





## POSITION STATEMENT

# Addressing health inequalities in diabetes through research: Recommendations from Diabetes UK's 2022 health inequalities in diabetes workshop

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### Abstract

**Aims:** To develop a position statement which identifies research priorities to address health inequalities in diabetes and provides recommendations to researchers and research funders on how best to conduct research in these areas.

**Abbreviations:** DRSGs, Diabetes Research Steering Groups; GRIPP2-SF, Guidance for Reporting Involvement of Patients and the Public 2 – Short Form; NHS, National Health Service; NIHR, National Institute for Health Research; PPIE, Patient and Public Involvement and Engagement; TRE, Trusted Research Environment.

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**Methods:** A two-day research workshop was conducted bringing together research experts in diabetes, research experts in health inequalities, healthcare professionals and people living with diabetes.

**Results:** The following key areas were identified as needing increased focus:

- How can we improve patient and public involvement and engagement to make diabetes research more inclusive of and relevant to diverse communities?
- How can we improve research design so that the people who could benefit most are represented?
- How can we use theories from implementation science to facilitate the uptake of research findings into routine practice to reach the populations with highest need?
- How can we collate and evaluate local innovation projects and disseminate best practice around tackling health inequalities in diabetes?
- How can we best collect and use data to address health inequalities in diabetes, including the harnessing of real-world and routinely collected data?
- How could research funders allocate funds to best address health inequalities in diabetes?
- How do we ensure the research community is representative of the general population?

**Conclusions:** This position statement outlines recommendations to address the urgent need to tackle health inequalities in diabetes through research and calls on the diabetes research community to act upon these recommendations to ensure future research works to eliminate unfair and avoidable disparities in health.

#### KEYWORDS

diabetes, health inequalities, patient and public involvement, research

## 1 | INTRODUCTION

In the United Kingdom, nearly 5 million people are living with diabetes, and a further 5 million are at increased risk of developing type 2 diabetes.<sup>1,2</sup> Research also suggests that diabetes does not affect everyone equally. Health inequalities, defined as “unfair and avoidable differences in health status between different groups of people or communities”,<sup>3</sup> have been widely reported in diabetes care for those from Black African, Black Caribbean, and South Asian groups, for those who are socioeconomically disadvantaged, and for those with other protected characteristics.<sup>4</sup> These health disparities have been worsened by the COVID-19 pandemic, which has had a disproportionate impact on outcomes and care for those from ethnic minority groups and those living in deprived areas.<sup>4</sup>

There is increasing recognition that health and social care research urgently needs to address these disparities by ensuring the inclusion of participants from a broad range of backgrounds, taking into account factors such as

### Novelty Statement

- Health inequalities linked to ethnicity and socioeconomic status have been widely reported in diabetes care and outcomes and were further highlighted during the COVID-19 pandemic.
- Diabetes UK held a research workshop that brought together clinicians, academics, and people living with or affected by diabetes to identify key areas for future focus that will help to address health inequalities in diabetes through research.
- Seven priority areas were identified and clear recommendations for research in each area were developed.

ethnicity and socioeconomic status.<sup>5</sup> Under-served groups are less represented in health research than would be expected from prevalence estimates, despite often having

greater disease burdens, resulting in a lack of robust evidence around important differences in how these groups access, engage with, and respond to healthcare interventions.<sup>5</sup> Without including diverse populations in our research, we cannot properly determine how study findings will translate into real world settings and risk perpetuating rather than tackling health inequalities.<sup>6</sup>

The barriers to inclusion of under-served groups in research are often seen as wide and complex, yet there is evidence that minority groups are willing to take part in research as long as they are approached in an appropriate manner and the reasons for research and potential benefits are explained clearly.<sup>7,8</sup> Additionally, having diverse involvement early in the prioritisation and design of a research project can help to ensure studies are relevant to and accessible by different groups.<sup>9</sup> The onus is therefore on the research community to address barriers such as lack of access to and information about relevant trials; lack of trust and scepticism towards medicine and research—often due to experiences of discriminatory treatment from healthcare professionals, a history of exploitation in medical research, and a failure of past research to benefit under-served groups; language and communication barriers; concerns stemming from religious and cultural beliefs; and logistical and practical issues such as transport and childcare.<sup>6,10,11</sup>

The Diabetes Research Steering Groups (DRSGs), established by Diabetes UK in 2017, bring together researchers, healthcare professionals, and people affected by diabetes to examine the research landscape, amplify the voices of people affected by diabetes, and identify research priorities and practical actions to progress research in areas of unmet need. They have identified the need for increased research investment that focuses on addressing health inequalities that exist in diabetes. This need was further evidenced by a portfolio analysis carried out by Diabetes UK and the National Institute for Health Research (NIHR), which examined current funding of diabetes research in the UK from 2014 to 2019 and identified addressing health disparities in diabetes as one of six underinvested areas.

In response to these recommendations, a workshop was conducted to develop a position statement on how research can be used to address the health inequalities seen in diabetes. The workshop aimed to identify research priorities to tackle health inequalities, create a roadmap for the diabetes research and funding communities, provide a space for networking, and foster future research collaborations.

## 2 | METHODS

In June 2022, Diabetes UK brought together clinicians, academics and people with lived expertise for a 2-day

workshop to identify key gaps in the evidence and best practice around addressing health inequalities in diabetes. In total, there were 65 participants, including 12 people living with or affected by diabetes, 30 researchers, 5 healthcare professionals (including general practitioners, diabetologists, and a diabetes specialist nurse), 7 research funders, and 11 Diabetes UK staff who facilitated the workshop. Participants are listed in Appendix A. Appendix B outlines the involvement of people living with or affected by diabetes in further detail using the Guidance for Reporting Involvement of Patients and the Public 2—Short Form (GRIPP2-SF).<sup>12</sup> Appendix C lists the demographic characteristics of participants living with or affected by diabetes, showing a diverse group in terms of gender, ethnicity, deprivation, and relationship to diabetes.

When determining the scope and format of the workshop, an expert advisory group made up of 14 researchers, healthcare professionals, and people living with diabetes noted that previous research has helped to describe the challenge around health inequalities in diabetes, but not enough has been done to intervene or address this challenge.<sup>13</sup> As such, two solution-focused themes were selected for the workshop: day 1 focused on improving research design and resources to help address health inequalities in diabetes, and day 2 focused on facilitating the uptake of research findings into routine clinical practice. Across both days, the scope included health inequalities in the context of ethnicity and socioeconomic deprivation and covered the full spectrum of diabetes from prevention through to management.

Each day opened with presentations from experts in the field (listed in Appendix D), including case studies from researchers and personal perspectives from people living with or affected by diabetes. Following these presentations, participants were split into small groups, each with representation from different areas of expertise, and were asked to discuss the following questions: (a) having heard the speakers and bringing in your own views, what research priorities/recommendations would you raise?; (b) of these, which could make the greatest impact?; (c) what practically needs to happen to enact them?; and (d) who needs to be involved?

Each group was asked to prioritise one or two priority topics for further discussion. These topics were collated by the Diabetes UK team and participants were asked to rank the resulting themes in order of priority. The themes related to improving research design and resources, in order of priority, were: (a) communication and engagement; (b) utilising data; (c) patient and public involvement; (d) research design; and (e) targeted funding. The themes related to facilitating the uptake of research findings into routine practice, in order of priority, were: (a) community

engagement; (b) sharing best practice; (c) diversity in research; (d) implementation science; (e) changing research culture; (f) bringing disciplines together; (g) educating healthcare professionals; and (h) addressing multiple long-term conditions.

The top five themes from day 1 and the top four themes from day 2 were selected for further discussion. Participants were asked to convene into small groups, each focused on a different theme, and discuss the following questions: (a) what is the research question?; (b) why is it important?; (c) what approaches should be taken to address it?; (d) what are the barriers and how could they be overcome?; (e) when could this be achieved and are there any dependencies?; and (f) what skills/capabilities are needed?

This report summarises the outputs from those discussions and outlines key recommendations to address health inequalities in diabetes through research.

### 3 | RESEARCH PRIORITIES AND RECOMMENDATIONS

#### 3.1 | How can we improve patient and public involvement and engagement to make diabetes research more inclusive of and relevant to diverse communities?

##### 3.1.1 | Context

Patient and public involvement and engagement (PPIE) needs to reflect the growing diversity of our populations and should be reflected in the entire research cycle.<sup>5</sup> However, in most instances it is done poorly, particularly among ethnic minority groups and people who are socioeconomically disadvantaged. Often it seems that patients' involvement is tokenistic, engaged patients are not representative of the diversity of people affected by the research, and research outcomes lack relevance to patients' lives and experiences.<sup>14</sup> Researchers and funders therefore need to be aware of the ethnic and socioeconomic diversity of the population they are researching and anticipate potential cultural, language, and economic barriers to engagement.

Effective involvement and engagement with under-served communities will require a community-centred approach and the development of long-term, trusting relationships. This involves meeting people where they are, rather than expecting them to come to researchers, and tailoring outreach and communication for the specific communities that researchers are trying to engage with. Community champions can play a key role in facilitating such relationships and further efforts should be made to develop and evaluate such programmes.<sup>15</sup> Disseminating research findings and

crediting the role of PPIE in influencing those findings is also critical in building trust and interest in research.

##### 3.1.2 | Research recommendations

- Identify strategies that have been shown to improve engagement and participation of under-served groups in research.
- Conduct research into how to better communicate and engage with individuals experiencing socioeconomic disadvantage—people may not see themselves as socioeconomically disadvantaged as it can be a transient state and often is not a central part of one's identity.
- Conduct research within underserved and underrepresented communities to understand the misconceptions and barriers to research and develop effective strategies to address them.
- Conduct research to identify the most effective methods for identification, recruitment, training, and compensation of community champions.
- Conduct research to evaluate the impact and cost-effectiveness of community champion programmes.
- Identify the most effective strategies for dissemination of research findings among under-served groups.

#### 3.2 | How can we improve research design so that the people who could benefit most are represented?

##### 3.2.1 | Context

Diabetes research, especially when intended to directly inform clinical practice, should be designed to reflect all those who could benefit from the findings. However, this does not always happen. The UK's NIHR has identified many groups in the UK that are under-served by health research and, by implication, the healthcare services that follow from it.<sup>16</sup>

These under-served groups can include women, ethnic minority populations, and people from areas of socioeconomic disadvantage. Researchers need to start thinking more carefully about who their research will benefit and ensure that study participants fully represent the range of potential beneficiaries not just some.

##### 3.2.2 | Research recommendations

- Explore when over-sampling of some groups might be needed, and by how much, to make proposed sub-group analyses more meaningful.

- Involve specific study populations in research design determined by the condition the research is addressing.
- Consider the sociodemographic and other characteristics of the populations affected by the condition rather than the characteristics of society as a whole.
- Develop a 'risk of inequality' tool as a resource for researchers, funders, and ethics committees to use to assess impact on health inequalities at the study design stage. Research is needed to identify appropriate criteria and to agree on the weight these should carry in funding decisions.
- Undertake formal evaluation of the 'risk of inequality' tool, especially with regard to how funders might use it in their decision-making.
- Develop clear guidance around study design issues that are likely to affect inequality.

### 3.3 | How can we use theories from implementation science to facilitate the uptake of research findings into routine practice to reach the populations of highest need?

#### 3.3.1 | Context

Implementation science is the scientific study of methods to promote the uptake of consolidated research findings into routine healthcare practice and health policy.<sup>17</sup> The use of implementation frameworks (such as Normalisation Process Theory)<sup>18</sup> in research has increased considerably over the last decade,<sup>19</sup> but there is scope for more consistent application of this learning.

The Accelerated Access Review, published in 2016, emphasised the importance of reducing the time taken from inception of research idea to implementation into routine clinical practice.<sup>20</sup> A good example of this is the NHS England Diabetes Programme's work to rapidly implement proven interventions at scale, such as the NHS Low Calorie Diet Programme,<sup>21,22</sup> resourced for implementation via the NHS Long Term Plan.<sup>23</sup> However, early results highlight the importance of measuring equity of access, particularly by socioeconomic status and ethnicity.<sup>24,25</sup> Applying implementation science could help ensure evidence-based interventions reach populations at highest need with a view to reducing variations in care and improving outcomes for all.

#### 3.3.2 | Research recommendations

- Get buy in from researchers, funders, reviewers, journals, and payers on the importance of considering implementation at all stages of research, as has been done with PPIE.

- Identify and involve those who will pay for and deliver the intervention at the start of the research design stage to ensure research findings are implementation ready.
- Make consideration of implementation a requirement/criterion for funding by including relevant questions in grant application forms.
- Ensure research outputs are communicated/disseminated to the people who will be delivering the interventions (e.g. if the intervention will be delivered in primary care, consider publishing in a journal read by primary healthcare workers)—healthcare workers should understand the benefits of the interventions they are being asked to deliver.
- Generate better evidence around how the NHS implements programmes and what is important to consider when designing interventions (e.g. need to consider implications to the workforce as this is a common pitfall when trying to translate research into practice).
- Allow flexibility for local adaptation of interventions while maintaining a minimum national standard (e.g. procurement process for the NHS Diabetes Prevention Programme)<sup>24</sup> important for researchers to distinguish between essential elements of the intervention and elements which can be adapted to the local context.
- Provide training in implementation science methods and learn from best practice in global health research.

### 3.4 | How can we collate and evaluate local innovation projects and disseminate best practice around tackling health inequalities in diabetes?

#### 3.4.1 | Context

Tackling health inequalities in diabetes is a key priority for healthcare providers in areas of socio-economic deprivation, particularly where there is an intersection with ethnically diverse populations who are most at risk. There are several examples of pockets of good practice,<sup>15</sup> where those most impacted are active participants in finding, implementing, and benefitting from solutions to the challenges faced. This engagement results in reduced morbidity and a greater number of years spent in good health, along with more efficient resource utilisation.<sup>26</sup>

Research is needed to collate and evaluate local innovation projects to ensure there is scalability and sustainability of best practice. Additionally, integrated care systems bring new opportunities for a more integrated approach across sectors to impact upon the wider determinants of health such as housing, education, and employment, in order to further tackle health inequalities in diabetes.

### 3.4.2 | Research recommendations

- Measure and address unwarranted variation in the implementation of existing good practice.
- Determine variation in clinical quality/outcomes to identify locations of high achievement and encourage HCPs at those practices/hospitals to reflect on and share best practice—particularly those achieving good outcomes in areas with large ethnic minority populations or areas of high deprivation.
- Encourage local innovation/quality improvement projects to include an economic evaluation component to support the case for uptake by other health systems/communities.
- Identify regional networks which can help to disseminate innovations across local systems (e.g. Academic Health Science Networks).
- Incentivise service delivery and implementation that addresses health inequalities.

### 3.5 | How can we best collect and use data to address health inequalities in diabetes, including the harnessing of real-world and routinely collected data?

#### 3.5.1 | Context

Multiple data sources have the potential to inform our understanding of the extent of health inequalities, including in primary care, hospitals, social care, and clinical trials. Key data informing health inequalities, such as sex, ethnicity and deprivation, are not routinely collected, linked, and shared in all care and research settings.<sup>27</sup> The barriers preventing relevant routine data collection and data sharing in these settings are unclear and may include a lack of knowledge of what is currently available and a limited understanding of the benefits.<sup>28,29</sup> There is also a need to build public trust in the collection, sharing, and use of relevant data.

Several Trusted Research Environments (TREs) are exploring opportunities to host and link data, and researchers should take advantage of this to create a more complete and reliable picture of the extent of health inequalities across the UK and allow for more appropriate interventions to be developed.

#### 3.5.2 | Research recommendations

- Understand the reasons why and define the barriers preventing relevant routine data collection and data sharing across all care and research settings and make recommendations to improve this.

- Define the level of understanding of the benefits of relevant data collection and data sharing across all care and research settings.
- Identify ways to increase public trust in the collection, sharing and use of data, including the use of TREs.
- Funders to require that all trials and observational studies capture sex, ethnicity, and socioeconomic data in a standardised manner to facilitate aggregation and meta-analysis.
- Widely promote government guidance around how to record ethnicity and socioeconomic data.
- Improve the quality of recording of ethnicity and socioeconomic data captured in the NHS and elsewhere by understanding the barriers to data capture.

### 3.6 | How could research funders allocate funds to best address health inequalities in diabetes?

#### 3.6.1 | Context

Current approaches for the management of diabetes are largely informed by trial evidence from studies of predominantly White populations. Given that stark ethnic and socioeconomic inequalities in risk of diabetes and serious outcomes persist, there is widespread concern that existing guidelines are not tailored to the management of diabetes in ethnically and socially diverse populations.<sup>30</sup>

Supporting research which explicitly considers health inequalities when designing, implementing, interpreting, and disseminating research will address the urgent need to tackle inequalities in diabetes and its related conditions, and research funders play an important role in ensuring this occurs. To do so, funders should encourage clinical researchers to be inclusive during study design, ring fence and invite attractive research proposals addressing inequalities, and embed addressing health inequalities thematically throughout the research funding pathway and across healthcare sectors.

#### 3.6.2 | Research recommendations

- Release a position statement from funders confirming a commitment to the importance of diversity of representation in clinical studies with recognition that, to achieve this, recruitment to research studies may be more challenging and/or costly.
- Embed consideration of health inequalities into all high-light notices, strategic calls, and grant application forms.
- Launch targeted calls to address underfunding for health equity research, with the focus of the calls agreed in consultation with target communities.

- Establish themed coalition funding calls as issues around health equity are important across all health conditions.
- Offer training (and funding or courses) for implementation research methods to upskill community researchers and engage them as equal partners to undertake standardised real-world pilots
- Ensure reviews of all funded projects include specific questions on whether under-represented groups were included.
- Retroactively review 'successful interventions' and identify where these interventions have worked for specific population groups.

### 3.7 | How do we ensure the research community is representative of the general population?

#### 3.7.1 | Context

Ethnic minority groups make up 14% of the population, a figure which is expected to increase over the coming years, and Black British citizens (with African or African Caribbean ancestry) make up 3% of the total UK population.<sup>31</sup> Yet according to the latest figures released by the Higher Education Statistics Agency in 2022, across all science subjects, only 0.8% of UK professors identify as Black, while 7.5% identify as Asian and 88.5% identify as White (compared to 8.0% and 84.8% of the UK population, respectively).<sup>31,32</sup> Similarly, of principal investigators awarded research grants, 12% are from a minority ethnic background and only 1% identify as Black.<sup>33</sup> Additionally, people in the UK from the lowest socioeconomic backgrounds are three times less likely to go to university and seven times less likely to go to a selective institution than those from the highest socioeconomic backgrounds.<sup>34</sup>

Lack of representation means there is a lack of knowledge, voices and role models for future generations. Increasing diversity will produce higher quality research and promote participation of those from ethnic minority groups and socioeconomically deprived communities.<sup>35</sup> There needs to be an overhaul of promotion structures and research funding and a genuine commitment to change by the UK universities, as well as racial equality throughout the education system.

#### 3.7.2 | Research recommendations

- Promote the use of the Race Equality Charter to help research institutions identify and self-reflect on institutional and cultural barriers leading to racial inequalities and develop solutions.

- Partner with universities to fund studentships for researchers from underrepresented groups.
- Offer mentorship and sponsorship programmes for students/researchers from underrepresented groups at different levels (e.g. school, university, postgraduate).
- Provide cultural and structural competency training at a university level to positively influence the research environment.

## 4 | CONCLUSION

Diabetes does not affect everyone equally. Your ethnic group, where you live and your income all affect your chances of getting type 2 diabetes, and also the care you get for any type of diabetes, and your long-term outcomes.<sup>1</sup> This research workshop was an important step in understanding the actions needed to help tackle inequalities through research and outlines important recommendations not only for the diabetes research community but for all medical research. Diabetes UK calls on researchers, funders, health services, and people living with or affected by diabetes to act upon the recommendations set out within this paper to ensure future research works to reduce preventable, unfair and unjust inequalities in health.

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### CONFLICT OF INTEREST

Kamlesh Khunti has acted as a consultant, speaker or received grants for investigator-initiated studies for Astra Zeneca, Bayer, Novartis, Novo Nordisk, Sanofi-Aventis, Lilly and Merck Sharp & Dohme, Boehringer Ingelheim, Oramed Pharmaceuticals and Applied Therapeutics. Kamlesh is also Director for the Centre for Ethnic Health Research, University of Leicester, UK.

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## APPENDIX A

### Workshop participants

#### A.1 | THE AUTHORS ARE GRATEFUL TO THE FOLLOWING FOR PARTICIPATING IN THE WORKSHOP

Timothy Barrett (University of Birmingham), David Blane (University of Glasgow), Lucy Chambers (Diabetes UK), Jodie Chan (Diabetes UK), Jason Cheung (Norfolk and Norwich University Hospital NHS Trust), Pratik Choudhary (University of Leicester; Advisory Group Member), Tahseen Chowdhury (Barts Health NHS Trust), Philip Clarke (University of Oxford), Hajira Dambha-Miller (University of Southampton), Natalie Darko (University of Leicester), Sophie Eastwood (University College London), Mark Evans (University of Cambridge), Azhar Farooqi (East Leicester Medical Practice, Advisory Group Member), Alice Fletcher-Etherington (Academy of Medical Sciences), John Ford (University of Cambridge), Ed Fottrell (University College London), Jason Gill (University of Glasgow), Louise Goff (Kings College London), Aaliya Goyal (Black Country Integrated Care Board), Laura Gray (University of Leicester), Anil Gumber (Expert by Experience), Becky Hartlett (East Leicestershire and Rutland CCG), Wasim Hanif (University Hospitals Birmingham NHS Trust, Advisory Group Member), Sarah-Louise Harwood (Diabetes UK),

Lilian Hunt (Wellcome Trust), Annette Jack (Equality Health), Cheryl James-Jolly (Expert by Experience), Naailah Jummun (Diabetes UK), Madina Kara (Fight for Sight), Kamlesh Khunti (University of Leicester, Advisory Group Member), Phoebe Kitscha (British Heart Foundation), Rasik Kotecha (Expert by Experience, Advisory Group Member), Rohini Mathur (Queen Mary University of London), Shivani Misra (Imperial College London, Advisory Group Member), Kirit Mistry (Expert by Experience), Anna Morris (Diabetes UK), Nana Ocran (Expert by Experience, Advisory Group Member), Steven Parks (Diabetes UK), Bhavna Patel (Expert by Experience), Agatha Prempeh (Expert by Experience), Mel Ramasawmy (University College London), Gerry Rayman (East Suffolk and North Essex NHS Trust), Rebecca Reynolds (University of Edinburgh), Elizabeth Robertson (Diabetes UK), Martin Rutter (University of Manchester), Kamini Shah (Diabetes UK), Darren Sharpe (University of East London), Aoife Slattery (Diabetes UK), Diane Smith (Diabetes UK), Joan St John (Central London Community Healthcare NHS Trust), Bernie Stribling (Leicester Diabetes Centre), Ruth Studley (Office for National Statistics), Juliet Thayan (Sherwood Rise Health Centre), Shaun Treweek (University of Aberdeen), Jonathan Valabhji (NHS England, Advisory Group Member), Kumar Varma (Expert by Experience, Advisory Group Member), Anthony Walker (Diabetes UK), Andrew Willis (University of Leicester), Kirsty Winkley (Kings College London) and Peter Zeh (University of Warwick).

## APPENDIX B

## Patient and public involvement reported using GRIPP2-SF

Section	Item
Aim	To identify a set of research priorities and recommendations to address health inequalities in diabetes through research. To involve 'experts by experience' (i.e., people living with or affected by diabetes who come from a South Asian, Black African, or African Caribbean background and/or have lived experience of poverty) at all stages.
Methods	Three experts by experience were recruited to the expert advisory group and helped to determine the scope and format of the workshop. Additional workshop participants were recruited through advertisements on the Diabetes UK website and social media accounts, community organisations' social media accounts, and a community radio station, and through word of mouth from other participants. People who had not been involved in research before were encouraged to apply. All fifteen experts by experience who applied were invited to the workshop, and twelve attended.
Results	PPIE in the workshop included: <ul style="list-style-type: none"> <li>- Determining the scope and format of the workshop (n = 3).</li> <li>- Presenting personal perspectives at the workshop (n = 2).</li> <li>- Contributing lived expertise to the identification, prioritisation, and refinement of research recommendations through small group discussions at the workshop (n = 12).</li> <li>- Co-authoring the PPIE and research community sections of this paper (n = 2).</li> </ul>
Discussion	PPIE significantly influenced the outcomes of this workshop, particularly the recommendations around PPIE. The experts by experience highlighted the importance of addressing the concerns and misconceptions about research. One participant, who had not been involved in research previously, shared that she pictured blood tests when she heard the word research, and that this made her fearful of getting involved. They also emphasised the importance of identifying and building long-term relationships with community leaders, noting the significant amount of misinformation and confusion around the COVID-19 vaccines and their reliance on those they trusted within their community for advice. They also noted the need to disseminate research findings to the communities involved in research as this demonstrates the impact that their involvement had and builds trust. Based on this, we plan to work closely with the experts by experience who attended the workshop to develop and disseminate a lay summary of this report.
Reflections	The workshop was successful in involving people living with or affected by diabetes from communities who are often underrepresented in research, particularly from Indian, Black African, and Black Caribbean communities. However, there was a lack of representation from Pakistani and Bangladeshi communities, and from White communities living in deprivation. More work should be done to identify effective channels for engaging with these communities. All the experts by experience actively contributed during the first round of small group discussions, in which research priorities were identified. This was facilitated by the Diabetes UK staff within each group, who were instructed to ensure that all participants were able to contribute. However, those who had not been involved in research before found it more difficult to engage in the second round of small group discussions, in which the research priorities and recommendations were refined, due to the technical nature of the discussions. This highlights that the highest levels of engagement are not always realistic or appropriate for all participants. In similar future work, different levels of involvement should be made available, and training should be offered when needed.

## APPENDIX C

## Demographic characteristics of participants living with or affected by diabetes

Demographic Characteristics	Number in Sample	Percentage in Sample
Gender		
Male	4	33%
Female	8	67%
Ethnicity		
Indian	6	50%
Caribbean	3	25%
Black African	2	17%
Mixed (White & Black African)	1	8%

Demographic Characteristics	Number in Sample	Percentage in Sample
English index of multiple deprivation 2019		
First quintile (most deprived) areas	1	8%
Second quintile areas	4	33%
Third quintile areas	5	42%
Fourth quintile areas	1	8%
Fifth quintile (least deprived) areas	1	8%
Relationship to diabetes		
Type 1 diabetes	2	17%
Type 2 diabetes	7	58%
Gestational diabetes	1	8%
Pre-diabetes	1	8%
Caretaker	1	8%

## APPENDIX D

### Workshop presentations

Title	Speaker
The current landscape of diabetes health inequality research and focus areas	Kamlesh Khunti
I am brown and different: Personalising medication and treatment for individuals	Bhavna Patel
Thinking about <i>who</i> now just how many: Reducing inequality through better research design	Shaun Treweek
Working in partnership with ethnic minority communities in health research: The Leicester perspective	Andy Willis
Health inequalities in diabetes: Why they matter, and how research can make a difference	Azhar Farooqui
Talk to us, we are not “hard to reach”	Nana Ocran
Improving outcomes for patients with type 2 diabetes using general practice networks: A quality improvement project in east London	Tahseen Chowdhury