GELA Project launched to enhance evidence-informed guideline recommendations for newborn and child health in sub-Saharan African countries

“Despite progress in the health of newborns and children, most sub-Saharan African countries have not met the Sustainable Development Goals for under-five mortality,” said Tamara Kredo of Cochrane SA. “The consequences of the COVID-19 pandemic are being felt on health systems and services, hampering healthcare delivery to children and increasing poverty, food insecurity and inequity. To address this, policy makers and practitioners not only need evidence-based guidance on effective clinical care, they also need guidance on how to implement this care efficiently within their health systems.”

To tackle some of these challenges, the European and Developing Countries Clinical Trials Partnership (EDCTP) has awarded three-year funding to a partnership coordinated by Cochrane SA, with partners from the Norwegian Institute of Public Health, the Norwegian University of Science and Technology, Western Norway University of Applied Science, Stellenbosch University, Cochrane Nigeria at the University of Calabar Teaching Hospital, Kamuzu University of Health Sciences, Malawi, Cochrane and the Stiftelsen MAGIC Evidence Ecosystem, Norway. The project is part of the EDCTP2 programme supported by the European Union (grant number RIA2020S-3303-GELA).

The project is titled Global Evidence, Local Adaptation (GELA) and aims to enhance evidence-informed guideline recommendations for newborn and young child health in South Africa, Malawi and Nigeria. GELA will support decision makers and build on and add value to the large-scale programme of child-health guideline development led by the World Health Organization, with adaptation and implementation led by the WHO Afro regional office, country offices and national ministries and the civil society group, Peoples Health Movement.

GELA will incorporate a multi-faceted, multidisciplinary research and capacity-strengthening programme using primary and secondary research, guideline-adaptation methodology and digital platforms to support delivery and dynamic local adaptation.

The EDCTP is a public-public partnership between countries in Europe and sub-Saharan Africa, supported by the European Union. EDCTP focuses on enhancing research capacity and accelerating the development of new or improved medical interventions for the identification, treatment and prevention of poverty-related infectious diseases, including emerging and re-emerging diseases in sub-Saharan Africa, through all phases of clinical trials, with emphasis on phase II and III trials.
People spend lots of money trying to lose weight using diets, products, foods and books, and continue to debate about which diets are effective and safe. So, examining the scientific evidence behind claims made is important. Low-carbohydrate diets are a broad category of weight-reducing diets that manipulate and restrict carbohydrates, protein and fat in diets. There are no consistent, widely-accepted definitions of these diets and different descriptions are used (such as, ‘low-carbohydrate, high-protein’, ‘low-carbohydrate, high-fat’, or ‘very low-carbohydrate’).

Low-carbohydrate diets are implemented differently, but they restrict grains, cereals and legumes, and other carbohydrate-containing foods; such as dairy, most fruit and certain vegetables. These are typically replaced with foods higher in fat and protein; such as meats, eggs, cheese, butter, cream and oils. Some low-carbohydrate diets recommend eating as desired, while others restrict the amount of energy eaten.

Balanced-carbohydrate diets contain more moderate amounts of carbohydrates, protein and fats, in line with current healthy eating advice from health authorities. When used for weight reduction, balanced diets recommend restricting the amount of energy eaten by guiding people to reduce portion sizes and choose healthier foods (e.g. lean instead of fatty meat).

Low-carbohydrate weight-reducing diets are widely marketed and commercialised as being more effective for weight loss, and healthier, than ‘balanced’-carbohydrate weight-reducing diets. The authors wanted to find out if low-carbohydrate weight-reducing diets were better for weight loss and heart disease risk factors than balanced-carbohydrate weight-reducing diets in adults who were overweight or living with obesity and those with and without type-2 diabetes.

What did they do?

They searched six databases and trial registries for trials comparing low-carbohydrate weight-reducing diets with balanced-carbohydrate weight-reducing diets in adults who were overweight or living with obesity. The trials had to last for at least three months. They compared and summarised the results of the trials and rated their confidence in the combined evidence, based on factors such as study methods and sizes.

What did they find?

They found 61 trials involving 6925 people. The biggest was in 419 people and the smallest was in 20. All except one were conducted in high-income countries worldwide, with nearly half in the USA (26). Most (36) were undertaken in people who did not have heart disease or risk factors. Most people (5118) did not have type-2 diabetes. The average starting weight of people across the trials was 95kg. Most studies (37) lasted six months or less; and the longest (6) lasted two years.

Main results

Low-carbohydrate weight-reducing diets probably result in little to no difference in weight loss over the short term (trials lasting 3 to 8.5 months) and long term (trials lasting one to two years) compared to balanced-carbohydrate weight-reducing diets, in people with and without type-2 diabetes. In the short term, the average difference in weight loss was about 1kg and in the long term, the average difference was less than 1kg.

People lost weight on both diets in some trials. The amount of weight lost on average varied greatly with both diets across the trials from less than 1kg in some up to about 12kg in others in the short term and long term.

Similarly, low-carbohydrate weight-reducing diets probably result in little to no difference in diastolic blood pressure, glycosylated haemoglobin (HbA1c) and LDL cholesterol (‘unhealthy’ cholesterol) for up to two years.

No conclusions could be drawn about unwanted effects reported by participants because very few trials reported these.

The authors are moderately confident in the evidence. Confidence was lowered because of concerns about how some of the trials were conducted, including that many did not report all their results. Further research may change these results.

The evidence is up-to-date to June 2021.


This review is associated with the Research, Evidence and Development Initiative (READ-It) project. READ-It (project number 300342-104) is funded by UK aid from the UK government; however, the views expressed do not necessarily reflect the UK government’s official policies.
Founding Director of Cochrane SA, Prof. Jimmy Volmink received a Doctor of Science, honoris causa from McMaster University in Canada in recognition of his pioneering role and international leadership in evidence-based medicine (EBM).

“He was the founding director of Cochrane SA at the invitation of the SA Medical Research Council and guided Cochrane SA to becoming a leader in the promotion and proliferation of EBM in order to make more healthcare decisions based on reliable research rather than tradition or opinion,” said McMaster University President and Vice-Chancellor, Dr David Farrar.

“Throughout his career, he has combined clinical work with research and innovation that has produced more than 200 co-authored publications on topics including interventions for tuberculosis, HIV/AIDS and cardiovascular disease; promoting evidence-based decision making; addressing health and social inequities; and, building research capacity on the African continent.”

Volmink was Dean of Stellenbosch University’s Faculty of Medicine and Health Sciences from 2011 to 2021. The accolade is the latest of many including the Leverhulme Medal from the Liverpool School of Tropical Medicine, Stellenbosch University’s Lifetime Chancellor’s Award, the SAMRC President’s Lifetime Achiever Award and an honorary doctorate from KU Leuven, Belgium.

In his address, Volmink lauded McMaster as the birthplace of EBM. “I am deeply humbled to have been considered worthy of an honour of such enormous magnitude from one of the world’s leading academic institutions.”

“Much has changed in healthcare since I graduated from medical school in 1982,” he said. “Evidence-based medicine pioneered by key individuals based at this fine institution was introduced as a bold new paradigm for making healthcare decisions, with far-reaching impact on health professional training and practice worldwide.”

“EBM has helped improve how health policy is made at the highest level globally and has also challenged thinking about the nature of evidence in fields beyond health, such as education, criminal justice and the social sciences.”

“It’s an honour I would like to share with all those who, through their encouragement and support, enabled the achievements for which I am being recognised. This includes members of my family (particularly my parents who sacrificed much), friends, teachers, mentors and colleagues.”

In a Grand Rounds presentation the next day, Volmink traced his journey, saying: “My time in Oxford changed me forever. But taking Cochrane from Oxford to Africa wasn’t straightforward – it’s a very different context. Teamwork has been key. From the start the centre was dedicated not only to work in South Africa but to spread this message across Africa. We worked hard to reach out to other countries to do systematic reviews and get them into practice and policy. It’s been an exciting journey.”

He also focused on the role of evidence and education to advance equity. “You can’t just talk about equality where everyone is treated the same. Equity is about giving more to those who have less. That’s the only way you balance things out. That’s why I’m excited about equity.” He emphasised the need for a new EBM – an Equity-Based Movement – involving shared leadership, participation in research conceptualisation and shared benefits.

He ended with lessons from the pandemic.

“COVID was not just a health but a humanitarian crisis. It impacted on people in many ways and will continue to do so. We talk about globalisation benefitting everyone and how we are in this together. We were in the storm together but in different boats. Africa was left behind. We struggled for access to vaccines, PPE, treatment, human resources. It reinforced for me that aid to Africa is not the answer. It’s about helping Africa to be self-sufficient. It’s made me more determined to give my time to intensify this, to build capacity in Africa in every possible way so that we are self-sufficient in dealing with these crises. We cannot depend on charity.”
Global presence with African roots

In April Dr Patrice Matchaba received the degree of Doctor of Science honoris causa from Stellenbosch University for his “outstanding contributions to pharmaceutical and clinical science, and his leadership role in addressing disparities in healthcare and research capacity globally”.

Matchaba is president of the Novartis Foundation in the United States but traces his formative development to his early career in southern Africa and particularly his time at Cochrane SA in the late 1990s.

“I would not be here if I had not worked at Cochrane at the SAMRC. All those insights, the concentration on looking at the facts, the data, the evidence. I still use it all,” he said.

“When I finished my fellowship in 1995 in obstetrics and gynaecology I wanted to go back to research. It was Jimmy Volmink who took a chance on me. I would not be here without him.”

“The advent of evidence-based medicine – the timing of and importance of that in my career cannot be overstated.”

The knowledge and experience gained meant that within two years of joining Novartis in Johannesburg in 2000, Matchaba was transferred to their global offices to share this expertise. His career at Novartis continued on an upward trajectory which saw him as Novartis Group Head of Global Health & Corporate Responsibility but throughout he kept his focus on applying evidence to improve care and treatment and address disparities.

Among countless achievements in the past 20 years, he highlighted work in human-capital development – the Novartis/University of Basel Next Generation Scientists Programme “which has trained about 250 scientists from South America, Africa and Asia” as well as programmes aimed at addressing unmet disease burdens in the developing world. This includes work on leprosy which, in addition to supplying the medicines, enhances early diagnosis using mobile technology, AI and machine learning.

“One of the first programmes we created is for sickle cell disease,” he continued. “300,000 babies are born in Africa every day with sickle cell and only about 20% live beyond five years. We took over the manufacture of the available drug and reduced the cost by over 90%, and introduced point-of-care diagnostics to reach babies at vaccination clinics.”

The work has now expanded into gene therapy with funding from the Bill and Melinda Gates Grand Challenges. “Sickle cell is the oldest-known genetic disease,” said Matchaba. “The only reason there is no genetic therapy is because 80% of the sufferers come from Africa. If we crack the code, Gates will provide the therapy at no profit to 200 million patients.”

Racial disparities

Events in the US in the last few years including the murder of George Floyd, Black Lives Matter and witnessing the devastating impact of COVID on black and brown communities became a decisive factor and Matchaba transferred to the Novartis US Foundation to work more explicitly on programmes aimed at improving health and equity.

“Medicine has been racialised,” he said. “Most disease outcomes are based on social determinants, people have converted that to assume they are based on race.”

“Such racialisation has been used to the detriment of black people,” he added. “There are over 16 conditions where race correction has been put into the algorithm. An example is pulse oximeters which overestimate the oxygenation of black or brown people because they were not included in of the initial calibration. People were being denied hospitalisation for COVID on this basis.”

“Also what about the sequencing of the human genome? Only 2.5% of African genes have been sequenced. The African-origin genome is the most diverse so within that sequencing lie many clues about disease aetiology and treatment.”

“Evidence needs to start deconstructing 400 years of racialised medicine.”

And what about our moonshot?

Beacon of Hope – the ten-year programme Matchaba is working on now is about closing those educational and research gaps in the US. It channels funding via historically black medical schools to develop the next generation of clinicians and researchers, as well as appropriate clinical trials, translational and data-driven research to tackle
Prof. Charles Wiysonge took over the leadership of the South African Medical Research Council’s largest intramural research unit, the HIV and other Infectious Diseases Research Unit (HIDRU) from May 2022, as the Senior Unit Director. Wiysonge will lead, manage, and expand the research portfolio of HIDRU as well as Cochrane South Africa. HIDRU conducts epidemiological, behavioural, basic science, and clinical research to investigate vulnerability to HIV and other infectious diseases as well as interventions (including vaccines and drugs) for controlling these diseases. Wiysonge takes over from Prof. Ameena Goga who led HIDRU for three years.

Wiysonge has been the Director of Cochrane SA since December 2016 and previously served as Senior Scientist from 2007 to 2009 and Chief Specialist Scientist from 2014 to 2016.

He is an internationally acclaimed scientist in vaccinology and evidence-based healthcare with more than 300 peer-reviewed publications, an H-index of 70, and considerable management and mentorship experience. The focus of his current research is vaccine implementation science.

Wiysonge also serves on numerous national, continental, and global advisory committees; including as Vice-Chair of the Global Research Collaboration for Infectious Disease Preparedness and Response (GloPID-R).

“On behalf of the EMC and the entire SAMRC, I wish to congratulate Prof. Wiysonge on his appointment which comes at a critical time when the Unit is in a transitioning phase from the HIV Prevention Research Unit to HIV and Other Infectious Diseases Research Unit (HiDRU),” said Prof. Glenda E. Gray, SAMRC President and CEO. “The change reflects the broad spectrum of multidisciplinary studies within the Unit, that stretch beyond HIV prevention research to infectious diseases, particularly in light of the advancement of the COVID-19 pandemic, and the unrelenting TB epidemic.”

The management of Cochrane SA has also been strengthened with the appointment of two Deputy Directors – Duduzile Ndwandwe and Tamara Kredo.
How accurate are symptoms and medical examination to diagnose COVID-19?

Symptoms are experienced by patients. COVID-19 symptoms include cough, sore throat, high temperature, diarrhoea, headache, muscle or joint pain, fatigue, and loss of sense of smell and taste. Signs are measured by healthcare workers during clinical examination. They include lung sounds, blood pressure, blood oxygen level and heart rate. Symptoms and signs of COVID-19 are varied and may indicate other diseases. The authors wanted to know how accurate diagnosis of COVID-19 is, based on symptoms and signs from medical examination.

Key review messages

- Results suggest that a single symptom included in this review cannot accurately diagnose COVID-19.
- Loss of sense of taste or smell could be a ‘red flag’ for the presence of COVID-19. Cough or fever might be useful to identify people who might have COVID-19. These symptoms might be useful to prompt further testing.
- More research is needed to investigate combinations of symptoms and signs with other information such as recent contact or travel history, or vaccination status, and in children, and adults aged 65 years and over.

Interventions to reduce the risk of coronavirus infection among workers outside healthcare settings

Different interventions that attempt to prevent or reduce workers’ exposure to SARS-CoV-2 in the workplace have been implemented during the pandemic. This review evaluated the effects of these interventions on the COVID-19 infection-rate, absenteeism, COVID-19-related mortality, and adverse events.

The authors searched for studies examining interventions in four categories:

1) elimination (e.g. self-isolation strategies);
2) engineering controls (e.g. barriers to separate or distance co-workers, and workers from members of the public);
3) administrative controls (e.g. working from home);
4) personal protective equipment (e.g. face masks or other types of face covering).

They included studies of any worker outside the healthcare setting and without language or time restrictions.

Key review messages

- The authors are uncertain whether a strategy of test-based attendance changes COVID-19 infection rates compared with routine isolation after contact with a person with COVID-19. COVID-related absence may be lower or similar in the test-based attendance group. However, they were uncertain about these findings, because the number of infections was very low. Mortality, adverse events, quality of life, and hospitalisation were not measured. Seventy-one per cent of the test-based attendance group followed the strategy; the researchers did not report on compliance for the standard isolation group.
- They identified one ongoing study that also addressed the effects of screening in schools.
- Another ongoing study is evaluating the effects of using face shields to prevent transmission.
- They did not find any studies on engineering or administrative controls.

How accurate is chest imaging for diagnosing COVID-19?

A formal diagnosis of COVID-19 requires a laboratory test (RT-PCR) of nose and throat samples. RT-PCR requires specialist equipment and takes at least 24 hours. It is not completely accurate, and may require a second RT-PCR or a different test to confirm diagnosis. Clinicians may use chest imaging to diagnose people who have COVID-19 symptoms, while awaiting RT-PCR results or when RT-PCR results are negative, and the person has COVID-19 symptoms.

The authors wanted to know whether chest imaging is accurate enough to diagnose COVID-19. They included studies in people with suspected COVID-19. They also wanted to assess the accuracy of chest imaging for screening asymptomatic people.

Key review messages

- The evidence suggests that chest CT and ultrasound are better at ruling out COVID-19 infection than distinguishing it from other respiratory problems. So, their usefulness may be limited to excluding COVID-19 infection. Also chest CT imaging had poor sensitivity and high specificity for detecting asymptomatic individuals.
- The findings indicate that chest computed tomography (CT), chest X-ray and ultrasound all give higher proportions of positive results for individuals with COVID-19 as compared to those without.
- For ultrasound of the lungs, the chances of a positive result are 88.9% (95% CI 84.9 to 92.0) in individuals with COVID-19 and 23.7% (95% CI 13.3 to 33.8) in those without.
- Due to the limited data, accuracy estimates of chest X-ray and ultrasound of the lungs for the diagnosis of COVID-19 in suspected participants should be carefully interpreted.
COVID-19, what have we learnt? 2021 edition of the South African Health Review launched

The Health Systems Trust, in collaboration with the Health Economics and AIDS Research Division (HEARD), a unit of the University of KwaZulu-Natal, have published the 2021 edition of the South African Health Review which documents the South African health sector’s response to COVID-19; provides examples of innovations, best practices and collaboration; and, assesses the impact of COVID-19 on vulnerable populations. The publication is a repository of valuable information, including lessons for developing resilient health systems capable of responding to public-health emergencies.

Contents cover a wide range of topics, from assessing the government’s response to COVID-19 and efforts to balance lives and livelihoods, to investigating the impact of COVID-19 on human resources for health and vulnerable populations, and documenting good practices and promising innovations.

To access the Chapters at a Glance click here.

Cochrane SA staff members Tamara Kredo and Natasha Gloeck are among the chapter authors.

A few of the key messages are:

- While government’s swift and decisive action in the form of a risk-adjusted strategy delayed the peak in COVID-19 cases, and saved lives, complete lockdowns have been shown to be a blunt tool which have vast economic and socio-economic side-effects that disproportionately affect poor and vulnerable populations.
- The pandemic has had devastating socio-economic costs; an estimated 2.8 million South Africans have lost their jobs. More than R20 billion has been channelled to the health-sector COVID-19 response and an additional R100 billion has been spent on income support through new social grants and TERS benefits.
- COVID-19 has placed an even greater strain on South Africa’s overburdened and under-resourced health system and has stymied the progress in strengthening health systems towards achieving universal health coverage.
- The response has also accelerated action in some areas. There has been progress in developing reporting systems; promising examples of intersectoral collaboration, public-private partnerships, innovative joint ventures and examples of providing rehabilitation services under strict lockdown conditions.

The Review is available in electronic and hardcopy at https://www.hst.org.za/

New faces at Cochrane SA

Natasha Gloeck (Tasha, as she prefers to be known) graduated as a medical doctor in April 2009. She further obtained a Diploma in Tropical Medicine and Health in April 2014 and an MSc in Clinical Epidemiology in May 2020, both cum laude. She worked as a medical intern in McCord Hospital in Durban before moving to Pretoria for her community service. She worked in both private and public primary healthcare clinics for five years in Pretoria before moving to the University of Pretoria’s Department of Family Medicine as a medical officer in 2016. She was involved in a research-in-action programme called the Community Oriented Substance Use Programme – initially clinical work, and later research and it was during this time that she became more interested in research and the role it can play in impacting patient lives through evidence. In 2018, she moved with her family to Cape Town and continued her work for UP doing project and data management as well as collaborating on various peer-reviewed publications, including a chapter in the South African Health Review 2021. In 2021 she presented her work at three conferences, including presenting part of her masters dissertation at the World Epidemiology Conference in September 2021.

Now at Cochrane SA, Tasha is passionate about implementing training and research that positively impacts the lives of the people of South Africa, and other low-and-middle income countries. When not working, Tasha spends her time with her husband, and three daughters.

Mashudu Mthethwa is a Senior scientist at Cochrane SA. She has a PhD in Medical Physiology from Stellenbosch University and a Masters in Public Health from the University of Cape Town. Her interests include epidemiology, biostatistics and evidence-based healthcare. She has previously worked on HIV projects, including multimorbidity in people living with HIV/ART and the effects of HIV/ART on cardiovascular function. She is currently involved in various projects including priority setting for universal healthcare, vaccine equity and clinical practice guidelines for newborn and child health.

Her hobbies include reading, walks on the beach, coffee dates with friends and family, and watching reality shows (which she describes as “crazy I know”). She also admitted to an interest in weight training although she has not had the opportunity to do it for years.
Denny Mabetha holds a Masters of Science in Epidemiology from the University of the Witwatersrand and a Bachelor’s Degree: Human Nutrition (Dietetics) from the University of Limpopo. She has worked as a Community Service Dietitian for the Mpumalanga Department of Health at Tintswalo Hospital in Acornhoek as well as a Dietitian at the Acornhoek Lifestyle Center. Most recently she has worked as Project Manager and previously Project Co-ordinator at the MRC/Wits Agincourt Health and Demographic Surveillance System Unit working on mixed-methods and participatory action studies that focus on various areas such as social circumstances of mortalities, HIV and PrEP.

She describes herself as a “resourceful Project Manager with expertise in nutrition, public health, research and project operations, who enjoys managing research teams, identifying problems, and providing targeted solutions”. Her knowledge of protocol development, project design, planning and implementation, data management and analysis, stakeholder engagement and implementation of quality improvement strategies will be put to good use at Cochrane SA which she joins at part of the Read-It and GELA projects. Denny likes exploring nature through running and hiking in her spare time.

Ntombi Blose is an Epidemiologist by training. She holds a Masters of Public Health: Epidemiology and Biostatistics from the University of Cape Town (with distinction), a Bachelor of Science Honours (Medicine) in Medical Science (Infectious Diseases and Immunology) as well as a Bachelor of Health Science in Medical Sciences (Physiology).

Her previous work experience includes being Study Co-ordinator at the School of Public Health and Family Medicine at the University of Cape Town, mentor/facilitator for the Ehlwoza project, as well as for the Community Development Association Masakhane, at the University of KwaZulu-Natal. She also worked previously as an intern for Cochrane SA. In 2021 she undertook the Fogarty HIV-associated Tuberculosis Training Program, Graduate Summer Institute of Epidemiology and Biostatistics, at the John Hopkins Bloomberg School of Public Health.

Ntombi is particularly interested in the application of epidemiological and statistical tools in determining what works in public health (using evidence-based methods) and all things data related. She joins Cochrane SA as a Senior Scientist working for the GELA project.

When Ntombi is not casually reading the latest health news, she likes to explore food restaurants and browse on health-related tik-tok pages.

Conferences

**7th Malaria Research Conference 2022**
2-4 August 2022, Virtual
Theme: Control and Elimination amidst the COVID-19 pandemic
http://malariaconference.mrc.ac.za/

**PHASA 2022 Conference**
11-14 September 2022, Durban, South Africa
http://phasa.samrc.ac.za/

**7th SA TB Conference 2022**
13-16 September 2022, Durban, South Africa
https://tbconference.co.za/Home/

**GIN 2022 Conference**
21-24 September 2022, Toronto, Canada
https://g-i-n.net/conference_2022/

**12th Annual BRIP Symposium**
18-19 October 2022, SAMRC Conference Centre, Cape Town/MS Teams
Email: Brip.Symposium@mrc.ac.za

**Cochrane SA National Symposium 2022**
22-23 November 2022, hybrid
https://southafrica.cochrane.org/

**Global Health Network Conference**
24-25 November, University of Cape Town
Theme: Enabling health research in every healthcare setting

**The Global Evidence Summit** has been postponed to 9 – 13 September 2024.