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# Abbreviations

CIRG	Clinical Infection Research Group
WGH	Western General Hospital
ECAT	Edinburgh Clinical Academic Track
Pl	Principal Investigator
NRS	NHS Research Scotland
CIR	Centre for Inflammation Research
IRR	Institute for Regeneration & Repair
BARDA	Biomedical Advanced Research and Development Authority

## Introduction

August 2022 – August 2023 has been a busy year having finally emerged from The COVID-19 pandemic. We are pleased to report on the Clinical Infection Research Group (CIRG)'s activity which goes from strength to strength. Our portfolio continues to be dominated by COVID trials, vaccine studies, and therapeutic work of both pre-hospital and hospitalised patients. However, we also continue to contribute to our longstanding HIV cohort studies and in addition are now involved in exciting novel immunological therapies for HIV –

which may lead the way to curative therapies in the future. We are also delighted to be part of other microbiological studies including managing necrotizing otitis externa, eradication of MRSA, and optimising management of staphylococcus aureus bacteraemia.

To support our active Principal Investigators we have now developed, in conjunction with NHS R&D, and introduced, a new National Research Scotland (NRS) clinician scheme where our consultant PIs are able to apply for protected time to be PI for clinical trials and enable the development of their research interests. This has been taken up by 3 CIRG members.

Continuing to value our relationship with the University of Edinburgh (UoE), we are increasing our dialogue with Edinburgh Infectious Diseases through encouraging collaboration with scientists and supporting the Fleming fellowship initiative. Currently, there are 4 infection registrars who are part of the Edinburgh Clinical Academic Track. Additionally, CIRG has supported successful registrar applications to Wellcome LSTMH and Multi-morbidity training fellowships and the Oxford University Vaccinology fellowship.

CIRG is now supporting doctors in non-training posts; nurses and allied health professionals to present work at conferences. The CIRG fund is actively accepting applications, having sponsored our first conference attendees.

Finally, this year we said goodbye to our wonderful lead research nurse Sheila Morris – who guided us through infection-related clinical trials for decades. We wish her a happy retirement and are delighted to have the talented Amy Shepherd stepping

smoothly into the lead research nurse role.

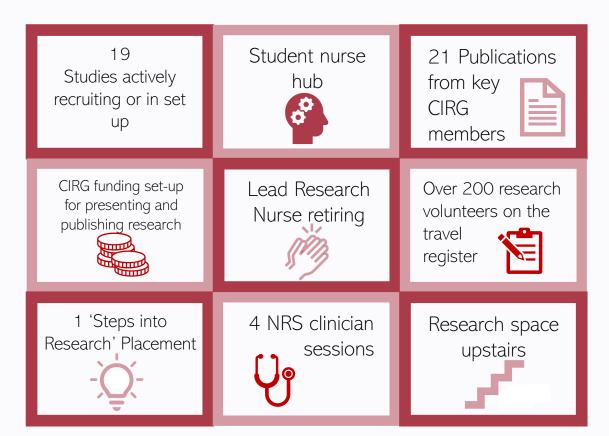
We are all looking forward to the year ahead which holds multiple opportunities for further growth and collaboration. We are aiming specifically to increase our eligibly funded trial portfolio and our collaborations with University of Edinburgh. If you want to get involved please get in touch, **CIRG@nhslothian.scot.nhs.uk** 

- Meghan Perry, CIRG Chair

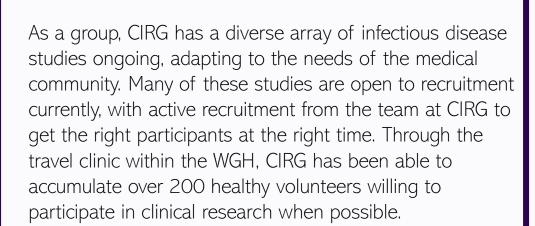
# Snapshot Summary 🔊

#### Aims of CIRG

- Develop research capacity within infection medicine specialities
- Maximise synergies between the NHS and University, fostering joint research between both groups
- Identify priority areas for research, building on existing strengths and future ambitions



Clinical research plays a vital role in advancing medical knowledge and improving patient care. CIRG is continuously growing and onboarding studies, standing at the forefront of clinical infectious disease research. This expansion has enabled ongoing collaborations with other specialties and research departments within the NHS and farther afield.









The RIO Trial is a randomised, placebo-controlled trial aiming to evaluate the ability of a novel therapy to render the viral load of HIV patients undetectable. It compares antiretroviral therapy (ART) plus dual long-acting HIV-specific broadly neutralising antibodies (bNAbs) vs ART plus placebo in treated Primary or Early-stage HIV Infection on viral control off ART.



The study population comprises participants with confirmed primary HIV infection who started ART within six months of confirmed primary HIV infection, or those individuals diagnosed with HIV who started ART *prior* to a CD4 count decline below 500 cells/cc3 and who have remained on suppressive ART without interruption for at least 12 months.

This trial requires peripheral blood mononuclear cell sample processing within a category. 3 lab. Our team collaborated with Prof. Juergen HAAS and Prof. David Dockrells' laboratories to facilitate this.

#### Principal Investigator: Dr Rebecca Sutherland





This study opened to recruit in Jan 2023 recruitment is active.



STRIVE is a multi-centre open-label dose-escalation Phase 1/2 first-in-human study in HLA-A\*02:01-positive adults with chronic HIV infection, who are virologically suppressed, & on ART. The study will evaluate the safety, tolerability, PK, and anti-HIV activity of single and multiple doses of IMC-M113V.

IMC-M113V is an immune-mobilising monoclonal T cell receptor against viruses (ImmTAV®), a new class of bispecific protein therapeutic designed to deliver targeted elimination of HIV reservoirs in individuals with chronic HIV infection

The study will be conducted in two parts: Part 1 will evaluate single ascending doses; Part 2 will evaluate multiple ascending dose schedules.

As a phase one clinical trial the CIRG collaborate with the Edinburgh Clinical Research Facilities (CRF).

Principal Investigator: Dr Matthew Adam

#### IMMUNOCORE





MISTRAL is a study aiming to assess the influence of the microbiome on HIV vaccine response.

An observational study, requiring the collection of microbome-related clinical data, as well as blood and stool samples, it aims to use 1,000 individuals established in EuroSIDA sites.

These participants will provide samples at their baseline visit and additionally 10-24 months after their initial visit. Samples will be used to conduct pre-specified analyses into microbiome and immunological related factors, as well as forming the basis of an ongoing research biobank for future exploration of the impact on microbiome on clinical outcomes in people living with HIV/AIDS.

#### Principal Investigator: Dr Claire Mackintosh



Nested within EuroSIDA



Eagle-1 is a Phase III, randomized, multicentre, open-label study in adolescent and adult participants. It is determining the efficacy and safety of Gepotidacin, compared against ceftriaxone plus azithromycin, in the treatment of uncomplicated urogenital gonorrhoea — caused by the Neisseria Gonorrhoea bacterium.



VS





Sponsored by: GSK
Funded in whole, or in part, with US
Federal funds from BARDA

#### Principal Investigator: Dr Daniel Clutterbuck

Opened to recruit at Chalmers Centre in July 2022



The PrEPaRe study is an observational study collecting individual data on people newly diagnosed with HIV, who report having used Pre-exposure prophylaxis (PrEP). The aim of the study is to assess the use of PrEP among people newly diagnosed with HIV, to understand the circumstances under which these HIV infections occurred, and to estimate the prevalence of HIV drug resistance.

Data will be collected from clinics across Europe assisting and providing care/monitoring for people newly diagnosed with HIV with the baseline visit within 3 months from the date of diagnosis.

Principal Investigator: Dr Daniel Clutterbuck





**National Institute for** 

Tide is a multi-centre, randomised, controlled, non-inferiority, and cost effectiveness trial comparing Polyhexanide and Chlorhexidine with Neomycin to Mupirocin for nasal methicillin-resistant Staphylococcus aureus (MRSA) decolonisation amongst adult hospital in-patients.

Primary endpoint is successful early nasal decolonisation: defined as a negative trial-specific nasal MRSA swab taken 48 hours following treatment completion



Due to the difficulty in finding appropriate participants, unfortunately TIDE was forced to close prematurely in August 2023.

Sponsored by NHS South Tees Hospitals Foundation Trust Funded by NIHR

#### Principal Investigator: Dr Simon Dewar



Cascade is a mixed-methods observational study exploring the management of the current HIV epidemic in Europe; collecting important insights from HIV sero-converter cohorts.

The main aim is to explore viral and host characteristics, measure the outcomes of individuals who have recently acquired HIV-1 in Europe, and to understand their experiences and needs.

Opened to recruit February 2023

Sponsored by: UCL Funded by commercial partners ViiV, Janssen and Merck

#### Principal Investigator: Dr Claire Mackintosh





IONOE is a multicentre prospective study to improve outcomes of necrotising otitis externa (NOE) in the UK.

The aim is to describe the demographics, clinical presentation, surgical and medical management and outcomes of clinically possible cases of NOE in the UK.





Opened to recruit in June 2022

Sponsored by: University of Oxford Funded by:

a combination of academic grants from the University of

Charity organisations e.g. Antibiotic Research UK **BMA** 

Principal Investigator: Dr Rebecca Sutherland Associate PI: Dr. Michael Hopkins





Panoramic is a platform adaptive, randomised trial of antiviral therapeutic agents for use by clinically vulnerable people in the community with confirmed acute symptomatic SARS-CoV-2 infection.

CIRG are the top recruiting site in the UK

Vibrant is a prospective cohort study to determine host immune and clinical factors associated with re-infection and

National Institute for Health and Care Research

Opened to recruit in June 2022



#### Principal Investigator: Dr Claire Mackintosh

Sponsored by: University of Oxford Funded by NIHR



vaccine breakthrough infections with SARS-CoV-2. Those eligible are Staff working in healthcare organisations across the UK who are enrolled in the parent study SIREN. The overall aim of this study is to determine host immune and

clinical factors associated with re-infection and vaccine breakthrough infections with SARS-CoV-2. All participants will be part of the existing (parent) study involving HCWs so that baseline, post-infection and vaccination data is available.





Sponsored by: University of Oxford Funded by: Department of Health and Social Care & contributors as on the website VIBRANT Study (vibrant-research-study.org)

#### Principal Investigators:

Dr Rebecca Sutherland Dr Kate Templeton



MIDAS is a pragmatic, open-randomised, controlled trial. Due to current insensitive diagnostic methods, with a need for reducing broad-spectrum antibiotic use, MIDAS aims to assess the utility of a rapid test using fast

multiplex real-time Polymerase Chain Reaction assays for 26 respiratory bacteria and viruses to personalise antibiotic treatment. This assay is called "MICAP".

The primary objective is to explore whether participants admitted with lower respiratory tract infection can safely receive personalised antibiotic therapy within 12 hours of consent for this test, using an existing sputum samples.

accord



Principal Investigator: Dr Kate Templeton







A study to investigate the safety, immunogenicity, and relative vaccine efficacy of mRNA-1283.22 injection compared with mRNA-1273.22 injection in participants 12 years or older to prevent COVID-19.

The primary endpoint is to demonstrate a noninferior antibody response of mRNA-1283.222 10  $\mu$ g compared to mRNA-1273.222 50  $\mu$ g against Omicron BA

Opened to recruit July 2023 & closed to recruitment July 2023



Sponsored by: Moderna Funded by: Moderna

#### Principal Investigator: Dr Rebecca Sutherland



The RECOVERY trial is the world's largest clinical trial into treatments for COVID-19. It was founded by UK Research and Innovation (UKRI)'s Medical Research Council (MRC) and the National Institute of Health Research (NIHR) with a joint investment of £2.1 million in March 2020.

RECOVERY is an international trial identifying treatments that may be beneficial for people hospitalised with suspected, or confirmed, COVID-19.

It aims to evaluate potential treatments for COVID-19 that may be better than standard practice, including dexamethasone, baricitinib, tocilizumab, and convalescent plasma



The trial has enrolled over 40,000 participants across 185 trial sites in the UK.



#### Principal Investigator: Dr Oliver Koch

Sponsored by: University of Oxford Funded by the contributors as listed: Welcome — RECOVERY Trial



SUPERNOVA is a global Phase II/III trial designed to establish the safety and efficacy of the antibody AZD5156.

The primary endpoints of the trial are safety and neutralizing activity of a single, intramuscular (IM) dose of AZD5156, compared to EVUSHELD for the prevention of COVID-19.

Conducted at a variety of sites in the US, UK, EU and Asia, the trial intends to enrol participants 12 years of age or older (minimum weight of 40kg) who are immunocompromised. Participants will be followed for approximately one year, with SARS-CoV-2 neutralizing antibodies assessed at one, three and six months.



Principal Investigator: Dr Oliver Koch

To contact CIRG, for study involvement or collaboration, please email:

<u>CIRG@nhslothian.scot.nhs.uk</u>

We look forward to hearing from you.



# Overview by Disease Category



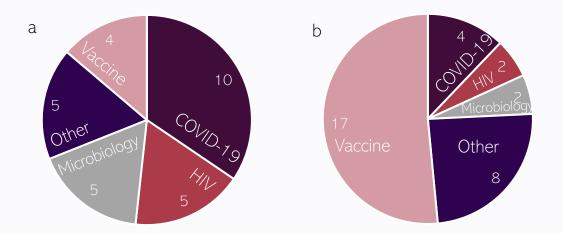


Figure 3. Graphical representation of how many studies CIRG have been approached over and which disease categories these can be stratified to. All independent of further pursuit in fulfilling the study.

a. January 2022 – December 2022. b. January 2023 – August 2023.

Parameters: Vaccine, any study that involves administration and investigation of a vaccine product independent of disease affecting. Other, any study not being classified under the other listed disease categories, included but not limited to HBV and sexual health. Table of data available at request.

Of a total of 62 studies CIRG have been approached over in the 2022-23 year, these pie charts mathematically represent studies stratified into generic disease categories. The profile of trials' disease categories has changed over the years as the CIRG has developed, adapted to the global pandemic, and ultimately is looking to expand into the future of infectious disease research.

In 2022, globally still affected and investigating the COVID-19 pandemic, the distribution of studies CIRG was approached regarding largely reflects this, as vaccine development evolves further — and not just for COVID-19 — we see these statistics reflected in the landscape of 2023 approaches, wherein which the majority are vaccine studies.

Excitingly, the number of 'other' studies CIRG have been approached regarding has increased in the 2023 year, with this category now encompassing Hepatitis B, *C.diff*, respiratory and osteomyelitis research (if involving vaccine, categorised as vaccine research),

#### University of Edinburgh

## Collaborations

Many of our CIRG members are honorary clinical senior lecturers at the UoE and have collaborations with UoE scientists including from UoE's Edinburgh Infectious Diseases network

(https://www.ed.ac.uk/edinburgh-infectious-diseases).

This is an ongoing partnership that CIRG aims to improve, increase, and expand upon. CIRG remains extremely thankful for its partnership with UoE.

Professor David Dockrell is one of our key CIRG members and it is through collaboration with his laboratory (CIR, IRR, UoE), the use of the tissue culture facilities and utilisation of the groups' research assistants' expertise, that our involvement in the RIO study (p.7) has been possible.



DataLoch is a UoE-run data analysis centre linking health and social care that is driving forward data driven approaches to improving care. CIRG members Oliver Koch, Claire Mackintosh, Meghan Perry, Callum Mutch, Daniella Ross and Marcello Scopazzini all worked closely with DataLoch over the course of the COVID-19 pandemic and were involved in publications describing the cohort in the first wave, looking at the impact of deprivation, the accuracy of diagnostics and the prognostic value of troponin. In the last year Callum Mutch and Daniella Ross won the Royal College of Physicians Journal prize for their descriptive cohort paper.





#### University of Edinburgh

## Collaborations







CIRG member Meghan Perry continues to have an active collaboration with members of Professor Mark Woolhouse's EpiGroup where they are exploring how antimicrobial resistance genes detected in sewage can be monitored to help worldwide surveillance of antimicrobial resistance.

#### Sociology and Multimorbidity in Homeless Populations and Vulnerable Patient Groups

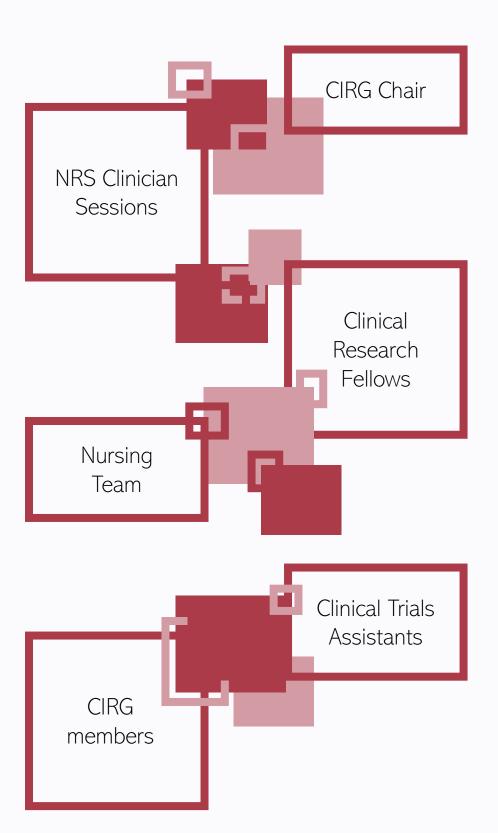
CIRG NRS clinician Claire Mackintosh collaborates with Professors Steve Sturdy and Stewart Mercer to investigate the experience of secondary care for these patient groups and development of guidelines to support to optimise their management.

#### Clinical Diagnostics

CIRG member Kate Templeton collaborates with a broad range of departments within UoE to drive forward ground breaking molecular diagnostic work.



## Human Resources 🕸



## NRS Clinician Sessions

CIRG's NRS clinician sessions have been developed this year with NHS Research Scotland (NRS) to support clinicians who are interested in broadening their research portfolio and experience. The sessions provide funding for protected time, which can be used to plan and conduct research, write grants, and disseminate research findings.

In the year 2022-2023, we have 11 active CIRG principal and sub-principal investigators drawn from CIRG members.

NRS sessions are vital in enabling these clinicians to participate in research and increase capacity in areas that are either aligned to research excellence – either locally or nationally – or areas when the potential exists to develop research excellence.

Three of the CIRG Principal Investigators were successful in application for these NRS PA sessions mainly starting Sept 2023-2024, shown below. Funding is secured for the next 3 years from the CIRG budget.

Dr Rebecca Sutherland



Dr Claire Mackintosh



Dr Oliver Koch

## CIRG People

The people behind CIRG enable the research. This includes a diverse array of clinical and support staff, within the immediate research group and further into the partnerships within the NHS, University of Edinburgh and beyond.

Clinical Research Fellows

Over the last 3 years the CIRG has funded 1 clinical research fellow per year. Due to the increasing complexity and trial activity planned for the 2023-2024 year, the CIRG have appointed two clinical research fellows, who join the team in August 2023: Anna Gordon & Alexandria Chung.

Over the past year:

Sheila Morris (previous lead research nurse), retired. After 30 years in infectious disease research, we can barely begin to thank Sheila for her work

Changes

Sven Nelson (senior research nurse), also said goodbye. Jacqueline Henderson joined in July to fill this role.

Connor Dalby reduced his CIRG hours and went remote in August to pursue his PhD, with Penelope Saverton joining in June to fill the Clinical Trials' assistant role.

We are excited to see what the future holds for the team as we continue to grow and are confident the new team members will be valuable assets.

For full profiles: People: Clinical Infection Research Group (cirg-edinburgh.co.uk)

Jacqueline Henderson Senior Research Nurse

Connor Dalby
Clinical Trials Assistant

Susie Ferguson Senior Research Nurse

Anna Gordon Clinical Research Fellow Amy Shepherd Lead Research Nurse

Alexandria Chung
Clinical Research Fellow

Anne Saunderson Senior Research Nurse

Penelope Saverton Clinical Trials Assistant Louise Sharp Senior Research Nurse

## CIRG Pls & Steering Group



Dr. Meghan Perry



Dr. Rebecca Sutherland



Dr. Oliver Koch



Dr. Matthew

Adam



Prof. David Dockrell



Dr. Claire Mackintosh



Dr. Simon Dewar



Dr. lain Page



Dr. lan Laurenson



Dr. Dan Clutterbuck



Dr. Kate Templeton

## Education

The CIRG is committed to advancing a culture of support for research and supporting research training and education opportunities for staff. This is not only to help advance individual research careers, but also to embed the culture of clinical research into practice.

To this end, the CIRG has developed several different pathways and initiatives to create these opportunities including the CIRG awards, which is actively accepting applications having sponsored conference attendees; the Student Nurse research placement hub; the First Steps into Research programme; protected time for clinical fellows, enabling the development of their research portfolios and skills; mentoring junior doctors in application for higher degrees such as registrar applications to Wellcome LSTMH and Multi-moribidity training fellowships, the Oxford University Vaccinology fellowship, ECAT.



#### CIRG Awards

In 2023, CIRG merged existing charity funds to create a single fund that supports infection-related research and development, as well as education and training for the benefit of the infection service.

So far this year, six successful applicants have been awarded funding to attend a variety of national and international infection conferences, where they presented their work in the form of poster or oral presentations. We hope that the fund will inspire and galvanise further representation of CIRG activity at a broad range of conferences.

You can view these presentations on the CIRG website under the "News" section.

News & Events : Clinical Infection

Research Group (cirg-edinburgh.co.uk)

For more information on the application process, or to contact the team, please email

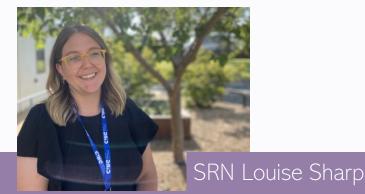
CIRG@nhslothian.scot.nhs.uk

## Student Nurses Research Hub Placement

In 2022, our research nurse team was approached about the possibility of becoming a hub placement for student nurses.

Historically, research teams have not been considered in the clinical education of nurses, and so a clinical research placement outside of a clinical research facility had not been established. Research nurse student hub placements are a type of clinical placement that allows student nurses to gain experience in clinical research. They are typically offered by NHS trusts and universities that have a strong research focus. The hub and spoke model are a common way to organize these placements. In this model, there is a central hub, such as a clinical research facility or in this case the CIRG, where students can spend a longer period (e.g., 6-8 weeks) gaining experience in a variety of research activities.

Our team, led by Senior Research Nurse Louise Sharp, undertook mentorship courses and developed a program for students and were successfully signed off as a hub placement in April 2023, we plan to have our first student nurse in September and hope that this will inspire nurses to become either clinical research nurses in the future or raise awareness of the importance of clinical research in their future practice.







## First Steps Into Research

In 2023, our research team was apprised to the fact that NHS Lothian had secured funding from the NHS Lothian Charity to provide a Clinical Academic Research Gateway Awards program.

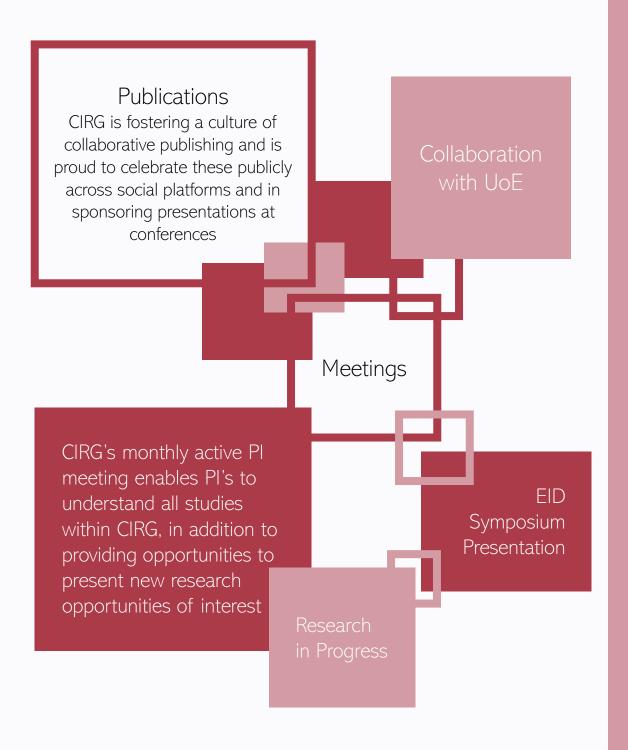
The First Steps into Research Gateway Award is part of this program and is aimed at NMAHPPS professionals who are interested in research, but do not yet have the necessary knowledge and experience to apply for funded clinical academic pathways at the master's degree level or above. The key components of the "First Steps" award are mentored support and the opportunity to integrate into an established research team for the duration of the award.

This is a 12-day structured research experience that can be taken flexibly over 12 months. Early career professionals can become embedded in an established research team in higher education and/or the NHS to participate in a broad range of research activities. The individual will have an identified research mentor who will also provide support to explore career development opportunities beyond the funded period.

The CIRG was put forward as one of the research opportunities within this award and will begin in September 2023.

Clinical Infection Research Group (cirg-edinburgh.co.uk)

## CIRG Wider



## Meetings

#### CIRG PI and steering group meetings

The CIRG clinical trials team and CIRG steering group meet monthly to update on progress of current clinical trials and to review feasibility for future trials. These meetings serve the purpose of a helpful forum to share ideas for recruitment and solve any practical challenges the trials have presented us with. They are also a forum for strategic planning and supporting colleagues with a wide range of research projects and collaborations.

#### Research in Progress meetings

Quarterly, CIRG reaches out to the wider infection team to ensure that all our activity is visible and opportunities are presented to all trainees to get involved. We share news from the preceding months (which is also available on our X/twitter feed @CIRGEdinburgh), conference, and funding opportunities. We provide an update focussing on a particular clinical trial or group of trials on a theme and then have an invited speaker to talk about their current research projects, with an emphasis that the research does not have to be completed. Speakers over the last year include:

- Magust 2022 Dr Muge Cevik, St Andrew PhD Fellow, Tuberculosis and Diabetes
- November 2022 Dr Hannah Lepper, UoE PhD Fellow, Antimicrobial resistance in Hospital Sewage
- 88 May 2023 Dr Michael Hopkins, ENT registrar, Necrotising Otitis Externa
- 🛛 June 2023 Dr Karla Berry, CIRG Research Fellow, RIO and Strive

In addition, June 2023 saw the CIRG chair present an update on CIRG's activity at the Edinburgh Infectious Diseases annual symposium — showcasing projects and inviting collaboration.

Website

Clinical Infection Research Group (cirg-edinburgh.co.uk)

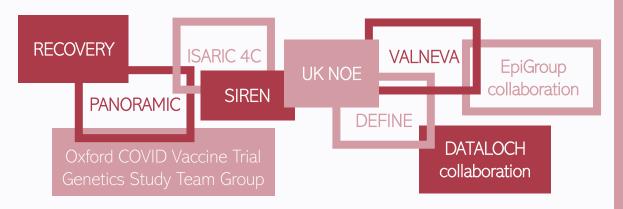
Twitter @CIRGEdinburgh





#### **Publications**

CIRG members publish on a broad range of infectious diseases issues. Some groups containing members of CIRG involved in clinical trials, include all investigators in publications as part of a consortia, including:



Publications through involvement in trial groups and consortiums, August 2022 – August 2023, denoted Title, *Journal*, **Group** 

- Muman leukocyte antigen alleles associate with COVID-19 vaccine immunogenicity and risk of breakthrough infection, *Nature Medicine*, Oxford COVID Vaccine Trial Genetics Study Team Group
- 88 Genomic investigations of unexplained acute hepatitis in children, Nature, ISARIC 4C
- Immunogenicity and safety of an inactivated whole-virus COVID-19 vaccine (VLA2001) compared with the adenoviral vector vaccine ChAdOx1-S in adults in the UK (COV-COMPARE): interim analysis of a randomised, controlled, phase 3, immunobridging trial, *The Lancet Infectious Diseases*, Valneva Trial Group
- Higher dose corticosteroids in patients admitted to hospital with COVID-19 who are hypoxic but not requiring ventilatory support (RECOVERY): a randomised, controlled, open-label, platform trial, *The Lancet*, RECOVERY
- Performance status: A key factor in predicting mortality in the first wave of COVID-19 in South-East Scotland, The Journal of the Royal College of Physicians of Edinburgh, DataLoch
- Main An Inhaled Galectin-3 Inhibitor in COVID-19 Pneumonitis: A Phase Ib/Ila Randomized Controlled Clinical Trial, *American Journal of Respiratory and Critical Care Medicine*, **DEFINE**
- 🛚 UK consensus definitions for necrotising otitis externa: a Delphi study, BMJ Open, UK NOE
- Molnupiravir plus usual care versus usual care alone as early treatment for adults with COVID-19 at increased risk of adverse outcomes (PANORAMIC): an open-label, platform-adaptive randomised controlled trial, *The Lancet*, **PANORAMIC**
- Solution Genomic analysis of sewage from 101 countries reveals global landscape of antimicrobial resistance, *Nature Communications*, Global Sewage Surveillance Consortium



#### **Publications**

Key Publications from Clinical and Collaborative efforts, August 2022 – August 2023, denoted Title, *Journal*, **Key CIRG Author(s)** 

- Postpandemic rebound of adeno-associated virus type 2 (AAV2) infections temporally associated with an outbreak of unexplained severe acute hepatitis in children in the United Kingdom, *Journal of Medical Virology*, Shnnah Gates, Julien Andreani ... **Kate Templeton** ... Peter Simmonds, Heli Harvala
- Distinctive hospital and community resistomes in Scottish urban wastewater: Metagenomics of a paired wastewater sampling design, *The Science of the Total Environment*, Hannah C. Lepper, Meghan R Perry ... Mark E.J. Woolhouse, Bra, A.D. van Bunnik
- A Survey of Orthopedic Surgical Management of Pressure Ulcer-Related Pelvic Osteomyelitis, Open Forum Infectious Diseases, Clark D Russell, Shao-Ting Jerry Tsang ... Rebecca Sutherland, Martin A McNally
- A case of Lemierre's syndrome causing panhypopituitarism, cavernous sinus thrombosis, ischaemic stroke and pulmonary embolism, *The Journal of the Royal College of Physicians of Edinburgh*, Charlotte J Dewdney, Joseph J Anderson ... Simon Dewar ... Deepak Subedi, Marcus J Lyall
- Improving HIV pre-exposure prophylaxis (PrEP) uptake and initiation: process evaluation and recommendation development from a national PrEP program, Sexual Health, Claudia S Estcourt, Jennifer MacDonald ... Dan Clutterbuck ... Jenny Dalrymple, Paul Flowers
- 8 Changing Incidence and Characteristics of Nontuberculous Mycobacterial Infections in Scotland and Comparison With Mycobacterium tuberculosis Complex Incidence (2011 to 2019), *Open Forum Infectious Diseases*, Anna Jarchow-MacDonald, Michael Smith ...... Pauline Claxton, lan F Laurenson
- Disseminated Mucocutaneous Histoplasmosis Diagnosed in the United Kingdom, Presumably as a Result of Recrudescence Decades After Primary Infection Following Immunosuppressive Treatment of Its Mimic, Sarcoidosis: A Multidisciplinary Cautionary Tale, *The American Journal of Dermatopathology*, Eleanor Earp, Patricia M Gordon ... lain Page ... Elizabeth Johnson, Asok Biswas
- SARS-CoV-2 Omicron is an immune escape variant with an altered cell entry pathway, *Nature Microbiology*, Brian J Willett, Joe Grove ... **Kate Templeton** ... Surajit Ray, Emma C Thomson
- 88 Heterogeneity in Staphylococcus aureus Bacteraemia Clinical Trials Complicates Interpretation of Findings, *The Journal of Infectious Diseases*, Heather W Dolby, **Sarah A Clifford, Ian F Laurenson**, Vance G Fowler, **Clark D Rusell**
- 8 Risk factors for antimicrobial resistance in patients with Escherichia coli bacteraemia related to urinary tract infection, *Infection Prevention in Practice*, James Balfour, Mabel Barclay, Janathan Danial, Carol Philip, Meghan Perry, Michelle Etherson, Naomi Henderson

#### Acknowledgement

The CIRG team would like to take this opportunity to thank our trial participants. Without their involvement, these studies would not be possible. We appreciate their sacrifice for research, and their contribution to a future with better healthcare.

