Africa HEALTH
JOURNAL



Occupational Health in Africa: Navigating Challenges, Harnessing Opportunities.

Nurturing a new medical specialty: Seed Global Health's approach to developing Emergency Medicine in Uganda.

Glaucoma: The silent thief of sight.

A Review of Global Surgery in Rwanda: Global Solutions from Rural Locations.

Africa HEALTH JOURNAL

Africa Health is a journal of continuing medical education information for health professionals, health managers and political leaders in Africa and globally

ACHEST

Published four times a year by the

African Centre for Global Health and Social Transformation

Plot 13B, Acacia Avenue, Kololo
P.O. Box 9974, Kampala, Uganda
Tel: +256 414237225/414250022
Fax: +256 414237226
Email: africahealth@achest.org

www.africa-health.com

Publisher
Francis Omaswa

Accounts Manager
Josephine Amuron

Editor/Production Manager
Elsie Kiguli-Malwadde

Consulting Editor
Bryan Pearson

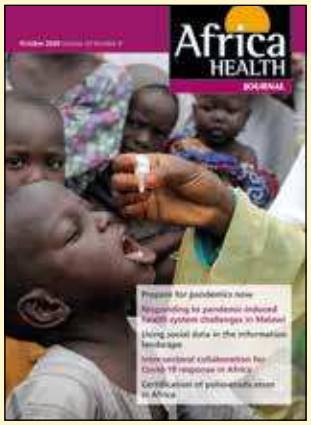
Business Development Director
David Okello

Layout
Elvis Muyanja

Website Managers
Charles Imalingat
Abraham Okoine

Printed by Elysian Printers in Kampala and Multinational Concepts Ltd in Lagos









Africa Centre for Global Health and Social Transformation
All contents are © 2021

ISSN 0141-9536 (print)
ISSN 2053-4760 (online)

Contents

Vol 46 No. 2 April 2024



Editorial

03 A Diverse Collection of Articles
Elsie Kiguli-Malwadde

Opinion

06 Inaugural Africa Health Workforce Forum
Francis Omaswa

Features

07 Occupational Health in Africa: Navigating Challenges, Harnessing Opportunities
Dr. El Nagieb brings to light the plight of minors in the region due to lack of frameworks in Occupational Health

11 Cervical Cancer: The Preventable Killer
Taofik Oloruko-Obagives a background on Cancer of the Cervix in Kenya and highlights the fact that It can be eradicated In Africa.

13 Transforming Sierra Leone's Healthcare: A Vision for Safe and Affordable Surgery
According to Dr. Austin Demby, Sierra Leone's healthcare transformation is a multi-faceted journey that demands collective effort, innovation, and unwavering determination.

16 CUGH 2024, Global Health without borders: Acting for impact
Elsie Kiguli-Malwadde.

18 Nurturing a new medical specialty: Seed Global Health's approach to developing Emergency Medicine in Uganda
Brian Agaba highlights one Non-Governmental Organization's contribution to developing Emergency medical services in Uganda. He describes the NGO's unique three-pronged approach of strengthening education, practice and policy.

21 New African Medical Schools meet in Namibia: Consortium of New Sub Sahara African Medical Schools (CONSAMS).
Quentin Eichbaum describes a meeting held in Namibia which was attended by several new medical scools in Africa under the umbrella of Consortium of New Sub Sahara African Medical Schools (CONSAMS)

24 Glaucoma: The silent thief of sight
A team of Ophthalmologists discuss Glaucoma, the silent thief of sight owing to its painless nature of irreversible vision loss. They give the basics on its risk factors, aetiology, diagnosis and treatment

26 A Review of Global Surgery in Rwanda: Global Solutions from Rural Locations
A team from the University of Global Health Equity, Rwanda describes the cross-cutting multidisciplinary and interprofessional work in surgical education, clinical care, research, policy, advocacy and innovation.

Medicine Digest

32 Abstracts from Renowned Journals

CPD Challenge

37 Test Yourself

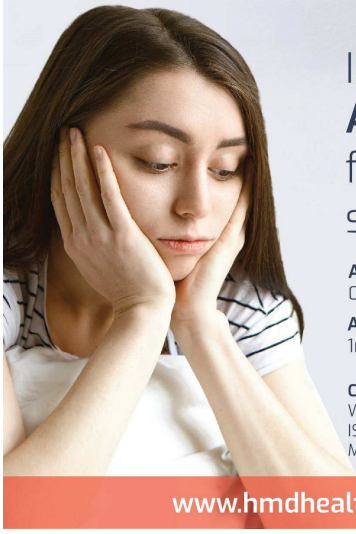
Below are our Publishing Partners. Each organisation has demonstrated its commitment to health in Africa by supporting this publication throughout the year.

KOJAK®
SELINGE

HMD

When you are being Injected make sure you are not being Infected





Insist on using
Auto Disable Syringe
for assurance and safe injections

Available for Immunization
0.1ml, 0.2ml, 0.25ml, 0.3ml, 0.5ml

Available for Therapeutic
1ml, 2ml, 3ml, 5ml, 10ml, 20ml

Certification:
WHO PQS
ISO 13485
MDSAP



Kojak Safety Box
For collection of sharps - used syringes/needles/ blades, 5L/10L

www.hmdhealthcare.com

Your Defence Against AIDS/Hepatitis

Sharpen your cause of death certification skills and help improve your country's mortality data.

Enroll in the Medical Certification for Cause of Death (MCCOD) eLearning course.

Physicians in some countries can earn continuing medical education credit for this course.

TO REGISTER, PLEASE VISIT
https://www.train.org/main/course/1078859/

For additional information, please email CRVSinfo@vitalstrategies.org

SUPPORTED BY

Bloomberg Philanthropies · DATA FOR HEALTH INITIATIVE · Vital Strategies

Africa HEALTH **Subscription information**

We run a two-tier system for paper-based subscriptions to Africa Health Journal, and there are options for payment in local currency in some African countries.

International subscribers: If you reside within the European Union: $ 100 or € 83 or £ 75 per annum. Elsewhere in the world: $ 140 or € 124 or £ 113 (airmail).
Health professional's resident in Africa: $ 50 or € 42 or £ 38 per annum.

Payment Options
Payment can be made by Wire Transfer to the following Account Details.
Account Name: African Centre for Global Health and Social Transformation

Bank Name:	Bank of Baroda (Uganda) Ltd
Account No:	95010200002110
Currency:	US Dollars
Branch:	Plot 18 Kampala Road, P.O Box 7197 Kampala, Uganda
Swift Code:	BARBUGKAXXXX

For more information, please contact us on africahealth@achest.org.

A Diverse Collection of Articles

Welcome to the April issue of the African Health Journal (AHJ), where we present a diverse collection of articles addressing crucial health challenges and advancements across the continent. This issue spans topics from health workforce issues debilitating diseases to the evolving landscape of surgery in Africa and innovations in health professions education.

The opinion by Francis Omaswa kicks off this issue by reporting on the WHO African Region Inaugural Africa Health Workforce Forum 6 - 8 May, 2024 which was convened in Windhoek, Namibia. The event marked the launch of the African Health Workforce Investment Charter, aiming to address the continent's significant health workforce shortage. The Charter sets a goal to halve Africa's 6.1 million health worker deficit by 2030 by mobilizing and aligning domestic and partner funding. The forum was attended by Ministers, representatives from governments and key stakeholders across the education, finance, health, labour and public service sectors. The forum emphasized the need for sustainable investment in health workforce education, employment, and retention, particularly in underserved regions.

Dr. Omer El Nagieb offers a comprehensive overview of Occupational Health (OH) in Africa, defining it as the protection of the health of the working population. He highlights several persistent challenges, including limited access, a shortage of professionals, and a lack of supportive frameworks. Despite these obstacles, Dr. El Nagieb identifies numerous opportunities for improvement, such as capacity building through training, strengthening legislation and enforcement, investing in OH infrastructure, fostering collaboration and partnerships, and enhancing research and data collection. He concludes that improving occupational health outcomes is not only achievable but essential for sustainable development on the continent.

Taofik Oloruko-Oba provides an in-depth look at cervical cancer in Kenya, emphasizing the potential for its eradication in Africa. He notes that most cervical cancer cases and deaths occur in low- and middle-income countries, many of which are in Africa. Oloruko-Oba discusses the efforts underway in Kenya, including guidelines developed by the Ministry of Health, and highlights the challenges faced by rural Kenyan women in accessing the HPV vaccine or a Pap smear. This underscores the urgent need for action to protect African women from this preventable disease.

An article on surgery in Sierra Leone features Dr. Austin Demby, the country's Minister of Health, speaking at the 64th Annual West African College of Surgeons Conference. He emphasized the urgent need for equitable access to safe, affordable surgical and anesthetic care in West Africa. With only 15 residents and a handful of surgeons serving a population of eight million, the Ministry of Health is committed to transforming healthcare by increasing the number of surgeons, enhancing community health officers' skills, and improving surgical education. Collaborations with organizations like Mercy Ships and hosting over 700 surgeons highlight efforts to build a robust, self-sufficient healthcare system for national development.

Three subsequent articles delve into the importance of collaborations and partnerships in enhancing health professions education across various fields. The first article covers the Consortium of Universities of Global Health (CUGH) annual conference, held in Los Angeles, California. With the theme "Global Health without Borders: Acting for Impact," it features a panel by the African Forum for Education and Research in Health (AFREhealth) titled "Building a Resilient Global Health Workforce: Training for the Challenges." Two AFREhealth leaders were recognized for their contributions to Global Health Leadership at this conference.

Brian Agaba's article highlights Seed Global Health's efforts to develop emergency medical services in Uganda through a unique three-pronged approach: strengthening education, practice, and policy. The third article by Quentin covers a meeting in Namibia attended by several new medical schools in Africa under the Consortium of New Sub-Saharan African Medical Schools (CONSAMS). This meeting provided a platform for delegates to network, share best practices, and learn from each other's experiences.

The next is an article by a team of ophthalmologists discuss glaucoma, the silent thief of sight, due to its painless nature of irreversible vision loss. They provide insights into its risk factors, etiology, diagnosis, and treatment, raising awareness about this critical condition.

Another highlight is an article from a team at the University of Global Health Equity in Rwanda. They describe their multidisciplinary and interprofessional work in surgical education, clinical care, research, policy, advocacy, innovation, and global collaboration. Their efforts emphasize the importance of prioritizing surgical care as a vital component of the health system.

Our usual medicine digest and quiz are included, along with plenty of news and advertisements. The AHJ is available online as an open-access web-based publication at Africa-health.com. This website is updated daily, sharing current affairs and engaging through social media platforms like Twitter and Facebook, drawing a large audience. Those interested in advertising are welcome to utilize both the print and electronic channels of the AHJ, following the guidelines provided in the journal.

We hope this issue provides valuable insights and inspires continued progress in addressing the health challenges facing Africa.



Elsie Kiguli-Malwadde
(kigulimalwadde@achest.org)

The Africa Health website

The website includes:

- The latest issue, and the back issues of Africa Health
- Latest news
- The TRIP searchable database for evidence based articles and guidelines
- Continuing Professional Development courses
- Conference and meetings calendar
- An insight into African scientific publishing
- Subscription information
- Banner advertisements

Search the TRIP database for free

Here is a free database which gives you access to millions of articles, all indexed and uniquely ranked.

Content is entirely evidence-based and peer-reviewed, and in addition to the scientific articles on every medical subject you can imagine; the database also includes a host of guidelines on treatment and management protocols.

Crucial in the use of the database is the need to understand the filtering options (see image to the right) or you will find yourself

Africa HEALTH



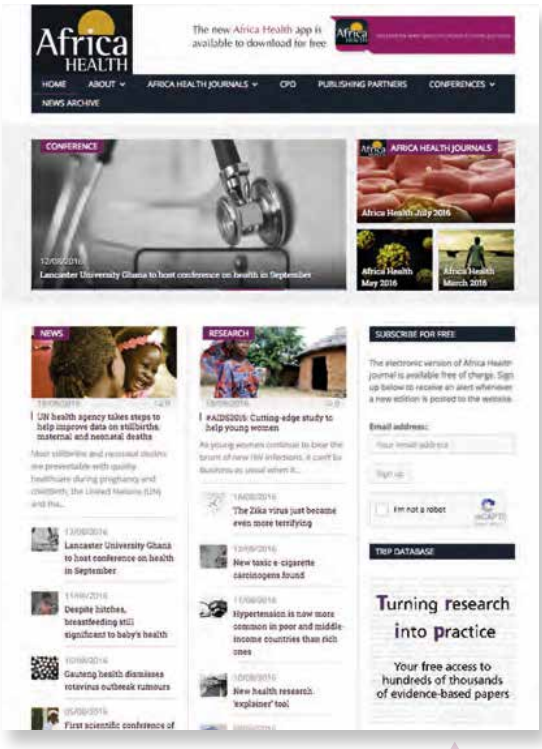
Get Africa Health on the go

The Africa Health app is available to download. You can now read the latest edition and archived editions of Africa Health on the go.

You can find the Africa Health app is available for both iPhone and Android via the app stores.

The app and it's content is completely free to download from the app store.

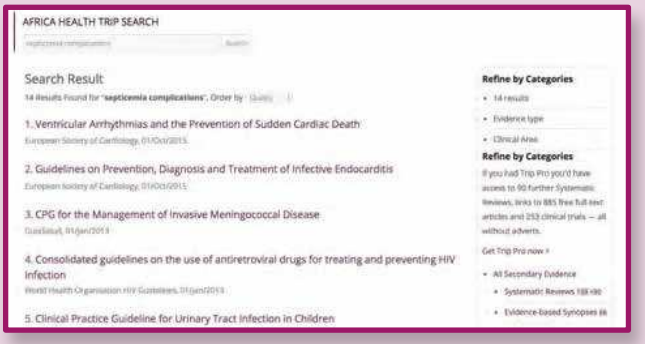
Please note that the app currently shows a couple of years worth of journals. More of the archive will be added in due course.



View the latest edition and back issues of the Africa Health journal

Subscribe for free to the Africa Health e-alerts. This enables you to read every edition online as soon as they are available

with a 'selection' of several thousand papers. Having carefully chosen the search words (be as specific as you can) you will then see (down the right hand side) a number of refinements that you can make to your search. You'll then have a much more manageable and relevant search outcome.



www.africa-health.com

Inaugural Africa Health Workforce Forum



The WHO African Region convened the inaugural Africa Health Workforce Forum 6 -8 May, 2024 in Windhoek, Namibia. The forum was attended by Ministers and representatives from governments and key stakeholders across the education, finance, health, labour and public service sectors. Also present were key development partners including the World Bank, the Global Fund to Fight Aids, TB and Malaria, United States Agency for International Development (USAID), the Foreign, Commonwealth & Development Office (UK FCDO)and the International Labour Organization(ILO), among others. The Forum was opened by the Rt. Hon. Prime Minister of Namibia Dr. Saara Kuugongwela Amandhla. The opening ceremony was addressed by the WHO Regional Director Dr. M. Moeti and the Director General of the Africa CDC Dr. Jean Kaseya who expressed his commitment to work with WHO Regional Office to promote the implementation of the Health Workforce (HWF)investment Charter.

The drafting of the Charter had taken 18 months starting with a Regional Policy Dialogue in Accra, Ghana in November 2022 followed by the establishment of an Expert Working Group that held multiple meetings. The draft Charter was presented at the 5th Global HRH Forum in Geneva in April 2023 followed by a call for open public comments, feedback and finalization by the Expert working Group of which I was a member.

The goal of the HWF Investment Charter is to align and stimulate investment in health worker education, training, employment, retention and mobility in order to contribute to halving inequalities in access to health workers especially in rural and Primary Health Care settings. This is expected to result in decent employment especially of women and the youth while strengthening health systems and accelerating progress towards UHC, health security and SDGs.

The rationale and context of this HWF Investment Charter is that health workers and resilient health systems are critical investments that are essential for economic growth and social development. There is ample evidence, further reinforced by the COVID-19 pandemic that paralyzed the world, showing that investing in health workers and functional health systems yields high economic returns and is not merely a cost, as some previously argued.

The HWF Investment Charter takes note of the fact that despite increase in the number of health workers in Africa during the last decade, the rate of increase is too slow. This is further complicated by the fact that 30% of trained health workers in Africa are either unemployed or underemployed. This situation is further complicated by increasing international outward migration of African health workers leaving health systems weak and vulnerable to pandemics and slowing the achievement of SDG3 and other SDGs.

The HWF Investment Charter is cognizant of multiple resolutions and commitments to the improve HWF situation in Africa and globally and is intended to mobilize and sustain political and financial commitment that fosters inclusiveness and collaboration across sectors. Weak intersectoral collaboration is one of the root causes of failure to achieve increased health worker production, retention and improved performance. In the face of limited resources and competing priorities, is it possible for government sectors to work together to prioritize health workforce and population health?

The expected outcomes of the Africa HWF Investment Charter are that stakeholders including governments, development partners, civil society, professional associations work together to agree on priority health worker investments through national health worker investment compacts in all countries. This should result in increased funding to implement the national compacts. Special attention should be taken to address equity to enable all people to access skilled, motivated and supported health workers as near to the populations as possible. Health workers should be free to associate and engage with their governments to improve the quality of their work and the health of the people.

The implementation of the Charter will be guided by five principles namely: Government leadership and stewardship, evidence-informed and results focused Investments, Working together across sectors and strong partnerships among and with all stakeholders. This should result in more and better investments into the health workforce and long-term sustainability to guide the investments.

Finally, the implementation of the Charter will be coordinated by the WHO African Region working through a Health Workforce Investment Advisory Committee (HWAIC) which will be chaired by a Minister and Co-chaired by a contributing Development Partner. This Committee will meet at least once each year and members will serve three-year terms. Each country will be expected to report annually through National Health Accounts annual reporting process to WHO. The WHO will organize regular dialogues to foster advocacy and monitor performance and all countries will conduct annual national HWF discussions.

If all this happens, the launch of the Africa HWF Investment Charter will go down as a major global milestone in improving population health and achieving UHC and SDGs. We need a global movement that advocates for social justice through health lenses to make this happen. I call upon us all individually and collectively to follow this development keenly and play the roles of champions and advocates of this Charter.

Francis Omaswa, Founding Executive Director for the African Centre for Global Health and Social Transformation (Kampala) and the Global Health Workforce Alliance WHO; and Publisher of Africa Health

Occupational Health in Africa: Navigating Challenges, Harnessing Opportunities

Dr. El Nagieb brings to light the plight of minors in the region due to lack of frameworks in Occupational Health



Gold mining in Africa

Introduction

Africa has experienced significant growth and development across its industrial, manufacturing, mining, agriculture and construction sectors in recent years. This is coupled with substantial growth in the services sector across various African economies. Rapid urbanization has led to increased demand for services such as transportation, healthcare, education, and entertainment in urban centers. This trend has fuelled the expansion of service industries to cater to the needs of the growing urban population. These substantial developments have been driven by increased investment in infrastructure, technology and human capital in most parts of Africa.[1, 2]

Artisanal and small-scale mining (ASM) alone employs more than 10 million individuals in Africa, 50% of whom are females. ASM workers supply a wide variety of minerals in significant proportions to the world markets – critical to modern communications, clean energy, low carbon technology and luxury jewellery.

The positive contribution of these huge developments to employment, community peace, prosperity and social coherence in Africa is well recognized. However serious health and environmental hazards have been realized and the importance of protecting the health of the working population and the environment has never been more urgent and important. This is where the role of Occupational Health is – the protection of the health of the working population.

Occupational Health and Occupational Medicine:

Occupational health practice integrates various occupational health professions, and possibly other specialists, into multidisciplinary preventive services capable of detecting and controlling occupational, non-occupational and environmental risks. It aims at improving working capacity, and employees' health and wellbeing and their working or general environments.

Occupational medicine is the medical specialty dealing with the assessment of workers' health, linking working conditions and processes to workers' health, assisting in managing the health, skills and working capacity of the entire working population and managing individual cases in the context of working ability and production. It deals with primary, secondary and tertiary prevention of ill health in the workforce, with a potential influence on the health of the population as a whole.

Since the early 1990s considerable conceptual, political, legislative and practical progress in occupational health has been observed in many countries. The International Labour Organization's Occupational Safety and Health Convention (No.

Dr. Omer El Nagieb MD MSc FFOM
Centre for Occupational and Environmental Health, Africa.



Miners with proper mining gear

155/1981) and Occupational Health Services Convention (No. 161/1985), the European Community Framework Directive 1989/391/EEC and the 1996 WHO Global Strategy for Occupational Health for All "3" have guided recent changes in legislation and occupational health practice in many European countries. All of them strengthen the concept of using multidisciplinary occupational health services and the active participation of employees to improve the working environment and workers' health. Broadening health management practice at work to include environmental and lifestyle determinants of health and maintenance of working ability of employees necessitates the dissemination of workplace health promotion and environmental management methods.

Occupational Health in Africa: The Challenges:

1. Access to occupational health:

Worldwide the access to occupational health is restricted; only 15% of the working population has access to professional occupational health services. In Africa the picture is even more gloomy with less than 5% of Africa's working population having access to occupational health services.[4]

2. Capacity for Occupational Health:

The number of occupational health professionals – particularly physicians and nurses is extremely limited. Moreover, there are no training programs or professional qualification courses in Africa anywhere apart from South Africa.

3. The Legal Framework:

The legal framework in most of the African countries is limited, fragmented and does not offer adequate legal protection against the common and known work hazards- noise, silica dust, chemicals, personal protective equipment provision etc.

4. Informal Economy:

A significant proportion of Africa's workforce, particularly in ASM is engaged in the informal economy, where workers often lack formal employment contracts, access to social protection, and healthcare services. Informal workers are particularly vulnerable to exploitation and face greater challenges in accessing healthcare and legal protections.[5]

Opportunities for Improvements:

1. Capacity Building:

a. Education and Training: Formal education for leadership in the sector – doctors, hygienists and safety professionals.
b. Training of primary healthcare workers in occupational health.
c. Provision of basic occupational health services to the high risk industries.

2. Strengthening Legislation and Enforcement:

Governments in Africa can enhance occupational health by implementing and enforcing robust legislation



Miners in unhygenic conditions

and regulations. This includes adopting international standards, establishing monitoring mechanisms, and ensuring compliance through inspections and penalties for non-compliance.

3. **Formation of competent authorities to inspect, instruct, train and enforce the legislations is imperative to derive benefits from any regulations.**

4. **Investing in Occupational Health Infrastructure:**
Improving infrastructure and access to occupational health services is critical for protecting workers' health. This includes investing in healthcare facilities, occupational health clinics, and providing necessary equipment and personal protective gear.

5. **Collaboration and Partnerships:**
Addressing occupational health challenges requires collaborative efforts between governments, employers, trade unions, civil society organizations, and international agencies. By working together, stakeholders can share resources, expertise, and best practices to improve occupational health outcomes.

6. **Research and Data Collection:**
More research is needed to understand the specific occupational health challenges facing different sectors and populations in Africa. Collecting data on occupational hazards, prevalence of occupational diseases, and injury rates can inform evidence-based policies and interventions.

Conclusion:

Occupational health challenges in Africa pose significant threats to the well-being of workers, their communities and the environment. Addressing these challenges requires a multi-faceted approach, encompassing regulatory reforms, capacity building, and community empowerment. By implementing targeted interventions and fostering collaboration among stakeholders, it is possible to improve occupational health outcomes and promote sustainable development in the continent.

References

1. African Development Bank Group. (2021). Africa's Economic Outlook 2021: From Pandemic to Resilience. Retrieved from https://www.afdb.org/en/documents/africa-economic-outlook-2021
2. World Bank. (2020). Africa's Pulse, No. 22, October 2020: An Analysis of Issues Shaping Africa's Economic Future. Retrieved from https://www.worldbank.org/en/region/afr/publication/africas-pulse-october-2020
3. World Health Organization. Occupational Health. Retrieved from https://www.who.int/india/health-topics/occupational-health#:~:text=Currently%20only%2015%25%20of%20workers,to%20occupational%20health%20and%20safety.
4. Report of the Joint ILO/WHO Committee on Occupational Health, Twelfth Session. Geneva, International Labour Organization 1995.
5. Hilson, G. (2012). Artisanal and small-scale mining in Africa: Opportunities and challenges. Resources Policy, 37(1), 117-124.



PRE-ECLAMPSIA FACT SHEET

Act Early! Screen Early!

1. What is pre-eclampsia?

Pre-eclampsia is a pregnancy complication that is characterized by high blood pressure. The 'disease' frequently occurs during pregnancy after 20 weeks (5 months) of pregnancy but can also occur after delivery. It can cause damage to many organs and/or systems in the mother's body, especially the liver, kidneys, brain, lungs, and the coagulation system. It can affect the unborn baby leading to complications before and after delivery.

2. Why is pre-eclampsia such a big issue/problem for everyone?

- Pre-eclampsia affects 5-8% of all pregnancies worldwide
- Globally, 16% of all mothers who die during pregnancy or childbirth do so due to pre-eclampsia. This translates to over 76,000 maternal deaths per year.
- Pre-eclampsia also significantly contributes to the death of new-borns, causing over 500,000 new-born deaths per year,
- Pre-eclampsia is currently the second leading cause of death in women during pregnancy and childbirth in Uganda.
- Pre-eclampsia was responsible for 15 % of maternal deaths in Uganda (MPDSR report of 2020/2021). The contribution is higher at national and regional referral Hospitals.

3. What causes pre-eclampsia

The exact cause of pre-eclampsia is not known but several factors are believed to contribute to the development of the disease. Experts believe that one of the major factors is the poor development of the placenta— the organ that nourishes the fetus and also clears its waste products. As the pregnancy progresses the poorly developed placenta is not able to properly support the growing fetus leading to complications in the mother and / or unborn baby.

4. Who is at risk of getting pre-eclampsia?

Any woman who gets pregnant has the potential to get pre-eclampsia. However, the following categories of women are at increased risk of suffering from pre-eclampsia when they get pregnant:

I. Women who are carrying a pregnancy for the first time (primigravida)

II. Women who had pre-eclampsia in a previous pregnancy

III. Women who are too "young" (less than 20 years) and too "old" (more than 40 years)

IV. Women who have a family history of pre-eclampsia (either the mother or maternal aunties or siblings have ever had p re-eclampsia)

V. Women who already have high blood pressure before pregnancy (chronic hypertension)

VI. Women who are suffering from long-term diseases such as diabetes mellitus (sugar disease), kidney disease, and sickle cell disease.

VII. Women who are obese (too much weight for the person's height)

VIII. Women who carrying 2 or more fetuses (multiple pregnancy)

IX. Women who delay for more than 10 years to conceive after a previous pregnancy (long inter pregnancy interval)

X. Women who are carrying an abnormal pregnancy without a baby (molar pregnancy)

Women who have a new partner fathering that pregnancy

Women who conceive through assisted reproductive technologies (IVF)

Etc.

5. What symptoms do women who suffer from pre-eclampsia exhibit?

- A number of women who get pre-eclampsia may not show any symptoms. Those who show symptoms may exhibit one or more of the following:
- Persistent and / or severe headache that will not go away even with painkillers
- Visual disturbances (photophobia, blurred vision, or temporary blindness)
- Upper abdominal (epigastric pain)
- Altered mental status (confusion, altered behavior, or agitation)
- Dyspnea or difficulty in breathing
  Swelling of the face, hands, and feet
- Nausea with or without vomiting after the mid-pregnancy
- Excessive weight gains or sudden increase in weight (more than 5kg per week)



6. Is there a cure for pre-eclampsia?

At present, the ultimate cure for pre-eclampsia is delivery. There are also treatments to minimize some of the complications that could occur as a result of pre-eclampsia.

7. What are the immediate and long-term consequences or complications of pre-eclampsia to the mother?

Immediate complications of pre-eclampsia to the woman include:

Cervical Cancer: The Preventable Killer

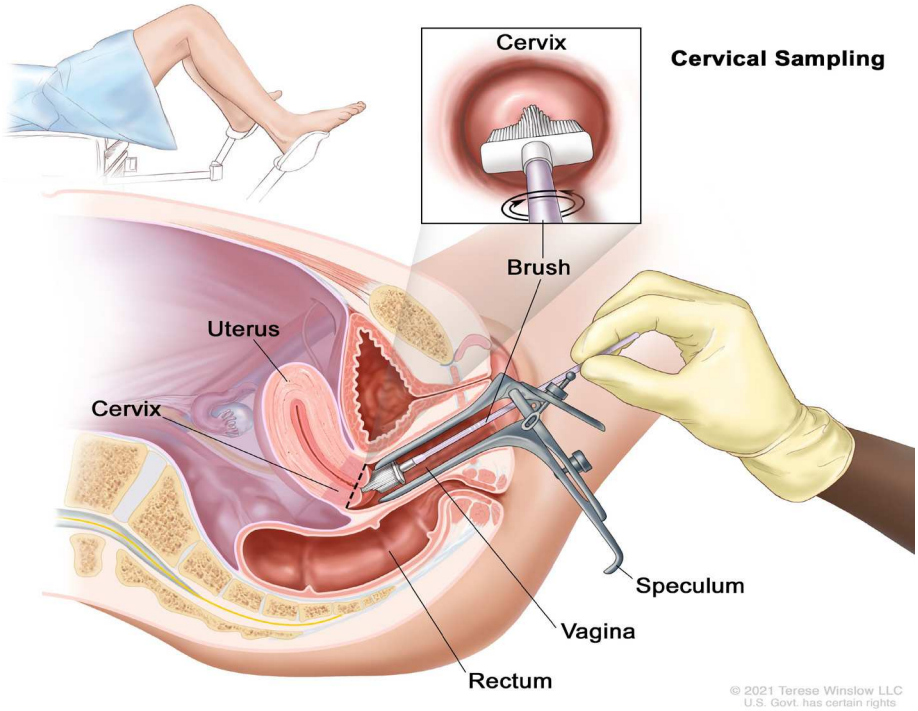
Taofik Oloruko-Oba gives a background on Cancer of the Cervix in Kenya and highlights the fact that It can be eradicated In Africa.

In 2022, Kenya's population was 49.4 million of whom 16.8 million were women aged 15 years and above and at high risk of developing cervical cancer. Every year over 5000 women are diagnosed with cervical cancer, and more than 3000 die from the disease.[1, 2] The majority of cervical cancer incidence and mortality still occurs in low- and middle-income countries, many of which are African. This demonstrates the inequities marked by the lack of access to national HPV vaccination programs, cervical cancer screening, and treatment services, driven by social, economic, cultural, and even personal barriers.[2] Cervical cancer is not at the top of many people's lists of hot discussion topics, yet HPV is the most common sexually transmitted infection in the world. Globally, both men and women have a 50% risk of being infected with HPV at least once in their lives, and the risk is highest in sub-Saharan Africa (SSA), with an average of 24%.[3] What makes these numbers even more shocking is that cervical cancer is caused by persistent infection with the human papillomavirus (HPV), which can be prevented or treated, provided a vaccine has been administered or the cancer is detected early.[2]

Cervical cancer can affect anyone, regardless of their economic circumstances, and there is no shame in being tested especially as our primary caregivers are most at risk. Oxfam's 2019 Household Care Survey in Kenya found that women spent about five hours per day on care as a primary activity, compared to men who spent one hour. These are our wives, mothers, grandmothers, sisters, and aunts who, aside from being primary caregivers, also constitute almost 50% (49.7% in 2022) of the Kenyan workforce, so it makes both social and economic sense to protect them.[4, 5]

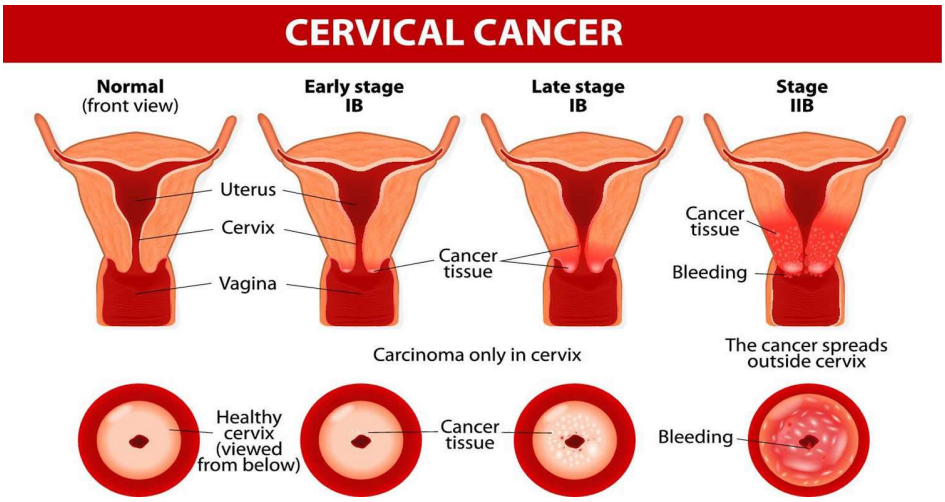
In Kenya, while there is a National HPV Vaccination Program, data indicates that in 2021, only 31% of the primary targeted demographic – adolescent girls and young women (AGYW), received the required two vaccine doses.[2]

In the past, getting screened for cervical cancer required a pap smear performed by a medical practitioner. Many women avoid this procedure because it is expensive and invasive. Feelings of embarrassment and, in some cases, cultural bias or stigma prevent women from going for the test. Thankfully, testing has evolved. Today, the National



Cervical cancer screening procedure

Taofik Oloruko-Oba, Head of East Africa Network at Roche Diagnostic, Kenya. rochekenya@edelman.com



Cervical cancer screening procedure

Cancer Screening Guidelines of Kenya recommends Human Papillomavirus Screening (HPV) as the Primary screening tool for women above 30 years.[3] HPV testing is based on the detection of DNA from high-risk HPV types in vaginal and/or cervical samples. Since persistent HPV infection is the cause of 99.7% of cervical cancer, a positive test result indicates that there may be an existing lesion or a risk of future precancerous and cancerous lesions. A significant benefit of using HPV testing for cervical cancer screening is that healthcare facilities can now provide women with HPV self-collection kits. These kits empower women to collect their own samples and submit them for testing. A further benefit is that HPV testing is now widely available as the testing is done on the same instruments established across Kenya for HIV testing. The convenience and privacy created by the self-collection kit is finally breaking barriers in the uptake of cervical cancer screening.

Considering a working Kenyan woman in rural Turkana, a small-scale farmer and primary caregiver for her family. She goes to the clinic for her baby to be vaccinated and incidentally, the healthcare worker might suggest Visual Inspection with Acetic Acid (VIA), the default testing method. To be tested, she would have to leave the farm for the day. Arriving at the clinic, she waits to be assisted by a healthcare worker who is tending to over a hundred patients a day, making the experience laborious for both the patient and the healthcare worker. Self-collection addresses this problem twofold. A single healthcare worker can lighten their load by training several women at once to collect their own samples, significantly reducing the burden of time for both patient and healthcare worker. Once the women have collected their own samples, the samples can be aggregated and sent to the nearest HPV testing center and results returned within the shortest possible time. Studies show that self-collected HPV-based cervix screening (SCS) is a feasible and cost-effective solution to addressing barriers to screening, especially in low-resourced and rural areas, and studies conducted throughout Africa on SCS uptake in local communities have been positive. For example, a recent study conducted in 16 villages throughout rural Uganda, using a door-to-door implementation method, resulted in 100% uptake from participants. [6]

Every family has a story about cervical cancer, perhaps a colleague who had to take time off work for treatment or a family member who had a hysterectomy to prevent cancer progression (this is common). Every survivor is here as a result of early diagnosis, and a living testament to the fact that cervical cancer can be avoided or treated successfully. Public-private partnerships have made immense progress in eliminating cervical cancer. For example, the Go Further public-private partnership between PEPFAR, the George W. Bush Institute, the Joint United Nations Programme on HIV/AIDS, Merck, and Roche is working towards ending AIDS and cervical cancer in Sub-Saharan Africa within a generation, by investing in partner countries to integrate and scale-up cervical cancer screening and treatment. But there is still so much work to be done, as mortality continues to rise across our continent. [6]

On the cusp of the recent adoption of the WHO Resolution on Strengthening Diagnostics Capacity, there is a framework that governments, policymakers, and private sector partners must work towards. The Resolution, while not mandated, acknowledges the value of diagnostics, urging government stakeholders to mobilize and significantly ramp up access to testing. We have a responsibility to our primary caregivers, mothers, sisters, daughters, and partners to change the statistics. Now is the time for the private and public sectors to come together to eradicate this preventable killer. We need a collective, concentrated effort to establish better testing and HPV vaccination programs in the highest-risk areas.[7,8]

Cervical cancer can be beaten. Let's work together to give Africa's women the lives they deserve.

References

1. 2022-Kenya-Facts-Figures.pdf (knbs.or.ke)
2. https://hpvcentre.net/statistics/reports/KEN_FS.pdf
3. Kenya National Cancer Screening Guidelines -2018
4. https://www.who.int/news-room/fact-sheets/detail/cervical-cancer
5. /https://www.icrw.org/wp-content/uploads/2023/07/Technical-Brief-Unpaid-Care-2_uid_64be3e40b7b18.pdf
6. https://www.statista.com/statistics/1233978/share-of-women-in-the-labor-force-in-kenya/#:~:text=As%20of%202022%2C%20females%20represented,aged%2015%20years%20and%20older.
7. https://www.nature.com/articles/s41591-023-02288-6
8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10433907/#:~:text=Since%20the%20national%20introduction%2C%20the,2021%20(9%2C%2013).

Transforming Sierra Leone's Healthcare: A Vision for Safe and Affordable Surgery

According to Dr. Austin Demby, Sierra Leone's healthcare transformation is a multi-faceted journey that demands collective effort, innovation, and unwavering determination

As experts from the surgical and healthcare world gather for the 64th Annual Conference and Scientific Meeting of the West African College of Surgeons in Sierra Leone this March, a profound dedication to advancing surgical knowledge and practice in the region is palpable. At the forefront of discussions lies the conference's pivotal theme: access to safe and affordable surgical and anesthetic care in West Africa. This theme highlights the pressing need to address disparities in healthcare capabilities and capacities across the region, especially the critical importance of equitable access to quality surgical interventions.

The spectrum of surgical needs in Sierra Leone is broad, encompassing basic obstetric procedures, trauma surgeries, orthopedic surgeries, and more. The demand for surgical services is high, and timely access to interventions is often critical. Currently, our surgical capability at the surgeon's level is limited, with only 15 residents, six general surgeons, two orthopedic surgeons, and two urology surgeons serving a population of eight million people.

Access to safe surgical care is a fundamental necessity. We firmly believe that every individual has the inherent right to live. Life matters, and we are unwavering in our dedication to upholding that principle through the provision of quality surgical care.

As the Minister of Health for Sierra Leone, I am dedicated to realizing the President's vision of investing in people and human capital development. I see my role as focusing on the health aspect as we build our nation, ensuring that our people are healthy and able to achieve their fullest potential as individuals, family members, community and district members, citizens, and contributors to the continent's prosperity.

Sierra Leone's healthcare transformation is a multi-faceted journey that demands collective effort, innovation, and unwavering determination. We are laying the groundwork for a comprehensive healthcare system that meets the diverse needs of our population. The challenges are significant, but with determination, collaboration, and a shared vision, we believe in the transformative power of healthcare to uplift our nation



Surgery in Africa

Dr. Austin Demby, Minister of Health for the Government of Sierra Leone, Freetown, Sierra Leone

and its people.

Safe Surgery and Surgical Education: The Cornerstones of Healthcare

Accelerating access to safe and affordable surgical and anesthesia care in West Africa is critical. The current landscape reveals a disparity in healthcare capabilities and capacities across the region. By fostering collaboration and networking among countries, we can leverage collective strengths and resources to address these gaps more efficiently.

Addressing the critical shortfall of surgeons in our own country is paramount, and our strategy involves tackling it from multiple angles. Our approach includes addressing the supply side by increasing the number of surgeons and subspecialties in surgery across the country. We also hope to dramatically increase the number of residents we currently have. Recently, we opened several new residency programs and established three new postgraduate schools.

Additionally, we acknowledge that top surgeons aren't available in every village or community. Therefore, we are looking at ways to supplement the capabilities of community health officers and community offices by providing them with basic surgical training. This training enables them to perform minor surgeries even in remote parts of the country.

In our ongoing efforts to navigate the intricate healthcare landscape of Sierra Leone, my focus has gravitated toward the paramount importance of safe surgery and the urgent need for comprehensive surgical education. I wake up every morning determined to change healthcare delivery in this country. I am pleased to be surrounded by people who share the same determination.

I often tell others that I am angry at times. But I feel that anger can be a valuable indicator of what is unacceptable. It is unacceptable to have a preventable death in our country. It is unacceptable, with all the tools that we have, to have an HIV infection in this country for example. It is unacceptable for somebody to die from AIDS when we have all the tools available to us.

I think it's important to feel anger towards these issues because it drives action. When you're angry, you're compelled to do something about it. It's not just another baby who died; each one is an individual with the right to live.

What we're doing now is collaborating with our healthcare workforce throughout the country to instill this mindset that everybody's life matters.

When somebody walks into a hospital or clinic, there's a reason why they don't go to the traditional healer. They go to the hospital with the confidence that they will get the care that they need, and that they will find compassionate people there who care about their health. I'm working with my team to ensure that people feel assured in seeking our assistance.

By energizing the populace and fostering strong relationships with service providers and the people they serve, we have the recipe for making dramatic changes in Sierra Leone. We don't compare ourselves with any other nation; we're competing with ourselves. We set bold and seemingly impossible targets, and we work towards achieving them. It's exciting and a real opportunity to make a difference in people's lives.

Education, Health, and Food Security: The Triad for National Development

Our country, like many others, grapples with a host of challenges, but our unwavering commitment lies in addressing these issues, particularly in the realms of education, health, and food security, serving as fundamental pillars driving national development forward.

Sierra Leone's journey towards a healthier and more prosperous future begins with education. Our healthcare priorities are investing in education to ensure knowledge acquisition and the development of individuals to their full potential.

Coupled with education is the imperative for a healthy population. An educated, healthy populace is better equipped to contribute to national development, breaking the cycle of poverty and fostering a robust society.

Food security is the third element of our triad, recognizing that a well-nourished population is better positioned to thrive, both physically and mentally.

Collaboration with Organizations for Sustainable Solutions

Our collaboration with organizations like Mercy Ships is instrumental in delivering surgical services and investing in training local healthcare professionals. Their unwavering dedication to service, driven by the spirit of teamwork, care, and hope, is truly commendable. Their service delivery provides people with hope, tackling challenges that are difficult to comprehend.

The investment in training counterparts from nurses and anesthesiologists to technicians and counselors – to just see how this is done with tender loving care for patients is incredible. Our residents are lining up to go and provide services and training on the ships. Additionally, we are thrilled about the prospect of dental care training and the establishment of a dental school in our country. These initiatives signify a significant step towards building a self-sufficient healthcare system that can thrive long after Mercy Ships' departure.

Additionally, the current gathering of the West African College of Surgeons to Sierra Leone in Freetown is a huge milestone, providing an opportunity to showcase our progress and foster collaboration among West African nations. We're expecting over 700 surgeons from throughout the continent and beyond. They are here to have very candid deliberations on the state of surgeries in Africa and what the future holds for the continent, and where we should be driving our focus.

The Vision for Sierra Leone's Healthcare Future

Looking ahead, the vision for Sierra Leone's healthcare future falls into four domains. The first is primary healthcare, emphasizing the importance of taking healthcare as close to the people as possible. Currently, 85% of the population has a health facility within a five-kilometer radius of wherever they are. That's incredible in terms of access.



WACS Conference

What's exciting is witnessing the tangible impact of these efforts. We're observing significant drops in maternal mortality rates, improvement in immunization rates, and the introduction of new vaccines and practices. Recently, we launched a new malaria vaccine, and just the other day, we introduced a new HPV vaccine as part of our determination to eliminate cervical cancer in the country.

The second domain involves staffing, with a focus on increasing the number of skilled healthcare professionals, including surgeons. We aim to enhance competencies, distribution, and retention, ensuring a well-balanced and competent healthcare workforce.

The third domain centers on quality, addressing the need for reliable equipment, preventive maintenance capabilities, and the availability of drugs.

The fourth domain is health security, recognizing the importance of preparedness, rapid response, and containment in the face of health emergencies, such as a pandemic outbreak. We have launched a national Public Health Agency to ensure a coordinated emergency response. We have epidemiologists embedded in routine programs at the frontline, closely monitoring data from various health initiatives to detect any unusual activity early on.

In moving forward, we are resolute in our commitment to address many of the challenges head-on, confident that through unity and resilience, we can surmount any obstacle. With a focus on essential needs and sustainable development, we are poised to create a better tomorrow for our nation.

Distributed by APO Group on behalf of Mercy Ships.
Voie du Chariot 3
1003 Lausanne – Switzerland
Tel : +41 21 547 44 44
E-mail: info (at) apo-opa.com
www.APO-opa.com

CUGH 2024, Global Health without borders: Acting for impact





ED of AFREhealth representng AFREhealth at CUGH 2024

The Consortium of Universities of Global Health (CUGH) held its annual conference at Westin Bonaventure, Los Angeles, California Conference: March 7th - 10th, 2024. The theme was Global Health without borders: Acting for impact. There were 1400 global health practitioners, from more than 50 nations, from academia, NGOs, government and the private sector that met to present, learn and collaborate to address some of the pressing challenges the world faces. A wide range of medical and non-medical disciplines were represented throughout the in-person pre-conference satellite sessions and the March 7-10th conference. Attendees were inspired and challenged to learn new skills, gain new contacts and find ways they can improve the health of people and the planet. Seven subthemes were crafted to reflect many of the contemporary global health challenges. These varied covering Social Determinants of Health, planetary earth, pandemic prevention, decolonisation, Translation and Implementation Science, Politics and Governance, and Non Communicable diseases. These were delved into through interesting satellite sessions, panels, and break away sessions. The speakers represented multiple disciplines. This aligned with the idea of promoting equitable, effective, interdisciplinary collaborations as the way forward to address threats to both people and the planet.

AFREhealth was represented by members of its executive council, governing councils and other members of the team.

Each year CUGH acknowledges the accomplishments and commitment of outstanding individuals who contribute to the advancement of global health worldwide via the CUGH Global Health Leadership. The Distinguished Leadership Award honors global health leaders who have made an exceptional contribution to improving global health, through interdisciplinary activities across research, education, advocacy and/or service. Awardees would have also shown outstanding leadership resulting in lasting global health outcomes. Two members of the AFREhealth Governing Council, myself included, received the CUGH Distinguished Leadership award, along with Dr. Abebe Bekele Zerihun, Deputy Vice-Chancellor of the University of Global Health Equity in Kigali, Rwanda. I believe these accolades were partly in recognition of the work that AFREhealth is

Elsie Kiguli-Malwadde is the President African Forum For Research and Education in Health (AFREhealth)

doing in the region and globally.

While AFREhealth presented at many plenaries, I'd like to highlight one titled 'Building a Resilient Global Health Workforce: Training for the Challenges. The objectives of the panel were:

- To discuss diverse Training Models including inclusive and flexible training models that empower individuals from diverse backgrounds to contribute to healthcare solutions as well training across borders, inter-professional education and online education
- To examine adaptability and innovation of how training programs can foster adaptability, technological fluency, and a spirit of innovation among health workers.
- To explore global collaboration and opportunities for international collaboration in health workforce training, sharing best practices and lessons learned.
- To Bridge gaps by sharing strategies for training health workers specifically to address gaps in underserved regions and marginalized populations.

The panelists included, Georgina Yeboa, Executive Director of AFREhealth, Judy Khanyola , the Chair of the Center for Nursing and Midwifery at the University of Global Health Rwanda, Stefan Wisbauer, Co-CEO of Lecturio, and Keith Martin, the CEO of CUGH. The panel was moderated by me.

Georgina Yeboa gave an overview of the strategies that AFREhealth has used to train health workers in the region that included using an interprofessional approach, working across borders, implementing interprofessional South to South student exchanges and training leaders for the next generation. She noted that so far AFREhealth has trained over 16,054 Health professionals (medical, nursing, pharmacy, allied health sciences etc) on HIV and COVID 19 using a case based approach either virtual ,face to face or hybrid. These are from 182 institutions across Africa. AFREhealth has also trained 61 fellows under a leadership program that was developed by AFREhealth named James Hakim Leadership and Development Program.

Judy Khanyola gave a presentation on Interprofessional education and collaborative practice in AFREhealth. She defined what Interprofessional Education is and also pointed out what it is not. She defined IPE as occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care" (CAIPE, 2002). She emphasized that it was not just about students from different health professions attending a class together, a faculty member from a different profession leading a classroom with students from different professions or students from different health professions participating in a patient care setting led by an individual from another profession without sharing of decision-making or responsibility for patient care. She highlighted that AFREhealth was addressing IPE through an IPE technical Working group, conducting IPE student exchanges and offering IPE courses.

Stefan Wisbauer gave an overview of the work done by Lecturio by describing their uniquely comprehensive and high quality medical education platform put together by several partners for faculty and students. He noted that the different packages could be adopted and adapted locally giving an example of work that has been done in Ethiopia.

Keith Martin underscored the role of collaboration in Global health and thanked all members for their contribution in different aspects to the improvement in global health education and referred to the fact that working together was the way forward if we are to achieve health for the population globally.

The session emphasized the fact that a strong human infrastructure is fundamental to closing today's gap between health promise and health reality and anticipating the health challenges of the 21st century as reported by the World Health Report 2006 – Working Together for Health.



The president of AFREhealth Recieving the CUGH Leadership Award



The Executive Director of AFREhealth (center) representing AFREhealth at CUGH 2024

Nurturing a new medical specialty: Seed Global Health's approach to developing Emergency Medicine in Uganda

Brian Agaba highlights one Non-Governmental Organization's contribution to developing Emergency medical services in Uganda. He describes the NGO's unique three-pronged approach of strengthening education, practice and policy.



A resident from Mbarara University conducting a demonstration during and ECHO session

Background

A medical emergency is an acute injury or illness that poses an immediate risk to a person's life or long-term health. This encompasses acute conditions like trauma, exacerbation of chronic illnesses such as Diabetic ketoacidosis, hypertensive emergencies and acute complications of a treated illness such as post-surgery complications like shock and cardiac arrest. Globally, emergency conditions are responsible for more than half of mortality.[1]

The emergency medical system provides critical, time-sensitive medical care to improve the chances of disability-free survival of patients with emergencies. This necessitates adequately trained and skilled health workers. Emergency medical health workers like emergency physicians, emergency nurses and emergency medical technicians are first contact providers for patients with emergencies and ensure that no life-threatening conditions are missed and that timely, life-saving interventions are performed.[2, 3]

As both urbanization and populations increase across Africa, the need for this unique cadre of health workers increases. In high income countries, emergency medicine has been a recognized specialty for about 50 years. Low and middle income countries have the lowest emergency usage rates despite having a higher burden of emergency conditions.[4] In Uganda, the specialty is less than 10 years old and has not yet gained the required recognition and investment. In this article, we highlight one Non-Governmental Organization's contribution to developing Emergency medical services in Uganda.

Seed Global Health (Seed) is a non-governmental organization founded in 2012 whose mission is to educate a rising generation of health professionals to strengthen access to quality care with a goal of saving lives and improving health. Seed developed strong partnerships with training institutions, ministry of health and ministry of education and sports to train a pipeline of doctors, nurses and midwives.



Dr. Brian Agaba

Dr. Brian Agaba, Clinical Advisor, Seed Global Health. He is an obstetrician gynecologist, a field epidemiologist and a public health specialist with passion for improving health of vulnerable and underserved populations through human resources for health capacity building, quality improvement approaches and health systems strengthening.

In the year 2017, Mbarara University of Science and Technology (MUST) started a Masters of Medicine in Emergency Medicine. In 2018, Makerere University followed suit. In 2019, Seed launched a new 5-year strategy built around three strategic pillars of Education, Practice and Policy. To implement this strategy, we developed 5-year partnerships with 5 training institutions with clear long term goals and objectives. Among these institutions were Mbarara University and Makerere University both of which were aimed at strengthening their Emergency Medicine programs and establishing an emergency nursing program at Makerere University. Thus, began the journey of Seed Global Health and Emergency Medicine in Uganda. We highlight Seed's unique three-pronged approach of strengthening education, practice and policy.

Education

In the absence of emergency medicine physicians in the country, Seed's initial contribution was placement of highly skilled emergency physicians known as Seed Educators to these new training programs to provide both teaching and mentorship at these new programs. We undertook international recruitment to select highly skilled and competent emergency physicians to work as faculty in the two universities. These expatriate faculty served for a period of 1 to 4 years each. This model of long-term placement was successful as it provided enough time for student teaching, mentorship, curriculum development and improvement and ongoing patient care. Currently, five of the initial graduates are serving as faculty in the two universities. Seed Global Health continues to provide external expatriates as faculty to support the increased number of students enrolled and to model best practices in Emergency Medicine but also supports the retention of graduates to cultivate sustainability of programs. In addition to placement of emergency physicians, Seed has supported the learning environment through provision of soft and hardware equipment, teleconferencing facilities to enable teaching which was very essential during the pandemic. While the development of the emergency nursing program has been slow, Seed supported the development of the Master of Nursing in Emergency and Critical Care program at Makerere University, supported stakeholder engagements for this program and also provided training to both in-service and pre-service nurses in emergency care. To date, this program has been submitted to senate for further review pending approval by the national council of higher education.

Practice

Our programming has also improved the clinical environment. Our students train in emergency departments and these were initially ill equipped for both patient care and teaching. We provided essential patient care and equipment such as: Patient vital sign monitors, portable ultrasound scan machines for point of care ultrasound, Emergency trolleys, Electrocardiogram machines, Defibrillators among others. This equipment has been essential in both patient care and teaching as students are able to offer standard care while saving lives. We have also supported external placements of our students in Emergency departments that are well developed and functioning. Students have been supported for rotations in Tanzania, South Africa and US. Through these external placements, students are able to experience better emergency departments and transfer some of these practices to Uganda.

To date, both Makerere University and Mbarara University of Science and Technology have produced 21 emergency physicians for the region. These are employed in Kenya, Somalia, Democratic Republic of Congo and Uganda. Though still few, this is a significant milestone given where we were at the beginning of 2019. With structures now firmly laid, we anticipate an increased production of emergency medicine physicians.

Seed has also invested resources in strengthening the practice of emergency medicine in Uganda. To date, we have trained over 11000 in-service health workers using the Ministry of Health Emergency Medical Services ECHO (EMS ECHO) platform. EMS ECHO uses a mixture of video conferencing, case-based learning and hands-on trainings to bring together health care professionals and the few available experts for knowledge and skills

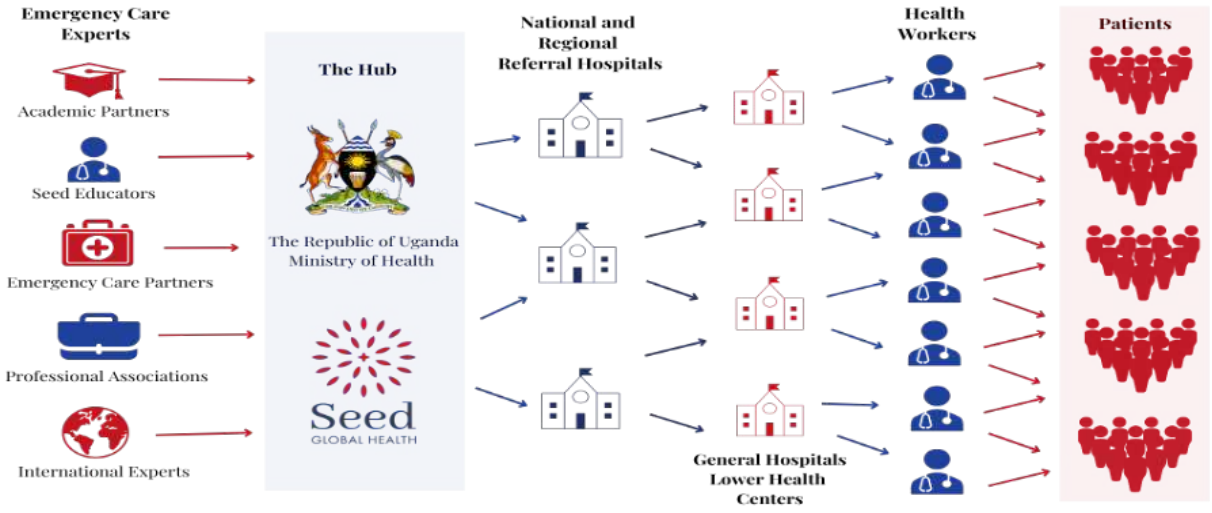


Figure 1: An infographic showing how the EMS ECHO Model works



Seed Global and MOH Ugnda handing over a React bag to the Katahi General Hospital team

sharing. Through this ECHO tele-mentoring hub and spoke model, we are able to build emergency care communities of practice in Uganda.[5]

To improve emergency care at hospital and community level, Seed in partnership with the Ministry of Health has set up resuscitation action (ReACT) teams in 15 regional referral hospitals and one general hospital. Resuscitation Action Teams are multidisciplinary teams of health workers whose aim is to improve emergency care through teamwork, knowledge and skills acquisition. These health workers have been trained in Basic emergency care, Basic life support, Advanced cardiac life support and provided equipment. We hope to extend this model to all general hospitals once funds are available.

We have also initiated quality improvement programs in the hospitals we partner with. At Mbarara Regional Referral Hospital, we have supported the implementation of a functioning Triage system at the Emergency Department that has reduced 24-hour mortality by 37%. At Mbale Regional Referral Hospital, we have supported quality improvement projects that improve management of emergency conditions in maternal and newborn care such as preeclampsia, postpartum hemorrhage, birth asphyxia. Important to note is that our quality improvement initiatives are led by the health workers at these hospitals. Seed Global Health contributes technical guidance and resources necessary for successful implementation. While our work in this area has contributed to reductions in mortality and improved care for patients at these hospitals, there is still more work ahead.

Policy

Seed Global Health partners with the Emergency Medical Services Department of the Ministry of Health. The aim of this work is to provide a conducive policy environment for emergency medical care to thrive. Specifically, we have supported the ministry with embedded technical advisors that have been instrumental in developing the strategy of the department, emergency standards and guidelines and played a significant role in the development and launch of the National EMS policy. We have also conducted a needs assessment for Emergency medical services in the country to inform future planning and resource allocation for all players in this sector.

This collaboration had led to numerous fruits. The national schemes of service for emergency health workers were approved in March 2023. The first ever positions for emergency medicine physicians and emergency nurses in Uganda's public health service were advertised in March 2024. This was the pinnacle of our advocacy engagements in this space. Following this advert, there was jubilation across the emergency medicine fraternity. "We are now an official specialty in Uganda" – remarked Dr. Mary Ellen, an Emergency physician and lecturer at Makerere University.

Challenges still exist in developing emergency medical services in the country. There is still a lack of knowledge and acceptance among a majority of health workers on the role of emergency health workers. Absorption of trained emergency health workers into public service is still slow. Production of these critical cadres is still low and the absorption of emergency physicians, nurses, technicians is still on the lower end of the scale. To us at Seed Global Health, these challenges have strengthened our resolve to continue supporting Emergency care in the country.

In conclusion, Seed Global Health's multipronged approach and strategic collaborations have delivered initial success. We are excited and optimistic for the future of Emergency medicine in Uganda. We pledge to continue supporting the universities and the Ministry of Health to nurture this young and critical specialty. For us at Seed Global Health, there is no doubt that investing in human resources for Health saves lives.

References

1. Junaid, R., U. Mohammad Farooq, and A.B. Zulfiqar, Global, regional and national burden of emergency medical diseases using specific emergency disease indicators: analysis of the 2015 Global Burden of Disease Study. BMJ Global Health, 2019. 4(2): p. e000733.
2. Roudsari, B.S., et al., Emergency Medical Service (EMS) systems in developed and developing countries. Injury, 2007. 38(9): p. 1001-1013.
3. MacKenzie, E.J., et al., A national evaluation of the effect of trauma-center care on mortality. New England Journal of Medicine, 2006. 354(4): p. 366-378.
4. Chang, C., et al., Burden of emergency conditions and emergency care usage: New estimates from 40 countries. Emergency Medicine Journal, 2016. 33: p. emermed-2016.
5. Seed Global Health. Ministry of Health Emergency Medical Services ECHO. 2024 March 2024 [cited 2024 19 April 2024]; Available from: https://emsecho.ug/.

New African Medical Schools meet in Namibia: Consortium of New Sub Sahara African Medical Schools (CONSAMS)

Quentin Eichbaum describes a meeting held in Namibia which was attended by several new medical scools in Africa under the umbrella of Consortium of New Sub Sahara African Medical Schools (CONSAMS)

Between February 25th and 28th 2024, the representatives of 44 new African medical schools (including mostly Deans and provosts) gathered in Windhoek the capital of Namibia for a three day in-person conference to discuss the status of medical education at new African medical schools and to plan a collaborative path forward. This was the first time since the Covid19 pandemic that CONSAMS - the Consortium of New Sub-Sahara African Medical Schools has been able to hold an in person meeting.

Prior to that, the CONSAMS schools had been meeting in person at least once or twice a year since its founding in 2011 on-site at one of the new medical school campuses. Initially, CONSAMS was comprised of only five medical schools: University of Namibia, Botswana, Copperbelt in Zambia, Unilurio in Mozambique, and a developing school in Lesotho.[1,2,3,4] In 2017, the decision was taken to expand the Consortium across the continent as a pan-African organization with the potential to include all 135 new schools.

The meeting was fully sponsored by a private donor with a strong interest in rural medicine and One Health programs. The meeting opened with keynote addresses on medical humanities and on One Health programs given by faculty from the University of Global Health Equity (UGHE) in Rwanda (Dr Denis Regnier and Dr Phaedra Henley, respectively). CONSAMS considers medical humanities a key component for early implementation in the curriculums of new medical schools in order to effectively promote the declining "art of medicine".[5] Likewise, given that many new medical schools are located in rural areas, One Health programs are considered critical for promoting interdisciplinary understanding and research between medicine, agriculture, microbes, and wildlife.



Participants at CONSAMS 2024

The third topic, consistent with the theme of One Health, was toxicology. The president of the American Society for Toxicology, Dr. Paul Wax, was invited to deliver a keynote talk. Given that pesticides are widely

Quentin Eichbaum was born and raised in Namibia, graduated MD, PhD, MPH from Harvard Medical School and is currently full Professor of Pathology, Microbiology and Immunology and Medical Co-Director of Transfusion Medicine at Vanderbilt University Medical Center, and Professor Medical Education at Vanderbilt University School of Medicine



CONSAMS 2024

used in rural areas in Africa, it is important to understand how to regulate their effective usage and how to treat pesticide poisoning. Toxicology also includes treatment of snakebites which are highly prevalent and often deadly in rural areas as in Namibia and other parts of Africa. The new schools are planning to include the topics on rural medicine and toxicology in their curriculums.

Each of the new medical schools had the opportunity to give short talks on developments at their respective schools: their curricula, admissions policies, faculty development, postgraduate training programs, and accreditation processes. Among the schools representated at the meeting were schools from Ethiopia, Kenya, Mozambique, Nigeria, Rwanda, Somalia, Somaliland, South Africa, Tanzania, and Uganda.

The major function of the conference was also to allow ample time for delegates to network through receptions and dinner functions. Members needed to get to know one another in person to facilitate sharing of knowledge, programs, and to promote exchanges of faculty and students. Networking has been a major strength of CONSAMS from its early days when it was comprised of only 5 medical schools in southern Africa.

The sponsors and delegates of the northern partners also visited the rural clinics and hospitals in the north of Namibia in Oshakati and Ondangwa. A similar visit had taken place ten years ago in 2012 and 2015 and it was very encouraging to see the enormous progress that had been made over the intervening decade. At that time a film was made about the University of Namibia (UNAM) students' rotation to the rural clinics and hospitals - called A Doctor of My Own (highly recommended viewing) Other discussions took place during a full afternoon of round table sessions on topics such as assessment practices, professional development, joint appointments, curriculum integration, accreditation, and identity.

An afternoon visit to the campus of the University of Namibia School of Medicine (UNAMSoM) came as a surprise to many delegates given how spectacular the facilities at this medical school are. The American visitors said they were "blown away" by the facilities. It was clear that UNAMSoM is already producing outstanding doctors some of whom were encountered during the visit to the rural clinics during the visit to the north.

Feedback from the conference was universally excellent and delegates returned home energized and prepared to go forward during the year with virtual meetings that included the newly formed Research and Education subcommittees. At the AGM new office bearers was elected with Dean Felicia Christians from UNAM as President, and Dr Dorothy Kamya from Aga Khan Medical School in Nairobi as vice president. The next annual meeting will be held in 2025 at Aga Khan University Medical School in Nairobi. In the meantime, CONSAMS members will continue to meet regularly virtually as a Consortium, through faculty and student exchanges, and through the Education and Research subcommittees. These committees have planned studies pertaining to research endeavors and the education programs at the new schools. Any new medical schools (or individuals at such schools) interested in participating in CONSAMS should view the website: www.CONSAMS.net.

References

1. Eichbaum, Q., M. Hedimbi, K. Bowa, C. Belo, O. Vainio, J. Kumwenda, and P. Nyarango. 2015. "New medical schools in Africa: challenges and opportunities. CONSAMS and value of working in consortia." Ann Glob Health 81 (2):265-9. doi: 10.1016/j.aogh.2015.03.005.
2. Eichbaum, Q., P. Nyarango, K. Bowa, P. Odonkor, J. Ferrao, Y. Mashalla, O. Vainio, and S. H. Vermund. 2012. ""Global networks, alliances and consortia" in global health education-the case for south-to-south partnerships." J Acquir Immune Defic Syndr 61 (3):263-4. doi: 10.1097/QAI.0b013e31826bf957.
3. Eichbaum, Q., P. Nyarango, J. Ferrao, N. Tlale, M. Hedimbi, C. Belo, K. Bowa, O. Vainio, and J. Kumwenda. 2014. "Challenges and opportunities for new medical schools in Africa." Lancet Glob Health 2 (12):e689-90. doi: 10.1016/S2214-109X(14)70334-1.
4. Eichbaum, Quentin, Kasonde Bowa, Paolo Pires, Olli Vanio, and Peter Nyarango. 2014. "Challenges and opportunities for new medical schools in Africa: the Consortium of New Southern African Medical Schools (CONSAMS)." Academic Medicine 89 (8):S108-S109.
5. Eichbaum, Quentin, Steve Reid, Ayo Coly, Thirusha Naidu, and Francis Omaswa. 2019. "Conceptualizing Medical Humanities Programs in Low-Resource Settings in Africa." Academic medicine: journal of the Association of American Medical Colleges Published ahead of print online.

African Forum for Research and Education in Health
Limited by Guarantee

UNIVERSITY OF NAIROBI



7TH AFREhealth ANNUAL SYMPOSIUM

6 – 8 AUG. 2024
NAIROBI, KENYA

HYATT REGENCY NAIROBI WESTLANDS

THEME:
PROGRESS TOWARDS SDGs IN AFRICA: CELEBRATING MILESTONES AND OVERCOMING CHALLENGES

SUBTHEMES

1. HARNESSING DIGITAL TECHNOLOGY AND INNOVATION FOR HEALTH PROFESSIONS EDUCATION TOWARDS ATTAINMENT OF SDGs
2. RESEARCH TOWARDS ATTAINMENT OF SDGs
3. EFFORTS TO BRIDGE GAPS: ACHIEVING UNIVERSAL HEALTH COVERAGE
4. LEADERSHIP AND ADVOCACY TOWARDS SUSTAINING THE MOMENTUM OF SDGs

REGISTRATION FEES

FEE DETAILS		COST PER UNIT (USD)
AFREhealth Members		
	• *High Income Countries*	$ 350
	• *Middle Income Countries*	$ 200
	• *Low Income Countries*	$ 150
Students - Undergraduate		$ 50
Non - AFREhealth Members		
	• *High Income Countries*	$ 400
	• *Middle Income Countries*	$ 250
	• *Low Income Countries*	$ 200
*** Kenyan Residents**		$ 100
Onsite Payments		
	• *LMIC*	$ 300
	• *HIC*	$ 500

REGISTRATION:

https://afrehealth.org/2024symposium/

For more information, contact:
symposium@afrehealth.org / info@afrehealth.org
or call +233(0)508351306 or visit www.afrehealth.org

Glaucoma: The silent thief of sight

A team of Ophthalmologists discuss Glaucoma, the silent thief of sight owing to its painless nature of irreversible vision loss. They give the basics on its risk factors, aetiology, diagnosis and treatment

Introduction

Glaucoma is often referred to as the silent thief of sight owing to its painless nature of irreversible vision loss. It is an optic neuropathy with characteristic optic disc changes, typical visual field defects with or without raised Intra Ocular Pressure (IOP) of greater than 21mmHg. Primary open angle glaucoma (POAG) is the most common form of the disease: a type of glaucoma with a characteristic glaucomatous optic disc, typical visual field defect and an open angle evidenced on gonioscopy with or without IOP of 21mmHg and above.

POAG is a major cause of visual impairment and blindness in Sub-Saharan Africa (SSA). The WHO World Vision Report 2019 estimated that globally, 76million people have glaucoma and 6.9 million people have visual impairment secondary to glaucoma. More recently, the Lancet Global Health commission report on Global Eye Health reported glaucoma as the third leading cause of blindness globally (3·61 million, CI 2·81–4·42).

In Uganda, the population-based prevalence of glaucoma is unknown. A systematic review of Rapid Assessment of Avoidable Blindness (RAAB) data from Africa in 2013 reported that glaucoma contributed to 38.5% of all blindness, the second in Africa after Nigeria which had 42%.

Risk factors for Glaucoma

The risk factors of developing and progression of POAG were identified in prospective glaucoma studies as well as population-based studies. These were classified as "who is at risk of developing glaucoma" "who has glaucoma" and "who is at risk of developing blindness from glaucoma". In summary, the risk factors for risk of developing glaucoma (incident cases) were increasing age, higher IOP, lower systolic blood pressure (BP) to IOP ratio (BP/IOP), lower mean diastolic ocular perfusion pressure (diastolic BP minus IOP), thinner central corneal thickness (CCT), and a positive family history of glaucoma. The risk factors for "who has glaucoma" (prevalent cases) were increasing age (more cases in the higher age groups [70-79 years] compared to the lower groups [40-49 years]), gender (more in males than females), raised IOP, positive family history of glaucoma, race (more in blacks compared to whites), lower Body Mass Index (BMI) especially in men and history of cataract surgery. The risk factors for developing blindness from glaucoma included increasing age (more than 60 years), IOP greater than 31mmHg, race (more aggressive in blacks than whites), delayed presentation to hospital and untreated glaucoma. Cases of early-onset glaucoma (age less than 40 years) follow genetic inheritance patterns with mutations that are highly penetrant.

In summary, the most common as well as modifiable risk factor for glaucoma aetiology, progression and blindness is a high intraocular pressure.

Aetiology

Glaucoma can be primary or secondary. Primary glaucoma has no identifiable cause with a list of risk factors that have been coined following large glaucoma trials.

Secondary glaucoma has identifiable and sometimes modifiable causes some of which include; prolonged use of Ocular and systemic corticosteroids, ocular trauma, ocular surgeries, lens induced glaucoma, Pseudo exfoliation syndrome among others.

Diagnosis

Diagnosis is based on a detailed patient history, full ocular examination including tonometry (measurement of IOP), gonioscopy (evaluation of the anterior chamber angle), anterior and posterior segment imaging and perimetry (Visual field Test).

In the history; keen attention is drawn to risk factors discussed above, presence of systemic illnesses and other secondary causes of glaucoma.

The cornea may be enlarged and sclera thinned with bluish-coloration in childhood glaucoma owing to the flexibility of the collagen fibres. The entire eye may be buphthalmic in paediatric glaucomas.

The lens; may have a cataract and swollen to cause anatomical narrowing of the anterior chamber angle, may have leaky protein and consequential lens-induced glaucomas present.

Goniotomy: The anterior chamber angle assessed for patency, presence of pseudo exfoliative substance, pigment dispersion, blood, and other material that could block it or close it causing angle closure glaucoma. The anatomy is also assessed for; recession in case of trauma, as well as degree of openness.

Intraocular Pressure is normally between 9 and 21mmHg. Pressure higher than 21mmHg should be further investigated.

Parchymetry; this measure the corneal thickness. Thin corneas are a risk of development and progression of glaucoma.

Characteristic optic nerve changes in glaucoma include but not limited to cupping, nasalisation of the blood vessels, thinning of the retinal nerve fibre layer, disc bleeds, RNFL kinks, and Lamina dot sign among others.

Faith Nakubulwa[1]*, Elizabeth Nagawa[1], Ssali Grace[2] , Kiruddu National Referral Hospital[1], Mulago National Referral Hospital[2], * Corresponding Author +256774093672.faithdallan@gmail.com

Imaging: Ultrasound scan of the anterior chamber may reveal anterior chamber angle closure, Optical Coherence Tomography is done to evaluate the retina nerve fibre layer, the macula, the optic disc as well as monitoring progression of the disease and timing of interventions.

Perimetry to identify visual field defects that are characteristic of glaucoma such as an early nasal step scotoma, arcuate scotomas, and constricted visual fields in advanced disease is a very useful tool in diagnosis and follow-up of glaucoma patients.

Treatment

Landmark trials in the management of glaucoma which included; The Collaborative Initial Glaucoma Treatment Study (CIGTS), Ocular Hypertension Treatment Study (OHTS), Collaborative Normal Tension Glaucoma Study (CNTGS), Early Manifest Glaucoma Trial (EMGT), United Kingdom Glaucoma Treatment Study (UKGTS) all were in agreement that primary management of glaucoma involved lowering of the intraocular pressure. These emphasized early initiation of medical therapy in those with early disease as well as patients with just an elevated IOP showing no signs of optic nerve damage; the ocular hypertension group.

Treatment initiation requires setting of a target IOP depending on the severity of disease. The various modalities of treatment are then chosen based on which one would be best to achieve the set target.

Medical treatment

Medical therapy includes different classes of IOP lowering drugs namely; Prostaglandin analogues such as Latanoprost, Bimatoprost which are first line therapy in adults, Topical beta adrenergic antagonists like Betaxolol, Timolol which are first line medical therapy in children; they should be avoided in patients with asthma and significant cardiac disease owing to their systemic absorption and mechanism of action that worsens these diseases. Carbonic anhydrase inhibitors like Acetazolamide, dorzolamide; alpha adrenergic agonists like Brimonidine; Parasympathomimetic agents such as pilocarpine and echothiophate iodide also form bulk of the medical treatment of glaucoma. Rho kinase inhibitors like Netarsudil and hyperosmotic agents which include glycerol and mannitol are also utilised in the medical treatment.

Laser treatment

Laser therapy of various forms contributes to management of glaucoma; selective laser trabeculoplasty can be done to remodel the trabecular meshwork and increase aqueous humour outflow, Laser peripheral iridotomy creates a hole in the peripheral iris providing an alternative pathway for aqueous passage into the anterior chamber and peripheral iridoplasty which causes thinning of the peripheral iris to widen the anterior chamber angle.

Surgical treatment

Trabeculectomy is the most common glaucoma surgery done in Sub-Saharan Africa. Its aim is to create a fistula between the anterior chamber and the sub-conjunctival space. This creates a stable outflow and thus reduction of IOP. This is usually indicated when maximally tolerated medical and laser therapy are insufficient or fail to prevent progressive damage. New advances however suggest earlier surgical invention to prevent progression which comes from the unstable IOP fluctuations in the medically treated groups. Tube shunt surgeries involve creating an alternative pathway for the drainage of aqueous as in Trabeculectomy however, the fistula is maintained by a drainage device which can either be valved such as the Ahmed glaucoma valve or non-valved like the Molteno and Baerveldt.

Minimally Invasive Glaucoma Surgeries (MIGS) are a group of incisional glaucoma procedures that enhance the pre-existing aqueous outflow channels and not just creating new ones as seen above. These include; stents to Schlemm canal, Trabecular Meshwork disruption, stents to the suprachoroidal space.

In children; trabecolotomy and goniotomy are the first line treatment modalities.

Cyclodestruction: This is done in management of end-stage disease without visual potential but with very high IOP. The aim is to cause destruction of the ciliary body which is responsible for aqueous production. This in turn lowers the IOP

Prognosis and Follow-up

All cases of paediatric glaucoma require life-long follow up to look out for potential complications from surgeries, progression of disease and management of complications of glaucoma. Ambylopia is by far the commonest cause of visual compromise which usually results from corneal opacification, uncorrected myopia from buphthalmic eyes; this requires urgent diagnosis and treatment. Children require early referral to vision rehabilitation centres during the course of treatment.

Adult patients whose IOPs are well controlled on whichever form of treatment may follow two paths; one of stable disease in which no progression or worsening is noted on follow-up visits or a form in which disease progression occurs despite having achieved the target IOPs. In such cases the target IOP is adjusted downward. Follow up involves routine IOP checks, Visual field tests, OCT of both anterior and posterior segment and a detailed ocular examination.

References

1. Casson RJ, Chidlow G, Wood JP, Crowston JG, Goldberg I. Definition of glaucoma: clinical and experimental concepts. Clinical & experimental ophthalmology. 2012;40(4):341-349.
2. Kyari F, Abdull MM, Bastawrous A, Gilbert CE, Faal H. Epidemiology of glaucoma in sub-saharan Africa: prevalence, incidence and risk factors. Middle East African journal of ophthalmology. 2013;20(2):111.
3. Organization WH. World report on vision. 2019.
4. Burton MJ, Faal HB, Ramke J, et al. Announcing the Lancet global health Commission on global eye health. The Lancet Global Health. 2019;7(12):e1612-e1613.
5. Burton MJ, Ramke J, Marques AP, et al. The lancet global health commission on global eye health: vision beyond 2020. The Lancet Global Health. 2021;9(4):e489-e551.
6. Buhrmann RR, Quigley HA, Barron Y, West SK, Oliva MS, Mmbaga BB. Prevalence of glaucoma in a rural East African population. Investigative ophthalmology & visual science. 2000;41(1):40-48.
7. American academy of Ophthalmology 2022-2023 basic and clinical science course book 10.

A Review of Global Surgery in Rwanda: Global Solutions from Rural Locations

A team from the University of Global Health Equity, Rwanda describes the cross-cutting multidisciplinary and interprofessional work in surgical education, clinical care, research, policy, advocacy, innovation, and global convening that ensures that surgical care, a best buy for the health system, is prioritized.



Figure 1: Co-chairs of the Center for Equity in Global Surgery, Dean Abebe Bekele (third from the left) and Dr Robert Riviello (third from the right) with medical students from the Intare Surgical Interest Group

Introduction

A staggering 143 million more surgeries are needed per year to meet surgical needs in Low- and Middle-Income Countries, and Africa is the epicenter of this need.[1] Several factors have led to its neglect and its historical exclusion from the primary healthcare agenda. There is increasing agreement in the global health space that surgical healthcare is an indivisible and indispensable aspect of global public health.[1] By surgical healthcare, we refer to all aspects of surgery, anesthesia, trauma, and obstetric care across the spectrum of prevention to rehabilitation, and not just surgical operations involving a scalpel, anesthesia in the operating room.[2,3]

Contrary to widely held beliefs, evidence shows that surgery is affordable for African countries, provides a significant return on investment, and is a best buy for pandemic preparedness.[1,4] While over 1 billion people on the African continent are currently not covered by national surgical healthcare policies or plans, best practice remains that countries should plan for the delivery of affordable, accessible, equitable, safe, quality surgical healthcare.[5] No African health system at any level should be designed without strong considerations for surgical care, and African health systems simply cannot meet the needs of the population if this is not a core consideration. Money is lost, time is wasted, mortality rises and long-term disability results from the neglect of surgical care.[6]

Compared to recommendations by the Lancet Commission in Global Surgery, in 2017 Rwanda had a documented surgeon, anesthesia and obstetrician density of 1 per 100,000, well below the 20 per 100,000 goal.[7] Tracking of Post-operative Mortality Rate was 76.2% compared to the commission recommendation of 100%, and 11% of Rwandans, majority of whom were the uninsured, were at risk of catastrophic expenditure. Geographical access to surgical care-capable facilities within a 2-hour period ranged from 41% to 100%, based on baseline studies.[7] This highlights gaps in surgical care within the country.

In designing solutions for global surgical care, the Center for Equity in Global Surgery was set up in 2022 at the University of Global Health Equity, a global health institution with its campus in the rural North of Rwanda.[8,9]

Barnabas Tobi Alayande[1]*, Nigel Park[1], Robert Riviello[1], Abebe Bekele[1],Center for Equity in Global Surgery, University of Global Health Equity, Rwanda[1], Corresponding author- balayande@ughe.org



Figure 2: The inaugural Masters in Global Health Delivery, Option in Global Surgery cohort on a learning visit to the Rwanda Biomedical Center

The focus of the center is to address issues in access to surgery by identifying barriers and formulating strategies to overcome them by fostering advocacy, education, research, and surgical clinical care. Founded on the five-pillar paradigm of Education and Training; Policy and Advocacy; Research and Innovation; Fellowships; and Global Convenings, the center is systematically creating global solutions from rural locations but work in global surgical care extends well beyond the young center.

Global Surgery Education

Surgical provider shortfalls contribute a significant barrier to providing safe surgery to all when needed. While these deficits are global, they are more acute in sub-Saharan Africa. Compared to the recommended surgeon, anesthetist, and obstetrician density of 20 per 100,000 population, sub-Saharan Africa hosts only 2 per 100,000, and Eastern, Central and Southern Africa hosts only 0.53 surgeons per 100,000 population.10 Training is a self-evident solution. In attempting to shift the center of gravity for global surgery to Africa, three key themes arise around innovations in surgical education and training for sub-Saharan Africa; dismantling barriers through inclusivity, taking a multidisciplinary, trans-sectoral approach, and co-location of regional training hubs.[8]

As a country, the Rwanda Human Resources for Health program which twinned surgeons from High-Income Countries with surgeons in Rwanda for training and mentorship, multiple surgical education partnerships involving organizations like the American College of Surgeons Health Outreach Program for Equity in Global Surgery (ACS-HOPE) show that African countries can focus on surgical training and education as a leading agenda for the betterment of their populace.[11,12] The Rwanda Surgical Training Collaborative galvanized by the ACS is focused on cardiothoracic, vascular, plastics and maxillofacial surgery and trauma systems development. The current push by the Rwandan Government to quadruple the number of surgical healthcare workers in four years alongside other cadres through the "four-by-four" program is an example of what progress can be made by visionary government investments in surgical training.

While emphasis for surgical training and education in many High-Income Countries is focused on specialist residency programs, approaching the burden of surgical disease in sub-Saharan Africa requires a more innovative approach. Most African countries have medical officers or general practitioners who are recent medical graduates that are thrust into clinical surgical care. One 'best buy' is to invest in preparing medical students for basic surgical care upon graduation.[13] For instance, in some Rwandan district hospitals, over 90% of cesarean sections and up to 80% of abdominal surgeries are carried out by non-specialist physicians.[14] As a result, certain questions resonate across much of Africa. How can recent surgical graduates be trained to provide good quality global surgical care? Should non-specialists be taught the management of acute surgical emergencies, and surgical management of Bellwether procedures? Should they be taught to recognize the need to refer patients with surgical conditions, and simply encouraged to stabilize and transfer patients?



Figure 3: A session with African Ministries of Health at the Pan-African Surgical Healthcare Forum, Kigali 2023

In Rwanda, we took a unique global health perspective and a Pan-African approach to answering these questions and applying them to undergraduate surgical curriculum development. We derived topical core curriculum content areas for undergraduate surgical trainees through an iterative modified Delphi, multi-round process involving 31 African surgical education experts from 9 countries.[13] This was honed down for the country through a national surgical educators consensus conference, a scoping review of 1,929 papers and 15 international and local medical school curricula, a cross-sectional survey of recent graduates versus surgical educators and two separate modified Delphi processes and a general consensus conference involving general practitioners, surgical educators, students, recent medical graduates, Surgical department chairs, Medical School Deans and representatives of the Medical and Dental Council.[13] This process has led to prioritization of surgical procedures to be taught in medical school, identification of critical topic areas, and the definition of the role of a general practitioner in surgical healthcare provision.

Unlike traditional medical school training, students undergo an 8-month foundation in humanities, social sciences, and community- based care, challenging a Western epistemology.[15] Using an integrated curriculum, cross-over teaching between specialties, emphasizing innovative simulation, the use of extensive virtual resources, and a strong partnership-based model of curriculum delivery make the training unique. At the University of Global Health Equity, we have a tripartite campus consisting of the Hospital, the University, and the Community. We use a place-based medical education model where the learners are immersed in the local context where they will be serving.[15,16] The rural-centric district hospital-based model of training addresses geographies of inequity. A dual degree with a Masters of Science in Global Health Delivery (with a Global Surgery Option) alongside the MBBS degree addresses professional silos and permits learners to have 'a view from beyond the operating room' by introducing a health systems strengthening approach, global health leadership, monitoring and evaluation expertise, and strong equity in global health perspectives among other essential but neglected training components.[17] Our extension of training into a potential general surgery residency at two district hospital sites which are focused on comprehensive general surgery acknowledges the need for high-level surgical care, while ensuring that it is in proximity to the community and appropriate for context.

Global Surgery Advocacy and Policy

Less than 10 African countries have active surgical healthcare plans or policies. Even where these plans exist, we see significant gaps in surgical healthcare plan implementation, funding, and dissemination.[5,18] Rwanda has recently carried out a mid-term evaluation of its National Surgical Obstetrics and Anesthesia Plan. The Rwandan Ministry of Health co-funded by Smile Train, in partnership with the Center for Equity in Global Surgery, worked with a technical committee of global surgery experts to set up the Pan-African Surgical Healthcare Forum (PASHeF). The forum is owned by African member states and provides a peer mentoring system towards advancing global surgical care on the continent. The inaugural forum was a two-day consensus conference of technocrats from Ministries of Health across Africa who charted the path forward for national surgical healthcare policies. Using plenary sessions, peer exchange of information, expert breakout sessions, question and



Figure 4: Grassroots advocacy campaign in Burera, Rwanda

answer sessions, and consensus methods.

Thirty-two Ministries of Health, represented by 42 delegates, drafted, and unanimously adopted the PASHeF 2023 Consensus Statement, a 12-theme, 50-point consensus on surgical care for Africa addressing country commitment, surgical financing, stakeholder mobilization, monitoring and evaluation, partnerships, and other aspects of national surgical healthcare policy and planning in Africa. This consensus provides an African roadmap for surgical healthcare policy advancement. It emphasizes the need for phased implementation, flexibility in policy development, and highlights current opportunities and barriers. Unlike historical models of surgical policy, the African consensus aims to emphasize the 'demand side' in consonance with the 'supply side' of surgical care. African Ministries of Health highlighted community involvement and sustainability as foundations for surgical planning with a focus on the entire spectrum of surgical healthcare, including prevention and rehabilitation. The Pan-African Surgical Healthcare Forum is being positioned as a policy monitoring system. African nations have embraced surgical healthcare policy and plans as an imperative on their journey to Universal Health Coverage.

Grassroots advocacy campaigns to raise awareness of neglected surgical conditions and targeted at reducing first and second delays are also carried out in rural Rwanda. For a week in 2024, Global Health students went door to door in 22 villages, and held advocacy campaigns at markets, village centers, health centers, and schools.

Global Surgery Research and Innovation

Global Surgery research is expanding in Rwanda through the efforts of the hospital facilities, the UGHE Center for Equity in Global Surgery, the NIHR Global Surgery Hub, universities, global surgery Masters in Global Health Delivery learners, supported by not-for-profits and foreign partners. Work is ongoing by academic centers to define the burden of neglected surgical disease. For example, over 20 villages have been visited by global surgery trainees to identify surgical conditions through a community-based study of the Northern province. Hospital consortium research on various aspects of surgical safety, and injury research in conjunction with partner universities abroad is ongoing with an eye on translating outputs into policy. Surgical education and quality improvement research is also ongoing to improve the quality of surgical education across undergraduate and postgraduate surgical education.

Rwanda is a hub for global health innovation and home to East Africa Biodesign, a leading-edge initiative by Rwandan universities and Stanford Biodesign committed to fostering need-driven innovations founded on the true understanding of the unmet healthcare needs of East Africa. Other global surgery and machine learning innovations are being researched and piloted in the diagnosis of post-cesarean section surgical site infections from pictures taken by community health workers on smartphones, and an emergency response Decision Destination Support Algorithm to reduce time from ambulance dispatch to arrival at hospitals for the Emergency Medical Services.[19–21] Blood delivery by road over the hilly terrain is circumvented by the use of Zipline, a drone delivery system for blood and chemotherapy.[22]

Global Surgery Fellowships and Global Convenings

Bi-directional fellowship opportunities in Global Surgery exist in Rwanda. The Center for Equity in Global Surgery co-leads a Global Surgery Advocacy Fellowship (alongside Operation Smile and Nkafu Policy Institute) with current and past fellows from Rwanda, Ethiopia, Columbia, Peru, Kenya, Ghana, Cameroon,



Figure 5: Community-based surgical burden of disease assessment in Burera District, rural Northern Rwanda

and Madagascar.[23] National Institutes of Health Fogarty Global Health Fellowship sites are in-country and provide a global surgery experience for fellows interested in surgical healthcare. Global convenings in Rwanda like the All Africa Anesthesia Congress 2023, the Pan African Healthcare Forum 2023, and the Global Surgery Hub's Global Surgery Research Open Day also contribute to advancing equity in surgery and anesthesia care globally.

Enhancing Quality of Clinical Surgical Care

Improving the nontechnical skills of operative decision making, situation awareness in the operating room, surgical leadership, communication, and teamwork enhances the quality of surgical care and is crucial for surgical patient safety.[24] Rwanda is a hub for Non-technical Skills for Surgery in Variable Resource Contexts (NOTSS-VRC) design and training.[24–26] In some settings over 50% of intraoperative surgical errors arise from failure of non-technical skills. NOTSS-VRC training has been done as a hub and spoke model in tertiary hospitals, and at peripheral district hospitals for operative teams of anesthesiologists, surgeons, and perioperative nurses.[24,27]

The Butaro Level 2 Teaching Hospital, hosts a Cancer Center of Excellence and serves the largest volume of patients with cancer in the country.[22,28] It also serves patients from across the East African subregion and is the primary district teaching hospital site for the University of Global Health Equity. By 2020, the hospital had treated over 11,000 cancer patients from Rwanda, Burundi, and the Democratic Republic of Congo. It is the first public facility in the country to provide diagnosis and chemotherapy using standardized protocols on a significant scale. Due to philanthropic funding and government partnerships, much care is provided free of charge, and patients receive treatments at a price affordable to the rural population. Challenges exist including insufficient "staff, stuff, space, systems, social support." However, quality care is brought in proximity to the rural poor, and this makes a significant difference.

Global Solutions from Rural Locations

By definition, global surgery does not necessarily involve the crossing of international borders. It refers to all the efforts that contribute to providing safe, affordable, timely, equitable, and quality surgical care to each one of the 5 billion people who lack access to this care globally.[2,3] It is the cross-cutting multidisciplinary and interprofessional work in surgical education, clinical care, research, policy, advocacy, innovation, and global convening that ensures that surgical care, a best buy for the health system, is prioritized. In Rwanda, we show that solutions do not need to be urban-centric, primarily sourced from tertiary hospitals, or be driven by the global north. By leveraging equitable partnerships, utilizing equitable processes, which result in context-appropriate global health products[29], Rwanda demonstrates that global solutions can come from rural locations.

References

1. Meara JG, Leather AJM, Hagander L, Alkire BC, Alonso N, Ameh EA, et al. Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. The Lancet. 2015 Aug;386(9993):569–624.
2. Bath M, Bashford T, Fitzgerald JE. What is 'global surgery'? Defining the multidisciplinary interface between surgery, anaesthesia and public health. BMJ Global Health. 2019 Oct 1;4(5):e001808.
3. Dare AJ, Grimes CE, Gillies R, Greenberg SLM, Hagander L, Meara JG, et al. Global surgery: defining an emerging global health field. The Lancet. 2014 Dec;384(9961):2245–7.
4. Bouchard ME, Sheneman N, Hey MT, Hoemeke L, Abdullah F. Investments in surgical systems contribute to pandemic readiness and health system resilience. J Public Health Policy. 2021 Sep;42(3):493–500.
5. Bekele A, Alayande BT, Powell BL, Obi N, Seyi-Olajide JO, Riviello RR, et al. National Surgical Healthcare Policy Development and Implementation: Where do We Stand in Africa? World J Surg. 2023 Dec;47(12):3020–9.



Figure 6: Global Surgery Advocacy Fellowship fellows and faculty at Butaro, Rwanda

6. Jumbam DT, Reddy CL, Makasa E, Boatin AA, Rogo K, Chu KM, et al. Investing in surgery: a value proposition for African leaders. Lancet. 2020 Jul 4;396(10243):7–9.
7. Rwanda Ministry of Health. Rwanda National Surgical Obstetrics and Anesthesia Plan 2018-2024.
8. Alayande B, Forbes C, Degu S, Hey MT, Karekezi C, Khanyola J, et al. Shifting global surgery's center of gravity. Surgery. 2022 Sep;172(3):1029–30.
9. Bekele A, Wong R. University of Global Health Equity - A New Way of Institutional Higher Education. Journal of Management and Strategy. 2019 Mar 11;10(2):1.
10. Bekele A, Alayande BT, Iradukunda J, Minja C, Forbes C, Bachheta N, et al. A cross sectional survey on surgeon retention in the COSECSA region after specialist training: Have things changed? World j surg. 2024 Apr;48(4):829–42.
11. Cancedda C, Cotton P, Shema J, Rulisa S, Riviello R, Adams LV, et al. Health Professional Training and Capacity Strengthening Through International Academic Partnerships: The First Five Years of the Human Resources for Health Program in Rwanda. Int J Health Policy Manag. 2018 Nov 1;7(11):1024–39.
12. Cancedda C, Riviello R, Wilson K, Scott KW, Tuteja M, Barrow JR, et al. Building Workforce Capacity Abroad While Strengthening Global Health Programs at Home: Participation of Seven Harvard-Affiliated Institutions in a Health Professional Training Initiative in Rwanda. Acad Med. 2017 May;92(5):649–58.
13. Alayande BT, Forbes CW, Iradakunda J, Majyambere JP, Hey MT, Powell BL, et al. Determining Critical Topics for Undergraduate Surgical Education in Rwanda: Results of a Modified Delphi Process and a Consensus Conference. Cureus. 2023 Aug 17;15(8):e43625.
14. Petroze RT, Nzayisenga A, Rusanganwa V, Ntakiyiruta G, Calland JF. Comprehensive national analysis of emergency and essential surgical capacity in Rwanda. British Journal of Surgery. 2012 Jan 30;99(3):436–43.
15. Bekele A, Regnier D, Paul T, Waka TY, Bradley EH. Advancing Global Health Equity: The Role of the Liberal Arts in Health Professional Education. J Med Humanit. 2024 Jun;45(2):185–92.
16. Yemini M, Engel L, Ben Simon A. Place-based education – a systematic review of literature. Educational Review. 2023 Feb 20;1–21.
17. Qin R, Alayande B, Okolo I, Khanyola J, Jumbam DT, Koea J, et al. Colonisation and its aftermath: reimagining global surgery. BMJ Glob Health. 2024 Jan 4;9(1):e014173.
18. Truché P, Shoman H, Reddy CL, Jumbam DT, Ashby J, Mazhiqi A, et al. Globalization of national surgical, obstetric and anesthesia plans: the critical link between health policy and action in global surgery. Global Health. 2020 Dec;16(1):1.
19. Jayaraman S, Ntirenganya F, Nkeshimana M, Rosenberg A, Dushime T, Kabagema I, et al. Building Trauma and EMS Systems Capacity in Rwanda: Lessons and Recommendations. Ann Glob Health. 2021;87(1):104.
20. Kateera F, Riviello R, Goodman A, Nkurunziza T, Cherian T, Bikorimana L, et al. The Effect and Feasibility of mHealth-Supported Surgical Site Infection Diagnosis by Community Health Workers After Cesarean Section in Rural Rwanda: Randomized Controlled Trial. JMIR Mhealth Uhealth. 2022 Jun 8;10(6):e35155.
21. Nkurunziza T, Williams W, Kateera F, Riviello R, Niyigena A, Miranda E, et al. mHealth-community health worker telemedicine intervention for surgical site infection diagnosis: a prospective study among women delivering via caesarean section in rural Rwanda. BMJ Glob Health. 2022 Jul;7(7):e009365.
22. Tuli. Reimagining rural cancer care - the Butaro Cancer Center of Excellence (BCCOE) in Rwanda. RRH [Internet]. 2023 Jan 10 [cited 2024 May 5]; Available from: https://www.rrh.org.au/journal/article/8174
23. Jumbam DT, Bustamante A, Alayande BT, Ayala R, Kouam JC, Dzirasa I, et al. To advance global surgery and anaesthesia, train more advocates. BMJ Glob Health. 2023 Jun;8(6):e012848.
24. Scott JW, Lin Y, Ntakiyiruta G, Mutabazi Z, Davis WA, Morris MA, et al. Identification of the Critical Nontechnical Skills for Surgeons Needed for High Performance in a Variable-resource Context (NOTSS-VRC). Ann Surg. 2019 Dec;270(6):1070–8.
25. Lin Y, Scott J, Mutabazi Z, Smirk D, Yule S, Riviello R, et al. Strong support for a context-specific curriculum on non-technical skills for surgeons (NOTSS). East Cent Afr J Surg. 2017 Jan 23;21(3):3.
26. Abahuje E, Bartuska A, Koch R, Youngson G, Ntakiyiruta G, Williams W, et al. Understanding Barriers and Facilitators to Behavior Change After Implementation of an Interdisciplinary Surgical Non-Technical Skills Training Program in Rwanda. J Surg Educ. 2021 Oct;78(5):1618–28.
27. Abahuje E, Bartuska A, Dias RD, Muneza E, Sibomana I, Williams W, et al. Learning NOTSS While Tying Knots: Integrating the Nontechnical Skills for Surgeons Course With Technical Surgical Skills Training, A Mixed Methods Study. Annals of Surgery Open. 2022 Mar;3(1):e133.
28. Tapela NM, Mpunga T, Hedt-Gauthier B, Moore M, Mpanumusingo E, Xu MJ, et al. Pursuing equity in cancer care: implementation, challenges and preliminary findings of a public cancer referral center in rural Rwanda. BMC Cancer. 2016 Dec;16(1):237.
29. August E, Tadesse L, O'Neill MS, Eisenberg JNS, Wong R, Kolars JC, et al. What is Global Health Equity? A Proposed Definition. Annals of Global Health. 2022 Jul 4;88(1):50.

General

Hydrocortisone plus fludrocortisone for community-acquired pneumonia-related septic shock

Despite the prevailing controversies, accumulating evidence supports the role of glucocorticoids in patients hospitalized for community-acquired pneumonia (CAP). Researchers in this subgroup analysis for the APROCCHSS trial compared hydrocortisone plus fludrocortisone between CAP and non-CAP-related septic shock. The primary endpoint was 90-day all-cause mortality. In the 562 participants that had CAP randomized in a 1:1 ratio to either corticosteroid or placebo, the primary outcome occurred in fewer participants in the intervention arm (39%) compared to placebo (51%), OR 0.60 (95% CI 0.43-0.83). There was no difference in the primary outcomes in the 648 non-CAP group between corticosteroid and placebo arms. The researchers concluded that hydrocortisone plus fludrocortisone reduced mortality compared to placebo, but no similar effect was seen in the non-CAP subgroup.

Reference

Heming, N., et al. (2024). Hydrocortisone plus fludrocortisone for community-acquired pneumonia-related septic shock: a subgroup analysis of the APROCCHSS phase 3 randomized trial. The Lancet Respiratory Medicine.

Individualized, short-course antibiotic treatment versus usual long-course treatment for ventilator-associated pneumonia.

Ventilator-associated pneumonia is associated with excessive antibiotic use among other adversities compared to other forms of pneumonia. In this phase IV clinical trial, researchers determined if an individualized, short-course antibiotic treatment strategy (≤ 7 days) was non-inferior to usual care (≥8 days). The primary outcome measure was a 60-day composite of death or pneumonia recurrence. A total of 460 participants were included and randomized in a 1:1 ratio. Median antibiotic treatment duration was 6 days in the short-course group and 14 days in the usual care group. The primary outcome occurred in 95 (41%) in the short-course group compared to 44% in the usual care group. Antibiotic side effects were higher in the usual care arm compared to the shorter course (risk difference -31%). The researchers hence found the shorter-course antibiotic treatment strategy to be non-inferior with fewer safety issues.

Reference

Mo, Y., et al. (2024). Individualized, short-course antibiotic treatment versus usual long-course treatment for ventilator-associated pneumonia (REGARD-VAP): a multicentre, individually randomized, open-label, non-inferiority trial. The Lancet Respiratory Medicine, 0(0).

10-day versus 14-day bismuth quadruple therapy for first-line eradication of Helicobacter pylori infection

According to several guidelines, bismuth quadruple therapy is the first-line helicobacter pylori eradication therapy, but the optimal duration of therapy is unclear. In this study, researchers compared a 10-day (PBMT-10) to a 14-day course of therapy (PBMT-14). A total of 313 H.pylori treatment patients were enrolled and randomly assigned to either group in a 1:1 ratio. The primary outcome was eradication rates. The researchers found the 10-day course to have similar eradication rates i.e. 92.4% versus 92.9% on intention-to-treat and 97.9% and 99.3% per protocol analyses. Overall adverse effects were similar but with less dizziness and vomiting in the 10-day course. The researchers thus concluded that the 10-day course is non-inferior to the 14-day bismuth therapy course, with fewer side effects.

Reference

Yang, E. H., et al. (2024). 10-Day versus 14-day bismuth quadruple therapy for first-line eradication of Helicobacter pylori infection: a randomized, open-label, non-inferiority trial. EClinicalMedicine, 70.

Ciprofloxacin prescription and non-susceptibility in Salmonella Typhi in Blantyre, Malawi

Emergency of Salmonella Typhi resistant to ciprofloxacin, the first-line for treating typhoid fever, is a major public health threat. Researchers in this study determined the association between ciprofloxacin prescriptions and S. Typhi quinolone resistance. This large study conducted in Malawi included data on blood cultures collected at Queen Elizabeth Central Hospital and from STRATAA and TyVAC studies. The study demonstrated a surge in ciprofloxacin prescriptions was related to a rise in typhoid fever cases (whole genome-sequencing-confirmed) from 4 (2%) to 6 (33%) cases, and that every additional prescription of ciprofloxacin in the preceding month was associated with a 4.2% increase in the relative risk of isolating a quinolone-resistance mutation. The researchers recommended improvement in typhoid fever diagnostics and the use of efficacious vaccines to curb S. Typhi resistance.

Reference

Ashton, P. M., et al. (2024). Evaluating the relationship between ciprofloxacin prescription and non-susceptibility in Salmonella Typhi in Blantyre, Malawi: an observational study. The Lancet Microbe, 5(3), e226–e234.

Pharmacokinetics of single-dose doxycycline in the rectum, vagina, and urethra

Doxycycline has been previously shown to reduce STIs among men who have sex with men, but data among women remains scanty. This study determined drug concentrations at different sites of STI exposure to inform STI prevention. Twenty participants were enrolled and given a single oral dose of doxycycline 200mg. Drug pharmacokinetics were determined in blood and urine and on rectal and vaginal swabs collected at different time points. The researchers found that doxycycline concentrations 3 days after dosing were twice the plasma levels and remained above minimum inhibitory concentrations for at least four, three, and two days for Chlamydia trachomatis, Treponema pallidum, and tetracycline-sensitive Neisseria gonorrhoeae, respectively. The researchers concluded that doxycycline efficiently distributes to the rectum, vagina, and urethra supporting its efficacy in STI prevention.

Reference
Haaland, R. E., et al. (2024). Pharmacokinetics of single-dose doxycycline in the rectum, vagina, and urethra: implications for prevention of bacterial sexually transmitted infections. EBioMedicine, 101..

Long-term risks of respiratory diseases in patients infected with SARS-CoV-2

Respiratory sequelae following SARS-CoV-2 are not well studied. In this study, researchers determined if COVID-19 increases the long-term risk of respiratory conditions. Using a UK Biobank database, 3 cohorts were built including a COVID-19 cohort (112,311 participants), a contemporary control (359,671 participants), and a historical cohort (370,979 participants). After a median follow-up of 0.8 years, the study found that compared to the contemporary control, COVID-19 participants had an increased risk of respiratory diseases i.e asthma HR 1.49, bronchiectasis HR 1.30, COPD HR 1.59, Interstitial lung disease 1.80 among others. The risk was higher among COVID-19-reinfected patients. Similar findings were found in the historical cohort. The researchers concluded that COVID-19 increases the risk of developing respiratory disease, with risk increasing with disease severity and reinfection.

Reference
Meng, M., et al. (2024). Long-term risks of respiratory diseases in patients infected with SARS-CoV-2: a longitudinal, population-based cohort study. EClinicalMedicine, 69.

Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes

Semaglutide, a glucagon-like peptide-1 receptor agonist reduces the risk of adverse cardiovascular events in diabetes. Whether it can reduce cardiovascular risk in overweight and obese patients without diabetes is unclear. In this randomized placebo-controlled trial,17,604 adult patients ≥45 years with a body mass index ≥ 27 but no diabetes history were enrolled and randomized in a 1:1 to receive 2.4 mg once-weekly semaglutide or placebo. The primary outcome was a composite of death from cardiovascular causes, nonfatal myocardial infarction, or stroke. After a mean follow-up of 39.8±9.4 months, the primary outcome occurred less in the semaglutide group compared to placebo i.e. 6.5% versus 8.0% (hazard ratio, 0.80, P<0.001). The researchers concluded that semaglutide is superior to placebo in reducing cardiovascular events in non-diabetic overweight patients.

Reference
Lincoff, A. M., et al. (2023). Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes. New England Journal of Medicine.

Dual Antiplatelet Treatment up to 72 Hours after Ischemic Stroke

Dual antiplatelet therapy (DAPT) lowers the risk of recurrent stroke when started early (≤ 24 hours). Whether administration later but within 72 hours is still beneficial isn't clear. In this double-blinded, placebo-controlled trial, 6100 patients with mild ischemic stroke or high-risk transient ischemic attack (TIA) were randomly assigned in a 1:1 ratio to either receive clopidogrel and aspirin or placebo and aspirin alone, within 72 hours. The primary efficacy and safety outcomes were new stroke, and moderate-to-severe bleeding within 90 days respectively. The primary efficacy outcome happened in 7.3% of the dual anti-platelet group compared to 9.2% in the aspirin-only group (HR 0.79), at the expense of low but higher moderate-to-severe bleeding risk, HR 2.08.

Reference
Gao, Y., et al. (2023). Dual Antiplatelet Treatment up to 72 Hours after Ischemic Stroke. New England Journal of Medicine, 389(26), 2413–2424.

Tenecteplase for Stroke at 4.5 to 24 Hours with Perfusion-Imaging Selection

Tenectaplase is beneficial in ischemic stroke when administered within 4.5 hours of stroke onset. Whether opening this window up to 24 hours is beneficial is still unclear. Researchers in this trial enrolled 458 adults with occlusion in the internal carotid or middle cerebral artery and salvageable tissue on perfusion imaging and assigned them in a 1:1 ratio to receive tenectaplase or placebo at 4.5 to 24 hours of last seen normal. Three-quarters of participants also underwent endovascular thrombectomy. The primary outcome was the ordinal score on the modified Rankin scale (mRS). At 90 days, the median mRS in both groups was similar. Mortality at 90 days was also not appreciably different between groups. The authors concluded that tenecteplase didn't confer a favorable functional outcome.

Reference
Albers, G. W., et al. (2024). Tenecteplase for Stroke at 4.5 to 24 Hours with Perfusion-Imaging Selection. New England Journal of Medicine, 390(8), 701–711.

Long-term benefits of dapagliflozin on renal outcomes of type 2 diabetes under routine care

Patients with type 2 diabetes (T2DM) remain at greatest risk of end-stage kidney disease. Sodium-glucose co-transporter-2 (SGLT2) inhibitors including dapagliflozin have been shown to have renal benefits but their long-term impact isn't well known. In this study, two cohorts were matched i.e. a dapagliflozin group and a comparator, each composed of 6197 T2DM patients. Comparisons were made in the change in estimated glomerular filtration rate (eGFR), among other renal outcomes from baseline to end of observation. The researchers found that after a mean of 2.5 years of follow-up, eGFR declined less in the dapagliflozin group than the comparator i.e. by 1.8 ml/min/1.73m2. Similar trends were also seen in the other renal outcomes. The researchers concluded that initiating dapagliflozin improves kidney function outcomes in patients with T2DM.

Reference
Fadini, G. P., et al. (2024). Long-term benefits of dapagliflozin on renal outcomes of type 2 diabetes under routine care: a comparative effectiveness study on propensity score matched cohorts at low renal risk. The Lancet Regional Health - Europe, 38, 100847.

Efficacy and effectiveness of antipsychotics in schizophrenia

TTreatment outcomes of schizophrenia may vary between clinical trials and real-world settings. The researchers conducted meta-analyses comparing the efficacy and effectiveness of antipsychotics for relapse prevention (within 6 months post-antipsychotic initiation) using both randomized clinical trials (RCT) and real-world data (Swedish and Finnish national registries), including 10,091 and 90,469 individuals respectively. The researchers found efficacy in RCTs was larger than effectiveness in the real world (HR ratio 2·58). Real-world network meta-analysis showed clozapine as the most effective, followed by olanzapine long-acting injectable (LAI). RCT data was inconsistent. In a combined meta-analysis, olanzapine was the most efficacious antipsychotic. The researchers concluded that RCTs may overestimate the treatment effectiveness of antipsychotics and that LAIs seemed to do better in real-world settings than RCTs..

Reference

Efthimiou, O., et al. (2024). Efficacy and effectiveness of antipsychotics in schizophrenia: network meta-analyses combining evidence from randomized controlled trials and real-world data. The Lancet Psychiatry, 11(2), 102–111.

Morphine for treatment of cough in idiopathic pulmonary fibrosis

Idiopathic pulmonary fibrosis (IPF) is a progressive lung disease with no proven treatments at the moment. Researchers in this double-blinded, placebo-controlled-cross-over study determined if morphine was beneficial as an antitussive. Forty-four patients with IPF diagnosed within 5 years with cough lasting >8 weeks were randomized (1:1) to receive placebo or controlled-release morphine 5 mg orally twice daily for 14 days followed by crossover after a week's washout period. The outcome measure was a change in objective awake cough frequency on day 14. The researchers noted that morphine reduced objective awake cough frequency by almost 40% compared with placebo, at the expense of increased adverse events (40% versus 14%). They thus concluded morphine is promising as a potential cough remedy for IPF.

Reference

Wu, Z., et al. (2024). Morphine for treatment of cough in idiopathic pulmonary fibrosis (PACIFY COUGH): a prospective, multicentre, randomized, double-blind, placebo-controlled, two-way crossover trial. The Lancet Respiratory Medicine, 12(4), 273–280.

MCH

Efficacy of oral corticosteroids for acute preschool wheeze

Oral corticosteroids are often used for acute preschool wheeze despite conflicting evidence of benefit. Researchers in this study assessed the efficacy of oral corticosteroids using systematic review and individual participant data meta-analyses. Individual data from seven trials comprising 2172 children, with 1728 children in the eligible age group was used half of whom had received oral corticosteroids (49.4%) and the other half placebo (50.6%). The study found that oral corticosteroids resulted in a greater change in wheezing severity score at 4 hours (mean difference –0·31), as well as reducing the duration of hospital stay (-3·18 hours), a reduction noted to be greatest in those with a history of wheezing or asthma. The researchers highlighted the benefit of oral corticosteroids especially in previous wheeze or asthma.

Reference

Lee, B., et al. (2024). Efficacy of oral corticosteroids for acute preschool wheeze: a systematic review and individual participant data meta-analysis of randomized clinical trials. The Lancet Respiratory Medicine, 0(0).

Post-mortem investigation of deaths due to pneumonia in children aged 1–59 months in sub-Saharan Africa and South Asia from 2016 to 2022

The CHAMPS network through minimally invasive tissue sampling and ante-mortem clinical information in low-resource countries determined the contribution of pneumonia to under-five mortality and causative pathogens. Among 1120 decedents, pneumonia was attributable in 40.6% of all cases. Causative agents were identified in 82.9% of pneumonia cases. The majority (67.3%) of pneumonia cases were presumed to be community-acquired with leading organisms being Streptococcus pneumoniae (35.3%), Klebsiella pneumoniae (25.5%), and Haemophilus influenzae (12.1%). Presumed hospital-acquired pneumonia was in one-third (32·7%) of cases including Klebsiella pneumoniae (43·0%), Acinetobacter baumannii (12·8%), S pneumoniae (10·1%), and Pseudomonas aeruginosa (10·1%). The researchers highlighted the role of Klebsiella pneumonia, H influenzae, and S pneumoniae warranting a review of empirical treatment in severe pneumonia and vaccine use.

Reference

Mahtab, S., et al. (2024). Post-mortem investigation of deaths due to pneumonia in children aged 1–59 months in sub-Saharan Africa and South Asia from 2016 to 2022: an observational study. The Lancet Child and Adolescent Health, 8(3), 201–213.

Diagnostic test accuracy of procalcitonin and C-reactive protein for predicting invasive and serious bacterial infections in young febrile infants

Infants below 90 days of life have a higher risk of serious bacterial infections. The diagnostic accuracy of c-reactive protein (CRP) as compared to procalcitonin in identifying febrile infants at low risk of invasive or serious infections is not well known. Researchers conducted a systematic review and meta-analysis involving 14 studies (n=7,755) and found the pAUC values greater for procalcitonin than CRP for invasive bacterial infections i.e 0.72 versus 0.28c, with optimal cut-offs being 0·49 ng/mL and 13·12 mg/L respectively. The pAUC values were similar for detecting serious bacterial infection, with corresponding optimal cut-offs being 0·17 ng/mL and 16·18 mg/L respectively. They thus concluded that in settings without procalcitonin, CRP can be used to identify invasive

bacterial infections with a cut-off of 20mg/L.

Reference

Norman-Bruce, H., et al. (2024). Diagnostic test accuracy of procalcitonin and C-reactive protein for predicting invasive and serious bacterial infections in young febrile infants: a systematic review and meta-analysis. The Lancet Child and Adolescent Health, 0(0).

Risk of Autism after Prenatal Topiramate, Valproate, or Lamotrigine Exposure

Maternal valproate use in pregnancy is associated with neurodevelopmental disorders in children. The risk with other anti-seizure medications isn't well studied. In this trial, population-based cohorts of pregnant women in the United States were followed and cumulative incidences of autism spectrum disorder in children exposed to topiramate, valproate, and lamotrigine were compared. The researchers found general population incidence among children at 8 years of age not exposed to anti-seizure medication to be 1.9% compared to 4.2% in children of epilepsy mothers not exposed to anti-seizure medications, 6.2% of topiramate-exposed, 10.5% of valproate-exposed and 4.1% of lamotrigine-exposed. The researchers concluded that children prenatally exposed to anti-seizure medications were at increased risk of autism spectrum disorder with the highest risk noted with valproate.

Reference

Hernández-Díaz, S., et al. (2024). Risk of Autism after Prenatal Topiramate, Valproate, or Lamotrigine Exposure. New England Journal of Medicine, 390(12), 1069–1079.

Simple versus Radical Hysterectomy in Women with Low-Risk Cervical Cancer

The incidence of parametrial infiltration in patients with early-stage low-risk cervical cancer is likely low, and therefore simple as opposed to radical hysterectomy could be better. In this non-inferiority RCT, 700 patients with low-risk cervical cancer were randomized (1:1) to simple or radical hysterectomy and followed up for 3 years for cancer recurrence. The study found no significant difference in the incidence of pelvic recurrence at 3 years i.e. 2.17% versus 2.52% in the radical and simple hysterectomy groups respectively. The incidence of early and late urinary incontinence, or retention was significantly higher in the radical hysterectomy group. Authors thus concluded that in patients with low-risk cervical cancer, simple hysterectomy was non-inferior to radical hysterectomy in cancer recurrence and was safer.

Reference

Plante, M.,et al. (2024). Simple versus Radical Hysterectomy in Women with Low-Risk Cervical Cancer. New England Journal of Medicine, 390(9), 819–829.

General Surgery

Skin Antisepsis Before Surgical Fixation of Extremity Fractures

Conflicting evidence exists for the alcohol-based antiseptic of choice before an extremity fracture surgery. This cluster-randomized, crossover trial involved 25 hospitals in the United States and Canada and randomized them to alcohol-based 0.7% iodine povacrylex or 2% chlorhexidine gluconate. Interventions were alternated every 2 months. The primary outcome was surgical site infection at 30 and 90 days. A total of 6785 and 1700 patients with closed and open fractures respectively were enrolled. In the closed-fracture group, the primary outcome occurred less (2.4%) in the Iodine group compared to 3.3% in the chlorhexidine group (odds ratio, 0.74). In the open-fracture group, the outcomes were similar. The researchers hence concluded that Iodine resulted in fewer surgical site infections in patients with closed fractures.

Reference

Sprague, S., et al. (2024). Skin Antisepsis before Surgical Fixation of Extremity Fractures. New England Journal of Medicine, 390(5), 409–420.

Conservative management versus laparoscopic cholecystectomy in uncomplicated symptomatic gallstone disease

The clinical and cost-effectiveness of either conservative management or laparoscopic cholecystectomy in uncomplicated symptomatic gallstone disease isn't clear. Researchers in this study enrolled 434 adults with uncomplicated symptomatic gallstone disease and randomly assigned (1:1) them to either receive conservative management or laparoscopic cholecystectomy. The primary endpoint was quality of life over 18 months, and secondary endpoints included costs, among others. By 18 months, one-quarter of participants in the conservative arm compared to two-thirds of patients in the cholecystectomy had received surgery. The QOL (assessed by short form-36 norm-based bodily pain score) didn't differ between groups (p=1.00), but the conservative approach was less costly (mean difference −£1033). The researchers concluded that laparoscopic surgery was not more effective, and a conservative approach may be more cost-effective.

Reference

Ahmed, I., et al. (2023). Effectiveness of conservative management versus laparoscopic cholecystectomy in the prevention of recurrent symptoms and complications in adults with uncomplicated symptomatic gallstone disease (C-GALL trial): pragmatic, multicentre randomized controlled trial. BMJ, 383, e075383. https://doi.org/10.1136/BMJ-2023-075383

Role of preoperative in-hospital delay on appendiceal perforation while awaiting appendicectomy

Appendicectomy is the standard treatment of appendicitis. Consensus on the surgical urgency for acute uncomplicated appendicitis is inexistent. Researchers in this study that was conducted in Finland and Norway randomized 1822 patients with acute uncomplicated

appendicitis to either appendicectomy scheduled within 8 h (n=914) or 24 h (n=908). In the intention-to-treat analysis, appendiceal perforation rate was similar between groups (absolute risk difference of 0.6%), with no significant differences in complication rates in 30 days i.e. 7% versus 6% in the < 8h and <24h groups respectively. The researchers concluded that scheduling appendicectomy within 24 hours doesn't increase perforation risk and suggested that this information can be used to allocate operating room resources, for instance postponing night-time appendicectomy to daytime.

Reference

Jalava, K., et al. (2023). Role of preoperative in-hospital delay on appendiceal perforation while awaiting appendicectomy (PERFECT): a Nordic, pragmatic, open-label, multicentre, non-inferiority, randomized controlled trial. Lancet (London, England), 402(10412), 1552–1561. https://doi.org/10.1016/S0140-6736(23)01311-9

Lifestyle

Intermittent fasting and health outcomes

This systematic review and meta-analysis sought to synthesize evidence on the benefits of intermittent fasting (IF). The researchers found that compared to a non-intervention diet in patients with overweight and obesity, IF significantly reduced waist circumference (−1.02 cm), fat mass (−0.72 kg), fasting insulin (−0.21), low-density lipoprotein cholesterol (−0.20), total cholesterol (−0.29), and triacylglycerols (−0.23), but increased fat-free mass (0.98 kg). In people with overweight or obesity, and type 2 diabetes, IF increases high-density lipoprotein cholesterol (HDL-C) levels compared to continuous energy restriction. The researchers concluded that IF likely has beneficial effects on various health outcomes among adults with overweight and obesity compared to a non-intervention diet or continuous energy restriction

Reference

Sun, M. L.,et al. (2024). Intermittent fasting and health outcomes: an umbrella review of systematic reviews and meta-analyses of randomized controlled trials. EClinicalMedicine, 70, 102519.

Tobacco use and risk of acute stroke

This large case-control study conducted in 32 countries explored the association of current tobacco smoking with different tobacco exposure types on risk of stroke and stroke subtypes. The study involved 13,462 stroke cases and 13,488 controls and found that current smoking was associated with an increased risk of all strokes (OR 1.64), and had a stronger association with ischemic stroke than intra-cerebral hemorrhage (odds ratio 1.85 versus 1.19 respectively). The population-attributable risk among current smokers was higher in high-income countries compared to lower-income countries. Of all etiological subtypes, large vessel stroke and undetermined cause were strongly associated with current smoking (OR 2.16 and 1.97 respectively). The authors recommended strategies to discourage tobacco use of any kind to ease the stroke burden.

Reference

Wang, X., et al. (2024). Tobacco use and risk of acute stroke in 32 countries in the INTERSTROKE study: a case-control study. EClinicalMedicine, 70, 102515.

Association between snoring and stroke

This study sought to determine if the observed association between snoring and stroke was causal. A total of 82,339 unrelated individuals with qualified genotyping data from the China Kadoorie Biobank were included in this study. The researchers observed positive associations between snoring and total stroke (HR 1.56 and 1.78), hemorrhagic stroke (HR 1.5 and 1.94), and ischemic stroke (HR 2.0 and 1.74) in both China Kadoorie Biobank and UK Biobanks respectively. The associations remained stable even after adjusting for body mass index. The authors concluded that among Chinese adults, there was a causal relationship between snoring and stroke.

Reference

Zhu, Y., et al. (2024). Causal association between snoring and stroke: a Mendelian randomization study in a Chinese population. The Lancet Regional Health - Western Pacific, 44, 101001.

Lifestyle medicine as a modality for prevention and management of chronic diseases

Lifestyle medicine is an approach that focuses on modifying unhealthy behaviors and promoting healthy ones to prevent and manage chronic diseases. This modality addresses multiple risk factors such as physical inactivity, unhealthy diet, tobacco use, and stress. Evidence shows that adopting a healthy lifestyle can significantly reduce the incidence and progression of chronic diseases such as cardiovascular diseases, diabetes, and cancer. The implementation of Lifestyle medicine requires a multidisciplinary approach involving healthcare providers, patients, and communities. Healthcare providers play a pivotal role in educating and motivating patients to adopt healthy behaviors, while communities can provide a supportive environment that fosters healthy lifestyles. The aim of this letter to editor is to summarize the evidence supporting the use of Lifestyle medicine in the prevention and management of chronic diseases.

Reference

Idris Zubairu Sadiq, M.Tech (Biotech.), J Taibah Univ Med Sci. 2023 Oct; 18(5): 1115–1117.
Published online 2023 Apr 15. doi: 10.1016/j.jtumed.2023.04.001

CPD Challenge

Questions

Q1 Which of the following statements are TRUE or FALSE concerning Intermittent fasting and health outcomes

a. Compared to a non-intervention diet in patients with overweight and obesity, Intermittent Fasting significantly reduces waist circumference, fat mass, fasting insulin, low-density lipoprotein cholesterol, total cholesterol, and triacylglycerols.
b. Intermittent Fasting increases fat-free mass.
c. In people with overweight or obesity, and type 2 diabetes, Intermittent Fasting increases high-density lipoprotein cholesterol (HDL-C) levels compared to continuous energy restriction. .
d. Intermittent Fasting has NO beneficial effects on various health outcomes among adults with overweight and obesity compared to a non-intervention diet or continuous energy restriction..
e. Continous energy restriction is easier to manage and has better beneficial effects on various health outcomes among adults with overweight and obesity compared to Intermittent Fasting

Q2 Please indicate TRUE or FALSE statement(s) concerning the risk of stroke

a. Current smoking is associated with an increased risk of all strokes, and has a stronger association with ischemic stroke than intra-cerebral hemorrhage.
b. The population-attributable risk of stroke among current smokers is higher in high-income countries compared to lower-income countries
c. Of all etiological subtypes, large vessel stroke and undetermined cause is strongly associated with current smoking.
d. There is a positive associations between snoring and total stroke, hemorrhagic stroke and and ischemic stroke.
e. There is no causal relationship between snoring and stroke.

Q3 Please indicate TRUE or FALSE statements with respect to the efficacy of oral corticosteroids for acute pre-school wheeze

a. Oral corticosteroids are often used for acute preschool wheeze despite conflicting evidence of benefit.
b. Oral corticosteroids often result in a greater change in wheezing severity score at 4 hours, as well as reducing the duration of hospital stay.
c. Oral corticosteriods is more beneficial in children with a history of wheezing or asthma
d. The benefit of oral corticosteroids is not clear in chidren with previous wheeze or asthma
e. Oral corticosteriods should not be used at all in pre-school children with a history of wheezing

Q4 Please indicate TRUE or FALSE statements regarding treatment of Helicobacter pylori infection.

a. Bismuth quadruple therapy is the first-line helicobacter pylori eradication therapy.
b. A 10-day course of bismuth is non-inferior to the 14-day bismuth therapy course, with fewer side effects.
c. A 14-day course of treatment is superior to a 10-day course for eradication of Helcobacteria pylori infection
d. Overall adverse effects are similar in a 10-day course and 14-day course of bismuth treatment of Helicobacter pylori infection.
e. There is less dizziness and vomiting in a 10-day course of bismuth treatment.

Q5 Please indicate as TRUE or FALSE concerning the use of skin antisepsis before surgical fixation of extremity fractures:

a. Alcohol-based 0.7% iodine povacrylex is superior to 2% chlorhexidine gluconate in all types of fractures.
b. Iodine has fewer surgical site infections in patients with closed fractures.
c. Whether Iodine or chlorhexidine is used, the outcome is similar in the open-fracture management.
d. Chlorhexidine use is superior in the prevention of surgical site infections in patients with closed fractures.
e. Iodine has fewer surgical site infections in patients with open-fractures

Answers

1). a. T; b. T; c. T; d. F; e F;
2). a. T; b. T; c. T; d. T; e F;
3). a. T; b. T; c. T; d. F; e F;
4). a. T; b. T; c. F; d. T; e T;
5). a. F; b. T; c. T; d. F; e F;

sysmex | Lighting the way with diagnostics

XN-31

Be confident fighting malaria



- Results you can rely on – reliable and objective malaria information using the technology of fluorescence flow cytometry
- Results from 1 mL blood or less without sample pretreatment
- Enhance and standardise your malaria testing
  - ✔ Fast with 24/7 availability
  - ✔ Quality of result independent of the skills of the operator

wissner-bosserhoff

LINET®

Members of LINET Group



SPRINT 100

Meet the new premium transport stretcher by LINET

5 FEATURES FOR SAFETY AND COMFORT

- ✓ IV&Drive – The world's first handles integrated into IV poles .
- ✓ CardiacChair – Easily adjustable for better treatment, safety and comfort.
- ✓ FlexiDrive – A shock-absorbing spring-loaded 5 th castor.
- ✓ SoftDrop – A smooth, silent and safe movement of siderails.
- ✓ EasyBrake – A four-sided braking system for easier accessibility.

www.linet.ae

LinkedIn