COVID-19 FUNDED RESEARCH PROJECTS IN FOCUS

UKCDR
UK Collaborative on Development Research

GLOPID-R

COVID-19 RESEARCH COVID CIRCLE COORDINATION & LEARNING

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Key Findings:

Number of Long Covid projects:

121

Funding investments (known funding amounts):

$205.1m

Top funder:

UKRI

Long Covid

Other names: Post-acute COVID, Post-COVID Syndrome, Chronic COVID and Long haul COVID, Post- Acute Sequelae of SARS-CoV-2 infection (PASC)

As the coronavirus pandemic evolves, there is increased interest in the emerging phenomenon, now commonly referred to as "long COVID", which encompasses a wide spectrum of persistent and newly emerging multisystemic symptoms following COVID-19 infection. These include cough, fatigue, shortness of breath, alterations in taste and smell, depression and mood disturbances (1). Cardiac, pulmonary and renal sequalae may also follow COVID-19 infections. To date, there is a lack of consensus on a clear definition, diagnosis, clinical characterization and management, rehabilitation and appropriate support for sufferers in addition to difficulties in ascertaining its prevalence (1) (2) (3). Here, we present the scope of funded research activity focussing on various aspects of long COVID, based on evidence from the nine month update of the Living Mapping Review (LMR) of COVID-19 funded research projects and the UKCDR/ GLOPID-R COVID-19 Research Project Tracker.

Methodology

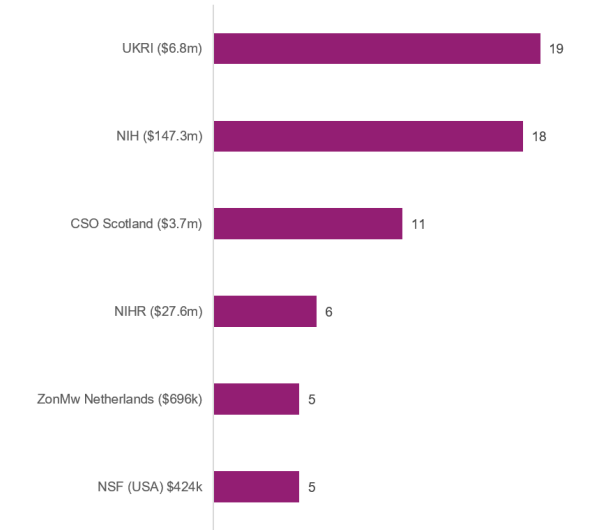
Descriptive and thematic analysis were done as outlined in the LMR study protocol. Projects addressing long COVID were identified and key funders, funding amounts country distribution of projects, specific research focus and study populations targeted were determined. Projects were also mapped to the long COVID priorities identified in the GloPID-R/ISARIC long COVID meetings held in December, 2020.

Findings

Locations, funders and funding amounts

One hundred and twenty-one long COVID research projects representing a research funding investment of at least $201.5m were identified. The total funding amount identified is underestimated as funding amounts were available for only 65% of projects. Of the 42 funders that have funded long COVID research, UKRI has funded the most projects as shown in Figure 1. Figure 2 shows research involved at least one of 44 countries, although one large CIHR-funded project alone took place across 27 countries. Eight other projects involved at least two countries. Most projects are taking place in high-income and upper-middle income countries in Europe and the United States.

Figure 1: Funders of Long Covid projects (funders of 5 or more projects shown)



*Known funding amounts included

Figure 2: Locations of Long Covid projects

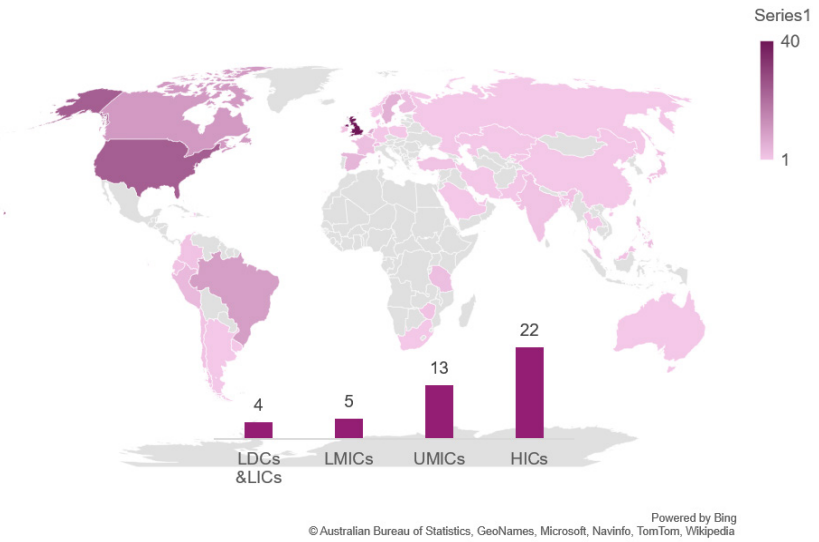


Table 1: Research focus of Long Covid projects

Research focus	No. of projects
Spectrum of long-term symptoms	47
Management	28
Pathogenesis	35
Risk factors	29
Prevalence	15
Prevention	2
Diagnosis	7

Research focus, WHO Research priorities and long COVID research priorities (identified at the ISARIC & GLoPID-R long COVID forum)

Most projects focused on determining the spectrum of long COVID symptoms as the majority of projects had "non-specific" organ/ system of focus. Where specified most projects assess brain and nervous system sequalae following COVID-19 infections and focused on understanding the pathogenesis and risk factors for long COVID, as seen in Figure 3 and Table 1 respectively.

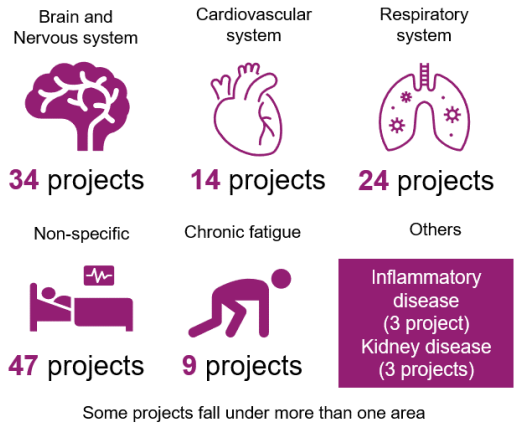
Interestingly, long COVID was not identified at the time the WHO Roadmap priorities were being set and this theme emerged out of the LMR analyses, predominantly within the "clinical characterization and management" priority area. However, long COVID projects now cut across most of the WHO priorities except for the "ethical considerations for research" priority area,

Mapping to the long COVID research priorities in Figure 5 shows most projects investigate the pathogenesis of long covid, treatments and non-pharmacological interventions. No projects assess the impact of vaccination on long covid and only one projects each focuses on health systems research, preventive antiviral therapeutics, determining a case definition and acute disease and developing long covid.

Study Populations

Almost 90% of projects (107 projects) involve human subjects with several studies planned for recovered and infected patients. Both symptomatic and asymptomatic, hospitalised patients and community populations were included in research projects. Although many projects provided non-specific study population details (Figure 4), the majority of projects involved individuals with confirmed COVID-19 infections.

Figure 3: Organ / System of research focus



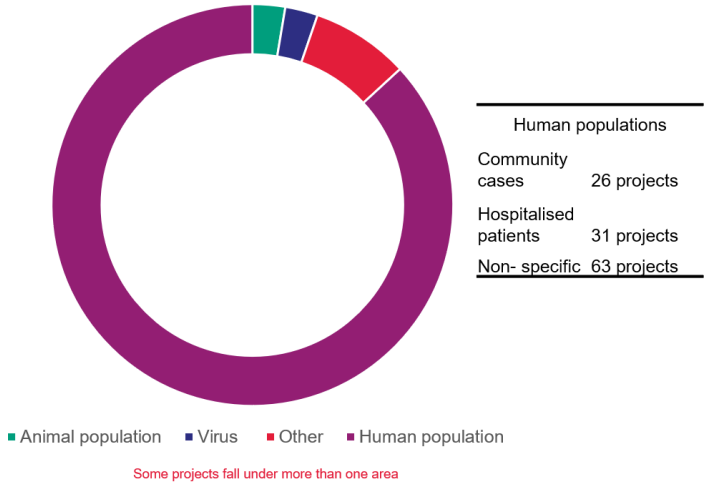
Some projects fall under more than one area

Two projects investigate long COVID pathogenesis in animals whilst others focussed on digital innovations for management of long COVID. Twenty-three projects are carried out in newly created or existing research cohorts pivoted for COVID-19 research and many of these investigated community cases of long COVID. Only six long COVID projects involved children whilst few projects involved other vulnerable populations and frontline workers.

Discussion and conclusion

As the COVID-19 pandemic evolves, researchers and funders are adapting research priority areas to emergent needs, highlighted by the expanding spectrum of research activity to further understand long COVID. Several studies seek to identify risk factors and understand the pathogenesis of long-term sequalae to prevent these aftereffects or minimise their severity. Identifying the scope of long COVID symptoms will enable a comprehensive definition, diagnosis and development of treatment protocols. More research projects involving individuals from LMICs is needed. We expect more research activity to address the remaining research gaps as the pandemic evolves.

Figure 4: Study populations involved in long COVID research projects



Some projects fall under more than one area

Figure 5: Projects mapped to the long COVID research priorities identified at the ISARIC & GLoPID-R long COVID forum

Some projects fall under more than one area

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. 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 version of the tracker for the nine-month update (15th April, 2021) included 10,608 projects involving 142 countries with at least $4.7billion invested by 201 funders.

For more on the Tracker and our work on COVID-19, visit: ukcdr.org.uk/covid-circle

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Get in touch

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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

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