

UNCOVER

Usher Network for COVID-19 Evidence Reviews

ANNUAL REPORT 2020-2021



Co Chairs' Welcome

When UNCOVER was set up, just as COVID-19 started to take hold in the UK, we knew as little about our own future as we did about the course the pandemic would take.

UNCOVER was created to provide rapid responses to policy-makers' questions about COVID-19, to assist in managing the disease and dealing with its consequences. Our priority has always been to provide reliable evidence, drawing on a rigorous and systematic approach to the research literature; and not to shy away from complex questions in their real-world contexts.

We started out as a hands-on collaboration between staff and postgraduate students – all volunteers – and that ethos of teamworking, mutual respect and public service has stayed at the heart of UNCOVER. Our role as a place where students can learn and develop, while putting their public health skills into action, has become a central part of our mission. As we look to build a more sustainable, long-term future for UNCOVER, finding ways to encourage, support and reward our student members is a core priority for us.

Over the past two years, UNCOVER has grown into an **award-winning team**, a **trusted partner** to decision-makers nationally and globally, a source of **public health evidence that crosses disciplinary boundaries** and a **centre for student learning and growth**.

In this, our first Annual Report, we look back on the first two years of UNCOVER: our reviews, our partnerships, our ongoing work. We look towards the future and consider how our skills and strengths can be turned towards other urgent and complex public health challenges – none more pressing than the current climate change emergency.

We are proud of the contribution that UNCOVER has made, as a small part of a massive global effort to understand and manage the pandemic. All our volunteers – past and present, student and staff – share the credit for that work. We thank them all whole-heartedly.

Dr Ruth McQuillan & Professor Evropi Theodoratou
UNCOVER Co Chairs

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ZHONGYU LANG
ZIANNAN MANJI
ZIWEN SUN
ZSOFIA BLAIR

Our Work

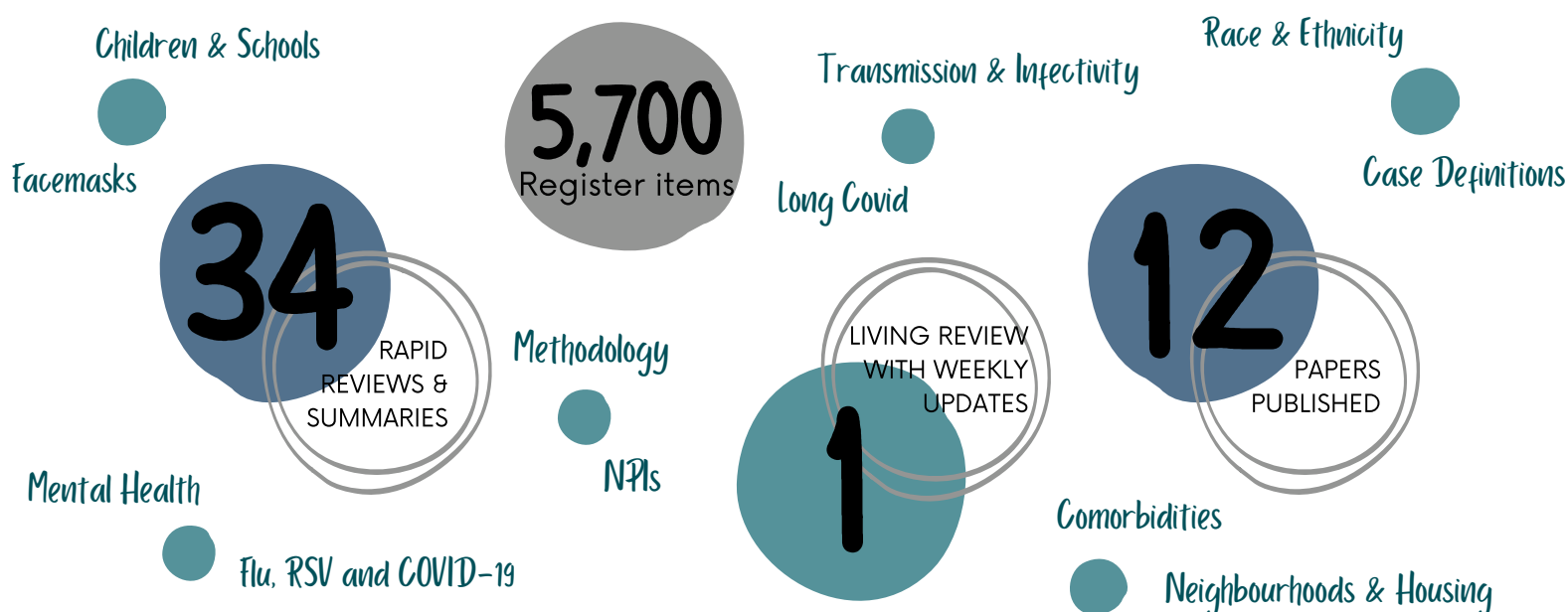
UNCOVER was set up in March 2020, at a time when very little was known about COVID-19, and decision-makers were having to make urgent decisions about how to manage the disease in order to keep people as safe as possible.

We recognised that our core skills in public health evidence synthesis could help to ensure that policy-makers have the best available information at their finger-tips when making decisions about COVID-19. We came together as a group of volunteers – experienced academics and postgraduate students working side by side – to produce rapid reviews of the evidence, in answer to decision-makers' questions.

We prioritise work that has **practical value** to decision-makers and service providers taking action against COVID-19. We work with partners at all levels, from innovative start-ups, to local and national governments, to international organisations.

We use a **repeatable, rigorous, systematic methodology** in order to review the existing scientific literature and synthesise our findings, in answer to real-world questions. We ensure that all our work is **open and publicly available**, to anyone who wishes to use it, in order to support the collaborative global effort to tackle COVID-19, and to avoid unhelpful duplication of work.

In addition to producing our own rapid reviews, our Register of COVID-19 Evidence Reviews was set up at the start of the pandemic, to provide a **one-stop source** of systematic reviews from around the world. We now collaborate with COVID-END to support its Inventory of Best Evidence Syntheses, and our own Register continues to be updated monthly.



With the reviews that [UNCOVER] have been producing ... those have gone directly to the leadership of SAGE for example, they've gone directly to the leadership of the CMO's Advisory Group. And many of these reviews, because they have been of such high quality and they've been so well-received ... they've been passed on, with permission, to other government departments: so for example the Schools working group, or the Ethnicity working group, or groups looking at outdoor transmission ... and I think that's really a testament to what you guys have been doing.

Professor Aziz Sheikh (2020 UNCOVER Conference: Day 3)

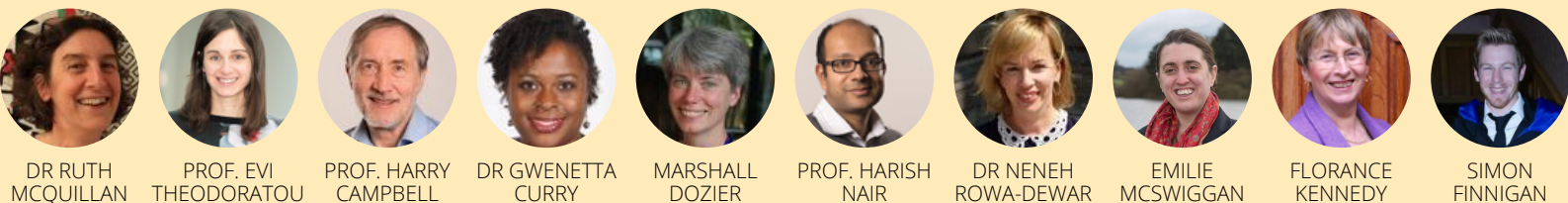
Who We Are

UNCOVER is a network of staff and students at the University of Edinburgh with a shared interest and specialism in public health evidence synthesis. Our team includes information specialists, public health academics, professional support staff, and PhD and Masters students from a range of programmes related to public health and biomedical sciences.

UNCOVER was created out of a desire to use our skills for the public good, in response to the pandemic. Staff and students volunteered their time to contribute to our reviews. UNCOVER is still primarily a volunteer-led organisation, with a strong ethos of public service.

Since September 2020, we have had one paid part-time staff member, our Project Manager. We were also able to run a short-term internship programme in spring 2021, providing paid development roles to seven of our more experienced student volunteers. We received a number of small grants in 2020 and 2021, and prioritised using these to fund student time as reviewers and peer mentors.

UNCOVER CORE TEAM



INTERNS

Thanks to a grant from DDI, we ran a short-term internship programme in spring 2021, for experienced volunteers to develop their professional skills as reviewers, team leaders, peer mentors and more. Paid internships are a valuable bridge between postgraduate education and employment, and we are seeking funding to make a running internship scheme a central part of UNCOVER in future.

2021 Interns: Yijia Dong, Lara Goodwin, Perna Krishan, Durga Kulkarni, Madhurima Nundy, Wei Xu, Xiaomeng Zhang

PTAS TEAM

We were awarded a grant to develop UNCOVER's staff-student working model during 2021.

Two fantastic student teams led the project, with Kayla, Jasmin and Thulani conducting a qualitative study of staff and student experiences, and Damilola, Ashmika and Farrie developing an online resource toolkit for new student volunteers.

2021 PTAS Team: Thulani Ashcroft, Damilola Iduye, Ashmika Motee, Farirai Nzvere, Kayla Ostrishko, Jasmin Rostron

REVIEW TEAM LEADERS

Over their time with UNCOVER, our experienced student volunteers have become confident and capable systematic reviewers, taking on positions of increasing responsibility as review coordinators and team leaders, with the guidance and support of UNCOVER's core team.

Alcohol Review: Durga Kulkarni & Rima Nundy
Student Mental Health Review: Lara Goodwin & Damilola Iduye
Severe Asthma Review: Bohee Lee
UNCOVER Register: Wei Xu & Xiaomeng Zhang
WHO Reviews: Durga Kulkarni, Bohee Lee, Thulani Ashcroft & Rima Nundy

Special Thanks

UNCOVER thrives thanks to the efforts of all its members - more than 120 people in 2020-2021 (see p2). But we also want to take this opportunity to recognise the efforts of some members who have made special contributions to our work. These include: **Brendan Owers:** tech expert and workshop facilitator | **Callum Kerr:** creator of the UNCOVER Register database | **Marshall Dozier and Karen Hartnup:** information specialists | **Yijia Dong:** creator of the Schools Living Review app | **You (Leo) Li, Margaret Douglas and Jonine Figueroa:** independent review leads | **Ziwen Sun, Xiaomeng Zhang and Xue Li:** Chinese language reviewers | **Harry Campbell:** UNCOVER founding Co Chair | **Florance Kennedy:** project administrator | **Gerry Fowkes:** internal peer review and expert advice.

UNCOVER ... happened to me at a perfect time as it enabled the novice or unexperienced researcher in me to apply my newly learnt skills and knowledge to a real-world problem in real-time. ... I started as a student volunteer and a mentee, then as an intern and now working as a mentor and review co-ordinator.

Durga Kulkarni (Higher Education Institutional Research Conference 2021)

UNCOVER's Students

UNCOVER started out as a volunteer force of staff and students working together to answer decision-makers' questions about COVID-19 and its consequences. In the urgent early days of the pandemic, we would sometimes need to turn around reviews, which traditionally take many months, in as little as 48 hours. This created an intensely collaborative and mutually supportive way of working between our staff and student members.

Our working model has now become a defining feature of UNCOVER. We know that Masters and PhD students have the knowledge, skills and professionalism to contribute to demanding systematic reviews with real-world impact. We aim to provide opportunities for our student members to grow and to develop their evidence synthesis skills and their wider professional experience.

Student volunteers start out by joining our Register team or working on new or ongoing Reviews. As our students grow in experience, we encourage them to take on roles as peer mentors, workshop facilitators, conference presenters, and review team leaders. UNCOVER also arranges a variety of skills development workshops for staff and student members, covering topics from literature searching to grant-writing and writing for publication.

Working with UNCOVER, our volunteers strengthen the skills and qualities that make them highly employable and effective. We aim to underpin this by providing references; and, in 2022, arranging Career Insights from guest speakers and putting in place a more structured way for students to record and demonstrate their achievements with UNCOVER.

As a volunteer initiative, we recognise that being involved in UNCOVER can place additional pressure on students alongside their studies and personal commitments. We always seek to make student welfare a priority. Students are supported and championed by Dr Neneh Rowa-Dewar, UNCOVER's staff-student liaison, and support each other at a monthly Student Forum. We encourage student-led initiatives, such as those led by our fantastic PTAS-funded teams, and are actively looking for more opportunities for staff-student co-creation in 2022.

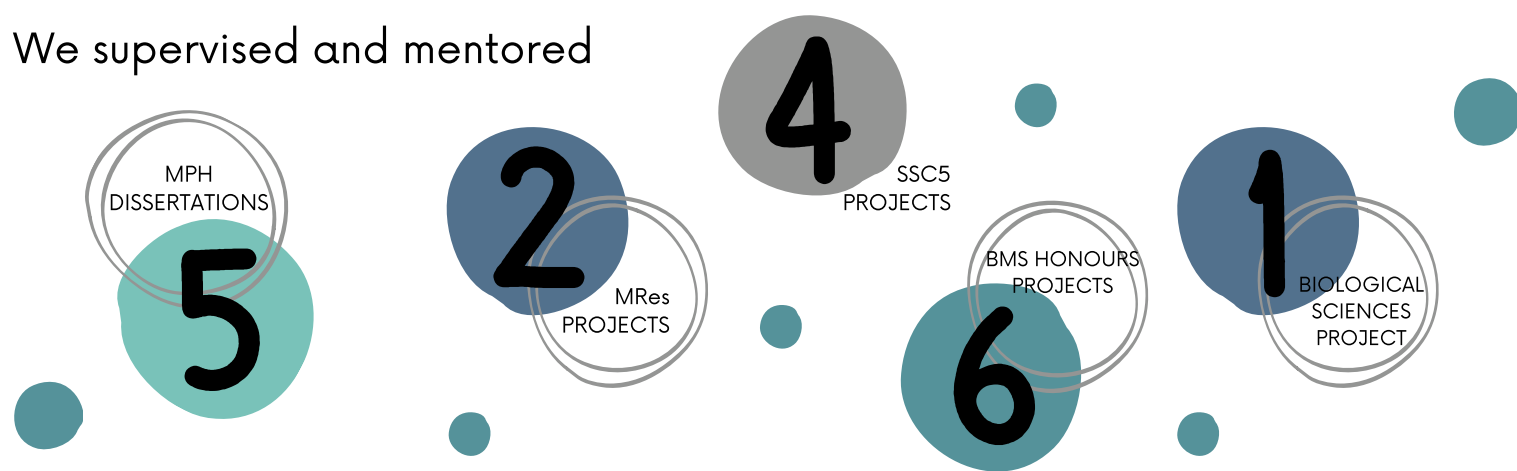
I have had multiple experiences with teamwork so far, but I've never seen such a team. They all equally have great passion, brilliant research skills, time management skills, communication skills and a great team spirit. It was a dream team. I've learnt so many values and skills within this team and from individuals. Working with the WHO was quite intense, as you know, but I can say 100% that without this team, we wouldn't have achieved such works.

Bohee Lee (WHO Review Team Member)

UNCOVER also supports the wider academic community by providing supervision and mentorship for systematic review dissertations and extended projects. During the pandemic, students have had less opportunity for lab-based work, and systematic reviews and other forms of COVID-related research have become more prominent.

UNCOVER supervises work across a number of programmes, including Master of Public Health (MPH) and Masters by Research (MRes) dissertations; SSC5 projects (fifth-year medical students); and undergraduate biomedical sciences and biological sciences Honours projects. Students are supervised by members of UNCOVER's core team, and also benefit from a peer mentor who is an experienced UNCOVER student volunteer – who provides the student with support and advice, and actively contributes to the stages of a systematic review which require teamwork.

We supervised and mentored



Who We Work With

Our work is responsive to the information needs of those who are handling the pandemic in practice. In general, this means responding to specific questions requested by policy-makers. But it also means being alert to what is not yet being seen or said – such as our pioneering work on racial and ethnic variations in COVID-19 outcomes, led by Dr Gwenetta Curry; which began long before this was publicly recognised as a dimension of significant health inequality related to COVID-19.

We aim to be a **trusted partner** to the organisations we work with. This means providing evidence that is reliable, using methods that are scientifically rigorous, and being honest and thorough in our appraisal of the quality of the underlying information. It also means that we address the questions actually asked of us – even when these are significantly broader than a traditional systematic review – because we recognise that these reflect the breadth and complexity of the actual issues that decision-makers are grappling with.

Partnerships

We have enjoyed productive collaborations with other organisations working on public health evidence synthesis for COVID-19. A recent joint review of non-pharmaceutical interventions with Monash University, involving an UNCOVER team led by Professor Evropi Theodoratou, was published in the BMJ and led to significant public engagement. We have an ongoing partnership with researchers at the South African Medical Research Council, also led by Professor Theodoratou, looking at COVID-19 transmission in schools. We have had a constructive working relationship with COVID-END throughout the pandemic, with UNCOVER's Dr Ruth McQuillan co-Chairing the COVID-END Prioritisation working group.

Although our work is grounded in public health research and methodology, we know that meaningful answers to complex questions about COVID-19 require a truly interdisciplinary approach, and we aim to reflect that in how we work.

We were delighted to work with colleagues from the School of Engineering, led by Dr Ignazio Maria Viola, on modes of COVID-19 transmission. We have already seen a ripple effect from that collaboration, as an increased number of Engineering students signed up for a module on public health systematic reviews during 2021. We are pleased to be embarking on a new collaboration with experts in Physics and Virology, to explore questions related to the infective dose of SARS-CoV-2.

We are convinced that core Public Health methods of evidence synthesis, from systematic literature searching and screening, to critical quality appraisal, are useful across disciplinary boundaries and provide a framework for different bodies of literature to be brought together, evaluated and synthesised, and used to answer complex questions – from coronavirus to climate change.

In 2020 and 2021, we produced rapid reviews and evidence summaries for the use of:
SAGE | The Joint Committee on Vaccinations and Immunisations | WHO | Public Health Scotland | SPI-M | The CMO's Advisory Group | The Education Return Group | Edinburgh City Council | DataInnovation.ai



UNCOVER has made a major contribution to the global evidence synthesis response to COVID-19. In addition, to conducting high quality, rapid reviews to support national decision makers, they have created a register of COVID-19 related reviews which allows decision makers and researchers globally to identify relevant reviews. COVID-END recognized this as one of the most comprehensive registers of resources and is using this (with generous cooperation from UNCOVER) to identify potential reviews for its Inventory of Best Evidence Syntheses.

Professor Jeremy Grimshaw (COVID-END)

OUR FUNDING

In 2020 and 2021, we received short term grants or contracts from:

ISSF3: Mar 2020 - Dec 2021

DDI: May 2020 - Dec 2020

PTAS: Jan 2021 - Aug 2021

DDI Beacon Fund:

Feb 2021 - Jul 2021

WHO (Contract):

Oct 2021 - Dec 2021

OUR COSTS

Our funding covers:

1

part-time Project Manager
(20 hrs/week) from Sep 2020

7

interns (approx 1 day per week
each) from Mar-Jun 2021

1,500

over 1,500 hours of student time
as reviewers and project leads

Conferences

We have shared UNCOVER's review findings and collaborative working model at conferences in 2020 and 2021, including: **UNCOVER Student Led Conference** (October 2020) | **CMVM Best Practice Showcase** (March 2021) | **University of Edinburgh Learning & Teaching Conference** (June 2021) | **Higher Education Institutional Research Conference** (September 2021) | **UNCOVER Student-Led Conference** (October 2021)

Where Next for UNCOVER?

Over the past two years, UNCOVER has contributed to a more evidence-based response to one of the biggest public health crises of our time, producing more than 30 reviews and evidence summaries for decision-makers, from the local to the international level. We have built a community for students and staff with a specialism in public health systematic reviews, and have created opportunities for students to develop their academic and professional skills, and grow as young leaders. Our working model is collegiate and interdisciplinary, allowing us to draw on diverse fields of knowledge in order to answer complex questions with real-world implications.

UNCOVER has been funded through a number of small grants and short term contracts. In 2022, we will be seeking funding to place UNCOVER on a more sustainable footing; allowing us to increase our investment in student development, through extended internships and other paid opportunities, which will also increase our capacity to respond to policy-makers' information requests.

The coronavirus crisis is still ongoing, and will have a long tail of economic and social consequences. We hope to build on our work so far, to continue supporting decision-makers in their response to the pandemic and its legacy. At the same time, we recognise that our working model offers a framework for tackling other complex public health challenges, with urgent practical implications. As we look ahead to 2022 and beyond, we hope that UNCOVER will become a centre for excellence in public health systematic reviews for decision-makers, with an emphasis on understanding and mitigating **complex crises** – from coronavirus to climate change.



The professional service that UNCOVER provided to us to assist with COVID infection was second to none. The professionalism of the team, time taken to understand what we were trying to achieve and the subsequent output, exactly when promised, has been fabulous for us and has moved us forward significantly.

Craig Fenton (COO, DataInnovation.ai)

Awards and Successes

Usher Institute Recognition Award for the Most Outstanding Team (2021)

UNCOVER WHO Team (Durga Kulkarni, Thulani Ashcroft, Bohee Lee, Rima Nundy, Karen Hartnup, Ting Shi, Ruth McQuillan, Evi Theodoratou, Emma Farfan de los Godos, Eldad Agyei-Manu, Amanda Leow, Ashmika Motee, Urmila Bhattacharyya, Vaishali Vardhan, Sanaz Behnood)

Usher Institute Recognition Award for Outstanding Contribution to Student Experience (2021)

Dr Neneh Rowa-Dewar

Brotherston Medal (2021)

Damilola Iduye

PhD awarded (2021)

Dr Xiaomeng Zhang

COVID-19 Engineering Medal (2021)

Dr Eva Pappa

Ker Memorial Prize (2020)

Dr You (Leo) Li

Chancellor's Award for Teaching (2020)

Dr Ruth McQuillan

CMVM Staff Recognition Award for Excellent Newcomer (2020)

Emilie McSwiggan

Find Out More about UNCOVER
ed.ac.uk/usher/uncover

Request a Review or Get Involved
usher.uncover@ed.ac.uk

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EFFECTIVENESS OF PUBLIC HEALTH MEASURES IN REDUCING THE INCIDENCE OF COVID-19, SARS-COV-2 TRANSMISSION, AND COVID-19 MORTALITY: SYSTEMATIC REVIEW AND META-ANALYSIS
ALTMETRIC SCORE AT TIME OF WRITING

9256

THE TEMPORAL ASSOCIATION OF INTRODUCING AND LIFTING NON-PHARMACEUTICAL INTERVENTIONS WITH THE TIME-VARYING REPRODUCTION NUMBER (R) OF SARS-COV-2: A MODELLING STUDY ACROSS 131 COUNTRIES
ALTMETRIC SCORE AT TIME OF WRITING

FRONT COVER PICTURE CREDITS

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