Growth in sub-Saharan Africa: new Cochrane Hubs

It’s been weeks of celebration as two new Cochrane entities officially launched in Africa. The launch of Cochrane Kenya was celebrated at the KEMRI Annual Scientific and Health conference on 8 June and was closely followed by the launch of Cochrane Cameroon on 30 June. Cochrane Kenya (http://kenya.cochrane.org) is hosted by the Kenya Medical Research Institute (KEMRI) and Cochrane Cameroon is based at the Hôpital Central de Yaoundé.

Both are committed to promoting evidence-based healthcare policy and practice; translation of research to policy and practice; advocating for evidence to promote access and equity in their country health-development agendas; and, strengthening capacity for conducting and using systematic reviews. Over time Cochrane Kenya will offer national and regional support in East and Central Africa while Cochrane Cameroon will focus on Francophone African countries.

“KEMRI is delighted to host Cochrane Kenya, as it will complement the efforts the institute has been putting in in promoting the use of research evidence in decision making among various stakeholders in Kenya,” said Jennifer Orwa, co-director of Cochrane Kenya. “There have been Cochrane activities in Cameroon for a long time especially in author training and development,” said Lawrence Mbuagbaw, co-director of Cochrane Cameroon. “Reviews by Cameroonian authors especially on HIV/AIDS have informed national and international guidelines, and impacted on the lives of people living with HIV. This launch is a huge step forward in our commitment to developing the evidence ecosystem in Cameroon.”

The two join Cochrane South Africa which opened in 1997 and Cochrane Nigeria which was registered in 2006. Cochrane activities in all these countries, however, date back to the late 1990s with African collaborators working to produce high-quality, Africa-relevant reviews and to support their use in policy and practice through stakeholder engagement and capacity building. Cochrane authors from across Africa were involved in important systematic reviews specifically in HIV/AIDS, Tuberculosis and Malaria.

One of the first formal programmes was the Reviews for Africa Programme (RAP) a research and training grant awarded by the Nuffield Commonwealth Foundation which brought together Cochrane SA, the Liverpool School of Tropical Medicine and the Cochrane HIV/AIDS Research Group. RAP’s main activity involved recruitment and support of Cochrane review authors in the region through a fellowship programme with structured mentoring and support. The establishment of Cochrane Africa (africa.cochrane.org) was the next major step to formalise the long-standing relationships. This was initially an informal network established in 2007, created to build on the strong track record and to enhance and expand activities. Cochrane Africa was officially launched at the Global Evidence Summit in Cape Town in September 2017 with a vision to increase the use of best evidence to inform healthcare decision making in sub-Saharan Africa.
People with suspected COVID-19 need to know quickly whether they are infected, so that they can self-isolate, receive treatment, and inform close contacts. Currently, COVID-19 infection is confirmed by a laboratory test called RT-PCR, which uses specialist equipment and takes at least 24 hours.

Rapid point-of-care tests could open access to testing for many more people, with and without symptoms, in locations other than healthcare settings. If they are accurate, faster diagnosis could allow people to take appropriate action more quickly, with the potential to reduce the spread of COVID-19.

The authors wanted to know whether commercially available, rapid point-of-care antigen and molecular tests are accurate enough to diagnose COVID-19 infection reliably, and to find out if accuracy differs in people with and without symptoms.

64 studies were included investigating a total of 24,087 nose or throat samples; COVID-19 was confirmed in 7,415 of these samples. Studies investigated 16 different antigen tests and five different molecular tests and took place mainly in Europe and North America.

This review is an update and includes evidence published to 30 September 2020.

In people with confirmed COVID-19, antigen tests correctly identified COVID-19 infection in an average of 72% of people with symptoms, compared to 58% of people without symptoms. Tests were most accurate when used in the first week after symptoms developed. In people who did not have COVID-19, antigen tests correctly ruled out infection in 99.5% of people with symptoms and 98.9% of people without symptoms.

Although overall results for diagnosing and ruling out COVID-19 in molecular tests were good (95.1% of infections correctly diagnosed and 99% correctly ruled out), 69% of the studies used the tests in laboratories instead of at the point-of-care and few studies followed test-manufacturer instructions.

Some antigen tests are accurate enough to replace RT-PCR when used in people with symptoms. This would be useful when quick decisions are needed about patient care, or if RT-PCR is not available. Antigen tests may be most useful to identify outbreaks, or to select people with symptoms for further testing with PCR, allowing self-isolation or contact tracing, and reducing the burden on laboratory services. People who receive a negative antigen test result may still be infected.

Several point-of-care molecular tests show very high accuracy and potential for use, but more evidence of their performance in real-life settings is required.

How accurate are rapid tests for diagnosing COVID-19?
Can medicines that block interleukin-6 treat COVID-19?

COVID-19 can disrupt the immune system, causing it to over-react and produce high levels of inflammation. Interleukin-6 (IL-6) is a protein involved in triggering inflammation. Blocking the production of interleukin-6 could reduce inflammation and help the immune system to fight COVID-19.

Tocilizumab and sarilumab are two medicines that block interleukin-6. They are used to treat other conditions that involve an ‘over-reactive’ immune system, such as rheumatoid arthritis. The authors wanted to find out if medicines that block interleukin-6 can be used to treat COVID-19, and whether they might cause unwanted effects.

10 studies in 6896 people with COVID-19 were included. The studies took place in Brazil, China, France, Italy, the UK and USA; four studies took place in more than one country. Three studies were funded by pharmaceutical companies.

The medicines tested were tocilizumab and sarilumab. Both were compared against a placebo or standard care. The results were measured 28 days after treatment and after 60 days or more.

Trials up to 26 February 2021 were included.

The authors also found 41 more studies of medicines blocking interleukin-6 to treat COVID-19 that had not yet published results. These included 20 studies of tocilizumab, 11 studies of sarilumab and 10 studies of other medicines. The review will be updated when these are published.

Treating COVID-19 with tocilizumab (a medicine that blocks interleukin-6) reduces the numbers of people who die within 28 days of treatment, and probably results in fewer serious unwanted effects than placebo. Confidence in other results for tocilizumab is moderate to low; further evidence may change the results.


Can symptoms and medical examination accurately diagnose COVID-19?

The authors wanted to know how accurate diagnosis of COVID-19 is in a primary care or hospital setting, based on symptoms and signs from medical examination.

44 relevant studies with 26 884 participants were included. The studies assessed 84 signs and symptoms, and some assessed combinations. Three studies were conducted in primary care (1824 participants), nine in specialist COVID-19 testing clinics (10 717 participants), 12 in hospital outpatient settings (5061 participants), seven studies in hospitalised patients (1048 participants), 10 studies in the emergency department (3173 participants), and in three studies the setting was not specified (5061 participants). No studies focused specifically on children, and only one focused on older adults.

This update included studies published from January to July 2020.

The symptoms most frequently studied were cough and fever. In these studies, on average 21% of the participants had COVID-19, which means in a group of 1000 people, around 210 would have COVID-19.

According to the studies, in the same 1000 people, around 655 people would have a cough. Of these, 142 would actually have COVID-19. Of the 345 who do not have a cough, 68 would have COVID-19.

In the same 1000 people, around 371 people would have a fever. Of these, 113 would actually have COVID-19. Of the 629 patients without fever, 97 would have COVID-19.

The loss of sense of smell or taste also substantially increases the likelihood of COVID-19. For example, in a population where 2% of the people have COVID-19, having either loss of smell or loss of taste would increase a persons’ likelihood of having COVID-19 to 8%.

The accuracy of individual symptoms and signs varied widely across studies. The participant-selection processes also mean the accuracy of tests based on symptoms and signs may be uncertain.

Most studies were conducted in hospital settings. The results do not apply to children or older adults specifically, and do not clearly differentiate between disease severities.

The results suggest that a single symptom or sign included in this review cannot accurately diagnose COVID-19. However, the presence of loss of taste or smell may serve as a red flag for the presence of the disease. The presence of high temperature or cough may also be useful to identify people who might have COVID-19. These symptoms may be useful to prompt further testing.

Further research is needed to investigate combinations of symptoms and signs; and testing unselected populations, in primary care settings and in children and older adults.

It's been over a year since South Africa reported its first positive COVID-19 case. Since then, there has been much uncertainty due to changing COVID-19 evidence, new and emergent strains of the virus, and an ever-shifting landscape of lockdowns and travel bans. COVID-19 vaccines currently offer the most promising means to manage the pandemic and a sense of hope for many who have been devastated by the loss of lives and livelihoods. However, the success of COVID-19 vaccines depends on high levels of uptake. Along with the various supply challenges related to access and availability, vaccine hesitancy is an emerging challenge facing South Africa’s COVID-19 vaccine roll-out.

The World Health Organization defines vaccine hesitancy as a “delay in acceptance or refusal of vaccines despite the availability of vaccination services”. It is a continuum ranging from complete acceptance to complete refusal, with vaccine-hesitant individuals comprising a diverse group with varying levels of doubt, indecision, uncertainty, or mistrust towards vaccination. Vaccine hesitancy poses significant risks not only for the hesitant individual, but also the wider community. With the COVID-19 pandemic and current roll-out of COVID-19 vaccines, vaccine hesitancy has gained attention as an important national public-health concern in South Africa. Delays and refusals of COVID-19 vaccination could mean that the country is unable to reach the thresholds of vaccine uptake necessary for herd immunity.

Against this backdrop, and as part of our broader vaccine implementation-science programme of work, Cochrane SA has been undertaking various initiatives focused on understanding this complex phenomenon. To inform an advisory for the National Department of Health on strategies to address COVID-19 vaccine hesitancy, we conducted a rapid review of surveys assessing COVID-19 vaccine acceptance among South Africans. One of the main findings was that uptake of a biomedical intervention such as a vaccine is a complex social phenomenon, influenced by a range of social factors such as age, race, education, politics, geographical location, and employment. This finding is not unique to COVID-19 vaccines. In our recently conducted global Cochrane review of qualitative evidence, we found that views about routine childhood vaccination reflected multiple webs of influence, meaning and logic – social, political, structural, emotional, moral as well as biological.

Primary research projects
We are also currently undertaking various primary research projects focused on COVID-19 vaccine hesitancy in South Africa. The ‘Vax-Scenes’ study, a collaboration between Cochrane SA, the Human Sciences Research Council and Sarraounia Public Health Trust, is exploring communities’ lived experiences of COVID-19 and the enablers and barriers to COVID-19 vaccine acceptance. This mixed-methods study is taking place in various settings in KwaZulu-Natal, Gauteng and the Western Cape Provinces. With a strong focus on ‘contextual’ influences, this research is attempting to extend dominant research on vaccine hesitancy which tends to prioritise individual factors over more social processes.

In another mixed-methods study, we are investigating the extent and determinants of COVID-19 vaccine hesitancy among healthcare workers in Cape Town. As part of both
this and the ‘Vax-Scenes’ study, we are pilot testing for application in South Africa two different scales (the 5C scale and the BeSD survey tool) that have been developed internationally to measure vaccine hesitancy. Most existing tools to measure vaccine hesitancy were developed for use in high-income countries, and none have been validated in South Africa. Through our research we hope to fill this gap by developing tool(s) that can be appropriately applied in South Africa at local and national levels.

Our PULSE (Public sentiments and information needs about coronavirus in South African Twitter space) is focusing on the social media domain, and specifically on tracking COVID-19 information propagation through Twitter in South Africa as a way to understand public knowledge and attitudes toward COVID-19 and strategies to control it.

Through these projects and others, we aim to build resources to enable a better understanding of COVID-19 vaccine hesitancy in South Africa, including its extent and determinants, and ways to measure it. Our hope is that this work will inform the development of strategies to address COVID-19 vaccine hesitancy that are more evidence-based, more contextually appropriate, and better tailored to the specific concerns of people in South Africa. We also hope that through our projects we will have a positive effect on broader efforts to bolster acceptance of and demand for vaccination more generally in South Africa, both during and beyond the COVID-19 pandemic.

References

Sara Cooper
Cochrane SA

“COVID-19 vaccines currently offer the most promising means to manage the pandemic and a sense of hope for many who have been devastated by the loss of lives and livelihoods. However, the success of COVID-19 vaccines depends on high levels of uptake.”

“We also hope that through our projects we will have a positive effect on broader efforts to bolster acceptance of and demand for vaccination more generally in South Africa, both during and beyond the COVID-19 pandemic.”

WHO-Afro policy briefs and rapid reviews on COVID-19

The Cochrane SA team has been involved in developing a series of policy briefs/rapid reviews on COVID-19 in collaboration with the WHO African Regional Office and Cochrane Africa. These are available in English, French and Portuguese.

- Effectiveness of different hygiene practices in interrupting household and community transmission of COVID-19. English, Portuguese, French
- The effects of COVID-19 on people with diabetes. English, Portuguese, French
- Effects of coronavirus 2019 disease in people living with HIV. English, Portuguese, French
- Effects of COVID-19 on HIV services. English, Portuguese, French
- The effects of COVID-19 on people living with obesity. English, Portuguese, French
- Effects of COVID-19 on people with current or previous tuberculosis. English, Portuguese, French
- Effectiveness of different distancing measures in interrupting COVID-19 transmission. English, Portuguese, French
- Effectiveness of different hygiene practices in interrupting nosocomial transmission of COVID-19. English, Portuguese, French
- Effects of COVID-19 on tuberculosis healthcare service delivery. English, Portuguese, French
- Service delivery organisation for COVID-19 response. English, Portuguese, French
- Health system governance and management for COVID-19 response. English, Portuguese, French
- COVID-19 response capacity with the health systems – health-information systems. English, Portuguese, French
- Health workforce recruitment and retention for COVID-19 emergency management. English, Portuguese, French
- COVID-19 related mortality and morbidity among healthcare providers. English, Portuguese, French
- Effects of COPD on COVID-19. English, Portuguese, French
- The effects of COVID-19 on persons living with hypertension. English, Portuguese, French
- Psychological toll of COVID-19 among healthcare providers. English, Portuguese, French
Are circumcision devices safer or faster compared to standard surgical circumcisions for males over 10 years?

**Background**  
Male circumcisions have been performed for centuries and are one of the most common surgical procedures in males. Doctors usually perform circumcisions by removing the foreskin in a surgical procedure. Some use circumcision devices. It is believed that they may save time, and be simpler and safer but it’s unclear whether males circumcised with these devices have better health outcomes.

**Study characteristics**  
The authors found 18 clinical trials comparing surgical and device-based procedures including 5246 males. They compared the complications patients had after the circumcision; the time taken to do the circumcision; patient’s pain immediately after the procedure and one week afterwards; and, patient satisfaction.

**Key results**  
There was probably little to no difference on serious complications such as hospital admission or permanent damage to the penis in any trial between surgical or device circumcision. There may be slightly more moderate complications that require additional treatment such as stitches or antibiotics for those circumcised with devices. The authors are unsure whether or not there is a difference in mild complications such as minor bleeding requiring treatment.

The average duration for the surgical procedure is 24 minutes (range 15 – 31 minutes), compared to devices at 7 minutes (range 3 – 13 minutes).

There may be less pain during the first 24 hours and little or no difference in pain in the first seven days for patients circumcised with the device compared to those circumcised with standard surgical methods.

**Conclusions**  
Overall, the review found that circumcision devices may have slightly more complications than standard surgery. Devices probably take less time and patients may feel less pain in the first 24 hours after the procedure. Patients may slightly prefer the use of a device.

These results should be considered alongside local context factors such as costs and access to trained healthcare workers. Further trials can help to understand the benefits and harms with more certainty.


Reducing nausea and vomiting in caesarean birth with regional anaesthesia

The aim was to find out from randomised controlled trials how effective drugs and other treatments are for reducing nausea and vomiting during and after caesarean section with epidural or spinal anaesthesia, compared with an inactive control.

Women often prefer to be awake during birth, so when possible, a caesarean is performed under regional anaesthesia (spinal or epidural). However, nausea and vomiting are commonly experienced during and immediately after caesarean section with regional anaesthesia. This is distressing for women, can challenge the surgeon and put the mother at risk of fluids going into her windpipe.

Several drugs are used to reduce nausea and vomiting. There are also non-drug approaches such as acupressure/ acupuncture and ginger. Side effects include headaches, dizziness, low blood pressure and itching.

**What evidence was found?**  
The authors identified 69 randomised controlled studies (involving 8928 women). Data were mostly on non-emergency caesareans and provided low or very low-certainty evidence. This was due to many of the studies being old, with small participant numbers or unclear methodology. A few outcomes had moderate-certainty evidence.

**What does this mean?**  
Several classes of drugs may help to reduce the number of women who experience nausea and vomiting during and after regional anaesthesia for caesarean births, although more data are needed. Acupressure may also help but the authors did not find enough data on ginger.

5HT3 antagonists, dopamine antagonists, corticosteroids, sedatives and acupressure all showed a reduction in all the primary outcomes. However, certainty of evidence was generally low/very low.

Several other classes of drugs and interventions, for example, antihistamines and anticholinergics show effects on some outcomes. This may reflect the amount of data available.

The studies suggest that emetic symptoms are common during and following caesarean. Placebo arms of trials
Cochrane SA Newsletter

included suggest an intraoperative incidence of nausea of 20% to 60%. This gives weight to published guidelines recommending prophylaxis rather than treatment of emesis at caesarean section (NICE 2011).

Implications for research

Whilst this review provides evidence that many single agents are efficacious much of it is low/very low certainty. A network meta-analysis might be undertaken to compare different drugs and drug groups. Future studies should assess potential adverse effects and women’s views.


Global COVID-19 research agenda still missing the priorities of low- and middle-income countries

A commentary published in The Lancet highlights the need for calls for urgent collaboration and co-ordination for unmet, underfunded COVID-19 research priorities in low-resource settings, and outlines what is needed for a more effective, truly global research response to the pandemic.

Over a year into the pandemic, co-ordination of an inclusive global research response remains limited. While there has been important leadership in COVID-19 research in many low- and middle-income countries (LMICs), most COVID-19 research globally focuses on the issues of greatest importance in high-income countries.

The article summarises conclusions from a meeting of researchers and funders organised in March 2021 by the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R), the UK Collaborative on Development Research (UKCDR), and the COVID-19 Clinical Research Coalition, bringing together global research funders, including those funding research on COVID-19 in LMICs, with researchers undertaking this research in LMICs.

The authors highlight barriers to funding and implementing research in low-resource settings during the pandemic, and the need for greater domestic and international mobilisation of resources and research co-ordination.

The report highlights critical research gaps, including:

- Clinical research on affordable, available, deployable tools to diagnose, treat and prevent COVID-19 in low-resource settings.
- Assessment of direct and indirect impacts of COVID-19 on public health and health systems.
- Strengthening of disease surveillance, biobanking and sequencing capacity.
- Interdisciplinary research that takes a ‘One Health’ approach.

The authors propose a framework that links these areas with private-sector R&D and additional cross-cutting issues such as community-centred approaches, data sharing, and rapid funding mechanisms, as well as pandemic-prediction capacities.

“GloPID-R is excited to move this agenda forward through its LMIC funder working group and through an ongoing drive to expand regional membership and improve collaboration and cohesion of research funding preparedness and response,” said Prof. Charles Shey Wiysonge, GloPID-R Vice Chair and Director of Cochrane SA.

See the commentary at http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00980-6/fulltext

Cochrane launches new Trainer’s Hub

Cochrane recently announced the launch of a new Trainers’ Hub on the Cochrane Training website: https://training.cochrane.org/trainers-hub

Cochrane is also launching a revised and updated version of its Author Training Materials. The new format for the Author Training Materials is the result of many months’ work with methodologists and training specialists. Anke Rohwer from Stellenbosch University in South Africa, assisted in reformatting and representing the modules. Cochrane’s recent survey was also used for insights to help Cochrane understand how to support the community of Cochrane trainers.
Cochrane First Aid and Cochrane Africa collaborate

Cochrane First Aid and Cochrane Africa will collaborate to disseminate information. Cochrane First Aid (https://firstaid.cochrane.org) contacted Cochrane Africa in 2019 for help with translations of blogshots to Kiswahili. This triggered a mutual interest in a synergistic collaboration. Cochrane Africa will help disseminate Cochrane First Aid’s work via its social media and website. In return, Cochrane First Aid will give priority to translating blogshots relevant to the sub-Saharan African context from English to Kiswahili, French and Portuguese. Further opportunities to expand the collaboration will also be sought.

Cochrane First Aid – why?

Over the last two decades, first-aid guidelines have evolved from consensus based to evidence based. This evolution started when first-aid guideline developers started to recognise the importance of identifying and using solid scientific evidence for their guidelines.

Among the driving forces behind this evidence-based first-aid movement are the Belgian Red Cross with its Centre for Evidence-Based Practice (CEBaP), the Global First Aid Reference Centre (GFARC) of the International Federation of Red Cross/Crescent Societies (IFRC), and the International Liaison Committee on Resuscitation (ILCOR).

In making their first-aid guidelines for Flanders, Belgium, CEBaP demonstrated a lack of Cochrane-quality evidence. In addition, it showed that the availability of Cochrane systematic reviews relevant for the first-aid field was scattered across different Cochrane Review Groups and Networks.

CEBaP therefore launched the Cochrane First Aid thematic Field in April 2019.

Aims

Cochrane First Aid is a global, independent network of people who advocate for the development, dissemination and uptake of high-quality evidence on first aid. It aspires to lower the bar towards the use of evidence for all who have an interest in first aid and to be a liaison between science and practice.

Activities

- Network building, by actively reaching out to the main players in the field of first aid. In response, GFARC has agreed to become a collaborating centre of the Field.
- Building demand, by creating and maintaining a register of first aid-related Cochrane systematic reviews on their website.
- Knowledge translation, by repackaging Cochrane evidence in easy-to-use formats, such as blogshots. To make the evidence easily accessible to people across the world, they work with volunteers to translate these blogshots into different languages and disseminate them through their website and social media channels. Right now, they have blogshots translated into six languages, one of which is Kiswahili.
- Stakeholder engagement and review production, by setting up a prioritisation exercise to consult global first-aid partners about their evidence needs.

Conferences

6th Malaria Research Conference 2021
3 – 4 August 2021, Virtual
Theme: Research and Control: United Against Malaria
http://malariaconference.mrc.ac.za

iHV Evidence-based Practice Conference 2021
21 – 22 September 2021, Virtual

16th Annual Guidelines International Network Conference
25 – 27 October 2021, Virtual
Theme: Future Forward: Relevant, implementable, and sustainable guidelines.
https://g-i-n.net/conference/welcome-to-the-gin-conference-tmp/

ICEBHN 2021: 15. International Conference on Evidence-Based Healthcare and Nursing
8 – 9 November 2021, Istanbul, Turkey