. This was received well by new members, although this added additional pressure
898 to the preparation time for NIHR staff.

899

900 *"...So we try and do an induction, give people the chance to observe and if they can't do that we will do*
901 *an induction but maybe that might be something that would be good to keep so they get to know our*
902 *faces and they get to know that they can come to us still although it is remote...." (P2)*

903

904

905

906 **DISCUSSION**

907 To our knowledge this is the first study to have explored funding committee practices through
908 observations, complemented with follow up interviews and an online survey with committee members,
909 and interviews with staff who facilitated and organised these meetings. The study also applied a
910 methodological approach that specifically focuses on online social interactions, which offered a unique
911 and in-depth understanding about the social processes of virtual funding committees given their central
912 role in the funding process. Examining the decision-making practices of one funding organisation across
913 several research programmes and across multiple committee meetings over a period of one year has
914 therefore generated new insights around funding committee practices that previous studies have not
915 been able to explore or investigate due to gaining access or sensitivities around the funding allocation
916 processes.⁽²⁻⁶⁾

917
918 The findings highlighted the complexities of preparing and running funding committee meetings and also
919 how the meetings, when conducted virtually, introduce new challenges and benefits than those
920 conducted in a different setting (e.g., face-to-face).^(6, 11) The study found that several parameters are not
921 transferable from a face-to-face to a virtual setting, such as timings, location, equipment, and physical
922 attributes. All of which can have wider implications for funding committee members and funding
923 organisations preparing and structuring the committee meetings. Virtual meetings require different
924 functional considerations, such as how to manage conflicts of interest when someone cannot simply leave
925 the room or when someone has a poor internet connection. The findings highlight the level of planning
926 and preparation required by staff to mitigate against these issues along with the repercussions of being
927 reliant on technology, meant that more concentration was required from all staff and committee
928 members, and often resulted in an increased level of fatigue. In addition, scheduled breaks and changes

929 to the standard structure of committee meetings resulted in less free time, further exacerbating fatigue
930 in the virtual experience.

931
932 Adjusting to using virtual platforms during the pandemic has shown that over time, committee members
933 and staff have become more accepting of new ways of working, as what was seen as 'daunting' in the
934 latter part of 2020, was far less of an issue one year on. Whilst it was evident that running committee
935 meetings virtually had its benefits in terms of work-life balance, travel, and environmental sustainability,
936 it was suggested that this sometimes came at a price. For many, there was a 'trade off' with not having
937 the opportunity to socially interact or network whilst attending the funding committee meeting, as well
938 as increased fatigue. The themes highlight how important levels of engagement and social interaction are,
939 especially for new members of the committee and during committee discussions. These findings are in
940 line with previous literature, suggesting that an unequal focus or limited engagement from funding
941 committee members can lead to or limit funding decision discussions.^(6, 11, 25) Nevertheless, observations
942 of committees and feedback from committee members agreed that despite discussions being more
943 focused, the decision-making process was largely the same in the virtual meeting.

944

945

946 ***Future considerations and recommendations***

947 The role and function of committee meetings, whether they are virtual or face-to-face does not change,
948 and both have benefits and challenges. It is important to note that some of the challenges reported about
949 virtual committees were also relevant to face-to-face meetings. For example, the potential for
950 unconscious bias was not something unique to virtual meetings and is reported in the literature.^(25, 26)
951 What was evident from the observations was how the virtual committees evolved over time and adapted
952 their approach to accommodate committee members but also to make the process easier to manage (**see**

953 **supporting materials S1 Table: Considerations and recommendations for future virtual funding**
954 **committees).**

955
956 The organisational structure of funding committee meetings breaks and timings of the applications need
957 careful consideration, with potential flexibility or options to change the agenda order. This is especially
958 relevant to committees who have members from different time zones. It is also important that processes
959 are in place to minimise potential biases and ensure no power imbalances between different committee
960 members or towards certain applications. As demonstrated by one of the NIHR funding committees
961 observed, one possible consideration that may help with this is for all members of the committee to view
962 an unconscious bias video prior to reviewing applications as part of the preparation process of the funding
963 committee meeting. More broadly, there is also an opportunity for funding organisations to consider a
964 more inclusive and diverse funding committee membership that takes account of differences in time
965 zones, disabilities, part-time work, or those with other responsibilities.

966
967 The process and formality of running funding committee meetings is also imperative to ensure inclusive
968 contributions and engagement for all members of the committee. Encouraging members to have their
969 cameras on is one consideration, although there are challenges associated to this, especially where
970 internet connections are unreliable. There is a need to appreciate how new members interact and engage
971 with existing funding committees to encourage participation and contribution to the discussions. Such
972 opportunities could consider face-to-face development days or a mixed approach to how the funding
973 committees are held (e.g., mixture of face-to-face and virtual meetings).

974
975 Finally, future requirements for training and additional guidance to support existing and new committee
976 members and the chair are important considerations. Chairing virtual meetings is different and requires

977 a different set of skills. At times it was challenging for the chairs, who found it difficult due to having
978 limited social cues from the committee to aid discussion, multiple technologies/screens to manage and
979 because the duration of the meetings meant that they had to interact virtually for extended periods of
980 time. This often led to increased fatigue, particularly during the first round of committee meetings. Several
981 options could be considered to lessen the virtual fatigue, including guidance to support committee
982 members and chairs, extended breaks and/or shorter meetings. It is also important to consider how new
983 members of the funding committee could be integrated into existing committees, when the format is
984 predominately virtual. Such considerations could be face-to-face development days or virtual social
985 meetings. In addition, allowing more junior members to join as observers or trainees on a funding
986 committee may encourage diversification of funding committees as a form of training. Thus, virtual
987 funding committees not only have additional training considerations but also the offer the opportunity to
988 be a form of training which in turn may facilitate the diversity of committee membership and increase the
989 transparency around funding committee practices.

990

991 ***Strengths and limitations***

992 The main strength of the study was the inclusion of nine NIHR committee meetings across several research
993 funding programmes. As we included committee meetings that took place over a one-year period, it
994 meant that committee members and staff had experienced more than one virtual committee meeting.
995 This enabled us to see how the views, opinions and expectations of committee members changed over
996 time. Capturing these experiences had important implications for the findings and how experiences can
997 vary across different funding programmes. As the study included interviews and an online survey, we
998 were able to follow up and support our non-participatory observational claims, which can often be seen
999 as a limitation of netnographic studies. It is also important to note that due to the complexity, structure
1000 and formality of funding committee meetings, some areas considered important ran through more than

1001 one theme. By using a methodological approach that was based around online social interactions, it was
1002 possible to gain valuable insights into the recommendations of research funding allocation, without
1003 influencing the views, opinions, or expectations of the committees or staff.

1004
1005 Ethical considerations and recommendations of netnographic studies are important to ensure information
1006 about users' identification is kept confidential, which is frequently reported in the literature as a weakness
1007 of this type of study.^(15, 27) To overcome this, the study sought ethical approval and had a high cloaking
1008 level to avoid identification of the survey respondents, interviewees and members of the committee.

1009
1010 A limitation to the study was that it was based on observations and experiences of funding committee
1011 meetings held in the early part of the COVID-19 pandemic (2020-2021) and therefore did not include any
1012 comparable data with face-to-face committee meetings. Early insights to the findings of the study and
1013 based on committees own experience, some changes to the funding committee process may have already
1014 been implemented due to developments and initiatives taking place simultaneously with the current
1015 study. Another limitation was around potential researcher bias during analysis and interpretation of the
1016 observations, interviews, and survey responses. Four researchers involved in the analysis, each bringing
1017 their own experiences and knowledge on funding committee practices, could have produced bias on
1018 overall expectations and interpretation of findings. However, actively encouraging to keep an immersive
1019 journal throughout data collection and analysis, and enabling regular reflective discussions on reactions,
1020 feelings, and observations, helped to minimise bias and maintain a level of autonomy.

1021

1022

1023 **CONCLUSION**

1024 Although there are several areas for consideration for continued virtual funding committee meetings,
1025 such as inducting new members and maintaining inclusivity for all committee members, the study found
1026 that conducting funding committee meetings virtually was feasible and funding decisions continued to be
1027 fair and transparent.

1028

1029 Given that there is no current evidence or use of observations to understand the social processes and
1030 functions of funding committee meetings, this study has shown its value and critical contribution to
1031 building an evidence-informed approach. By applying a netnography methodology to observe, understand
1032 and capture the views of virtual funding committees, it was possible to gain insight to these committees
1033 attended by the respondents.

1034

1035 Although there is acceptance and a place for virtual committee meetings from committee members and
1036 staff, it is important to remember that this is not the view of all members. Whilst virtual funding
1037 committees have many benefits and opportunities such as the potential to enable work-life balance,
1038 inclusivity for members, reduce costs, and be more environmentally sustainable, more evidence is needed
1039 to evaluate the longer-term sustainability of virtual committee meetings in the allocation and decision-
1040 making of funded research.

1041

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1101

1102 **Supporting information**

1103 **S1 Appendix.** Observation guide

1104 **S2 Appendix.** Interview guide for committee members

1105 **S3 Appendix.** Interview guide for NIHR staff

1106 **S4 Appendix.** Survey questions

1107 **S1 Table.** Future considerations and recommendations for funding committee meetings

1108

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1113

1114 **Availability of data and material**

1115 In line with our ethical approval, the interview, survey, and observational data cannot be shared publicly
1116 to maintain confidentiality of our participants. The interview, survey and observational guides are
1117 provided in the Supporting Information files. Additional quotes under each theme are available from the
1118 Insight team, School of Healthcare Enterprise and Innovation, University of Southampton (contact
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1121

1122 **Competing interests**

1123 The authors declare no competing interests exist.

1124

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1131

1132

1133 **Abbreviations**

| | | |
|------|----------|---|
| 1134 | AI | Artificial Intelligence |
| 1135 | COI | Conflict of Interest |
| 1136 | COVID-19 | Coronavirus Disease 2019 |
| 1137 | DCM | Designated Committee Member/s |
| 1138 | EME | Efficacy and Mechanism Evaluation |
| 1139 | ES | Evidence Synthesis |
| 1140 | GHR | Global Health Research |
| 1141 | HSCDS | Health and Social Care Delivery Service |
| 1142 | HSDR | Health Service and Delivery Research |
| 1143 | HTA | Health Technology Assessment |
| 1144 | | |
| 1145 | NIH | National Institutes of Health |
| 1146 | NIHR | National Institute for Health and Care Research |
| 1147 | NIHRCC | National Institute for Health and Care Research Coordinating Centre |
| 1148 | P1 | Survey written quotations |
| 1149 | P2 | Interview verbal quotations |
| 1150 | P3 | Observation verbal quotations |
| 1151 | PGfAR | Programme Grants for Applied Research |
| 1152 | PHR | Public Health Research |
| 1153 | PIS | Participant Information Sheet |
| 1154 | PPIE | Patient and Public Involvement and Engagement |
| 1155 | RfPB | Research for Patient Benefit |
| 1156 | | |
| 1157 | | |

1158

1159 **Author contributions**

1160 **Conceptualization:** Amanda Blatch-Jones, Katie Meadmore

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1163 **Investigation:** Amanda Blatch-Jones, Katie Meadmore, Emmanuel Asante, Cherish Boxall

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1166 **Supervision:** Amanda Blatch-Jones

1167 **Validation:** Amanda Blatch-Jones, Katie Meadmore

1168 **Visualization:** Amanda Blatch-Jones

1169 **Writing – original draft:** Amanda Blatch-Jones, Katie Meadmore

1170 **Writing – review and editing:** Amanda Blatch-Jones, Katie Meadmore, Emmanuel Asante, Cherish Boxall

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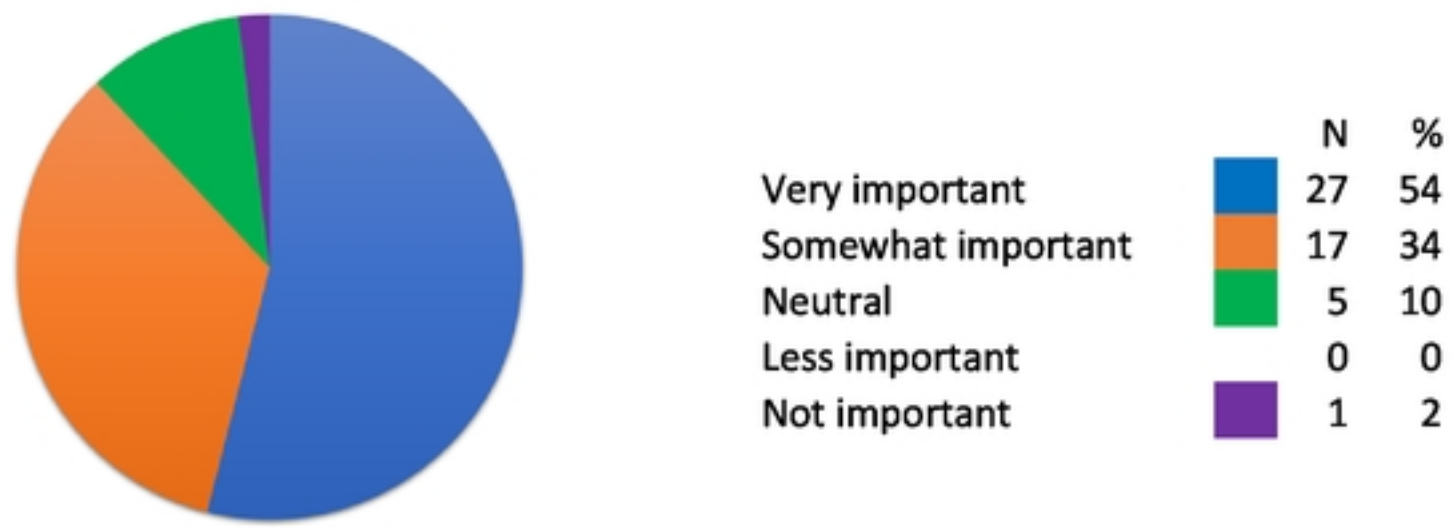


Fig 2. Responses to the importance of face-to-face networking at funding committees (N = 50)

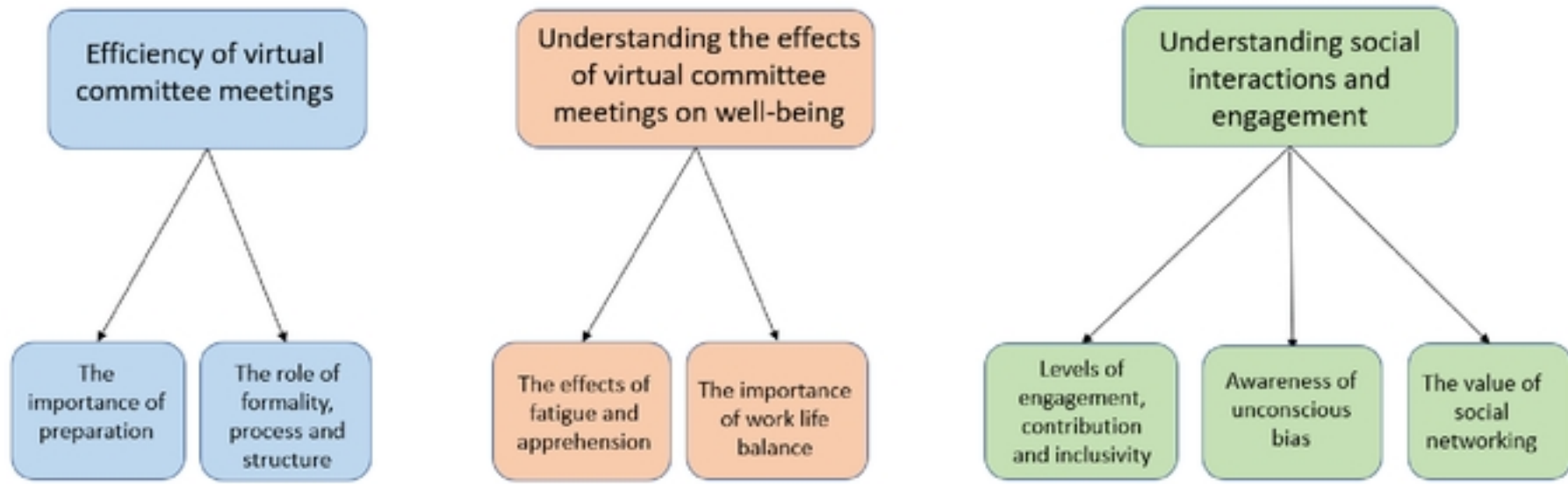


Fig 1: Emergent themes and sub-themes