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Abbreviations and Acronyms

AHRC Arts and Humanities Research Council

AMS Academy of Medical Sciences

BEIS Department for Business, Energy and Industrial Strategy (until 2023)

BBSRC Biotechnology and Biological Sciences Research Council

CEPI Coalition for Epidemic Preparedness Innovations

DHSC Department of Health and Social Care

DEFRA Department for Environment, Food and Rural Affairs

DRC Democratic Republic of Congo

EPRG Epidemic Preparedness and Response Group

EPSRC Engineering and Physical Sciences Research Council

ESRC Economic and Social Research Council

FCDO Foreign, Commonwealth & Development Office

Gavi Gavi, the Vaccine Alliance
GECO Global Effort on COVID-19
GHSA Global Health Security Agenda

GloPID-R Global Research Collaboration for Infectious Disease Preparedness

GPMB Global Preparedness Monitoring Board

HSC R&D Health and Social Care Research and Development Division (Northern Ireland)

IPPS International Pandemic Preparedness Secretariat

JIREP Joint Initiative for Epidemic Preparedness and Response

LMICs Low- and Middle-Income Countries

MERS Middle East Respiratory Syndrome

MRC Medical Research Council

NERC
Natural Environment Research Council
NIHR
National Institute for Health Research
PDPs
Product Development Partnerships
ODA
Official Development Assistance

RSTMH Royal Society of Tropical Medicine and Hygiene
SSHAP Social Science in Humanitarian Action Platform

SDGs Sustainable Development Goals
SVRI Sexual Violence Research Initiative

UKCDR UK Collaborative on Development Research

UKHSA UK Health Security Agency
UKRI UK Research and Innovation

UK PHRST UK Public Health Rapid Support Team

WHO World Health Organisation

WHO R&D WHO R&D Blueprint GCM - WHO's Research & Development Blueprint Global

Blueprint GCM Coordinating Mechanism

Introduction

As the <u>UK Epidemic Preparedness and Response Group</u> (<u>EPRG</u>) concludes its first four-year period, from 2020 to 2023, this document summarises the group's joint action during the period. It presents an overview of the group, highlights research initiatives led by members, and presents members' reflections on the relevance and future of the EPRG.

Facilitated by the UK Collaborative on Development Research (UKCDR), the EPRG network brings together research funders and partners to enhance coordination in epidemic research. The group focuses primarily on LMICs but its remit extends globally due to the cross-border nature of infectious diseases.

Infectious disease preparedness stands at the forefront of global health priorities. Its relevance extends far beyond the realm of public health into the very fabric of international development. Infectious diseases can spread at different scales:

- Outbreak, a sudden increase in cases of a disease in a specific area or population¹.
- Epidemic, an outbreak that spreads more rapidly than what is normally expected and affects a larger community.
- Pandemic, a disease spread across countries or continents affecting a significant portion of the global population².

Infectious diseases are persistent threats that hinder progress towards national and global development goals, including the Sustainable Development Goals (SDGs). The role of research in combatting infectious diseases becomes increasingly vital to bolster preventive measures. Robust research that aligns with local and national public health efforts helps identify potential epidemic threats, monitor outbreaks, and implement policies to curb disease spread. Research can also support the development of new treatments, vaccines, and technologies, thereby advancing response capabilities and enhancing interventions to prevent further spread.

¹ WHO East Mediterranean Region. Disease outbreaks. Available at https://www.emro.who.int/health-topics/disease-outbreaks/index.html

² Columbia University, Mailman School of Public Health. (2021). Epidemic, Endemic, Pandemic: What are the differences? Available at https://www.publichealth.columbia.edu/news/epidemic-endemic-pandemic-what-are-differences

Research funders play a key role in enhancing epidemic and pandemic preparedness and response.

By aligning their efforts, funders can amplify the impact of investments and help build resilient global health security infrastructure.

Collaboration among EPRG members helps strengthen and coordinate their responses in support of global networks and mechanisms. There are several global collaborative mechanisms that bring industry, academia, and governments together to strengthen capacities for tackling cross-border health threats. These include: the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R); the Gavi Vaccine Alliance; the Global Health Security Agenda (GHSA); the Coalition for Epidemic Preparedness Innovations (CEPI); the World Health Organization's Research and Development (WHO R&D) Blueprint; and the Global Preparedness Monitoring Board (GPMB).

The EPRG is driven by recent UK objectives and commitments on epidemic and pandemic preparedness. For instance, during its G7 presidency in 2021, the UK led efforts to establish the 100 Day Mission, aiming to accelerate the development of vaccines, therapeutics, and diagnostics within the first 100 days of an outbreak. The UK government's 2023 White Paper on International Development further emphasised the country's dedication to collaborative research, equitable and inclusive partnerships, and building resilient health systems to improve global health security and wellbeing. Further details of the UK's epidemic and response context are described in the 'National context' section.

Background to the EPRG

About the group

In 2019, UK research funders first started exploring cross-government collaboration for epidemic response and management. While several global networks and initiatives were already in place, at the time there was no domestic collaborative network. UKCDR facilitated initial discussions between government and non-government funders in November 2019, leading to the formal establishment of the EPRG in early 2020. The group supports UK research funders and relevant delivery partners (see list below) to enhance coherence and collaboration in the use of research for epidemics, both in response to ongoing outbreaks and in preparation for future challenges.

Information shared across members includes updates on global coordination mechanisms, UK-based initiatives, and research activities that take place in locations frequently affected by infectious diseases, primarily in LMICs. As such, during meetings, members provide information on research pertaining to epidemics, including both Official Development Assistance (ODA) and non-ODA funded research.

UKCDR strives to enable a coordinated approach to UK-funded international development research, with one of its three strategic pillars focusing on convening for joint action. This commitment is exemplified by its role in convening and providing the secretariat function for the EPRG, facilitating dialogue and fostering coordination among funders. As a coordination mechanism, UKCDR effectively brokers dialogues, ensuring that discussion on relevant epidemic preparedness and response topics is aligned. This approach minimises duplication in research and research funding mobilisation and keeps members informed about each other's current and upcoming funding portfolios.

The group's objectives include:

- 1. Sharing information on research projects and priorities.
- 2. Supporting a unified UK voice in international mechanisms.
- 3. Promoting interdisciplinary perspectives.
- 4. Facilitating communication among funders during outbreaks.

UKCDR and the EPRG's work underscores the importance of coherence in driving successful international development research outcomes. Through regular meetings, shared documents, and discussions among members, the group has consolidated a collaborative approach to epidemic preparedness and response. UK funders utilise cross-sector insights and shared frameworks to design funding initiatives, contributing to domestic and global efforts to mitigate the impact of epidemics on public health and society.

EPRG members (2020-2023)

- Academy of Medical Sciences (AMS)
- Department for Environment, Food and Rural Affairs (DEFRA)
- Department of Health and Social Care (DHSC)
- Health and Social Care Northern Ireland, Research and Development Division (HSC R&D)
- Foreign, Commonwealth and Development Office (FCDO)
- Royal Society of Tropical Medicine and Hygiene (RSTMH)
- UK Research and Innovation (UKRI)
 - ° Arts and Humanities Research Council (AHRC)
 - ° Biotechnology and Biological Sciences Research Council (BBSRC)
 - Economic and Social Research Council (ESRC)
 - Engineering and Physical Sciences Research Council (EPSRC)
 - ° Innovate UK
 - Medical Research Council (MRC)
 - Natural Environment Research Council (NERC)
- UK Health Security Agency (UKHSA)
- Wellcome

National context: UK government actions towards epidemic and pandemic preparedness

Recent government statements and commitments to infectious disease threats have continued to shed light on the relevance of these threats to the UK. During the UK's G7 presidency of 2021, the country spearheaded the creation of the 100 Day Mission and, with international funding, established the International Pandemic Preparedness Secretariat (IPPS). This independent entity aims to accelerate global preparedness through the development of vaccines, therapeutics, and diagnostics within the first 100 days of an outbreak.

In addition to support for international collaboration, the country's approach combines investments in research and development to generate evidence for better health and nutrition. During the 2023 United Nation's General Assembly, the UK announced £295 million of new research and development funding to boost health security and improve health and wellbeing around the world.

Building on the country's science and health expertise, the UK is supportive of collaborative research aimed at producing evidence on effective health systems and the evolving burden of diseases, while ensuring equitable and inclusive research partnerships and access to medical resources. This underscores the UK's commitment to improving pandemic preparedness, focusing on building resilient health systems, ensuring equity in research partnerships, and fostering international collaboration.

Towards a UK collaborative approach

The EPRG leverages insights from various frameworks and initiatives. These include the <u>UK pandemic preparedness strategy</u>, UKRI's strategic theme on <u>Tackling Infections</u>, and Wellcome's policy paper on <u>improving global pandemic preparedness</u>. These documents, alongside above-mentioned global mechanisms such as the WHO R&D Blueprint and the IPPS, guide EPRG members in addressing immediate and long-term resilience and innovation in global health systems.

By leveraging insights from various sectors and drawing from diverse and comprehensive frameworks, the EPRG encourages a collaborative approach so that funders can formulate robust funding practices that integrate scientific research, international collaboration, and practical implementation. This includes a more resilient global health infrastructure, capable of mitigating the impacts of future pandemics through proactive preparedness and agile response mechanisms.

Seven Funder Principles for high-quality research in epidemics

In July 2020, the <u>COVID-19 Research Coordination and Learning (COVID CIRCLE)</u> initiative, a UKCDR and GloPID-R partnership, launched a set of seven <u>Funder Principles</u> to support high-quality research on epidemics and pandemics, particularly in low-resource settings. The principles derive from best practice guidelines developed previously by <u>UKCDR</u>, <u>GloPID-R</u>, <u>ESSENCE</u>, <u>WHO</u>, and others.

The principles represent a structured and coordinated approach for funders to consider when supporting research in outbreaks that had not been previously established in the context of epidemics. They recognise that in moments of acute global health needs, time and resource constraints create pressing challenges for the application of research to real-time policy interventions. Guided by the principles, research initiatives can benefit from unified priority-setting and more organised and comprehensive strategies, thereby maximising the impact of research funding and improving global health outcomes. The principles are:

- Alignment to global research agendas and locally identified priorities;
- 2. Research capacity strengthening for rapid research;
- 3. Equitable, inclusive, cross-sectoral and interdisciplinary partnerships;
- 4. Open science and data sharing;
- 5. Protection from harm;
- 6. Appropriate ethical consideration; and
- 7. Collaboration and learning enhanced through coordination.

EPRG members that have committed to the Funder Principles include <u>DHSC</u>, <u>FCDO</u>, <u>UKRI</u>, <u>Wellcome</u>, among others. Beyond the group, other funders like the Department for Business, Energy and Industrial Strategy (BEIS, as it was prior to February 2023) and entities such as the <u>Sexual Violence Research Initiative (SVRI)</u> have also endorsed the principles.

As illustrated in the following section, the principles are relevant to EPRG members as they provide a framework for prioritising and coordinating research efforts, ensuring high-quality, ethical, and impactful outcomes. Numerous EPRG members' funding activities promote equity, inclusivity, and capacity building, particularly in low-resource settings. By fostering collaboration and continuous learning, these principles have enabled the group to sustain effective responses to current and future outbreaks.

The EPRG in action

In this first four year period, EPRG members have carried out a range of initiatives, mainly in relation to the COVID-19 pandemic and significant outbreaks (e.g., Ebola, Mpox). During regular meetings, members shared updates on UK funding activities, outbreak responses, funding achievements and international mechanisms. This collaborative approach helped identify research gaps, communicate challenges and promote cooperation within and beyond the group.

Between 2020 and 2023, the group met 23 times with varying frequency based on needs, particularly during outbreaks, when UKCDR was requested to convene the group to facilitate more coordinated responses.



Response to the COVID-19 pandemic

Amid the global crisis triggered by the pandemic, EPRG members made enormous efforts to rapidly support the global research response. While their regular funding activities faced significant changes, member organisations worked together and with global partners to help define national and international priorities, adjust ongoing funding calls, and leverage expertise and resources across borders to achieve collective impact.

Developing a research agenda

In times of a global health crisis, the EPRG proved to be a valuable platform for UK funders to exchange views on key research priorities and frameworks to tackle the effects of COVID-19. In early 2020, members continuously shared information on funding activities, laying the groundwork for UKCDR and GloPID-R's COVID CIRCLE initiative. This programme, funded by DHSC, UKRI and Wellcome, promoted the Seven Funder Principles and launched the COVID-19 Funded Research Tracker, a data tool that mapped over 21,000 global research projects from 2020 to 2022. Tracker data also informed quarterly Living Mapping Reviews. Used by UKHSA and its predecessor, Public Health England, among other organisations, the Tracker helped research actors prioritise gaps, avoid duplication, and inform emergency response activities.

The COVID CIRCLE initiative also established a research community for COVID-19 researchers working across all disciplines, providing useful resources, guidance and quarterly networking events, to foster interdisciplinary and international collaborations.

Regular updates and intelligence sharing among members built the foundation for exploring effective research funding pathways to address the pandemic. For instance, product development partnerships (PDPs) were key to harness the best of industry, academia, NGOs, public sector, and LMIC-based research organisations in developing and providing access to vaccines, therapeutics, and diagnostics. Through ODA funds, FCDO supported various PDPs including CEPI, which is also funded by Wellcome, and FIND (Foundation for Innovative New Diagnostics) to identify health products, mobilise research, and ensure access to medical countermeasures.

The global non-profit FIND contributed to the COVID-19 testing diagnostics research agenda. FIND developed and agreed global standards to evaluate the quality and effectiveness of around 2,500 assays and diagnostic tests for WHO approval. CEPI also played a pivotal role in the vaccines pillar of the Access to COVID-19 Tools Accelerator (ACT-A) through the COVAX initiative. The ACT-A, a global collaboration, aimed to accelerate the development, production, and equitable access to COVID-19 diagnostics via three main pillars: diagnostics (supported by FIND); vaccines (supported by CEPI-COVAX), and therapeutics.

Adapting funding mechanisms

In the monthly meetings held at the start of the COVID-19 pandemic, **EPRG** members discussed managing grant challenges posed by COVID-19, enabling faster and better-informed decisions. Key strategies included rapid response calls, repurposing ongoing grants, and offering awardees flexibility.

UKRI launched agile research approaches (12–18-month calls) including 195 projects funded by ESRC (£50m) and an NIHR-UKRI funding call (£18.5m) which explored the physical and mental effects of long COVID. Two other major rapid response research calls were jointly funded by DHSC (through the NIHR) and UKRI (£20m) and led by MRC. Similarly, Wellcome and FCDO also launched a rapid funding call under the Joint Initiative for Research on Epidemic Preparedness and Response (JIREP) (£12M), cutting across epidemiology/modelling and clinical research.

Such calls and priorities encouraged academic and industry research to address the epidemiology, spread, containment, and underpinning knowledge of the disease, demonstrating the value of transdisciplinary complementarity in funding research to tackle global threats.

Agile approaches also inspired work by <u>AMS</u> and the mental health research charity <u>MQ</u> to rapidly develop COVID-19 <u>mental health, social and neuroscience research priorities</u>. These emphasised the need for interdisciplinary research to holistically address the effects of the disease.

Repurposed grants strengthened the response to the crisis. For instance, the EPSRC-funded <u>i-sense</u> research programme was repurposed to develop a COVID-19 response evaluation dashboard using England's public health data. Similarly, ESRC leveraged existing social science data infrastructure such as <u>Understanding Society</u> and the <u>Centre for Longitudinal Studies</u> to support the pandemic response.



Moreover, MRC redirected 116 existing projects and programmes (with ~£29.9m spent) to focus national and international expertise on the COVID-19 threat. UKRI also repurposed longstanding investments to research institutes, centres, and units. Wellcome adopted a flexible approach, enabling their researchers to be deployed to support national response efforts or pivot their research.

Bringing experts together

Extensive researcher collaboration and coordination were vital during the pandemic. The EPRG encouraged wider stakeholder engagement by raising awareness across funders about how their initiatives facilitated collaboration with academic and non-academic experts. Examples of such initiatives include policy workshops hosted by AMS such as the forum on COVID-19 challenges in LMICs, and the International Health Lectures. ESRC also supported several initiatives like the 'Actionable Insights' seminars to articulate societal impacts of the pandemic, and platforms such as the International Public Policy Observatory, and the Economics Observatory.

To address the challenges posed by the COVID-19 pandemic, the group agreed to promote the integration of various disciplines. In line with this approach, DHSC and MRC introduced the <u>Global Effort on COVID-19 (GECO)</u> funding opportunity, focusing on epidemiology, clinical management, infection prevention and control, and social sciences in LMIC settings.

UK R&D supporting global and domestic impact

Collective efforts among EPRG members were instrumental in delivering international global health partnerships, particularly with LMICs, and domestic benefits.

Wellcome and AMS developed ethical frameworks for asymptomatic testing of <u>workers</u> and <u>students</u>, while UKRI's research informed policy interventions such as furlough schemes and the gradual easing of restrictions.

UK-funded research was pivotal in laying the groundwork for the successful development of the Oxford/AstraZeneca COVID-19 vaccine, which resulted from repurposing the vector technology used to develop a vaccine against the Middle East Respiratory Syndrome (MERS). Between 2020 and 2022, EPRG members regularly discussed vaccine development, sharing updates on the UK's vaccine portfolio, funding activities, clinical trials on vaccine candidates, and strategic partnerships with research institutions and the pharmaceutical industry. Such discussions enabled members to identify and support certain pathways over others. This collaboration underscored the importance of cross-government and transdisciplinary funding synergy in addressing global health threats.

Concerted efforts from DHSC, FCDO, UKRI, Wellcome, the <u>UK Vaccine Network</u> and the COVAX partnership (co-led between CEPI, GAVI and WHO), supported the rapid development and rollout of the vaccine. This mitigated the spread of the disease in the UK, LMICs, and globally, saved lives, and reinforced the UK's longstanding reputation for cutting-edge research and vaccine development.

International partnerships for co-ordinated funding and impact

EPRG members hold multiple global partnerships. **During the pandemic, frequent information exchange allowed members to identify international collaboration opportunities.** Members often shared relevant global initiatives, tools and contacts, and followed up offline. This way, they leveraged expertise and resources across borders to achieve collective impact.



Pre-existent partnerships like JIREP covered areas such as epidemiology, clinical research and trials, and social sciences research with the <u>Social Sciences in Humanitarian Action Platform (SSHAP)</u>. More recent initiatives include UKRI's £5m <u>India-UK COVID-19 Initiative</u>, an MRC-led initiative focused on understanding the pandemic's severity in South Asian populations, and the ACT-A initiative, supported by FCDO, Wellcome and other international funders, promoting equitable access to pandemic response tools. FCDO also supported **global co-ordinating efforts** through additional funding to the WHO R&D Blueprint, aiming to accelerate research and innovation by containing the spread and ensuring optimal patient care. This included support to the Solidarity trials which tested four existing anti-viral agents or combinations that could have been effective against COVID-19.

Members' involvement in wider initiatives such as CEPI, the 100 Day Mission's IPPS, and the <u>Pandemic Fund</u>, along with FCDO's investments in behavioural science research (e.g., <u>Vaccine Data CoLab</u> and the <u>Hygiene Hub</u>) demonstrate the UK's proactive efforts and underscore the importance of global interdisciplinary approaches in shaping public health interventions and vaccine uptake strategies.

Tackling the Ebola outbreak

In 2022, two Ebola outbreaks prompted global concern, with the Democratic Republic of Congo experiencing a brief episode in April and Uganda facing a more serious outbreak in September, caused by the Sudan strain of the virus. Building on the success of collaborative endeavours for COVID-19, UK research funders continued using EPRG meetings to stay updated on upcoming initiatives to tackle the outbreak. They swiftly mobilised response efforts, focusing on vaccine trials, transmission dynamics, and policy interventions. These efforts helped contain the outbreak by January 2023, highlighting the importance of joint action and bolstering epidemic preparedness and response capabilities in the most affected locations.

To tackle the outbreak in Uganda, DHSC and FCDO supported the development of Oxford University's virus vaccine candidate (for Sudan Ebolavirus) and deployed UKHSA's Public Health Rapid Support team, working with WHO and the Ugandan Ministry of Health to formulate national infection prevention and control strategies. Only 80 days after the outbreak was declared, 40,000 doses were quickly produced by the Serum Institute of India and shipped to Uganda.



Additional research activities include FCDO- and MRC-funded social sciences research in Uganda, and an EPSRC-funded <u>mathematical modelling initiative</u> for infectious disease dynamics in East Africa. Wellcome supported preparedness and real-time coordination, encouraging grant holders to utilise insights from past epidemics to address the Ebola outbreak.

Addressing other diseases

In addition to coordinating responses to major health crises, **EPRG funders also** shared information and updates to enhance the detection, prevention, and control efforts of smaller outbreaks. As such, the group facilitated coherence to strengthen the resilience of public health systems capable of addressing emerging threats and enduring burdens on global health.

Mpox

EPRG members collaborated extensively to address the multi-country 2022-2023 Mpox outbreak. They did this by sharing updated information on their research funding activities in Africa, wider initiatives led by key partners such as CEPI, and joint collaborations such as the BBSRC- and MRC-funded monkeypox consortium. Funding activities include the MRC-funded PRIME study on pre-symptomatic asymptomatic Mpox, and the DHSC-funded UK Public Health Rapid Support Team (UK PHRST), which supported the development of One Health clinical research projects in Nigeria. Similarly, ESRC commissioned a rapid research study on Mpox's public health challenges in Nigeria and a UK HEIs-UKHSA collaboration on the successes and challenges in the domestic and international response to Mpox. The SSHAP research team engaged in primary data collection and developed briefings (together with the University of Ibadan, Nigeria), through the Wellcome- and FCDO-funded JIREP.

Other diseases

Wellcome's established grant holders, impacted by the COVID-19 pandemic, adapted to support smaller outbreaks relevant to their countries, conducting sequencing and epidemiological studies for cholera, Mpox, and enterovirus 71 (hand, foot, and mouth disease), co-funded with FCDO through the JIREP platform. Meanwhile, MRC-funded studies explored the causes of acute hepatitis in young children and avian influenza (this last one through the Flu: Trail Map-One Health research), highlighting a concerted effort to address a diverse array of infectious diseases.

Enabling epidemic preparedness

Between 2020 and 2023, **UK research funders advanced epidemic** preparedness through the EPRG, focusing on unified approaches to research funding responses. Discussions within the group emphasised investing in key areas to improve prediction and response capabilities, thereby enabling proactive measures against outbreaks. These areas include:

- Research infrastructure:
- Surveillance networks;
- Health security;
- · Equitable and inclusive partnerships;
- · Open science; and
- · One Health.

One Health, which considers the interconnections between people, animals, and plants, was a major focus among EPRG members. The group discussed integrating underrepresented disciplines, particularly within social sciences, into epidemic preparedness. Notable One Health initiatives undertaken during this period include AMS's One Health policy workshops with LMIC institutions, Wellcome and FCDO's initiative on pathogen genomics and disease modelling in Africa, and MRC's <u>China-UK One Health research</u> interdisciplinary program for epidemic preparedness and AMR.

In line with epidemic preparedness efforts taking place at the EPRG, the UK government pledged significant support for global health at the September 2023 United Nations General Assembly. Through FCDO and DHSC, the UK committed £295 million in new research funding for tackling infectious diseases, including emerging epidemic threats, tuberculosis, and malaria, along with investments in vaccines, drugs, diagnostics, and a new research centre. Wellcome also launched its new Infectious Disease strategy to prevent and stop future outbreaks.

Another topic frequently discussed by members was strengthening the vaccine technology portfolio to respond to infectious diseases. The <u>UK Vaccine Network</u>, funded by DHSC since 2015, continues to support vaccine development through a multisector collaboration. In 2022, DHSC and EPSRC funded <u>vaccine manufacturing research hubs</u> (£19.5m) to improve vaccine delivery and manufacturing in LMICs.

A valuable coordination mechanism for the future

The EPRG takes on even greater significance in a world facing emerging infectious diseases. Collaborative action has proved pivotal in fostering a coordinated approach in response to outbreaks. Lessons learned and shared through the group have informed rapid responses, supporting countries impacted by the outbreaks. Discussions in the group consistently highlighted the importance of rapid response capabilities and equitable research ecosystems. Its role in fostering collaboration among funders promotes research funding coherence to navigate a more challenging global health landscape.

What has the relevance of the EPRG been?

The group is a useful forum to convene UK research funders with an interest in this area, in particular bringing in funders and UK organisations who maybe do not normally engage with each other, to share information, and understand potential areas for collaboration/shared learning – particularly in the context of epidemics which clearly move fast.

— DHSC

The Epidemics Group provides a valuable forum for sharing priorities, information, and learning across UK funders.

- FCDO

Information sharing within the group ensures complementarity, minimises duplication, and provides the connectivity and context for planning our preparedness funding, partnerships, and advocacy. The group enabled a broader understanding of the funding landscape within the UK.

— Wellcome

(The group provides) an avenue to share our research priorities and ensure that emerging needs for health protection are communicated to the right stakeholders rapidly. The learning from UKCDR has also been invaluable as we are able to further refine and validate proposed research priorities, by understanding the funding landscape and what funders are planning to support.

— UKHSA

How has the EPRG helped improve effectiveness in epidemic preparedness among members?

The group plays a vital role in coordinating major UK epidemic funders and aligning their work on emerging infectious disease threats with global efforts. The exchange of information, intelligence, and lessons between UK funders has contributed to informed decision-making and real-time outbreak response. It has also enhanced UK inputs to global initiatives and strengthened networking and collaboration.

The group has helped with contacts in other organisations – when things are pressured, for example at the beginning of an outbreak, this easy way into other organisations is really helpful.

— ESRC

The group has also been a good source of progress updates, and input channels towards relevant global initiatives such as the Pandemic Accord, PACT, and GloPID-R.

- Wellcome

We have fed back emerging trends and information shared in the group meetings to our own organisation and used that to inform our future work in the field of epidemics (...) it has been effective at guiding many parts of our policy work.

- AMS

Though the RSTMH Grants Programme is quite different to those represented by other members of the group, we have found it invaluable for a better understanding of the health funding landscape, and to help grow our network in the UK.

— RSTMH

What lies ahead for the EPRG?

Members' reflections on the relevance and effectiveness of the EPRG highlight the group's fundamental role as a coordination mechanism for epidemic preparedness and response, particularly during outbreaks. The group will continue providing a platform to facilitate quick intelligence sharing that helps members contribute to and stay updated on the UK's contribution to global efforts to prevent, prepare for and respond to the next global threat, through the Pandemic Accord and co-ordination initiatives such as Pandemic PACT and GloPID-R.

In line with national and international strategies, the group will continue to support the UK's efforts to tackle global health challenges through research and policy impact. Moving forward, the group will also focus on relevant topics such as funders' approaches to One Health, open scientific collaboration, inter- and transdisciplinary research, and equity in epidemic preparedness and response.

With various domestic and global mechanisms, strategies, and groups in place, EPRG members recognise the need for well-coordinated domestic mechanisms to tackle future pandemics. The EPRG is committed to complementing existing initiatives by brokering dialogue among governmental and non-governmental funders and emphasising information sharing for enhanced coordination. The group will also continue to encourage the establishment of new initiatives that foster coordinated approaches to advance epidemic preparedness and response. This will keep strengthening the UK's preparedness and effective response capabilities, thus helping to build resilience to global health threats.



Members' profiles

AMS

The Academy of Medical Sciences is an independent and expert voice in UK biomedical and health research. Its mission is to help create an open and progressive research sector to improve the health of people everywhere. This includes funding and developing researchers, fostering sustainable research practices, and facilitating collaborations across academia, the public, policy makers and industry for impactful health outcomes.

Chief Scientist Office Scotland

The Chief Scientist Office (CSO) is part of the Scottish Government Health and Social Care Directorate. It supports and promotes health research, funding high-quality projects, innovative clinical trials, and collaborations among academics, healthcare providers, and industry. It aims to translate scientific discoveries into practical healthcare applications and improve public health outcomes. The CSO also focuses on building research capacity and infrastructure in Scotland.

Defra

Defra is the UK ministerial department that leads the UK's efforts to safeguard the natural environment, support the agricultural and food industries, and enhance rural communities. Defra funds and conducts research to address environmental challenges, promote sustainable practices, and improve resilience to climate change. Through collaboration with scientists, industry stakeholders, and international partners, Defra aims to develop evidence-based policies that protect biodiversity, ensure food security, and enhance the quality of life in rural areas.

DHSC

DHSC is the UK ministerial department that supports longer and healthier lives in the UK. It strengthens global and national health systems in pandemic prevention and response through initiatives such as the UK Global Health Framework and the UK Biological Security Strategy. It also supports ODA-funded initiatives like the Global Health Research Portfolio, the UK-PHRST Rapid Support team, the International Health Regulations Strengthening project, the Fleming Fund and Global Antimicrobial Resistance Innovation Fund (GAMRIF). DHSC collaborates internationally through groups like GloPID-R for coordinated research funding in pandemics and epidemics.

FCDO (RED)

At FCDO, the Research and Evidence Directorate (RED) aims to foster science partnerships for global challenges, drawing on LMIC, global, and UK expertise. It provides analysis for FCDO decisions and harnesses UK science strength to enhance diplomatic and development impact. The RED Global Health Research Team supports international and LMIC-led research partnerships for prevention, preparedness and response to emerging disease threats and contributes to the UK Government's 100 Day Mission to accelerate development and equitable access to new vaccines, diagnostics and treatments for diseases with epidemic and pandemic potential.

Health and Social Care R&D Division (Northern Ireland)

In Northern Ireland, the health and social care services are combined under the Department of Health. The HSC R&D Division focuses on fostering high-quality research to improve the understanding of health, disease, treatment, and care. HSC R&D Divisions supports the development and implementation of innovative research practices and facilitates collaboration among healthcare providers, academic institutions, industry, and charities. By investing in individual and institutional research capacity building, HSCNI R&D Division aims to enhance the health and wellbeing of the Northern Ireland population and contribute to global health research efforts.

UKRI

As a non-departmental public body sponsored by the Department for Science, Innovation and Technology (DSIT), UKRI brings together the seven disciplinary research councils, Research England, which is responsible for supporting research and knowledge exchange at higher education institutions in England, and the UK's innovation agency, Innovate UK. One of <u>UKRI's five key strategic themes</u> for the 2022 – 2026 strategy is <u>tackling Infections</u>. This includes better understanding of specific diseases and their diagnostics, making sure antibiotics and other medicines continue to work, and preventing future epidemic diseases or reducing their impact.

AHRC

AHRC funds research in the arts and humanities, aiming to understand human culture, creativity, and social dynamics. AHRC supports a wide range of projects, from individual research initiatives to large-scale collaborative ventures, fostering interdisciplinary partnerships that address societal challenges. By promoting innovation and public engagement, AHRC enhances cultural understanding and contributes to the UK's economic and social wellbeing.

BBSRC

BBSRC is the UK's leading agency for funding research in the life sciences. BBSRC supports innovative research and training in areas such as agriculture, food security, and biotechnology, aiming to improve quality of life and stimulate economic growth. Through partnerships with academia, industry, and government, BBSRC promotes the translation of scientific discoveries into practical applications that address global challenges.

ESRC

ESRC is the UK's largest funder of economic, social, behavioural, and human data science. Its strategic priorities include a focus on understanding behaviour, which is often seen as key in outbreak preparedness and response. ESRC's focus on social science perspectives includes socioeconomic influences on disease, broader societal and economic impact, behaviour understanding to disease outbreaks and control, socioeconomic interventions for prevention, and social and public policy.

EPSRC

EPSRC is the main funding body for engineering and physical sciences research in the UK. Along with other UKRI members, it is jointly working on a strategic theme of tackling infections to better prepare for future disease epidemics and more effectively tackle the slow-moving pandemic of antimicrobial resistance.

Innovate UK

Innovate UK is the UK's innovation agency, driving economic growth by supporting businesses to develop new products, processes and services. Innovate UK funds and connects innovative businesses to partners, investors, and researchers, fostering collaborations that accelerate the journey from concept to commercialisation. By addressing key challenges and opportunities in sectors like technology, healthcare, and sustainability, Innovate UK helps create jobs, enhance productivity, and improve lives.

MRC

MRC aims to enhance global health and prosperity through cutting-edge biomedical research and partnerships. It funds research to prevent illness, develop treatments, and improve health. Its 2022-2025 strategic delivery plan focuses on addressing health and societal challenges. Regarding infectious diseases, the plan includes (1) working with government and policy partners to secure the research legacy of COVID-19 investments to provide sustainable ongoing pandemic response and preparedness, and (2) supporting UKRI's tackling infections theme through research and capacity strengthening, including vaccine development and international collaborations.

NERC

NERC is the UK's leading public funder of environmental science. NERC invests in research, training, and innovation to understand and address environmental challenges such as climate change, biodiversity loss, and natural resource management. NERC scientific investments support better understandings of the natural resources around us and our relationship to the environment. This aims to inform sustainable development and enhance resilience to environmental change.

Royal Society of Tropical Medicine and Hygiene

RSTMH is a membership society for those working or interested in tropical medicine and global health. It exists to help further the careers of its members and Fellows, and utilise their expertise, as well as knowledge gained through its activities and partnerships to tackle challenges in the global health sector. It provides first-time research grants through its Early Career Grants Programme for those based in any country, discipline and sector, working on a project of any type from lab to field and policy.

UK Health Security Agency (UKHSA)

UKHSA is a DHSC-sponsored executive agency that plays a pivotal role in safeguarding public health by preventing, preparing and responding to infectious diseases and health security hazards. It supports the UK government through scientific and operational leadership. It collaborates with local, national, and international partners to enhance the nation's health security capability. While UKHSA is not a direct funder, its affiliation with the EPRG informs research priorities crucial for supporting effective decision-making and enhancing national health preparedness.

Wellcome

Wellcome is an independent global charitable foundation dedicated to using science to improve health by helping great ideas thrive. Wellcome supports discovery research into life, health and wellbeing. Its strategic priorities correspond to three worldwide health challenges: mental health, infectious disease, and climate and health. On infectious diseases, Wellcome funds research and advocates for better science- and evidence-informed policies to achieve a world in which the impact of infectious disease is minimised in the most affected communities.



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