

Image TBC

Making surgery safer to help save lives

During COVID-19, our researchers worked with surgeons around the world to make sure operations could continue safely during a pandemic. Now we are expanding this work to employ high quality evidence to help make surgery safer globally.

Each year 4.2 million people around the world die within 30 days of an operation, and half of these deaths occur in low and middle-income countries (LMICs). Yet if we could make surgery safe and affordable, 28% of the disease burden in low and mid-income countries may be cured, treated or palliated by safe, accessible surgery.

During the pandemic, the NIHR Global Health Research Unit on Global Surgery based at Birmingham rapidly created new guidelines for controlling COVID-19 infection, which avoided operations having to be put on hold altogether (see facing page). Now the team are continuing work to reduce infection after surgery from *all* diseases, not just COVID-19, and to improve access to routine surgery, especially in rural areas.

Professor Dion Morton OBE, one of the co-directors of the Unit, says: 'Each country, even each area in a country, has its own unique circumstances; different resources, training systems, disease vulnerabilities, funding, cultures etc. Creating surgical guidelines based on one country and importing them into another country just does not work. If we are to make surgery safer and more affordable for millions of people, the solutions need to be context-specific. That is why we are working with local surgeons and hospitals around the world, empowering them to research what really works for them.'

The NIHR Global Surgery Unit: discovering new ways to save lives

Based at the University of Birmingham, the NIHR Global Surgery Unit (a consortium between the Universities of Birmingham and Edinburgh, plus international partners) brings together expertise from 20,000 surgeons in more than 100 countries.

Seven research hubs have been established in Benin, Ghana, India, Mexico, **Nigeria** Rwanda and South Africa. Each hub undertakes its own surgical research, and supports work by other hospitals across the country, many in rural/remote locations.

The Unit's FALCON research trial into reducing wound infection after abdominal surgery, involving 6,000 patients across seven countries, has proved that some less expensive interventions are just as effective as more costly ones. The resulting changes to practice, published in *The Lancet*, mean patients in low and middle-income countries will have access to cheaper and more deliverable surgery. In addition, the Unit has already trained over 500 surgeons, anaesthetists, nurses and other healthcare professionals in high quality research methodology, both face to face and online.

Design note:
can add REF
research tag to
this section

How do you make surgery safe during a pandemic?

With a deadly disease spreading around the world, hospitals faced the possibility that they would no longer be able to do any surgery for millions of vulnerable patients.

So in March 2020, the NIHR Global Surgery Unit created the CovidSurg team to rapidly gather evidence and experience from surgeons around the world, using this knowledge to adapt patient care to make it as safe as possible.

The rapid response of CovidSurg enabled both emergency and elective surgery to continue around the world during the pandemic, while reducing deaths and infections:

[following bullet points to be converted into infographics]

- Risk of death for surgery patients has been halved
- For those with cancer, risk of COVID-19 infection during surgery has reduced from 5% to 1.5%
- The chance of patients with COVID-19 developing respiratory complications through surgery was reduced by 33%

CovidSurg has delivered new guidelines for surgery during a pandemic, which increased the use of COVID-free pathways, increased pre-surgery testing and recommended alternatives to surgery for those at greatest risk. Pre-operative nasal swab testing has increased from 17% to 69% globally.

The impact of CovidSurg has been confirmed by representatives of major surgical associations and charities internationally, and in the recent Research Excellence Framework (see page XX).

What we want to deliver next - and how it will help in Ghana

Professor Stephen Tabiri, one of the co-directors of the Unit, says: 'We have several pieces of research underway to test methods for improving outcomes from surgery, including implementing telephone follow-up, so that patients are not put off getting care by the difficulties and costs of travelling to hospitals for post-surgery check-ups. Early findings indicate that there is greater uptake and engagement, resulting in better outcomes for patients.'



'Where I work in Ghana, this could make a huge difference. Three-quarters of people in the northern regions of Ghana are in scattered rural communities, with **poor** health infrastructure and not enough health professionals.

'The Unit's next set of research trials is investigating how to reduce complications from wound infection, improve outcomes from cancer surgery and to evaluate access to healthcare for patients requiring surgery.

'The Unit's focus is on capacity building and strengthening infrastructure within LMICs, so that long-term effective surgical options and care are available without reliance on outside intervention. We are shifting ownership of global surgery research to in-country surgeons, with UK collaborators rather than UK leaders. We envisage that enabling locally placed surgical teams to advocate and implement best surgical practice in their clinics and hospitals will save patients from catastrophic healthcare expenditures and save lives.'

Help support world-class research at Birmingham

Would you like to find out more about supporting world-class research like CovidSurg and the NIHR Global Surgery Unit? Contact giving@contacts.bham.ac.uk. Read more about the Unit at www.globalsurgeryunit.org.