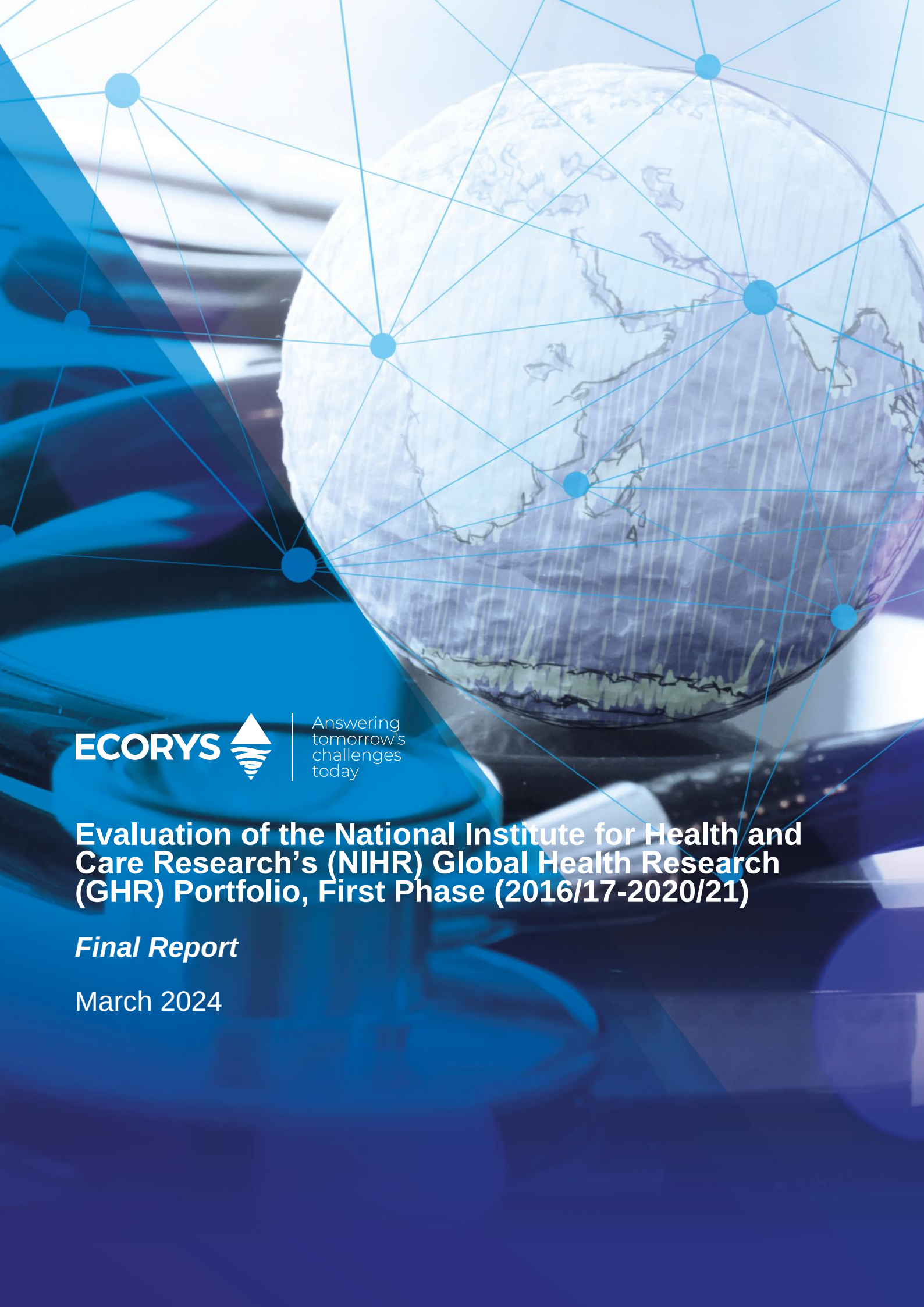

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Evaluation of the National Institute for Health and Care Research's (NIHR) Global Health Research (GHR) Portfolio, First Phase (2016/17-2020/21)

Final Report

March 2024

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Abbreviations list

ACT	Access to COVID-19 Tools
AMR	Antimicrobial Resistance
BA	Bibliometric Analysis
BEIS	Department for Business, Energy & Industrial Strategy
BMJ	British Medical Journal
CA	Contribution Analysis
CADA	Cohort Academic Development Award
CEI	Community Engagement and Involvement
CEPI	Coalition for Epidemic Preparedness Innovation
COVAX	COVID-19 Vaccines Global Access
DFID	Department for International Development
DFIT	Department for International Trade
DHSC	Department for Health and Social Care
ECR	Early Career Researcher
EDCTP	European and Developing Countries Clinical Trials Partnership
EID	Emerging Infectious Disease
ELRHA	Enhancing Learning and Research for Humanitarian Assistance
EPSRC	Engineering and Physical Sciences Research Council
EQ	Evaluation Question
ESRC	Economic and Social Research Council
FAF	Financial Assurance Funds
FCDO	Foreign, Commonwealth and Development Office
FCDO RED	Research & Evidence Division
FGD	Focus Group Discussion
GACD	Global Alliance for Chronic Diseases
GARDP	Global Antibiotic Research and Development Partnership
GCC	Grand Challenges Canada
GECO	Global Effort on COVID-19
GESI	Gender, Equality and Social Inclusion
GHR	Global Health Research
GHS	Global Health Security
HEI	Higher Education Institution
HIC	High Income Country
HMG	His Majesty's Government
HPSR	Health Policy and Systems Research
JGHTI	Joint Global Health Trials Initiative
KII	Key Informant Interview
LMIC	Low- and Middle-Income Countries
MEL	Monitoring, Evaluation and Learning
MNH	Maternal and Neonatal Health
MRC	Medical Research Council
NAO	National Audit Office
NCD	Non-Communicable Disease
NHS	National Health Service
NIHR	National Institute for Health and Care Research
NIHRCC	National Institute for Health and Care Research Coordinating Centre
ODA	Official Development Assistance
OECD-DAC	Organisation for Economic Co-operation and Development's Development Assistance Committee
PI	Principal Investigator
RCS	Research Capacity Strengthening
RIGHT	Research and Innovation for Global Health Transformation
RSTMH	Royal Society of Tropical Medicine and Hygiene
R&D	Research & Development
SDG	Sustainable Development Goals
SNA	Social Network Analysis
SORT IT	Structured Operational Research and Training Initiative
SRE	Science Research & Evidence
SSSD	Severe Stigmatising Skin Disease
TB	Tuberculosis

TDR	Special Programme for Research and Training in Tropical Diseases
ToC	Theory of Change
TOR	Terms of Reference
UKCDR	UK Collaborative on Development Research
UKRI	UK Research and Innovation
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VfM	Value for Money
WHO	World Health Organisation

Authorship and Disclaimer

Authorship

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Executive Summary

Background

The Department for Health and Social Care (DHSC) and the National Institute for Health and Care Research (NIHR) established the Global Health Research (GHR) Portfolio following the 2015 UK Aid Strategy. Its purpose is to support applied health research and training in low- and middle-income countries (LMICs), addressing unmet needs and strengthening research capabilities. An initial budget of £429.5m was allocated for the first phase of the GHR Portfolio (2016/17 – 2020/21), complementing other Official Development Assistance (ODA) research funders and evolving to include 30 programmes and supporting initiatives that NIHR or external partners manage. The GHR Portfolio is diverse in terms of its health focus, geographical scope funding size and emphasises the NIHR's operating principles of impact, excellence, effectiveness, inclusion, and collaboration, as well as strengthening research capacity and promoting equitable partnerships and community engagement and involvement (CEI). In the first phase, it grew to encompass 17 thematic areas, operating in over 50 LMICs, and funded 616 awards.

The GHR Portfolio's Theory of Change (ToC) outlines the NIHR's ambition to improve global health outcomes. It recognises that it may take 3 to 10 years for research outputs to influence policy, practice, and behaviour changes and 10-25 years for these changes to lead to strengthened health systems and increased capacity for health promotion and disease prevention.

The Evaluation

The DHSC commissioned Ecorys through the NIHR in December 2021 to undertake an evaluation of its first phase. The GHR Portfolio evaluation has been delivered in four stages: inception, interim, final evaluation and a dissemination phase (due to be completed by March 2024). The evaluation utilises a theory-based approach to assess the contributions of the GHR Portfolio to the intended outputs, outcomes, and likely impact of investments. It focuses on assessing whether the GHR Portfolio is on track to deliver the expected results given the long-term nature of the anticipated research impact. The evaluation process involves testing the GHR Portfolio's ToC, including its assumptions and causal links, to determine the validity of the underlying theory using a contribution analysis (CA) approach. The CA approach supports evaluators to understand the contribution a programme has made to changes where a wide range of enabling and hindering factors (both internal and external) may have influenced those results.

The work and questions are organised around the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD-DAC) evaluation criteria. The framework also includes questions related to adaptability and learning, CEI, and Value for Money (VfM).

The key methods comprise a document and data review of GHR Portfolio, programme and award documentation; interviews with stakeholders at GHR Portfolio, programme and award levels; and an online survey disseminated to all funded awards. Further, Social Network Analysis (SNA) was conducted to assess networks and interactions between funded institutions, as well as Bibliometric Analysis (BA) to examine research outputs and collaboration. A purposive sampling approach to programmes and awards for in-depth review provided rich learning and insights.

This final report presents the findings of the evaluation of the first phase of the NIHR's GHR Portfolio, as well as recommendations for improving the GHR Portfolio's impact and sustainability.

Findings

Relevance: To what extent is the GHR Portfolio addressing priority areas of health research in LMICs where there are unmet needs identified by government and/or civil society in the relevant countries?

The GHR Portfolio has been successful in ensuring that its investments address priority areas in health research within LMICs. Health inequalities were given priority, and efforts were made to understand the underlying causes of these disparities. Unmet needs were identified through consultations with UK and international partners experienced in global health research and through calls for researchers from UK and LMIC Higher Education Institutions or Research Institutes, who understood neglected thematic areas. In some programmes, a researcher-led approach facilitated this. The portfolio's initial planned focus on non-communicable disease was widened to respond to opportunities to support research in infectious disease, including the COVID-19 pandemic. This was facilitated through valuable partnerships that supported investment in a range of themes and geographies.

Researchers and LMIC country stakeholders were consulted during the design and development of the portfolio. The degree and quality of this engagement process could be enhanced to further promote sustainability and impact, particularly in addressing gender, equity, and ethical considerations. The involvement of government, policy makers and civil society actors representing marginalised populations increased over time, particularly where researchers have obtained subsequent awards to continue and expand their research. NIHR's ongoing efforts to fund more LMIC-led research partnerships demonstrate further potential for supporting local priorities and embedding research in local systems.

During the first phase, the approach to the evolution of the portfolio enabled support for health research in a wide range of themes and geographies, as well as a responsive approach to COVID-19. A more focused approach to addressing priority areas of health research and continuing to strengthen engagement with LMIC researchers and other key stakeholders will be beneficial going forwards.

Coherence: To what extent is the GHR Portfolio a coherent funding mechanism to meet its stated outcomes?

Given the scale of unmet health needs in LMICs, internal and external coherence is crucial for optimising the GHR Portfolio's impact on improving health in LMICs. DHSC has successfully designed the GHR Portfolio so that it complements existing government research funding mechanisms, as well as other UK and global health funders. DHSC and NIHR have successfully coordinated and collaborated externally with other UK, partner country and global health research initiatives. At portfolio level, proactive and ongoing engagement with other UK funders has helped strengthen and facilitate strategic collaboration and operational coherence across key ODA partners.

NIHR has progressively increased thematic and operational complementarity between NIHR-led and Partner-led programmes. Efforts to increase internal harmonisation between programmes and approaches have strengthened over time. The ToC at Portfolio level provides the framework for contribution of the outputs of individual programmes to higher level results. Many programmes have been aligned with DHSC's results framework to harmonise reporting, but data availability remains a challenge in some partnerships co-funded by NIHR.

Internal coordination across programmes and awards could be further improved to leverage complementarity and enhance results. The GHR network has successfully and actively established global health collaborations with a wide range of institutions within the global health research community, including many LMIC institutions and other key stakeholders in global, regional, national and local contexts. Within this, there are large communities of institutions within the overall GHR network, presenting strong opportunities for collaboration and the exchange / dissemination of knowledge in NIHR-led programmes, in particular. The stronger, smaller, and concentrated number of community groups among NIHR-led awards indicates that institutions funded directly by NIHR may be more closely related in research interests, expertise, or geographic proximity, and have better opportunities for cross-collaboration and knowledge exchange within the NIHR portfolio.

Effectiveness: How effective has the GHR Portfolio been in achieving its intended results?

The GHR Portfolio aims to achieve effectiveness by producing high-quality research outputs that are relevant to policy, expanding research capacity, establishing equitable partnerships, and promoting CEI. The findings indicate that the GHR Portfolio has funded programmes and awards that have made significant progress in these areas and resulted in a substantial volume of relevant outputs. During the first phase, it delivered 3,494 publications with a notable citation count (86,161).

There is strong evidence of the GHR Portfolio's success in individual research capacity strengthening, including supporting the career progression of researchers. Strengthening the capacity and career development of female researchers is progressing, as is the development of institutional capacity among LMIC research partner institutions. However, evidence of system-level capacity changes is more limited at this stage.

The GHR Portfolio has made good progress in promoting equitable partnerships. While the majority of institutions in the GHR Portfolio are from LMICs, UK institutions tend to dominate in terms of their importance, influence, ability to connect with other influential actors, and play a significant role in connecting other institutions to NIHR or partner funding. Addressing barriers to the equitable participation of LMIC institutes is a complex task that requires time and goes beyond the scope of individual awards. Challenges remain in relation to power dynamics within partnerships and the wider health research funding landscape, and the eligibility of LMIC institutions as leads.

CEI is a core commitment for NIHR, with effective examples at the award level. There is room for improvement in terms of better understanding across the portfolio about how communities experience CEI initiatives and ensuring a deeper focus on gender and marginalised groups. Effective initiatives involve funding researchers embedded in communities and health systems, with successful models incorporating centres of excellence to build local and regional capacity through collaboration. This approach enhances the capacity of service providers, fostering continuous improvement in learning and practice.

Efficiency: Has the GHR Portfolio and its delivery partners been able to convert inputs into outputs in a timely and effective way?

The GHR Portfolio is developing a VfM framework. In the absence of a formal framework, the evaluation focused on qualitative evidence to assess the extent to which operational structures and processes support timely and effective delivery. The findings indicate that overall, structures and processes facilitated by DHSC and partners, have successfully delivered outputs despite challenges posed by the COVID-19 pandemic.

Delivery partners' relationships, expertise, and systems in global health research funding benefitted the GHR Portfolio and enhanced operational effectiveness and efficiency. Leveraging partners' expertise in LMICs, and within awards, and involving key stakeholders early in the research process, including policy makers and communities, are also important enablers of efficiency.

Areas identified for improvement include enhancing DHSC staff's LMIC in-country experience for better learning and continuous improvement of approaches. Additionally, there is a need for increased capacity and technical support for public engagement, knowledge exchange, and dissemination. Harmonisation of approaches to developing and monitoring CEI and equitable partnerships efforts at the award level would be beneficial. Strengthening central mechanisms for LMIC award holders to provide feedback on management practices, for example, on addressing perceptions of reporting burdens, are also suggested.

Adaptability and learning: How well is the GHR Portfolio adapting and embedding learning?

NIHR's approach to iterative learning has been beneficial in adapting the GHR Portfolio to the need for rapid allocation of funding during Phase 1, as well as to the unique challenges posed by the COVID-19 pandemic and operational delays. It allowed for flexibility, as evidenced by the number of awards granted increased time (no cost extensions) for delivery. Thematic learning on specific health topics and undertaking research in different contexts/

settings from across programmes and awards was more limited, and there is variation in learning practices within programmes.

Monitoring, evaluation and learning (MEL) at the Portfolio level has developed over time, with an increase in coverage of Annual Reviews, Programme Completion Reviews and After Action Reviews along with improved systems for data collation and sharing during Phase 1. However, there are currently insufficient resources to implement a comprehensive, strategic approach to MEL at the Portfolio level and measurement of outcome level results. The overall application of learning for the GHR Portfolio is identified as an area for improvement to support greater impact and sustainability.

Impact: Is there any early evidence that funded research and capacity-strengthening activities are on track to/have the potential to contribute towards 3-10 year anticipated impacts?

The impacts of the GHR Portfolio outlined in the ToC are expected to be observed from 10-25 years from the start of the funding in 2016/17. At this stage, the Portfolio has contributed to medium-term outputs and outcomes in line with the desired pathways of change. Most assumptions about how activities will support longer term global health outcomes are holding, with the enabling factors of follow-on funding and LMIC award leadership requiring monitoring and potentially mitigation.

The GHR Portfolio's research and capacity-strengthening activities to date demonstrate the potential to influence health policy and practice and strengthen health systems in LMICs, especially where research agendas are sustained. There are early signs that where awards are at a more mature stage, they have begun to successfully raise awareness of research topics and influence access to research findings among policy makers, practitioners, and the public in LMICs. Success is attributed to building networks and structures for meaningful engagement with stakeholders. The GHR Portfolio has taken steps to address important considerations for creating an environment for influencing policy and practice, such as CEI, equitable partnerships, and coordination with other stakeholders. A Portfolio-wide approach and systematic approach to developing these activities and monitoring performance in these areas would support longer-term impacts.

Sustainability: To what extent will the net benefits of the GHR Portfolio continue, or likely continue, beyond the funded period?

There are examples at both the programme and award levels that showcase research impact and gains in individual capacity strengthening, and in turn their contributions to wider health systems that have the potential to be sustained beyond the funding period. Linkages and partnerships supported through award funding contribute to sustainability by enabling further collaboration and funding opportunities. However, issues with availability of subsequent implementation funding for continuing and expanding the research funded by NIHR GHR undermine the potential for long-term gains, as first awards often only address initial research needs. Due to the early stage of the GHR Portfolio and the long timescale required for sustainability effects to materialise, data and insights on sustainable net benefits are also limited although there are positive signs of progress towards this being achieved.

Conclusions

The NIHR GHR Portfolio has successfully delivered research activities and established itself as a respected and significant player in the GHR space in the UK and the international community. The GHR Portfolio activities have responded to priority needs of health research in LMICs, built the research capacity of individuals and institutions in the UK and LMICs, fostered equitable partnerships, and raised the visibility of community engagement as an integral part of global health research. Our assessment found progress with the GHR Portfolio's longer-term expected contributions to changes in policy and practice, strengthened health systems and improved health outcomes. Our findings suggest that this is an appropriate time for the DHSC and NIHR to take stock of learnings from the first phase and further develop their strategic approach to ensuring that the investments will yield the greatest impact possible.

The conclusions are as follows:

1. **The GHR Portfolio's programmes are responding to priority and underfunded health research areas in LMICs.** By working with a diverse range of partners, the portfolio was able to mobilise and grow quickly and support a wide range of themes and geographic areas. The portfolio is thematically much broader than initially envisaged and a more focused approach with greater collaboration within and across programmes in the GHR Portfolio and beyond would offer greater potential to leverage synergies and support impact.

2. **The GHR Portfolio has resulted in a high volume of peer-reviewed research publications and many associated outputs aimed at driving policy and practice change on the ground in health service provision.** The degree and quality of engagement with LMIC researchers and other LMIC stakeholders in this process has been steadily increasing and could be further improved and oriented towards preparing the ground for wider policy uptake and changes in health practice.

3. **Some award holders are engaging with representatives of poor and underserved communities**. It is crucial for this practice to be embedded to ensure that supported research is aligned with needs, including those with the highest burden of disease. There is a need for improved guidance on ethical considerations, as well as NIHR's expectations on promoting health equity.

4. **The GHR Portfolio is delivering high-quality research, strengthening research capacity and making progress towards equitable research partnerships. Our contribution analysis assessment also found evidence of the GHR Portfolio's contribution to longer term outcomes including improved policy and practice**. Improvements in GHR Portfolio level MEL capacity and systems would support the ability to track overall portfolio progress.

5. **There is significant learning from the first phase, which has supported adaptation including during COVID-19.** There are opportunities for the commitment to learning to be formalised to support systematic learning for and from award holders and programme leads across the GHR Portfolio.

6. **The NIHR is strongly committed to promoting LMIC leadership of global health research through its emphasis on equitable partnerships, CEI and RCS.** This is resulting in more streamlined and strategic approaches that have influenced other funding partners, supported progressively well-developed approaches at the award level, and incorporated learning from LMIC experience. However, contextual analysis of research-policy linkages, the research ecosystem, and gender and social inequalities, norms and power dynamics is not yet routine or consistent.

7. **The approach to the GHR Portfolio has fostered collaboration and progress on equitable partnerships.** However, further action to address barriers to equitable participation for LMIC partners would strengthen the approach.

8. **NIHR scrutinises research applications for potential VfM but the framework for VfM is being developed.**

Recommendations and Lessons

Recommendations emerging from this evaluation are targeted at NIHR GHR portfolio level stakeholders, to inform future phases of the Portfolio. The recommendations have been co-produced with the DHSC and NIHR to support appropriateness and feasibility of implementation. The first recommendation is a short-term priority, and it is expected that those that follow will support the changes emerging from this. The following recommendations are proposed:

1. **Focusing the future strategic direction:** NIHR should continue to evolve the GHR strategy and decide if there is a need for a more focused approach. This should be agreed in consultation with key funding partners globally, with emphasis on the most mutually beneficial funding partnerships and ensuring ongoing complementarity. Options to consider include potentially focusing on fewer themes, countries, and LMIC institutes where substantial progress has been made, and where there is explicit buy-in from LMIC policy makers and the greatest impact is expected. Such an approach could enhance prospects for sustainability while retaining some flexibility for emerging themes, newer partnerships, innovations and seed funding.

2. **Promoting policy uptake:** NIHR should consider playing a stronger role in promoting policy uptake and change in health practice in key countries by strengthening mechanisms in the research design phase to ensure the policy uptake environment is generally positive, ensuring the right stakeholders are involved in design, and outputs are likely to be acceptable, feasible and affordable to scale up. NIHR should also provide more direct support for policy-relevant outputs and communications to support policy uptake, potentially with a specialised external agency. This could include further capacity building to Principal Investigators and other researchers to support knowledge of how research can be made more relevant to governments and foster greater uptake of evidence. NIHR should also leverage opportunities to collaborate with other partners at country or regional level on developing policy recommendations and dissemination and uptake strategies.

3. **Guiding research in underserved communities:** NIHR should develop specific guidance around the ethical considerations of conducting research in poor and underserved communities. The guidance should support learning on understanding and responding to health inequalities, communicating research to communities, and ensuring that research does no harm and meaningfully benefits communities participating in research.

4. **Strengthening GHR Portfolio level MEL:** NIHR should refresh and strengthen its MEL strategy and framework to align with the current (or a revised) ToC and establish stronger systems and processes for tracking and using the results of all GHR Portfolio investments. NIHR should support awards to monitor, better understand and learn from the extent to which their equitable partnerships, CEI and RCS approaches are supporting changes. This will require additional technical expertise and resource.

5. **Investing in strategic learning and knowledge exchange:** NIHR should invest more in opportunities for strategic learning, in-person networking, and knowledge exchange to enhance research impact and capacity strengthening, and further embed the CEI and equitable partnerships approaches.

6. **Emphasising contextual analysis:** NIHR should review and strengthen its levers to encourage awards to ground their entire research cycle, from conceptualisation to implementation and monitoring, in a comprehensive contextual analysis. This analysis should include gender and social inequalities, the research environment, and policy linkages and should clearly inform awards' policy uptake, equitable partnering, CEI and RCS approaches.

7. **Building deeper understanding of CEI approaches:** NIHR should encourage and support awards to integrate CEI more strategically across the research cycle - including across their contextual analysis, monitoring and learning, and sustainability approaches - to better understand emerging pathways of change and good and promising practice. NIHR could also explore possibilities for providing technical support to awards, and funding research explicitly focused on CEI.

8. **Supporting LMIC research partners:** NIHR should provide further support to LMIC research partners to overcome operational challenges and build management capacity by simplifying application and financial reporting processes, providing mentoring support, and considering additional funding for wider research implementation aspects.

9. **Developing a VfM framework:** NIHR should continue to develop an overarching VfM framework and guidance for all programmes and awards to track and assess the value created by investments. This could involve adapting existing VfM frameworks used by other UK funders to ensure alignment of ODA resources.

10. **Organisational development:** The NIHR should ensure that the GHR team has appropriate and sufficient capacity (policy, people, processes and practices) to implement the above recommendations, beginning with a (light touch) organisational capacity review to better understand current technical and operational capacity.

Learning

The key lessons emerging from the evaluation are as follows:

1. **The GHR Portfolio delivery benefitted from an iterative and agile approach to establishing structures and processes and for allocating funding to meet unmet health needs.** This has enabled the GHR Portfolio to be responsive to emerging priorities and was particularly beneficial during the COVID-19 period.

2. **NIHR has successfully leveraged and harnessed expertise and relationships with delivery partners to support its capacity for funding health research in LMICs.** A refreshed portfolio level approach to articulating expectations, building capacity and providing guidance on the importance of conducting contextual analysis would be the next step in strengthening the approach to ethical research and health equity.

3. **The NIHR GHR Portfolio depends strongly on partners and award holders to engage LMIC stakeholders and build the enabling environment for policy and practice uptake.** A more strategic approach to thematic and country prioritisation at portfolio level would potentially enable improved knowledge exchange and connections aimed at supporting the enabling environment, including leveraging of UK relationships with LMIC stakeholders.

4. **Inconsistent programme monitoring systems has resulted in missed opportunities for more robust Portfolio level evaluation, to provide a foundation for cross-programme learning and support impact and sustainability.**

5. **NIHR's strong emphasis on CEI and equitable partnerships as core principles of funding encouraged award holders to engage with these approaches and understand their value where they might not otherwise have done so.** Stronger direction and support from NIHR on strategically embedding CEI and equitable partnerships across award research cycles will serve to build on the gains achieved so far.

1.0 Introduction

1.1 Purpose of this report

This report presents the findings from Ecorys' evaluation of the first phase of the National Institute for Health and Care Research (NIHR)'s Global Health Research (GHR) Portfolio (2016/17–2020/21). It provides evidence of the relevance, coherence, effectiveness, efficiency and sustainability of the GHR Portfolio, as well as findings on community engagement and involvement (CEI), emerging impacts and adaptability and learning. Conclusions and recommendations are presented for areas that work well and areas that could be improved to enhance prospects for impact and sustainability.

The Department for Health and Social Care (DHSC) established the GHR Portfolio in 2016 to support the objectives of the UK Aid Strategy 2015 and the United Nations' Sustainable Development Goals (SDGs). An initial ODA budget of £429.5m was allocated for the first phase (2016/17-2020/21) to fund applied global health research in low- and middle-income countries (LMICs) eligible to receive Official Development Assistance (ODA). The purpose of the GHR Portfolio is to support high quality applied health research and training to address unmet needs in ODA-eligible countries by generating evidence for the direct benefit of people in these countries. It also aims to strengthen research capacity, further develop equitable partnerships between UK and LMIC research institutions, overcome barriers to health research uptake and ensure that the research itself is undertaken in collaboration with the communities most likely to be affected by the research outcomes.

1.2 Evaluation aims and scope

The purpose of this evaluation is to assess the design, implementation and emerging outcomes of the GHR Portfolio during its first phase, to inform future development and delivery of the GHR Portfolio. The evaluation aims outlined in the Research Commissioning Brief (Annex 1) are:

Assess the suitability of the design and implementation of the first phase of the NIHR GHR Portfolio (2016/17-2020/21) for achieving its intended outcomes and impacts and identify any learning which can inform the development and delivery of the second phase of the GHR Portfolio.

Provide accountability for the GHR Portfolio performance to date – to include assessing the GHR Portfolio's contribution towards emerging outcomes (for whom, in what contexts, how and why), whether the GHR Portfolio is on track to achieve its desired outcomes and impact and the Value for Money (VfM) of investments to date.

As cross-cutting themes, the evaluation assesses CEI and adaptability and learning across the GHR Portfolio. Given the complexities of undertaking CEI in low resource settings, the importance of contextualised and adaptive approaches, and the limited evidence base on what works, the Evaluation Questions (EQs) seek to identify the GHR Portfolio's learnings about what works for different groups in different conditions and contexts. It further seeks to understand how NIHR has supported partners to strengthen their CEI approaches. This report draws on assessments at GHR Portfolio, programme and award levels, a GHR Portfolio-wide survey, Social Network Analysis (SNA), Bibliometric Analysis (BA), and interviews with external GHR stakeholders to explore the reach and impact of funded research.

Box 1 Definition of key terms used in the report

GHR Portfolio: The entirety of NIHR's GHR collection of programmes and awards.

Programme: A range of research initiatives which fund and manage research and capacity-strengthening awards in LMICs responding to various thematic areas. These include NIHR-led and a wide range of Partner-led programmes.

Award: Research and capacity building projects that are directly funded by the NIHR GHR programmes.

Award holder: UK and LMIC researchers that receive funds through NIHR GHR programme funding. The evaluation uses this term without differentiating between lead and downstream partners.

Delivery Partners: Lead organisations directly contracted by DHSC to manage the overall delivery of a specific Programme.

Equitable Partnerships (EP): Partnerships between UK and LMIC researchers in which there is mutual participation, trust and respect, with mutual benefit and equal value placed on each partners' contribution during both the design and implementation of the research.

Community Engagement and Involvement: A range of strategies to meaningfully involve patients, communities, community leaders, civil society organisations and government officials in research that affects them.

Early Career Researcher (ECR): Researchers starting their careers in the public or global health sector typically within a few years of their PhD award or equivalent training.

The NIHR GHR Portfolio is funded entirely with ODA, and this is the first evaluation of the GHR Portfolio. While the direct recipient of this final evaluation report is DHSC, the conclusions and recommendations are relevant to all NIHR GHR Portfolio stakeholders. Evidence and learning generated by this evaluation is intended to be used to help guide current decision-making and future investment across the GHR Portfolio.

The evaluation was carried out by Ecorys with research partners from four regions relevant to the NIHR GHR Portfolio. See Annex 2 for an Ecorys evaluation team organogram. The partners are the Aurum Institute, South Africa; ABH Partners, Ethiopia; PopTrends, Brazil; and Access Health, India. Partners have been instrumental in shaping and agreeing emerging findings and key learnings, and ensuring evaluation findings are properly contextualised and can meaningfully contribute to capacity development. As outlined in the dissemination and uptake plan, they will support key dissemination activities, primarily in their regions (see Annex 3).

1.3 Report structure

The remainder of this report is structured as follows:

- **Section 2.0 NIHR GHR Portfolio Context** describes the background and rationale for the GHR Portfolio and its evolution to date. It includes an overview of the GHR governance structure, funded programmes and the GHR Portfolio's Theory of Change (ToC).
- **Section 3.0 Evaluation Approach and Method** provides an overview of the evaluation approach and conceptual framework, and the methodology including the approach to data collection at the GHR Portfolio, programme and award levels. The approach to data triangulation across the Contribution Analysis (CA), SNA, BA and thematic deep dives is also presented in this Section, alongside methodological limitations and mitigations, and ethics and safeguarding relevant to evaluation design and delivery.

- **Sections 4.0 - 10.0 Findings** presents an assessment of the strength of evidence against overall findings under each EQ and set of sub-Evaluation Questions (sub-EQs) relating to Relevance, Coherence, Effectiveness, Efficiency, Learning and Adaptability, Impact and Sustainability. Due to the cross-cutting nature of CEI, equitable partnerships and VfM, these findings are presented against all relevant EQs and sub-EQs. Assumptions from the ToC are also explored and linked to overarching key findings.
- **Section 11.0 Conclusions** provides key conclusions drawn from an assessment of all findings against the EQs.
- **Section 12.0 Recommendations and lessons learned** presents a summary of key recommendations and lessons learned, drawn from the findings and conclusions of this evaluation.

2.0 NIHR's GHR Portfolio context

The DHSC and NIHR established the GHR Portfolio in 2016, following the publication of the 2015 UK Aid Strategy. It aims to address the diverse health needs of people in LMICs by supporting high quality applied health research and training in areas where there is an unmet need, generating evidence, and strengthening LMIC and UK research capabilities and expertise in global health. An initial ODA budget of £429.5m was allocated for the first phase of the GHR Portfolio to contribute to improvement in global health outcomes in LMICs[1]. It was intended that all funded activities would be underpinned by the following two principles:

- Builds on NIHR's operating principles of impact, excellence, effectiveness, inclusion and collaboration.
- Strengthens research capability and training through equitable partnerships between UK and LMIC research institutes.

There has been a growing effort across the global health research sector to build applied research and innovation in LMICs on the basis of equitable partnerships, nurture and develop research talent in LMICs and maximise the impact of research to address health challenges faced by LMICs. Further, a key principle behind these efforts is that research is directly and primarily of benefit to people living in LMICs, which in turn also benefits those living in HICs. The GHR Portfolio intended to complement such efforts from other ODA research programmes running at the time of its inception, such as the Global Challenges Research Fund and the Newton Fund.

By the end of the first phase, the GHR Portfolio had evolved to comprise 30 distinct programmes / initiatives[2], with most of them funding awards to individual researchers or consortia of researchers and institutions in LMICs and the UK. Programme delivery is managed by either NIHR or external partners. The NIHR-led programmes (7) are managed by the NIHR Coordinating Centre. The Partner-led programmes (23) are managed by various UK and international partners and multi-funder initiatives. This division was not pre-determined at the GHR Portfolio's inception, but rather evolved in line with learning acquired during the initial delivery period. The aim was to grow the GHR Portfolio programmes to address the core NIHR GHR principles and objectives by leveraging existing expertise and maximising the use of resources. The GHR Portfolio also includes a range of initiatives focused on career development, training and research opportunities which complement the capacity-strengthening objectives that are embedded as a key principle across all programmes. In a 2019 analysis of transparency of aid spend across the UK government, DHSC's ODA was scored 'Very Good' against the Aid Transparency Index scoring criteria. Given this was the first assessment of its type and the relative immaturity of the ODA portfolio within DHSC, this is a significant achievement.[3]

Programmes in the GHR Portfolio are remarkably diverse in terms of their health focus, geographical scope, and approximate spend[4]. Since its launch, and as of September 2022, the GHR Portfolio had grown to include 17 thematic areas[5], with research activities being conducted in over 50 LMICs across Africa, Asia and Latin America. In Phase 1, NIHR funded over 616 awards ranging from £5,000 to several million pounds[6]. Funding to the largest programmes was initiated in 2017 and grew over time to include GHR Groups (£71m spent by March

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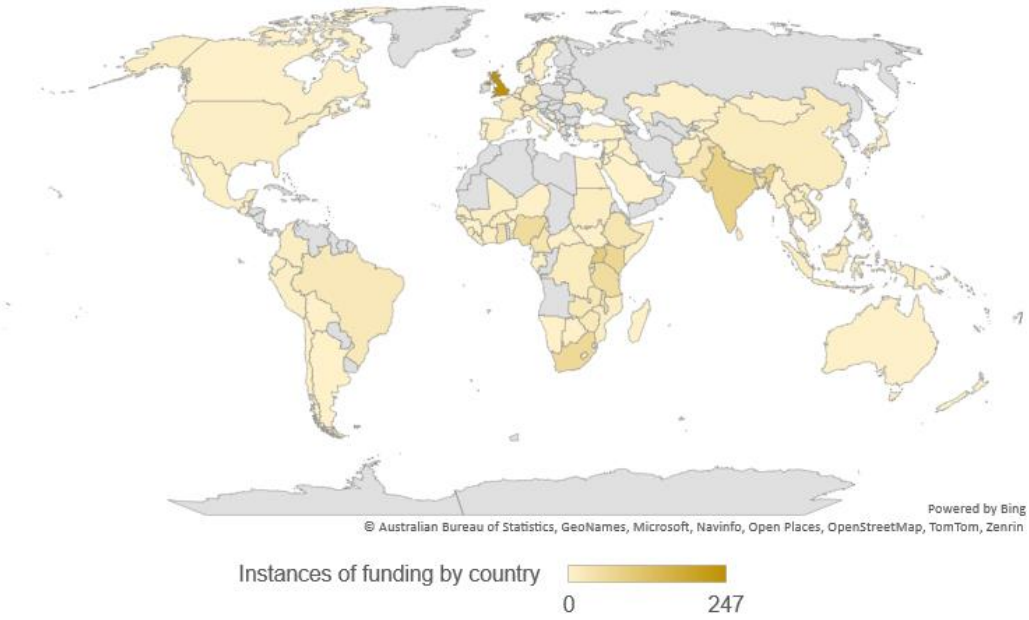
[1] Compiled actual expenditure data is not available.
[2] See Annex 4 for a summary of the programmes in the GHR portfolio, in terms of delivery partners, and approximate number of awards.
[3] Publish What You Fund, 2020, 'How Transparent is UK Aid? A review of ODA spending departments': https://www.publishwhatyoufund.org/app/uploads/dlm_uploads/2020/01/How-Transparent-is-UK-Aid_Digital.pdf
[4] For NIHR-led programmes, these figures represent approximate spend in Phase 1 (figures retrieved from published information in links). For Partner-led programmes, these figures represent total disbursement to date (figures retrieved from partner databases shared, and links directing to general programme information).
[5] Key thematic areas are listedby NIHR as follows: Blood, Cancer, CardiovascularGeneric Health Relevance, Infection, Inflammatory and Immune System, Injuries and Accidents, Mental Health, Metabolic and Endocrine, Musculoskeletal, Neurological, Oral and Gastrointestinal, Other, Reproductive Health and Childbirth, Respiratory, Skin, Stroke.
[6] These figures were taken from the 'NIHR Global Health Research Evaluation - Research Commissioning Brief, June 2021' which is no longer available online. Please refer to all funded projects delivered by the NIHRCC (https://fundingawards.nihr.ac.uk/search/funder/NIHR%20(ODA)) and individual websites of Partner-led projects for more detail.

2021), GHR Units (£74m) and the European and Developing Countries Clinical Trials Partnership (EDCTP) (£80m). The smallest spending programmes in the review period included the Global and Maternal Neonatal Health programme (£0.5m), Royal Society of Tropical Medicine and Hygiene (RSTMH) small early career grants to individual researchers (£0.75m), and the Biomedical Resources Grant (£0.9m), noting these activities continue beyond March 2021. Diversity within the GHR Portfolio is also reflected in the approximate number and different types of awards[7] per programme, ranging from 231 awards funded by RSTMH, 96 funded by the Joint Global Health Trials Initiative (JGHTI), two funded by the Antimicrobial Resistance (AMR) Cross-Council Initiative, and one funded by the Biomedical Resources Grant. Figure 1 displays the geographical spread of research institutes funded by the GHR Portfolio. The scope of this evaluation is the entire GHR Portfolio in the first phase, with some exceptions[8].

Figure 1. Country coverage map of instances of funding[9]



Of the **610 awards** that are both in scope of the evaluation (from 4 April 2016 and 4 April 2021) and have complete identification data (institution name and start date), **297 awards are contracted to LMIC institutions**. This means approximately **49% of lead contracted institutions[10] in GHR Phase 1 portfolio awards were in LMICs**.

However, **296 of these lead contracted institutions are awarded under Partner-led programmes (99.6%) and only one institution is funded via NIHR-led programmes.** This is mainly driven by smaller awards, particularly funded under RSTMH. Broken down, these are:

[7] Based on the datasets shared by the respective programme leads. 'N/A' shows programmes which did not present datasets.
[8] 3 of the 30 programmes were excluded from the scope of this evaluation during the inception phase: MMV and FIND had a specific purpose in the earlier part of Phase 1 that is less relevant to the future development of the GHR portfolio; GPSC was a sub-community within a broader network where project staff and stakeholders were no longer accessible through DHSC. See Annex 5 for a detailed rationale as to why these programmes from the GHR Portfolio were out of scope for this evaluation.
[9] This figure represents the number of instances (out of 1349) a funded research institute has been located in a particular country; not to be confused with the number of funded research institutes per country. The numbers used are approximate and based on the datasets sent by NIHR and partner leads, compiled in September 2022; datasets for some programmes are missing. To note Ecorys is cognisant of disputed borders and does not intend to make any political claims with this map.
[10] Lead contracted institutions refers to the institution leading the award, or consortia for larger awards.

- EDCTP: 7
- ELHRA: 12
- GCC: 12
- JGHTI: 20
- MRC: 13
- NIHR-led: 1
- RSTMH: 215[11]
- WELLCOME: 17

The number of lead LMIC contracted institutions increased during the period of evaluation, peaking at 130 institutions in 2020. A breakdown across the years is provided below[12]:

- 2016: 1
- 2017: 8
- 2018: 7
- 2019: 43
- 2020: 130
- 2021: 108

The GHR Portfolio governance structure aims to ensure that the GHR team has appropriate opportunities to consult with, and seek information and approval, from a series of entities. The Independent Scientific Advisory Group provides independent strategic and scientific advice on the development of the GHR Portfolio, with the intention of ensuring that the GHR strategy and programmes remain coherent. The GHR Programme Board oversees the GHR Portfolio's direction with the intention of this being consistent with its strategic mandate and makes key decisions and recommendations to support and ensure delivery of the GHR Portfolio. NIHR reports to the Science Research & Evidence (SRE) Senior Management Team and the Chief Scientific Advisor for approval, who oversee operational issues across the Directorate and NIHR, setting strategy and policy, and providing assurance on all business management, finance, risk and audit requirements from the SRE Directorate.

The GHR Portfolio is delivered in collaboration with a wide range of partners. When the GHR Portfolio was launched, DHSC initially prioritised working with partners who were already well established in the global health research space, such as the Medical Research Council (MRC) and the Wellcome Trust. The GHR team worked with these funders to create partnership opportunities and proposals for funding allocations based on collaborative identification of critical gaps in global health research. NIHR simultaneously built up its internal capacity to issue calls for research applications from UK institutes with LMIC research partners based on LMIC health research priorities. The NIHR GHR team grew from a small core group comprising a few individuals to a more extensive team with wider global health expertise. In July 2023, DHSC appointed Professor Kara Hanson as the first Programme Director for NIHR's GHR Portfolio. This role is expected to provide scientific oversight of the entire GHR Portfolio, enhance coherence across programmes, and monitor, centralise and embed GHR Portfolio-wide learning into future phases.

The GHR Portfolio ToC, developed by the DHSC GHR Team, NIHR Coordinating Centres and other strategic partners, sets out the ambition for the GHR Portfolio's contribution to global health outcomes. The GHR ToC visually represents how the GHR Portfolio's funded activities and outputs are intended to contribute to long-term positive changes in health and health systems. It identifies anticipated causal links drawing on theory from literature on health research impact and acknowledges that it may require 10-25 years for changes in policy, practice and behaviour (outcomes) to contribute towards strengthened health systems and increased individual and community capacity for health promotion and disease prevention (impacts). Causal links become harder to measure over time because of a wide range of external factors, including changes in the social, political or economic context, and are therefore based on a set of assumptions, detailed in Section 9.0. The ToC is comprised of the following elements:

- **Outputs (short-term):** Funded activities in the GHR Portfolio are expected to produce tangible and measurable products in the short-term. The ToC outlines 4 results at output level, including high-quality policy

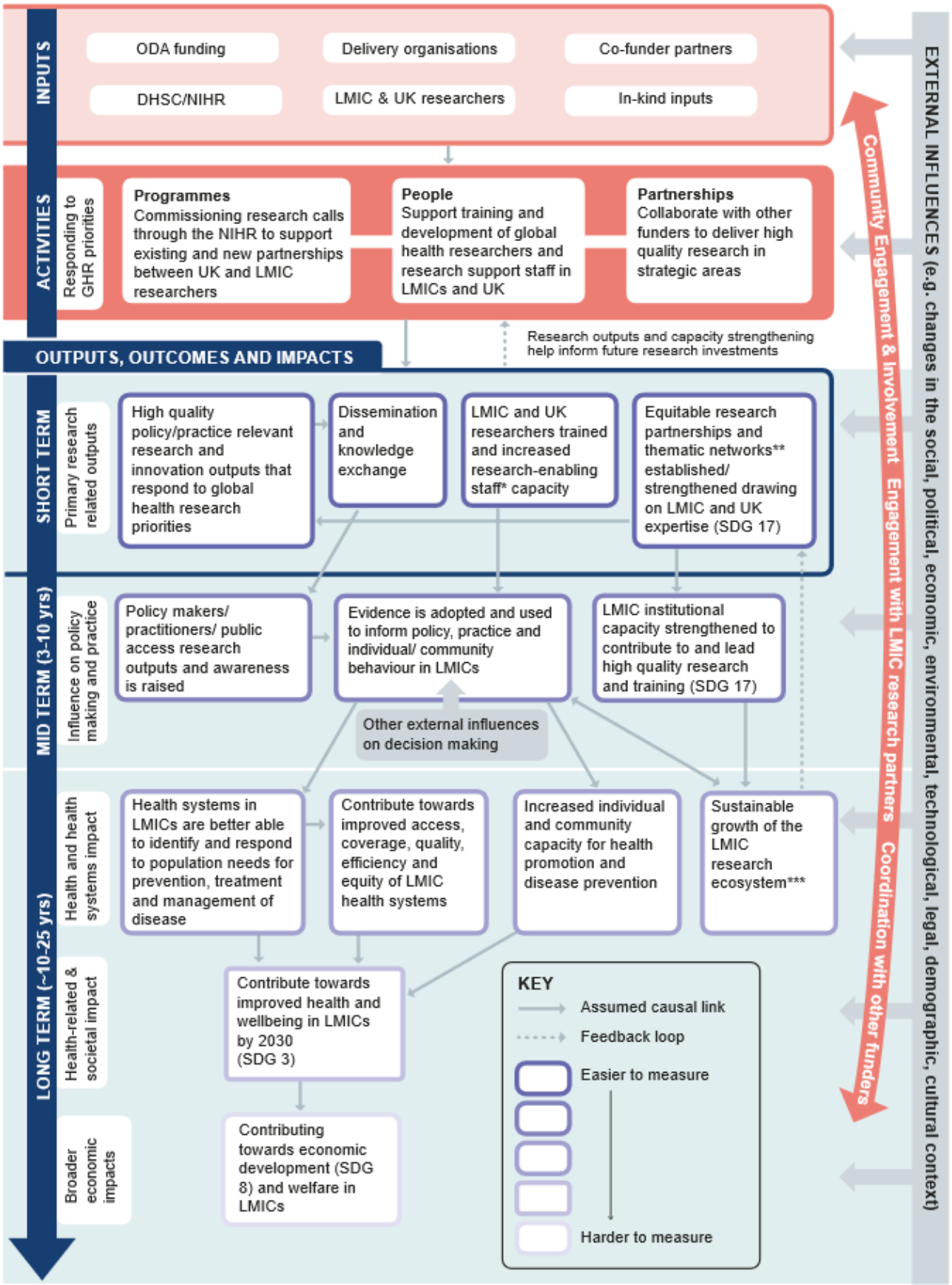
[11] Funding to LMIC institutions is classified as where the lead institution was in an LMIC country, irrespective of the nationality of the lead researcher or where they were based. So for RSTMH, while the lead researcher may be from an LMIC country, some are associated to an HIC institution, so those are not classified as direct funding to LMIC institution.
[12] To note smaller figures are expected in the first years of Phase 1 given NIHR was a domestic focused funder until 2016.

or practice relevant research and innovation outputs that respond to global health research priorities, dissemination and knowledge exchange, LMIC and UK research capacity-strengthening (RCS) and new or strengthened equitable research partnerships and thematic networks.

- **Outcomes (mid-term, 3 -10 years):** Outputs are intended to contribute to mid-term outcomes that influence policy, practice, and individual/community behaviour in LMICs. The ToC envisages short-term dissemination and knowledge exchange activities contributing towards policy makers, practitioners and the public accessing research findings and awareness being raised. As evidence is increasingly used to inform policy, practice and behaviour, LMIC institutional capacity is expected to strengthen and contribute to high-quality research and training.
- **Impact (long-term, 10-25 years):** Changes in policy, practice and behaviour are expected to lead to longer-term impact on health systems and population health, and social and broader economic impacts. The ToC envisages that impacts will include stronger health systems in LMICs that are better able to identify and respond to population health needs, improved access, coverage, quality, efficiency and equity of LMIC health systems, increased individual and community capacity for health promotion and disease prevention, and sustainable growth of the LMIC research ecosystem.
- **Cross-cutting issues:** Several cross-cutting themes that apply across every stage of the ToC are expected to support progress towards the intended outcomes and impacts. These include community engagement and involvement, equitable partnerships and coordination amongst funders to encourage locally-informed research, enhance impact and minimise duplication of activities.
- **Assumptions:** Central to the ToC for the GHR Portfolio are nine assumptions which state the conditions necessary for activities to lead outcomes and ultimately long-term impacts. The evaluation's approach to testing these assumptions and hence the validity of the ToC is discussed in Section 9.0.

The ToC is a key reference framework for the development of the evaluation approach and methodology, as set out in Section 3.0.

Figure 2. NIHR's GHR Portfolio Theory of Change



3.0 Evaluation approach and method

3.1 Evaluation framework

The evaluation uses a theory-based approach to assess evidence of the GHR Portfolio's contributions to date towards its intended outputs, outcomes and impact[13]. This process involves testing the GHR Portfolio's ToC (see Section 2.0), its assumptions and causal links to assess the extent to which the theory underpinning the GHR Portfolio's design is holding true. The evaluation of the first phase of the GHR Portfolio considers its potential contribution to research impact over the long-term and, therefore, assesses evidence based on whether the GHR Portfolio is on track to delivering the expected results.

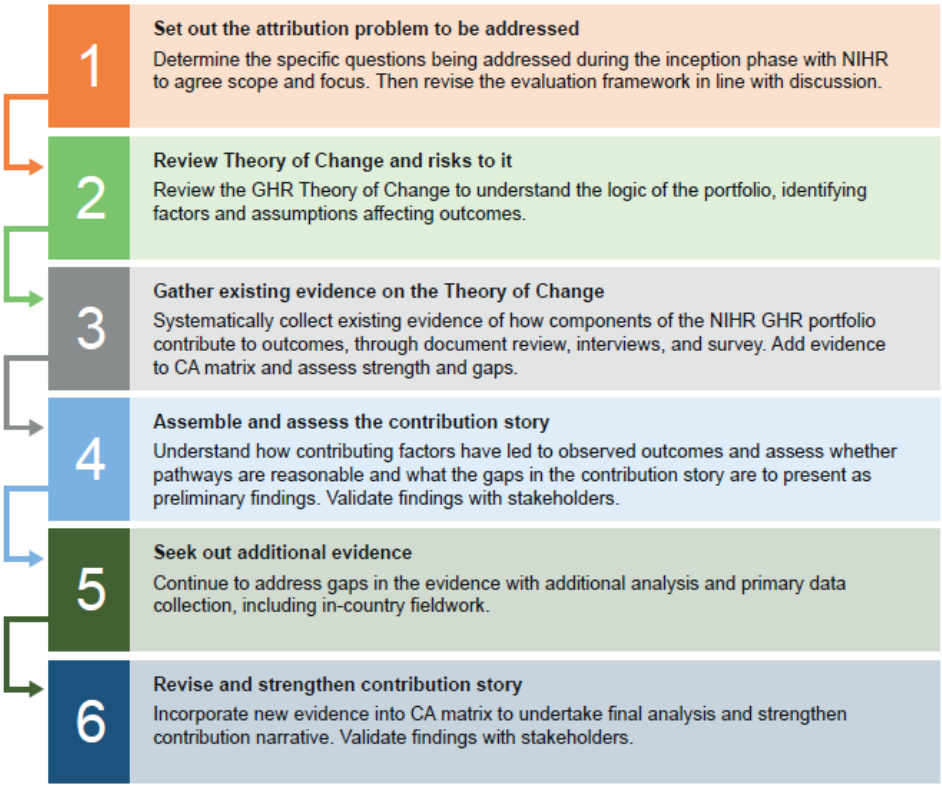
The ToC informed the development of the Evaluation Framework[14]. As appropriate for an evaluation of a UK Aid-funded GHR Portfolio, the EQs are organised around the OECD-DAC evaluation criteria: Relevance, Coherence, Efficiency, Effectiveness, Sustainability and Impact. The Findings Section also includes:

- Findings for EQs on adaptability and learning of the GHR Portfolio.
- Findings on the approach to CEI which are integrated throughout.

A workshop conducted by Ecorys during the inception phase to examine the ToC indicated DHSC's anticipated causal pathways from inputs and activities to outputs, outcomes and impact remained valid. We unpacked the ToC assumptions and mapped them against the Evaluation Framework. These assumptions have been examined and tested during the interim and final evaluation phases, and our findings on the extent to which they are holding true are assessed in Section 9.0 of the report. The ToC provides the basis for the evaluation's contribution analysis (CA) approach. The CA method and analytical tools provide a way to structure and build up evidence about GHR Portfolio activities and their potential contribution to supporting short, medium, and long-term change in health and health systems, as well as to test the ToC and suggest amendments. Figure 3 presents an overview of the steps followed in this analysis.

[13] A theory based design was pursued from the outset, recognising that a counterfactual evaluation would not be feasible.
[14] See Annex 6 for the full Evaluation Framework.

Figure 3. Overview of the approach to CA

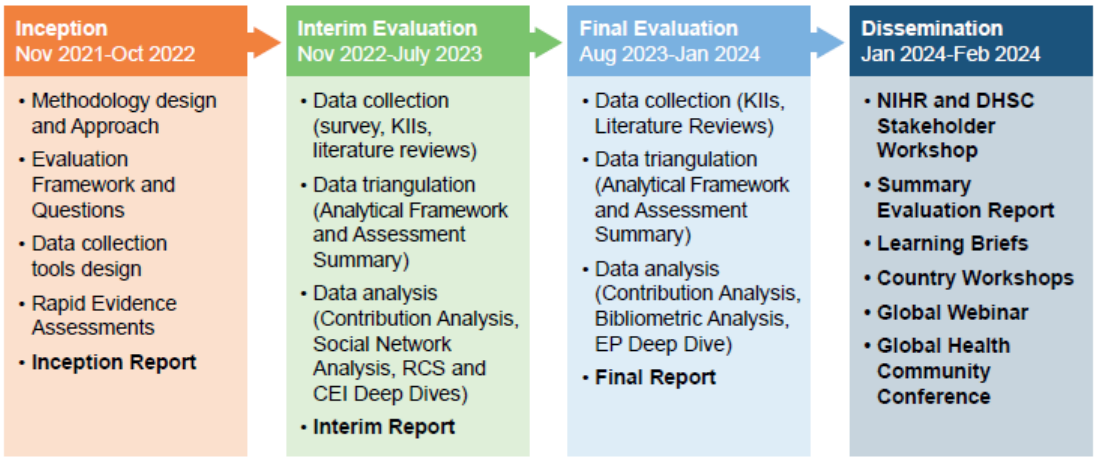


The evaluation team has employed a mixed methods approach to gathering evidence for the CA, using both quantitative and qualitative data collection and several analytical methods to answer the EQs. The research methods described below are designed to provide consistent and systematic evidence across all programmes. The evaluation design also incorporates deep dives on critical aspects of the ToC (RCS, CEI and EP) drawn from a sub-set of awards. All evidence has been aggregated to the GHR Portfolio level to ensure findings support recommendations and learning at the broadest level.

3.2 Evaluation Phases

The evaluation of the first Phase of the GHR Portfolio is delivered in 4 evaluation phases, covering inception, interim evaluation, final evaluation and dissemination, as presented in Figure 4. This final report builds on the activities conducted during the inception, interim and final evaluation phases.

Figure 4. Overview of evaluation activities timeline



During the **inception phase**, we designed the methodology, EQs and data collection tools. In-country partners supported key inception tasks, including stakeholder mapping and 4 rapid evidence assessments (REAs) in India, Brazil, Ethiopia and South Africa. These helped draw on constituent programmes in the GHR sector to minimise duplication of evaluation efforts, identify key information about health systems in LMICs, situate our initial research findings in country contexts, and assess relevance to national health priorities.

During the **interim evaluation phase**, a series of GHR Portfolio-, programme- and award level research tasks were completed, including case study research (documentary review and interviews) for selected awards from a sample of programmes. Further stakeholder mapping in consultation with NIHR allowed for alignment of stakeholders against key evaluation areas to the best extent possible, and minimised duplication when finalising interview selection. However, given the size and complexity of the portfolio and the involvement of stakeholders across multiple countries and interventions, it is important to note that this could not be done systematically . As illustrated in Figure 4, research tasks followed a three-step approach: starting with data collection, data triangulation and data analysis.

In the **final evaluation phase**, findings from the interim evaluation report were updated and complemented, after additional data collection, triangulation and analysis. The evidence at all levels has informed the overall GHR Portfolio findings reported in Sections 4.0-10.0.

The **dissemination phase** will focus on lessons for the GHR Portfolio and a wider policy audience relating to: (a) the extent to which researchers are engaged in effective knowledge mobilisation (and what types of support or interventions encourage the transfer of knowledge), and (b) the extent to which CEI meaningfully and sustainably leads to higher quality research and intended impacts. A series of tailored dissemination outputs is proposed in the dissemination and uptake plan (see Annex 3).

As noted in Section 3.4, this evaluation takes place while the GHR Portfolio is already well into Phase 2 of implementation, with some recommendations already in the process of being actioned. However, the timing of this evaluation is advantageous in that it seeks to assess the progress made towards achievements of outcomes to inform future activity of the GHR Portfolio, including testing the assumptions of the ToC and strengthening the contribution story and pathways of change / impact.

3.3 Methodology Overview

3.3.1 Data Collection & Validation

Data collection was carried out at GHR Portfolio, programme and award levels . Each level required a distinct set of tools to collect the necessary evidence base for analysis, as summarised in Table 1. Data collection tools including topic guides, survey and analytical framework were piloted and validated before using for the evaluation. All instruments built on the Evaluation Framework to ensure consistency of data collected at all levels . All instruments were tailored on an ongoing basis, according to new document reviews, internal and external workshops, and stakeholders interviewed. Any small divergences in approach to the original ToRs did not impinge on the consistency and robustness of data collected.

Table 1. Overview of approach to data collection throughout the evaluation

Level	Documents	Interviews / FGDs15	Survey
GHR Portfolio	High-level 5 documents	Sample of 19 stakeholders, 14 internal and 5 external	-
Programme	Selection of 74 documents	All programme lead stakeholders; 41 interviewees in total	-
Award	Selection of 113 documents	Sample of award level stakeholders across 12 programmes (8 covered in the interim evaluation, 4 in the final evaluation); 295 interviewees in total	Aggregated findings from survey to all award holders; 293 respondents in total

GHR Portfolio level data collection covered 27 in scope programmes and involved a document review and stakeholder interviews. The document review included materials related to governance, CEI strategy and guidance, and a DHSC Annual Review. Following a stakeholder mapping activity, a sample of stakeholders with knowledge of the GHR Portfolio and/or the wider policy and operational context was selected for interview. Internal stakeholders were selected based on their function across relevant GHR governance and management structures, and included lead staff on partnerships, operations, governance, VfM and CEI. The sample of external stakeholders was selected based on diverse expertise and knowledge relevant to the rationale of the GHR Portfolio and synergies with wider research relevant to global health. As displayed in Table 2, 19 GHR Portfolio level interviews were conducted, including with government stakeholders and UK Research and Innovation (UKRI).

Table 2. Overview of completed GHR Portfolio level interviews

Type of Stakeholder	Organisation	Total No. Interviewees	Interview Details	
			Female	Male
Internal	DHSC	14	10	4
External	UKRI	1	0	1
	FCDO	2	1	1
	IDRC	1	0	1
	WHO	1	0	1
Total		19	11	8

Programme level data collection included the 27 programmes in scope and involved a document review and stakeholder interviews. The document review at the programme level included a selection of approximately 3-5 documents per programme, with priority given to business cases, call guidance, NIHR annual reviews and monitoring reports. Documents were systematically reviewed against the Evaluation Framework, and this supported the identification of topics to probe during the stakeholder interviews. A total of 74 documents were reviewed across all programmes. Annex 8 contains the full bibliography. Programme stakeholder interviews were conducted with programme leads from 27 programmes (some stakeholders lead various programmes simultaneously), as well as other relevant programme managers and experts in the programmes recommended by leads. A total of 41 interviewees participated in 24 interviews.

[15] The list of consultees comprises of three levels: see Table 2 for an overview of interviewees at the Portfolio level, see Table 3 for an overview of interviewees at the programme level and see Annex 10 for a detailed overview of the interviewees at award level.

Table 3. Overview of completed programme level interviews

Type of Programme	Total No. Interviewees	Interview Details	
		Female	Male
NIHR-led	11	8	3
Partner-led	30	23	7
Total	**41**	**31**	**10**

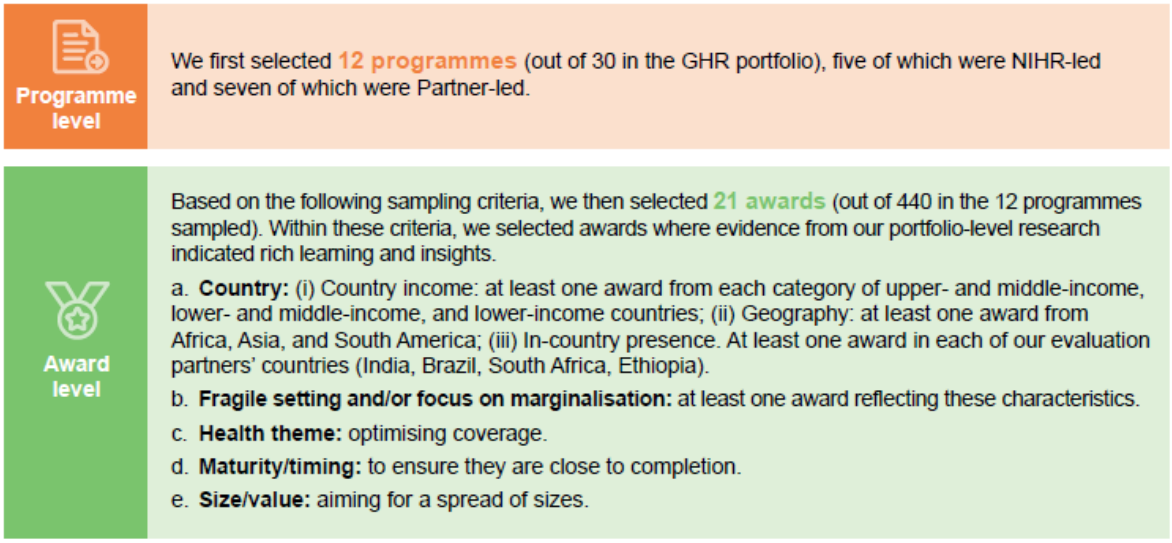
Award level data collection included a survey, a review of documentation from selected awards, and consultations and interviews or focus group discussions (FGDs) with research teams and stakeholders of selected awards.

Awards survey: Award holders in 21 programmes under the GHR Portfolio[16] were included in the survey. As most programme leads only had contact details for Principal Investigators (PIs), PIs were asked to distribute the survey to other relevant team members to ensure a wider range of views were captured. The survey was open from October 2022 to January 2023 and collected responses to 30 closed and two open-ended questions. The former covered the focus areas of the Evaluation Framework, while the latter focused on the programmes' strengths and areas for improvement. Responses were aggregated at the GHR Portfolio level to ensure consistency with other analyses in the evaluation. From an estimated 590 people who were invited to participate, 293 people responded (~50% response rate). Due to small sample sizes for some programmes and lack of representativeness, statistical significance testing was not conducted. Noteworthy differences are highlighted in the analysis based on the evaluators' judgement.

Awards sampled for assessment: Our evaluation benefits from evidence gained from deeper investigation into a sample of awards of the GHR Portfolio. Considering the diversity within and among the programmes and awards, the sample was not intended to be representative of the entire GHR Portfolio and rather offered an opportunity to explore some of the causal pathways and assumptions in the ToC in detail. This approach provided a nuanced understanding of the progress towards outputs and outcomes. The purposive approach to sampling involved first identifying 12 programmes[17] that provided a spread across completion status, health thematic areas, award size, award duration, and number of award partners. From these 12 programmes, eight programmes (and 15 awards) were selected for the interim evaluation phase and four programmes (and 6 awards) were selected for the final evaluation phase. Award level sampling was finalised in consultation with NIHR programme leads, the Evaluation Steering Group, and two meetings on emerging findings held in March 2023 and September 2023 with DHSC, NIHR and selected partners leading the sampled awards.

[16] 6 programmes in the GHR portfolio were omitted from the survey, namely Global Research Professorships, FAF, SPARC, Biomedical Resources Grant, CEPI and GFGP. The rationale for exclusion is explained in Annex 5. Complete award level survey findings in Annex 9.
[17] The 12 programmes include: (i) NIHR-led: GHR Units, GHR Groups, Global Research Professorships, Global HPSR, RIGHT; (ii) Partner-led: EDCTP, GACD/MRC, AMR-SORT IT, NIHR-GHR Wellcome Partnership, RSTMH, Global Mental Health-GCC, GECO/MRC.

Figure 5. Overview of award level sampling approach



Document reviews and interviews at award level: For each of the awards sampled in the evaluation phases, document reviews and interviews were conducted. Given the broad range of award-specific documents, we reviewed a selection of approximately 2-11 documents per award, prioritising applications, annual reports, monitoring reports and end of award reports where available. These were reviewed prior to conducting consultations and interviews to inform the tailoring of the topic guides. In the final evaluation phase, in addition to the project-specific documents, we also conducted a country context analysis where we reviewed 3-6 documents on the health context of the award countries and health topics we were assessing. A total of 113 documents were reviewed across all sampled awards throughout the interim and final evaluations. See Annex 10 for a detailed breakdown of the documents reviewed and interviews conducted at award level.

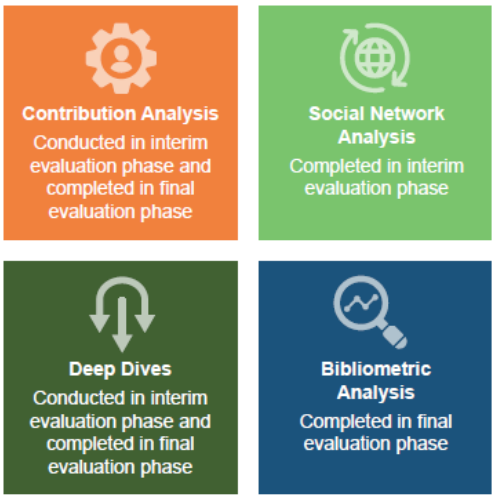
To guide the interviews / FGDs, we conducted an initial consultation with the PIs, aiming to introduce the evaluation, and obtain an overview of the award's status, any missing documents, and suggestions on award-specific stakeholders to interview. These were then followed up with a review of the data collection tools, and more tailored interviews or FGDs across all awards. Throughout the interim and final evaluation phases, we conducted a total of 158 interviews / FGDs with 295 participants from early April to November 2023. We tailored topic guides to stakeholders and where necessary adapted these to their language requirements, conducting interviews in English, Spanish, French, Portuguese, Tamil, Malayalam and Urdu. Interviews were 1-1.5 hours long and conducted mostly online. However, benefiting from the local presence of our evaluation consortium, the team also carried out in-person fieldwork for three awards in the interim evaluation phase, in Chennai (India), Karachi (Pakistan), and Cape Town (South Africa) in May 2023 and two awards in the final evaluation phase, in Chennai and Kerala (India) and Mbale and Kampala (Uganda) in October 2024.

3.3.2 Data triangulation and analysis

All data collected through document reviews, interviews and the survey has been coded by each EQ in our Evaluation Framework, ensuring comprehensive coverage and a consistent approach to minimise bias. This process has been used at the award, programme and GHR Portfolio levels to support synthesis and generation of findings by EQ area. **Assessment summaries** were produced for each EQ, aggregating all evidence streams at GHR Portfolio, programme and award levels to allow for subsequent overall analysis. Internal evaluation team emerging findings meetings were held after data collection was completed in the interim (May 2023) and final (December 2023) evaluation phases to ensure all data was cross validated internally and triangulated, before initiating report writing. Further validation sessions for recommendations were held with NIHR's CEI Working

Group and Partner-led programme representatives during both interim and final evaluation phases. As presented in Figure 6, four different data analysis methods have been used.

Figure 6. Overview of the data analysis process



- **Contribution Analysis:** The CA method allows for a systematic assessment of the GHR Portfolio outputs and their potential contribution to the GHR Portfolio's expected outcomes, as reflected in the ToC. This method uses qualitative data from programme and award level interviews, document reviews, and the survey analysis as evidence for analysis. This analysis has been conducted using the Evaluation Framework and a CA matrix.

- **Evaluation Framework:** We have assessed all evidence at programme- and award levels from a strength of evidence perspective, following the rubric presented in Figure 7. These assessments were collated at the GHR Portfolio level to summarise the volume and quality of data sources contributing to the evidence. As the ToC assumptions have been mapped against the Evaluation Framework, these have also been tested where relevant and are presented against key findings in Sections 4.0-10.0.

Figure 7. Key for Strength of Evidence

Strength of evidence (1 to 4)	**Strong (4)** The finding is supported by documents and data, which is categorised as being of good quality by the evaluators (final version that has been shared / published to intended audience) AND The finding is supported by the majority of interviews, including external stakeholders, with the relevant stakeholder groups for the specific issues at hand. Where fewer data sources exist, the supporting evidence is more factual than subjective (perception-based).	**Moderate (3)** The finding is supported by majority of documents and data of lesser quality by the evaluators AND/OR The finding is supported by majority of interviews, including external stakeholders, although some relevant stakeholder groups for the specific issues at hand are not consulted. Where fewer data sources exist, the supporting evidence may be more perception-based than factual.	**Limited (2)** The finding is mainly perception-based. It is supported by few of the documents and/or data, which is categorised as being of lesser quality OR The finding is supported by some interviews, but no external stakeholders are consulted.	**Poor (1)** The finding is supported by limited evidence single source, including documents, data or interviews, and evidence is judged as poor quality, incomplete and/or unreliable (e.g., contradictory statements).	**No evidence**

- **CA matrix**: To assess progress towards longer-term outcomes, we have developed a CA matrix which maps the GHR Portfolio ToC outputs against its outcomes (see Section 9.0 Impact for reference). We have not

mapped outputs to impacts, given the complex and multi-factored relationship between the two and the timing of the evaluation. Each cell linking outputs with outcomes includes an assessment of the strength of evidence and plausibility of contribution (see Figure 7 and Figure 8)[18]. For the interim and final evaluation phases, an individual CA matrix has been completed per award sampled and per programme in the GHR Portfolio, allowing for a detailed assessment before aggregating scores onto award- and programme-wide matrices. These CA ratings have then informed the GHR Portfolio level findings, which present the strength of evidence and plausibility of contribution of the GHR Portfolio towards its intended outcomes..

Figure 8. Key for plausibility of contribution

Plausibility of contribution (1 to 4)	**Highly plausible (4)** Clear, direct causal association between specific NIHR GHR inputs/activities and outputs and outcomes. There are comprehensive references and detailed examples which illustrate the mechanisms through which the programme directly supported change. Actualised instances only.	**Plausible (3)** Inferred causal association between specific NIHR GHR inputs/activities and outputs and outcomes, even if not directly evident. References and examples are provided as to how the programme might have or has supported change. Includes a mix of actualised and anticipated instances.	**Somewhat plausible (2)** An ambiguous or weak indication of causal association between specific NIHR GHR inputs/activities and outputs and outcomes. Few examples or references are provided, with limited elaboration on how the programme might have or has influenced change. Includes a mix of actualised and anticipated instances.	**Not clear (1)** Indistinct or no discernible causal connection between NIHR GHR inputs/activities and outputs and outcomes to form judgements. Negligible references or examples on the programme's influence or support for change. Includes predominantly anticipated instances.	**No evidence**

- **Social Network Analysis (SNA):** The evaluation used SNA (see Annex 11) to supplement the Evaluation Framework on aspects related to the effectiveness of networks funded by the GHR Portfolio, whether there is coherence with other health research funders, and the approaches that the networks use to disseminate evidence and improve their accessibility. Award level datasets were used to identify the relationships between institutions in award partnerships formed under the GHR Portfolio. Survey data was used as a supplementary source of additional information, and Researchfish data from NIHR was considered for potential Units and Groups sub-analysis, depending on consistency and coverage. However, this was not done due to incomplete data. Data on actors and their relationships was extracted and formatted to explore three levels: (i) GHR Portfolio and (ii) NIHR-led or Partner-led, and (iii) within specific programmes if appropriate.

- **Deep Dives**: We used award level findings to explore some of the causal pathways and assumptions in the ToC in more detail and provide a more nuanced understanding of progress towards outputs and outcomes. During the interim evaluation phase, the team built on the award level analysis to develop specific reviews of CEI and RCS at individual, institutional, and systems levels, exploring both barriers and enablers to planned outputs and outcomes. During the final evaluation phase, the same exercise was conducted for EP. These have been submitted separately to DHSC for internal learning and provided the basis for learning briefs.

- **Bibliometric Analysis (BA):** We conducted a BA as part of the final evaluation, to explore the reach and impact of NIHR-funded research, including publications and other research outputs where possible. It adds to our evaluation of the GHR Portfolio's effectiveness, including the scientific importance and policy relevance of research outputs through performance metrics and citation analysis, as well as insights into equitable partnerships through co-authorship analysis. While quantitative insights from the BA reveal the extent of

[18] Refinements were made to both keys following the interim evaluation phase, leading to retrospective adjustments of our assessments to ensure consistency.

NIHR's research outputs, this also serves as a proxy for quality. Our findings have been triangulated with qualitative data to nuance evidence on whether research is scientifically important, policy relevant, and delivering research impact. The BA approach and results are presented in Annex 12.

Finally, we triangulated from across the research to conduct a strategic assessment of VfM at the Portfolio level in terms of allocative efficiency, technical efficiency and value/results, investigating:

- Whether GHR (and its delivery partners) funded the right activities and the right mix of activities? (Allocative efficiency)
- Whether the GHR Portfolio is managed well, turning the inputs into outputs in an efficient and effective way (Technical efficiency)
- The likelihood of research outputs translating into sustainable outcomes and impact? (Value/Results)

3.4. Limitations and mitigations

The following limitations have been encountered and mitigated as far as possible.

Table 3. Encountered and mitigated limitations

Limitation	Mitigation
Availability and quality of data: The availability and quality of secondary data across the programmes and awards is not centralised and is inconsistent (particularly between Partner-led programmes); this has lowered scores on strength of evidence for findings across some EQs. For instance, there is insufficient data available on VfM or expenditure to conduct a rigorous analysis. In the survey, small sample sizes in some programmes prevented programme level analysis. SNA was also limited by few monitoring datasets and survey data capturing the relationships between institutions. BA was also limited by available data: of the 500 grants ID supplied through the dimensions bibliometric datasets, 70 came back as null.	Where there have been gaps in secondary data, we have supplemented through primary data sources, such as stakeholder interviews at programme and award levels and through survey findings. This has helped validate our qualitative findings and increase confidence in the plausibility of contribution. Where there have been gaps in survey responses, we have addressed these with evidence from interviews and document reviews.
Respondent bias: All documents reviewed are self-reported and risk reflecting a potential respondent bias, in favour of unrealistic positive outcomes, and from a particular perspective. It was not feasible to carry out comprehensive research with patients or community-level beneficiaries on the ground across all awards and programmes, and therefore to validate findings with all stakeholders at this stage. Using award teams for translation in some in-country interviews has also increased risk of respondent bias. Some interviewee perspectives are also under-represented due to low response rates, particularly among policy makers. With 21 awards reviewed in depth, we cannot achieve statistical	Under-representativeness of certain views and respondent bias was mitigated by interviewing a broad range of stakeholders, representing a diversity of experiences and geographies. We were unable to engage some awards for intended fieldwork, and were required to reduce number of stakeholders and conduct interviews remotely rather than conduct in person fieldwork Tailoring topic guides based on document reviews and interviews supported probing on the gaps and triangulation of opinions. Strength of evidence assessments indicated the number of times a finding was referred to and the quality of the sources. Engagement with strategic stakeholders external to DHSC in the final evaluation phase helped to capture

Limitation	Mitigation
representativeness / generalisability of the overall GHR Portfolio. Inconsistent survey data coverage across the GHR Portfolio, including an oversampling of PIs, has also limited representativeness.	their missing perspectives. Despite limited opportunities for representative sampling, a purposive sampling approach for programmes and awards means the sample includes rich learning and insights against the EQs.
Time-lag in observing impact: Many of the impacts sought will take many years to realise and thus fall beyond the lifetime of the evaluation; for instance, achieving health systems strengthening in LMICs to identify and respond to population needs for management of disease. A theory-based evaluation approach enables us to measure progress along causal pathways towards outcomes. Given the ongoing nature of the evaluation, and the different start dates of programmes within it, findings are limited in terms of presenting a comprehensive overview of the GHR Portfolio and its longer-term results.	While the GHR Portfolio is ongoing, the evaluation seeks to assess the progress made towards achievements of its outcomes and is timed to inform future activity of the GHR Portfolio. The CA method selected is also expected to contribute to refining the GHR Portfolio level ToC, testing the assumptions and strengthening the contribution story and pathways of change / impact.

3.4 Ethics and safeguarding

This evaluation strived for high ethical standards, based on a person-centred 'Do No Harm' approach, and in compliance with DHSC guidelines. Our approach adheres to HMG's Research Governance Framework, the Government Social Research Code and the Foreign, Commonwealth & Development Office (FCDO)'s Ethics principles for research and evaluation. All team members and research partners adhere to the Ecorys Safeguarding Code of Conduct. The evaluation's methodology is assessed from a safeguarding perspective to ensure it is ethically sound and addresses all circumstances where safeguarding risks may occur. Data collection processes requiring in-person and virtual interactions are informed by the following considerations in order to ensure confidentiality and anonymity:

- We asked all interviewees to read an information sheet regarding how personal data will be stored and protected and confirm consent to participating in the interview. Consent was included in topic guides and sought before all interviews.
- Interviewers were briefed prior to primary data collection on how to use research tools to ensure familiarity with the information sheet, and knowledge on how to obtain consent and communicate data privacy details. The team participated in biweekly debriefs during primary data collection to raise issues or concerns.
- All survey data collected was anonymous and personal or potentially identifiable data has been treated as confidential. Respondents were presented with the terms and conditions of the survey and were asked to provide their consent before proceeding.

We also engaged with patient associations, hospital community board members and other community groups where possible. The following actions were taken to ensure safeguarding standards were upheld and to mitigate potential harm:

- The evaluation team participated in a pre-fieldwork briefing meeting which emphasised Ecorys' and FCDO's Safeguarding Codes of Conduct to ensure participants' welfare is at the forefront of the evaluation.

- Interviewers were selected on the basis of their CEI / Gender Equality and Social Inclusion (GESI) expertise. Our CEI / GESI Lead, alongside local researchers, conducted primary data collection for awards and deep dives related to CEI or requiring engagement with marginalised groups.
- The evaluation only engaged with citizens that already have a relationship with the research institute / PI for each award. The PI acted as a “gatekeeper” for data collection activities with wider community stakeholders or interlocutors, identifying and / or clarifying any issues or sensitivities.

The evaluation team was able to work freely and without interference to complete this final report and there were no noted conflicts of interest; information sources and their contributions were independent of other parties with an interest in the evaluation.

4.0 Findings: Relevance

4.1 EQ 1: To what extent is the GHR Portfolio addressing priority areas of health research in LMICs where there is unmet need as identified by government and/or civil society in the relevant countries?

Overall finding

The GHR Portfolio has ensured the relevance of its investments. It has focussed on thematic areas that are not well addressed by other funders but are considered a high priority in LMICs and was agile in responding to emerging COVID-19 needs. Funding aligns with country contexts and the interests of country governments and civil society, and researchers in LMICs were involved in influencing this. Our analysis also found that health inequalities were prioritised and efforts were made to understand the drivers and root causes of these disparities. The relevance of the investments is facilitated by a researcher-led approach, that complemented commissioned calls. Unmet needs were identified through consultation with other UK and international partners already highly experienced in GHR, and through calls for research from UK and LMIC institutes based on their understanding of neglected thematic areas. This resulted in a portfolio that is thematically much broader than the envisaged focus on non-communicable disease (NCDs). Our findings indicate that a more focused approach may now be beneficial. Researchers and key country stakeholders were consulted in the design and development of the GHR Portfolio's first Phase. The degree and quality of engagement of LMIC researchers and other stakeholders could be improved to promote greater sustainability and impact. Direct involvement of government and civil society actors representing marginalised populations strengthened over time, particularly where researchers have obtained follow-on awards to continue or expand their research. Greater attention to gender and equity-related dynamics and ethical issues around conducting research in underserved communities is needed. NIHR has made strong efforts to have more LMIC-led research partnerships which could help ensure identification of local priorities and stronger embedding of the research in local systems.

4.2 EQ 1.1: To what extent was the design/development of the GHR Portfolio and funding allocations guided by evidence of priority areas of health and health research in LMICs?

The GHR Portfolio responds to global health priorities that constitute a high burden of mortality and morbidity in LMICs and are often underfunded. This is underpinned by relevant global literature and inputs from UK and international GHR researchers and their LMIC research partners. These point to neglected thematic areas of high burden in LMICs and guide the conceptualisation and funding allocations of programmes and awards. The design of programmes and awards is driven by priority areas of health and health research in LMICs are identified through various mechanisms. NIHR and external GHR Portfolio- and programme level stakeholders agreed that the GHR Portfolio has responded well to global priorities. The vast majority (97%) of survey respondents agreed that the research was informed by unmet needs. The award level reviews provide strong evidence that their research is founded on local, and often global, priorities. This was more evident in the NIHR-led awards reviewed but varies in the Partner-led awards. Most of the reviewed awards (19/21) demonstrate that earlier research in partner countries was used to identify local needs and fed into the design of the awards. *(Strong Evidence)*

Experienced partners played a crucial role in helping to identify priority themes, leveraging their expertise and LMIC networks to support the early roll-out of activities. When the GHR Portfolio was launched in 2016, there were two DHSC staff members and limited institutional experience in global health research within NIHR. To

support effective mobilisation of the GHR, an intensive engagement exercise was undertaken to collaborate with more experienced global health partners, such as the Department for International Development (DFID, since integrated into FCDO), MRC and Wellcome Trust in the UK, and global and regional partners such as GCC and the European Union, among others. Individuals from these organisations brought specific expertise and wider networks into the process of engaging researchers, which helped to establish the foundation for the subsequent delivery of the GHR Portfolio. This included:

- EDCTP involves 44 African and 19 European countries, thus providing a vast network of LMIC connections and forming a substantial part of the GHR Portfolio in Phase 1.
- RSTMH, the Wellcome Global Health Partnerships programme and the Global Professorships programme which enabled around 269 researchers, mostly from LMICs, to access funding and develop their individual research capacity and careers. *(Strong Evidence)*

NIHR rapidly build up NIHR Coordinating Centre expertise to deliver ODA-funded research, bringing in new staff with strong experience in GHR. During Phase 1, NIHR strengthened its internal capacity to manage research calls enabling a gradual shift in funding allocations from Partner-led to NIHR-led programmes.

NIHR developed the GHR Portfolio ToC with key partners to support alignment of investments and reflect DHSC/NHS research design and delivery principles. Since the ToC was developed in 2018, programmes have criteria for how awards should adhere to CEI and equitable partnerships principles and guidance for research calls has evolved to support these expectations. Over time, the NIHR directed investments towards programmes that align well with the framework and lack sufficient funding from other sources.

The GHR has been responsive to a wide range of health priorities. NCD was highlighted as an early priority area due to a dramatically increasing burden in LMICs, extensive expertise in the UK, and an understanding that research in infectious disease had more funding. Funding for infectious disease-related research was also substantial in Phase 1 and infection is the commonest category in associated publications. Early partnerships that reflect the NCD focus include the JGHTI (~£32m) and Global Alliance for Chronic Diseases (GACD, ~£2m), both delivered by MRC on behalf of DHSC, and Grand Challenges Canada's Global Mental Health programme (GCC GMH, ~£2.5m). The Units and Groups programmes are largely focused on NCDs with funding allocations to these two programmes in the first phase of approximately £174m. The Research and Innovation for Global Health Transformation (RIGHT) programme (£51m) has evolved its approach to focus on uncovering areas of unmet needs through an analysis and comparison of data on the global burden of diseases against what is being funded. However, between 2017 and 2021, DHSC also contributed almost £80m to EDCTP, a partnership focused on the prevention and treatment of poverty-related diseases and emerging and re-emerging infectious diseases affecting sub-Saharan Africa. The Bibliometric Analysis shows that in publications from Phase 1 of the GHR Portfolio with a single tag (83% of available publications data), Infection is most common health category (50%), followed by Generic Health Relevance, Mental Health, Reproductive Health and Childbirth, Respiratory and Cardiovascular. *(Strong Evidence)*

The GHR Portfolio responded to changing context and emerging priorities in LMICs. In addition to the focus on NCDs and other neglected themes which many programmes address, some programmes in Phase 1 were borne out of or evolved to meet the need for a rapid response to the COVID-19 pandemic and its impact on LMICs. This was clearly a significant global priority that emerged during the first phase of the GHR Portfolio. Examples include:

- The Global Effort on COVID-19 (GECO) programme with MRC aligned with the WHO's COVID-19 roadmap and supported applied health research to fill knowledge gaps in LMICs.
- The Coalition for Epidemic Preparedness Innovation (CEPI) was created as an international coalition to accelerate the development of vaccines against emerging infectious diseases (EIDs) and enable equitable

access to these vaccines for affected populations during outbreaks. During the pandemic, it evolved to support equitable access to COVID-19 vaccines and co-led COVAX, the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator. An independent outcome evaluation found that CEPI has strongly validated its need and concept, confirming the relevance of the investment. In the survey, most respondents agreed that their research aligned with country health priorities (91%) and responded to health inequalities (86%).

The GHR Portfolio's partly organic evolution during the first phase worked well in enabling partnerships to flourish. However, it resulted in a multitude of initiatives, limiting the potential for deeper impact in a smaller number of core areas. The first phase of the GHR Portfolio grew to include 30 programmes or initiatives, including five core programmes (Units, Groups, RIGHT, Global HPSR and Professorships) and various initiatives led by NIHR, and the remainder led by Partners. Programmes cover more than 100 countries and 16 health themes from the 21 health categories in the UK health research classification system. *(Strong Evidence)*

While the programmes met clear needs and responded to LMIC priorities, they are very wide-ranging. Portfolio relevance could benefit from greater strategic prioritisation and consolidation of highest impact areas, while retaining dedicated funding calls to respond to emerging local needs and support innovation.

4.3 EQ 1.2: To what extent were researchers and key country stakeholders consulted in the design/development of the GHR Portfolio where relevant?

GHR programmes consultation with LMIC stakeholders improved over time. Almost all programmes pursued varying degrees of LMIC research partner engagement in research design and delivery. Although there were many examples of engagement with country-level stakeholders, including research partners, Ministries of Health and other relevant sectors, and in some cases, civil society, several LMIC stakeholders commented that UK institutes largely drove awards and LMIC voices were not adequately prioritised. Our award survey showed that 76% of the LMIC respondents felt able to influence research design, rising to 85% for influence on implementation. Non-LMIC respondents reported greater influence on both research design (90%) and implementation (87%). This is a missed opportunity to benefit from LMIC research partners' depth of experience in high-burden conditions and promote truly equitable partnerships. There was also limited evidence of policy makers being involved in the early stages which may constrain the uptake of research outputs if there is no or limited buy-in from the start. However, the award level review revealed that this improved where there were follow-on awards, with many being co-led by LMIC research partners. *(Moderate Evidence)*

Initial engagement between UK and LMIC research partners was typically driven by previous relationships and direct connections with PIs. This practical approach, displayed by many of our sampled awards, risks excluding researchers and institutes that are less well-connected but may have good potential, particularly in very low-resource settings. Nonetheless, there are many examples across the GHR Portfolio that partnerships have led to new connections being forged in countries and multiple cross-country initiatives established to strengthen local relevance. Early career researchers reported fewer opportunities for engagement as senior colleagues often take this role. *(Moderate Evidence)*

There were few examples of socio-economically disadvantaged groups being involved in research design and implementation. While this was an explicit aim in some programmes, it was either not explicit or absent in others. Where awards were able to identify certain social groups as being particularly disadvantaged regarding their ability to access the benefits of the research intervention in question the influence on design varied. Some sampled awards that focused on the health facility level sought to understand the experiences of individuals not accessing the health system at all. Other awards did not typically analyse the needs of disadvantaged groups or explicitly include them in design or implementation. The survey confirms that whilst most respondents agreed that

their research engages relevant groups (88%), only 51% of LMIC respondents, versus 76% of non-LMIC respondents, agreed that the research is consulting women and marginalised groups. Likewise, 57% of LMIC respondents agreed that the research responds to inequality and discrimination issues, compared to 80% of non-LMIC respondents. Male and female respondents also differed somewhat on this issue, with 64% of female respondents agreeing, compared to 70% of male respondents. While NIHR-led programmes encourage reporting on reaching marginalised groups, they acknowledge that they are also still learning what good practice looks like, and what their expectations should be. *(Moderate Evidence)*

Only a few sampled awards demonstrated understanding of how gender norms and practices – and the unequal access to resources and power dynamics that underpins these - shape women's health issues, choices, care seeking, and access to quality health services. These awards' research and CEI activities have also shed light on the ways in which stigma, trauma, cultural perspectives, experiences of disrespectful care, and gender-based violence at the household and facility level affect women's access to care, as well as the intersectional disadvantages faced by, for example, older women, rural residents, lower income groups, and women-headed households. This information and feedback have informed awards' testing of different models of service delivery, the development of training for health workers, establishment of community-level support initiatives, and the design of awareness-raising activities. There is only very limited evidence that awards are collecting data on the effect of research interventions on women's empowerment. *(Moderate Evidence)*

The experience of some sampled awards raises questions about the extent to which ethical issues, beyond issues of informed consent, are adequately considered at the GHR Portfolio and award level. A key issue is the extent to which NIHR and funded researchers consider global health research and social health justice to be linked, whether researchers consider themselves to have responsibilities towards reducing inequities in global health, and whether awards seek to understand and respond to the structural and institutional conditions that affect research participants and shape their health outcomes, for example, poverty and lack of access to quality health services. This is linked to the question of ensuring appropriate benefits for community participants. This question is addressed in NIHR's CEI guidance documents, but the discussion is limited to payments for community partners. However, there are important questions to be asked, particularly for awards which involve community-based interventions aimed at prevention and undertaken in underserved settings. These include how research participants should be compensated for their time and inconvenience, the extent to which determining the level of benefits provided includes consideration of the needs of the poorest groups and whether participants will view participating in future research as important, and the extent to which researchers should take active steps to help a research participant, especially if an emergency need can be remediated by effective and inexpensive action. The CEI guidance recommends that awards engage in open and honest dialogue about the research and what it can realistically provide. The experience of several awards shows that building this research awareness is challenging in poor, rural and low literacy contexts and would benefit from specific guidance and learning from others. *(Moderate Evidence)*

Private sector engagement did not feature widely across the GHR Portfolio, despite the potential of private sector actors to contribute significantly to capacity building and the development of stronger health systems. WHO estimates that the private sector provides a large and growing proportion of healthcare services in LMICs and has the potential to contribute significantly to universal health coverage. There was limited evidence of private sector engagement in the sampled awards. This observation was borne out in the survey findings, with only half of the respondents agreeing that the research is relevant to the private sector. (Limited Evidence)This represents a missed opportunity to leverage available resources in LMICs.

Some programmes demonstrate good practice in early engagement with policy makers to promote research uptake, including some examples of integrating the research agenda into national plans and facilitating endorsement of research outputs by policy makers. Some programmes were well embedded in national platforms, for example, the AMR-Structured Operational Research and Training Initiative (SORT IT)

worked through national AMR committees, and EDCTP has strong links with WHO country offices. An independent review of the JGHTI scheme published in November 2019 found very positive collaboration with policy makers and key stakeholders. It showed that the scheme was delivering on its core aim, has achieved tangible outcomes and impacts, and generated new knowledge about interventions which in turn are starting to contribute to improving health in LMICs. As shown in later sections of the report, a broad range of policy-relevant outputs and publications, many of which have been widely disseminated, despite COVID-19-relateddelays, and some of which are already influencing national and global initiatives, thus confirming their relevance to LMICs. NIHR could build on these and other examples of good practice. *(Moderate Evidence)*

LMIC strategic involvement in the GHR Portfolio was more limited at the start and grew over time as NIHR's capacity in GHR management increased. Mechanisms were gradually put in place to strengthen engagement and encourage wider and more meaningful involvement of LMIC stakeholders and leverage the networks of partners. At the strategic level, this includes representation on the Independent Scientific Advocacy Group ISAG of 3-4 LMIC members out of a total of 5 or 6 at any time. In addition, the guidance developed by the NIHR for award calls was refined over time to reflect a greater emphasis on LMIC involvement. Some stakeholders noted that LMIC representation on review panels was not always sufficient. It was suggested that this might be partly due to a lack of thematic expertise. However, if themes are supposed to be based on LMIC priorities, this seems rather unlikely. At the programme level, NIHR-led programmes (and GCC MNH) include CEI specialists and people with lived experience on review panels. However, the geographic breadth of the NIHR GHR Portfolio is a challenge, and NIHR acknowledges that their pool of CEI representatives cannot bring lived or specialist knowledge of all geographic areas, and in those programmes which are not call-specific, of all thematic areas. More recently, some NIHR-led programmes have recognised that they could be doing more to engage communities in the design of their schemes, thematic areas and calls, and are exploring ways of integrating CEI in the process of identifying priority areas. *(Moderate Evidence)*

5.0 Findings: Coherence

5.1 EQ 2:To what extent is the GHR Portfolio a coherent funding mechanism to meet its stated outcomes? (i.e. supportive of complementarity, harmonisation and co-ordination within the GHR Portfolio and externally)

Overall finding

Given the scale of unmet health needs, internal coherence within the GHR Portfolio, and external coherence with other UK and global and country-level research initiatives is essential to optimising the GHR Portfolio's contribution to improving health in LMICs. DHSC successfully designed the GHR Portfolio to complement existing UK government and UK ODA research funding mechanisms and global health funders, primarily including Wellcome, MRC, EDCTP, WHO, GCC and World Bank. NIHR allocated funds to align programmes with the GHR's Portfolio level ToC. Internal and external coordination with other UK (ODA-funded) partner country and global health initiatives is variable across programmes and awards. At Portfolio level, mutual engagement with FCDO and gaining clarity around accountability and strategic decision making is affected by resource challenges. The GHR network has successfully and actively established global health collaborations with a wide range of institutions within the global health research community, including many LMIC institutions and other key stakeholders in global, regional, national and local contexts. While some programmes have demonstrated engagement with other funders and initiatives (often proactively and effectively within their own existing academic and professional networks), NIHR's direct role in driving and facilitating this process and integrating awards more meaningfully into the wider NIHR 'vision' has been less apparent. Improved coordination with international and external partners could contribute to complementarity and enhance results.

5.2 EQ 2.1: To what extent do the selected delivery mechanisms and funded awards of the GHR Portfolio synergise and contribute to achieving the overall objectives as outlined in the ToC and results framework

Early engagement with UKCDR provided a coordinating mechanism for bringing partners together in Working Groups. Given UKCDR's role in bringing together development partners to develop better ways of working, including via longstanding Working Groups such as the Health Funders Forums, Capacity Strengthening Group and Disaster Research groups, it enabled NIHR to align operationally with wider ODA funds. UKCDR was approached by NIHR due to its existing cross-cutting roles with UKRI and experience managing both ODA and non-ODA funds. For example, the Strategic Coherence of ODA-funded Research board, which intended to bring together leadership roles to encourage a strategic voice for ODA research in government, involved NIHR, DHSC, and FCDO as research councils within UKCDR. NIHR were reported as the 'most active' organisation across these Working Groups. *(Moderate Evidence)*

NIHR worked closely and collaboratively with other UK funders during the portfolio design phase. NIHR engaged with MRC, Wellcome Trust, and FCDO which enabled coordination, improved understanding of unmet research needs in LMICs, and identification of funding gaps to avoid duplication in health areas already being covered. Contracting directly with MRC and Wellcome to create Partner-led programmes allowed the GHR Portfolio to quickly mobilise investment in LMICs with a high burden of mortality and morbidity relevant to NIHR's thematic priorities. This is strongly evidenced, for example, by MRC's Maternal and Neonatal Health (MNH) programme which complemented awards on MNH-related research funded through other NIHR programmes and partnerships, enabling NIHR to work in LMICs with high MNH burdens. MRC's GACD award also enabled global coordination

between 14 major funders (representing 80% of public health research funding worldwide), coordinating applications and processes to ensure alignment and synergies in research funding for chronic diseases affecting Sub-Saharan Africa. Further, through creating the NIHR-Wellcome Global Health Research Partnership, DHSC leveraged Wellcome's experience in funding LMICs directly, in particular through International Fellowships in areas aligned with the overall GHR ToC. *(Moderate Evidence)*

GHR portfolio governance arrangements support coherence. Strategic partners have observer status in the Independent Scientific Advocacy Group, and consultations on plans and timelines allow them to co-determine whether prioritised thematic investments are better delivered independently or in partnership**.** Monthly and ad hoc meetings, including with UKRI, were established early on to share knowledge and capture best practice. The Annual Review process (which draw on all available NIHR programme reporting) serves as a cohesive operational mechanism for knowledge sharing. Annual reports are shared with the Scientific Senior Management Team (including FCDO Research and Evidence Directorate), Programme Board bi-monthly meetings and Working Groups to ensure awareness of programmes' progress. *(Limited Evidence)*

Collaboration between domestic and global teams in NIHR has supported operational coherence. This included involvement of colleagues from domestic NIHR programmes in GHR strategic meetings and selection panel processes. For example, Global Professorships to fund research leaders to promote effective translation of research drew on the long-established successes of NIHR Research Professorships. The existing networks, human resource, and operational processes and procedures required for running a successful competition have been transferred to the global model. This offers consistency and ensures that the review process benefits from wider institutional expertise, that applications are meeting core criteria, and that feedback is provided to applicants in a standardised way. Involvement of NIHR staff from the UK Research Professorships scheme also provides opportunities for lesson learning, such as expanding part-time working protocols or contractual amendments. NIHR's approach to CEI has also been informed by its reputable UK-focused Patient and Public Involvement) approach. *(Moderate Evidence)*

NIHR-led and partner-led programmes evolved to promote stronger internal complementarity. Delivery mechanisms consisting of a mix of NIHR-led programmes (managed by the NIHR Coordinating Centres) and Partner-led programmes (managed by UK, international and multi-funder initiatives) evolved organically. Application criteria focused on underfunded areas to avoid duplication of funding between programmes and other ODA funders. The DHSC, working with Coordinating Centres, invested time in identifying and addressing duplication between programmes. For example, Groups was decoupled from Units to help strengthen differing aims and coherence, as well as to clearly signal to potential applicants which funding scheme would be most appropriate for their proposed research. Relatedly, Units funds collaborations of researchers within universities and research institutes who wish to establish new programmes of applied global health research, whereas Groups awards funding to specialist UK departments not currently active in global health that want to use their existing skills to build capacity to extend into this field. An intensive engagement exercise with MRC, Wellcome Trust, GCC and other global health partners supported wider complementarity. *(Moderate Evidence)*

NIHR-led and some Partner-led programmes increasingly developed their results frameworks and reporting requirements to better align with NIHR's GHR ToC and GHR aims. For example, Groups' objectives align with those of the GHR, to fund researchers to undertake high quality policy-relevant applied health research relevant to the needs of LMICs, develop new equitable partnerships with researchers in LMICs, strengthen capacity, promote the engagement of key stakeholders and demonstrate pathways to impact policy. Units similarly aims to foster high-quality policy/practice relevant research focused on health priorities of LMICs, support staff capacity strengthening, and strengthen equitable research partnerships and networks between LMIC and UK institutions, with a view to ultimately providing evidence to inform decision-making by public health officials and policy makers in LMICs. CEI requirements have also become increasingly embedded in Units and Groups calls. GHR selection criteria for RIGHT, Units, Groups Global Health Policy and Systems Research (HPSR) and Global

Professorships have adapted to increase alignment with the ToC (including embedding CEI into panel selection processes and including guidance to encourage applicants to develop their own ToC to allow a clear assessment of how the research is filling a 'gap'). As the GHR Portfolio is designed to be largely researcher-led, it has evolved to respond to research demand and applications from LMIC researchers highlighting key gaps and priorities. This provides positive evidence for the Assumption 3b of the ToC, that global health research funders continue funding at present rate, and that long-term engagement with funders helps to identify the most relevant research to fund.

The ability to demonstrate coherence is hampered by the lack of a fully harmonised portfolio results framework and data collection system. The GHR results framework indicators were finalised towards the end of Phase 1 in 2020, when delivery was well-underway. NIHR assessed (in consultation with delivery partners and UK and LMIC award holders) which indicators were already being tracked in existing reporting processes and determined on a case-by-case basis whether additional information could be collected against gaps. Alignment was more feasible in some cases than others. EDCTP, which sought GHR funding to cover a significant budgetary shortfall for projects in two clinical research calls to detect, treat and prevent poverty-related infectious diseases in sub-Saharan Africa, retained a strong collaborative approach to aligning indicators. There is less harmonisation in monitoring between NIHR and some larger, more established partners and smaller partners that are focused specifically on RCS. The one off engagement with Engineering and Physical Sciences Research Council (EPSRC) in the early phases of NIHR, did not support alignment of monitoring. As discussed in Section 8.0, inconsistencies in monitoring processes across partners remain a challenge. *(Moderate Evidence)*

While there are some examples of cross-award interactions and learning, NIHR's central facilitation of this is limited, with no central mechanism or formal guidance in place to support cross-award collaboration or facilitate thematic complementarity. Some programmes, such as RIGHT, Groups and Units have facilitated learning across awards by organising panels and in-person networking events. Overall, cross-award interaction has largely been driven by award holders themselves who have proactively established Working Groups and utilised their own existing academic networks. Award holders responding to our survey reported that NIHR does not sufficiently support interaction with other awards to benefit mutual learning, knowledge exchange and networking between researchers, particularly those working in similar thematic areas. RSTMH and Global Professorships award holders have reported limited collaboration between awards and with the wider NIHR GHR Portfolio (which in part was due to COVID-19). There is a desire for funding or co-funding for in-person meetings, in part to achieve greater integration in NIHR's overall strategy and vision, and to better understand how their own research functions within it[19]. *(Moderate Evidence)*

There is strong evidence of openness and commitment to learning on CEI at all levels. Award holders almost uniformly noted that they would benefit from greater access to experience and learning from across the GHR Portfolio and more regular learning initiatives as a key way of improving their CEI practice going forward. Planning is currently underway to set up regional networks to support country and regional knowledge exchange and collaboration on CEI, as well as a second podcast series. CEI will also be reflected in a portfolio-wide online learning platform that is planned for 2024. The recent CEI learning event was widely welcomed by award holders across our sample. *(Moderate Evidence)*

5.3 EQ 2.2: How far is the GHR Portfolio coordinating and collaborating with other UK (ODA-funded), partner country and global health research initiatives?

The GHR Portfolio coordinates within DHSC and other ODA programmes. ODA supported global health research is funded by a number of UK Government organisations including FCDO, Department for Business, Energy & Industrial Strategy (BEIS), Department for International Trade (DFIT), and DHSC, as well as non-

[19] Since Phase 1, RSTMH has included measures to help facilitate more networking, such as welcome webinars and check-ins.

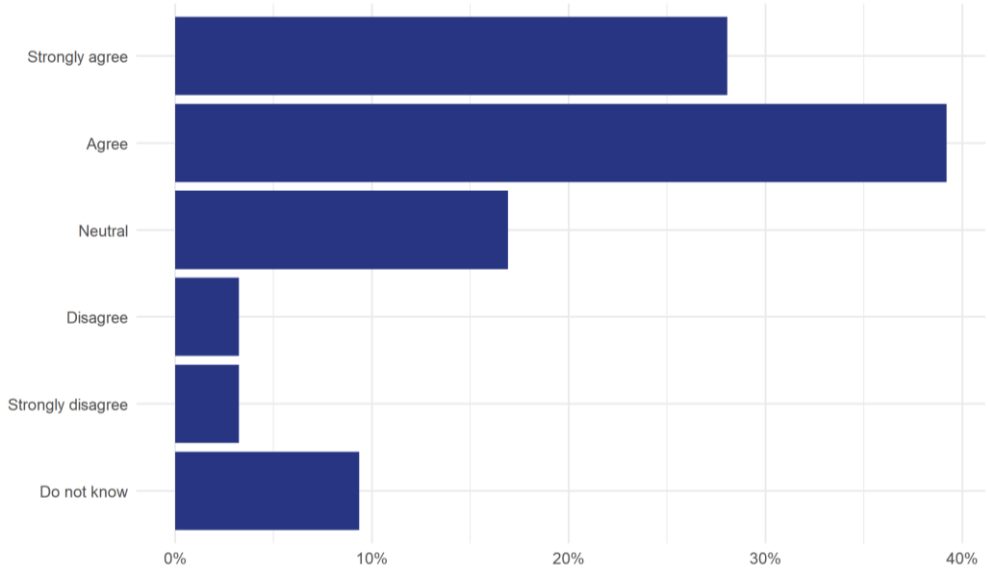
governmental partners such as the MRC and Wellcome Trust. The Global Health Security (GHS) team is part of the international directorate in DHSC, which conducts health systems strengthening, diplomacy and research and development work around global health security and global governance. At GHR Portfolio level, GHS is engaged with the GHR Portfolio, with some team members overseeing elements of the strategic direction and programme management, as well as instilling split roles across core functions (including MEL) embedded in GHR teams. Biweekly meetings held between NIHR-led programme leads and DHSC's ODA Effectiveness and Accountability team which focuses on ensuring a coherent management approach across all ODA funded work. This has included developing a joint fraud risk assessment and coordinating inputs into international development working papers and the Global Health Framework. Some strategic engagement occurs with the GHS team via select NIHR biweekly meetings and other ad hoc team meetings, and GHS' International Director and Chair of the GHS programme board attends regular meetings with NIHR's Chief Scientific Adviser. *(Moderate Evidence)*

According to our SNA (see Annex 11), the GHR network has successfully and actively established global health collaborations with a wide range of institutions within the global health research community, including many LMIC institutions and other key stakeholders in global, regional, national and local contexts. The GHR network, representing the reach of NIHR funding as per available data, shows that NIHR and its partners have reached 1,158 institutions from 108 countries, with 72% of institutions in the GHR Portfolio network from LMICs compared to 28% of non-LMIC institutions.[20] The majority of institutions in the GHR Portfolio network are from LMICs (72%), including a number of important and influential LMIC institutions in Africa in particular. The SNA suggests that UK institutions tend to dominate in their importance, influence, ability to connect with other influential actors, and play a significant role in connecting other institutions to NIHR or partner funding. There are strong opportunities for collaboration and the exchange of knowledge in funded global health research, within large, tight-knitted communities of institutions connected to one another. NIHR-led networks allow information, resources and other knowledge sharing to spread more easily, although still low, and institutions funded directly by NIHR may be more closely related in research interests, expertise, or geographic proximity, with stronger opportunities for cross-collaboration and knowledge exchange. *(Moderate Evidence)*

Internal collaboration between GHR award holders in partner countries has resulted in knowledge sharing and improved processes relating to, for example, ODA research management and CEI within LMIC institutions. This has been achieved largely through design workshops, knowledge sharing webinars, ad hoc technical meetings and mutual skills training. This finding demonstrates that funding supports LMIC leadership and equitable partnerships through meaningful engagement, coordination and collaboration (Assumption 3b in the ToC). These opportunities have built and strengthened networks for new research in follow-on awards, amplified the reach and results and strengthened knowledge sharing on topics such as NIHR reporting and CEI. Some Partner-led programmes, such as those under EDCTP or GCC GMH, provided strong operational foundations for cross-award interactions, particularly where there was a multi-country/regional focus and multiple partners. PIs and research teams generally reported a high level of collaboration throughout award implementation with learning shared across multiple country teams. Similarly, the award level survey indicated that the majority of respondents were collaborating with related country-level initiatives (68%) as well as regional-level initiatives. However, other award holders reported a neutral stance on opportunities to collaborate with other GHR-funded awards within their programme (17%) or reported that they did not know of such opportunities (9%) (Figure 9). *(Moderate Evidence)*

[20] This considers both primary and secondary networks identified using available data.

Figure 9. Survey responses on opportunities to collaborate with other GHR-funded awards within a programme



Awards are generally collaborating to encourage coherence of research with practice and policy, with collaborations focusing more predominantly within partner countries' own networks, ongoing initiatives and additional research activities, or amongst awards belonging to larger programmes which facilitate access to global platforms. Further, some LMIC award holders reported difficulties in obtaining funding if they did not operate in global networks or in highest disease burden settings and reported capacity issues related to inability to focus on dissemination to other funders when clinical duties took precedence. *(Moderate Evidence)*

Collaboration with wider global health initiatives occurs across multiple award teams, although NIHR's role in directly facilitating this is limited. There are examples of awards working collaboratively with global health initiatives and leveraging further funding. Units awards, for example, are generally well linked to partner country health initiatives in some contexts, aided by country level engagement with Ministries of Health, zonal health officials, health facility managers, health workers, community advisory boards and NGOs. Groups and AMR-SORT IT awards also have demonstrated strong links with WHO on global NCD control and platforms through Special Programme for Research and Training in Tropical Diseases (TDR) sponsors including United Nations Children's Fund (UNICEF), United Nations Development Programme (UNDP) and the World Bank. *(Moderate Evidence)*

NIHR has directly supported some networking activities (such as Director's meetings, and funding for finance training through the Financial Assurance Fund [FAF] awards) in order to foster collaboration between awards. Further strategic collaboration at portfolio level would support awards to feel more involved in NIHR strategising and networking events outside awards' own university or institution. Capacity constraints within research institutions inhibits collaboration opportunities, and some awards reported difficulties in using indirect costs flexibly under existing NIHR agreements for networking and dissemination. Since Phase 1 ended, NIHR has offered GHR Cohort Academic Development Awards (CADA) to support training leads (primarily based in LMICs) to tailor research activities to career development needs and support collaborative relationships within and across awards and relevant networks. CADA provides up to £30,000 funding for fees for speakers or facilitators, accommodation, travel, subsistence and other related expenses. *(Strong Evidence)*

6.0 Findings: Effectiveness

6.1 EQ 3: How effective has the GHR Portfolio been in achieving its intended results?

Overall finding

The GHR Portfolio aims to be effective by producing and disseminating high quality, policy-relevant research outputs that respond to GHR priorities, increasing the research capacity of individuals and institutions, and establishing equitable partnerships and functional networks. In addition, CEI approaches are expected to contribute to greater effectiveness by ensuring deeper responsiveness to those populations bearing the highest burden of mortality and morbidity. The GHR Portfolio has effectively produced high quality research publications, with over 3,494 publications since 2017 and 86,161 citations with a median of two citations per publication. Research capacity-strengthening is clearly seen at the individual level, with 89% of survey respondents agreeing that the research has helped build the skills and confidence of other researchers. There are also good examples of the GHR portfolio contributing to institutional capacity strengthening. Examples of contributions to wider systems-strengthening are less apparent at this early stage. The GHR Portfolio has supported strong partnerships that demonstrate progress towards equity in a range of ways. The complexities of equitable partnerships, power dynamics, culture and organisational factors that limit the eligibility of LMIC institutions as leads means there are opportunities to further strengthen this. CEI is embedded as a core commitment and value of the GHR Portfolio, with a range of examples of effective CEI at award level. There are opportunities to strengthen the approach consistently across the GHR Portfolio and ensure a deep focus on marginalised groups. Factors associated with effectiveness in initiatives supported by the GHR Portfolio include funding researchers that are embedding their work in communities and health systems, through longstanding relationships and connections. The most effective award models reviewed are those with centres of excellence, aiming to build regional capacity through relationships and collaboration between different institutions, academics, practitioners and clinicians. This helps build capacity of people who deliver services, with a constant cycle of improving learning and practice.

6.2 EQ 3.1: To what extent has the GHR Portfolio resulted in the production and dissemination of scientifically important and policy-relevant outputs?

The programmes and associated awards within the NIHR GHR Portfolio are producing and disseminating scientifically important and policy-relevant outputs that contribute to the health evidence base for policy and practice and that are closely linked to LMIC needs. The bibliometric analysis identified 3,494 publications related to the GHR Portfolio since 2017, supported by moderate evidence of a broad range of policy-relevant outputs and publications have been widely disseminated. Despite COVID-19 delays, some of these outputs are already influencing national and global initiatives, such as peer reviewed publications in the Lancet and the British Medical Journal (BMJ), policy briefs, press releases, public information documents, clinical guidelines, webinars, and international conference presentations. There are also examples of medical and scientific breakthroughs that have implications for global clinical practice and the potential to improve patient outcomes. See Annex 12 for the full bibliometric analysis findings, but overall it shows:

- Production of a wide range of publications, including in high impact journals. The top five journals of publications include medRxiv, BMJ Open, Wellcome Open Research, BMJ Global Health, and PLOS ONE. The BMJ Global Health is considered a high impact journal. This indicates that the GHR Portfolio has been effective producing a good volume of high-quality research.

- The majority (54%) of research published under the GHR Portfolio is classed as Gold Open Access, indicating that the GHR Portfolio focuses on open and accessible research, although this reveals there is still progress to be made with the presence of bronze (five%), green (18%) and closed (six%) access publications.
- A significant growth in publications (an average of 125% annually), especially during the COVID-19 pandemic. The publications have garnered substantial citations (a total of 86,161 citations, with a median average of two citations per article), with some articles being exceptionally influential (2% publications received more than 300 citations). The influence of open access on performance is mixed, with Gold Open Access not necessarily leading in citation counts. A moderate positive correlation is observed between the number of funders, authors, institutions, and the performance metrics of publications.
- Most publications outperform average citations in their respective fields, suggesting that the GHR Portfolio has greater than average influence. A few highly impactful articles drive the majority of citations. Certain fields, particularly Biomedical and Clinical Sciences, demonstrate higher citation impacts. *(Strong Evidence)*

Figure 10. Cumulative Count of Publications Over Time by Open Access Status

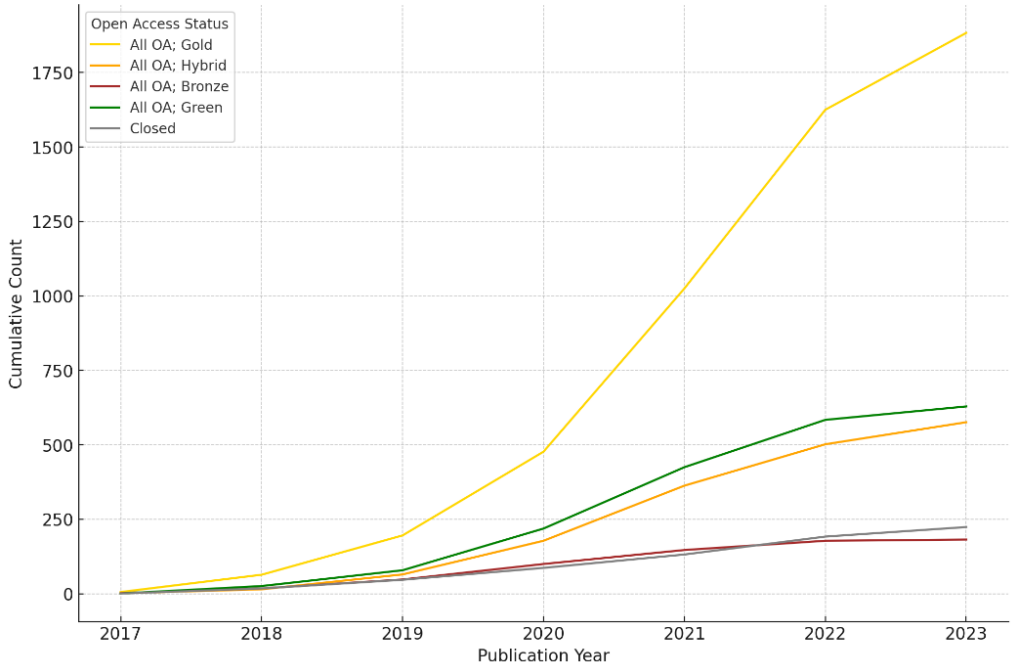
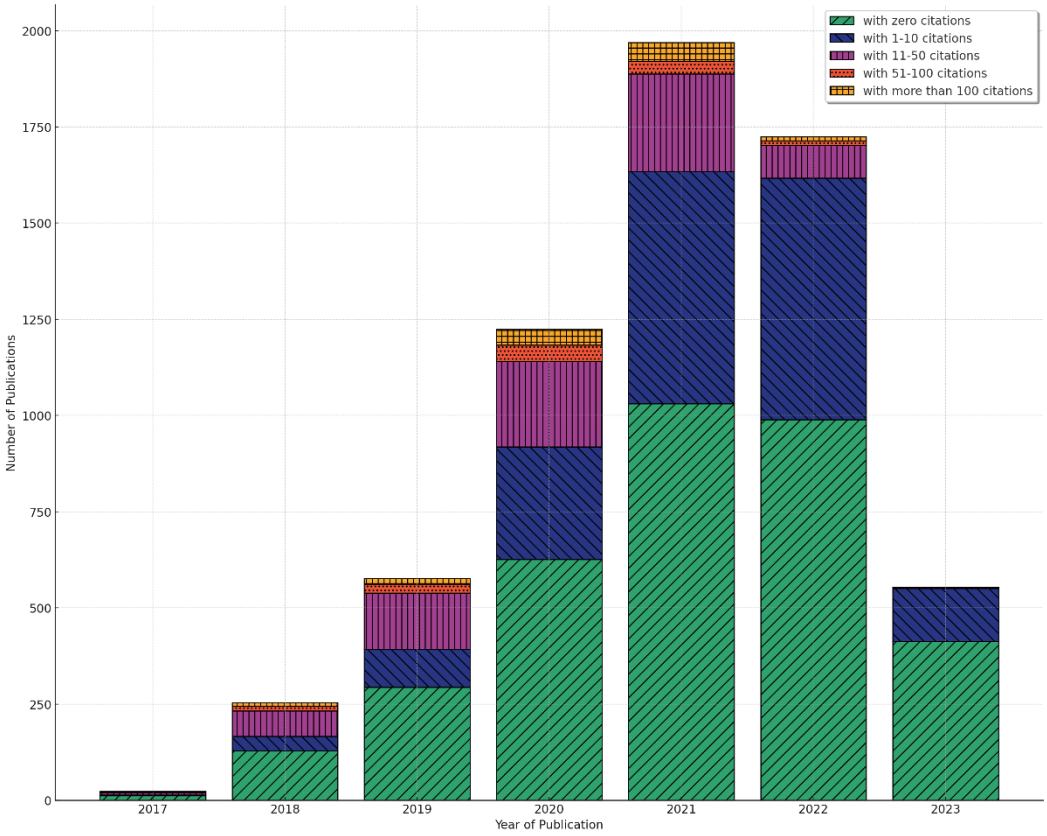


Figure 11. Breakdown of Publications by Citation Count (2017-2023)[21]



The NIHR GHR Portfolio delivers applied research awards that produce findings to support LMIC needs. However, there is no GHR Portfolio wide guidance or criteria on publication and dissemination to influence policy and practice. New programmes and award applicants are required to demonstrate evidence of need at the design or application stage, aiming to ensure scientific and policy relevance (see Section 4.0). NIHR encourages appropriate publication and dissemination to influence policy and practice, although programmes and awards are varied in their approach to production and dissemination of outputs. There is flexibility for each to be designed individually rather than according to a set GHR Portfolio guidance or requirements. Calls for proposals, such as for Units and Groups, emphasise the importance of communicating research directly to policy makers, practitioners, and users, as well as through traditional publication routes. The awards' design and approach to Calls is expected to reflect this requirement in work programmes and dissemination plans. NIHR also stipulates that research data will be made available for analysis and re-use. Programmes that are focused on RCS have firmer timescales and expectations for publication (e.g., AMR-SORT IT requires submission of a paper to a peer-reviewed journal within four weeks of the end of module three) as this is linked to the primary goals of the programme. *(Moderate Evidence)*

Award activities include targeted engagement of relevant policy makers and practitioners, and some reviewed awards showed evidence of effective dissemination, engagement with, and influencing of, policy makers, practitioners, and civil society. There is more effective engagement of practitioners than of policy stakeholders. The co-development of awards with key stakeholders, and the integration of strong CEI and dissemination frameworks from inception, particularly within follow-on grants, has enabled awards to develop outputs influencing national and global clinical guidelines. Partnering with LMIC institutes has been essential for strengthening engagement with local policy makers, healthcare providers and communities, particularly during the

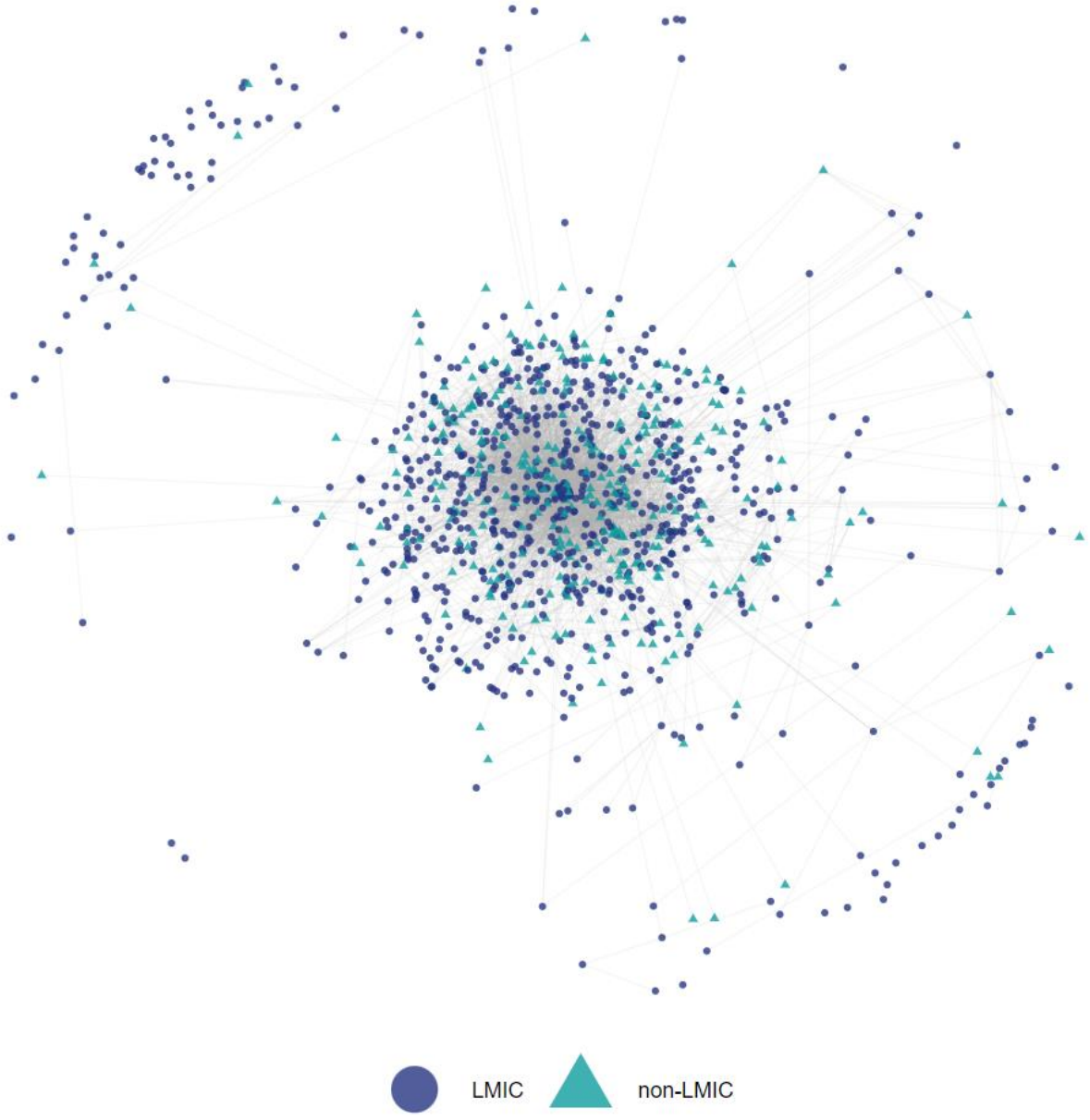
[21] The zero citations for 2022 and 2023 are largely due to them being newer publications and are not always expected to be cited so soon.

COVID-19 pandemic. This has promoted buy-in of research outputs, and increased reach and language accessibility. NIHR's reputation has also helped partner institutes deepen their influence nationally and globally. Some research teams were limited by their skills in developing outputs for non-academic audiences and those teams that collaborated with communications/marketing experts or specific policy engagement training were enabled to produce tailored quality outputs that benefitted from this additional expertise. *(Strong Evidence)*

Outputs are reaching intended audiences, although this could be increased or deepened. Through the GHR Portfolio, NIHR and its partners have reached 1,158 institutions from 108 countries,[22] with 72% of institutions in the GHR Portfolio network from LMICs compared to 28% non-LMIC institutions (see Figure 12, which shows the extent and complexity of the GHR Portfolio network's connections between LMIC and non-LMIC institutions established under funded awards).[23] This is substantial progress, and indicates that NIHR has successfully and actively established global collaborations with a wide range of institutions within the global health research community. Awards are contributing to delivering research output objectives, despite the COVID-19 pandemic and other contextual challenges (e.g., conflict, political and economic crises, health worker strikes) being cited as contributing to delays. The limited continued funding at the end of grants for translation into other languages and to continue research aims has also limited awards' ability to influence stakeholders more widely. *(Moderate Evidence)*

[22] According to the SNA.
[23] This considers both primary and secondary networks identified using available data.

Figure 12. Distribution of LMIC and non-LMIC institutions in the GHR Portfolio network



NIHR has systems and processes in place to monitor some outputs across programmes, but they are insufficient to systematically monitor outputs comprehensively across such a large and complex portfolio. The lack of a central mechanism to monitor the production and dissemination of research outputs across all programmes has been linked to existing protocols, processes and accountability mechanisms, particularly for Partner-led programmes. We have been able to access limited data on outputs, which makes it challenging to establish the extent to which NIHR has oversight of outputs at the GHR Portfolio level. *(Moderate Evidence)*

6.3 EQ 3.2: How effective has the GHR Portfolio been in achieving its intended RCS outputs and outcomes at individual, institutional and systems levels and to what extent has this prioritised gender equity and social inclusion?

The GHR Portfolio has supported the capacity strengthening and career progression of researchers. Awards have strengthened the knowledge, skills, confidence, and visibility of early and senior career researchers through a combination of approaches, including funding research fellows, 'on-the-job' training (i.e., involvement in all stages of complex research activities), formal research training, needs-based training (proposal writing, leadership, communications, financial planning, etc.) and coaching and mentoring. Awards held directly by LMIC Early Career Researchers, such as through RSTMH grants and Wellcome Fellowships have been particularly transformational, in terms of enhancing researchers' status and opportunities, as well as their research skills. Respondents to the survey were in strong agreement that the research is helping build their skills and confidence (91% agreed / strongly agreed) and that they have expanded their networks for knowledge exchange though the research (96%). Most respondents also agreed / strongly agreed that the research has helped build the skills and confidence of other researchers (89%), measures have been put in place to ensure that researchers develop skills (89%), the research has provided opportunities for skills to be applied practically (88%), and the skills they are developing align with country-level health priorities (81%). However, there was slightly less agreement (although still the majority) in terms of the research providing training opportunities (71% agreed / strongly agreed). *(Strong Evidence)*

Some awards across the sample have emphasised the career development of female researchers. The survey indicates that 76% of women respondents agreed that the research is supporting female researchers (compared to 70% of male respondents). There is evidence of efforts to ensure that authorship and presentation opportunities are provided to early career researchers, in particular women from LMIC institutes. The GACD final report, for example, stated that 41% of their publications include female authorship, but also noted that the level of seniority of those female authors tends to be lower. There is strong evidence available about the extent to which women are accessing the training opportunities provided across NIHR. 73% of women respondents agreed / strongly agreed that they had access to training opportunities through the research (compared to 69% of male respondents). Data from the Units programme shows that 37% of the Units NIHR Academy members who reported their sex are female (however 24% of members did not report) and 59% of the Groups NIHR Academy members are female. In their 2021 Annual Report, EDCTP reported that 83% of MSc, 50% of PhD and 26% of postdoctoral candidates being supported by NIHR award funding across their GHR Portfolio were female. EDCTP also reported an increase in female award holders of their fellowship grants from 20% to 40% across Calls. AMR-SORT IT have established quotas on gender and urban/ rural location and reported in 2021 that 47% of selected frontline workers were women. However, there was little evidence that programmes or individual awards have developed a more systematic understanding of the institutional barriers facing women in science and academia, and how gender discrimination and stereotypes can constrain women's career progression and leadership. This shows potential for further support to women's career development, either by NIHR at Portfolio level or by individual awards. *(Moderate Evidence)*

There are various examples of how institutional capacity has been effectively supported, which was well-received by LMIC research partner institutions. As expected, it is still too early to assess effectiveness across all awards, as some are still in relatively early stages of a long process. GHR Portfolio level stakeholders acknowledged the challenges involved and expressed a need to be somewhat selective and strategic in targeting their efforts. Supporting stronger LMIC institutions to cascade RCS efforts was also seen as an appropriate approach and one that could help mitigate NIHR limitations in funding institutional capacity. Progress at this stage covers a number of dimensions of institutional capacity building:

- Where the context has allowed, awards have engaged in administrative, contracting, financial, grant and programme management trainings, as well as trainings in thematic health areas and CEI. Some partner institutions have gone on to develop their own proposals and secure further funding.
- The role played by the FAF was well-received, with documentation on its effectiveness. One survey respondent considered the FAF "*an incredible investment to strengthen partner research capacity and resilience in global health.*" Further, NIHR contributed £0.5m to the Good Financial Grants Practice (GFGP) to develop an independent standard for financial controls in high-risk settings to support LMIC research partners to improve their research grant management and to encourage sharing of audits. During Phase 1, NIHR's finance guidance encouraged applicants to use GFGP to identify gaps in financial capacity, governance, and systems. Information on the process for using GFGP was shared by some programme leads with applicants after initial contracting and commissioning. However, the evaluation was unable to determine how GFGP was used specifically by individual awards. *(Moderate Evidence)*

NIHR has emphasised the need for organisations receiving funding to have safeguarding policies and practices, and safeguarding clauses have been included in all new NIHR contracts since April 2021. A small number of awards indicated that NIHR and partners' requirements on safeguarding prompted them to think more carefully about their approach. NIHR is aware that safeguarding definitions and language vary between funders and across contexts and are currently considering how to support further embedding of safeguarding knowledge amongst researchers at all levels, as well as strengthening NIHR staff capacity to provide support and advice to awards.

- There are examples of LMIC researchers taking up positions overseas as their expertise has developed (mitigated where possible with follow-on grants), creating risks of 'brain drain'. On the other hand, researchers may gain useful skills when working overseas which they may bring back to their country of origin, increasing the status of LMIC institutes.
- Programme level respondents indicated progress towards stronger institutional capacity through needs assessments and training (e.g., Global HPSR Development Awards include capacity needs assessments and workshops on both academic and administrative / research support elements), human resources (e.g., GCC GMH support the hiring of financial officers that support building financial sustainability and strong forecasting) and mentorship / coaching. *(Moderate Evidence)*

At this early stage, systems-level capacity changes are emergent. Awards provided some limited evidence of non-academic stakeholders such as health workers, government officials and community representatives accessing training, accreditation schemes, and degree programmes, as well as engaging in research committees and networks. There are cases, such as AMR-SORT IT, where programmes or awards are embedded within health systems, and this is likely to increase systemic capacity. The Global HPSR programme has also been exploring how best to communicate expectations around systems approaches to awards and have moved from talking about 'health systems' to referring to 'the wider elements of a system'. *(Limited Evidence)*

6.4 EQ 3.3: To what extent has the GHR Portfolio built equitable partnerships and thematic networks in global health research and influenced good practice more broadly?

The GHR Portfolio has ambitious aims for equitable partnerships and has facilitated fruitful partnerships and collaborations which have yielded mutual benefits. Equitable partnerships are cited as being at the heart of NIHR GHR's values and approaches by those involved in strategy development at the programme and GHR Portfolio levels and there is the expectation that this is monitored by programmes. However, GHR Portfolio- and programme level respondents also recognised the complexities and challenges in ensuring equity and addressing unequal power dynamics in the research ecosystem. Award level reviews provided evidence that many equitable partnerships have been developed and identified a range of enabling factors and barriers. Most awards have made genuine efforts to ensure equity across the consortia, acknowledging local partners' contextual knowledge, and encourage them to drive their own research agendas. Mechanisms to facilitate this include site visits, regular meetings, representative and inclusive project governance mechanisms, joint Working Groups and coordination platforms in multiple languages, mutual training opportunities, and co-authorship publication strategies. The sampled awards also demonstrated a degree of recognition and understanding of LMIC research partner needs and efforts to build trust and commitment, support co-creation and provide space for reflection and adaptation. Equitable partnering practices were more developed in awards where the partners already knew each other or belonged to a wider programme / network. Future progress is expected, as LMIC researchers become Co-PIs / PIs in follow-on grants, and as partners progressively take on more strategic and leadership roles within award consortia. The awards survey also reflects generally positive views about equitable partnerships. There was particular agreement with statements relating to benefits being distributed equally (82%), having measures in place to build mutual trust (80%), that roles are defined in a participatory way (80%), that all partners are involved in the research design (80%), that all partners needs are considered (79%), and that the research supports training and capacity-strengthening (79%). *(Strong Evidence)*

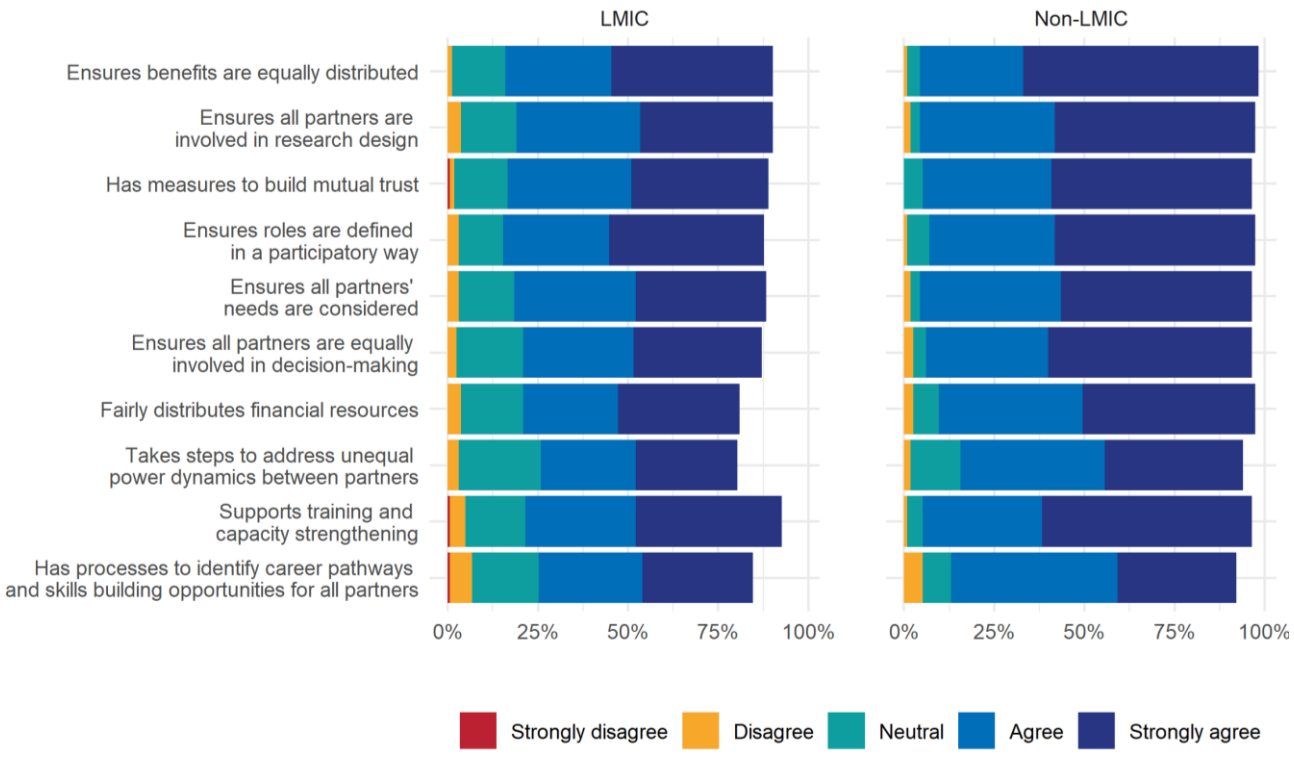
Programmes have taken various approaches to supporting award level equitable partnerships. All programmes' monitoring approach to equitable partnerships includes attention to the wording of collaboration agreements, evidence of joint leadership, locations of key personnel, and LMIC representation on advisory groups. A key objective of the Global HPSR's Development Awards is to support the establishment of equitable partnerships that can then go on to develop full research proposals for NIHR or other funders. The GECO programme encouraged LMIC-led proposals, and 8 of its 21 grants are led by LMICs. GECO programme managers highlighted their learnings on the need to provide clearer eligibility guidance on equitable partnerships at the application stage. In Groups awards LMIC research partners are leading recruitment of research staff, sharing management and decision-making responsibilities, and contributing to designing plans for future research. *(Moderate Evidence)*

Operational restrictions, as well as disparities in the working conditions between researchers in HIC and LMIC institutions, limited the development of equitable partnerships in practice and these structural issues exacerbated power imbalances between LMIC and non-LMIC institutions. Some of the key barriers in this respect include LMIC research partners' perception that NIHR did not cover certain overheads as part of indirect costs, lack of familiarity with report writing, burdensome reporting and due diligence requirements, and lack of support for frontline workers with clinical priorities. LMIC researchers also noted that they don't have access to management and administrative support and are often unable to protect their time in the same way as HIC PIs. The survey showed that only 72% of award level respondents agreed that there is equitable distribution of financial resources, 76% agreed that all partners are involved in equitable decision-making, and only 64% agreed that the research has taken steps to address unequal power dynamics amongst partners. Similarly, the SNA indicates that while the majority of institutions in the GHR Portfolio network are from LMICs (72%), evidence from the programme- and award level suggests that UK institutions dominate in their importance, influence, and ability to connect with other influential actors, and continue to play a significant role in connecting LMIC institutions to NIHR

or partner funding.[24] These are all barriers to equitable partnerships that need to be considered and further addressed. *(Strong Evidence)*

The development of equitable partnerships involves complexities, for example funding structures and requirements that still favour HIC institutions, that take time to progress. The issue of LMIC institutions' leadership role and visibility appears to require particular attention. At the award level, various LMIC stakeholders reported that research priorities are still determined by UK institutes, often in response to the global health research agenda. Further, there is often limited administrative support within LMIC institutions themselves (in comparison to HIC institutions) to allow PIs sufficient capacity to engage in partnerships proactively and strategically. Numerous LMIC partners noted that even with enhanced capacity gained through their participation in a NIHR award, they found it challenging to obtain funding on their own. When the responses on equitable partnerships are disaggregated by LMIC and non-LMIC researchers, the survey shows a marked difference between the views of the two groups. LMIC researchers do not consider partnerships to be as equal as non-LMIC respondents do. For example, LMIC respondents gave less agreement that benefits are distributed equally (74% agreement compared to 94% among non-LMIC respondents), resources are fairly distributed (60% compared to 88%), roles are defined in a participatory way (72% compared to 90%), all partners are involved in equitable decision making (66% compared to 90%) and the research has measures in place to address unequal dynamics between partners (55% compared to 78%). *(Moderate Evidence)*

Figure 13. Survey responses on equitable partnerships by LMICs and non-LMICs



[24] Centrality metrics, including degree, betweenness and eigenvector centrality, were triangulated to produce this finding.

6.5 EQ 3.4: To what extent, and in what ways has the GHR Portfolio supported community engagement throughout the research cycle through approaches that have supported the empowerment of communities, including women and marginalised groups?

NIHR has a flexible approach to supporting appropriate and feasible CEI strategies which build on existing models and approaches in LMIC contexts. Community engagement is a complex and diffuse area, includes a wide range of approaches, requires contextualised strategies and is challenging to define, implement and assess. Having implemented Patient and Public Involvement approaches in the UK since 2006, NIHR applied this learning in the GHR Portfolio, building their understanding about what was appropriate, feasible and effective in a global health context, with NIHR programmes adapting their requirements across different calls. NIHR's Vision and Goals Statement on CEI emphasises that research projects must move beyond seeing communities as 'beneficiaries' and involve them in priority setting, planning, implementation and evaluation. The Statement acknowledges that within the global context, projects will have to engage with issues of inequality, discrimination and complex power dynamics, and thus CEI approaches must go beyond engaging with patient groups, to working with a wider range of stakeholders as well as taking measures to support the most marginalised voices.[25] The core GHR guidance notes that there is no standard model for CEI, and that applicants should demonstrate that their approach is appropriate and effective for the local context and study design in question. *(Strong Evidence)*

Increasingly rigorous assessment of applicants' CEI approaches, and the integration of CEI specialists and people with lived experience as reviewers of applications has been a key focus of NIHR-led programmes' approach to integrating CEI into their funded research. NIHR-led programmes have invested in recruiting CEI specialists and people with lived experiences to their review committees and panels, training them in NIHR's CEI approach and how to apply this to LMIC contexts, building their sense of being valued alongside academic reviewers, and training other reviewers on how to engage with the inputs of CEI members. NIHR's core and programme-specific Call Guidance, technical resources, pre- and post-award workshops and webinars provide detailed information on expectations from applications, and award level CEI strategies. *(Moderate Evidence)*

Sampled awards demonstrated high levels of commitment to CEI, as well as progressive improvement in the extent to which awards are actively involving communities in setting the research agenda, adapting their research approaches to context, and using participatory approaches. To some extent this is due to NIHR's own learning and increasingly rigorous selection criteria and requirements over successive calls. For example, the Call one guidance for Units included a brief reference to consultation with communities. By Call two, the guidance included stakeholder and community involvement as a key criterion for funding, and soon after the core guidance with detailed guidance on NIHR's CEI expectations, was developed. RIGHT's Call one had a stronger emphasis on CEI but successive Calls similarly reflected its increasing importance. Most of the sampled Units and Groups awards and both RIGHT awards have CEI leads, CEI strategies and distinct CEI workstreams in place. Almost all of the partner-led awards sampled had prior experience of CEI, either through earlier studies, or country partners' experience. Sample award holders appreciated NIHR's emphasis on CEI, as this encouraged them to engage with communities in ways they would not otherwise have done, often unlocking new understandings about community level barriers and needs, dissemination opportunities and change pathways. Awards' CEI approaches also tend to evolve and mature over the lifetime of the project, or across several awards if additional NIHR funding has been achieved, as community relationships and trust become more established, awards' CEI experience and workstreams became more embedded, and communities become more actively involved. NIHR recognised that awards and potential applicants need to undertake formative work with

[25] 'NIHR's vision and goals for community engagement and involvement in global health research', July 2021: https://www.nihr.ac.uk/documents/nihrs-vision-and-goals-for-community-engagement-and-involvement-in-global-health-research/28271

communities to develop robust CEI approaches and envisaged that the RIGHT programme's Proposal and Partnership Development Awards and the Global HPSR Development Awards would support this. However, with a few exceptions, award holders tend to use the funding predominantly for policy engagement and partnership-building. Figure 14 illustrates some of the most notable approaches that awards have taken to involve communities across different stages of the research cycle. *(Strong Evidence)*

A significant number of sampled awards demonstrated the importance of CEI in supporting the broader environment within which research interventions can be effective, for example by raising awareness of health issues and conditions, addressing stigma, promoting care-seeking behaviours. Providing information and raising awareness of health conditions and positive health-seeking, as well as working with communities to develop and deliver communications messages and outputs is a key feature of many awards' CEI approaches. For most awards, building awareness about the importance of health issues has been necessary to build people's informed engagement with the research and support better health outcomes. Awards have also responded to feedback from government and communities about the need for greater awareness about stigmatised health conditions, the importance of care-seeking, and improvements in quality of care, using a range of communications approaches tailored to different audiences and objectives.*(Moderate Evidence)*

Figure 14. Approaches taken to involve communities across stages of the research cycle.

Only a few awards from the sample recognised the need to engage with marginalised groups. Those awards that tried to reach them did so through unplanned efforts, and rarely based on an explicit analysis of their needs. Some awards have engaged with people with Severe Stigmatising Skin Disease, mental health

service users, and pregnant women from low-income groups as key study populations for the health condition in question, as well as rural communities, urban communities, migrant populations, disabled people, and minority ethnic groups. Measures to support the meaningful engagement of marginalised groups have included working with people with lived experience to raise awareness and gain community feedback, using participatory methods for data collection, implementing arts-based approaches, and holding community discussions in venues such as local community centres and places of worship. A small number of awards included efforts to establish groups that could strengthen the agency and empowerment of women so they could continue to advocate for the health issue in question, however some of these were hampered by a lack of understanding of local gender norms. There is only limited evidence of explicit discussion amongst GHR Portfolio, programme or award level stakeholders about gender equality, intersectionality and unequal power dynamics, and how CEI initiatives can respond to these, and how they are shaped by them. *(Moderate Evidence)*

7.0 Findings: Efficiency

7.1 EQ 4: Has the GHR Portfolio and its delivery partners been able to convert inputs into outputs in a timely and effective way?

Overall finding

The GHR Portfolio is developing an overall framework for organising its approach to VfM. In the absence of a VfM framework, including indicators for efficiency and related data, this evaluation has reviewed qualitative evidence of whether operational structures and processes supported timely and effective delivery. Overall, the structures and processes put in place by DHSC and partners have facilitated the delivery of outputs in line with plans. Operational structures, processes, expertise and relationships built by NIHR and jointly leveraged from its delivery partners have supported this process. It is notable that despite the challenges imposed by the COVID-19 pandemic and associated changes to LMIC political environments and health systems, awards delivered outputs efficiently and adapted successfully where there were requirements to change research focus, activities and budgeting. However, the evaluation has uncovered aspects of GHR organisational structures and processes that could be improved to support efficiency. In the case of expertise and capacity, areas for development include greater LMIC in-country experience of DHSC staff to drive learning processes and continuous improvement and increased capacity and technical support for public engagement, knowledge exchange and dissemination. Despite efficiency gains being realised via central guidance and joint processes, there is a need to improve harmonisation of approaches to CEI and equitable partnerships at award level. Potential improvements to processes include improved central mechanisms for award holders, particularly from LMICs, to provide feedback on management practices including addressing some award holders' perceptions that reporting processes are burdensome relative to available capacity, particularly for LMIC award holders.

7.2 EQ 4.1: Have the operational structures, processes, expertise, relationships etc. enabled GHR and its delivery partners to convert inputs into outputs in a timely and effective way?

The lack of an overall value for money framework and associated monitoring data at the GHR Portfolio level means that it is not possible to assess efficiency systematically. This is linked to limitations in organisation capacity for MEL that are discussed in Section 8.0. However, there are clear processes in place to qualitatively assess VfM during both application and contracting stages. Funding committees help to ensure research proposals are delivering against VfM criteria set out in guidance for research applicants. At contracting stages, DHSC finance teams work closely with coordinating centres to ensure clarity on meeting spend targets. *(Strong Evidence)*

The harnessing of NIHR established structures for publicising, dispersing and managing health research funding provided the GHR Portfolio with a foundation for the development of clear and consistent management practices. This includes cross- administration support for financing and management (for example, NIHR FAF for GHR Units and Groups awards) and funding for recruitment of a financial or grants managers promote efficiencies. NIHR has regular financial and progress reporting structures and processes in place, including quarterly financial and monitoring reports, expenditure verification spot checks of transaction listings, and checks of invoices and receipts to ensure financial consistency. These helped to assess progress and enable NIHR to anticipate performance issues and identify weaknesses in financial management, largely through the Annual Review process. For example, for Groups, ratings are produced for awards in relation to their financial

performance (including underspend and overspend), based partly on expenditure verification checks which identified weaknesses in financial management. EPSRC and DHSC Memorandum of Understanding sets out the governance arrangements for the programme, including financial, reporting, ODA requirements, contracting and risks, and duty of care procedures including data protection. Regular meetings and reports on financials and progress also occur as part of reporting on efficient and effective use of DHSC co-funding. *(Strong Evidence)*

NIHR has leveraged delivery partners' expertise and systems to support efficiencies, building upon new and longer-term working relationships. Through partners' existing and well-established management, operational and reporting mechanisms, NIHR has been able to divide funding, synergise efforts among programmatic operations, and leverage partners' experience and expertise in global health research. In the early stages of the GHR Portfolio, this allowed NIHR to disperse funding at an early stage before its own contracting and other operational processes were established, such as in Partner-led programmes with MRC. NIHR's engagement with partners has helped to attract research applicants, although this has been more challenging for smaller partners who have less visibility in the global health funding space, such as GACD (MRC), and those partners who face greater operational challenges compared to larger partners in grant management, such as RSTMH. One area NIHR effectively leveraged was some partners' ability, such as MRC, Wellcome and EDCTP, to fund LMIC institutions directly as a result of their funding rules, grant management staff and protocols, expertise and relationships. This provided important lessons for NIHR's efforts to better support and promote LMIC-led grants in the GHR Portfolio. The GHR Portfolio has also been able to conduct rigorous project selection processes by accessing partners' advisory groups, expert committees and / or review panels such as with the Tuberculosis (TB) Alliance and the Global Antibiotic Research and Development Partnership (GARDP). Accessing partners' wider secondary networks has also enabled NIHR to establish broader and richer reach beyond its own connections. To a variable extent, delivery partners' systems are utilised to promote dissemination and the translation of research results into policies and practices through dedicated mechanisms to accelerate research & development) or pursue calls for proposals on research translation such as those run by EDCTP. *(Strong Evidence)*

Leveraging LMIC research partners' expertise and the involvement of key stakeholders, both policy makers and communities, are key interrelated enablers of efficiency. LMIC research partners involvement in research across programmes provides contextual knowledge, expertise and relationships and helps to coordinate in-country stakeholders to enable efficient and locally embedded delivery of research. Securing this LMIC stakeholders' involvement and investment in areas specifically related to priorities of LMICs in implementation is an underpinning assumption of the Theory of Change (Assumptions 2b and 3b). In some cases, the establishment of Community Advisory Boards or Working Groups with Ministries of Health, has helped ensure contextually relevant research prioritisation processes. For other awards, the utilisation of Steering Committees involving policy makers and health practitioners served as a feedback mechanism for improving methodological approaches and fieldwork, particularly where data collection approaches had to be adapted due to COVID-19 and unexpected and recurrent lockdowns. The ability to work closely with stakeholders to discuss and agree priorities, ensure openness and transparency, and enable continuous review of activities enables efficient and operationally effective research. LMIC research partners' ability to embed engagement with stakeholders and relevant organisations in the research, and their links with networking and dissemination platforms enhanced awards' ability to disseminate evidence and enhance research uptake to influence practice and policy more efficiently. *(Moderate Evidence)*

GHR Portfolio and programme structures have enabled a responsive approach to research including flexibility for awards to adapt to changing and unforeseen circumstances, including during COVID-19. COVID-19 slowed down research implementation and the management approach enabled awards to be proactive in repurposing and re-budgeting activities in response to emerging needs. Many awards were able to efficiently adapt budgets and strove to achieve VfM by, for example, moving activities online, focusing on producing knowledge products, developing research articles, and strengthening capacity and further strengthening the partnership. In AMR-SORT IT, for example, the cascade approach to research capacity-strengthening (whereby

trainees become mentors and share the research skills and experience gained with new trainees), was adapted efficiently and effectively via online delivery, and continued even beyond the pandemic. No-cost extensions were also a feature of NIHR's grant management approaches, allowing awards to meet intended milestones. Despite these positive adaptations, some award holders' ability to operate efficiently were interrupted by events beyond their control. This includes situations of national elections, conflict, and other security issues, which halted field visits and data collection, such as research funded in Sudan and Ethiopia in recent years. *(Strong Evidence)*

The support, feedback and responsiveness of NIHR and its partners is widely valued by award holders and enables awards to conduct research in a timely and effective way. There is widespread appreciation for the NIHR programme team and their support to award holders to increase the quality of their research approach and provide an enabling environment for research delivery and dissemination. This includes providing timely and clear feedback on applications (including opportunities to engage with funders to increase the quality of their research approach), CEI guidance and guidance on improving efficiencies, such as helping address administrative issues, monitoring research progress and providing autonomy to awards to conduct research independently. Positive evidence for this comes from survey findings, showing that most respondents received somewhat helpful or significantly helpful feedback (59%). In addition, most respondents said they had some or significant opportunities to engage with the funder (57%). However, there was limited evidence of mechanisms for award level stakeholders to feedback on NIHR's management practices and the issues that may arise for award holders, and more generally limited evidence on programmes in the GHR Portfolio systematically seeking and processing feedback from LMICs on their needs, and how this is incorporated into decision-making. *(Moderate Evidence)*

Awards took action to minimise costs while maintaining research quality, contributing to economy. For example, awards within programmes including NIHR Groups and Units, AMR-SORT IT and GCC GMH demonstrated evidence of utilising their own infrastructure where possible, including in procurement of partners and hiring staff, organising joint purpose activities such as multipurpose meetings or visits, and economical practices such as price matching, bulk purchasing, and the use of matched funding where possible. There are positive examples of awareness across programmes of in relation to economy, including in response to challenges imposed by the COVID-19 pandemic and associated changes to LMIC political environments and health systems. Some awards, for example, integrated VfM as an explicit approach to management practices, such as undertaking periodic reviews of specific functions to assess VfM as well as capacity building training for finance and programme managers. *(Moderate Evidence)*

Management and reporting processes for NIHR-led programmes in particular can be burdensome, especially for LMIC research partners. This can create challenges for equitable partnerships when the burden is felt most by LMIC research partners. This constrains the time and resources of delivery teams to conduct research in comparison to other funders such as the Wellcome Trust and UKRI. Financial and progress reporting processes are not always easily understood and perceived as overly demanding on the time and resources of delivery teams, particularly for shorter and smaller awards. Due diligence processes, log sheets, quarterly financial and milestone reporting, annual narrative-based reporting and issues in transferring funds to or between LMIC research partners were all cited as demanding or challenging processes for some award holders. Transaction-based reporting and obligations to provide receipts for individual transactions to NIHR are cited as particularly onerous and inefficient in the context of LMICs. Management and administrative processes implemented by NIHR are viewed by some award holders as heavily UK-centric, and less appropriate for the reality of many LMIC countries. Scaled down and simplified reporting processes, as well as greater administrative and financial flexibility to shift between budget lines, activities and deliverables, were suggested as key ways in which NIHR processes can support and improve the accessibility, efficiency and effectiveness of research. *(Strong Evidence)*

NIHR's principles and central guidance around CEI and equitable partnerships as crosscutting issues have enhanced efficiencies at award level for Partner-led programmes. However, there is limited

monitoring of how these principles are systematically applied, despite opportunities in some cases to implement improvements in joint governance and monitoring. While joint processes between partners are clear, consistent and delivering efficiency gains, such as those outlined in Memorandums of Understanding between DHSC and the MRC, EDCTP, GCC or EPSRC; there is limited evidence on how these processes are fully integrated into research delivery and produce outputs in a timely and effective manner. Factors contributing to this efficiency are suggested as the number of co-funders investing into a programme, the experience and expertise of global health research funders (e.g., TB Alliance), and limited capacity within the NIHR team to integrate principles and influence partners' operations (e.g., Economic and Social Research Council [ESRC]'s AMR Cross-council Initiative). More broadly, as discussed in Section 8.0, monitoring processes across programmes have remained challenging to systematise due to the breadth of partnerships. This is particularly true for Partner-led programmes, where there is much less visibility on the results of funded research. For example, incomplete and inconsistent information reported to Researchfish, is not always available to NIHR and there is limited capability to systematically collate data from Partner-led programmes in an efficient manner. *(Strong Evidence)*

8.0 Findings: Adaptability and learning

8.1 EQ 5: How well is the GHR Portfolio adapting and embedding learning?

Overall finding

Operational learning on processes, structures and award disbursement has been a central and evolving part of the GHR Portfolio. The incorporation of iterative learning has allowed GHR programmes to adapt operations including specificity of guidance to potential applicants and award holders and the response to the COVID-19 pandemic and operational delays in a flexible manner, for example by granting increased time (no cost extensions). Thematic learning on specific health topics is more limited and there is variable and inconsistent learning practice within programmes and at award level. The GHR Portfolio level MEL has Annual Reviews, Programme Completion Reviews and After Action Reviews, which have all contributed to learning and refining of approaches. NIHR has also improved data collation at the portfolio level. However, there is no coordinated mechanism to track overall progress towards portfolio outcome level results and NIHR has insufficient resources to do this effectively. This limits the ability to generate and apply learning to support greater impact and sustainability.

8.2 EQ 5.1: To what extent have learning processes been embedded in the GHR Portfolio design and implementation of activities?

At the GHR Portfolio level NIHR incorporated iterative learning on processes and operations to ensure the first phase of the GHR Portfolio was adaptive to emerging needs. From the portfolio's inception, DHSC was cognisant of their novel position as a funder of ODA-supported global health research. As such, NIHR were open to learning as the GHR Portfolio developed. Top-down, portfolio-wide learning was facilitated by participation in wider discussions on the role of ODA in health systems development with partners such as UKRI, World Bank, GCC, EDCTP and Wellcome Trust, and this was very useful in helping NIHR to deliver a global health portfolio. Bottom-up, award level learning was also supported by research partners. This occurred though UK-LMIC academic knowledge transfer and CEI activities. Several learning processes were integrated during the first phase of the GHR Portfolio, including establishing an enhanced quarterly financial reporting system, improving the Call Guidance and selection criteria based on feedback from After Action Reviews and Annual Reports. Informal feedback from partners, establishing Working Groups to enable better sharing of learning, and setting up coordination meetings to ensure there was appropriate understanding across calls about which organisations were applying so that they could avoid skewing towards those putting in multiple applications. *(Strong Evidence)*

Thematic learning on specific health topics across the GHR Portfolio is less evident. CEI practices to better align with the realities in LMICs. NIHR's emphasis on interdisciplinary approaches, which enabled recognition of the importance of societal issues in applied research, was also seen as very positive and innovative compared to more traditional funders. The most important factor in achieving learning was ensuring the right people with appropriate knowledge, skills or experiences were engaged and listened to. However, there is some evidence that learning is siloed within the GHR Portfolio. 82% of researchers responding to the survey exchanged learning with colleagues in their awards, 60% of awardees can give feedback to / learn from their funder but only 48% learned from / with other award holders (14% disagreed). That a majority of those who responded to the survey failed to learn from other awards within the GHR Portfolio, despite likely thematic or contextual similarities displays a lack of linkages across the GHR Portfolio. The establishment of the MEL Adviser post was seen as critical to improving the capacity to generate evidence from implementation and integrate learning. *(Strong Evidence)*

By the end of first phase, NIHR had developed some elements of a solid MEL approach and is continuing to improve this but has limited resources and capacity to maximise learning as a GHR Portfolio and ensure full accountability. MEL is clearly under-resourced with insufficient support (people/time) for a more strategic approach at Portfolio level. The current MEL approach/system does not yet fully support evidence-based learning or measuring results against the GHR Portfolio's strategy and ToC to determine progress and maximise the effectiveness of the GHR Portfolio. There are a range of positive components to the MEL approach, particularly the website-based award data for NIHR-led programmes and implementation of annual reviews. There is currently no GHR Portfolio level aggregation of activity indicators or outputs or higher-level results, and available data on these is limited and difficult to access. Additionally, for Partner-led programmes basic activity/ data (e.g., which awards are dispersed to which institutions and where) are not routinely collated or shared with stakeholders, further limiting the learning and accountability opportunities. While the annual review approach is now largely embedded, this was gradually introduced into the GHR Portfolio. In this period, 21 out of 27 programmes completed at least one review[26]. Lighter touch monitoring reflects the trust that NIHR has in awards that have undergone a rigorous selection process, and in PIs who are often considered experts in their area or context, and also to lessen the monitoring and reporting burden on LMIC research partners. *(Strong Evidence)*

Limited MEL capacity strongly restricts the GHR Portfolio in its ability to identify risks and areas for support, drive learning and knowledge exchange, and assess whether it is successfully progressing towards its intended results outlined in the ToC. NIHR's CEI advisers noted that they currently undertake check-ins with award holders and CEI leads and organise deep dives with awards where their monitoring reports indicate this may be needed, or upon request from the award holders. However, with a small team of CEI advisers, who are also responsible for providing strategic leadership and undertaking learning and knowledge exchange on CEI across the entire GHR Portfolio, this raises the question about the extent to which NIHR is resourced to provide the kind of consistent oversight and technical support that would have benefitted several awards in our sample. *(Strong Evidence)*

Given the level of requirements of NIHR, awards are not routinely monitoring, evaluating and learning from processes and outcomes relating to their equitable partnerships, CEI and RCS activities. Few partners have developed monitoring and learning approaches for their equitable partnering efforts, nor is there evidence that they are engaging in regular formal reviews about progress on equitable partnering practices, in terms of shifts in attitudes, practices, capacity, systems and structures as well as wider research, policy uptake and community engagement outcomes that their equitable partnering approaches are contributing to. This is additionally important as country partners often do not have direct channels of communication with NIHR and so cannot provide feedback about how they are experiencing the partnership. There is also limited quantitative or qualitative evidence available about the impact of RCS initiatives. It can be challenging to identify measurable indicators relating to capacity strengthening, but information about researchers' academic quality, research leadership, career progression, collaborations, involvement in knowledge exchange, dissemination and community engagement, mentorship of others, would provide useful evidence for the awards and GHR Portfolio. On CEI, while Units, Groups, RIGHT and Global HPSR programmes require reporting, monitoring and learning processes do not include gaining data from communities. *(Strong Evidence)*

Without feedback from communities, it is not possible to verify what the awards are reporting, understand the changes that are occurring as a result of awards' CEI efforts, identify award level improvements. In addition, it can be difficult to understand progress from reporting alone, particularly given the complex social dynamics that underpin CEI initiatives. This is especially so where the information provided is brief or is written by the PI who is not directly involved in implementing CEI activities. Certainly, many of the award level interviews, and particularly the fieldwork country visits revealed a depth of CEI activity which was not evident from their reports. NIHR is currently undertaking a project to understand community experiences in three awards using

[26] 12 programmes completed more than one Annual Review and of 134 year periods, just 72 were covered by annual reviews.

a storytelling approach. On all three cross-cutting issues, stronger monitoring would help to ground NIHR's expectations and learning in a deeper and more nuanced understanding of progress, enabling factors and challenges within local LMIC contexts, and how the individual, organisational and community-level changes that are occurring could support improvements in health outcomes in the long-term. *(Strong Evidence)*

Learning is embedded variably within the different programmes and awards, with potential for greater consistency in learning practices. Stakeholder interviews and documentary analysis demonstrated variety in the extent to which NIHR-funded programmes and awards integrated learning, supported by moderate evidence. NIHR-led awards and AMR-SORT IT demonstrated good appetite for learning, with proven efforts to embed learning processes across operations. Learning occurred informally through group discussions and ongoing interactions between research teams (including when based in different countries) and through more formal monitoring and reporting structures. There was more varied evidence across the Partner-led programmes. Long-standing programmes, like EDCTP, have fully developed and integrated learning processes. Others, like CEPI, carried out frequent internal and external reviews to ensure key learnings were identified. The Global Professorships programme regularly request involvement of PIs in the interview process for shortlisted awards and to speak with Selection Committees to give feedback on processes and provide further guidance and direction regarding relevance of criteria or decisions in relation to a specific LMIC context. Alternatively, some partners provided little evidence of formal learning processes outside of award check-in calls. Early careers grant programmes operated on a smaller scale, learning was more responsive, and there was limited evidence of cross-awardee learning. Across the GHR Portfolio, while learning is captured from coordination between NIHR programmes via Global Health Coordinating Groups and Working Groups, there is potential to do this further. Additionally, there is opportunity for award-to-award collaboration and learning with NIHR's Working Groups help to identify 'strategic topics' concerning applications. Similarly, there is potential to link awards that incorporate global health security with DHSC's Global Health Security initiatives. Many programmes had some form of inter-award learning-opportunities like webinars and face-to-face events, which could facilitate spaces for dialogue between awardees. *(Moderate Evidence)*

NIHR could be more proactive in ensuring consistency in learning practice across the GHR Portfolio whilst accommodating the needs of LMIC research partners. Conferences and knowledge-sharing events were valued by awards as important platforms for learning. There were suggestions that NIHR should facilitate more opportunities for knowledge exchange across awards and ensure accessibility for LMIC research partners. This could perhaps be done through regional or thematic workshops and events, and if these are occurring, they need to be well advertised / publicised to ensure wide awareness and participation. *(Moderate Evidence)*

8.3 EQ 5.2: To what extent has the GHR Portfolio managed to adapt to learning and changes in the external environment (e.g., COVID-19)?

There are examples of NIHR adapting to learning about the nature of the LMIC context. NIHR has listened to the challenges of awardees during the first phase of GHR and allowed flexibility where there had been changes in the external environment. As such, most respondents to the survey showed confidence (85% agreed / strongly agreed) in being able to adapt research, especially in response to changes in the external environment. This has enabled the GHR Portfolio to be flexible and adapt to LMIC needs where appropriate. For example, NIHR responded to feedback that four years of implementation was more appropriate than three years given the challenges in the LMIC contexts, by offering extensions to both Units and Groups and NIHR revised the approach for future Groups calls to extend the timelines for Groups. However, as explored previously, the portfolio is not yet optimising the opportunity to continuously adapt and improve based on learning. *(Moderate Evidence)*

The adaptation to the COVID-19 pandemic seems to have been positive. Phase 1 of GHR Portfolio coincided with the COVID-19 pandemic, which significantly disrupted many research activities within the GHR Portfolio.

Award holders were highly appreciative of NIHR's flexibility during the pandemic. For example, NIHR advised award holders that funding would continue, even where staff temporarily could no longer work and where some activities needed to pause. Additionally, NIHR offered many no-cost extensions and allowed researchers to request alterations to initial deadlines and scope. This enabled most awards to complete their research and, in some cases, pivot to incorporate relevant COVID-related activities to support wider efforts in their countries. Furthermore, some awards have also successfully sought opportunities to fully adapt in relation to progressing national COVID-19 response efforts, while still utilising the research team's clinical capacity. One PI who was seconded to the Ministry of Health provided modelling data and clinical advice directly to government and supported the drafting of COVID-19 guidelines that were subsequently published and incorporated into national policy. *(Moderate Evidence)*

9.0 Findings: Impact

9.1 EQ 6: Is there any early evidence that funded research and capacity-strengthening activities are on track to/have the potential to contribute towards 3-10 years anticipated results?

Overall finding

It is too early to measure long-term impact, only foreseen in 10-25 years in the ToC. The evaluation looked for indications of positive progress towards mid-term outcomes (3-10 years) resulting from GHR's research and capacity-strengthening activities which will have the potential to influence health policy and practice and strengthen LMIC health systems. Our contribution analysis approach allows us to explore the steps preceding impact, serving as an assessment of whether the GHR Portfolio is progressing towards its intended long-term results. Overall, the first phase of the GHR Portfolio made progress against the intended outputs and outcomes in the ToC, with most assumptions holding to some extent. Some areas such as availability of follow-on funding and LMIC award leadership that may need monitoring and/or mitigation to ensure that long-term results are maximised. Early signs suggest that the GHR Portfolio has contributed to raising awareness of research topics and influencing policy makers, practitioners and the public by enabling access to research findings in LMICs. Building networks and establishing structures for more meaningful engagement with government, communities, and global stakeholder groups have been crucial to this success. Additionally, there are indications of strengthened research capacity, particularly when researchers secure subsequent grants to continue their work beyond the award period. There is more limited systematic monitoring of progress regarding equitable partnerships, CEI, and gender equality and inclusion, making formal measurement challenging. Nonetheless, efforts have been made to enhance CEI, foster equitable partnerships, and improve coordination with other funders, aiming to maximise the impact of NIHR investments in RCS. A more deliberate longer-term approach would facilitate this.

9.2 EQ 6.1: Is there any early evidence of improved evidence-informed decision making (individual, community, health practitioner, health policy maker) as a result of GHR funded research as well as development of institutional research capacity?

It is too early to expect impacts from the first phase of GHR Portfolio. However, there are indications of emerging short- and medium-term outcomes, as indicated by examples of country-level and global policy changes and the strengthening of individual and institutional research capacity and reputation resulting in the attainment of additional funding. The first phase of the GHR Portfolio only started seven years ago and was affected by the COVID-19 pandemic and the UK economic downturn during this time. Most sampled awards in the 27 programmes in scope for the evaluation were either recently completed or are still underway, and many are still publishing research outputs. Nevertheless, in around half of all programmes, progress was reported towards changes that indicate promising signs for future impact. *(Moderate Evidence)*

There are indications of emerging outcomes around influencing policy, practice, and individual and community behaviour in LMICs. Acceptability, feasibility, and costs of scale-up are major issues that need to be considered from the design stage. According to the ToC, the expected mid-term impact (approximately 3-10 years) is evidence of policy makers, practitioners and the public accessing research findings and awareness being raised, resulting in findings influencing policy, practice, and individual and community behaviour in LMICs. For all the larger programmes (those over £10m) and a few smaller ones, the evaluation revealed evidence of achievements in disseminating research outputs and raising awareness among key stakeholders. The survey respondents were

optimistic about the impact of the research, with 88% agreeing that the research outputs are accessible to relevant audiences and are increasing the level of actionable knowledge of key stakeholders. Perspectives were more positive amongst non-LMIC versus LMIC respondents (95% compared to 83%) perhaps reflecting a higher degree of realism in lower-resource settings although probably still overly optimistic. Respondents also overwhelmingly agreed (92%) that GHR-funded activities are helping inform decision-making processes. The reviewed awards provide multiple examples of early influence on policy change, both at national and regional or global levels. This is facilitated by strong relations from the outset with relevant policy makers and global partners, effective translation of research outputs into user-friendly products and appropriate dissemination. Barriers include changing political priorities and a lack of domestic funding for scaling up. *(Moderate Evidence)*

There is progress toward building networks and establishing structures supporting policy engagement and driving impact. Researchers cited deep engagement with Ministries of Health and other key sectors, and global entities such as the WHO. Through these links, there were examples of evidence of contribution to systemic changes and the wider policy environment. Nevertheless, the findings confirm it is generally too early to expect evidence of theme-specific policy, practice or community behaviour outcomes that are attributable to efforts being made by the award holders. Examples provided referred to improvements in health facility performance, improved data collection, or better community practices but were usually limited to the scope of the individual award rather than at a national scaled-up level. Factors that facilitate impact include the embedding of researchers in implementation structures and processes, as well as technical working groups, and the existence of deep and respectful relations with communities. However, the lack of a longer-term perspective and strategy in NIHR, aside from the ToC is a barrier to achieving the desired impact. This does not mean that funding should be guaranteed but having a clear pathway for building on successful research would be helpful. *(Moderate Evidence)*

In NIHR-led reviewed awards, their engagement with CEI activities has led to greater awareness amongst researchers about the value of involving communities in their projects. Award holders noted that embedding CEI throughout the research from the outset supported researchers' better understanding of community needs, strengthened awards' multi-disciplinary approaches, and exposed researchers and particularly clinicians to the value of listening to patients and communities. Awards' CEI efforts have also supported greater access to communities, helped with recruitment to trials, supported community receptivity to healthcare interventions and hence their delivery, and surfaced new types of dissemination opportunities. Several awards noted that they believed the involvement of communities will support sustainability, for example by building higher expectations on quality of care and supporting community advocates who can raise awareness of health issues, continue to engage with government and demand better services. *(Strong Evidence)*

There are limited but promising examples of changes at the community level, but this is not systematically measured or collected, nor is it embedded in an understanding of empowerment, social inclusion or social and behaviour change frameworks. NIHR-led programmes acknowledge that outcomes for CEI are often process-related, intangible and hard to measure. A small number of awards in our reviewed sample are collecting data or planning evaluations to understand the links between demand-side factors and women's empowerment and their research interventions. However, beyond this, there was little evidence of award level efforts to investigate community-level processes. Across the sampled awards and the survey, there were multiple references to changes in communities' awareness of prevention and/or treatment of conditions, health-seeking behaviours, greater trust of researchers, and a sense of empowerment and ownership of the research. There was strong evidence from across our sample that the different types of groups supported or created by the awards provided a safe space within which people could talk about their experiences, build confidence (particularly among women), and develop a critical perspective on the relevant issues so that they could contribute to the development of research interventions. This was particularly true of those awards that had a stronger understanding of the socio-cultural context, power dynamics, gender norms, and time use. Having regular meetings and dialogue with health providers, community leaders, hospital managers and government officials has also been found to be empowering for people with lived experiences. One award which engaged local government officials, community

health workers and community outreach volunteers in its CEI efforts has supported improved community perceptions about those actors, and the health system more generally. People with lived experience who have been engaged as researchers and facilitators are committed to using the skills they have developed in advocating to communities and the health system. Two of the sampled awards noted an upsurge in community solidarity and support for people experiencing stigmatised and previously invisible conditions because of their CEI efforts. *(Limited Evidence)*

There are positive developments across the GHR Portfolio in strengthened capacity within LMIC institutions to contribute to and lead high-quality research and training. The evidence to support this includes examples of researchers who have gone on to have successful careers, including some who have become distinguished professors or joined prestigious institutes. Regional networks of excellence and hubs have been established or strengthened under awards funded by the NIHR. Most stakeholders representing the fellowship initiatives commented on their potential to improve the research environment that adds to an LMIC's international competitiveness as a place to do health research. The survey findings support this view, with 92% of respondents agreeing that GHR-funded activities are enhancing the international reputation of LMIC institutions. So far, there is only limited evidence to back this up as it is not monitored. *(Limited Evidence)*

The review of awards shows signs of early impact due to strengthened research capacity because of the GHR-funded research, especially where researchers had obtained subsequent grants to continue the work. Examples of where awards are generating impact include contributions to changes in policy, reducing the stigma associated with certain themes or conditions, development of local and global guidelines, changing practices in health facilities, and strengthening community-level platforms and initiatives. However, some awards are not yet complete, therefore, not all outputs have been achieved. In addition, there is no clear pathway to achieving impact as research awards are relatively short-term, and there is no specific mechanism to attain additional funding, even for clearly successful results. While this was noted as a source of frustration for some researchers (alongside an awareness that alternative funders may undermine the NIHR's investments by claiming attribution to later outcomes and impacts), such challenges are inherent in most research funding models are not unique to NIHR. Further, many researchers interviewed had attracted additional funding and won new grants, albeit sometimes after a struggle. There were also many reports of progression in careers and the building up of regional and national hubs and centres of excellence. These are the building blocks of future LMIC and regional capacity. *(Moderate Evidence)*

Unsurprisingly, there is limited evidence of progress towards the expected long-term impact of strengthened health systems and increased individual and community capacity for health promotion and disease prevention. The long-term impact foreseen in approximately 10-25 years is evidence of changes in policy, practice and behaviour contributing towards strengthened health systems and increased individual and community capacity for health promotion and disease prevention. This aspect of the ToC is beyond the scope of this evaluation in view of the timeline. However, while there is no evidence of these changes, it is plausible that the NIHR-funded research would contribute to such impact, provided there is continued investment in LMICs to embed further and operationalise changes in policy and practice. To date, NIHR has not defined a clear pathway for this. Nevertheless, survey respondents were highly optimistic in this regard, with 90% agreeing that GHR-funded activities do contribute to more efficient health systems in LMICs. There were similar results from LMIC and non-LMIC respondents. *(Limited Evidence)*

Efforts to strengthen CEI, develop equitable partnerships and improve coordination with other funders will enhance the impact of the NIHR investments in RCS. The cross-cutting activities supported by the NIHR is expected to contribute towards the likelihood and speed of achieving the intended outcomes and impacts. These include CEI, equitable partnerships and coordination with other funders to drive coherence and synergy. The relevant sections in this report highlight successes and challenges in these areas that will have an influence on the wider impact of the research and indicate how they will contribute to sustainability. *(Moderate Evidence)*

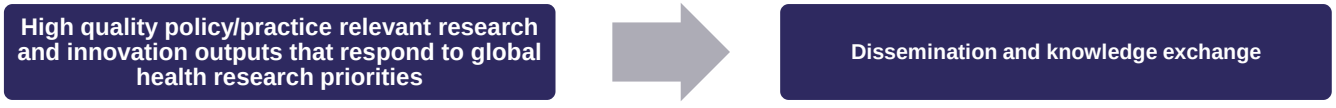
9.3 Assessment of GHR Portfolio's contribution to results

While it is too early to expect to observe results at the outcome level, the CA approach enables us to assess the plausibility of funded activities' contribution to longer-term results and the strength of evidence to support these, considering the likelihood that the GHR Portfolio's results will progress from output level results to outcome and beyond. The table below presents our assessment of the contribution of the GHR Portfolio's to intended long-term outcomes, based on in-depth evidence from across our award level sample. This table indicates how plausible (or likely) it is that outputs will lead to intended outcomes for the six relevant pathways. The table also includes our strength of evidence rating (from a scale that ranges from no evidence to strong evidence), which indicates the degree of confidence in the judgement about the plausibility of contribution. In general, evidence from aggregated sampled award level data shows that the portfolio's contribution to future outcomes is plausible or highly plausible.

Table 4. Plausibility of the GHR Portfolio's contributions to intended longer term outcomes

From	To	Strength of evidence	Plausibility of contribution
High quality policy/practice relevant research and innovation outputs that respond to global health research priorities	Dissemination and knowledge exchange	Moderate	Plausible
Equitable research partnerships and thematic networks established/ strengthened drawing on LMIC and UK expertise (SDG 17)	High quality policy/practice relevant research and innovation outputs that respond to global health research priorities	Moderate	Highly plausible
Dissemination and knowledge exchange	Policy makers/ practitioners/ public access research outputs and awareness being raised	Limited	Plausible
LMIC and UK researchers trained and increased research-enabling staff capacity	Evidence being adopted and used to inform policy, practice and individual/ community behaviour in LMICs	Limited	N/A
Equitable research partnerships and thematic networks established/ strengthened drawing on LMIC and UK expertise (SDG 17)	LMIC institutional capacity strengthened to contribute to and lead high quality research and training (SDG 17)	Moderate	Highly plausible
Policy makers/ practitioners/ public access research outputs and awareness being raised	Evidence is adopted and used to inform policy, practice and individual/ community behaviour in LMICs	Limited	Plausible

The plausibility of contribution represents a qualitative judgement on the part of the lead evaluator, based on a consideration of evidence collected relating to other factors that may have contributed to change. In the following paragraphs we assess plausibility of contribution to each relevant change pathway.



Plausibility of contribution: Moderate

This is a mixed picture as many awards still conducting research or in process of publishing, but overall, awards are producing high quality research outputs that are well disseminated to academic audiences. The focus on outputs disseminated for policy and practice was more varied, but the evaluation found good examples where PIs are well connected to **policy makers and regional/ global networks and platforms** and use websites and social media effectively. Barriers to this change pathway include **lack of time, funds, dissemination / communications skills of researchers.**

Equitable research partnerships and thematic networks established/ strengthened drawing on LMIC and UK expertise (SDG 17) → **High quality policy/practice relevant research and innovation outputs that respond to global health research priorities**

Plausibility of contribution: Strong

The evaluation finds equitable partnerships and thematic networks leading to high quality, relevant research outputs. There are some strong results along this pathway, where awards have **multi-country presence** and specifically facilitated **South-South collaboration** or established/ strengthened networks in countries, building on LMIC partners' contextual knowledge and relationships. Many publications have **HIC partners as first and last authors**, bringing into question the equitable approach. While there are examples of constructive complementarity between institutions with awards, **social and gendered context and power dynamics** affect the LMIC institutions' ability to engage and influence.

Dissemination and knowledge exchange → **Policy makers/ practitioners/ public access research outputs and awareness being raised**

Plausibility of contribution: Moderate

Given the evaluation's limited access to policy makers, practitioners and the public and the relatively early stage of many awards in the research cycle, it is not possible to comprehensively assess this pathway. Larger awards demonstrated **strong ways of working** and sophisticated **plans/approaches** to and **awareness** of dissemination leading to policy influence. There are indications of stakeholders struggling to **'go beyond research papers',** but there were 9 awards where there is good evidence of policy makers being **responsive** to specific dissemination outputs and 8 awards where there is good evidence of using **innovative communications approaches** to raise awareness about health issues, address stigma, and promote care-seeking.

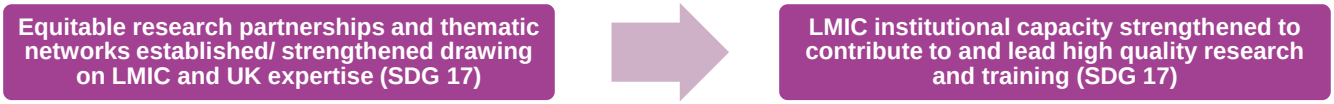
This ToC does not currently show pathways to differentiate between influencing policy makers and influencing practitioners, for example, health facility staff. These stakeholders represent different ways of changing practice on the ground and are both relevant and important. We suggest that these differences would be helpful to incorporate in a future version of the ToC.

LMIC and UK researchers trained and increased research-enabling staff capacity → **Evidence being adopted and used to inform policy, practice and individual/ community behaviour in LMICs**

Plausibility of contribution: n/a

This pathway should be reconsidered. It is not a direct pathway as there are other steps along the way that are important to achieve (e.g., awareness raised).

This causal pathway is not direct, in that there are a range of steps in between improving research staff capacity and evidence uptake/adoption. These in-between steps are reflected in other causal pathways of the ToC and it would be more appropriate for the research capacity-strengthening to lead to high quality research and to remove this current causal pathway.



Plausibility of contribution: Strong

Several awards have demonstrated equitable partnerships and thematic networks leading to strengthened **LMIC institutional capacity for research and training**. Where equitable partnerships are strong and a **primary focus** placed on partnership and collaboration there were definitive signs of institutional capacity being strengthened. **Thematic networks** could be even more supported/facilitated by NIHR ensuring **relevant connections** between different awards.

Plausibility of contribution: Moderate

It is too early to see conclusive evidence on this given the stage of most awards and the time for uptake in policy and practice. We saw some good examples with promising signs of use for example in the development of strategies, and implementation guidelines and tools, but for many awards this is unlikely. There were nine awards that showed raised awareness of policy makers/practitioners/public leading to adoption and implementation into policy and practice to some extent. Evidence of changes at the community level is not systematically measured or collected but there were multiple references across some awards to changes in communities' awareness of prevention and/or treatment of conditions, and health seeking behaviours.

Enablers and barriers include research and/or researchers being embedded in the health system, involvement of practitioners, researchers linking with channels for influence such as technical working groups, continuous involvement of stakeholders, predisposition of policy makers, interests and incentives of stakeholders, stigma and cultural barriers to the intervention.

Other:

One pathway that is not currently explicit within the ToC is the role of equitable partnerships on evidence adoption and use. There was evidence that partnerships and local leadership were key in ensuring effective strategies and approach to influencing. Therefore, this pathway might be worth making explicit and exploring further in future.

Table 5 summarises findings related to the extent to which each assumption linked to the programme's effectiveness in the ToC is holding.

Table 5. Assessment of assumptions

No.	Assumption	Link to EQ	Assessment/review
1.	Areas of investment reflect LMIC priorities (i.e., the mechanisms for identifying global health research priorities / engaging with LMIC policy makers and practitioners are effective).	Relevance (1.1 & 1.2).	Wording revised and assumption split for increased clarity – see assumption 1b and 3b below
2.	Global health research funders continue funding at present rate.	Relevance (1.1.), Coherence (2.2).	Unclear on the focus of this and how to measure/assess this. Reworded – see assumption 10b below

No.	Assumption	Link to EQ	Assessment/review
3.	Funding supports LMIC leadership.	Coherence (2.2), Effectiveness (3.2 & 3.3).	No change to wording – see assumption 4b below
4.	Research outputs consider access, coverage, quality, efficiency, equity.	Effectiveness (3.3), Efficiency (4.1).	Too broad and complex to measure and assess – removed, but some aspects are incorporated into elements of other assumptions
5.	Activities are efficient and contribute to VfM, maximising the resources available to them.	Efficiency (4.1).	Too broad to measure and assess – removed, but some aspects are incorporated into elements of other assumptions
6.	Researchers have skills, knowledge and networks to disseminate findings effectively to policy makers/ practitioners	Effectiveness (3.1). Efficiency (4.1).	No change to wording – see assumption 8b below
7.	Policy makers / practitioners have the resources and ability to understand and use research.	Impact (5.1).	Reworded to improve clarity – see assumption 11b
8.	Individuals who participate in training are retained in domestic research system.	Efficiency (4.1). Impact (5.1).	Reworded to incorporate GESI – see assumption 13b below
9.	NIHR funded activities will have a sustainable long-lasting legacy.	Sustainability (6.1).	Too broad as an assumption – this is what the ToC is aiming towards overall. Linked to 10b but assessed more broadly

Based on the emerging evidence, we have reviewed, revised and added suggested assumptions, as presented below in Table 6, which may feed into any ToC review exercise that NIHR GHR might undertake in future. Please see Annex 13 for the diagrammatic presentation on ToC of each of these revised assumptions.

Table 6. Revised Assumptions

No.	ToC Level	Revised Assumptions	RAG[27]
1b.	Activity	The NIHR has appropriate mechanisms to identify global health research priorities in collaboration with LMIC policy makers, practitioners and other key stakeholders. **(Reworded)**	Holds at award level but not for NIHR. This is currently a researcher-led process and NIHR has less of a macro level view that links to a clear strategy (**Amber**).
2b.	Activity to output	NIHR investments are in areas that specifically relate to priorities in the LMICs of implementation. **(Reworded)**	Broadly holds true. Researchers are identifying the priorities based on varying perspectives, but awards funded focus on priority areas from some perspective (**Green**).

[27] This RAG rating uses the following key: Green = strongly holds; Amber = somewhat hold; Red = does not hold.

No.	ToC Level	Revised Assumptions	RAG[27]
3b.	Activity to output	Funding supports LMIC leadership. **(Original)**	Equitable partnerships is a key value of the GHR Portfolio and the RCS in NIHR GHR Portfolio aims to support this. However, there are various operational constraints to LMIC leadership including most awards being led by non-LMIC research partners, and so there is still progress to be made on this (**Amber**).
4b.	Activity to output	Country contexts are sufficiently stable to allow research activities (particularly fieldwork) to be conducted. **(New)**	Holds true, even in situations of extreme conflict (e.g., Sudan) good research has been conducted. Although COVID-19 disrupted research, there has been adjustment to allow research to continue and flex to the changing situations (**Green**).
5b.	Output	Research outputs are accessible and usable to key audiences (in format, style, and dissemination methods). **(New)**	Some good examples of multiple types of outputs/channels (e.g., social media) But also some awards just relying on publications. There needs to be encouragement at application stage to ensure that these skills are included in the research team or by partnering with communications/marketing partners. Also seems there was reduced time available for dissemination, especially due to COVID (**Amber**).
6b.	Output	Research outputs are of high quality and contain robust findings. **(New)**	Holds true. Research seems to be good, with peer reviewed articles produced, although some delays on publications. A quality indicator to consider down the line is paper being picked up into systematic reviews (**Green**).
7b.	Output to outcome	Researchers have skills, knowledge, resources and networks to communicate, collaborate and disseminate findings effectively to policy makers/ practitioners. **(Original)**	There is positive evidence of activity dissemination although there are limited funds and technical support dedicated for public engagement, knowledge exchange and dissemination to support the translation of research to facilitate research impact (**Amber**).
8b.	Output to outcome	The strength, credibility and importance of knowledge and expertise from the Global South is actively affirmed and recognised within global health research. **(New)**	Partially holds as in theory this is the case, but in practice there is still frustration that LMIC partners cannot always drive things and not always taken seriously or included, with power imbalances playing into this. It is not just power dynamics between national and international, but also within countries decentralising research and research excellence (particularly outside capital cities) (**Amber**).
9b.	Outcome	There is funding accessible and available to advance and sustain initiatives, including in areas that are historically underfunded. **(Reworded)**	Partially holds as DHSC is continuing funding to the GHR Portfolio and coordinating with other funders to promote complementarity. However, some awards have struggled to obtain follow-on/scale up funding despite it being obvious that a first award was an early step in a long process. This

No.	ToC Level	Revised Assumptions	RAG[27]
			is an area that could be reviewed as part of a more strategic Portfolio level approach. (**Amber**).
10b.	Outcome	Policy makers and practitioners have the necessary resources, including time and funding (whether internal or external), and the capacity to understand and use research to support the implementation or scaling up of initiatives. **(Reworded)**	The research outputs produced by awards are understood to be relevant, accessible, tailored appropriately to the different audiences and disseminated through appropriate channels and opportunities. Evidence of policy makers'/ practitioners' ability to engage with these is currently limited given the timing of this evaluation as it is too early to tell (**Amber**).
11b.	Outcome	Horizontal capacity building and knowledge transfer (e.g. between LMIC institutions) contributes to overall enabling environment. **(New)**	Holds partially, with some evidence and examples of where this is happening, but hard to assess at this stage and there are many awards where this is not happening. Also worth considering this as a ToC change pathway in future, as it will be crucial to achieving long-term, higher level results (**Amber**).
12b.	Outcome to impact	Individuals who participate in training/capacity building are retained in domestic research systems and are able to progress their careers, particularly for women. **(Reworded)**	Holds partially. There is some evidence of brain drain, but for the most part researchers seem to be retained on awards. Gender aspects are supported on some awards, but too early to assess long-term progression. Also some examples where stigma of the role means they struggle to retain staff for implementation. There should also be consideration of whether this is a valid assumption - LMIC researchers should sometimes be gaining experience overseas or in a different setting (e.g., PhD) (**Amber**).

Overall, the first phase of the GHR Portfolio is making good progress against the intended outputs and outcomes in the ToC, but also experiencing some challenges related to assumptions. Mitigation strategies are proposed in the recommendations Section of this report. The relatively early timing of the evaluation limits our ability to deeply assess all assumptions, but it will be important to continue to monitor and address any challenges related to assumptions to ensure higher level results (outcomes and impacts) are fully achieved.

10.0 Findings: Sustainability

10.1 EQ 7: To what extent will the net benefits of the GHR Portfolio continue, or likely continue, beyond the funded period?

Overall finding

Within the GHR Portfolio, there are programme- and award-specific examples of research impact and individual capacity-strengthening gains and contributions to wider institutional systems that may be sustained after funding ceases. This includes contributions to strengthening countries' research environments by embedding individual and/or institutional capacity and best practice, which some awards have perceived as conducive to sustainable impact. However, data and insights on sustainable net benefits of the programmes are limited by the early stage of the GHR Portfolio, the timescale of sustainability effects to be realised and by the limited availability of certain sustainability monitoring data. Further, a broader limitation relates to how ODA funding operates in general in terms of short-term funding cycles and wider macro-economic and political pressures which can create longer-term strategic uncertainty. Evidence of sustained influence of GHR research on policy and practice was limited but there are positive signs of progress towards this being achieved.

10.2 EQ 7.1: To what extent will achievements and research impact continue beyond the funding period?

NIHR's GHR Portfolio approach is based on a long-term ToC with impacts envisaged over a 25-year time horizon. NIHR GHR aims to support research with the potential to make a long-term difference to populations and health systems. Indeed, the desire is for changes to be embedded within government systems and / or researchers to have skills that allow them to successfully obtain funding from other sources. Sustainability and long-term implementation are key to achieving the overarching objectives of the GHR Portfolio, which are closely linked to sustainable systems change, particularly in terms of institutional capacity-strengthening and ensuring that organisations have the right research ecosystem to take forward the research and implementation. However, ODA funding operates in general in short-term cycles and is subject to macro-economic and political pressures that mean the GHR Portfolio is operating within parameters of uncertainty. This can influence future funding for research programmes and awards, and participants at these levels expressed concerns over the extent to which NIHR's funding fostered sustainability in the absence of clear pathway for award holders to obtain future investment. *(Strong Evidence)*

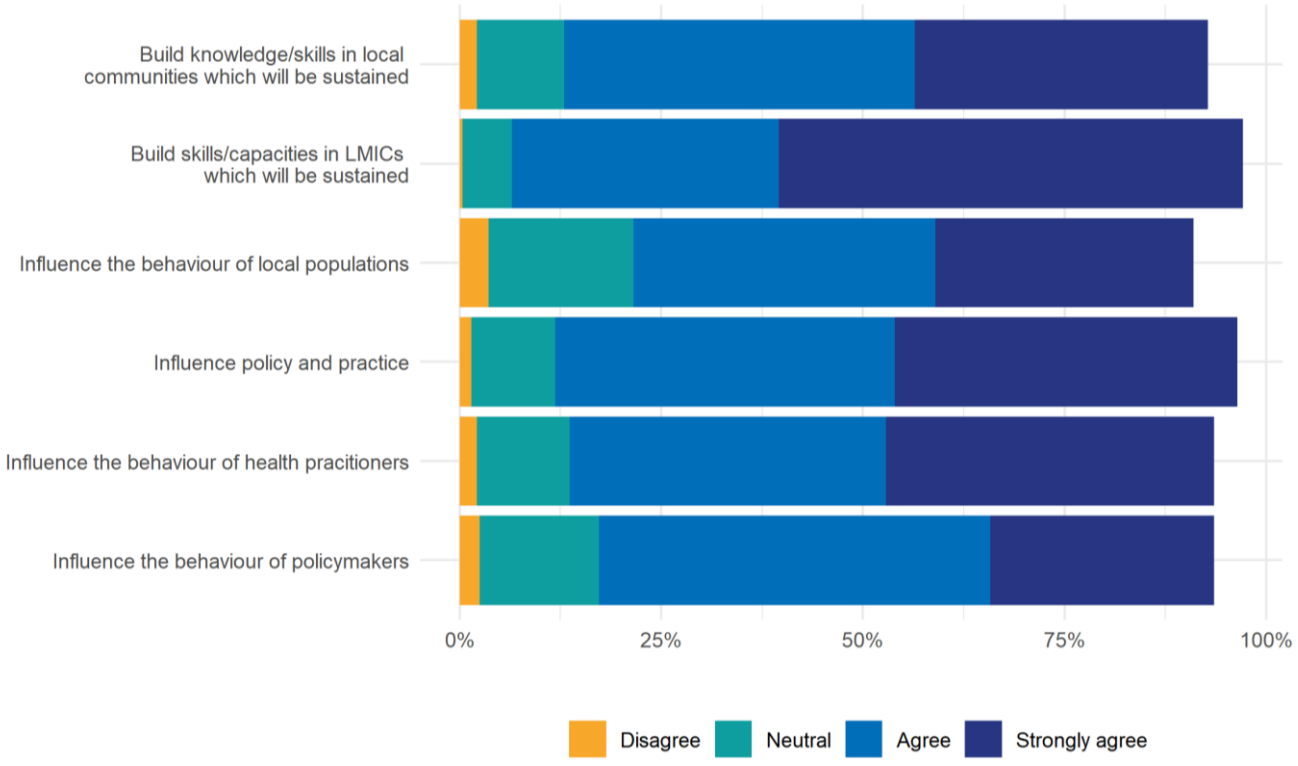
It is too early to robustly explore and measure sustainability, but there are indications that funded research will have some sustained effects, particularly in terms of individual capacity and contribution of these individuals to wider systems. Awards contributed to strengthening countries' research environment by embedding individual / institutional capacity and best practice, which awards considered as conducive to sustainable impact. Fellowships (Wellcome and RSTMH) and Global Professorships have been a good starting point for the projection of LMIC early career researchers, but additional mentorship and opportunities are likely needed to sustain careers in their next stages. The survey showed there are very positive views about the sustainability of LMIC capacity building: 91% of survey respondents agreed or strongly agreed that the award research activities have or will build the skills and capacities in LMICs which will be sustained. However, this was felt somewhat more strongly by non-LMIC respondents (96%) than by those based in LMICs (87%), suggesting the need to keep tracking this small discrepancy, given that those in LMICs are likely closer to the work and its uptake. Specific research capacity including on methodological approaches, research management and key linkages and networks will continue to be applied institutionally (in academic and/or clinical settings) as well as on continuation of specific projects. There were also indications that the confidence and skills gained will help

researchers to access further grants in the future. For instance, there was evidence of awards training local researchers to apply for local and international funding. For ECRs involved in NIHR GHR awards, they have been gaining understanding in how to apply for and manage such grants, as well as gaining insights and confidence in obtaining funding from a range of sources in future. *(Limited Evidence)*

Evidence of sustained influence of the funded research on policy and practice was limited but there are positive signs of progress towards this, particularly if activities are continued. The skills, linkages and networks developed through the programmes and awards are the most sustainable elements. Particularly where research is embedded in clinical settings, either through clinicians themselves conducting the research or through strong research and practice partnerships and dissemination links, there is strong evidence of uptake and practice change. Given the complexity of influencing policy, this is where least sustainable change has been made. In addition to award level case study data, these findings are supported by the award holder survey responses:

- 85% of respondents agreed or strongly agreed that the award has or will influence policy and practice
- 80% agreed or strongly agreed that the award has or will build knowledge / skills in local communities which will be sustained, as well as influence the behaviour of health practitioners
- 76% of respondents agreed or strongly agreed that the award has or will influence the behaviour of policy makers
- Least positive about influencing the behaviour of local populations (69%) *(Limited Evidence)*

Figure 15. Survey responses on the sustainability of impacts



Relevant linkages and partnerships will contribute to sustainability through shaping collaborations and funding opportunities. There were indications at award level that the policy and practice linkages that have been developed may aid translation of research into policy, for example, being able to secure a partnership with a governmental stakeholder will help ensure the sustainability of the research. However, for many awards, more work is needed to ensure that results and outputs are taken up by policy makers. There was also no evidence

from awards across our sample that they are partnering with civil society or community-based organisations that could sustain community engagement as well as community-level advocacy. It is possible this could (re)create community mistrust and disengagement (including with future projects), particularly where projects are not able to reach the point where they can demonstrate impact and clear benefits to the community.

Award holder survey respondents gave overall positive views in terms of the likelihood for future collaboration between individuals, institutions and other stakeholders:

- 87% agreed / strongly agreed that individuals will continue to collaborate with external stakeholders
- 85% agreed / strongly agreed that individuals will continue to work on global health research together
- 85% agreed / strongly agreed that institutions will continue to collaborate
- 79% agreed / strongly agreed that individuals will continue to work on global health research independently *(Limited Evidence)*

A few funded awards have secured follow-on funding. Several awards have been successful in leveraging additional funding from local and international sources, which is expected to support the sustainment and upscaling of activities. Follow-on funding is being secured by some (particularly smaller scale research, such as those under RSTMH) but for many this is a challenge. In the absence of systematic GHR Portfolio-wide monitoring of sustainability or longitudinal awardee follow ups, it is not currently possible to obtain an accurate, overall picture of this. *(Limited Evidence)*

Issues with availability of follow-on implementation funding for the research awards funded by NIHR GHR may reduce sustainability of long-term results. This is particularly relevant since NIHR has been putting notable efforts into funding areas of unmet needs, which means that if no other funding is available through NIHR and partners, it is difficult to ensure the continuity and sustainability of the research. In cases where future funding has not yet been secured, there is an active risk that achievements and research impact will not be sufficiently embedded to be sustained over the long-term. Considering the long-term objectives of the ToC on improving health systems and health research, the timelines of grants are too short and the inability to secure further funding – irrespective of the quality of the results achieved – has a severe impact on the sustainability of the long-term results and implementation. One award holder also raised concerns that the projectised approach of funding programmes means they cannot guarantee long-term engagement with community stakeholders and secure the sustainability of CEI efforts. It takes time to build the relationships, trust and capacity for CEI as well as for empowerment, attitude and behaviour change to become embedded, and awards can find it challenging to find other funders that emphasise CEI to the same extent as NIHR. GHR Portfolio level respondents recognised this issue and the challenges in being able to provide assurance of long-term funding *(Limited Evidence)*

11.0 Conclusions

The NIHR GHR Portfolio has successfully delivered research activities with an initial ODA budget of £429.5m across 30 programmes and initiatives over its first phase from 2016/17 to 2020/21. During this time the NIHR has established itself as a respected and significant player in the global health research space in the UK and the international community. The GHR Portfolio activities have responded to priority needs of health research in LMICs, built the research capacity of individuals and institutions in the UK and LMICs, fostered equitable partnerships, and raised the visibility of community engagement as an integral part of global health research. As it is less than seven years into implementation, and the first phase was greatly affected by the COVID-19 pandemic, it is too early to observe substantial contributions to changes in policy and practice, strengthened health systems and improved health outcomes. These expected results are foreseen over a 25-year period and are judged as plausible based on our contribution analysis. Our findings suggest that this is an appropriate time for the NIHR to take stock of learnings from the first phase and further develop its strategic approach to ensuring that the investments will yield the greatest impact possible.

Our conclusions are as follows:

1. **The GHR Portfolio's programmes are responding to priority and underfunded health research areas in LMICs. The first phase supported a wide range of activity and learning. A more strategic and focused approach with greater collaboration within and across programmes in the GHR Portfolio and beyond would offer greater potential to leverage synergies and support impact.**

NIHR's responsiveness to priority and underfunded health areas is aided by the GHR Portfolio's establishment of relationships with other delivery partners (facilitated strongly by DHSC), who have played a crucial role in identifying priority themes and allowing NIHR to leverage their expertise and LMIC networks. The development of the ToC in collaboration with key partners promoted alignment of partner investments with a focus on areas which lack sufficient funding, and the integration of NIHR's emerging principles, including LMIC-led priorities, equitable partnerships and CEI across partner funding. Supporting a broad range of themes, geographic areas, and UK and LMIC research partners in the initial phases has proved useful. Diverse funding partnerships added significant value in the first phase and enabled the NIHR to deliver a wide range of activities and grow quickly. Some partnerships were discontinued during that time while others have grown and expanded. Our findings indicate that a more focused approach on areas where the portfolio can add the most value may now be beneficial. Considering the GHR Portfolio was initially envisaged to focus on NCDs, it is notable that substantial resources have been allocated to infectious disease. NIHR's unique approach of promoting a researcher-led agenda has enabled research to be responsive to country needs, which adds value and should be maintained**.** A more strategic approach would also provide a foundation for improved coordination and learning within the GHR Portfolio and greater synergies with the other major UK funders and international partners so that all investments are more consistently aligned, effective, and complementary.

2. **The GHR Portfolio has resulted in a high volume of peer-reviewed research publications and many associated outputs aimed at driving policy and practice change on the ground in health service provision. The degree and quality of engagement with LMIC researchers and other LMIC stakeholders in this process has been steadily increasing and could be further improved and oriented towards preparing the ground for wider policy uptake and changes in health practice.**

The portfolio has fostered mutually beneficial collaboration between UK and LMIC researchers and other stakeholders. NIHR has built up its internal capacity to manage NIHR-led research calls and strengthen the engagement and meaningful involvement of LMIC stakeholders. The GHR Portfolio model relies strongly on award holders to create an effective enabling environment for uptake of research to inform policy and practice. Our award level assessments indicated varying levels of engagement with policy makers at the design stage, which is likely

to be detrimental to achieving future policy uptake and implementation of changes on the ground. As the UK Government is an important development partner for many countries and LMIC institutes, there are opportunities for achieving wider geographic and thematic influence.

3. **Where research is being undertaken in poor and underserved communities, there is a need for greater attention to and guidance on ethical considerations, as well as NIHR's expectations on promoting health equity.**

Few award holders are engaging with representatives of marginalised and particularly vulnerable groups, for example, poor rural women. It is crucial for this practice to be widespread if research is to be relevant to their needs and respond to the needs of those with the highest burden of disease. Furthermore, the integration of more gender-sensitive approaches is needed to address inequity. A consistent ethical approach would include conducting formal reviews of community needs, explicitly including women and marginalised groups in design and implementation activities, being clear about researchers' responsibilities towards low-income and underserved research participants, providing clear explanations of research benefits, and communicating clearly on what happens at the end of a research cycle. The award reviews indicate that these activities are left to the researchers to implement. NIHR's guidance provides some commentary on the ethical issues for award holders to consider when conducting research in underserved communities. However, it does not currently set expectations for the links between health research and addressing health inequalities and does not provide comprehensive coverage of the full range of relevant issues.

4. **The GHR Portfolio has demonstrated its ability to deliver high-quality research, strengthen research capacity and make progress towards equitable research partnerships. Our CA assessment also found evidence of the GHR Portfolio's contribution to outcomes. However, weaknesses in GHR Portfolio level MEL constrains the ability to track overall progress.**

Programmes have progressed well in their delivery, including during the challenges of the COVID-19 period, and are largely effective in disseminating important findings, strengthening research capacity and award management skills, and progressing towards equitable partnerships. Delivery has been supported by NIHR and partners' operational structures, processes, expertise and relationships, including with LMIC research partners stakeholders. However, gaps and inconsistencies in monitoring data across the GHR Portfolio limits the ability to assess overall effectiveness and identify areas of stronger and weaker performance. The current approach does not facilitate a portfolio perspective on performance due to a lack of a framework for aligning (as far as possible) and aggregating key metrics across programmes. While there is an understandable desire to avoid monitoring requirements becoming an additional administrative burden for award holders, there is potential to increase the value of existing investment in data collection.

The evaluation has identified gaps in the ability of the fund to consistently monitor whether equity is being supported in the approach to delivering research, the nature and extent of CEI outcomes and research capacity strengthening. Improved approaches to monitoring in these areas would enhance learning and contribute to sustainable structures and processes.

5. **There is significant learning from the first phase, and opportunities for this to be translated effectively into more systematic learning for and from award holders and programme leads across the GHR Portfolio.**

At the GHR Portfolio level NIHR learning processes have ensured that the first phase of the GHR Portfolio was adaptive to emerging needs, including the challenges of COVID-19. These processes included enhanced quarterly financial reporting system, improving the Call Guidance and selection criteria based on feedback from After Action Reviews and Annual Reports, as well as working groups. Building on valued programme and award level learning, there is potential for development of learning from the experience of operations, themes and geographies across

the GHR Portfolio. Importantly, there is commitment to CEI among award holders (as indicated in the response to webinars) that could be harnessed with improved processes for learning. There are opportunities to strengthen knowledge exchange and learning systems so that award holders and programme managers can avail greater support to increase the reach and impact of their work. There are limited funds and technical support dedicated for public engagement, knowledge exchange and dissemination activities that could support the translation of research and facilitate research impact and sustain equitable partnerships.

6. **The NIHR is strongly committed to promoting LMIC leadership of global health research through its emphasis on equitable partnerships, CEI and RCS. This is resulting in more streamlined and strategic approaches that have influenced other funding partners, supported progressively well-developed approaches at the award level, and incorporated learning from LMIC experience. However, contextual analysis of research-policy linkages, the research ecosystem, and gender and social inequalities, norms and power dynamics is not yet routine or consistent.**

Researchers that are embedded in communities and health systems, with longstanding relationships and connections, are well-placed to achieve impact on policy and practice. The most effective award models reviewed in this evaluation were those working with LMIC centres of excellence aiming to build regional capacity through relationships and collaboration between different institutions, academics, practitioners and clinicians. This helped build the capacity of people who deliver services, through exposure to a constant cycle of improving learning and practice. NIHR's commitment to CEI, emphasis on active collaboration with communities likely to be affected by the research and openness to learning and adaptation is commendable and in line with the broader global health research agenda. There are promising signs of deepening engagement and collaboration with communities as awards mature and changes at the community level. However, awards are not collecting community feedback on their CEI approaches, nor are the changes that are discernible embedded in an understanding of empowerment, collective action or social and behaviour change frameworks. Ongoing dialogue with communities about their expectations, anticipated benefits, and risks is critical for several reasons. It deepens trust, ensures that research and CEI approaches are relevant, ethical and sustainable, supports progressively stronger collaboration, and contributes to portfolio- and award level learning. There is also limited evidence of explicit discussion amongst GHR Portfolio, programme or award level stakeholders about gender equality, intersectionality, and unequal power dynamics and how these shape CEI and research processes and outcomes. Strengthening NIHR's approach to incorporating contextual analysis in research design and implementation, as a basis for effective equitable partnerships, CEI and RCS would support effectiveness, sustainability and long-term impact. This would include incorporating assessment of research-policy linkages, the research ecosystem, and gendered and social inequalities and norms and power dynamics of a given research team or intervention.

7. **The approach to the GHR Portfolio has fostered collaboration and progress on equitable partnerships. However, more could be done to support LMICs and strengthen the equitable partnership approach.**

The GHR Portfolio has made good progress in developing equitable partnerships and NIHR's commitment to equitable partnerships has positively influenced award holders. Efforts to fund more LMIC-led research partnerships since Phase 1 of the portfolio, is a critical way of ensuring the identification of local priorities and stronger embedding of the research in local systems. Addressing barriers to the equitable participation of LMIC institutes is a complex task that requires systemic change, as well as action at award level. Some processes do not consistently match the needs and resources of LMIC research partners, creating an additional burden for them and challenges for equitable partnerships, and potentially even exacerbating power imbalances between LMIC and non-LMIC institutions. Despite efficiency gains being realised via NIHR's central guidance and joint processes with partners, there is a need to improve harmonisation of approaches to equitable partnerships at award level.

8. NIHR scrutinises research applications for potential VfM but the framework for VfM is being developed.

The VfM principle is included in overall governance and management structures of the GHR Portfolio and programmes and incorporated into guidance to applicants and project selection criteria. VfM is also highlighted during the contracting stages via scrutiny by DHSC finance teams. However, the GHR Portfolio's VfM approach is not fully developed to align with approaches typically used for ODA funding.

12.0 Recommendations and lessons learned

Recommendations emerging from this evaluation are targeted at NIHR GHR portfolio level stakeholders, to inform future phases of the Fund. The recommendations have been co-produced with the DHSC and NIHR to support appropriateness and feasibility of implementation. The first recommendation is a short-term priority, and it is expected that those that follow will support the changes emerging from this.

12.1 Recommendations

1. **The DHSC should consider the future strategic direction of the GHR Portfolio and decide, in consultation with its key funding partners and other important global funders, where the NIHR can add the most value.**

Now is a good time to take stock of progress, decide on the future focus of the GHR Portfolio and select the most appropriate partners to help deliver results. Having gained much experience in working with a wide variety of partners in Phase 1, the DHSC should now continue to evolve its approach and focus on the most mutually beneficial funding partnerships. These should be decided in line with the desired strategic direction for the current and subsequent phases. DHSC could still maintain the highly appreciated researcher-driven approach but concentrate resources in those areas where it has made substantial progress during the first phase and is most likely to see the greatest impact over the next five to ten years. Focusing on a smaller number of thematic areas and potentially also fewer countries and LMIC institutes, would enable a longer-term perspective, working with a wider range of LMIC partners, and helping to build up more sustainable research capacity amongst LMIC partners who could then support other institutes through South-South and/or regional partnerships. Funding for larger programmes through calls could be supplemented by additional funding for emerging priorities, newer partnerships, innovations and seed funding.

The process of reviewing DHSC's strategic direction has already begun with the appointment of a programme director and a refinement of the strategic priorities for the period 2022-2025.[28] However, the priorities remain broad and may warrant further reflection. In particular, the DHSC should decide if it wishes to maintain a relatively high proportion of funding for infectious disease. Decisions should be taken in close collaboration with other funders looking for areas of comparative advantage and especially on where there are still longer-term critical funding gaps. Subsequent partnerships with current and potential new funders and implementing partners in the UK and internationally should reflect this strategic focus. If this is the approach taken, the ToC would need to be reviewed to ensure it remains valid.

2. **NIHR should consider playing a stronger role in promoting policy uptake and change in health practice in key countries.**

Policy uptake and promoting change on the ground should receive greater attention from the outset of research design. While this is generally seen as the role of individual award holders, NIHR can strengthen its mechanisms to support this. For example, NIHR could ensure that award applications provide stronger evidence of their understanding of the local research and policy context, demonstrate the relevant expertise for supporting policy and practice change amongst policy makers, practitioners and communities, and stipulate mechanisms for ensuring responsiveness to research findings within the policy environment, especially for large grants. This could include providing evidence that research teams have engaged the right stakeholders at the design stage, and

[28] https://www.nihr.ac.uk/explore-nihr/funding-programmes/global-health.htm

explanation on how outputs and recommendations will be made acceptable, feasible and, where relevant, affordable to scale up. NIHR should also provide more support to award holders for developing policy briefs and other suitable communications outputs, or to potentially contract a specialised external agency from the region to support this where research teams lack these skills. This could be done as a collaborative effort with other UK funding partners to promote a wider UK-ODA complementary approach at country level, especially in regions and countries where there are multiple awards. Finally in acknowledgment that formal policy uptake can be a protracted and complicated process, NIHR could coordinate better with UK Government country teams to ensure greater awareness about research programmes in key countries, particularly where there are multiple awards and themes that align with UK Aid country programmes and there are potential opportunities to collaborate on developing policy recommendations and dissemination and uptake strategies, and support translation of research into programmatic action.

3. **NIHR should develop specific guidance around the ethical considerations of conducting research in poor and underserved communities.**

Award holders would benefit from having explicit guidance from NIHR about undertaking research in under-served communities, considering the responsibilities of researchers towards helping research participants in such settings, and ensuring that communities participating in research benefit in meaningful ways. Such guidance/ learning should explain NIHR's position and expectations on the links between health research and addressing health inequalities, and the extent to which awards should integrate an understanding of the structural and institutional conditions that affect research participants and shape their health outcomes, for example, poverty and lack of access to quality health services, into the design and implementation of studies. It should also emphasise the need to engage with policy makers at the national and local levels, community stakeholders and community-based organisations representing women and marginalised groups to better understand the implications of the proposed research in areas where the health system is under-resourced. NIHR should also clarify the extent to which higher levels of funding can be provided, for example for research aiming to test prevention interventions in community settings, to support research participants to access life-saving services, or to make adaptations to respond to ethical issues that emerge. NIHR should also support learning on the particularly challenging task of building research awareness in poor and under-served communities, for example, explaining the purpose of research. In particular explain experimental approaches, the difference between research and service delivery programmes, the role of researchers, as well as issues such as randomisation, participant follow-up, and phase out. Embedding research in an understanding of the wider health context for research participants and ensuring that underserved communities benefit from research will build awareness that research is not extractive and seeks to improve people's lives, build stronger relationships between researchers and communities, and motivate a wider range of health system and community stakeholders to find ways to sustain those benefits.

4. **NIHR should refresh and strengthen its MEL strategy and framework to align with the ToC and establish stronger systems and processes for tracking and using the results of all GHR Portfolio investments.**

NIHR should strengthen the current MEL approach to maximise the effectiveness and impact of GHR Portfolio investments and ensure accountability at the GHR Portfolio level. This should include learning from partners with experience of delivering ODA funds (e.g. FCDO's logframe approach) and focus on collating results across the GHR Portfolio, rather than imposing any significant additional burden on award holders. It should also include supporting awards to monitor, better understand and learn from the contextualised pathways of change that are emerging and the extent to which their equitable partnerships, CEI and RCS approaches are supporting changes in attitudes, structures and systems, and contributing to achieving research-, capacity- and empowerment-related objectives. Such activities will need to be appropriately budgeted for in award applications and NIHR may need to provide an increased funding envelope.

On equitable partnerships this could include encouraging and supporting awards to develop, ideally through a collaborative process with partners, frameworks and tools that can support monitoring of whether equity is being supported. This could include monitoring changes in attitudes, practices, capacity, systems and structures as well as the ways in which equitable partnering approaches are contributing to wider research, policy uptake and CEI outcomes. Similarly on RCS, awards could be supported to identify measurable indicators relating to researchers' academic quality, leadership, career progression, collaborations, involvement in knowledge exchange, dissemination and community engagement, and mentorship of others.

On CEI, NIHR could encourage awards to ensure that there are ongoing feedback loops with communities, and feedback is used to shape the research as well as the relationship and empowerment context. This should include awards undertaking proactive and ongoing dialogue with community stakeholders to understand how they are experiencing the CEI activities, whether the burden of participating in CEI activities is appropriate, whether community expectations are being met/ they are benefiting, the changes and risks that are emerging, and what aspects should be strengthened, improved or changed. Those awards with more well-developed CEI approaches could be encouraged and supported to work with their community partners to co-design and co-implement community-led monitoring and learning strategies. This would enhance the effectiveness of awards' CEI approaches and research, surface areas for improvement, strengthen the sense of partnership with community stakeholders, and contribute to the sustainability of community engagement structures and processes. NIHR has indicated that there are examples of awards that are using such approaches, and their experience could provide useful learning. While it may not be feasible to expect all Partner-led initiatives to adjust their systems to align fully with NIHR, key metrics should be established, and MEL processes enhanced within NIHR, to capture data on progress and performance across all programmes and awards and facilitate improved oversight of emerging results.

NIHR should consider contracting a third-party monitoring agency to support and facilitate this entire process, in line with good practice implemented in other large ODA-funded programmes. The monitoring partner could engage directly with a wider range of awards and their stakeholders including through monitoring and learning visits, support them to strengthen their MEL strategies on CEI and equitable partnerships, and identify achievements or promising practice which can allow NIHR to strengthen its own understanding of the settings, organisational contexts, approaches, barriers, enabling factors and change pathways that shape awards' research, policy uptake, equitable partnerships and CEI work. Better monitoring information from across the GHR Portfolio will enable NIHR to ground its expectations and learning in awards' experience and progress, identify where technical support is needed, and develop more targeted knowledge exchange and learning efforts that aim to engage awards around key challenges, ideas and innovations, and platform a broader range of experience at the award level.

5. **NIHR should enhance the value of research impact and RCS by further investing in opportunities for strategic learning, in-person networking and knowledge exchange**.

Award holders have strongly valued knowledge exchange and learning between awards, and it is evident that greater emphasis on, and direct operational and financial support for learning activities will allow NIHR to strengthen the relevance, effectiveness and sustainability of research capacity building. Greater investment in supporting knowledge exchange and learning between awards, and technical engagement between NIHR programmes and a sample of awards on CEI and equitable partnerships for example will allow NIHR to strengthen its understanding of awards' approaches and progress. Engaging Partner-led programmes in shaping and contributing to learning initiatives on CEI and equitable partnerships could also support greater alignment. Award holders are also keen to feel more involved in and knowledgeable about NIHR's overall vision and how their own research fits into this. NIHR could establish mechanisms to facilitate this already at the application stage. NIHR has acknowledged the need for wider knowledge exchange and are already planning and conducting learning events in person (some of which had not initially taken place due to the COVID-19 pandemic) as well as a series of CEI webinars, and a Community of Practice for award level CEI leads. Communities of practice led by award

holders, either within or between aligned programmes (e.g., as with Groups and Units), focused on global health priorities or GHR objectives such as policy uptake, equitable partnerships, capacity-strengthening and/or CEI could certainly serve as useful forums for award holders to independently discuss and share their experiences, and share feedback with NIHR.

While NIHR has already established[29] funding to cover Open Access costs of articles published in line with the criteria of the Open Access policy, programmes may wish to include further flexibility in how indirect costs could be used (e.g., as a contingency budget specifically for dissemination activities both across programmes and awards and with other GHR initiatives). If NIHR is unable to provide contingency funding, guidance could be expanded to include options for applicants / institutions to contribute to a shared 'pool' of funds directly provided by applicant institutions themselves, allowing them the option to utilise this approved budget for dissemination activities deemed most relevant or valuable to the award in question. Regional or thematic workshops and events could be supported directly by NIHR to ensure wider awareness and participation across awards. Other options could include building in more advocacy training and support to help influence national government and other local partners, including the private sector. Additional learning platforms could move beyond sharing of research outputs to help share success stories and pathways to impact. NIHR could also facilitate contacts to other funders that may be more appropriate for scaling up support.

6. **NIHR should strongly encourage award holders to ensure that research design and implementation is strongly grounded in a comprehensive contextual analysis. This analysis should include gender and social inequalities, the research environment, and policy linkages and should clearly inform awards' policy uptake, equitable partnering, CEI and RCS approaches. This will support more effective research and contribute to addressing health inequities.**

Analysis of the research-policy context could surface insights about whether the proposed research is timely, whether particular opportunities for traction could be leveraged, and how collaboration and advocacy with policy stakeholders could be most effectively undertaken. This would also help researchers to know about the challenges policy makers face in accessing, using and interpreting research evidence. Understanding the research ecosystems within which LMIC partners operate and considering the working and living conditions of local research partners will support stronger partnering approaches which explicitly address inequalities in access to resources and power. This will also promote equitable partnering and RCS approaches informed by a systems-based understanding of the links between individual capacity, institutional capacity, the research ecosystem and the global health funding landscape. Undertaking a systematic analysis of how unequal access to resources and power, gendered and exclusionary norms, and the intersection of various disadvantages shape the health of different groups within households, communities and health systems will enable awards to design more equitable, effective and transformative research and contextualised CEI, RCS and safeguarding approaches. A gender equality and social inclusion analysis can inform the development of contextualised CEI approaches which can support the empowerment of women and marginalised groups and foster shared responsibility for public health. This analysis should also include critical engagement with research teams' own biases, and consideration of ways in which power shapes how CEI processes are framed and designed. Understanding the gender and inclusion issues that researchers from marginalised groups face will enable awards to develop RCS approaches that are supportive of individual researchers, and which also contribute to creating organisational environments within which they can contribute their skills and perspectives to research, and support and mentor others.

7. **NIHR should develop a deeper understanding of awards' experience with CEI and ensure that CEI approaches are effective and empowering. This should be done by encouraging and supporting**

[29] https://www.nihr.ac.uk/documents/nihr-open-access-publications-funding-guidance/30210

awards to integrate CEI across the research cycle more strategically, including across their contextual analysis, monitoring, learning and sustainability approaches.

This will strengthen understanding of the settings and contextual and organisational factors that shape CEI work; emerging pathways of change; which approaches are proving effective in achieving research-, capacity- and empowerment-related objectives; and how CE-related progress can be sustained. This will also enable awards and NIHR to learn about and respond to the challenges raised by the imperatives of community engagement. Such challenges include the representation and meaningful inclusion of different groups, unequal power dynamics, the costs of participation for communities, the risks for marginalised groups, research awareness and communicating community benefit. Paying attention to context, and the existing capacities of communities will support the development of CEI approaches that are empowering and sustainable, and not extractive or harmful. This will in turn support research that is relevant, feasible and can be mobilised by communities even beyond the project life cycle. More specific detail on CEI is included in the recommendations on ethical considerations (3), NIHR's MEL framework (4), strategic learning and knowledge exchange approaches (5), and contextual analysis (6). NIHR's engagement with awards on CEI has increased since the first phase of the Portfolio, and certainly providing technical support to awards that are experiencing challenges, or that request advice on further embedding their approaches will support monitoring, learning and the diffusion of good and promising practice. NIHR could consider funding research focused primarily or more explicitly on CEI, for example one award for each funding round, in order to further contribute to the evidence and learning base on community engagement, social determinants and improving health outcomes. More specific detail on CEI is included in the recommendations on ethical considerations (3), NIHR's MEL framework (4), strategic learning and knowledge exchange approaches (5), and contextual analysis (6). NIHR's engagement with awards on CEI has increased since the first phase of the Portfolio, and certainly providing technical support to awards that are experiencing challenges, or that request advice on further embedding their approaches will support monitoring, learning and the diffusion of good and promising practice. NIHR could consider funding research focused primarily or more explicitly on CEI, for example one award for each funding round, in order to further contribute to the evidence and learning base on community engagement, social determinants and improving health outcomes.

8. **The NIHR should further enhance the efficiency of the GHR Portfolio and progress towards more equitable partnerships by helping LMIC research partners to access more support that builds their management capacity taking into account their local context and operational challenges and helping them to overcome barriers.**

The NIHR could simplify application, management, and reporting processes for LMIC institutes without compromising on accountability and quality. Options to achieve this could include more mentoring support from UK partners in the field, further grant- and report-writing opportunities, and less burdensome accounting processes, especially with institutes that have an existing relationship and degree of trust. Better performing LMIC institutes could also support their neighbours in regional collaborations. The NIHR funding model could be reconsidered or expanded beyond key staff costs and specified indirect costs to ensure there is money for wider aspects of research implementation where appropriate, such as producing and processing samples, obtaining additional research equipment, unexpected travel for researchers and other expenses. A scoping exercise seeking feedback directly from PIs and LMIC leads regarding challenges to the existing funding model could be considered and potentially incorporated more explicitly into the Call Guidance. While award holders within some programmes (Units, Groups, Global HPSR) can provide feedback and updates on governance and oversight mechanisms via reporting or ad hoc requests for feedback by programme teams, NIHR could strengthen these mechanisms for award holders on management practices, particularly from LMIC institutions, to improve delivery based on lived experiences and thus, enhance learning.

9. **The GHR Portfolio should have an overarching VfM framework that can be applied to all programmes and awards.**

While there are processes in place to qualitatively assess VfM at application and contracting stages, a GHR Portfolio wide VfM framework and guidance for all partners would enable more systematic tracking of how the investments are creating value. The NIHR could adapt a framework to reflect approaches to VfM taken by UK funders, such as UKRI, to ensure alignment of ODA resources and comparability. This recommendation is linked to organisational capacity for monitoring and is already in the early stages of being taken up by DHSC.

10. **NIHR should undertake an organisational capacity review to support implementation of these recommendations.**

Implementing these recommendations requires good understanding of the current capacity of NIHR in terms of technical GHR expertise, MEL resources available, and existing processes. It would be important to ensure that adequate policies, people, processes and practices can be mobilised either internally or contracted externally. A light touch organisation capacity review would be an important step in this process and build on current efforts to expand and develop capacity.

Portfolio level learning emerging from the evaluation is summarised below.

12.2 Key Lessons

- The GHR Portfolio delivery benefitted from an iterative and agile approach to establishing structures and processes and for allocating funding to meet unmet health needs. This has enabled the GHR Portfolio to be responsive to emerging priorities and was particularly beneficial during the COVID-19 period.
- NIHR has successfully leveraged and harnessed expertise and relationships with delivery partners to support its capacity for funding health research in LMICs. A centralised portfolio level approach to further building expectations, capacity and guidance on the importance of conducting contextual analysis would be the next step in strengthening the approach to ethical research and health equity.
- The NIHR GHR Portfolio depends strongly on partners and award holders to engage LMIC stakeholders and build the enabling environment for policy and practice uptake. A more strategic approach to thematic and country prioritisation at portfolio level would potentially enable greater direct involvement by NIHR in this process, including leveraging UK relationships with LMIC stakeholders.
- Inconsistent programme monitoring systems has resulted in missed opportunities for more robust Portfolio level evaluation, to provide a foundation for cross-programme learning and support impact and sustainability.
- NIHR's strong emphasis on CEI and equitable partnerships as core principles of funding encouraged award holders to engage with these approaches and understand their value where they might not otherwise have done so. Stronger direction and support from NIHR on strategically embedding CEI and equitable partnerships across award research cycles will serve to build on the gains achieved so far.

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