GL PID-R   **UKCDR**   COVID-19 RESEARCH — COVID CIRCLE — COORDINATION & LEARNING

Issue date

January 2023

Key findings:

Number of projects:

200

Funding investments (known funding amounts):

$214.1m

Top funder:

NIH & UKRI

Research capacity strengthening

Introduction

The coronavirus pandemic has triggered an unprecedented global research response across multiple disciplines to gain insights into this novel infection and its impacts. To date, thousands of research activities have been embarked on with a predominance of research projects in higher income countries. Strengthening research capacity, particularly in low-resourced settings, facilitates an equitable response to the COVID-19 pandemic and is likely to be most effective when funded as part of preparedness. Research capacity strengthening activities are purposeful initiatives which enhance the ability of individuals, organisations and systems to successfully undertake research (1). Here, we present the scope of funded research activities with capacity strengthening as an objective within the COVID-19 pandemic, drawing on evidence from the ninth version of the *Living Mapping Review (LMR) of COVID-19 funded research projects*.

Methodology

Descriptive and thematic analysis were conducted as outlined in the LMR study protocol. Projects with a capacity strengthening objective explicitly mentioned were identified (capacity strengthening at all levels - individual, institutional, and national were included). Further funders, funding amounts, country distribution of projects and projects' specific research focus were determined.
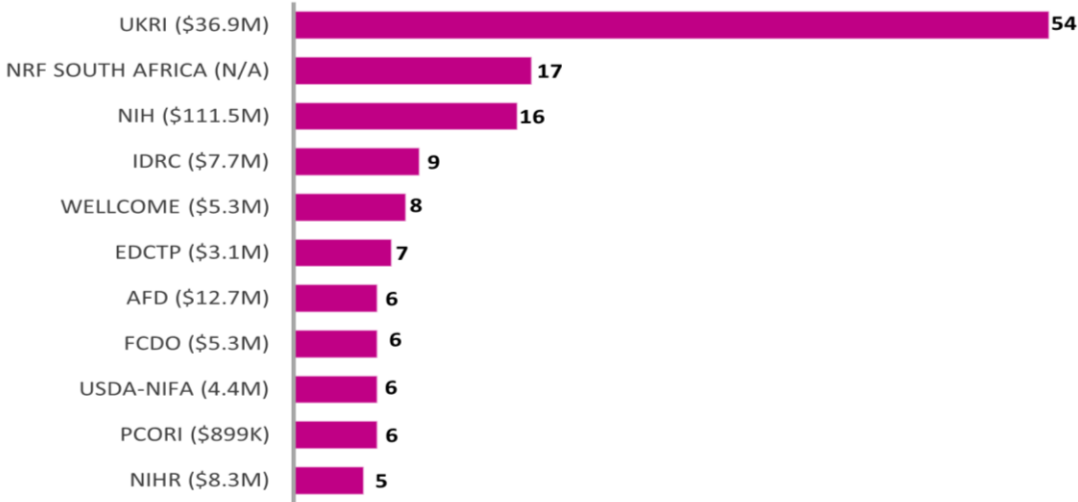
Findings

Locations, funders and funding amounts

The 200 projects identified with a capacity strengthening objective were funded by 59 funders with a total investment of at least $214m as shown in Figure 1.
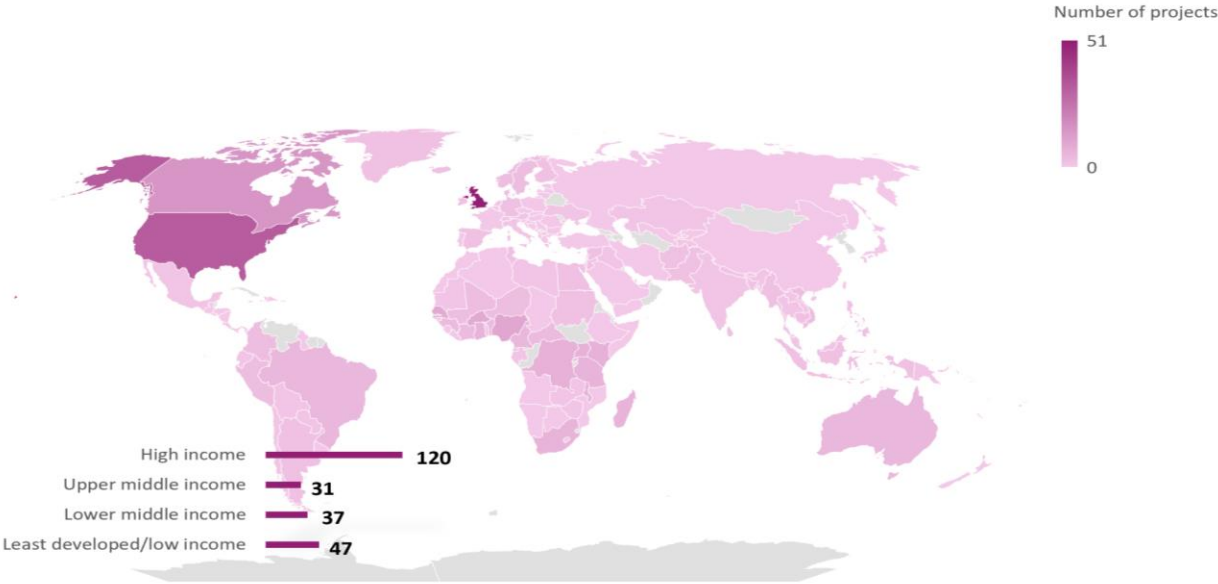
However, $101m of this amount was invested in one National Institutes of Health (NIH) vaccine site preparation project with sites in Sub-Saharan Africa and South America. UKRI funded the most projects (54 projects) whereas NIH funded the highest amount 111m in 16 projects. Figure 2 shows research projects involved at least one of 87 countries. Overall, 43% of research capacity strengthening projects involved at least one of the 68 low- and middle-income countries included in this version of the tracker database – with Nigeria, Senegal and Burkina Faso being involved in the greatest number of these projects (10, 9 and 9 projects, respectively). In particular, partnerships involving Senegal were the most prominent among all multi-country projects, with 9 out of all 41 multi-country projects involving the Western African nation.

Figure 1: Funders of research capacity strengthening projects with at least 5 projects on tracker (known value of projects indicated in brackets)

*known funding amounts included

Figure 2: Locations of research capacity strengthening projects

Research focus and WHO research priorities

This set of capacity strengthening projects most frequently focused on strengthening laboratory capacity in less-resourced countries followed by strengthening capacity through research training as indicated in Table 1. It is therefore unsurprising that the majority of the projects fell under either the "virus: natural history, transmission and diagnostics" or "Social sciences in the outbreak response" research priority areas. Laboratory capacity strengthening activities were predominantly focused on diagnostics. Some projects involved advanced laboratory procedures such as coronavirus manipulation and genomic sequencing whereas as other projects referred to laboratory capacity strengthening with no details as shown in Figure 3.

Table 1: Area of focus for research capacity strengthening projects

Area of Capacity Strengthening	Number of Projects
Laboratory	52
Research and Skill Development Training	41
Digital transformation and learning	19
Data Management	18
Clinical Management	17
Pandemic Preparedness	14
Surveillance	13
Infection Prevention	13
Policy Response	10
Clinical Trials	9
Economy development	7
Ethical Governance	1

About the UKCDR/GloPID-R Tracker

The UKCDR/GLOPID-R COVID-19 Research Project Tracker (the Tracker) is a live open access database which categorises COVID-19 research activity funded around the world against the WHO research priorities outlined in the WHO Coordinated Research Roadmap. The COVID CIRCLE has initiated a Living Mapping Review of these projects, published in *Wellcome Open Research*, to support funders and researchers in the achievement of a coherent response to this pandemic. The data used for the ninth iteration of the LMR came from the 15 April 2022 version of the tracker which included 17,955 projects taking place across 157 countries with at least $6.5 billion invested by 347 funders.
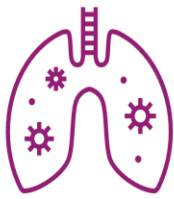
For more on the Tracker and our work on COVID-19, visit: ukcdr.org.uk/covid-circle This piece was developed by Nusrat Jabin, Adrian Bucher & Alice Norton.

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Figure 3: Area of focus of laboratory research capacity strengthening projects

Diagnosis

26 projects

Advanced laboratory procedures

26 projects

Genetic Sequencing

1 project

Non-specific

5 projects

Some projects fall under more than one area

Discussion and conclusion

The prioritisation of laboratory research capacity strengthening activities indicates the importance funders and researchers attach to these activities and their importance for an effective pandemic response.

Limiting the studies included in this analysis to only those mentioning research capacity strengthening implies some projects are likely to have been missed. Existing capacity leveraged for the response to this COVID-19 pandemic is also relevant to capacity strengthening and will also promote preparedness for future pandemics.

Notes

Limitations of data and findings: Study protocol is outlined in Living Mapping Review of COVID-19 funded research projects. Analysis was limited by:

- A lack of completeness of funding and/or qualitative data for some projects.
- Tracker data is more likely to be derived from UKCDR and/or GloPID-R funders.
- The absence of commercial research.

References

1. Enoch J. Health Research Capacity Strengthening: A UKCDS Mapping [Internet]. [cited 2022 Dec 1]. Available from: https://www.ukcdr.org.uk/resource/health-research-capacity-strengthening-2/