Department of Health & Social Care

Call 2 Groups Annual Review – Year 3

NIHR Global Health Research Portfolio

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Contents

Acronym and Abbreviation Definitions

AF	Atrial Fibrillation
AHRC	Arts and Humanities Research Council
ASTRA	NIHR Global Health Research Group on Addressing Smokeless Tobacco and building Research capacity in south Asia
BMGF	Bill and Melinda Gates Foundation
CDC	Centre for Disease Control
CEI	Community Engagement and Involvement
COVID-19	Coronavirus disease
DAC	Development Assistance Committee
DHSC	Department of Health and Social Care
DRC	Democratic Republic of the Congo
ECR	Early career researcher
FAF	Financial Assurance Fund
FCDO	Foreign, Commonwealth & Development Office
FSTOX	Final statement of expenditure
FTE	Full time equivalent
GACD	Global Alliance for Chronic Diseases
GBP	Great British pounds
GCRF	Global Challenges Research Fund
GCVR	University of Glasgow Centre for Virus Research
GDPR	General Data Protection Regulation
GFGP	Good Financial Grant Practice
GH	Global Health
GHR	Global Health Research
GHRG	Global Health Research Group
HEI	Higher education institution
HIC	High income country
HRCS	Health Research Classification System
IATI	International Aid Transparency Initiative
ICAI	Independent Commission for Aid Impact
IIED	International Institute for Environment and Development
KEMRI	Kenya Medical Research Institute
KWTRP	KEMRI Wellcome Trust Research Programme
LMIC	Low- and middle-income countries
LSHTM	The London School of Hygiene & Tropical Medicine
MIS	Management Information System

MOU	Memorandum of understanding
MPH	Master of Public Health
MRC	Medical Research Council
NETSCC	NIHR Evaluation, Trials and Studies Coordinating Centre
NGO	Non-governmental organisation
NIH	National Institutes of Health
NIHR	National Institute for Health Research
NIMH	National Institute of Mental Health
ODA	Official Development Assistance
PPE	Personal protective equipment
PI	Principle investigator
PPI	Patient and public involvement
QSTOX	Quarterly statement of expenditure
RAG	Red-Amber-Green rating
RCS	Research capacity strengthening
RIGHT	Research and Innovation for Global Health Transformation
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SLACK	Searchable Log of All Communication and Knowledge
SNEHA	Society for Nutrition, Education and Health Action
SOP	Standard operating procedure
SPARC	Short Placement Award for Research Collaboration
TV	Television
UK	United Kingdom
UKCDR	United Kingdom Collaborative on Development Research
UKRI	United Kingdom Research and Innovation
US	United States
UVRI	Uganda Virus Research Institute
VTC	Variation to contract
WHO	World Health Organisation
WHO AFRO	World Health Organisation Regional Office for Africa

1. DHSC summary and overview

1.1 Brief description of funding scheme

The second NIHR Global Health Research Groups call launched in 2017. UK universities and research institutes were invited to submit applications to either expand or develop their ambitions to deliver world-class applied global health research, working in equitable partnerships with researchers in low-and middle-income countries (LMICs) to address under-funded or under-researched global health areas specific to those countries.

Specifically, applications were invited for:

-NIHR Global Health Research Groups: Existing specialist academic groups who wished to expand into the field of global health, especially in shortage areas of research. Funding available: Up to £2m over 3 years per Group.

This report focusses on the activities of the 20 Groups funded in the third year of their 4-year contracts (all Groups received extensions to their original 3-year contracts) over the period 1 May 2020 to 30 April 2021.

1.2 Summary of funding scheme performance over the last 12 months (general progress on activities, early outputs, outcomes, impacts across all awards)

Within this reporting year, all project teams were faced with the considerable operational constraints and disruptions caused by the ongoing COVID-19 pandemic. However, despite these challenges the performance of the scheme overall continues to be encouraging and examples demonstrative of high-quality, impactful research continue to emerge.

NETSCC assessed 14/20 Groups to be largely on track (green or green/amber rating) with their overall delivery, and 6/20 to have an amber risk to their overall delivery due to moderate delays in progress against agreed milestones identified through NETSCC active monitoring. All 6 amber-rated Groups experienced operational challenges due to the COVID-19 pandemic leading to delayed progress. NETSCC keep financial and overall delivery under close review, and DHSC monitor this through updates NETSCC provide and discuss at monthly Programme Management Meetings (PMMs).

All Groups have now reported having an accepted, pre-publication or published output since the start of their programme of work, and the cumulative total number of outputs reported in year 3 has seen a significant increase (366%) compared to the year 2 total. Eighteen out of 20 Groups reported having produced externally peer-reviewed publications since the start of the award, and 16 Groups provided lead author details for these publications. Encouragingly there is an almost even split between HIC and LMIC lead authors (49% and

51% respectively). Overall, male lead authors outnumbered female lead authors by approximately 3:2, though this data is likely skewed by a single group with significantly fewer female lead authors.

Outputs reported as ‘significant’ spanned a wide variety of mediums; of note these include asthma management training aids that could have direct impact on the quality of clinical care available to some of the world's most vulnerable populations, and a published exploration of the readiness of Brazilian primary care systems to respond to domestic violence against women which contributes substantially to the knowledge base.

Several Groups have indicated that their engagement with policymakers is now starting to influence policy. This has included Groups working with a broad spectrum of organisations at the national level; for example, working with the Pakistan Ministry of Health to review and provide feedback on the National Action Plan on Non-Communicable Diseases & Mental Health, or with the Ghanaian National Petroleum Authority to promote and support the adoption of cleaner cooking methods to improve health and the environment. Engagement with practitioners also yielded impacts, such as the development of a training initiative for community health workers endorsed by the Kenyan government on air pollution, health and prevention.

Two Groups delivered outputs against their Financial Assurance fund awards, including identifying gaps against the Good Financial Grants Practice standards for one of their LMIC partners, and developing an action plan to strengthen financial management of research based within a partner hospital and have improved financial structures and staffing.

Across the cohort, there is good and varied evidence of community engagement and inclusion (CEI) being embedded across the research cycle. Several Groups reported identification and inclusion of vulnerable or at-risk groups in their research through community engagement activities, utilising feedback from the relevant communities and patient groups to guide their research. Good examples of adaptability and localisation have also been seen, such as the adaptation of a digital rehabilitation tool to be more culturally sensitive for the Indian context based on patient feedback.

Positive progress towards capacity strengthening continues to be made, with the number of NIHR Academy trainees within the Groups cohort increasing from 71 to 75 over this year. 89% of Groups’ NIHR Academy trainees are from LMICs and 59% of the overall total Groups’ NIHR Academy trainees are female, reflective of NIHR values of building research capacity for both UK and LMIC researchers and supporting gender equity across the allocation of formal training awards. Teams have also increased their capacity for staff development, with all Groups citing examples of recruitment and training initiatives that are strengthening capacity at the institutional and/or regional level.

1.3 Performance of delivery partners

Over this reporting period, NETSCC have shown great flexibility and acted quickly to ensure that projects were able to mitigate any underspends and/or delays resulting from the impacts of the COVID-19 pandemic. In the wake of the initial Extensions Funding Committee in May 2020, it became apparent that the full impact of the COVID-19 pandemic on planned work and new agreed activities had not been fully understood at the time applications were made; NETSCC therefore gathered further intelligence and provided additional guidance to teams, considering changes to programmes and further no-cost extensions where prior extensions had not exceeded the maximum 12-month duration, i.e. up to 31 March 2022. NETSCC facilitated 6 groups to undertake COVID-19 work and supported groups where staff were redeployed to the in-country front-line. In the period, 19 variation to contract requests and 5 change to programme requests were approved by DHSC in line with the NIHR Global Health Research Escalation Policy.

NETSCC continue to closely monitor the impact of the COVID-19 pandemic on this cohort through quarterly financial monitoring and routine correspondence with award holders. Updates on delivery, finance and project risks are discussed internally by NETSCC ahead of providing summary details to support discussions with DHSC at monthly Programme Management Meetings (PMMs).

Despite the challenges of operating in the context of COVID-19, NETSCC teams working almost entirely remotely for this duration of this year, maintained effective and open lines of communications with DHSC. NETSCC work closely with DHSC to agree timelines for deliverables which accommodate, as best possible, existing commitments and resources within DHSC and NETSCC teams.

1.4 What are the key lessons identified over the past year for wider DHSC/NIHR global health research

The impact of COVID-19 has been significant for this cohort and required flexible programme management and an iterative approach to managing requests for extensions and changes to programme. Lessons learned from this period around providing efficient and robust advice, decision-making and escalation will be hugely helpful for future programming.

Changes necessitated by the COVID-19 pandemic have seen the adoption of innovative and more environmentally sustainable solutions to continue work programmes and engagement during periods of severe travel and social restrictions; these have significantly reduced environmental impact associated with international travel between partners.

As both NETSCC and project teams continue to work largely remotely, the importance of effective engagement and communication channels is increasingly apparent. Considerable

progress can still be made when project teams are working remotely, and there are creative alternatives to activities that would have previously happened in person. This includes remote training and online workshops as capacity building activities, radio talk shows and webinars as a means of community engagement, and pivoting to virtual platforms for day-to-day communication. Further opportunities for virtual workshops and discussion forums, as well as opportunities particularly for LMIC researchers to present virtually at NIHR webinars or award led webinars where NIHR support teams or other GHR related events, have helped further improve collaboration and reach of the programme.

1.5 DHSC to summarise key recommendations/actions for the year ahead, with ownership and timelines for action

Recommendation	Owner	Timeline
Continue to monitor the impact of COVID-19 on this cohort and the subsequent underspend through quarterly QSTOX and regular monitoring and quarterly reporting of findings to DHSC, plus ad hoc as need arises. Reflect on developments since this reporting period in the next Annual Review/Programme Completion Review including how value for money has still been achieved.	NETSCC	Ongoing and next report
Reflect the results of the assurance investigations in the next reporting period.	NETSCC	Next report
Continue to keep updated workplan Gantt chart and share with DHSC on a quarterly basis via PMM meetings, providing interim updates where pressures unexpectedly arise within these periods	NETSCC	Ongoing, monthly/quarterly basis
Develop the NIHR GHR programme contract close down process and review learning to inform NIHR policy for GHR awards and LMIC institution staff to continue to improve existing processes for monitoring, evaluation and learning across the GHR programme the cohort in close collaboration with DHSC	NETSCC	By Sept 2022
Develop and implement the NIHR Global Health Journal model working with teams, in line with agreed plan.	NETSCC led by Portfolio Insight and Publications team	As awards complete in 2022
Develop a suite of examples of emerging impact to share learning across the portfolio working closely with NIHR GHR Communications	NETSCC	Ongoing

2. Summary of aims and activities

2.1 Overview of award/funding call aims

Three principles underpin the GHR research portfolio. All funded research must:

1. meet eligibility criteria as ODA
2. deliver high-quality applied health research, building on the NIHR principles of Impact, Excellence, Effectiveness, Inclusion and Collaboration
3. strengthen research capability and training through equitable partnerships

The second NIHR Global Health Research Groups call launched in 2017. NETSCC invited UK universities and research institutes to submit applications to either expand or develop their ambitions to deliver world-class applied global health research, working in equitable partnerships with researchers in low-and middle-income countries (LMICs) to address under-funded or under-researched global health areas specific to those countries.

Specifically, NETSCC invited applications for:

- NIHR Global Health Research Groups: Existing specialist academic groups who wished to expand into the field of global health, especially in shortage areas of research. Funding available: Up to £2m over 3 years per Group.

The aims of NIHR Global Health Groups are:

1. To support UK specialist academic groups with a national track record to expand into global health to undertake high quality applied health research relevant to the needs of low- and middle-income countries, especially in shortage areas of research.
2. To generate high-quality policy/practice relevant research outputs that respond to global health research priorities, identified through priority-setting by the relevant LMIC.
3. To develop new equitable partnerships with researchers in countries on the Development Assistance Committee list, drawing on LMIC and UK expertise between LMIC and UK institutions, to ensure equity in new partnerships, collaborations and networks.
4. To strengthen capacity and capability in research and research support within LMICs at individual and institutional level through formal and informal training to support sustainability.
5. To promote the engagement of key stakeholders including public and patient involvement in the design and conduct of the research to ensure research to support dissemination and uptake.
6. To demonstrate pathways to impact through effective stakeholder engagement, dissemination, and knowledge exchange to ensure research findings and learning are widely

shared with and across low resource settings, to inform policy and practice and ensure results and all outputs are published in open access journals.

NIHR Global Health Research Groups Call 2 enabled those UK academic institutions with national research reputations to expand their research into a global context by developing new equitable research partnerships with LMIC institutions to address priorities to improve health outcomes and develop research capacity in LMICs.

This report focuses on the activities of the 20 Groups funded in the third year of their 4-year contracts (all Groups received extensions to their original 3-year contracts) over the period 1 May 2020 to 30 April 2021. The individual aims of the 20 Groups are set out in Table 1. A full list of funded awards is available on NIHR Funding Awards.

Table 1 Aims of each Call 2 Group

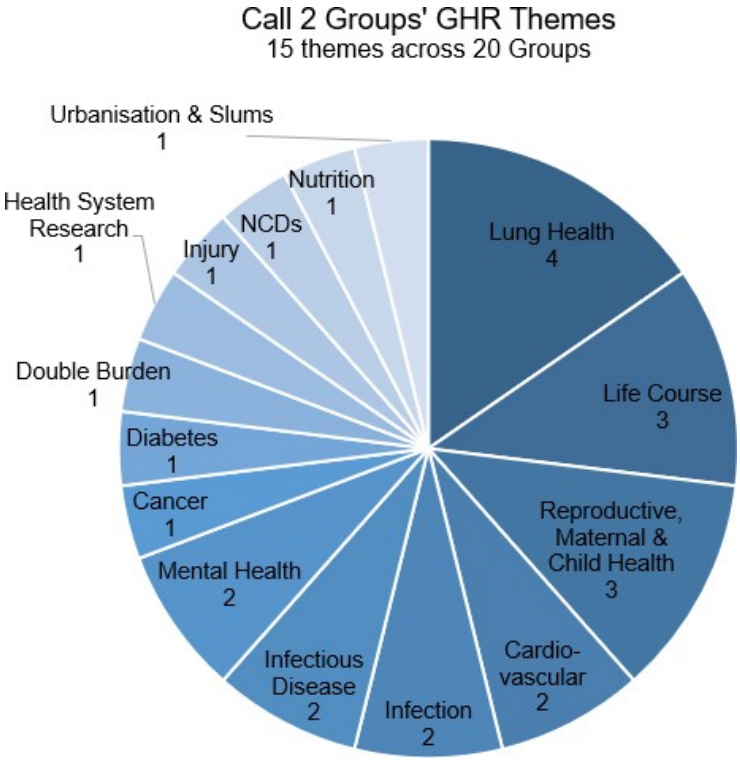
Title	Aims	DAC-list Partner Countries
NIHR global health research Group on preterm birth and stillbirth at the University of Edinburgh (the DIPLOMATIC collaboration) at the University of Edinburgh	A UK and low and middle-income country (LMIC) partnership that aims to reduce preterm birth and stillbirth and to optimise outcomes for babies born preterm in Malawi and Zambia.	Malawi Zambia
NIHR Global Health Research Group on Respiratory Rehabilitation – (Global RECHARGE) at The University of Leicester.	A UK and low and middle-income country (LMIC) partnership that aims to develop a pulmonary rehabilitation (PR) programme that is deliverable and sustainable, but also offers a real opportunity to develop research capacity in LMICs.	Sri Lanka India Kyrgyzstan Uganda
NIHR Global Health Research Group on PReterm bIrth prevention and manageMEnt (PRIME) at The University of Sheffield.	A UK and low and middle-income country (LMIC) partnership that aims to identify sustainable solutions to preterm birth through research that will impact South Africa and beyond. The researchers will work closely with service users, healthcare policymakers and administrators in partner LMICs to address key challenges of preterm delivery (PTD) care, focusing on underprivileged communities.	South Africa Bangladesh
NIHR Global Health Research Group on estimating the prevalence, quality of life, economic and societal impact of arthritis in Tanzania: a mixed methods study at University of Glasgow	A UK and low and middle-income country (LMIC) partnership that aims to understand the distribution, lived experience, health and economic impact of inflammatory arthritis in referral hospital and selected community settings in Northern Tanzania.	Tanzania Malawi
NIHR Global Health Research Group on improving asthma outcomes in African children at Queen Mary University of London	A UK and low and middle-income country (LMIC) partnership that aims to improve the quality of life for young people with asthma and their families in Africa, and to increase people's understanding and awareness of asthma.	Nigeria South Africa Ghana Tanzania Uganda Malawi Zimbabwe
NIHR Global Health Research Group on Sepsis at the Liverpool School of Tropical Medicine	A UK and low- and middle-income country (LMIC) partnership that aims to reduce mortality and improve the quality of sepsis care through research focused on sub-Saharan African countries	Nigeria Ghana Cameroon Gabon Ethiopia

		Kenya DRC Sierra Leone Uganda Malawi Burkina Faso
NIHR Global Health Research Group on a package of care for the mental health of survivors of violence in South Asia at University College London Institute of Child Health	A UK and low and middle-income country (LMIC) partnership that aims to improve the mental health and wellbeing of survivors of violence against women (VAW), modern slavery, and civil conflict in resource-constrained settings in India, Sri Lanka, and Afghanistan.	India Sri Lanka Afghanistan
NIHR Global Health Research Group on Asthma Attacks Causes and Prevention Study in Urban Latin America at St George's, University of London	A UK and low and middle-income country (LMIC) partnership that aims to substantially reduce asthma morbidity among the poorest and will promote economic development and welfare in LMICs through reduced costs to family budgets and health systems.	Brazil Ecuador
NIHR Global Health Research Group on stroke at King's College, London	A UK and low and middle-income country (LMIC) partnership that aims to enable a stroke network to be developed to provide advice and training bringing a sustainable change by increasing research and clinical capacity as well as improved care systems.	Sierra Leone
NIHR Global Health Research Group on Addressing Smokeless Tobacco and building Research capacity in south Asia (ASTRA) at the University of York	A UK and low- and middle-income country (LMIC) partnership that aims to reduce the burden of disease caused by smokeless tobacco (ST) in South Asian countries.	India Pakistan Bangladesh
NIHR Global Health Research Group on the Application of Genomics and Modelling to the Control of Virus Pathogens (GeMVi) in East Africa at the University of Warwick.	A UK and low- and middle-income country (LMIC) partnership that aims to improve capacity for response to endemic, epidemic and pandemic viral disease in East Africa. The project will create a sustainable collaborative network of institutes (UK and East Africa) that collectively support applied virus epidemiological research and provide an evidence base for decision making by public health authorities in East Africa.	Kenya Tanzania Uganda
NIHR Global Health Research Group on genomic surveillance of malaria in West Africa at the Wellcome Trust Sanger Institute.	A UK and low and middle-income country (LMIC) partnership that aims to establish laboratory and computational systems for genomic surveillance of malaria at the University of Ghana in Accra and the MRC Unit in The Gambia to facilitate this.	Ghana The Gambia
NIHR Global Health Research Group on Improving the Management of Acute Brain Infections at University of Liverpool	A UK and low and middle-income country (LMIC) partnership that aims to improve the diagnosis of acute brain infections in adults and children in Malawi, India, and Brazil, to guide treatment and improve outcomes. The Group will also develop research capacity and develop a broader network of hospitals interested in studying brain infections.	Brazil India Malawi
NIHR Global Health Research Group on Atrial Fibrillation management at the University of Birmingham	A UK and low and middle-income country (LMIC) partnership that aims to increase atrial fibrillation (AF) awareness, improve AF detection and establish effective ways of implementation evidence-based AF management, particularly stroke prevention for disadvantaged populations in China, Brazil, and Sri Lanka.	Brazil Sri Lanka China (People's Republic of)
NIHR Global Health Research Group on health system responses to violence against women at University of Bristol	A UK and low and middle-income country (LMIC) partnership that aims to help health care systems in low- and middle- income countries (LMIC) respond effectively to women subjected to violence.	Brazil Sri Lanka Nepal Palestine
NIHR Global Health Research Group: Improving Outcomes in Mental and Physical Multimorbidity and Developing Research Capacity (IMPACT) in South Asia at the University of York	A UK and low and middle-income country (LMIC) partnership that aims to improve health and reduce deaths associated with diabetes, heart and lung diseases in people with severe mental ill health by addressing the most common health risk behaviours.	Pakistan India Bangladesh
NIHR Global Health Research Group on improving outcomes in sub-Saharan African diabetes through better diagnosis and treatment at the University of Exeter	A UK and low and middle-income country (LMIC) partnership that aims to transfer Exeter's internationally leading expertise in diagnosis and management of diabetes to researchers in Africa	Cameroon Uganda

	to create capacity to support collaborative multi-disciplinary research to improve diabetes care in Sub-Saharan Africa	
NIHR Global Health Research Group on from surviving to thriving: Assessing and responding to occupational and public health risks in informal settlements and for informal workers and the effects of climate change on these risks: Building learning from India and Zimbabwe at the IIED	A UK and low- and middle-income country (LMIC) partnership that aims to improve the health, livelihoods, and resilience of informal workers by partnering closely with affected communities and local organisations.	India Zimbabwe
The NIHR Global Health Research Group on leveraging improved nutrition preconception, during pregnancy and postpartum in Sub-Saharan Africa through novel intervention models, Southampton 1000 Days-Plus Global Nutrition, at the University of Southampton	A UK and low and middle-income country (LMIC) partnership that aims to improve long-term maternal and child health by: 1) developing interventions to support nutrition and health from preconception into early life; 2) strengthening and sustaining capacity to conduct research with translation to policy and impact.	Ghana South Africa Burkina Faso
NIHR Global Health Research Group on Clean Energy Access for the prevention of Non-communicable diseases in Africa through clean Air: CLEAN-AIR(Africa) at the University of Liverpool	A UK and low and middle-income country (LMIC) partnership that aims to identify and overcome the challenges of achieving large-scale, equitable and sustained transition to clean fuels and to demonstrate the achievable impacts on health, household finances and the environment, to inform national policies.	Ghana Cameroon Kenya

Global Health Research themes across the 20 funded NIHR Groups in Call 2

Figure 1 The number of individual Call 2 Groups (total = 20 Groups) categorised and grouped into broad research themes, based on their individual Health Research Classification System (HRCS) code. Note that each Group's research topic can cover multiple themes



The themes in Figure 1 are based on the 20 individual Group award HRCS classifications and further grouped into 15 broad related themes. The portfolio is diverse, with lung health the most predominant research theme, followed by health across the life course and reproductive, maternal and child health. These themes include a range of research areas such as prevention, treatment and care of disease/ill-health, and health systems strengthening.

Global geographic distribution of distinct Groups awards in LMICs

Figure 2 Heat Map showing LMIC location and number of distinct Call 2 Groups

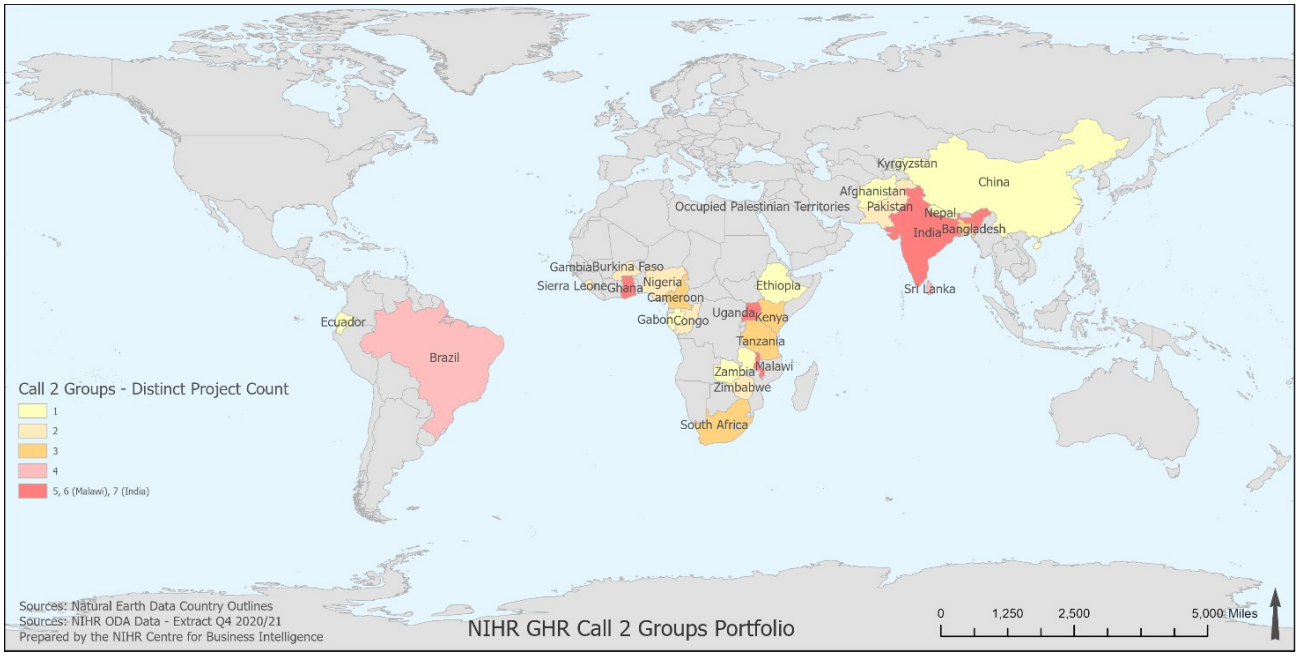


Figure 2 shows the global geographic distribution of the 20 Group awards with a partnership in an LMIC (single LMIC counts per project). Non-LMIC partners (not shown) were eligible, where involvement was clearly justified, brought expertise not available within LMICs, and supported ODA-eligible research activities. The highest concentration of Group awards with partner institutes receiving funds in LMICs are in India (n=7) awards, Malawi (n=6), and Ghana and Uganda (both n=5). One Group had all partnerships based within a single LMIC, whilst 19 Groups had partners based in at least 2 LMIC country partners (range 2-11).

2.2 Delivery partner's assessment of progress against milestones/deliverables

NETSCC actively monitor and RAG rate the performance of each Group on a quarterly basis in terms of progress (delivery against milestones and overarching risks: operational, financial, fiduciary, legal and reputational) and financial performance. Green ratings reflect no significant risks to programme outcomes, amber ratings reflect moderate risks, and red ratings reflect significant risks to programme delivery and/or financial performance.

In reviewing **overall progress** across the 20 Groups awards funded, NETSCC rated **14** Groups (70%) green in terms of overall progress and rated **6** (30%) as amber due to **moderate delays** in progress against agreed milestones identified through NETSCC active monitoring**.** All 6 amber-rated Groups experienced operational challenges due to the COVID-19 pandemic leading to delayed progress and NETSCC anticipate further delays.

Recognising a variety of challenges of working in global contexts (e.g. start-up, contextual, political, legal, financial) and their impact on progress and planned spend, there was a need for some flexibility within awards. Groups could submit change requests for justified amendments to work programmes, which supported delivery of the original aims. Further requests to mitigate delays where possible, e.g. through repurposing travel underspend to support data collection continue be considered in line with this principle. NETSCC actively keep DHSC informed of the overall impact of delays on spend and delivery. NETSCC regularly review the impact on individual projects and the ability to achieve research priorities and demonstrate planned impact. NETSCC then make recommendations to DHSC to assist projects in adapting work programmes and resourcing within the context of the COVID-19 pandemic to best deliver within time and budget. Recommendations include further consideration with DHSC of the trade-offs necessary in the absence of no-cost extensions and the potential benefits where a no-cost extension could be possible.

Across all Call 2 Groups, NETSCC rated **9** projects (45%) amber in relation to their **financial performance** in the period (reporting underspends ranging from 49-56%).

NETSCC rated one Group as red following expenditure verification checks, which identified weaknesses in financial management and proof of expenditure checks. An assurance investigation is underway, and NETSCC have selected the contractor for a forthcoming NIHR annual funding review. The remaining 10 Groups had low levels of underspend (up to 35%) in the period and therefore rated Green.

The cross-NIHR Assurance Group have full oversight of all emerging, red-rated issues and potential risks through a shared, centralised NIHR GHR programme risk register where issues are discussed as part of continuous learning and development across the portfolio.

In total, NETSCC managed 28 changes to programme and virement requests in the period to help ensure projects could effectively deliver their programme of work and respond to changing contextual factors.

All Groups had made plans to mitigate underspends and/or delays via applications for extensions. The majority of these requests were submitted to address delays arising prior to the full impact of the COVID-19 pandemic becoming clear. NETSCC invited applications for new costed work and/or no-cost extensions, complementary to the original programme, up to a further 12 months duration to 31 March 2022 via the Groups 2 extension call. The opportunity was open between January 2020 and March 2020. In addition, NETSCC managed a small number of no-cost extension requests of up to 6 months through variations to contract, in parallel to the call.

The Groups extensions Funding Committee reviewed the applications in May 2020 (during the first phase of the COVID-19 pandemic) and approved 13 costed extensions and a total of 17 no-cost extensions (NCE). NETSCC issued a total of 19 contract variations for

extended Groups (see Table 2). Any costed extension ran in parallel to the NCE, therefore the additional time is not cumulative.

The impact of the COVID-19 pandemic on planned work and new agreed activities emerged after the extension call. NETSCC gathered intelligence on the impact, provided guidance to teams and considered further changes to programmes. NETSCC considered further no-cost extensions for Groups Call 2 where prior extensions had not exceeded the maximum 12-month duration, i.e. up to 31 March 2022 and would allow completion of delayed work programmes. In line with the NIHR GHR Programme Escalation Policy, DHSC provided final approval for requests.

Table 2. Call 2 extensions summary

Title	NCE	Costed extension
NIHR global health research Group on preterm birth and stillbirth at the University of Edinburgh (the DIPLOMATIC collaboration) at the University of Edinburgh	3 months	12 months, £499,306
NIHR Global Health Research Group on Respiratory Rehabilitation – (Global RECHARGE) at The University of Leicester.	12 months	12 months, £464,403
NIHR Global Health Research Group on PReterm bIrth prevention and manageMEnt (PRIME) at The University of Sheffield.	10 months	12 months, £500,000
NIHR Global Health Research Group on estimating the prevalence, quality of life, economic and societal impact of arthritis in Tanzania: a mixed methods study at University of Glasgow	12 months	12 months, £499,335
NIHR Global Health Research Group on improving asthma outcomes in African children at Queen Mary University of London	12 months	12 months, £500,000
NIHR Global Health Research Group on Sepsis at the Liverpool School of Tropical Medicine	12 months	12 months, £499,913
NIHR Global Health Research Group on a package of care for the mental health of survivors of violence in South Asia at University College London Institute of Child Health	12 months	12 months, £432,736.54
NIHR Global Health Research Group on Asthma Attacks Causes and Prevention Study in Urban Latin America at St George's, University of London	12 months	N/A
NIHR Global Health Research Group on stroke at King's College, London	N/A	N/A
NIHR Global Health Research Group on Addressing Smokeless Tobacco and building Research capacity in south Asia (ASTRA) at the University of York	12 months	N/A
NIHR Global Health Research Group on the Application of Genomics and Modelling to the Control of Virus Pathogens (GeMVi) in East Africa at the University of Warwick.	6 months	12 months, £495,997
NIHR Global Health Research Group on genomic surveillance of malaria in West Africa at the Wellcome Trust Sanger Institute.	12 months	N/A
NIHR Global Health Research Group on Improving the Management of Acute Brain Infections at University of Liverpool	12 months	N/A
NIHR Global Health Research Group on Atrial Fibrillation management at the University of Birmingham	12 months	N/A
NIHR Global Health Research Group on health system responses to violence against women at University of Bristol	6 months	6 months, £462,457
NIHR Global Health Research Group: Improving Outcomes in Mental and Physical Multimorbidity and Developing Research Capacity (IMPACT) in South Asia at the University of York	12 months	498,431
NIHR Global Health Research Group on improving outcomes in sub-Saharan African diabetes through better diagnosis and treatment at the University of Exeter	12 months	12 months, £499,964
NIHR Global Health Research Group on from surviving to thriving: Assessing and responding to occupational and public health risks in informal settlements and for informal workers and the effects of climate change on these risks: Building learning from India and Zimbabwe at the IIED	6 months	N/A

The NIHR Global Health Research Group on leveraging improved nutrition preconception, during pregnancy and postpartum in Sub-Saharan Africa through novel intervention models, Southampton 1000 Days-Plus Global Nutrition, at the University of Southampton	N/A	12 months, £338,199
NIHR Global Health Research Group on Clean Energy Access for the prevention of Non-communicable diseases in Africa through clean Air: CLEAN-AIR(Africa) at the University of Liverpool	N/A	12 months, £499,909
Total	17	13

2.3 Delivery partner's assessment of how individuals/communities (including any relevant sub-groups) have been engaged and their needs reflected in identifying research priorities, design/planning, implementation, analysis, and reporting and dissemination

Building in Community Engagement and Involvement

Inclusion

Several Groups reported identification and **inclusion of vulnerable** or **at-risk groups** in their research through community engagement activities. The types of vulnerable/at-risk groups targeted differed depending on the nature of the research.

- One Group researching coexisting mental and physical health conditions in Bangladesh, India and Pakistan is also engaging and involving with people living with tuberculosis and hepatitis following input from their Community Advisory Panels to extend their reach to include these individuals.

- Through CEI activities, one Group identified vulnerable populations most likely to be impacted by household air pollution. These include residents of informal urban settlements, cooks in commercial and institutional settings, children and adults affected by burns/scalds related to unsafe cooking practices, and **older, rural women**.

- A Group working on acute brain infections has now included representation from stroke and meningitis associations in both Malawi and Brazil, following their public and community engagement activities.

- In South Africa, a Group has been guided by feedback from their community engagement activities to understand issues around accessing reproductive and maternal health care for **women and adolescents in disadvantaged communities** in which public services are scarce, and there are overlapping issues of age, gender and socioeconomic disadvantage.

- Another Group looking at the dual burden of mental disorders and non-communicable diseases focused on vulnerable people living with disabilities, and also on women who are disproportionally affected by depression to address this gender inequality. This approach was driven by community engagement and has potential to address the known inequalities in health related to gender, healthcare access and mortality for these groups.

Participation and two-way communication

NETSCC did not ask Groups to report numbers of Community Engagement and Involvement (CEI) activities or attendance figures in their Year 3 annual reports, so there is limited data available.

- Groups delivered a wide variety of CEI activities over the year, including but not limited to: press conferences, radio and TV broadcasts, community webinars (15 participants reported for one), community theatre performances (one Group reported 22 performances given in schools, with over 500 children watching one of these), workshops for schools, meetings with community representatives and patients, producing booklets and using visual participatory methods (the use of visual methods to aid community participation where data is presented in visual forms using photography, painting and drawing, sculpting, filming etc, or participants are asked to use visual media to represent how they perceive the world).

- More unusual CEI activities this year included **events in markets and shopping malls** which involved **testing for COVID-19** at the same time as delivering **tailored messages on febrile illnesses and COVID-19 prevention**. Another example was teaching organic farming as a means to help promote better eating habits.

Empowerment, Ownership, Adaptability and Localisation

- One Group asked their Community Advisory Panel members individually about their views on the delivery, accessibility and acceptability of a smoking cessation programme. Their input was crucial to developing the hybrid delivery format of the intervention (offered face-to-face or via telephone) especially with regard to local and cultural adaptations, and the COVID-19 pandemic.

- During the COVID-19 pandemic, another Group noted reports of violence towards health care workers in personal protective equipment (PPE). Feedback from their community engagement sessions confirmed PPE was perceived negatively. They therefore seriously reviewed the planned data collection tools, the research and

safety needs, opting not to include any requirement for collection of fractional exhaled nitric oxide and spirometry tests (as these were only safely conducted with several additional levels of PPE) within the study whilst ensuring staff safety. This was designed to increase positive engagement and participation in the study whilst still maintaining the health and safety of staff and participants and focusing on key priorities for research data collection to support the core aims for the study.

- In India, one Group's CEI activities led them to develop a home-based digital rehabilitation solution rather than group and hospital-based rehabilitation. This cultural adaptation of their rehabilitation trials was a direct result of the feedback, preferences and priorities expressed by patients to minimise challenges in travel/accessing facilities and the associated perception of stigma.

- In Zimbabwe, a Group used engagement with the community and stakeholders to design and plan pilot implementation research to improve adolescent access to sexual and reproductive health care, and raise awareness of nutrition and preterm birth.

3. Outputs and outcomes

High quality policy/practice relevant research and innovation outputs

3.1 Aggregated number of outputs by type.

NIHR guidance requires award holders to report on a broad range of outputs, which can include publications and guidelines. The reporting requirements were changed in September 2020 and NETSCC now ask award holders to notify NIHR of any particularly impactful or newsworthy outputs 72 hours prior to publication, and to submit a cumulative count of all their outputs with their annual report.

Figure 3 Number of outputs by type of output

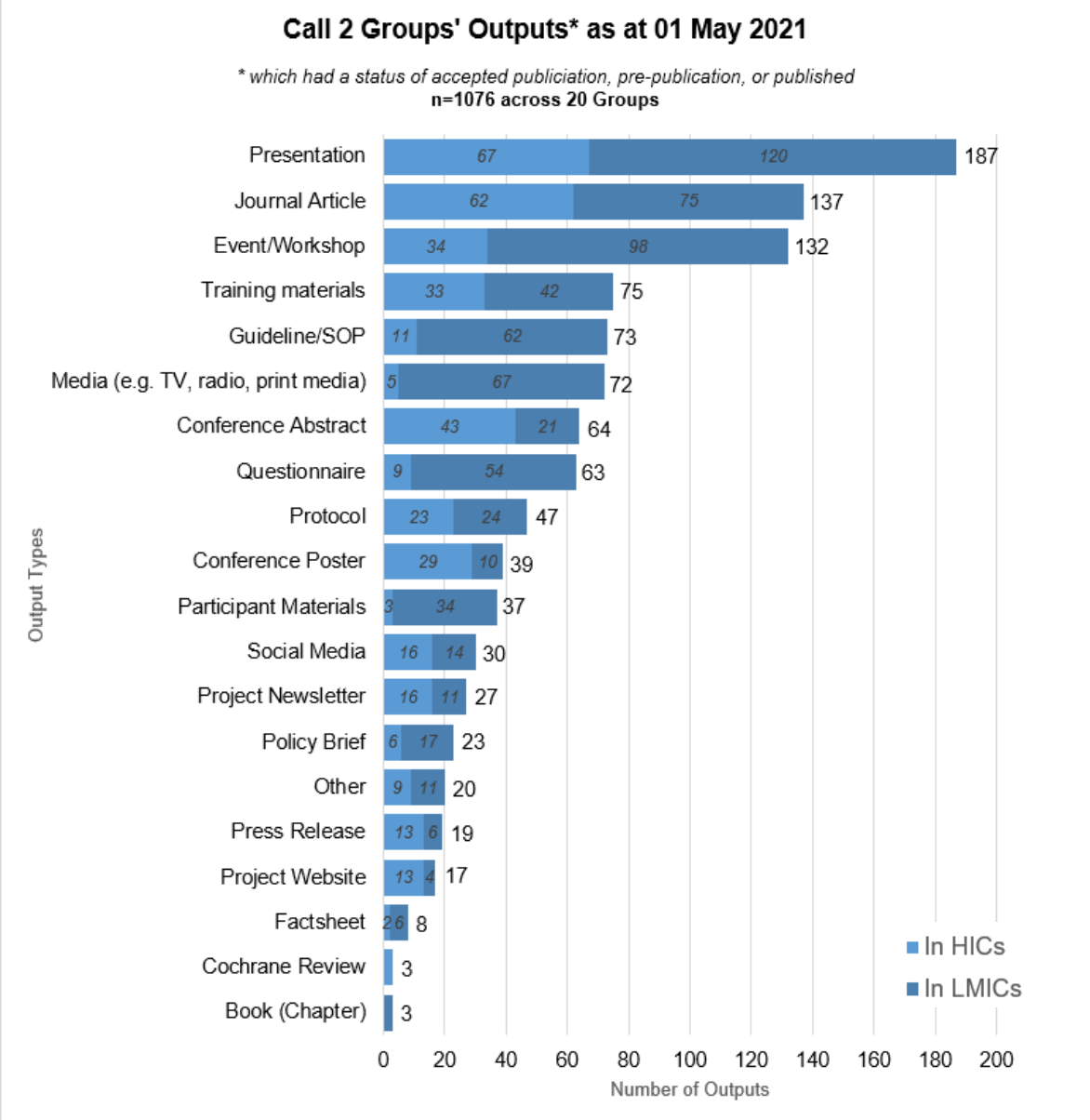


Figure 3 displays the cumulative number of output types reported by Call 2 Groups which had been accepted for publication, were in pre-publication, or had been published by 1 May 2021. All Groups reported having an accepted, pre-publication or published output since the start of their programme of work, with the most frequently reported output types being presentations (17%, n=187), journal articles (13%, n=137), and events/workshops (12%, n=132). The cumulative total number of outputs reported in year 3 (1076) is an increase of 366% compared to the total reported at the end of year 2 (231); these were across the piece with the largest increase in numbers from the last reporting period seen in numbers of questionnaires (+62), protocols (+46), guidelines/Standard Operating Procedures (SOPs) (+67), and policy briefs (+22). Presentations of research work at meetings and conferences are important tools for Groups engaging with a variety of stakeholders, including community groups, clinical professionals, academics, and policymakers to increase awareness of the work being undertaken and emerging findings.

Outputs grouped together under 'Other' in the chart above include blog posts, a Cochrane abstract, an interactive evidence gaps map, case studies, and progress reports provided to stakeholders.

3.2 List of research and innovation outputs produced that are considered **by award holders** to be most significant in contributing towards high quality applied global health knowledge with strong potential to address the needs of people living in low- and middle-income countries.

Outputs reported as 'significant' by the Call 2 Groups in terms of contributing towards high quality applied global health knowledge with strong potential to address the needs of people living in low-and middle-income countries spanned a wide variety of mediums, including journal articles, guidelines, local and international presentations, interactive evidence maps, policy briefs, and training materials. Several Groups reported publications in high-impact journals such as The Lancet and the British Medical Journal (Open and Global Health). Some outputs (e.g. simplified asthma management training aids for healthcare personnel) may have a direct impact on the quality of clinical care available to some of the world's most vulnerable populations, while others (e.g. publication of an exploration of the readiness of Brazilian primary care systems to respond to domestic violence against women) contribute substantially to the knowledge base in that field.

Groups achieved stakeholder engagement through videos, local media, social media, and peer-reviewed publications. For example, a Group published a paper explaining to policymakers the harms of smokeless tobacco (tobacco products that are not smoked but chewed, kept in the mouth or sniffed) as a public health problem that needs addressing; they produced a video to continue to raise awareness of the harms of smokeless tobacco particularly in South Asia. Another Group released a video which both engaged with the World Stroke Organisation Global Dance Chain (part of the World Stroke Day awareness

campaign) and explained about the project. They shared the video across several national and international platforms and reported having close to 5,000 views on World Stroke Day.

Other examples of particularly impactful outputs identified by the teams include:

Neurological associations of COVID-19 – The Lancet, 2020

The NIHR Global Health Research Group on Improving the Management of Acute Brain Infections at the University of Liverpool published this rapid review in July 2020. This highlighted the emerging evidence across the global medical community that neurological issues and complications are common in COVID-19 patients and a need for case control studies to establish whether COVID-19 directly or indirectly causes neurological problems in COVID-19 patients who experience milder symptoms during infection or who are non-symptomatic. The paper has been cited almost 900 times by August 2021. Concurrently, the Group established the Brain Infections Global COVID-Neuro Network, with whom they conducted meta-analysis of the data created a list of relevant resources on the neurological aspects of COVID-19, held monthly webinars with presentation by experts, and hosted a WHO COVID-Neuro Clinical Exchange session focused on sharing knowledge of neurological disease and COVID-19 in Malawi

Associations between low HDL, sex and cardiovascular risk markers are substantially different in sub-Saharan Africa and the UK: analysis of four population studies – BMJ May 2021

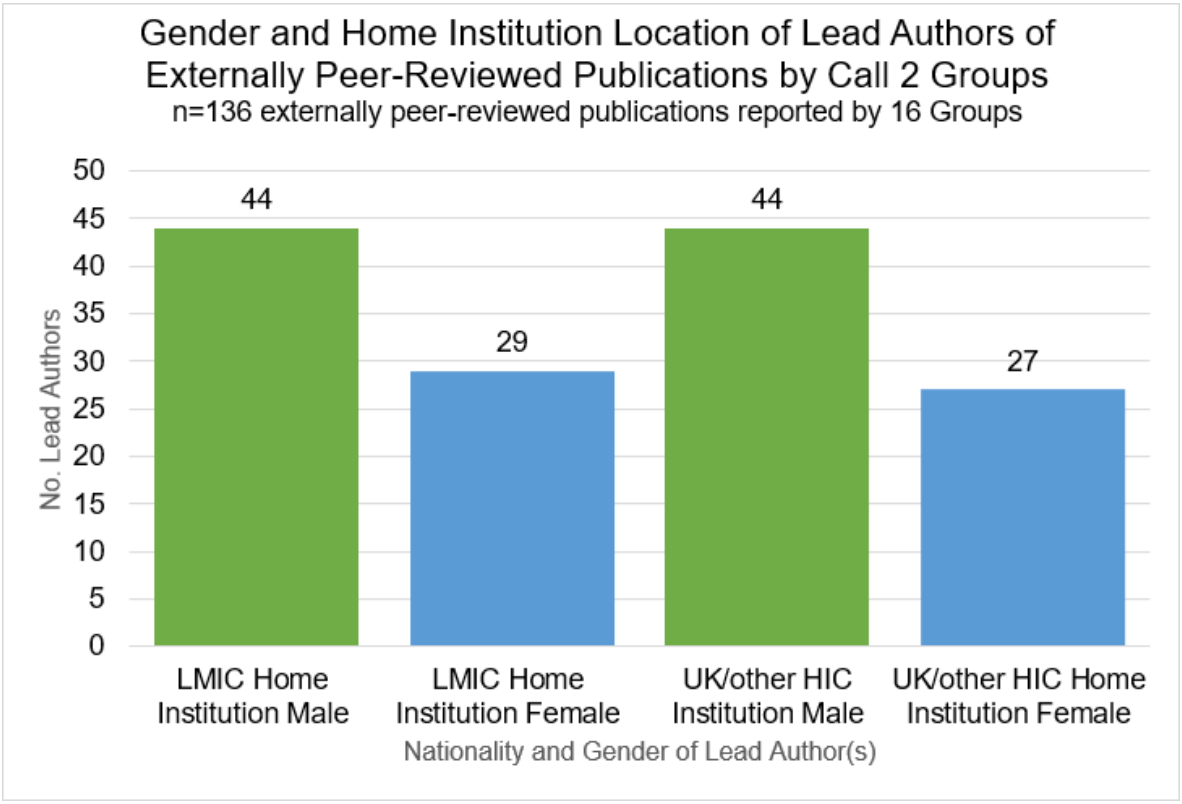
Low levels of high-density lipoprotein (HDL) is widely used to identify those with a high risk of cardiovascular disease in European populations. This paper by the NIHR Global Health Research Group on improving outcomes in sub-Saharan African diabetes through better diagnosis and treatment at the University of Exeter shows a markedly different relationship between HDL and gender, adiposity and non-HDL cholesterol in sub-Saharan Africa as compared to European populations. In sub-Saharan Africans, low HDL is a marker of low overall cholesterol, and gender differences are small compared with those seen in European populations. These findings have the potential to drive revisions to current WHO criteria for low HDL in this population and to reduce the chances of sub-Saharan African populations being misdiagnosed as being at increased risk of cardiovascular disease.

3.3 Lead/senior authorship

Since the start of funding, 18 Groups have published 139 peer-reviewed publications which is a 348% increase on the number (31) reported in at the end of year 2.

Figure 4 shows the breakdown of lead authors (n=144) for externally peer-reviewed publications by gender and nationality as self-reported by Call 2 Groups. Eighteen out of 20 Groups reported having produced externally peer-reviewed publications since the start of the award, and 16 Groups provided lead author details for these publications. Two Groups only provided co-author details therefore their 3 publications are not included in the total shown in Figure 4. Of the lead authors reported by those 16 Groups, 51% (73) were nationals from LMICs whilst 49% (71) were from HICs.

Figure 4 Cumulative number of externally peer-reviewed publications for lead authors by home institution location (LMIC/HIC) and gender for Call 2 Groups since start of funding



Overall, male lead authors outnumbered female lead authors by approximately 3:2, with 40% (29) of LMIC lead authors being female and 38% (27) of HIC lead authors being female. However, the overall figures appear to have been skewed by one Group having a significantly lower than average number of female authors while also reporting the highest total number of lead authors. The Group reported 32 lead authors, of whom 22% were female; the average number of lead authors reported by the other Groups is 7 and the majority of the other Groups reported at least 50% female lead authorship. When this Group's data is removed, 52% of LMIC lead authors are female and 42% of HIC lead authors are female.

Informing policy, practice and individual/community behaviour in LMICs

3.4 Delivery partner's summary of the most significant outcomes of any award level engagement and/or influence of policymakers, practitioners and individual/community behaviour

Outcomes resulting from engagement with policymakers

A number of Groups have indicated that their engagement with policymakers is now starting to influence policy.

In Brazil, a Group presented evidence to the Ministry of Health demonstrating that making asthma medications free within the public health system reduces both the number of hospitalisations and economic costs. Additionally a team member has co-developed guidelines on access with the Ministry of Health. This evidence will help contribute to the continued gradual change in policy that has been seen over the last decade in relation to access to asthma medication in Brazil.

In Pakistan, a Group worked with the **Ministry of Health** to review and provide feedback on the draft of **"Non-Communicable Diseases & Mental Health - National Action Plan Pakistan Towards a Healthy Nation 2020**". The same Group also contributed to the **National Mental Health Strategic Plan 2020-2030 in Bangladesh**.

In Zimbabwe, a Group's engagement with the Ministry of Health and Child Care and the Ministry of Primary and Secondary Education resulted in asthma being included as a targeted non-communicable disease in the **School Health Policy in Harare**. Through their continued engagement efforts with policymakers they hope the policy will be rolled out nationally.

In Ghana, a Group influenced public health **policy on the control of COVID-19** and has shared **policy briefs** on its research with government agencies and the **Ghana Health Service**. The Group regularly sequenced samples from travellers and the wider community and shared their results with the Ghana health service. This information on circulating and new variants of COVID-19 was used in presidential briefings. It informed the introduction of mandatory quarantine for passengers testing positive on arrival, to minimise the introduction of variants of concern into community transmission. The President and Vice President of Ghana publicly acknowledged their efforts.

In Kenya, a Group contributed to the National COVID-19 Modelling Technical Committee which evaluates countrywide modelling output to inform policy decisions by the Ministry of Health.

In Zambia, a Group engaged with the **Ministry of Health** to find efficient ways of collecting data on antenatal care and using this data in plans to make ultrasound scanning for early antenatal care a universal service for all pregnant women.

In Ghana, a Group worked with the **National Petroleum Authority** to promote and support the adoption of a safer cylinder recirculation model across the country to provide domestic Liquid Petroleum Gas for clean cooking to improve health and the environment by 2030.

Ghana was selected by a Group due to the aspiration to scale adoption of clean domestic cooking with Liquified Petroleum Gas (LPG) to 50% of the population by 2030, in line with Sustainable Development Goal 7; this aim was included in the Sustainable Energy for All Ghana Action Plan. To facilitate meeting this target and in direct response to LPG related explosions occurring in depots in the country, the government (under presidential mandate) initiated plans for a transition from a “cylinder-ownership model” to a safer “Cylinder Recirculation Model (CRM)”. In 2018, the Government mandated the National Petroleum Authority (NPA) to implement and support adoption of the CRM across the whole country.

In Malawi, a Group working on sepsis management contributed to the technical working group for quality in the **Ministry of Health** to improve assessment of healthcare. In Uganda, the same Group has demonstrated that its severe illness management app can be integrated into Uganda’s electronic health information system to enable real-time entry of clinical data and feedback of aggregate data to healthcare planners.

In Zimbabwe, a Group worked with the **Masvingo City Council** who are implementing key recommendations from their research and have committed to providing workers with accessible toilets and other infrastructure to support COVID-19 safety and health standards.

In Uganda, a Group met with the Ministry of Health to highlight the importance of Pulmonary Rehabilitation (PR) leading to inclusion of Pulmonary Rehabilitation within the **national guidelines** for the management of chronic respiratory diseases.

In Bangladesh, following the Group’s local Ministry and policymaker engagement activities, the Heath Services Division of the Ministry of Health & Family Welfare took the initiative to procure four medicines for patients with mental illness from the Ministry’s budget. The Ministry also allocated funding for two studies on mental health after officials attended the Group’s annual meeting.

Outcomes resulting from engagement with practitioners

To note: Unless otherwise stated, the following outcomes are happening at the sub-national level i.e. in individual hospitals, healthcare or community settings.

At hospitals in Ecuador, a Group delivered workshops to health professionals and public health officials to highlight the importance of having adequate supplies of asthma medications (particularly inhaled corticosteroids) in order to prevent asthma attacks and manage the disease. In total, over 100 health professionals were trained in these workshops and the Group has observed improvements in prescribing practices in clinics as a result. In Brazil and Ecuador, the same Group provided guidance to health professionals on the impact of COVID-19 on paediatric and adult asthma and how asthma should be managed during the COVID-19 pandemic.

In Sri Lanka, Occupied Palestinian Territories, Nepal and Brazil, a Group worked with local NGOs to develop training interventions and safe care pathways for vulnerable women who disclose domestic violence to a health care provider.

In Nigeria, a Group developed patient education leaflets about asthma and how to improvise a plastic bottle as a spacer which are now used in clinics and public healthcare facilities and further supports environmental and sustainable goals in low resource settings. Using a spacer ensures the optimal dose of asthma medication is directly inhaled into the lungs, and can be particularly effective for children.

In Malawi and Zambia, a Group trained over 50 midwives in accurate gestational age assessment using ultrasound biometry as part of routine antenatal care, and followed and supported them over a six-month period until clinical competency was confirmed. Medical and midwifery representation groups have welcomed the integration of midwife-led ultrasound and the aim is to introduce this as part of routine care, and to integrate it into pre-service training.

In Kenya, a Group developed a training initiative for community health workers on air pollution, health and prevention and through engagement with the Ministry of Health, this was endorsed with an official government launch in June 2021. The Group will be involved in monitoring and evaluation the training initiative to maximise impact.

In Sierra Leone, a Group trained 2 nurses in the use of a swallow screening tool for acute stroke patients before giving food, liquids and medications orally. The training was supported by a UK speech and language therapist. The training has since been cascaded to around 40 doctors and nurses on the hospital stroke wards. .

Outcomes resulting from engagement with individuals/community

In India, a Group worked with Community Advisory Panels to reduce stigma associated with mental health and to adapt psychological therapies for depression, with positive feedback from panel members.

In Nigeria and South Africa, a Group worked within schools to increase knowledge and awareness about asthma among students, teachers and parents to increase understanding of the need for treatment compliance and the advantages of better asthma control. Nigerian authorities are now considering including asthma care in the school health programme.

In Malawi, most public schools have no running tap water and rely on borehole water. A Group worked with city councils to distribute 20 litre buckets fitted with a tap for handwashing and storing drinking water in preparation for schools reopening after COVID-19 restrictions. The same Group noted that attendance at a weekly asthma clinic at the local hospital had dropped due to fears over COVID-19. The Group conducted a public engagement radio piece following which the number of children at the clinic increased.

In Sri Lanka, a Group promoted lifestyle improvements to prevent cardiovascular disease and organic farming with local community members, students and agriculture department staff. The Group also conducted regular field visits to teach community members and local volunteers about home organic farming to promote healthier eating habits. The Group published local newspaper articles on these aspects of health promotion.

LMIC and UK researchers trained and increased support staff capacity

3.5 Aggregate level summary across awards of individual capacity strengthening supported by at least 25% NIHR award funding

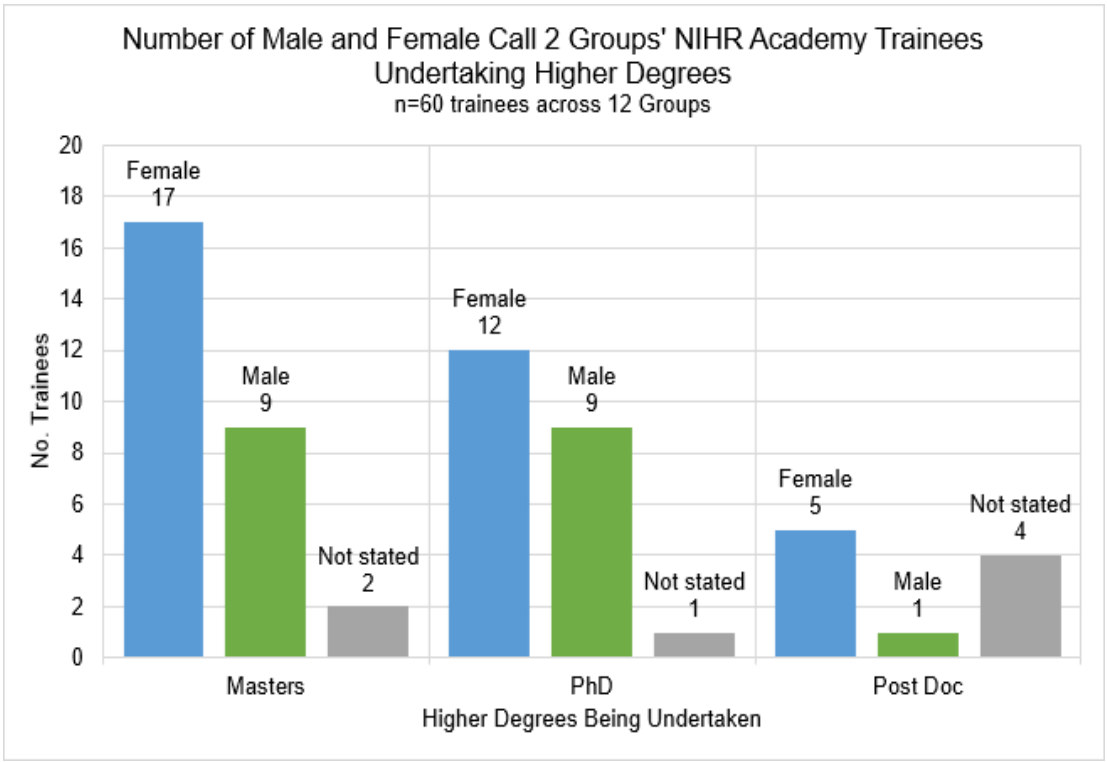
The NIHR Academy defines trainees as individuals undertaking formal training/career development awards that are competitive, include a training plan and have a defined end point and who receive at least 25% NIHR award funding. A breakdown of the types of postgraduate degrees undertaken by NIHR Academy Trainees with the percentage that are LMIC nationals and female is shown in Table 3 below. Eight of the 20 Groups do not have any NIHR Academy trainees, so the data presented covers 12 Groups. Some Groups supporting formal trainees used flexible ways to fund formal training awards where the duration extended beyond the term of funding award.

Table 3 and Figure 5 show that 89% of Groups' NIHR Academy trainees are from LMICs and 59% of the overall total Groups' NIHR Academy trainees are female. This indicates that the Group awards are supporting LMIC capacity strengthening and positively impacting on gender balance across the allocation of formal training awards. There is a broad spread of trainees across all the different award types, with the highest total number of trainees studying for Masters (37% of all trainees), followed by PhDs (29%), unspecified training positions (20%), and Post-Doctoral (13%).

Table 3 Type of postgraduate degrees undertaken by NIHR Academy trainees (12 out of 20 Groups reported data)

Training level	**Individuals who are currently undertaking or have completed training during the award period** (% total trainees)	**% LMIC nationality**	**% female** (HIC and LMIC combined)
Masters	28 (37%)	100% (28)	61% (17)
PhD	22 (29%)	86% (19)	55% (12)
Postdoc	10 (13%)	60% (6)	50% (5)
Other (e.g. research fellows where training level not indicated)	15 (20%)	93% (14)	67% (10)
Total number of trainees	**75**	**66 LMIC nationality** (89% of trainees)	**44 female** (59% of total trainees)

Figure 5 Number & reported gender of NIHR Academy Trainees undertaking postgraduate degrees within Call 2 Groups



The number of trainees has increased slightly since Year 2 (from 71 to 75) and the number of male and female trainees has remained steady (i.e. the number of male and female

trainees has only changed by +/-2). However, the number of trainees who did not report their gender rose from 3 in Year 2 to 7 in Year 3.

Females represented 61% of those undertaking a Masters; 55% of those undertaking a PhD, and 50% of those undertaking a Post-Doctoral fellowship. Fifteen trainees categorised in Table 3 as 'Other' were not included in Figure 5; 11 of these were undertaking a research fellowship where the training level was unspecified and 4 were in other training posts which did not involve an academic qualification. 67% (10) of those included in the 'Other' training category were female.

Figure 6 shows the reported countries of nationality of Academy trainees; they cover South Asia, Africa and South America. 89% of the trainees reported their nationality as being from a low- and middle-income country. The countries with most trainees were India (16%), Brazil (12%), Malawi (12%), and Pakistan (11%). Of the trainees from high income countries, 8% reported UK nationality (8%), 1% Polish nationality, and 1% did not state their nationality.

Figure 6 Nationalities of NIHR Academy Trainees (n=75) funded within Call 2 Groups (12 out of 20 Groups reported data)

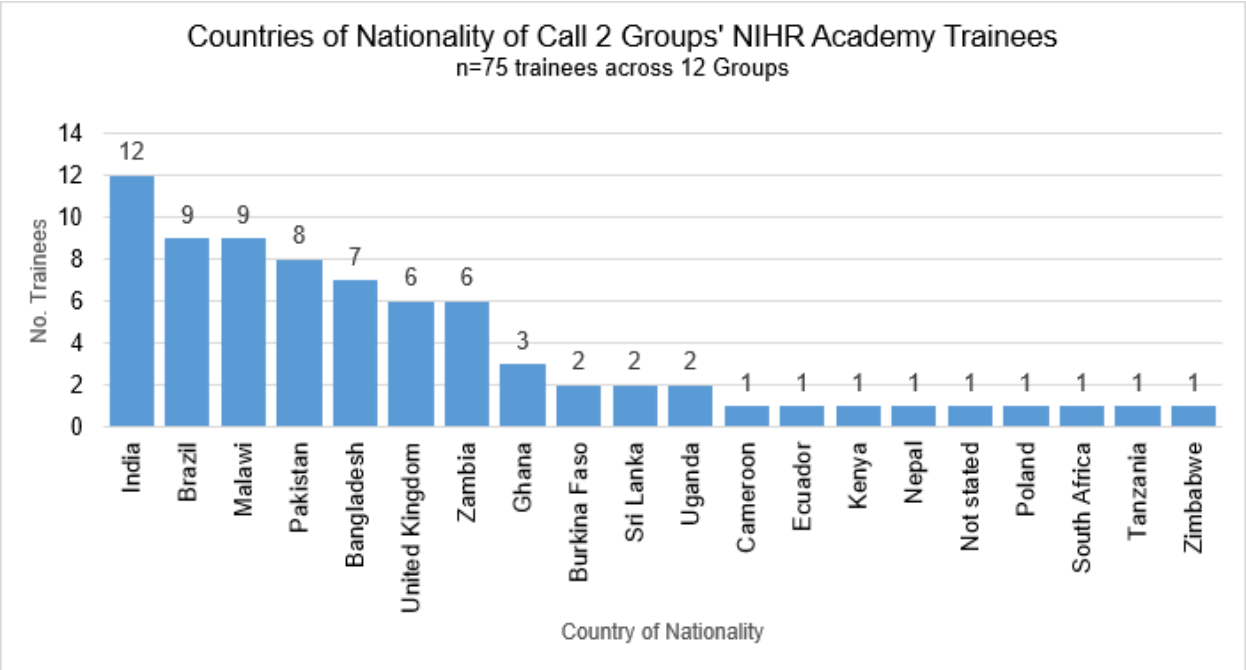


Figure 7 shows the nationalities of NIHR Academy trainees divided into regions. South Asia had the highest proportion of trainees (40%, 30 trainees), with the next most frequently reported regions being East Africa and South America (both 13%, 10 trainees), then South-East Africa (12%, 9 trainees). High income country nationalities (UK and Polish) are grouped under the HIC label.

Figure 7 Numbers of NIHR Academy Trainees across the different global regions reported by 12 out of 20 Groups

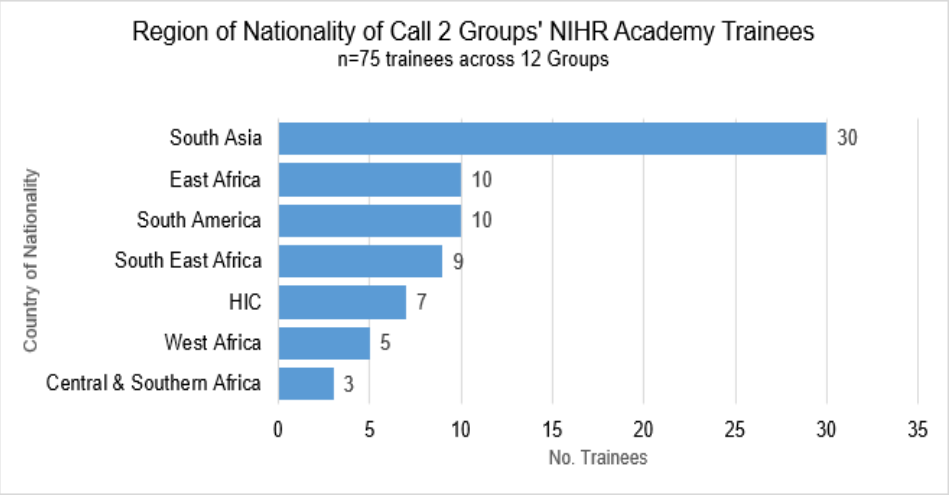
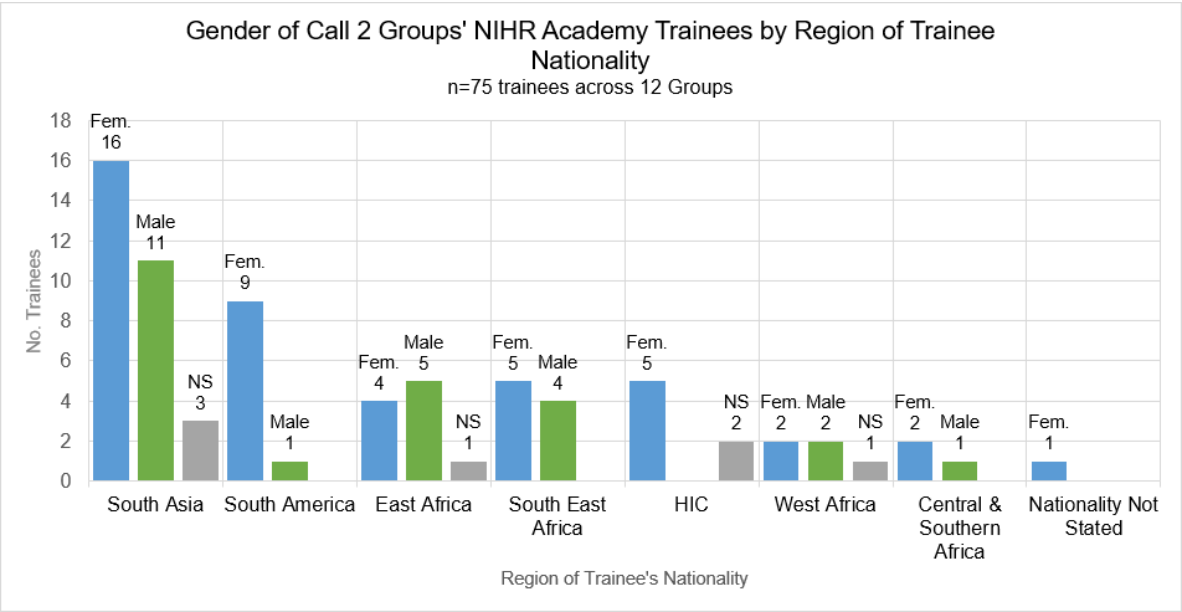


Figure 8 shows the genders of the NIHR Academy trainees reported by the Groups within each region, grouped by country of nationality. The balance of male and female trainees varies by region, with more female trainees in South Asia, South America, and HICs, but with more of an even split in other regions, e.g. 5 female and 4 male trainees in South-East Africa, and 5 male and 4 female trainees in East Africa. A relatively small proportion (9%) of trainees did not state their gender. High income country nationalities are grouped under HIC.

Figure 8 Number and gender of Call 2 Groups' NIHR Academy Trainees by region of trainee nationality



Examples of NIHR Academy trainee activities:

"We regard the finest achievement of the program so far as the training and development and progress of our postgraduate research students. They have made excellent progress, have developed strong research skills, and are making a key contribution to the work of the group. One student (masters by research) has completed and submitted their thesis […]*, 3 masters have upgraded to PhD, and we have part funded and supervised a further clinical PhD fellow based in Uganda.*

A significant aspect of the project is research capacity building at […], in particular development of research laboratory capacity for diagnostic and management of diabetes. The group Statistician holds fortnightly Global Health Methodology sessions for the students. They have covered topics including: Bland-Altman, power calculations, crossover designs, missing data, sensitivity analysis, reproducible science, variable selection. These topics are often covered by assigning an individual or group of students to present all or part of a topic. Student presentations have given them further training in presenting mini lectures for teaching and helped the Statisticians to assess student knowledge and learning." [NIHR Global Health Research Group on improving outcomes in sub-Saharan African diabetes through better diagnosis and treatment at the University of Exeter]

The PEER methodology currently being used for one of the Group's qualitative research studies in Sri Lanka is rooted in the ethics of participatory action research. Twenty-one men and women were trained, all of whom had varying educational backgrounds and qualifications, ethnicities, religions, genders, sexual orientations, and research capacities, to drive youth-led research on violence and mental health among young people. PEER researchers are from the communities they research and engaged in the full research cycle. These researchers are building on their inherent knowledge of the community whilst developing skills to become local advisors and community leaders on selected issues relating to violence and mental health, and engaging policymakers and ministers in the relation to the research findings. [NIHR Global Health Research Group on a package of care for the mental health of survivors of violence in South Asia at University College London Institute of Child Health]

LMIC institutional capacity strengthened

3.6 Delivery partner's summary of evidence of activities and outcomes from across awards demonstrating how NIHR funding has helped to strengthen LMIC institutional capacity to contribute to and lead high quality research and training within a national research ecosystem.

Financial Assurance Fund activities

In 2018, NIHR launched the Financial Assurance Fund (FAF) as an opportunity for funded Global Health Research Units and Groups to apply for additional funding for specific activities aiming to build financial management capacity in the LMIC partner organisation(s). NETSCC managed the application process and considered proposals through an externally appointed Funding Committee. They awarded FAF funding over a 12-month period with up to £50,000 available to applications from single institutions and up to £100,000 for joint applications. NETSCC required successful applications to demonstrate the ability to reduce financial risk and strengthen financial capacity in LMIC partner organisations, as well as to provide sustained outcomes beyond the end of NIHR funding.

Four Call 2 Groups have received FAF awards: 2 groups began their FAF work during the reporting period, and 2 experienced delays relating to COVID-19, resulting in their work being carried forward into approved extension periods. One Group used their FAF funding to identify gaps against the Good Financial Grants Practice (GFGP) standards for one of their LMIC partners. They also developed an action plan to strengthen financial management of research based within a partner hospital and have improved financial structures and staffing. In the next reporting period, NETSCC will report the outcome of the Group’s planned GFGP audit (mid-May 2021) and the outcome of their assessment for a bronze accreditation in July 2021.

Another Group engaged an advisory group with representation across LMIC partner organisations, inviting them to review current processes from an NIHR funded Unit, map existing standard operating processes against the expected GFGP standards, and identify outstanding gaps to address. Across the awards, NETSCC used FAF funding to support GFGP assessments and accreditations. Examples of other funded activities include training on financial management and costing research proposals, development and production of governance manuals and SOPs, and accounting software purchase and training.

Other institutional capacity strengthening

All Groups have cited examples of recruitment and training initiatives that are strengthening capacity both within their institutions and regionally. NETSCC encourages sustainable local ownership of work both during and beyond the term of the award with local partners leading on projects. Training and development opportunities have been noted across the

programmes, including safeguarding training, strengthening institutional policies and procedures around bribery and corruption, and increasing capacity for finance reporting to support IATI reporting requirements. Early career researchers who are eligible as NIHR Academy trainees have further benefited from access to opportunities such as the Short Placement Award for Research Collaboration (NIHR SPARC awards) supporting short placements for research training and collaboration across other research organisations. Six NIHR SPARC awards were funded during this reporting period.

Teams have increased their capacity and develop staff through a collaborative approach to training, whilst preparing the foundations for work to continue beyond the grant period. Examples of this include:

The Universidad Internacional del Ecuador have utilised support from their involvement with an NIHR Global Health Research Group to establish a 70m^2 research unit within the Faculty of Medicine employing three full-time research staff including a PhD epidemiologist. At Universidad de Cuenca (Ecuador), the same Group supported the installation of a dedicated workspace, which provides both research assistant salaries and linked studies at the university.

Group's funding has been a highly significant factor in supporting capacity strengthening and sustainability through the following initiatives:

- KEMRI-Wellcome Trust Research Programme obtained a COVID-19 sequencing enhancement grant from a NIHR Global Health Research Unit which awarded competitive small grants as part of its programme of research activities.
- A collaborative bid between one of the Group's LMIC partner institutes and institutes from Wellcome Trust Africa-Asia Programmes was successful in gaining supplementary funds for SARS-CoV-2 genomics for the Horn of Africa from the Wellcome Trust.
- One of the Group's LMIC partners is now recognised as a regional genomics training centre by Africa CDC, regional sequencing hub by WHO AFRO, and the Kenya national sequencing centre. The partner is playing an important role in genomic surveillance in the Region.
- Supporting the enrolment for a total of 15 Masters students in MSc or MPH programmes in Malawi and Zambia

Another Group supported a PhD candidate to develop and evaluate a training package for Training in Ultrasound to Determine gestational Age (TUDA) as a basis for their PhD thesis. The Group is supporting a further 10 trainees to provide capacity for the ongoing delivery of this training programme. In addition, the Group have successfully trained a total of 51 Ministry of Health midwives (from Malawi and Zambia) in using US biometry for the determination of estimated delivery date as part of routine antenatal care, to improve capacity in and the quality of antenatal health care.

Preliminary data from partnership work with African Research Collaboration on Sepsis has informed a successful application for the NIHR RIGHT3 application scheme on multi-morbidity (since approved for funding). The postdoctoral lead for African Research Collaboration on Sepsis will be the co-director of this new programme of work demonstrating individual and institutional capacity strengthening and sustainability.

Training in conducting systematic reviews, policy analysis, longitudinal studies, natural experiments, randomised controlled trials and process and economic evaluations has increased capacity and development opportunities:

NIHR Academy members comprising three early career researchers (ECRs) and two PhD students are in positions in the UK (York and Brunel). One ECR is in position in Bangladesh (ARK Foundation), two in India (Maulana Azad Medical College and HRIDAY) and two in Pakistan (Khyber Medical University) including one PhD student. Three ASTRA ECRs were successful in achieving NIHR SPARC placements to support development of specialist research skills through collaboration and networking [NIHR Global Health Research Group on Addressing Smokeless Tobacco and building Research capacity in south Asia (ASTRA) at the University of York].

3.7 Aggregated distribution of support staff (collected for the purposes of understanding how wider research support responsibilities are divided between LMIC and HIC institutions)

Table 3 shows that staff employed in LMICs make up 83% of FTE of support staffing. 17% of the total FTE was contributed by support staff employed in HICs.

Table 4 Total number of FTE support staff (research managers, finance, admin, community engagement practitioners, other) in post during the last 12 months

	Total number of FTE support staff (research managers, finance, admin, community engagement practitioners, other) in post during the last 12 months - *note that this may not be a whole number depending on institutional employment policies**
Employed in LMICs	91.63
Employed in HICs	18.48

**e.g. if an institution employs 5 support staff, of which 3 work full time for 12 months, 1 works full time but leaves after 6 months, and 1 works 1 day/week for 12 months, the total reported would be: 3 + (1*0.5) + 0.2 = 3.7 FTE*

Refer to paragraph 3.6 for examples of support staff capacity-strengthening activities.

Equitable research partnerships and thematic networks established/strengthened

3.8 Delivery partner's assessment of the extent to which this NIHR funding has contributed towards building or strengthening equitable research partnerships/collaborations and thematic networks (where applicable, including engagement with communities).

Establishing and strengthening equitable partnerships and thematic networks is a key objective of NIHR Global Health Research funding. NETSCC required all teams to set up equitable systems of governance and provide evidence that the research appropriately and equally represented LMIC members in relation to their UK counterparts. All Groups are demonstrating equity in partnerships throughout the research lifecycle. The Groups often included multi-way agreements and clear Terms of Reference in their approach to ensure equity in leadership roles, communication, and publication.

Groups achieved the inclusion of partners and building of equitable partnerships in several ways. Common examples of how Groups promoted LMIC ownership include:

- LMIC partners leading recruitment of research staff and engagement of local stakeholders
- Shared management of project work and decision-making
- Co-supervision of students between UK and LMICs
- LMIC partners leading or contributing to publications and in some cases leading on dissemination plans and strategies
- Contribution of LMIC partners in identifying research priorities and designing plans for future research

An example of a Group promoting equitable publication practices:

"The DIPLOMATIC collaboration has developed a publication strategy and plan which acknowledges the need to address inequitable practices in global health authorship. This plan is supported by structured writing groups for the co-development of all main manuscripts ensuring equitable contribution and meaningful knowledge transfer between scientists from Malawi, Zambia, Liverpool and Edinburgh." [NIHR global health research group on preterm birth and stillbirth at the University of Edinburgh (the DIPLOMATIC collaboration) at the University of Edinburgh]

Regular engagement with local partners/stakeholders

All Groups hold large meetings at least annually between all UK and LMIC partners to monitor overall project progress and share learning; these were run virtually, largely due to the COVID-19 pandemic. In addition, most Work Package Leads hold regular project management meetings engaging all relevant partners to discuss progress. Groups also reported ad-hoc north-south visits to engage partners and support project activities. Due to travel restrictions, some planned face-to-face visits were not possible, but Groups successfully engaged partners through appropriate virtual platforms instead. South-south partner meetings have encouraged greater engagement and strengthened relationships and networking between LMIC partners.

In addition to regular project management team meetings, independent Advisory Groups and steering committees provide oversight and governance and are required to be held at least once a year. Such advisory meetings are often virtual and held on average at least twice a year; these meetings are important to engage key stakeholders for strategic advice and specialist input. Pre-pandemic, some meetings would take place in person. Virtual meeting platforms being used include Zoom, Skype or WhatsApp and usually had equal partner representation and rotating chairs to include LMIC partners. Some teams noted that poor internet connection and large time zone differences made communication more challenging especially with new partners; however, relationships and trust built over time have helped mitigate the challenges of virtual engagement.

Establishment of cross-cohort initiatives

Some Groups established networks related to their topic area including north-north, north-south (networking with other NIHR funded Groups) and south-south collaborations. In addition, NETSCC have helped facilitate the establishment of networks and initiatives between NIHR Global Health Research Groups and Units, as well as other international research collaborations (Table 4). These networks actively exchange knowledge and resources that support Group- and programme-level aims.

Table 4 below summarises the thematic networks led by Call 1 Units and Groups with membership from the Call 2 Groups.

Table 4. Summary of cross-cohort networks.

Thematic network/ or area	Led by	Number of Units/Groups in networks	Aims
Respiratory	Universities of Edinburgh (GHR 16/136/109) and Liverpool (GHR 16/136/35)	9 (+2 GCRF and 1 GACD)	To work collaboratively in the area of respiratory research on agreed deliverables and by jointly providing funding for a research post. The UK's Global Health Respiratory Network: Improving respiratory health of the world's poorest through research collaborations
Health economics	University of Birmingham (GHR 16/136/79)	13	To share learning, explore common challenges related to methods and discuss strategies to address challenges of conducting applied health economics in LMICs.
Data governance	University of West of England (GHR 16/137/49)	18	To help NIHR projects develop a low-cost high impact data management strategy that can be used to develop local capabilities by bringing together existing world-leading expertise to run a virtual online course for data governance champions.
Data governance	University of Edinburgh (GHR 16/136/109)	3	To develop a global network of collaborators interested in data management and secure sharing of data.

3.9 Delivery partner's summary of any other noteworthy outcomes beyond those captured above

Awards

A Group working to reduce mortality and improve the quality of sepsis care through research focused on Sub-Saharan African countries (Uganda, Malawi, Gabon), received an award at the Global Sepsis Alliance 2020 Awards in recognition of their network making an outstanding contribution to raising awareness of sepsis, increasing the quality of sepsis prevention and management, and building research capacity across Sub-Saharan Africa. The Group has built and continues to build sustainable partnerships between research and clinical organisations, ministries of health, non-government organisations, and the commercial sector. Their sepsis incidence survey data across ten countries was particularly

highlighted as a means to begin accurately quantifying the true sepsis burden and enact evidence-based policy change. The virtual award ceremony was held on the 11th of May 2021.

Stakeholder Engagement

A planned GCRF-funded workshop to establish a Central Asian Policy Forum on Smokeless Tobacco (nasvay) grew into a successful series of virtual events with stakeholders (including Ministry of Health officials) from Tajikistan, Uzbekistan and Kyrgyzstan. The Finnish Lung Health Association organised the events in concert with the International Primary Care Research Group, UK and the NIHR Group carrying out policy research and developing interventions to address the problems caused by smokeless tobacco use in South Asia. Bringing these 3 Central Asian countries together highlighted shared problems and possible solutions, and further educated health officials at a time when smokeless tobacco regulation is a current topic for parliamentary debate in the three countries. In addition, the network identified research gaps which will directly inform the Group's policy work and future Unit funding application.

Impact on practice

A Group working on assessing the impact arthritis has on quality of life, the economy, and society has conducted the first ever prevalence survey of musculoskeletal disorders in Tanzania. They obtained initial prevalence estimates and much needed quantification of the quality of life and economic impacts of these disorders using a community survey. The survey itself increased awareness of musculoskeletal disorders to participants and a regional examination of the musculoskeletal system. As a result, individuals who had positive screens were able to be signposted to the new musculoskeletal disorders clinic at Kilimanjaro Clinical Research Institute; this clinic is the first of its kind in Tanzania.

A Group working on asthma has increased the interest of health authorities in their research activities and proposals, facilitating their engagement in research. By creating avenues for presenting findings to high-level policy makers, the Group have increased the opportunity for changes in management practices. A Group's LMIC research partner showed reductions in hospitalisations and economic costs through provision of free medications in one city in Brazil; this provided the evidence base required for making asthma medications free within the public health system.

4. Value for money

- Delivery partner's summary of evidence from across awards demonstrating activities during the past year to ensure value for money in how the research is being undertaken.

NIHR ensure that research teams fully justify how funds will ultimately contribute towards improved health outcomes for people living in LMICs. They also ensure that research is contextually appropriate and generalisable to maximise its impact for every pound spent across the research life cycle. NETSCC integrate an ongoing assessment of value for money within the research management processes. This builds on the FCDO 4 E's approach.

The 4 E's are defined as follows:

- **economy –** the degree to which inputs are being purchased in the right quantity and at the right price
- **efficiency –** how efficiently the project is delivering its outputs, considering the rate at which intervention inputs are converted to outputs and its cost-efficiency
- **effectiveness –** the quality of the intervention's work by assessing the rate at which outputs are converted into outcomes and impacts, and the cost-effectiveness of this conversion
- **equity –** degree to which the results of the intervention are equitably distributed

4.1 Economy

NETSCC considers the eligibility of costs and overall value for money during the application review process, at contracting, during project set-up, and continuously throughout the active monitoring of the project. Throughout monitoring, Groups are required to demonstrate compliance with institutional procurement policies and justify budget virements and/or any changes to the contracted programme of research in accordance with published NIHR finance guidance.

The NETSCC Finance team monitor Call 2 Group's budget spend via quarterly financial reports, with use of random expenditure verification checks of invoices/transactions, and spot checks where necessary. Within this reporting period NETSCC conducted expenditure verification spot checks on 5 awards (see section 5.1).

Groups demonstrated evidence of achieving value for money through obtaining fair equipment prices through tender, following established procurement processes and taking advantage of discounts and reduced rates with contracted suppliers. Groups have utilised their own resources/infrastructure where possible and taken advantage of their networks by organising joint purpose activities to reduce costs (e.g. dual conferences and training events). Groups also demonstrated value for money through appropriate costing of research and efficient staff resourcing including timely recruitment and allocation of appropriate staff time and expertise to deliver activities. Groups adopted several new and efficient ways of working due to COVID-19, achieving significant cost savings through reductions in travel costs and by reducing face-to-face meetings. By using online virtual platforms, Groups were able to effectively maintain the engagement and inclusion of all partners and collaborators and support sustainable virtual solutions.

4.2 Enhanced efficiency

Enhancing impact

Call 2 Groups were previously required to upload details on all outputs generated onto the NETSCC Management Information System (MIS) 14 days prior to publication. NETSCC actively track and use the data on research outputs to help demonstrate the emerging impact of ODA funding on intended beneficiaries, as well as other outcomes and impacts aligned with the GHR Theory of Change. NETSCC identifies the most appropriate outputs for promotion through NIHR channels and validates examples to be used to support timely individual or thematic impact stories. The DHSC changed the extent of reporting outputs in September 2020, to reduce burden and focus on timely reporting of impactful outputs within 72 hours. Teams report annually on their most significant outputs which address the evidence needs of people living in LMICs, and examples of these are listed in outputs section 3.2

Enhancing financial efficiency

Groups demonstrated evidence of enhancing financial efficiency in the reporting period. Examples included organising multi-purpose activities to reduce costs (e.g. joint networking and training events), using efficient and long-standing procurement processes, and utilising previously implemented research infrastructure to aid the initial set up of research. Restrictions on travel due to COVID-19 led to cost savings which in turn helped mitigate impact of the pandemic. As a response all projects adapted quickly to use of virtual communication channels as opposed to face-to-face meetings and training events, thus reducing travel costs and ensuring a more efficient use of time and budget.

Enhancing sharing of intellectual knowledge

Groups continue to share knowledge using a range of dissemination and knowledge exchange methods. They embed engagement with stakeholders and relevant organisations to support efficient methods of evidence dissemination and research uptake to influence practice and policy. The Development of new partnerships/networks both south-south and north-south is vital in supporting knowledge exchange and helping to generate additional research value; networks enhance awareness of research findings and shared learning to reduce the potential for research waste and enhance sustainability. Efficient knowledge exchange networks have demonstrated cost savings, such as training and dissemination where events can be shared across multiple partners. NETSCC directly support wider networking and shared learning across the cohort by facilitating engagement between researchers through the development of research consortia and themed networks. Examples of sharing of best practice include capacity strengthening and online training materials via the NIHR Academy trainees' forum and the network of Group Training Leads.

4.3 Effectiveness

Each Call 2 Group submitted a proposed pathway to impact within their application; these were peer reviewed by subject experts and assessed for scientific merit and feasibility by the Funding Committee. Also, NETSCC ensures adherence to all funded aims through regular monitoring. Where changes to partners or research plans are required, cases are carefully scrutinised through the Change to Programme process to ensure these originally funded aims will still be met.

Drawing on the learning, experience and outcomes of the work of the Units and Groups, NETSCC and DHSC published the overarching NIHR GHR programme Theory of Change in 2020. NETSCC and DHSC also further developed Theory of Changes for Units and for Groups, as a framework indicating the inputs, outputs, outcomes and longer-term impact expected and tracked by NIHR. These Theory of Changes are intended to support applicants to the Call 2 Unit and Call 3 Group calls launched in the reporting period and inform existing award holders' reporting on outcomes and impacts.

NIHR ensure effective knowledge exchange and transparency across the cohort and further afield. NIHR also promote emerging outcomes and impact through case studies and by publishing findings from these Annual Reviews in the public domain and sharing our findings across the funded GHR programme cohort.

As described in section 3.4, several examples of early impact have been identified through the 2020-2021 annual reports, including engagement with high-level contacts in ministries and policymakers, to ensure study outputs were rapidly translating into effective outcomes. As mentioned above, Groups must inform NETSCC of all outputs generated, which are reviewed in relation to achieving their research aims. These outputs are highlighted

throughout NIHR through use of SLACK, Twitter and other communications channels, to increase coverage and transparency of research findings.

In attempting to mitigate the impact of COVID-19 on project activities, Groups utilised alternative and often equally effective methods to continue with their activities. In particular, several Groups successfully supported virtual training and capacity building activities which being virtual provided opportunities to be more inclusive for trainee participants. In transitioning to working virtually, several groups reported achieving a far wider reach to successfully include larger numbers of diverse stakeholders.

4.4 Equity

NETSCC is committed to supporting research teams to establish equitable partnerships. Supporting this ethos, NETSCC continually assess Call 2 Group's approach to equity, diversity and inclusion throughout the life course of their funding; this starts in the criteria and assessment for funding the award. Through active monitoring, annual reporting and review of changes to programme, NETSCC maintain oversight and identify any concerns related to equality, diversity and inclusion to be addressed by teams as necessary.

Through annual reporting, data is collected on the gender and reported disability of both staff and trainees within each Group's research and support teams, both in LMICs and HICs. NETSCC collect and review data on the gender balance of authors on all peer-reviewed publications relating to each Group's NIHR funded research; for analysis data on the gender and LMIC or non-LMIC nationality of lead(s), co-author(s) and last author(s) see section 3.3. Similarly, data on the gender of funded trainees is collected and made public in section 3.5 of this report. The trainee data clearly demonstrates that NIHR funding is having a positive impact on gender balance across the Groups cohort.

As described in section 3.8, all Groups are actively working in equitable partnerships. They demonstrated this through elements such as equitable distribution of funding to each LMIC partner, LMIC leadership of work packages, development of authorship/publication policies to promote more local authorship and appropriate recognition of researcher's contributions. Approaches to inclusion and addressing equity within research participants and beneficiaries is discussed in section 2.3.

- How are you (the delivery partner) ensuring that the funded research benefits vulnerable groups to improve health outcomes of those left behind?

The Call 2 Groups call guidance set out clear expectations for research that focused on the health, well-being and benefit the most marginalised and vulnerable groups in LMICs. NETSCC assessed this expectation as part of the application review process and reviews compliance, as changes are requested throughout the lifetime of the award.

Through annual reports, NETSCC monitor how the needs of the most vulnerable groups have been considered and met within the design, implementation and translation of the planned research and findings. Most Groups reported including ‘at risk’ and ‘vulnerable groups’ in their research and appropriate consideration of their safeguarding needs and risks. Several teams describe sustained and positive involvement and engagement with vulnerable populations and at-risk groups to influence research outcomes and support dissemination of the findings and health improvements for these vulnerable beneficiaries (section 2.3). As described in the CEI section (2.3), they most often achieved this through their CEI activities (for example, by holding discussions at local community centres, places of worship, radio shows, and running virtual events and workshops), to ensure the voices of all community members were heard. These discussions aided Groups to be inclusive and help incorporate a diversity of suggestions to shape their research activities and communication strategies; this input regularly influenced the Groups overall research and dissemination plans (examples outlined in section 2.3). NETSCC monitor the status of ethics approvals and keep copies of these approvals within each project record. A positive ethics approval means that an independent ethics committee has assessed that the research proposed will ‘do no harm’ to participants and will safeguard any vulnerable and at-risk groups involved.

NETSCC expects Groups to collect research data which is usually disaggregated by gender, socioeconomic status or other characteristics, to track impacts on health inequalities. NIHR promotes openness and transparency in research through a number of its policies, guidance and platforms to support data sharing and open access publications. NIHR require research publications to be made available in open access journals and requires evidence of clear pathways to achieving research impact through a range of dissemination methods tailored to the needs of different target audiences to promote uptake and implementation of findings.

The NIHR communications teams assists researchers in raising awareness of research findings, and to shared learning. NIHR take a lead on the identification, validation and production of impact case studies working closely with the award holders to demonstrate the impacts on health and related outcomes for beneficiaries living in low resource settings. NETSCC maximises opportunities to more widely disseminate findings and share learning in several ways; for example, by organising NIHR cohort meetings to support knowledge exchange and networking, arranging NIHR-led panel sessions to promote research, and sharing learning across cohorts of funded awards via these annual reviews. NETSCC further supports Groups to amplify their findings and to collaborate across awards cohort through

existing NIHR communications platforms, SLACK and through subscribing to NIHR Global Health Research newsletters on emerging findings and global health research events.

4.5 List of any additional research awards secured **by LMIC partners** during the course of this NIHR funding

LMIC partners reported securing a total of 37 further research funding awards amounting to £12.3m since Call 2 Group awards commenced in 2018. For awards where details on both the value of the award and the percentage allocated to LMICs was provided (24 of the awards), £7.3m (79%) of this funding was allocated to LMIC institutions. Data included one high value (£5m) NIHR RIGHT Call 3 award jointly led by Malawian, Tanzanian, and UK partners; excluding this the calculation, the percentage of funding allocated to LMIC institutions would rise to 90%.

A variety of activities have been funded through such additional research awards, e.g. research studies, pilot studies, bursaries for LMIC doctors to attend training courses, PhD studentships, research fellows' placements, a dedicated service within a hospital, and work supporting the COVID-19 pandemic response, supporting sustainability of research activities and capacity beyond their existing NIHR award

Groups' LMIC partners secured several other particularly high-value awards beyond their NIHR awards. Examples include the £1.73m secured by Sangath India from the US National Institute of Mental Health for a study entitled "IMPlementation of evidence-based facility and community interventions to reduce the treatment gap for depression", the £1.66m award from the DfID-Wellcome Epidemic Preparedness fund secured by UVRI Uganda/MRC The Gambia/LSHTM UK/GCVR UK, and an award secured by SNEHA India of £636,410 from Azim Premji Philanthropic Initiatives.

Some partner organisations have been successful in securing awards from national and/or governmental sources, e.g. the Ecuadorian Corporation for the Development of Research and Academia, Kyrgyzstan's Ministry of Health, and the African Academy of Sciences.

There have also been successful applications for funding from industry sources such as Oracle India, from HIC-based funders (e.g. the Bill & Melinda Gates Foundation and the US National Institutes of Health), and international organisations such as the WHO.

Table 5 Research awards secured by LMIC partners during course of NIHR funding

Funder	**No. Funded Awards**	**Amount awarded (GBP)**
UK funders: *AHRC/MRC, British Society of Rheumatology, DfID(FCDO), NIHR, The Academy of Medical Sciences, UKRI, Wellcome Trust*	11	£8,215,108
LMIC Government/HEI funding	11	£820,104
LMIC NGOs/Professional Societies/Commercial/Charities	7	£881,966
Other international funders: *BMGF, Harvard Medical School Center for Global Health Delivery–Dubai, Manan Trust, Shastri Indo Canadian Initiative, US NIH, US NIMH, WHO*	8	£2,364,093

5. Risk

5.1 Delivery partner to summarise the five most significant risks (both in terms of potential impact and likelihood) across awards within the last year.

Table 5 shows the five most significant risks, listed in risk registers, across Call 2 Groups, and the strategies they have taken to manage and mitigate these risks. Common and significant risks resulting from the COVID-19 pandemic include safeguarding staff and participants, delays to planned research activities, and a negative impact on budget spend.

In response to COVID-19, NIHR advised award holders that funding would continue even where staff could not work and even if some activities needed to pause. This approach facilitated redeployment of staff to in-country front line COVID-19 emergency responses as needed. NETSCC considered requests for changes to research programmes to deliver COVID-19 work where this related to the original funded aims (section 6.1). NETSCC redirected other requests to re-purpose funds for new COVID-19 work unrelated to the existing aims of the Groups award to relevant COVID-19 focused funding calls.

NETSCC adapted quarterly financial report templates to include new data fields and further breakdowns of costs, to help evaluate the impact of COVID-19 on GHR research activities (section 6.1). NETSCC used this additional data to assess the impact on staff redeployed to in-country responses and the costs for COVID-19 related work. Each NIHR Co-ordinating Centre collated and shared this data via a central log; this helped to track and inform DHSC of key reported risks, programme changes to support COVID-19 work, expected delays to Group programmes, and the impact on spend across partner countries.

Table 6 Five most significant risks listed in risk registers across Call 2 Groups

	Risk	Examples of risk	How is the risk being managed / mitigated?
1	**Contextual** Barriers to research progression/ completion and safeguarding (4 entries from 3 Groups)	• Environmental risk (natural disaster, disease outbreak) • Political risk (civil unrest, political/economic instability) • Safeguarding risks (personnel safety/travel safety, staff health and well-being)	Use of technology to maintain contact with partners, virtual meetings, and remote working; development of contingency plans, such as collecting data outside of months known to be environmentally/contextually challenging; staff to follow institutional and local policies and guidance; provide country specific advice to field workers; provide travel insurance and specific travel contact person
2	**COVID-19 Pandemic** Impact on research core milestones (23 entries from 14 Groups)	Delays to research progression and deliverables due to the COVID-19 pandemic: • Budget underspend • Risks to researcher health and security • Disruption to LMIC health systems, extra burden on health clinics • Disruption to participant recruitment, loss of quality data collection and follow-up • Public health/lockdown measures causing site closures, restricted travel, , issues transferring equipment, delays to staff training • Impact of new waves of COVID-19 in navigating different approaches used globally to tackle COVID-19	Close monitoring of research progression; request additional time or funding; close monitoring of COVID-19 situations; follow NIHR, UK institution, UK Government Foreign Office and local LMIC guidance/advice, and policies; SOPs in place for use of PPE; remote working; training and supervision provided virtually; use of alternative research methodologies; focused discussions on staff availability and lockdown status; regular updates from partners; develop recruitment and retention strategies
3	**Operational** General research challenges (11 entries from 8 Groups)	Delays to research activity due to: • Participant recruitment • Access to sufficient facilities • External factors such as institutional closure, COVID-19, local staff redundancies • Governance delays for ethical approvals and insurance • Lengthy contracting processes between UK institutions • Equipment failure	Participant recruitment figures reviewed quarterly and recruitment drives to take place at multiple sites; directors to work closely with team; ensure communication is maintained within the team and with PI; seek alternative institutions to continue work; contact NIHR for further guidance; leads to be appointed to each work package; milestone progress to be monitored quarterly; seek alternative equipment sources or supply methods; seek extension; regular equipment checks following SOP; ensure timely ethical applications; equipment to be placed in secure location
4	**Financial** General challenges (10 entries from 8 Groups)	• Fall in the value of Sterling £ • Different accounting and financial management processes across LMIC partners • Lack of liquidity to cover variance in costs and inability to meet financial commitments • Problems of accurate forecasting due to cash flow • Timely financial reporting from LMIC partners • Unable to secure future funding beyond NIHR award	Monitor exchange rate; monitor project spend quarterly; regular finance discussions; ensure adequate cashflow projections; monitor financial arrangements and reporting; spread payments throughout the project; make payments in advance; ensure due diligence checks undertaken; regular audits; new funding and collaborations to be explored
5	**Organisational** LMIC specific organisational, capacity and capability challenges (6 entries from 5 Groups)	• Communication challenges (difficulties in LMIC partners or organisations signing agreements, launching activities and planning work) • Political environment (issues with engaging with key stakeholders due to change in health-related priorities) • Safeguarding challenges (difficulties in safeguarding vulnerable communities and the environment)	Maintain close communication with partners and commercial operators; share best learning practices; promote research through website; explore different service providers; maintain contact with local key stakeholders; use alternative methods for stakeholder engagement; regular monitoring of collaboration progress; support PIs in developing agreements; monitor functionality of collaborations; explore alternative intervention sites; forward planning with partners; monitoring of political situation; re-prioritise research objectives; seek programme extension; ensure safeguarding policies are up to date, training in place, general support available and escalation policies available

5.2 Fraud, corruption and bribery

There were no allegations or incidents of fraud or financial impropriety made against any of the NIHR Groups during the reporting period.

Call 2 Group awards are contractually required to undertake due diligence on all downstream partners and establish collaboration agreements compliant with the NIHR research contract prior to any transfer of funds. NIHR encourage and support the use of GFGP to assist institutional self-assessment and certification against the GFGP standard. NETSCC managed the financial assurance fund to support Groups address gaps identified from such assessments; examples of how these funds improved GFGP standards and financial and fiduciary management and capacity can be found in section 3.6. NETSCC worked closely with the cross-NIHR assurance lead to help develop and refine assurance visit templates and guidance and these have been refined in the period incorporating cross NIHR and NETSCC assurance learning. Given the impact of COVID-19, NETSCC did not undertake any physical assurance visits in this reporting period. Instead, the finance team used deeper dives and extended sample sizes for verification checks to investigate any concerns arising during active monitoring and/or through the random financial expenditure verification check process.

As standard, approximately 5% of quarterly financial reports from awards undergo expenditure verification spot checks of transaction listings and checks of invoices and receipts, with further deep dive checks as necessary. In the reporting period, 4 Call 2 Groups awards underwent random verification spot-checks, 2 reviews are ongoing. One of these ongoing reviews is investigating a duplication in an equipment item receipt; the other now involves a deeper dive given identified inconsistencies in compliance with NIHR ODA and finance guidelines. The outcomes from both these will be reported in the next period.

Two deep dive reviews have been completed in the period. One award submitting a final statement of expenditure as part of a deed of novation and the other a deep dive of one Group was ongoing in the last period of reporting (and following inconsistencies identified in a verification check); this review involved the detailed review of 15 months of financial transactions and was finalised within this reporting period. Through checks on the first award, NETSCC identified some low-cost items they considered to be non-ODA compliant; these costs were subsequently removed by the contractors. For the second, some fiduciary concerns were identified where the financial management was not fully compliant with NIHR ODA and finance guidelines. NETSCC then clarified financial management expectations to contractors and their partners and, as a result, the compliance issues addressed. NETSCC are planning a further deep assurance review on the same Group, as part of their planned final financial reconciliation (FSTOX) which takes place after the end of award; these findings will be reporting in the next reporting period. Due to the COVID-19 pandemic, some Groups found it more difficult to retrieve the records required to provide NIHR with a proof

of expenditure. This has caused some protracted delays to the expected timelines for these reviews.

NETSCC routinely update the cross NIHR assurance group regarding any potential risks to ensure shared learning across the funded Groups cohort. In general, Groups follow NIHR finance and ODA compliance guidelines and routinely query the eligibility of financial costs where there is any uncertainty. Within this reporting period, NIHR developed a coordinated cross-centre approach to active and ongoing due diligence and assurance of Global Health Research Programme Awards. NIHR provided additional guidance on the expectations and requirements for award holders regarding assurance, due diligence and safeguarding, which they disseminated to award holders via NETSCC research managers and reinforced through NIHR-led assurance and safeguarding webinars. NETSCC staff have also undertaken training to support the active monitoring and escalation of any assurance and safeguarding concerns.

The NIHR Assurance policy and processes are overseen and coordinated through a cross-NIHR Assurance lead. As part of assurance checks, NIHR request evidence of local policies related to finance, procurement and human resources (e.g. codes for staff conduct, recruitment, training, travel and expenses, and conflict of interest policies) and compliance with these policies. NETSCC expects contractors to undertake an independent audit of partner organisations to verify their compliance with the contract terms. Where contractors' due diligence checks on new partners do identify any risks, they are required to put mitigation in place for these partners. Furthermore, NIHR review fraud, corruption, and bribery clauses in collaboration agreements for contractual compliance. NETSCC further supported DHSC to evidence the current NIHR GHR approach to monitoring assurance and compliance as part of the ICAI review into fraud. The DHSC ODA contract has been updated in the reporting period to strengthen both safeguarding and IATI reporting provisions.

DHSC and NIHR ensure coherence of overall approaches to assurance of global health research across ODA funders, via engagement with cross-government funder forums. NETSCC work closely with the cross-NIHR assurance lead who is responsible for development of all NIHR assurance policies and processes and NIHR IP/legal teams. The assurance lead provides oversight and advice to all coordinating centres related to assurance and safeguarding policies, SOPs and compliance. In the period, the cross-NIHR assurance working group have strengthened assurance guidance and launched an incident reporting process. They have supported both internal staff and award holders to improve their understanding of NIHR expectations for the identification, investigation, and reporting of fraud incidents. NIHR published a GHR incident reporting SOP in the reporting period, which clarifies the approach for teams and individuals to formally report any concerns related to fraud, bribery, and corruption (and safeguarding) to NIHR.

NETSCC have both institutional and internal policies and procedures in place for safeguarding and fraud incident reporting, whistle blowing, and complaints. NIHR finance

teams within coordinating centres undertake deep dive reviews as necessary to investigate any emerging concerns related to fraud, bribery and corruption. NETSCC record any issues or concerns arising within NETSCC on a centralised assurance risk register and discuss them with the cross NIHR Assurance Lead and members of the assurance working groups and share via the organisational assurance risk register. Any concerns or allegations reported to DHSC/NIHR would be immediately investigated and funding or future planned payments may be suspended during the investigation.

5.3 Safeguarding

No specific safeguarding concerns were raised, or incidents reported against any of the NIHR Groups or their collaborating institutes during this reporting period.

NETSCC actively promoted the publication of UKCDR Guidance on Safeguarding in International Development Research and practical application of guidance in COVID-19 to all award holders in April 2020, and routinely share the FCDO enhanced due diligence for external partners to support awardees understanding of what is expected of them in terms of safeguarding as contractors and downstream partners and their obligations to anticipate, mitigate and address harm.

NIHR continue to ensure that the approaches to safeguarding, assurance processes and guidance development are consistent with other GHR funders such as FCDO. UKCDR ran a webinar in collaboration with NIHR for staff; a duplicate event was held for NIHR award holders in July 2020 to share the new UKCDR guidance and reinforce NIHR expectations on safeguarding.

In April 2021 NIHR published NIHR Safeguarding Guidance and NIHR Policy on Preventing Harm in Research and promoted them to award holders. The guidance included an incident reporting form and process for reporting concerns or incidents, including Fraud, safeguarding and security issues, to NIHR and DHSC. This guides staff and contractors through the expectations and process for managing and escalating concerns or incidents reported. NETSCC now have named Safeguarding leads who have been trained during the reporting period and who support staff and researchers with safeguarding concerns and compliance; these attend a safeguarding working group to share knowledge, learning and best practice.

From May 2020 NETSCC added explicit safeguarding provisions to Call 2 Groups contracts as part of the contract variation process following approved extensions in this reporting period. NIHR requires the new safeguarding contractual clause be reflected in revised downstream collaboration agreements. NIHR annual reporting templates include specific questions on safeguarding and reporting of incidents.

In this reporting period, Groups confirmed they had taken steps to highlight the importance of safeguarding. These included setting up a committee on Safeguarding in International Research, developing and implementing standard operating procedures, reviewing safeguarding procedures as part of due diligence checks, establishing named safeguarding champions in partner countries, and providing safeguarding training. One Group hosted a webinar for all team members on Safeguarding in International Development. NIHR invited all teams to attend an online safeguarding course for researchers run by NIHR through their regular NIHR assurance workshops.

5.4 Please summarise any activities that have taken place to minimise carbon emissions and impact on the environment across this funding call.

NIHR provide guidance to Groups on expectations for addressing sustainability within the awards, both in terms of research and capacity strengthening as well as environmental impact. NIHR strongly encourages sustainable environmental solutions as part of its approach to ensuring value for money, for instance using local suppliers and video conferencing to minimise travel in line with the NIHR carbon reduction guidelines. Sustainability questions have been revised in future year's annual reporting to strengthen existing reporting on this.

The COVID-19 pandemic necessitated a step change in Groups' adoption of innovative and more environmentally sustainable solutions to continue work programmes and engagement during periods of severe travel and social restrictions; these have significantly reduced environmental impact associated with international travel between partners largely for meetings, training and conference presentations. These solutions include, remote working, use of virtual meetings, online training and digital approaches to data collection and engagement of communities. Whilst the reduction in environmental impact was largely a consequence of COVID-19 restrictions, many teams had already sought to reduce air travel and consider ways to reduce the environmental impacts of their planned research programme. All Groups have acknowledged and reported the benefits and lessons learned from using a variety of virtual based platforms for remote working, and digital methods to support research, how these can be more inclusive and can be utilised more frequently going forward.

6. Delivery, commercial and financial performance

6.1 Performance of awards on delivery, commercial and financial issues

NETSCC monitors Groups closely to ensure projects deliver all the required outputs, adhere to agreed timescales, and minimise potential underspend where possible. As presented in Section 2.2, there are no serious issues affecting delivery with any of the Groups, beyond the significant impacts of the COVID-19 pandemic. In this reporting period, one Group is rated red due to both financial and fiduciary risks, i.e. the level of underspend at year 3 (48%) and inconsistencies in financial management where receipts were not available for all spend. The NETSCC finance team detected these fiduciary issues through random verification checks and are following up with an assurance deep dive on the Group which will report in the next period.

The majority of the reported award underspends are due to delays arising from issues such as: challenges with transfer of funds to LMIC partners, COVID-19 pandemic, delays in ethical approvals for studies, delays in recruiting staff members, new partners and agreement of collaboration agreements, and unexpected contextual challenges. In the last reporting period, year 3 for Groups, the most significant and variable impact has been that of COVID-19 due to unpredictable levels of infections and associated restrictions across a wide range of partner contexts (LMIC and HIC). This has contributed to many additional changes to programme and VTC requests.

NETSCC worked closely with teams to understand the feasibility of completing original and new work given the emerging impact of COVID-19 in LMIC contexts and with DHSC to understand the impact of the reduction in the ODA budget from 0.7% to 0.5% on the GHR programmes. NETSCC considered and approved requests for no-cost extensions up to 31 March 2022 to allow completion of delayed original work programmes and costed extensions for new work (see section 2.2 and Table 2). Further extensions (costed or no-cost) for Groups Call 2 were not able to be supported in the period given the level of pressure on the ODA budget as well as continuing and unpredictable delays to research due to COVID-19. NETSCC supported researchers to manage changes to their research programmes and optimise opportunities for impactful outcomes within their remaining contract term and funding.

A total of 28 change to programme requests were submitted in the period of which 24 were approved, the majority of these related to changes to address delays related to the COVID-19 pandemic. A further 19 variation to contract requests (submitted in the last reporting period) were approved. This included 13 costed extensions approved (out of 18 requested) to undertake new work (some of these requests included additional time at no extra cost to

complete the original programme of work), and 17 no-cost time-only extensions (see Table 2).

Six Groups undertook new COVID-19 work related to the original aims of their research and several supported deployment of staff to pivot support toward in-country front line COVID-19 emergency responses as needed. For example, one Group supported transmission modelling, genome sequencing and laboratory support, training and capacity strengthening across labs in Kenya to underpin COVID-19 surveillance. Another Group purchased and used reagents to underpin COVID-19 testing in Ghana for one of the two primary facilities comprising 80% of the national testing capacity. Several Groups adapted to incorporate research on the impact of COVID-19 and/or the impact of the emergency response/control measures relating to their research programmes; 3 Groups introduced surveys to capture data on the impact of in-country responses (e.g. lockdown and social distancing) or of COVID-19 on perceptions and different aspects of health and well-being. Some examples include assessing the impact of COVID-19 on mental health, risk behaviours, use of health care, the impact on quality of life and socioeconomic factors. Another Group investigated the impact of COVID-19 on several aspects of health and wellbeing related to asthma.

NETSCC collated the results and helped NIHR and DHSC understand where the teams were most impacted and how they could be best supported and present a summary of the impact of the NIHR GHR funding in supporting COVID-19 responses. NETSCC also shared their findings on the NIHR Hub for cross-centre learning. In this reporting period, 2 Groups who obtained FAF funds in the last reporting period started undertaking this work, and a further 2 Groups continued planned work due to delays related to COVID-19. A total of 5 Groups were awarded FAF funds across the cohort (see section 3.6)**.** These FAF funds are to be made available only if all financial underspends are used at the end of the project. If underspends remain then the FAF funds awarded will be reduced on a pro-rata basis. An evaluation of FAF was undertaken in the period to inform integration of financial assurance into future calls.

Most awards are predicting that they will spend their remaining budget despite a range of underspends and delays. Based on recent spend profiles, and taking account of extensions to programmes (costed for new work and no-cost to complete original programmes) and changes to programmes described below, NETSCC modelling predicts this could potentially reach an average 10% underspend by end of year 4 as a best estimate scenario. Year 4 estimated spend is based on the Year 4 Q2 QSTOX returns and given this a total of fifteen awards are anticipated to have underspend, despite award holders indicating the contrary. Four of these awards are predicted to have more than 20% underspend (20-40%); 5 more than 10% (11-18%); 5 awards less than 10% (1-7%), and the 5 remaining awards are expected to be to achieve no underspend (0%) even with the continuing impact of COVID-19 that the next reporting period.

In this reporting period, 2 awards are overspent (-6 to -8%); 6 have underspend of less than 20%; 12 awards underspent by more than 20% (30-48% - these are amber rated for financial spend) and 1 award is risk rated red. This is given: 1) underspend (>30%) related to delays in new partnership agreements and the impact of COVID-19 in the partner contexts (India); and 2) the identification of fiduciary risks given inconsistent compliance with NIHR ODA and finance guidelines. An assurance investigation is ongoing at the time of reporting.

NETSCC commenced three in-depth assurance reviews of Groups Awards two after issues identified through verification checks and one after a novation to an existing contract; 2 were completed in the period. These 2 identified some minor inconsistencies in following NIHR ODA and finance rules which were subsequently addressed; further investigation on these awards are planned at FSTOX to ensure full compliance is maintained to the contract end. Another in-depth review is currently underway, and one verification check is ongoing. The assurance process is working well to identify areas for strengthening and further training and guidance from NIHR. The learning is shared across the centres managing GHR programmes to ensure consistent approaches and development of best practice.

6.2 Transparency - this question applies to funding schemes which include transparency obligations within their contracts.

- Delivery partner to confirm whether or not International Aid Transparency Initiative (IATI) obligations have been met (please refer to https://iatistandard.org/en/iati-standard/). Yes/No

- If these are not yet met, please outline the reasons why.

Yes. DHSC reports relevant transparency data relating to the NIHR Global Health Research awards to the IATI registry on a quarterly basis, as part of the Department's commitment to aid transparency in compliance with the IATI standard.

All funding call guidance and outcomes are published in perpetuity on the NIHR website and full details of the research funded are available on the NIHR funding and awards and NIHR open data platform.

The Call 2 Groups' original contracts did not contain an obligation to meet the IATI standards by reporting their ODA funding data to the IATI registry. New contract clauses with requirements for contracted institutions to report to IATI were introduced by NIHR; these were put in place as teams were approved for changes to contract, such as costed and no-cost extensions. These new clauses came into effect from Spring 2020 for all awards undergoing contract variations. Prior to this implementation, NIHR highlighted the importance of transparency for ODA funding and encouraged discussions within contracted

institutions to prepare contractors for their new contractual obligations to report data to IATI within six months of the contractual change. NIHR continue to work with teams to support institutional adoption of the reporting requirements within the lifetime of the awards; NETSCC direct award holders to IATI reporting guidance and to respond to queries.

During the reporting period, one Call 2 Group specifically mentioned reporting institutional financial data to the IATI registry and supporting their LMIC partner institutions to start to report to IATI.

7. Monitoring, evaluation and learning

7.1 Monitoring

Monitoring activities throughout the review period and how these have informed programming decision

NETSCC are in regular contact with teams and attend independent advisory group meetings by video conference or face-to-face where feasible. They also extend invites to DHSC colleagues. NETSCC maintain regular communication with the cohort of Group Directors, Research and Finance Managers via the SLACK platform and email. NETSCC staff attend meetings such as conferences, workshops, and stakeholder engagement events either in person or remotely, balancing environmental considerations.

NETSCC document project issues on the MIS, which are reviewed at the monthly Programme Management Meetings with DHSC. Sources of information and data captured include:

Per project:

- Financial reports (quarterly)
- Monitoring reports (6 month/annual/interim)
- Trainee data reports (annually)
- Independent strategic advisory group meetings/minutes
- Evidence of due diligence and ethics approvals
- Evidence of policies, assurance audits on request
- Project outputs
- Email correspondence

Programme level:

- Directors and project managers cohort meeting outputs
- SLACK GHR Units/Groups community engagement channel
- Site visits and in-country assurance visits to multiple partners

NETSCC actively monitors all projects across several areas, including but not limited to progress against milestones, spend in relation to forecast, capacity strengthening activities, assurance, and due diligence of downstream partners. Portfolio managers assess project risks for the duration of contracts to enable appropriate support to be provided to teams to

mitigate any impact on the overall delivery. Where they identify significant concerns, NETSCC works with DHSC in line with the NIHR Global Health Research Programme Escalation Policy.

Annual reports provide detailed information on progress and allow in-depth monitoring against contractual milestones and deliverables. They also provide key information on community engagement, equity of partnerships, capacity strengthening, outputs and outcomes. NETSCC uses them for monitoring risks and mitigations, and for ensuring effective governance, assurance and compliance. The annual reports also invite funded teams to give their feedback to NETSCC on areas for programme strengthening which ensures two-way learning. Either one or two members of the NETSCC team review each annual report, depending on their complexity. Following this review, portfolio managers send response letters to project Directors, highlighting the notable achievements and requesting any additional data if needed.

Financial monitoring

NETSCC require awards to submit a quarterly statement of expenditure; this includes accurate spend to date, with future forecasts, and details of budget amendments. The finance team spot checks receipts for purchases and require evidence of due diligence checks for all institutions in receipt of ODA funds. NETSCC will also require a final financial reconciliation within three months of completion of the awards. The team have prepared a template and guidance for final financial reconciliation and will refine this with feedback from the first awards finishing.

7.2 Evaluation plans and activities that have taken place across awards throughout the review period.

NETSCC are developing the monitoring, evaluation and learning approach for the cohort in close collaboration with DHSC. The approach is aligned to the agreed results framework developed with DHSC and other NIHR Coordinating Centres. This approach will inform future annual reporting and data collection templates, ensuring templates, reporting and data capture processes take account of stakeholders' needs and requirements for transparency of ODA funding. In the review period, NETSCC undertook an evaluation of the FAF and made recommendations for integrating this into future awards to DHSC. They shared learning with the impact working group to inform learning and approach to other evaluations.

To navigate the challenging times ahead brought about by the COVID-19 pandemic, NETSCC carried out an evaluation exercise in April and July 2020 as part of the quarterly QSTOX financial reporting process. The evaluation aimed to help NIHR to understand and

act to help funded teams during this constantly evolving and unprecedented health crisis. NETSCC asked teams to provide the following information:

- Anticipated delays in months per work package
- Description of how the pandemic is affecting delivery of the work packages
- Affected partner organisations
- Potential request for no-cost extension and for how long
- Potential need for further costed extension (beyond that sought through Call 2 extensions call)
- Options for team to shift focus of research activities to help achieve original objectives
- Plans to request changes to programme to include COVID-19 related research related to the original aims
- Request to undertake COVID-19 work

NETSCC collated the results and helped NIHR and DHSC understand where the teams were most impacted and how they could be best supported. NETSCC also shared their findings on the NIHR Hub for cross-centre learning (see section 6.1).

7.3 Learning

Examples of how learning from the NETSCC monitoring approach has helped with programme improvements include:

- Modifying and clarifying NIHR guidance to funded teams
- Informing content for new funding calls
- Identifying more streamlined and efficient way to capture data
- Informing considerations for the future assurance visits process

NIHR encourages funded awards to learn from one another through their research collaborations and by the sharing of research experiences. Mechanisms through which this is achieved include webinars, cohort meetings and SLACK.

NIHR Global Health Research webinars are a key NETSCC engagement tool: through using this approach, NIHR creates spaces for dialogue that can engage a global audience and save substantial travelling time and expense, as well as encourage equitable participation. In this reporting period, NETSCC have supported the following events:

- An NIHR Academy Training Programme information webinar in May 2020
- An NIHR webinar on Financial and Contractual Assurance held in June 2020 for GHR funded teams
- A webinar in collaboration with NIHR for staff and a duplicate event for NIHR award holders in July 2020 to share the new UKCDR guidance and reinforce NIHR expectations on safeguarding
- NIHR participated in the International Primary Care Respiratory Group (IPCRG) meeting in October 2020 to talk about new NIHR calls and learn about challenges in coordinating research networks
- Two introductory Good Financial Grant Practice (GFGP) webinars for GHR Units and Groups in July and December 2020
- Call 2 Units and Call 3 Groups applicant information webinars in July and September 2020 and in February 2021
- A cross funder workshop on funding and requirements within call opportunities for the Association of Research Managers and Administrators (ARMA) in February 2021
- Supported 3 thematic webinars hosted by GHR funded Units and Groups

- Key lessons

This section summarises portfolio learning from monitoring activities and cohort events over the reporting period:

Collaboration Agreements learning points include:

- Revising the future NIHR project work plans of three years to include an extra year to cover contracting delays would overcome overrunning of projects. A research project that can be delivered in 3 years in the UK may take 4 years in LMICs due to a range of factors on the ground.

Data Governance learning points include:

- The importance / necessity of frequent communication and sharing of data securely between the data collection leads and the study coordinators, to help flag data anomalies at an early stage.

- Guaranteeing GDPR compliance, requires the secure transfer of all partner's datasets and undertaking due diligence checks to ensure that partners use approved platforms and are trained in safe data retrieval and storage.

Ethics process learning points include:

- Sharing systems, best practice, resources on regulatory approvals, due diligence, contracts, ethical review processes, indemnity provision, and processes that ensure standards to enhance research integrity would have a positive impact on future research governance.
- Considering that the process of obtaining ethics approvals in some LMICs take a very long time, applications should be started very early.
- Building flexibility into protocols submitted to ethics authorities, so that contingency plans are described (and approved) alongside the main proposal would help lessen delays.
- To minimise risk to research staff and participants, resumption of face-to-face data collection and engagement due to COVID-19 may require ethical clearance in each focus country with additional institutional ethical approval from the main contractor.

Partner and project management learning points include:

- In the ongoing COVID-19 pandemic, much training and capacity building can be accomplished remotely.
- With limited travel opportunities, online workshops can provide opportunities for in-depth discussions between teams where they can share solutions applied to any issues encountered and based on local experience.
- Undertaking analytic and academic writing workshops can lead to the development of papers led by authors from focus countries. These workshops can also result in ongoing co-production of manuscripts from all partners.
- A flexible approach to project management with partner-driven research agendas and hub-and-spoke coordination approach has proven to be successful through the implementation of multiple studies across the network for several teams.

Corruption and Safeguarding learning points include:

- Incorporating corruption and safeguarding policies into the institutional regulations and reviewing partner compliance in line with NIHR guidance.

Language and Communications learning points include:

- The use of a virtual platform for the annual meeting although allowing a wider and larger audience to attend, has interfered with those interpersonal interactions that are so important for generating new research ideas and collaborations.

- Zoom is the most recommended platform for remote meetings where robust audio is vital; WhatsApp is useful for day-to-day team connectivity.
- Virtual platforms have been used to overcome face-to-face communication challenges brought about by the COVID-19 pandemic; however, some research participants in LMICs come from the most marginalised populations and access to the internet can be costly.
- Project activities such as community engagement and engagement of the scientific community have adopted alternative methods such as radio talk shows and webinars.
- Use of alternative social media platforms such as WeChat, in countries where widely used platforms such as WhatsApp and Facebook are banned.
- An early analysis of the communication skills of research team members should be undertaken to assess whether bi-lingual team members need to be appointed in the UK, instead of relying on individuals in LMICs to communicate all the programme needs/aims to their colleagues.
- Frequent communication can help a lot in staying well on track and solving issues before they can even become problems.
- Teams can demonstrate equality in research processes and capacity building by holding frequent meetings for each work package give opportunity for colleagues at all levels to feedback their programme success, and to flag up any challenges.
- Maintaining regular communication with research teams through WhatsApp groups, email, and monthly knowledge exchange meetings and dedicated follow-ups are necessary for continued engagement.

CEI and stakeholder engagement learning points include:

- Engaging with all stakeholders including, policymakers, academics, clinicians, patients, carers, and community members and leaders throughout the research process to support local impact.
- Improving the understanding of the local context and familiarity with the CEI concept to increase the chances of the project being successful in LMICs.
- The design and impact of any project can be improved by providing teams with the knowledge and skills to include patients and the public in their research activities.
- Maintaining regular communication with research teams and communities through WhatsApp groups, email, country visits, and monthly knowledge exchange meetings and dedicated follow-ups are necessary for continued engagement.
- Collaborating with big and well established CEI organisations such as, the International PPI Network (INVOLVE and James Lind Alliance) can help build CEI capacity in research partnerships.

Capacity and capability strengthening:

- Developing surveys based on the Essence framework that captures research capacity strengthening activity in more detail at both individual and institutional levels can lead to improvement in RCS monitoring. The surveys also prompt reflections on RCS.
- Face to face training, facilitated by customised slide-sets and 'hands on training' is the ideal method, although the use of use of remote videoconference has also proved effective especially during the COVID-19 pandemic.
- Exposing research partners to a range of teaching materials and modern teaching styles can result in their being adopted in their respective settings.
- Reporting checklists in combination with talking through journal-specific requirements has led to journal submissions passing journal administrative checks without major issues and delays.
- Ensuring involvement of early-career researchers in the leadership of work packages and in training workshops has led to ownership in the successful delivery of the work. All investigator workshops can also ensure all have a voice in the research and its progress and in project planning.

Financial management learning points include:

- Encouraging partners in LMICs to submit invoices in GBP instead of local currencies can help prevent incorrect currency conversions and payments
- Designing an effective financial management system involving all project partners can lead to smooth financial transactions with partners.
- Conducting monthly monitoring of all expenditure against the key budget lines in partnership with the finance teams can help with financial management across the quarter and result in timely submission of financial reports.

Partner and project management learning points include:

- Understanding leadership and how each team works within its own context can help in the successful creation of collaborative multidisciplinary teams.
- Analytic and academic writing workshops can support development of papers led by authors from LMICs and can also lead to ongoing co-production of manuscripts from all partners.
- Flexible approaches to project management with partner-driven research agendas can result in the successful implementation of multiple studies across the network.
- Devolving responsibility for the running of projects to collaborators in LMICs as much as possible helps mitigate against contextual and working challenges such as the current COVID-19 pandemic.

7.4 Key milestones/deliverables for the awards for the coming year

Projects have set their milestones for the next 12-month reporting period in their year 3 annual reports. Contractual milestones are (i) to continue to complete their quarterly financial and annual reports, (ii) deliver on outstanding deliverables, and (iii) work towards funded outcomes. Key to success is demonstrating the impact of ODA funding in addressing priorities for research and capacity building in LMICs and in influencing policy and practice through effective stakeholder engagement ahead of contract end dates. Where awards have been extended, NETSCC asked some awards with costed extensions for interim reports to provide information on the progress being made on the new work. Interim reports were also requested to help span the period between the usual annual report and requirement for submission of a final programme completion report where this exceeded 12 months. They reviewed the programme completion template, which DHSC approved during this reporting period. NETSCC are finalising the framework and process for programme completions.

Assurance and risk management processes are continuing to develop and are incorporating learning from FCDO and UKRI. A pre-contracting due diligence template and an assurance visit template and guidance have been agreed. In February 2020, in-country assurance visits were made to Rwanda and South Africa, to provide opportunities for reviewing in-country partner progress and equity of relationships with the UK, testing NIHR assurance templates to assess policies and the compliance with DHSC contractual terms. NIHR staff gave in-country presentations and sought feedback to inform shared learning and best practice. NETSCC collated learning from assurance visits and captured key points to inform development of best practice and improved guidance in Section 6.1. Annual plans for NIHR assurance visits including shared learning between NIHR and UKRI through a signed MOU are being agreed and supplemented by annual funding reviews of UK institutions.

7.5 Any other comments/feedback/issues to flag to NIHR/DHSC? This could include any suggestions on anything the delivery partner could do to improve its support for award holders, or on anything that DHSC could do to better support the delivery partner.

The key lessons picked up from the Call 2 Groups annual reports, which NIHR may wish to take into consideration in similar future programmes, are summarised as follows:

- NIHR should facilitate bi-annual joint activities or events for GHRG project managers, that would provide a forum for discussion and sharing of NIHR best practices e.g. milestone delivery and reporting on progress/learning, and impact reporting.

- Given challenges in accessing, adapting and enriching training plans, NIHR could better sign post or provide a centralised on-line repository of training resources

generated through the course of NIHR GHR awards and or other existing training materials.

- A difficulty for any early-career researcher is long-term employment. One idea for improved programme support would be to increase the provision of NIHR GH Fellowships for early (and mid) career researchers in LMICs.

- Some teams are keen to extend their community engagement work and training to the wider NIHR GHR community and would therefore benefit from NIHR's involvement in marketing of such initiatives, to positively engage other teams interested in this learning.

- Involve LMIC partners in the wider NIHR GHR programme including a potentially separate evaluation of research progress from their perspective. This may help to strengthen UK and Global South collaborations.

- Given the new working environment resulting from COVID-19, having PIs from LMICs being able to virtually attend and present at webinars and consortiums held by the NIHR (e.g. annual directors and coordinators meetings) could be a financially and environmentally friendly option that could lead to more diverse representation.

- The ability to apply to NIHR, during the life span of GHRGs, for small pots of competitive seed funding could be very beneficial. Having the opportunity to apply for such funds for scoping work could also provide early career researchers, the opportunity to gain experience as principal investigators on smaller, tangential projects.

- Several Groups recognised a need for LMIC partners to receive formal training in formative skills including epidemiological study design and statistical analysis. NIHR could provide competitive funding opportunities for such training activities.

- The impact of COVID-19 has been significant for this cohort with many Groups requesting extensions to the duration of awards to mitigate delays and complete planned work across partner contexts to achieve intended impact.

- The overall duration of awards being up to 4 years has caused several challenges when recruiting and then completing PhDs which are usually four years in duration with a training element. Given this, a longer duration of 5 years would help circumvent such challenges in future.