Africa Health July 2025 Vol. 48 No. 3

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The current state and future of family medicine in Africa

Enhancing Clinical Nursing Practice with the use of Clinical Decision-Making (CDM) Models In low resource settings.

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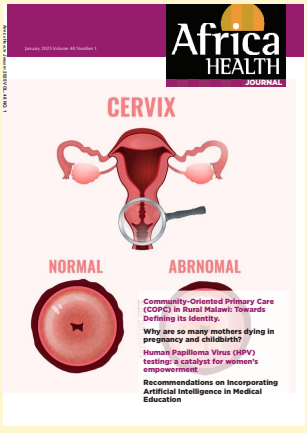
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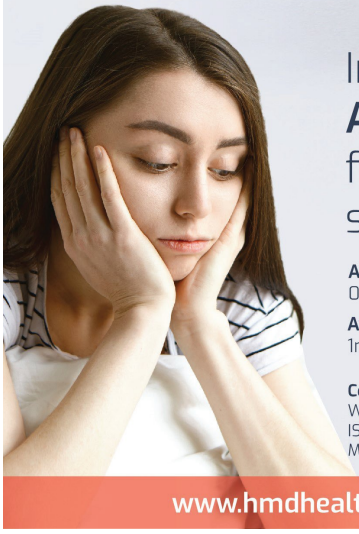
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Building a sustainable health workforce and health sytem



The July issue features several thought-provoking articles on the health workforce, an essential pillar of every health system. Often described as the engine that drives the health system, the health workforce determines the effectiveness, equity, and resilience of healthcare delivery. This edition opens with an insightful opinion piece by Francis Omaswa, offering a comprehensive overview of health workforce challenges and opportunities, both in Africa and globally. The issue further highlights emerging trends, policy debates, and innovative strategies aimed at strengthening and sustaining the health workforce to meet current and future health needs. One such article, by Elsie Kiguli-Malwadde, explores the link between quality Health Professions Education (HPE) and Social Accountability (SA). SA ensures that HPE institutions meet the needs of the communities they serve. The key message is that investing in quality, socially accountable health professions training is a proven strategy for building equitable, people-centered health systems.

An article by Natalie Stevens and Quinn Galbraith from Brigham Young University, USA, describes a unique partnership in rural Uganda between public health students, local healthcare professionals, and non-profit organizations making a meaningful impact. It highlights the power of collaboration among students, local health workers, and non-profits in addressing critical health needs. By integrating education with medical care, it demonstrates how innovative partnerships can transform community health, empower individuals, and create sustainable models for global health improvement.

This is followed by two short articles. The first discusses research linking mouth and gut disease to Parkinson's disease. It suggests that promoting a healthy microbiome through consistent oral care, a balanced diet, and potentially targeted probiotic interventions could improve disease management in Parkinson's. The second, by scientists at King's College London, details the mapping of the bacterial flagellum in unprecedented detail, revealing its potential as a novel target in the fight against antimicrobial resistance. By impairing rather than killing bacteria, this approach could slow the evolution of resistance and pave the way for new treatments.

The next article, by Carrie Ngongo, examines the causes and trends of urogenital fistula in sub-Saharan Africa, drawing on 23 years of data from nearly 7,000 women across nine countries. Most fistulas arise during obstructed labor without timely emergency obstetric care, but a growing share now results from surgical injury during cesarean sections. The study underscores the need for timely, high-quality care, appropriate cesarean decision-making, and stronger training in alternatives such as vacuum extraction to reduce maternal morbidity.

Barnabas Nkore's article notes that Africa's aging population is rapidly growing, exposing gaps in health, social protection, and eldercare systems. He offers hope by describing initiatives through Vantage Care Limited and HOCA-Africa in Uganda. Both organizations demonstrate scalable, professionalized, and culturally adapted solutions. He emphasizes that investing in care for the elderly can improve health outcomes, reduce hospital strain, empower youth, and uphold dignity for older adults.

The article by Vinand M. Nantulya and Paul Kizza on the Uganda Country Coordinating Mechanism (CCM) exemplifies how country-led partnerships can align with the Lusaka Agenda to strengthen health systems. By mobilizing billions in resources, coordinating diverse stakeholders, and fostering sustainability, the CCM has become a national asset, showing how pooled, country-driven financing can address pressing health challenges and advance universal health coverage.

An article by Innocent Kabahena Besigye and Robert James Mash provides insight into the growth of Family Medicine in Africa and its role in Primary Health Care. It argues that the current state of family medicine training, practice, and research in Africa cannot yet meet community health needs. The authors call for deliberate efforts to scale up family medicine training models, embed the need for family physicians in policy, and build capacity for context-relevant research to drive this agenda forward.

The paper by Godfrey Katende on nursing education seeks to inform practicing nurses about different forms of Clinical Decision-Making (CDM) models. It describes and critically analyzes clinical CDM models that nurses in low-resource settings, particularly in the East African region, can adopt to strengthen nursing practice.

We also include our usual Medicine Digest, quiz, news updates, and advertisements. The Africa Health Journal (AHJ) is available as an open-access, web-based publication at Africa-health.com. The site is updated daily and actively engages audiences via social media platforms such as Twitter and Facebook. Advertisers are encouraged to utilize both the print and digital formats of the AHJ, following the provided guidelines.

Elsie Kiguli-Malwadde, Editor: Africa Health Journal,
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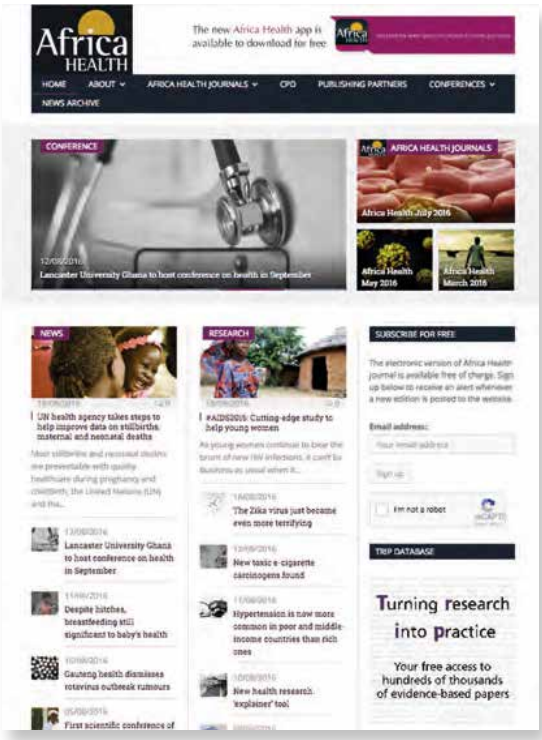
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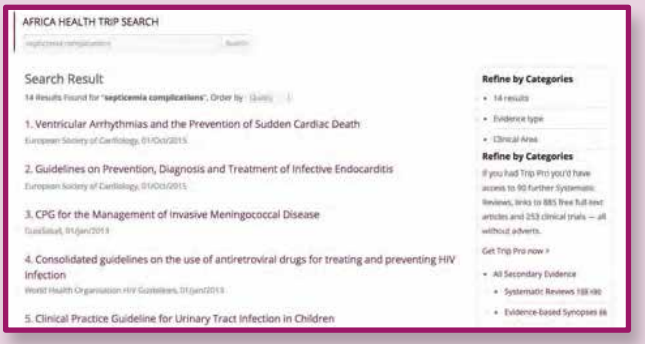
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African Health Workforce Force (HWF) Agenda Gaining Momentum



Francis Omaswa provides a comprehensive overview of health workforce challenges and opportunities in Africa and across the globe.

Over the past 25 years of following the global and African health workforce (HWF) agenda, I find this period the most encouraging. In December 2024, I joined the 25th Anniversary of COSECSA, now active in 14 countries and the largest surgical college in Africa, with over 1,500 delegates. In 2025, I attended key meetings by Africa CDC in Addis Ababa and WHO AFRO in Lusaka, following the July 2024 launch of the Africa HWF Investment Charter in Windhoek, where Africa CDC pledged collaboration with WHO for its rollout. I also spoke at the AMCOA Conference in Kampala (July 2025) and virtually at the 70th Anniversary of the Colleges of Medicine of South Africa in Pretoria (August 2025), which focused on specialist training and retention. Several more meetings on this vital agenda are planned in the coming months.

What messages have we learnt from all these events? The most important message is that government leadership is critical for success to be achieved. There is need to adopt the new paradigm that recognizes health as central to economic and social development. In the past there was uncoupling of relationship between economic growth and wellbeing. The new economic thinking is to re-couple, economic growth and well-being of the people; to achieve human capital development and the demographic dividend. This is needed to enable increased domestic resource allocation for health and not to regard investment in health as merely consumption that lacks economic returns. This government leadership should be from the top and all levels, multi-sector and apply the whole of government approach.

These Multi-sector Country Partnerships should result in a national Health Sector Strategic Plan (HSSP) in which there is a Comprehensive costed HWF Plan in line with Health Sector Strategic Plan and the National Development Plan. It should include HWF Information Systems (Observatory) with annual reporting and response which targets optimal HWF densities across the health system including Community level. Strong and competent HWF governance and leadership is essential. HWF governance and leadership is one to the current areas of weakness. There should also be national, regional, global, links and partnerships and health Professional Associations should be engaged.

Quality competency-based education is important and Education Institutions should be supported to produce fit for purpose health workers who are willing and able to work where their services are needed and to work with available resources among their communities. The Sub Saharan African Medical Schools Study which we conducted in 2010 found prevalence of faculty shortages, infrastructure deficits and a growing and sometimes worrying role of the private sector in HWF education.

Quality assurance is therefore needed through Strong Regulatory Bodies, strict and independent accreditation, strong Professional Associations and supportive supervision including the ability for self-assessment by the HWF and health leaders. The population has a key role in ensuring that demand for quality health services is felt by and informs the health system. Managing the pressures of the international HWF market and its impact on migration is an important area that cannot be ignored. Indeed, one of the meetings that I participated in recently is the Uganda-UK Health Summit in Kampala where HWF migration was discussed. HWF migration is inevitable and is taking place in most African countries. There is need for African countries to engage with the international community to sign bilateral or multilateral agreements which are guided by the WHO Code on the International Recruitment of Health Personnel.

In conclusion, the most critical need is to strengthen health workforce (HWF) leadership and governance across African countries. Building this capacity is essential to optimize the utilization, retention, and performance of existing health workers, while improving workforce data and evidence for decision-making. In many countries, HWF management is handled by personnel officers lacking the skills to align workforce competencies with national disease burdens. I call upon institutions such as the WHO Academy and African universities to develop dedicated training programs for HWF leaders. These programs should equip them to plan, train, employ, and retain health workers with the right skills to meet population health needs, and to advocate for greater investment in the health system. Strong, visionary leadership will be key to achieving excellence and closing implementation gaps in health service delivery.

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

Collaborating with Non-Profit Organizations to Implement Public Health Initiatives: A Case Study on Rural Africa

Natalie Stevens, stevens.natalie7@gmail.com, and Quinn Galbraith describe a unique partnership between public health students, local healthcare professionals, and non-profit organizations making a meaningful impact



Members of the community participating receiving a health talk

In the heart of rural Uganda, a unique partnership between public health students, local healthcare professionals, and non-profit organizations makes a meaningful impact. By combining essential health education with a free eye care clinic, this initiative addresses important health challenges while equipping individuals with knowledge to improve their long-term well-being.

Natalie Stevens is a pre-med student at Brigham Young University and humanitarian volunteer dedicated to supporting health initiatives in Uganda through sustainable solutions. Quinn Galbraith is a faculty research librarian at Brigham Young University and humanitarian trip coordinator who leads international vision care efforts and mentors students in global service projects

Addressing Critical Health Needs

Uganda faces a significant burden of diseases, including malaria, hygiene-related illnesses, and sexually transmitted infections. In 2022 alone, the World Health Organization reported 12.7 million malaria cases and over 17,556 related deaths in the country. Additionally, UNAIDS estimates that approximately 570 young women aged 15 to 24 contract HIV each week in Uganda. As a low-resource nation with pressing health challenges, Uganda receives substantial global philanthropic support, with hundreds of NGOs working there each year to provide essential services related to basic health, eye, and dental care.

However, delivering effective health education in these settings presents challenges. Traditional lecture-based approaches are limited in their effectiveness because they often fail to engage busy community members or there is lack of education available. Recognizing this, our initiative

integrated health education with a free eye care service, ensuring strong community participation while addressing multiple health needs simultaneously.

An Innovative Approach to Public Health Education

Public Health students Lola Obalana and Natalie Stevens collaborated with Samuel Mugaya, a Ugandan nursing instructor and founder of the nonprofit Rosbren Health Clinic, to identify key health topics and develop culturally applicable lessons. Relevant topics were narrowed down to hygiene, fitness and nutrition, first aid, sexual health, women's health, malaria, marriage and family planning. These lessons would be taught at a community event hosted by Mugaya.

In October 2023, Mugaya hosted Eagle Vision Worldwide, a U.S.-based nonprofit specializing in eye care, along with the Public Health students at his clinic in Busunju, Uganda. Hundreds of people came for a free eye exam and the opportunity of receiving prescription eyeglasses. Rather than waiting in a line, people received a number, allowing them to sit beneath tents and participate in the lessons. One participant noted that, "the people were able to relax and have fun with the teachers because they weren't so worried about getting skipped in line or being missed by the doctor." The Public Health students, with Ugandan nursing students translating, taught nine health lessons. Each lesson lasted about 15 minutes and involved audience participation and activities. This served as educational entertainment for the families who had to wait 3-5 hours to see the doctor.

Community Engagement and Health Impact

The initiative made an impact beyond the people it directly served. Public health experts observed that once one person received valuable information, they shared it with family and neighbors, multiplying the benefits. First aid and family planning generated the most discussion, highlighting how important these topics are to the community. However, even the most basic topics like hygiene can have a large impact on health and a ripple effect in the community. For example, a study by Pengpid and Peltzer found that only 35% of individuals in African countries wash their hands with soap. Educating children and adults on basic hygiene practices can significantly reduce diarrheal diseases, a leading cause of child mortality in Uganda.

Collaboration for Sustainable Change

This initiative exemplifies the power of multi-sector collaboration in improving public health. The synergy between public health educators, local health workers, and non-profit organizations leveraged the strengths of each partner and worked to ensure thorough service delivery. By integrating education with medical care, the project demonstrated an effective model for engaging communities and addressing health concerns. Local health workers like Mugaya and his nursing students played an important role in bridging the gap between foreign organizations and the local community, helping to translate medical knowledge into culturally relevant guidance. The teamwork between these groups created a sustainable model for addressing rural health disparities, demonstrating how strategic partnerships can improve healthcare delivery in resource-limited settings.



Members of the community waiting for services

Looking ahead, this model can be replicated in other regions with similar health challenges. We invite other non-profit organizations to partner with public health educators. These partnerships can amplify the benefits of international health efforts. In many underserved areas, long wait times are unavoidable when only a few doctors assist hundreds in need of free care. While providing free medical services is essential, health education is a simple addition that creates a lasting impact. By equipping individuals with knowledge and resources, this method not only improves immediate health conditions but also fosters long-term health and empowerment. With continued support and expansion, initiatives like this can serve as a blueprint for addressing global health disparities and ensuring that every individual has access to essential health education and services.

Video covering the event: https://www.youtube.com/watch?v=aR8mo98srjw&feature=youtu.be

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Quality Health Professions Training for Improving Health Outcomes: A Social Accountability Approach

Introduction

Despite an increase in trained health professionals, health outcomes in many Low and Middle Income Countries (LMICs) remain poor. The challenge lies not only in numbers but in the quality and relevance of training. A socially accountable approach to health professions education aligns training with population needs, promoting equity and stronger service delivery systems.

Understanding Quality in Health Professions Training

Quality education goes beyond academic excellence. It produces competent, ethical, and responsive professionals ready to meet evolving community needs. Core components include competency-based curricula, inter-professional education, appropriate faculty development, inter-professional education and alignment of training with national health priorities. Graduates must be clinically skilled, socially responsive, and prepared to serve in underserved areas.

Defining Social Accountability

The World Health Organization (1995) defines social accountability as "the obligation of medical schools to direct their education, research, and service activities toward addressing the priority health concerns of the community, region, and nation they serve."

Its dimensions include: Relevance: Aligning curricula with community health needs, Equity: Reducing health disparities, Cost-effectiveness: Maximizing limited resources, Quality: Maintaining excellence in education and care.

Why Social Accountability Matters

Socially accountable institutions are transformative. By addressing priority health concerns, they help reduce rural–urban disparities, retain health workers in underserved regions, and strengthen health systems' resilience especially during crises like pandemics. They also build public trust through community engagement and service.

Key Elements of a Socially Accountable Training Institution

- **Mission-driven**: Commitment to health equity and social justice.
- **Community partnerships**: Engaging communities in curriculum design and evaluation.
- **Distributed clinical training**: Providing rural and primary care experiences.
- **Outcome monitoring:** Tracking graduates' service and health impact.
- **Community-based education**: Early, consistent exposure to real-world practice.

Elsie Kiguli-Malwadde
Governing Council Member, AFREhealth
Deputy Executive Director/Director of Health Workforce Education and Development, ACHEST

Several African universities, such as Makerere University College of Health Sciences, have made progress in integrating social accountability. However, challenges remain, brain drain, urban-centered programs, and limited investment in training infrastructure. Opportunities exist through partnerships like the African Forum for Research and Education in Health AFREhealth, South-South collaboration, and the use of digital technologies and AI to reach underserved populations to mention but a few.

The African Context: Challenges and Opportunities

Africa faces persistent barriers to quality training, including weak infrastructure, faculty shortages, and urban bias. Nonetheless, regional cooperation, innovation in digital and remote learning, and renewed political commitment are creating momentum for reform. Strengthening institutional capacity and aligning policies with population needs will be crucial for sustainable progress.

How Training Improves Health Outcomes

Training rooted in social accountability enhances primary healthcare, preventive care, and access in marginalized areas. It strengthens system resilience during health emergencies and leads to measurable population health improvements. Linking education to rural service and equitable workforce distribution ensures that quality training translates into better outcomes.

Recommendations

To advance socially accountable training in Africa and beyond, stakeholders should: Align education with population health priorities, invest in faculty development and community-based learning infrastructure, incentivize rural practice and monitor graduate impact and strengthen regional networks such as AFREhealth to share best practices.

Key Message

Investing in quality, socially accountable health professions education is essential to build equitable, people-centered health systems. The goal is not only to "train more" health workers but to train better for impact, relevance, and sustainable health improvement.

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Mouth and gut bacteria linked to brain changes in Parkinson's disease

Scientists have discovered a link between bacteria in the mouth and gut and the progression cognitive decline in Parkinson's disease.

Specific changes in these bacteria, known as the microbiome, has associated with cognitive decline in Parkinson's. This includes the shift from mild memory issues to dementia, a common and distressing symptom of the disease.

These changes in the microbiome could potentially act as early warning signs of Parkinson's, helping doctors detect and treat the disease before symptoms become severe. Currently, Parkinson's is very difficult to diagnose in its early stages because symptoms develop slowly over time.

The research, led by King's College London, adds to the increasing evidence showing how gut and brain health are closely aligned. While the link between this 'gut-brain' relationship has been extensively studied, few studies have explored the role of the gut in cognitive decline of neurodegenerative degenerative disease such as Parkinson's.

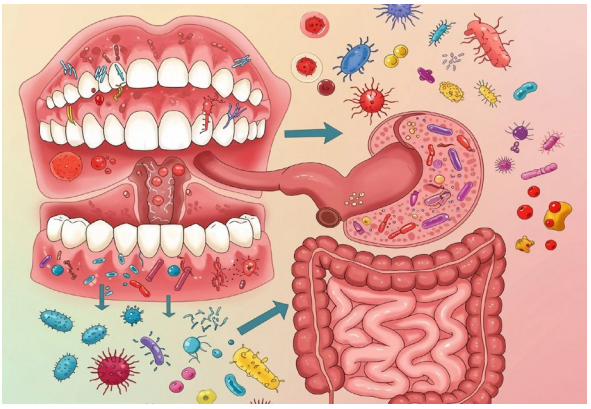
Dr Saeed Shoaie, group leader of the Quantitative Systems Biology (QTS) Lab at King's College London, said: "The human gut and oral bacterial communities are increasingly linked to neurodegenerative diseases. Disruptions in the gut-brain axis could trigger inflammation and immune responses that contribute to neuronal damage. A common gum disease bacterium like Porphyromonas gingivalis, has been discovered as a potential driver of Alzheimer's."

In the study, published in Gut Microbes, gut and mouth bacteria were analysed, collected in 228 samples of stool and saliva. This included two groups of patients with Parkinson's – those with mild cognitive decline and those with dementia – showing different stages of the disease. There was also a healthy control group with no Parkinson's diagnosis.

They discovered clear differences in the types and functions of bacteria between the groups. In people with cognitive impairment, the gut contained more harmful bacteria, many of which had likely come from the mouth.

This process, known as 'oral-gut translocation', involves oral bacteria moving into the gut, where they don't normally belong. These bacteria were found to release specific molecules known as virulence factors, toxins that can damage gut tissue, promote inflammation, and possibly affect the brain.

Annie Slinn annie.slinn@kcl.ac.uk, Senior PR and Communications Officer (Science), Corporate Communications, King's College London



The mouth and gut are linked

First author Dr Frederick Clasen, research associate at the QTS lab, King's College London, said: "We don't yet know if the bacteria are causing the cognitive decline or if changes in the body due to Parkinson's allow these bacteria to grow. But our findings suggest they may play an active role in worsening symptoms."

Using artificial intelligence, the team linked these toxins specifically to cognitive decline in Parkinson's. These tools helped pinpoint bacterial species and functions that weren't obvious by traditional analysis alone.

Dr Clasen explained: "These toxins could be used as biological markers to identify patients at higher risk of dementia in Parkinson's. In the future, they might also be targets for new treatments that protect the brain by changing the gut environment."

The findings also highlight the importance of oral hygiene and nutrition in people with Parkinson's, especially as the disease progresses.

Dr Shoaie, who co-authored the study, added: "The emerging evidence underscores the potential importance of maintaining oral and gut health in mitigating or slowing neurodegenerative processes. As people with Parkinson's become increasingly reliant on carers, routine practices such as oral hygiene and nutritional intake may be neglected.

"Our findings suggest that promoting a healthy microbiome through consistent oral care, a balanced diet, and potentially targeted probiotic interventions could support improved disease management in Parkinson's."

Future research will aim to understand whether these bacteria and toxins directly influence brain function, and if changing the microbiome through diet, oral hygiene, or medication can slow or prevent dementia in Parkinson's patients.



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Scientists target 'molecular machine' in the war against antimicrobial resistance

Annie Slinn reports on interesting research targeting bacteria to address antimicrobial resistance.

Scientists have studied a new target for antibiotics in the greatest detail yet – in the fight against antibiotic resistance.

The 'molecular machine' flagellum is essential for bacteria to cause infection, allowing bacteria to 'swim' around the bloodstream until finding something to infect. But it could also be a target for antibiotics.

Impairing the flagellum would deliver a critical, but not fatal, blow to bacteria. This is a new approach and contrasts to traditional antibiotics, which are designed to kill all bacteria in their path.

Keeping bacteria alive could help to tackle, or at least significantly slow down the rate of antibiotic resistance. This is because there is less pressure for the bacteria to adapt and develop resistance to survive.

To develop this new approach, scientists first need to understand the enemy. Answering the call, researchers at King's College London, have now studied the flagellum in its greatest detail to date.

The new study, published in Nature Microbiology today, addresses one of the most significant challenges to modern healthcare, antibiotic resistance. Drug-resistant infections are expected to claim more than 39 million lives between now and 2050 without further policy action, according to the Global Research on Antimicrobial Resistance Project.

Molecular structure of the bacterial flagellum – a new target in the war against antimicrobial resistance

Lead author Dr Julien Bergeron, King's College London, said: "The flagellum is perhaps the most studied cellular machine, acting as a propeller, through the rotation of a long filament. It is also a major reason why bacteria cause disease; flagella give bacteria a competitive edge at causing disease and the presence of this molecule alone contributes to more than 100,000s deaths annually.

"We knew how important it was to study this 'molecular machine', as we investigate it as a potential target in our quest to neutralise the threat of bacteria.

"The bacterial flagellum has long fascinated scientists and the wider public alike. Yet, despite being extensively studied for over 70 years, the molecular details of its architecture have so far eluded researchers. This is because we simply haven't had the tools."

Dr Bergeron and his team used a state-of-the-art type of technique called cryo-electron microscopy – which reveals images of cells at an atomic level in impressive molecular detail. This enabled the team to understand how the flagellum forms, identifying areas to target with drugs. They had access to one of the most powerful electron microscopes, based at the Francis Crick Institute, available for scientists tackling some of the biggest challenges in healthcare – from antibiotic resistance to cancer.

Dr Bergeron explained: "In this study, we have used the world's most advanced electron microscope to reveal the complete architecture of the bacterial flagellum, down to atomic levels of details. This unearthed unexpected intricacies in its structure. Critically, we were able to visualise the individual steps involved in the assembly of the flagellum, a process that until now had largely remained unexplained."

Co-author Professor Marc Erhardt, from the Max Planck Unit for the Science of Pathogens and the Humboldt-Universität zu Berlin, Germany, also developed a vital 'genetic trick', enabling scientists to study a very short section of flagella in great detail. He said: "It was an extraordinary experience to capture snapshots of the flagellum forming that had previously remained hidden. Observing how individual flagellin molecules are folded and inserted into the growing filament was like decoding a molecular ballet."

Further research is needed to fully understand how the flagellum forms, for example what triggers the initial process of its development. Scientists believe, however, it could be a key target to stop infections without driving resistance.

Dr Bergeron added: "This study will undoubtedly open new avenues towards the development of new treatments for bacterial infections. With the right funding and support this could become reality within a couple of years. However, realistically I think it would be more like a decade and we would need support from industry to help us in this fight against antimicrobial resistance."

Read the study: https://www.biorxiv.org/content/10.1101/2024.09.25.614892v1

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Annie Slinn, Senior PR and Communications Officer (Science), Corporate Communications, King's College London

Emergency obstetric care access and quality: Learning from the experiences of women who developed urogenital fistula

Carrie Ngongo examines the causes and trends of urogenital fistula in sub-Saharan Africa, drawing on 23 years of data from nearly 7,000 women across nine countries.

Urogenital fistula poses a public health challenge in places where women have inadequate access to quality emergency obstetric care. Urogenital fistulas may occur between any part of the genital tract and nearby organs in the pelvis, including the urinary tract and intestinal tract. Most often, fistulas are ischemic: caused by pressure necrosis when women experiencing prolonged, obstructed labor are not able to have emergency caesarean sections in time to avoid injury to mother and child[1]. Obstruction occurs when the presenting part of the fetus cannot progress into the birth canal despite strong uterine contractions, due to cephalo-pelvic disproportion, malpresentation, or malposition[2,3]. Fistulas can also be iatrogenic, arising as surgical accidents. Less commonly, fistulas can occur from trauma, radiation, malignancy, unsafe abortion, infection, or congenital malformation[4].

We've been able to learn about the circumstances that led women to develop fistula thanks to detailed notes kept by fistula surgeons Dr. Thomas Raassen and Dr. Marietta Mahendeka as they traveled widely between 1994 and 2017 to conduct fistula repair surgeries and provide training to others. We converted 23 years of paper records from them and their colleagues into an electronic database that includes 6,787 women who received treatment for urogenital fistula in 89 facilities across Ethiopia, Kenya, Malawi, Rwanda, Somalia, South Sudan, Tanzania, Uganda, and Zambia.

In this large, multi-country case series, most women developed fistula during childbirth, whether vaginal (47.6%) or cesarean section (48.1%). Fistulas following gynecological surgery constituted 3.2% of the fistula caseload, while rare causes led to just over 1%[5]. These figures mask differences between countries, however. Somalia, South Sudan, and Ethiopia had comparatively high proportions of fistula following vaginal birth and birth at home. Many were complex cases resulting in both urinary and fecal incontinence. In contrast, we documented higher proportions of fistula after cesarean birth and gynecological surgery in Kenya, Malawi, Rwanda, Uganda, Tanzania, and Zambia (Figure 1)[5]. When indicated, cesarean section can save women's and babies' lives and prevent ischemic fistula.

Carrie Ngongo is an epidemiologist who serves as a clinical associate professor in the University of Washington Department of Global Health. Dr. Ngongo advocates for evidence-based policies and practices and welcomes opportunities for research collaborations that improve health and wellbeing, particularly among the most vulnerable.

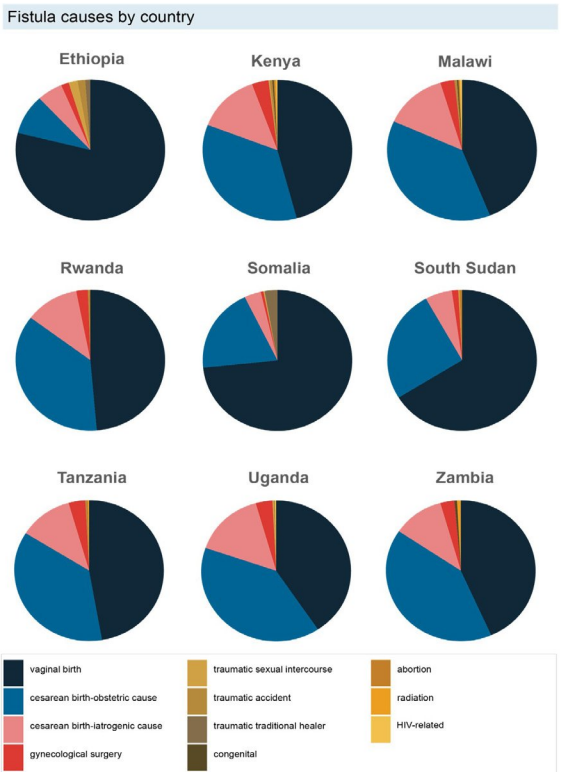


Figure 1 : Urogenital fistula causes by country

One interpretation is that the included countries are at different points on their respective journeys toward reducing preventable maternal mortality and morbidity. In South Sudan, Somalia, and Ethiopia, access to emergency obstetric care remains especially challenging. Widespread insecurity and danger in South Sudan and Somalia created particular challenges for women experiencing obstetric complications, while Ethiopia's population is largely rural and spread across difficult terrain. Higher proportions of fistula after cesarean birth and gynecological surgery in Kenya, Malawi, Rwanda, Uganda, Tanzania, and Zambia signal potential progress in improving access to emergency obstetric care[5].

Unfortunately, access to care does not always prevent fistula or save the baby. Women may arrive late or experience delay within or between facilities. When we focused our analysis on women who developed fistula after giving birth in facilities, we found that 84.1% had delivered a stillborn baby[6]. Among these women with stillbirths, the cesarean section rate rose from 45% in 1990-94 to 64% in 2010-14. The increase occurred at the expense of assisted vaginal delivery, which declined

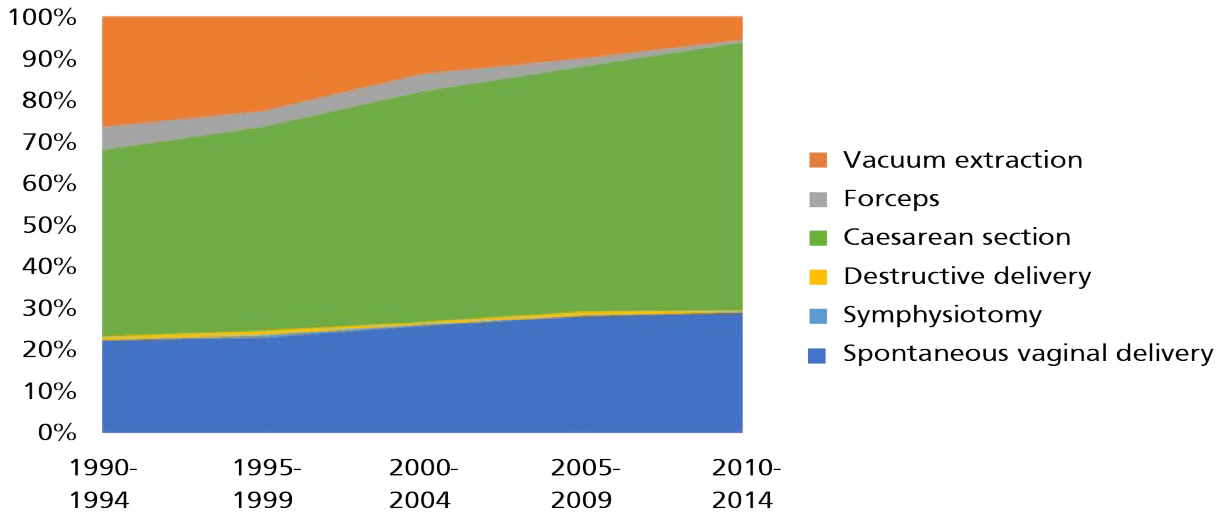


Figure 2 : Mode of delivery for prolonged, obstructed labours that resulted in obstetric fistula and stillbirth
Ngongo, C. J., Raassen, T. J. I., Lombard, L., van Roosmalen, J., Weyers, S., & Temmerman, M. (2020). Delivery mode for prolonged, obstructed labour resulting in obstetric fistula: A retrospective review of 4 396 women in East and Central Africa. BJOG: An International Journal of Obstetrics & Gynaecology, 127(6), 702-707. https://doi.org/10.1111/1471-0528.16047. Reproduced under the terms of the CC BY license.

from 32% to 6% (Figure 2)[6]. These data indicate that cesarean section is increasingly performed on women with obstructed labor whose fetuses have already died in utero. While our data could not capture fetal condition at the time of the decision for cesarean section, most cesarean sections were likely performed when the fetus was already dead. Cesarean section for a dead fetus can spread infection from the mother's uterus to her abdominal cavity and may cause severe peritonitis, sepsis, and maternal death. Unless uterine rupture is suspected, cesarean section should be avoided in these cases to minimize complications related to cesarean scars in subsequent pregnancies.

Sometimes a cesarean section itself leads to fistula formation. This topic enters into potential ambiguity: while fistula cause is apparent after vaginal birth or gynecological surgery, fistula cause can be less clear when a woman labored for quite a while before a cesarean birth. To help give some clarity, we proposed a categorization for understanding the likelihood of iatrogenic origin based on anatomical location and circumstances[7]. Shared definitions are important in assessing the epidemiological transition from ischemic to iatrogenic predominance in fistula surgical caseloads in Africa[1].

Applying the definitions, we assessed whether and how the proportion of iatrogenic urogenital fistula was changing over time among women with fistula, comparing women with iatrogenic fistulas to women with ischemic fistulas. We used mixed effects logistic regression to model the rise in iatrogenic fistula among births resulting in fistula and specifically among cesarean births resulting in fistula (Figure 3)[8].

We found that over one-quarter of women with fistula following cesarean birth had an injury caused by surgery rather than pressure necrosis due to prolonged, obstructed labor. Controlling for age, parity, and previous abdominal surgery, the odds of iatrogenic origin nearly doubled over time among all births resulting in fistula and rose by 37% among cesarean births resulting in fistula. In Kenya and Rwanda the rise of iatrogenic injury outpaced the increasing frequency of cesarean birth[8].

Rising numbers of iatrogenic fistulas signal a quality crisis in emergency obstetric care. Unaddressed, the impact of this problem will grow as cesarean births become more common. How can these learnings from women who developed fistula inform day-to-day practice?

Women experiencing obstetric complications should be able to quickly and safely access health facilities with staffing, equipment and infrastructure to provide high-quality basic and comprehensive emergency obstetric care. The seriousness of cesarean complications in resource-limited settings reinforces the importance of appropriate labor management and restrained decision-making around cesarean birth[9,10]. Cesarean birth should only be performed when health care providers anticipate a clear benefit that outweighs the additional risks and higher costs[11,12]. Rising cesarean birth rates mean more risks for surgical complications, such as the cases of iatrogenic fistula seen in this case series.

Alternatives to cesarean section can resolve prolonged labors with vaginal birth[13]. In the first stage, when labor becomes prolonged, artificial rupture of membranes and oxytocin augmentation can be used to accelerate prolonged labor[14]. In the second stage, vacuum extraction is a good option to pursue vaginal birth[13]. For women with obstructed labor and intrauterine fetal death, destructive delivery such as craniotomy should be the first method of choice if the obstruction makes vacuum or forceps delivery impossible[15].

Training programs, policies, and protocols should reinforce evidence-based guidelines for cesarean decision-making, such that cesareans are performed

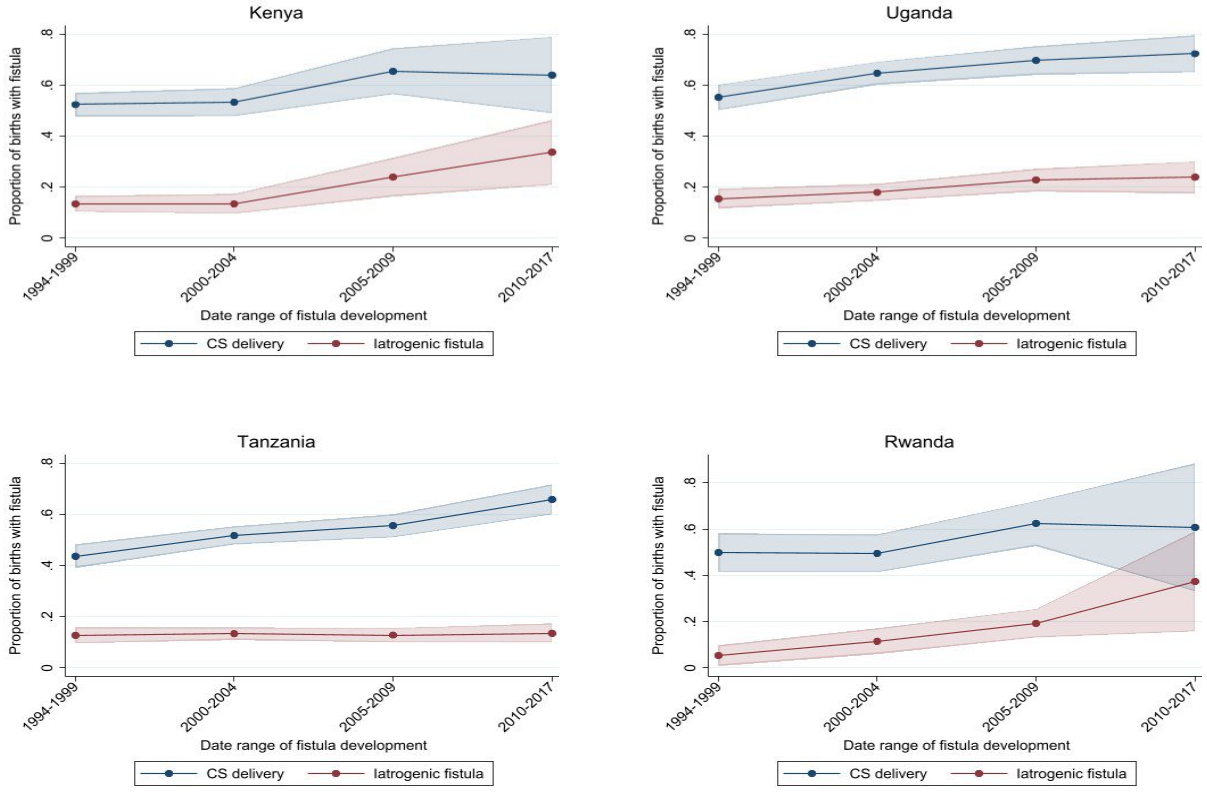


Figure 3: Rise in cesarean birth and iatrogenic injury among women with fistula.
Ngongo, C.J., Raassen, T.J.I.P., Mahendeka, M. et al. Iatrogenic genito-urinary fistula following cesarean birth in nine sub-Saharan African countries: a retrospective review. BMC Pregnancy Childbirth 22, 541 (2022). https://doi.org/10.1186/s12884-022-04774-0. Reproduced under the terms of the CC BY license.

only when indicated[16,17]. Medical professionals are most comfortable performing procedures that they have learned and practiced. Preventing genital fistula and other complications of obstructed labor requires health provider expertise with cesarean section and alternatives such as vacuum extraction, as well as clinical judgment to select the most appropriate mode of birth. While some African countries have stated requirements for interns to conduct a certain number of vaginal and cesarean births, others do not have clear requirements for licensure. Few countries require experience with vacuum birth, and significant gaps persist between training ideals and realities on the ground[13,18–20]. Hands-on vacuum extraction experience during training has been found to be strongly associated with subsequent practice in Tanzania[21]. Vacuum extraction is also being promoted in Uganda, where most women would recommend vacuum extraction over cesarean birth in case of prolonged second stage of labor[18].

Women with obstructed labor and dead fetuses generally present in remote facilities, far from specialty training in tertiary centers. Nevertheless, medical schools and other relevant clinician training programs must acknowledge the realities that many healthcare providers face. Without emphasis on vacuum extraction and destructive procedures during training, cesarean birth may seem to be the least potentially harmful option, even when not indicated.

The rise in iatrogenic fistulas communicates that simply increasing access to cesarean sections isn't enough; surgical quality must also improve. Providers who perform cesarean sections and gynecological surgeries may benefit from focusing on surgical techniques that minimize the risk of bladder and ureteric injury, particularly in complex cases[7,22]. Surgical safety checklists can be tailored for obstetric procedures to help prevent errors and ensure that all necessary steps are followed. Such effort to strengthen surgical safety and quality will be complemented by improvements in triage and referral, including training and mentorship on using the partograph to monitor labor progression, recognizing signs of prolonged, obstructed labor, and establishing and reinforcing efficient referral networks[23].

Quality improvement measures are needed to reduce iatrogenic injuries in obstetric surgery. This includes systems of mentoring, supervision, and accountability: mechanisms that foster a culture of quality service delivery while helping to hold healthcare providers responsible for providing the best possible level of care. Success in implementing effective maternal and perinatal audits, institutionalizing supportive supervision, and overcoming obstacles to quality improvement comes down to leadership. Proactive political leaders can transform commitments and promises into resources and actions that will reduce maternal morbidity and mortality[24]. Proactive healthcare provider leaders can take on the responsibility to influence others toward a

commitment to continuous quality improvement[23].

The occurrence of iatrogenic fistulas illustrates the importance of appropriate labor management and cesarean section decision-making, regardless of the provider cadre that attends the delivery. Many countries use task shifting to expand access to care, deploying non-physician associate clinicians who take on many of the diagnostic and clinical functions of doctors[25]. In Ethiopia, Ghana, Malawi, Mozambique, Sierra Leone, and Tanzania, associate clinicians carry out cesarean sections and other major obstetric surgeries[25,26]. Various reports have found cadre comparability in outcomes, risk indicators, and quality[27–29]. Similarly, in Tanzania and Malawi we reported no statistically significant difference in iatrogenic fistula risk based on whether the cesarean birth was attended by a physician or an associate clinician[30]. Given the noninferior performance and lower costs of employing associate clinicians, other countries with insufficient and/or unequally distributed health workforces could consider task-shifting cesarean sections to associate clinicians[30].

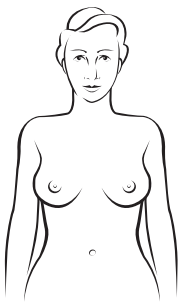
Policymakers and advocates have long emphasized access to care: women experiencing obstetric complications should be able to reach health facilities offering basic and comprehensive emergency obstetric care. Our work reveals important country-level differences in the characteristics of women who develop urogenital fistula. The emerging story is not simple lack of access to health care, but of both lack of access and quality of care. Although the majority of fistulas arise from pressure necrosis during prolonged, obstructed labor, fistula etiology is shifting as women gain access to care[1,31]. Cesarean birth is increasingly common among women who later present for fistula repair, including for women with stillbirths[6]. Among women with fistula following cesarean birth, over one-quarter have an injury apparently caused by surgery rather than prolonged, obstructed labor[8]. One might expect that the proportion of such iatrogenic fistulas would rise in tandem with the rising cesarean birth rate among women who developed fistula, but in some countries it's rising more quickly. Taken together, these data are a call to action: Women experiencing obstructed labor who increasingly reach facilities must receive timely, appropriate, and high-quality care. The experiences of women who developed fistula point to opportunities to improve healthcare services, helping future mothers to be spared their fate.

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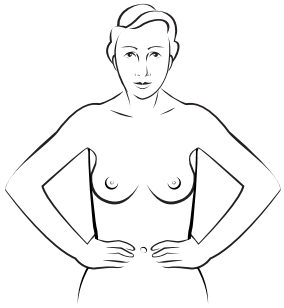
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Breast Self-Awareness (BSA)

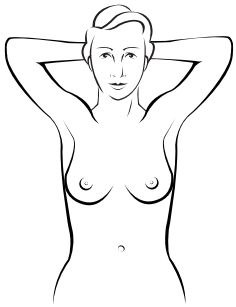
Choose a day each month that will be easy to remember and make breast self-awareness a regular part of your good health routine. Breast self-awareness is also important in women with breast implants.



A. Stand before a mirror and look at both breasts. Check for anything unusual, such as nipple retraction, redness, puckering, dimpling or scaling of the skin. Look for nipple discharge. All discharge should be reported to your doctor. Note the color, whether it came from both breasts and whether it came from one or more openings.



B. Next, press your hands firmly on your hips and lean slightly toward your mirror as you pull your shoulders and elbows forward with a squeezing or hugging motion. Look for any change in the normal shape of your breasts.



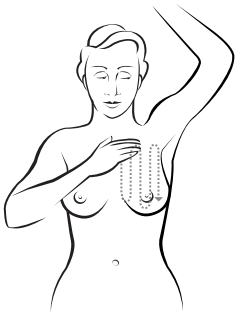
C. Looking in the mirror, raise your arms and rest your hands behind your head. This allows you to see the underside of your breasts.



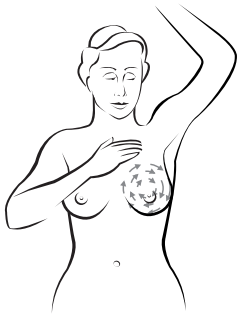
D. Place your left hand on your waist, roll your shoulder forward and reach into your underarm area and check for enlarged lymph nodes (small glands that fill with fluid when you have an infection). An enlarged node would feel like a corn kernel or a bean. Also check the area above and below the collar bone. Repeat on the right side.



E. Raise your left arm. Use the pads of three or four fingers of your right hand to examine your left breast. Use three levels of pressure (light, medium and firm) while moving in a circular motion. Check your breast area using a set pattern. You can choose (1) lines, (2) circles or (3) wedges.



1. Lines
Beginning at the outer edge of your breast, move your fingers downward using a circular motion until they are below the breast. Then move your fingers slightly toward the middle and slowly move back up.



2. Circles
Beginning at the outer edge of your breast, use the flat part of your fingers, moving in circles slowly around the breast. Gradually make smaller and smaller circles toward the nipple. Be sure to check behind the nipple.



3. Wedges
Starting at the outer edge of the breast, move your fingers toward the nipple and back to the edge.

You should not lift your fingers while feeling the breast. Whatever method you choose, make sure to cover the entire area, including the breastbone, collarbone, upper chest area and bra line. Pay special attention to the area between the breast and the underarm itself. Feel for any unusual lump, mass or thickening under the skin.



F. Lie flat on your back with your left arm over your head and a pillow or folded towel under your left shoulder. This position flattens the breast and makes it easier to examine. Use the same motion described in step E. Some women like to use body lotion in this step.

Many women prefer to do steps D through F in the bath or shower.

Woman's

Building Africa's Future of Elder Care: Lessons from the Vantage Care and HOCA-Africa Model

Barnabas Nkore points us to the fact that Africa's aging population is rapidly growing, exposing gaps in health, social protection, and eldercare systems. He describes two organisations, The Vantage Care Limited and HOCA-Africa in Uganda with models that are scalable, professionalized, and have culturally adapted solutions.



A team of trainers

Africa is experiencing a demographic transition of historic proportions. By 2050, the continent's population aged 60 years and above will exceed 225 million tripling from 74 million in 2020. Uganda mirrors this trend, with projections of over 6 million older adults by mid-century. Yet most African countries still lack formal eldercare systems, leaving families often untrained, overstretched, and financially strained as the default caregivers.

The rising burden of non-communicable diseases (NCDs), early-onset dementia, and geriatric syndromes exposes systemic weaknesses in healthcare delivery, policy, and social protection. Unless eldercare becomes a deliberate public health and policy priority, Africa risks a triple crisis of health, dignity, and economic sustainability.

This article highlights the urgency of developing structured eldercare and presents Vantage Care Limited (VCL), Uganda, and the Home Care Alliance Africa (HOCA-Africa) as pioneering models offering professionalized, scalable, and culturally relevant solutions.

A Silent Demographic Shift

Africa is often described as the "young continent," yet its older population is the fastest growing globally. By 2050, older adults will represent 10–20% of Africa's total population (WHO, 2022). In Uganda, the number of persons aged 60 and above will rise from 1.3 million in 2014 to over 6 million by 2050 (Development Pathways, 2020).

This demographic success story driven by improved medicine, sanitation, nutrition, and maternal-child health brings profound challenges:

Humanitarian neglect: Many elders live in poverty and isolation. Health system strain: Hospitals are forced into long-term care roles they were never designed for. Economic burden: Families, especially women, shoulder caregiving duties without training or support.

Barnabas Nkore, RN, Founder & CEO – Vantage Care Limited Uganda and President – Home Care Alliance Africa (HOCA-A)



A team of geriatric care givers

Challenges of Eldercare in Africa

Chronic Disease Burden

NCDs such as hypertension, diabetes, stroke, and dementia are rising sharply, appearing earlier than in high-income countries and contributing to higher disability-adjusted life years (DALYs).

Weak Geriatric Infrastructure, For example, Nigeria has fewer than 20 geriatricians for over 200 million people. South Africa had 18 as of 2024.Uganda has only 3 geriatric doctors.

The shortage of geriatric doctors, nurses, therapists, and social workers is equally critical. Assisted living, memory care, and long-term care facilities are almost nonexistent.

Family and Social Strain

Traditional extended-family caregiving is eroding due to urbanization and migration. Women remain the default unpaid caregivers, reinforcing gender inequities. Untrained caregivers often unintentionally contribute to preventable hospitalizations.

Mental Health and Disability

Dementia, depression, and disability remain underdiagnosed, stigmatized, and untreated. Families often misinterpret symptoms, leading to neglect or abuse. Structured psychosocial support is rare.

Uganda as a Case Study: The Vantage Care Limited (VCL) Model

Founded in 2020, VCL is Uganda's first structured eldercare and homecare company. Building on 25+ years of geriatric experience including operating a homecare agency in Boston, USA-VCL adapts international best practices to Uganda's cultural and resource realities.

Key Achievements

Training & Certification: To date, VCL has trained and certified over 250 Home Health Aides (HHAs), many of whom are employed both locally and internationally.

Accreditation & Recognition: VCL is the only institution in Uganda approved by the Ministry of Education & Sports to award government-recognized certificates in home health care. It is also recognized by the Ministry of Health for its training in non-medical but essential eldercare services, particularly Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs).

Institutional Partnerships: VCL has established collaborations with Nakasero Hospital, Mbarara Regional Referral Hospital, and several international health institutions, strengthening integration between clinical care and home-based eldercare.

Infrastructure Development: Construction is underway for a three-story Care & Training Centre in Kasangati, designed to serve as a training hub for home health students while also providing respite and transitional care for elders.

Expansion Plans: VCL has secured four acres of land to develop the HOCA-Africa Renewal Village—Uganda's first integrated eldercare hub that will combine Assisted Living, Memory Care, Rehabilitation, Mental Health Services, and Workforce Training into a single, scalable model for Africa

This model provides a proof-of-concept for scalable, replicable, and culturally relevant eldercare across Africa.

National Impact and Economic Potential

Health Outcomes; Reduced hospital readmissions. Improved recovery, functional independence, and dementia care. Enhanced quality of life and dignity for elders.

Social Outcomes; Destigmatization of aging and dementia. Strengthened community-based care networks. Reduced caregiver burnout. Youth empowerment and reinforcement of cultural respect for elders.

Economic Outcomes; Over 100 jobs created, with potential for thousands more. Vocational pathways for



Mr. Nkore taking care of a patient

unemployed youth. Engagement of diaspora communities through health tourism and eldercare investment.

The Role of HOCA-Africa: Scaling Across the Continent

Established as a continental coordination and advocacy body, HOCA-Africa builds on the VCL model to ensure scalable, culturally adapted eldercare solutions.

Core Roles

Standardization: Caregiver training and certification frameworks aligned with global best practices. Advocacy: Government engagement to integrate eldercare into health and social protection agendas. Financing Models: Sustainable funding through insurance integration, PPPs, and blended financing. Demonstration Hubs: The Renewal Village as a showcase for replication across Africa.

Policy and Practice Recommendations

National Eldercare Policies: Integrate eldercare into health and social development strategies. Workforce Development: Train youth and unemployed populations as certified caregivers. Health Financing: Include homecare, rehabilitation, and long-term care in national insurance schemes. Community-Based Models: Shift appropriate care from hospitals to home and community settings.

Continental Coordination: The African Union should adopt a pan-African eldercare strategy aligned with the WHO Decade of Healthy Ageing (2021–2030).

Role of Ministries

Ministry of Health: Establish national geriatric & long-term care policy, integrate geriatric care into PHC, expand professional training. Ministry of Education: Develop gerontology curricula, partner with VCL and similar institutions, create incentives for youth in caregiving. Ministry of Gender: Strengthen social protection and legal rights for elders, support family caregivers. Ministry of Finance: Offer fiscal incentives, develop PPP frameworks, mobilize donor and diaspora investment.

Role of Non-State Actors

Private Sector: Lead in service delivery, training, and innovation. NGOs & Civil Society: Advocacy, community mobilization, elder protection. Investors & Development Partners: Provide catalytic funding for scalable eldercare enterprises. Academic Institutions: Research ageing trends, monitor policy, and drive innovation.

Implementation Pathway

1. Establish a National Multi-Sectoral Taskforce on Ageing & Geriatric Care, co-chaired by Ministries of Health and Gender.
2. Develop a 10-year National Geriatric Care Strategy, aligned with SDG 3 and the WHO Decade of Healthy Ageing.
3. Pilot integrated eldercare hubs through PPPs with pioneers like VCL.
4. Mobilize financing from government budgets, private equity, diaspora remittances, and development partners.
5. Monitor progress through health and social development indicators.

Conclusion

Eldercare is not a luxury it is a continental necessity. Africa must invest today, or face a looming health, social, and economic crisis tomorrow. The VCL and HOCA-Africa models demonstrate that scalable, culturally adapted eldercare is both feasible and impactful.

Investing in eldercare is not just a moral obligation it is an economic imperative. It will reduce hospital costs, create dignified employment, empower youth, and uphold the dignity of Africa's elders. Africa has a unique opportunity to leapfrog into modern eldercare systems, adopting tested models without decades of trial-and-error.

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The current state and future of family medicine in Africa

Innocent Kabahena Besigye and Robert James Mash give us an insight into the growth of Family Medicine in Africa and its role in Primary Health Care.

Africa is the last continent to embrace family medicine as a discipline and specialist family physicians as a key component of their health workforce. Given the scarcity of health workers, including doctors, most countries have focused on deploying specialists in central and referral hospitals. Some countries look to Europe and the United States, where doctors provide first contact care, and say we can never afford that, and it would not be feasible here. There is a need to argue for and demonstrate the value proposition for family physicians in a fit-for-purpose model of care.

Despite global and governmental political commitments to primary health care this has not yet fully translated into high quality primary care, multisectoral action on health or community participation in a meaningful way[1]. Primary care services have historically developed a very selective approach to the package of care. After Alma-Ata countries transformed the broad vision of 'health for all' into a strategy for child survival based on the GOBI-FFF package of care (Growth monitoring, Oral rehydration, Breast feeding, Immunisations, Family planning, Food supplementation, Female education). These services were offered by health care workers with little or basic training in primary care, such as community health workers or nurses. Subsequently, many countries developed verticalized disease programmes, often with donor funding, to tackle priority diseases such as HIV, TB or malaria.

The development of high-quality primary care requires a commitment to first contact access, comprehensiveness, continuity, coordination and person-centredness, as well as essential public health functions[2]. Health systems that deliver on such an integrated and comprehensive approach will need doctors trained in family medicine as part of their primary care teams[1]. On the one hand community health workers can expand coverage, disease prevention and health promotion in a community-orientated approach[3]. While on the other hand, family physicians can add value to the primary care team and closely linked primary hospital. The majority of first contact primary care will remain with nurses or clinical officers.

Family physicians bring more advanced clinical skills to the team which enables them to better manage multimorbidity, chronic conditions and complexity[4]. They also bring more procedural skills closer to the community, particularly filling skills gaps in the primary hospital in areas such as maternity care, surgery and anaesthetics. They act as consultants and capacity builders to improve the competency and performance of their clinical teams. Increasingly they also act as clinical trainers for medical students, interns and registrars. Family physicians also have a key role in improving patient safety and quality of care through leadership of clinical governance activities.

In Africa, the need for family physicians is high. Over the years, there have been efforts to scale up family medicine education in the continent but with limited success[5]. The current training programmes cannot meet the existing need unless innovative scale up approaches are instituted. Such approaches will include inclusion of family medicine in the undergraduate curriculum coupled with early clinical exposure to practicing family physicians to serve as role models[6]. The establishment of the East, Central and Southern African College of Family Physicians is expected to significantly contribute to the scale-up of training across 11 countries[7]. Scale up will require political commitment and deliberate investment by our governments for training opportunities and family physician posts. This is something they have already committed to in the WHO resolution on "Accelerating action on the global health and care workforce by 2030". In this resolution there is a "special focus on the primary healthcare workforce in remote or otherwise vulnerable health settings in order to accelerate progress towards universal health coverage"[8].

Like any other medical speciality, family medicine strives to develop following the three domains of training, practice and research. Training ensures the lifeline of the speciality by increasing and replenishing the pool of specialists, practice demonstrates the clinical value of the specialty while research increases the body of knowledge and evidence for improvement in training and practice. Table 1 summarises the status of family medicine in Africa and the proposed future within the framework of the three domains.

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Table 1: Summary of the current and proposed future of family medicine in Africa.

Current	Future
Training	
Family medicine training does not happen in all countries and even within countries, not in all medical schools	Scale up family medicine postgraduate training opportunities and registrar posts in all countries and medical schools, including rural areas.
Limited or absent family medicine exposure in undergraduate curricula	Inclusion of family medicine in all undergraduate curricula
Postgraduate training is mainly university-based in east, central and southern Africa. In west Africa, training is college-based	Combination of university and college training opportunities for family physicians, such as development of ECSA-CFP.
Training of family physicians is done by non-family physicians in some countries or medical schools	Ensure that family physician training happens in appropriate settings and primarily by family physicians
Undergraduate and postgraduate family medicine training content is heterogeneous across the continent	Harmonised family medicine training content and outcomes across the continent
Family medicine not included in internship training in most countries.	Family medicine included as mandatory component of internship training
Lack of expert teachers of family medicine, especially in new training programmes	Faculty development, South-South-North collaboration, and training of clinical trainers
Practice	
Family physicians deployed to fill gaps at referral hospitals or as managers within the health system	Family physicians deployed in primary care and primary hospitals as clinicians leading clinical teams
Family physicians not accounted for in human resources for health policy	Countries report on the numbers of family physicians and have clear policy goals
Family physicians not recognised or remunerated appropriately	Family physicians recognised as specialists and appropriately remunerated in the public and private sectors
Family practice is not based on empanelment and services to defined populations or communities	Family physicians leading team-based care empanelled to defined populations and communities.
Family physicians are more likely to be found in metropolitan areas and primary hospitals	Posts are created in rural areas and primary care facilities or subdistricts
Research	
Low numbers of established family medicine researchers who are unevenly distributed	Development of a researcher training pipeline from emerging, to early career and established researchers across the region
Primary care research agenda not well developed despite the widespread research gaps in the region.	A well-developed regional primary care research agenda to generate evidence for family medicine and primary care advocacy
Research training capacity is limited, as many family medicine programmes lack capacity for doctoral training	Availability of research capacity with most family medicine programmes able to offer doctoral training
Most studies in family medicine and primary care are descriptive with inability to generate higher level evidence to inform policy and practice.[9]	Family medicine research includes more observational analytical studies and clinical trials, as well as multi-centre interdisciplinary collaborative research projects, and practice-based networks.
Research lacks a focus on children, palliative care, older adults, rehabilitation, continuity and coordination.[9]	Family medicine research is more comprehensive across the life course, continuum of care and core functions of primary care



Africa humanitarian aid doctor taking care of patient
***Source**: Freepic*
***Available from**: https://tinyurl.com/mr2cudwt*

How the current state of family medicine in Africa was achieved

Since the 1960s, when family medicine training and practice started in South Africa and Nigeria, its development has been progressive, albeit slow. The more rapid growth of family medicine occurred in the last ten years with new programmes starting in countries such as Zimbabwe, Zambia, Angola, Somaliland among others[5]. The Primary Care and Family Medicine (PRIMAFAMED) network, a network of academic departments across more than 25 countries in sub-Saharan Africa, has provided a platform for working together and capacity building through annual physical meetings, monthly educational and research online workshops as well as collaborative research projects.[10] Other organisations like the World Organisation of Family Doctors (WONCA) have played a supportive role in the development of family medicine in Africa. Biennial regional and world conferences help in development of collaborations and networks for working and learning together in scaling up family medicine in Africa.

In many African countries, family medicine is a recognised specialty. In such countries, family physicians are employed by governments as medical specialists. However, in other countries like Somaliland and Eswatini, family medicine is not a recognised specialty with no provision for registration of specialist family physicians. There is also a differentiated approach between English-, French- and Portuguese-speaking countries. Family medicine appears to be less developed in French-speaking African countries and this may be partly explained by the different colonial histories[11]. Angola, a Portuguese speaking country, has recently implemented family medicine at scale with support from Cuba and Brazil.

Many family physicians work in the private sector alongside doctors with no postgraduate vocational training. In most countries the medical insurance companies do not acknowledge the specialist training and extended scope of practice and do not remunerate specialist family physicians any differently.

The African Journal of Primary Health Care and Family Medicine, the official journal of WONCA Africa that was initiated by PRIMAFAMED, provides opportunities for family medicine research capacity development. Most African family physicians have their first publication in this journal and peer reviewing helps them to develop confidence and skills in research methods and scientific writing. The journal's African focus and scope provide opportunities for publishing context-specific articles which otherwise would not have been published in journals from other regions and high-income settings.

Achieving the future

The envisioned future of family medicine in Africa will be achieved through adapting the current initiatives to the dynamics of a rapidly changing world. Such changes are ecological (e.g. climate change and pollution), geopolitical (e.g. changing donor landscape), technological (e.g. emergence of artificial intelligence and digital transformation) and socio-economic (e.g. increasing migration, urbanisation). These changes impact the health needs of communities and the model of primary care and should influence the planning of future family medicine and primary care services.

We call on governments to invest in family physicians as an essential component of high-quality primary care and primary hospital care, as leaders of multidisciplinary teams. To go to scale there needs to be a commitment to expanding training programmes and opportunities as well as ensuring a high standard of training and assessment. Family physicians should be trained by family physicians and in settings where family medicine is practiced. Support for the East, Central and Southern African College of Family Physicians will be important.

Training should keep the need for health equity in mind and ensure training programmes are also located in rural areas. This will ensure availability of a variety of family physicians with ability to meet the diverse needs of the different populations and communities. This will also ensure equity and improved social accountability of the family medicine speciality.

In future all primary care teams should have access to a family physician and all primary hospitals should have family physicians. Family physicians should be in health centres and larger primary care facilities and provide outreach to smaller clinics and health posts. Human resources for health policy should set feasible goals and countries should track progress. All communities deserve high quality primary care that is accessible, comprehensive, ongoing, coordinated and person-centred. Health systems need family physicians as part of their multidisciplinary teams to achieve this. WONCA will need to support evidence-based advocacy in many countries, and the WHO Afro region should advise governments accordingly.

Africa faces unique health challenges that can only be answered by context-specific research studies. Family medicine and primary care research should be based on priority research questions identified by the different stakeholders, who include researchers, practitioners, users and patients, and policy makers. The WHO's PHC measurement framework can provide a useful map,2 and research should address both clinical issues as well as health systems and services strengthening. To answer these questions, we will need a broader menu of methodological approaches, a growing body of established researchers and a functional developmental pipeline from emerging (e.g. Masters and Doctoral students), to early career (e.g. post-doctoral students) and established researchers. Funders should support more family medicine and primary care research from the African region, where all health sciences research currently makes up around 1-2% of global outputs[12].

Conclusion

The current state of family medicine training, practice and research in Africa cannot meet the health needs of communities. There is a need to deliver on primary health care as a whole of society approach and high-quality primary care that embodies the five core functions. Implementing family medicine and deploying family physicians at scale is essential to achieve these goals. Deliberate efforts include scaling -up family medicine training models, embedding the need for family physicians in policy, and building capacity for context-relevant research. Strong advocacy from WHO and WONCA will be needed to achieve this vision.

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Africa HEALTH JOURNAL

Africa Health Journal (AHJ) is a review journal that does not publish original articles with some exceptions. The target audience is frontline health practitioners and policy makers in governments. Teachers and students in academic institutions will also find the content of the AHJ of interest. Online and print editions are published quarterly. There are also dedicated social media platforms with a big following from a global audience.

The journal seeks to cover a wide range of subjects from clinical care topics to health services management, education, and has a section on CPD related to the content in the current issue. The AHJ covers anything of relevance to a busy physician or senior health professional practising in Africa.

Articles of 1800-2100 words are most commonly published. Illustrations and photographs are important, (we deliberately try not to be too text intensive) and these are best sent as JPEG or PDF files (please submit high resolution (300dpi) CMYK illustrations and photographs, Images taken from websites are of a low resolution and not suitable for print.

Please send the article by email to africahealth@ achest. org. Articles should be saved as a Microsoft Word document. Illustrations and photographs should be sent as additional attachments to the Word document.

Referencing should be numerical and in the Vancouver style. If you prefer, it is acceptable to simply append a list of 'For further reading' rather than adopting the more formal referencing style.

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The Uganda Country Coordination Mechanism (CCM), a country-led process for implementing the Lusaka agenda

Vinand M Nantulya and Paul Kizza expound on the role experience and impact of of CCM, with particular reference to Uganda.

Background

The Lusaka Agenda is a framework from the Future of Global Health Initiatives (FGHI) process launched in December 2023.The Agenda advocates for a new compact for health financing. It emphasizes shifting global health initiatives (GHIs) to a country-led model focused on sustainable domestic financing, strengthening primary health care, improving health equity, coordinating research and development, and increasing regional manufacturing to achieve universal health coverage (UHC). The agenda aims to transform the global health architecture to be more efficient, equitable, and sustainable, ensuring that no one is left behind.

The purpose of the Lusaka Agenda is evidently to identify ways to ensure GHIs are more effective, efficient, and equitable in complementing domestic financing to strengthen health system capacities and deliver health impacts, as part of a country-led priority-setting processes and trajectories toward universal health coverage (UHC). The organizations at the core of this process are: The Global Fund to Fight AIDS, TB, and Malaria; GAVI, the Vaccine Alliance; the Foundation for Innovative New Diagnostics (FIND); Unitaid; the Global Financing Facility (GFF); and the Coalition for Epidemic Preparedness Innovations (CEPI). The process will consider the roles, responsibilities, and ways of working of other global health actors and their interface with GHIs, to foster better alignment and coherence of all external health finance (multilateral and bilateral) and technical assistance to countries with the aim to strengthen national health systems and domestic health finance.

Relevance of the Uganda CCM to the Lusaka Agenda

The thinking and aspiration of the Lusaka Agenda fit perfectly in the interest and experiences of Uganda. Uganda has benefited considerably from engaging key partners in mobilizing resources for health, and in developing and implementing strategic plans that seek to keep its population healthy, in their homes, both physically, socially, and mentally and in line with the WHO definition of health.

Vinand M Nantulya, vnantulya@gmail.com is the senior presidential advisor, Vaccines and Therapeutics, Kampala, Uganda. Paul Kizza has experience in planning, implementing and monitoring health sector programs. Principally establishing governance structures, monitoring projects, developing tools, and installing monitoring system

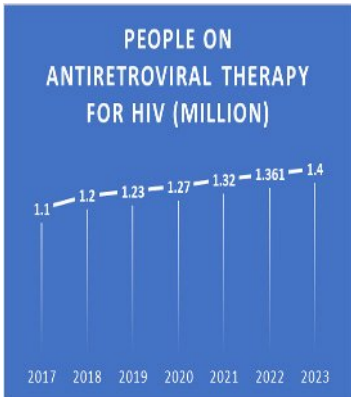
Uganda does not have to create denovo a system for coordinating inputs from stakeholders. The country already has in place the paradigm introduced by The Global Fund that came to be known as a Country Coordination Mechanism (CCM). The CCM paradigm has made it possible for Uganda to engage and coordinate sustainably various inputs from key stakeholders in developing broad health strategic choices in addressing initially the three diseases HIV/AIDS, tuberculosis, and malaria; and later the focus on health systems strengthening.

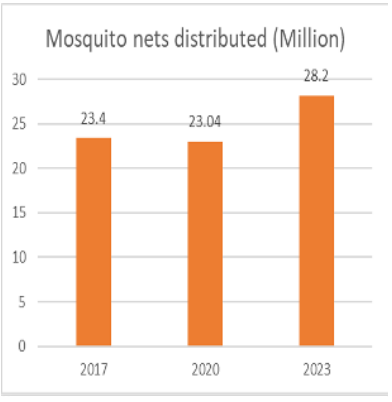
The Uganda CCM (UCCM) is composed of Government agencies (several key ministries), Private Sector (both for profit and non-profit), Academia, Civil Society Organisations, Development Partners (both multi-lateral and bilateral). The key Government agencies include: Ministry of Health; Ministry of Gender and Labour; Ministry of Education; Ministry of Local Government; Ministry of Finance, Planning and Economic development. The UCCM coordinates the processes for mobilizing resources for health, oversight over the utilization of resources mobilized and measurement of impact. In advancing the Lusaka Agenda, it is perfectly possible to incorporate other partners like GAVI, the Global Financing Facility (GFF); and the Coalition for Epidemic Preparedness Innovations (CEPI) in the UCCM and to allocate each one a seat on the UCCM Board.

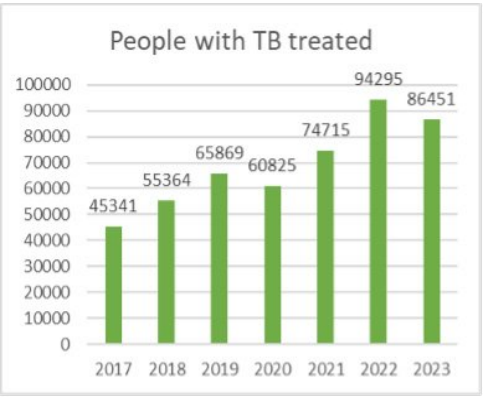
Minimising Health funding challenges

The global humanitarian funding landscape is rapidly changing. The shifts in external financing priorities for international Development Assistance has caused a reduction in resources for health funding in several countries including Uganda. But, the demands for health needs continue to rise and the lifesaving health services are not only scaling down but increasingly expensive to fund. In addition, there are periodically emerging global health crises that include pandemics and epidemics such as COVID-19, Ebola and other viruses, and persistent health challenges like HIV/AIDS, malaria, and tuberculosis; other broader issues such as climate change impacts, air pollution, and noncommunicable diseases like heart disease and diabetes.

Countries like Uganda need to take advantage of potential domestic opportunities to minimise external threats. For example, by expanding in-country based humanitarian partnerships to handle health funding gaps for all diseases, strengthen and widen the roles of the Uganda CCM model that has been bringing together both government and non-government actors to mobilise







resources to fight HIV/AIDS, tuberculosis, and malaria, and ensure that the government is more proactive and takes a leading role in promoting the partnership in the entire mechanism.

Structure, role, experience and impact of UCCM

The Uganda Country Coordinating Mechanism (UCCM) is a Partnership body between Government of Uganda, Private Sector, Civil Society Organisations and Development Partners, which plays a pivotal role in sourcing, and overseeing and coordinating the use of Global Fund resources in Uganda. The UCCM's ability to facilitate grant planning has attracted a substantial amount of funds to fight HIV, TB and Malaria plus COVID in the past years. Indeed, the Uganda CCM has had a long and rewarding experience in coordinating multiple key stakeholders to mobilize grants from The Global Fund and other development partners. The country has received 20 grants since The Global Fund started with a cumulative disbursement of US$2.41 Billion to fight HIV, TB and Malaria plus COVID. The cumulative disbursement has increased from US$ 582.9Million in 2015 to US$2.41 billion by 2025. On average, the CCM brings US$183Million in the country every year to fight HIV, TB and Malaria and support to strengthen the health systems. The impact of these resources goes beyond the fight against the three disease to helping the country to improve the health systems infrastructure such as the new Uganda's National Medical Stores (NMS) at Kajjansi and the new headquarters of the National Drug Authority (NDA).

Since its establishment, UCCM has brought together multi-sectoral stakeholders to work in collaboration and ensuring a comprehensive approach to addressing HIV, TB, and malaria through provision of antiretroviral therapy for HIV, distribution of mosquito nets and availing treatment for malaria and TB. For example, in 2023 the CCM mobilized resources that resulted into 28.2 million Mosquito nets distributed, helped 1.4 million people on antiretroviral therapy for HIV and assisted 0.09 million people with TB treatment. The trends of people treated and management of malaria have been increasing in the past years as indicated below through Uganda CCM coordination efforts.

The government of Uganda has made strong commitment in supporting Uganda UCCM activities and the UCCM secretariat budget indicates a substantial increase in the past years. Currently the Government of Uganda supports over 80% of the UCCM budget and this puts the Uganda CCM in situations towards guaranteeing its financial sustainability. This commitment is in line with the CCM positioning where The Global Fund encourages all countries to position the CCM by building it on national structures to guarantee its contributions to sustainable health governance.

The CCM secretariat has been hosted at the Uganda AIDs Commission since 2011 without administrative challenges. The CCM has separate offices that were turned into permanently established offices. The CCM secretariat has indicated existing good working relationship with the hosting institution (Uganda AIDs Commission) that can be maintained and improved significantly. The CCM signed working agreement with UAC that can be reviewed over time to accommodate wider aspects.

The CCM has a well written governance manual, an oversight manual and other framework documents that guide its factional duties. The documents guide the CCM in decision making processes and operational procedures. The CCM committees are established based on CCM functions, roles and responsibilities. The documents are living guidelines that be amended to accommodate wider situations.

In a recent review of the UCCM, the overwhelming conclusion by all the stakeholders was that the UCCM was a national asset that needs to be sustained. The key question now, therefore, is how best can its position in advancing national holistic health financing and development be sustained, and interventions remain impactful, resilient, and financially sustainable, even as external funding fluctuates or decreases over time. That is a challenge to all the stakeholders to get together, think out of the box for sustainability of the UCCM.

In conclusion the Government and legislators should place emphasis on a policy shift from siloed health financing systems, to pooling funds particularly for specific activities like health systems strengthening (HSS), coordination, or similar interventions to avoid duplication, and to optimise resource use. The Uganda CCM is key to making this happen.

Enhancing Clinical Nursing Practice with the use of Clinical Decision-Making (CDM) Models In low resource setting

This paper intends to inform practicing nurses about the different forms of Clinical-Decision-Making (CDM) models that can be used in low resources environment to enhance clinical nursing practice.



A group of nursing students. *Source: Freepic*

Abstract

Aim: To describe and critically analyze clinical decision-making (CDM) models that nurses in low-resource settings, particularly in the East African region, can adopt to strengthen nursing practice.

Design: A discursive approach using CDM models as guiding principles. Their relevance, application, and adaptability to East African contexts are discussed.

Results: Several CDM models are outlined, with emphasis on their concepts, potential benefits, and limitations in enhancing nursing practice in resource-constrained environments.

Conclusion: Nurses in East Africa face multiple systemic and disease-related challenges. Proper application of CDM models can help mitigate these challenges, improve clinical judgment, and enhance patient outcomes. Further integration into education and practice is needed.

Public contribution: The paper introduces practicing nurses to CDM models relevant to low-resource environments.

Key words: Clinical Decision-Making, Clinical Reasoning, Low-resource settings, Nursing Practice, East African Region

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Background

Nursing education globally has evolved and now plays a pivotal role in shaping the profession[1]. However, low-income countries continue to face significant challenges related to emerging and re-emerging infectious diseases, non-communicable diseases, and increasing patient demands due to demographic shifts[1]. Nurses in East Africa, organized under the East African Community (EAC)—comprising Burundi, Democratic Republic of Congo, Kenya, Rwanda, South Sudan, Tanzania, and Uganda—are central to addressing these healthcare challenges. Harmonizing nursing and midwifery education, while addressing disparities in training and healthcare delivery, remains a critical regional issue[2].

Developing nurses' competencies in critical thinking, clinical reasoning, and decision-making is essential for preparing them to meet dynamic health needs[3]. Evidence shows that strong clinical decision-making supports quality care, improved patient outcomes, and effective teamwork in clinical environments4. Therefore, integrating CDM models into nursing education and practice is highly relevant for East Africa.

Significance

Nursing education in low-resource settings has grown substantially. Graduate-level programs and the inclusion of evidence-based practice in curricula across East Africa are steps towards strengthening clinical nursing practice[5]. These reforms are consistent with global recommendations that encourage nurses to practice to their full scope[6].

The incorporation of CDM models is particularly relevant as they provide structured frameworks that help nurses analyze patient problems, apply reasoning, and select evidence-based interventions[7]. By bridging theory and practice, CDM models can foster critical thinking, reduce diagnostic errors, and improve patient safety.

Methods

This paper employed a discursive approach, using CDM models as guiding principles to discuss their application in low-resource settings. It will emphasize contextual adaptation, practical knowledge, and problem-solving suited to specific environments. This analysis draws on published literature to highlight the conceptual underpinnings, practical applications, and limitations of selected CDM models.

Results and discussion

Clinical Decision-Making Models

Hypothetical-deductive theory

Originally applied in medicine, this theory emphasizes hypothesis testing through induction and deduction7. It was later adapted for nursing. Inductive reasoning begins with data collection and leads to hypothesis formulation, while deductive reasoning tests the hypothesis against data8. In practice, this model allows nurses to interpret data systematically, improving diagnosis and treatment planning. However, it is time-intensive, unsuitable for emergencies, and highly dependent on the practitioner's knowledge base8. For novice nurses, this model may be overwhelming, but it remains valuable for training and structured clinical reasoning.

Benner's Model of Skill Acquisition

Benner (1984) described five stages of nursing development: novice, advanced beginner, competent, proficient, and expert[9]. Progression through these stages depends on experiential learning and clinical exposure. In East Africa, mentorship and supervised practice are crucial to helping nurses move beyond the novice stage. This model emphasizes the importance of reflection, mentorship, and gradual skill acquisition in environments characterized by complex disease burdens[9].

Barrows and Pickell Model

This nine-step problem-solving approach includes hypothesis generation, inquiry strategy, clinical skill application, diagnostic decision-making, and reflection[10]. By focusing on the patient as a whole, this model fosters holistic assessment and communication. Its structured steps help reduce errors and support reflective practice. Nurses using this model can also identify areas for professional development. Reflection, in particular, is critical for self-improvement and lifelong learning10.

Cognitive Continuum Theory (CCT)

Proposed by Hammond (1981), CCT explains how human judgment varies between intuitive and analytical reasoning[11]. It identifies three core concepts: enactive (action-based), iconic (image-based), and symbolic (language-based) cognition[11]. CCT is particularly relevant in East Africa, where nurses often face complex cases requiring both rapid and reflective decision-making. By recognizing where their decisions fall on the continuum, nurses can balance intuition with structured analysis.

Intuitive Decision-Making Model

This model emphasizes non-conscious, experience-based judgments[12]. Intuition can enable rapid decision-making in emergencies, where time is critical. Its strengths include flexibility, creativity, and adaptability. However, reliance on intuition risks unconscious bias, overconfidence, and emotional influence[12]. To mitigate these risks, reflective practice and continuous professional development are necessary. Nurses in East Africa can combine intuitive reasoning with evidence-based frameworks for balanced decision-making.

Relevance to Nursing Practice, Research, Education, and Policy

Practice: Nurses must align CDM with professional standards, ethical frameworks, and scopes of practice[13]. Collaboration with patients and multidisciplinary teams enhances decision-making and patient outcomes[13]. In contexts where patients are increasingly aware of their rights, ethical principles such as autonomy and beneficence must guide nursing judgments.

Education: Nursing curricula in East Africa should incorporate CDMs as essential tools for cultivating decision-making skills[14]. Simulation, case-based teaching, and scenario-based learning can strengthen students' ability to apply theory in practice. Nurse educators should explicitly model CDM during teaching

and clinical supervision.

Policy: Regulatory bodies must update scopes of practice to reflect nurses' growing expertise. Although many nurses hold graduate degrees, restrictive policies limit their capacity to fully apply specialized skills [15]. Expanding task-shifting policies and providing institutional support are essential for maximizing nurses' contributions.

Research: Further studies are needed to explore CDM use in African contexts. Understanding barriers, such as guideline non-compliance[16], shortages of resources, and limited mentorship opportunities, can inform interventions to improve decision-making and patient safety.

Challenges in the East African Context

Scope of practice: Despite advanced training, many nurses are restricted by outdated scopes of practice.

Compliance with guidelines: Studies show low adherence to national guidelines, partly due to lack of support during training and weak implementation frameworks.

Systemic inadequacies: Shortages of supplies, reference materials, and staffing create stressful environments that contribute to burnout and attrition.

Brain drain: Migration of nurses due to better opportunities abroad further reduces capacity.

These challenges underscore the need for supportive policies, adequate resources, and professional development opportunities to enable effective CDM.

Conclusion

Nurses in East Africa face multifaceted challenges in low-resource health systems. CDM models offer structured frameworks that can enhance decision-making, improve patient outcomes, and foster professional development. Integration of CDM models into education, supported by mentorship and reflective practice, is essential. Policymakers should create enabling environments by updating scopes of practice, supporting evidence-based care, and addressing systemic challenges. Future research should focus on context-specific strategies for implementing CDM in low-resource settings.



The joy of being a well trained nursing student.
Source Freepic

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Maternal-Child Health

Progress in maternal, newborn, and child health in cities in sub-Saharan Africa: Are wide inequities holding back cities?

This article examines persistent disparities in maternal, newborn, and child health progress across urban settings in sub-Saharan Africa. Drawing on urban health data, the authors explore whether gains in key indicators—such as antenatal care coverage, skilled birth attendance, and child immunisations—are being experienced uniformly across city populations. The analysis suggests that despite overall improvements, significant inequities remain between different urban subpopulations, often tied to socioeconomic deprivation, informal settlement residence, and insufficient access to healthcare services. The authors argue that unless interventions are tailored to address the needs of underserved urban groups, upcoming sustainable development goals may remain out of reach. Urban health planning must explicitly incorporate equity-focused strategies to ensure no one is left behind in cities.

Reference

Faye CM, Mberu B, Boerma T. Progress in maternal, newborn, and child health in cities in sub-Saharan Africa: Are wide inequities holding back cities? *J Urban Health*. 2024 Nov;101(Suppl 1):1–4. doi:10.1007/s11524-024-00936-x.

Steps for operationalizing global guidance on nutrition interventions in antenatal care: Lessons learned in four countries.

Implementing the World Health Organization's nutrition guidelines within antenatal care (ANC) services requires context-adapted strategies. This study outlines the process of integrating a package of scalable nutrition interventions—including micronutrient supplementation (iron-folic acid, calcium), dietary counseling, gestational weight monitoring, and breastfeeding preparation—across four low-to-middle income countries: Bangladesh, Burkina Faso, Ethiopia, and India. Using randomized controlled external evaluations (2014–2022), the researchers co-designed deployment models alongside national ANC stakeholders and community partners. Intervention components encompassed health systems strengthening, community mobilization, and behavior-change communication. Outcomes included significant increases in coverage of nutrition counseling, micronutrient adherence, and ANC attendance, as well as improvements in dietary diversity and breastfeeding practices. Key lessons highlighted the importance of joint planning with policymakers, adapting service delivery protocols, ensuring supply chains, equipping health workers, and mobilizing household support. The findings demonstrate that a contextualized nutrition package can be effectively embedded into ANC and positively influence maternal and child outcomes in diverse settings.

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Sanghvi T. Steps for operationalizing global guidance on nutrition interventions in antenatal care: Lessons learned in four countries. *BMC Proceedings*. 2024;18(5)\:O50.

Comparing adverse maternal and neonatal outcomes in adolescent versus adult mothers in sub-Saharan Africa

Objective: Adolescent pregnancy is a major public health and social issue, with known associations to poorer pregnancy outcomes. This study compared adverse outcomes between adolescents (13–19 years) and adult mothers (20–35 years) delivering at Korle-Bu Teaching Hospital in Accra, Ghana.

Methods: A comparative cross-sectional design included 110 adolescents and 220 adult mothers (Nov 2016–Feb 2017). Data on sociodemographics, antenatal care, delivery, and maternal–perinatal outcomes were collected via interviews and hospital records. SPSS 16 was used for data analysis.

Results: The adolescent pregnancy incidence was 5.1%. Adolescents were approximately three times more likely than adults to experience eclampsia, although preeclampsia occurred more commonly in adults. Adolescents residing in suburban areas were also more likely to suffer adverse perinatal outcomes than their adult counterparts.

Conclusion: Beyond social and biological vulnerabilities, adolescent mothers face significantly higher maternal and neonatal risks—including elevated eclampsia rates. The findings underscore the urgency of tailored interventions and enhanced support systems to mitigate adverse outcomes in this population.

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Impact of secondary and tertiary neonatal interventions on neonatal mortality in a low-resource limited setting hospital in Uganda: A retrospective study.

To assess how secondary and tertiary-level neonatal interventions affect neonatal mortality over 11 years at Nsambya Hospital, Uganda. Interrupted time-series analysis of neonatal admissions and deaths across two phases—Phase I (secondary interventions, 2007–2014) and Phase II (tertiary interventions, 2015–2020). Among 25,316 admitted neonates, 1,853 (7.3%) died. Inpatient mortality significantly declined from 8.2% in Phase I to 5.7% in Phase II ($p = 0.001$). Case-fatality rates (CFR) for prematurity dropped from 16.2% to 9.2% ($p = 0.001$), and perinatal asphyxia CFR reduced modestly (14.9% to 13.0%; $p = 0.34$). However, CFR for neonatal sepsis more than doubled (3% to 6.8%; $p = 0.001$). Secondary and tertiary neonatal care improvements are feasible and beneficial in low-resource contexts, significantly reducing mortality—especially among premature and asphyxiated newborns. The increased sepsis-related deaths highlight the critical need for strengthening infection-control measures.

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Urology

A review of bladder cancer in Sub-Saharan Africa: A different disease, with a distinct presentation, assessment, and treatment.

Cancer of the bladder is the ninth leading cause of cancer in developed countries. It is the second most common urological malignancy. Transitional cell carcinoma (TCC) is the most common histological subtype in developed countries. In most of Africa, the most common type is squamous cell carcinoma (SCC). Cancer of bladder guidelines produced by the European Urological Association and the American Urological Association, including the tumor, node, and metastasis staging is focused on TCC of the bladder. The purpose of the study is to review the pathogenesis, pathology, presentation, and management of cancer of the bladder in Africa and to use this information to propose a practical staging system for SCC. The study used the meta-analysis guideline provided by PRISMA using bladder cancer in Africa as the key search word. The study collected articles available on PubMed as of July 2017, Africa Online and Africa Index Medicus. PRISMA guidelines were used to screen for full-length hospital-based articles on cancer of the bladder in Africa. These articles were analyzed under four subcategories which were pathogenesis, pathology, clinical presentation, and management. The information extracted was pooled and used to propose a practical staging system for use in African settings. The result of evaluation of 821 articles yielded 23 full-length papers on hospital-based studies of cancer of the bladder in Africa. Cancer of the bladder in most of Africa is still predominantly SCC (53%-69%). There has been a notable increase in TCC in Africa (9%-41%). The pathogenesis is mostly schistosoma-related SCC presents late with painful hematuria and necroturia (20%). SCC responds poorly to chemotherapy or radiotherapy. The main management of SCC is open surgery. This review allowed for a practical organ-based stage of SCC of the bladder that can be used in Africa. Bladder cancer in Africa presents differently from that in developed countries. Guidelines on cancer of the bladder may need to take account of this to improve bladder cancer management in Africa.

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Prevalence and clinical patterns of urolithiasis in sub-saharan Africa: a systematic review and meta-analysis of observational studies

Urolithiasis, the presence of stones in the urinary tract, has been linked to various clinical features and reported as a worldwide health concern. Its prevalence varies across different regions as well as populations. Several primary studies have been conducted in Sub-Saharan Africa on the situation. However, their reports are inconsistent. Hence, this review aimed to assess the pooled magnitude of urolithiasis and its clinical patterns among hospital-visiting patients in sub-Saharan Africa. Online databases such as PubMed, Hinari, the African Journals online database, and Google Scholar were used to comprehensively search articles published until June 28, 2023, about the prevalence and clinical patterns of urolithiasis in Sub-Saharan Africa. All the included studies were conducted at hospital setting. The retrieved data was exported to STATA version 16 for final analysis. A random-effect meta-analysis model was computed to estimate the pooled results. The heterogeneity of the studies was assessed using I2 and Cochran's Q. Publication bias was examined by observation using funnel plots and statistically by Egger's tests. Subgroup analysis was performed based on the country where the studies have been conducted. A total of 26 articles (11 reported both prevalence and clinical pattern, 5 reported only prevalence, and 10 reported only clinical patterns of urolithiasis) were included in the final systematic review and meta-analysis. The pooled prevalence of urolithiasis among hospital-visiting patients was 9.4% (95% CL = 4.9-14%), with significant heterogeneity. Most of the urolithiasis was located in the kidney, with an estimated pooled proportion of 4.6% (95% CI = 2.7, 6.5), followed by bladder stone-2.0% (95% CI = 0.7, 3.4), ureteral stone-1.8% (95% CI = 0.7, 2.9), and urethral stone-0.2% (95% CI = 0.00, 0.05). The subgroup analysis showed the highest prevalence of urolithiasis was found in Mauritian, 28.1% (95%CI 24.5, 31.7), followed by Ethiopia 18.1%, and the lowest was in Eritrea, 1.0%. A sensitivity analysis using the random-effects model found no influential study on the pooled prevalence of urolithiasis. Evidence of significant publication bias was observed and trim-fill analysis was conducted for adjustment. Accordingly, two missing studies were identified, and after adjustment, the combined prevalence of urolithiasis was estimated to be 10.7%. The study also found that urolithiasis prevalence per gender was 6.3% in males and 2.9% in females. The most common clinical presentation of urolithiasis was flank pain at 58.4% (95% CL=, 45.9, 70.8), followed by low back pain at 45.9% (95% CL=, 23.1, 68.8), and nausea/vomiting at 29.9% (95% CI: 1 1.1, 48.8). The prevalence of urolithiasis in Sub-Sahara African Countries is increasing even though a remarkable regional variation was observed, with higher predominance in males than females. Common clinical presentations of urolithiasis were flank pain, low back pain, and nausea/vomiting.

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Role of surgery for upper urinary tract stones in low-income countries: semi-rigid ureteroscopy and percutaneous nephrolithotomy in Benin.

Percutaneous nephrolithotomy (PCNL) and semi-rigid ureteroscopy (SR-URS) are adequate therapeutic means of treating upper urinary tract stones. This study aimed to evaluate the effectiveness of this approach in managing urinary lithiasis at the National University Hospital Centre of Cotonou (CNHU-Cotonou).Patients and methods: This was a retrospective, descriptive study conducted

at the Urology Department of the CNHU-Cotonou from 28 November 2018 to 31 December 2022. The records of patients with upper urinary tract lithiasis treated with PCNL and SR-URS were reviewed and included. A total of 121 patients were included. The average age was 46 years. The average stone size was 32 mm at the renal level and 6 mm at the ureteral level. PCNL was performed in 69 cases and SR-URS in 57 cases, with complete lithotripsy rates of 73.9% and 91.2%, respectively. In 53.6% (n = 37) of cases during PCNL, postoperative drainage was made by nephrostomy. During the SR-URS, a JJ-stent was placed in 92.9% (n = 53). The postoperative course was simple in 78.5%. A postoperative urinary tract infection was observed in 61.5% of cases. The average hospital stay was two days. Endoscopic surgery is now used to treat upper urinary tract stones at CNHU-Cotonou. The combination of PCNL and SR-URS gives satisfactory results in our environment with limited equipment.

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Risk factors for recurrence of urethral strictures in urology at the Cocody-Abidjan University Hospital in Ivory Coast from 2014 to 2023

To identify factors that promote recurrence of urethral strictures. This was a retrospective cohort study that included 104 patient records from the Urology Department of the Cocody-Abidjan University Hospital (CHU) for urethral strictures from April 1, 2014, to March 31, 2023, a period of 10 years. The prevalence of urethral strictures was 3.20%, with a mean age of 54.45 years and a range of 17 to 90 years. More than half of the patients were from disadvantaged social classes. All patients presented with dysuria, 81% of which was associated with urinary retention. Strictures were post-infectious in 66% of cases and iatrogenic in 21% of cases. Endoscopic internal urethrotomy (EUI) was the most commonly used treatment in 45% of cases, followed by end-to-end anastomotic resections (ETAR) in 25%, 1-stage urethroplasty (1ST) in 14%, and 2- stage urethroplasty (2ST) in 11%. The recurrence rate was 32.7% (34/104). Infectious causes dominated the recurrence cases with 32 out of 34 cases. Patients who underwent EUI with 22 out of 34 cases had more recurrences. There was a statistically significant relationship between the occurrence of recurrence and infectious etiology There was also another significant relationship between previous treatment (endoscopy) and recurrence, with a chi-square value of 12.59 higher than the observed chi-square value of 10.18. Urethral stricture affects adults and the elderly from disadvantaged backgrounds. EIU performed for infectious causes is marked by adverse outcomes, with a high recurrence rate.

Reference

Fofana, A., Tuo, L. S. M., Yao, E. K., Amangoua, E. J. V., Yeo, D. D., & Coulibaly, I. (2025). Risk factors for recurrence of urethral strictures in urology at the Cocody-Abidjan University Hospital in Ivory Coast from 2014 to 2023. African Urology, 5(1), Article 230. https://doi.org/10.36303/AUJ.0230*.

Paediatric urology in Sub-Saharan Africa: challenges and opportunities

The need for paediatric urological care in low- and middle-income countries in sub-Saharan Africa (SSA) is enormous due to a burgeoning paediatric-aged population and a disproportionate burden of congenital malformations. There are formidable challenges in the provision of a skilled workforce and appropriate infrastructure, resulting in a huge unmet need with consequent effects on the long-term health and prosperity of the population. Constraints of funding, geography, culture, surgical and anaesthetic skills, and instrumentation means that many conditions present late and with complications that could have been avoided by an earlier attendance. It also means that the management of congenital malformations, e.g., bladder exstrophy and congenital obstructive posterior urethral membrane, differ substantially from that seen in the developed world, with the outlook for children with renal failure being particularly bleak. Collaborations between paediatric urologists from high- and low-income countries are beginning to help with the development of a surgical infrastructure customised to paediatric care, and with the training of specific paediatric urological knowledge and skills. These collaborations, whilst welcome, still require substantial expansion to achieve more equitable access to appropriate paediatric urological care for children in SSA. Future efforts have to focus on the creation of sustainable and equal partnerships between urologists from low- and high-income healthcare environments, with an emphasis on providing sustainable management, appropriate to local need and available resources. The provision of shared learning, utilising the benefits of global digital communication, will improve mutual understanding of needs in a resource-poor environment and the involvement of trainees from both income settings can help perpetuate long-term collaborations.

Reference

Paediatric urology in Sub-Saharan Africa: challenges and opportunities British Journal of Urology;Volume130, Issue3,September 2022:Pages 277-284

Paeditrics

Prevalence and clinical presentation in newly diagnosed human immunodeficiency virus–infected children aged 2 months to 5 years in Federal Medical Centre, Katsina, Nigeria. A cross-sectional study.

The prevalence of pediatric HIV infection is largely unknown in many sub-Saharan African countries. This study aimed to determine the prevalence, clinical pattern of HIV infection, and outcomes among new patients under 15 years using age-specific diagnostic methods. A prospective cross-sectional study was conducted using the provider-initiated HIV testing and counselling (PITC) model. HIV rapid tests run in parallel were used for screening, with confirmation via HIV DNA PCR in children under 18 months and Western blot in children aged 18 months or older. A total of 600 children aged between one day and 179 months were enrolled. The male-to-female ratio was 1.2:1. HIV seroprevalence was 12.3%, with a confirmed

prevalence of 10% following age-specific testing. Among children younger than 18 months, 37.8% were exposed but not infected. Mother-to-child transmission accounted for 93.3% of confirmed HIV cases. Clinical features predictive of HIV infection included diarrhea, cough, weight loss, ear discharge, generalized lymphadenopathy, skin lesions, parotid swelling, and oral thrush. Approximately 75% presented in advanced or severe clinical stages of disease, and 56.8% had severe immunodeficiency; moreover, 50% exhibited viral loads exceeding 100,000 copies/mL. The mortality rate among HIV-positive children was 14.3%, compared with 11.3% in HIV-negative children—though this difference was not statistically significant. Among HIV-positive children, 26.7% were orphans. The prevalence of HIV among newly screened pediatric patients was high, predominantly due to mother-to-child transmission. Most presented with advanced disease stages, and mortality was elevated. The study suggests a need to expand access to PMTCT services, implement PITC widely in pediatric settings, and strengthen support services for HIV-infected children

Prevalence and clinical presentation in newly diagnosed human immunodeficiency virus–infected children aged 2 months to 5 years in Federal Medical Centre, Katsina, Nigeria: A cross-sectional study.

Reference

Nasir, F. F., Ibrahim, M., Suleiman, B. M., & Ibrahim, O. R. (2025). Pediatric Infectious Disease, 7(2), 39–43. https://doi.org/10.5005/jp-journals-10081-1455

Profile of Positive Cultures in Pediatric Intensive Care Unit: A Retrospective Cohort Study.

Infections remain a leading cause of morbidity and mortality among children in developing countries, with healthcare-associated infections—often involving multidrug-resistant organisms (MDROs)—further complicating outcomes in Pediatric Intensive Care Units (PICUs). Despite this, limited studies exist from lower-middle-income countries (LMICs) on pediatric infection surveillance and antimicrobial susceptibility patterns. This study sought to (1) examine the demographic profiles and outcomes of critically ill children with positive blood or respiratory cultures, (2) describe the spectrum and resistance patterns of isolated organisms, and (3) assess patient outcomes in the PICU setting. A retrospective observational cohort study was conducted in a tertiary pediatric hospital's PICU from January 1 to December 31, 2021. Children aged 1 month to 18 years with positive blood or respiratory cultures were included. Positive isolates were differentiated as community-acquired or hospital-acquired based on timing post-admission. Organisms were classified and antimicrobial susceptibility assessed using standard culture techniques and interpreted per CLSI 2020 criteria. There were 139 children with positive cultures, with a median age of 12 months. The majority of children had comorbidities (62.6%), previous hospital admissions (83.5%), and/or antibiotic exposure (85.4%). Gram-negative bacilli (GNB) comprised 99% of positive respiratory cultures in hospital-acquired infections (HAI), and the most common organisms grown were Acinetobacter species, Klebsiella species, and Pseudomonas species. On antibiotic sensitivity testing, approximately three-fourths of the organisms showed multidrug resistance. High levels of carbapenem resistance were seen in isolates of Acinetobacter baumannii (40/48), Klebsiella pneumoniae (25/29), and Pseudomonas aeruginosan (22/37). Out of the 139 patients included in the study, 86 (61.9%) survived. On multivariate analysis, multidrug resistant organisms (MDRO) were significantly associated with mortality (p = 0.02).Conclusion: Infections in critically ill children were predominantly due to gram-negative organisms. There is a trend toward increasing antibiotic resistance over time. Infection with MDRO is associated with mortality.

Highlights: Infections represent a major burden in developing countries, especially in critically ill children. Our study shows high levels of multidrug resistance and increasing carbapenem resistance over time. We have demonstrated a higher risk of mortality in children with MDRO

Reference

Bhagat, I., Solomon, R., Mamtora, D., Mehta, G., & Shobhavat, L. (2025). Profile of Positive Cultures in Pediatric Intensive Care Unit: A Retrospective Cohort Study. Pediatric Infectious Disease, 7(2), 44–49. https://doi.org/10.5005/jp-journals-10081-1458

Abstract

Infections are an important cause of morbidity and mortality in the pediatric intensive care unit (PICU). Aims and objectives: To study the demographic profile, describe the spectrum and resistance pattern of organisms isolated from blood and respiratory cultures, and study the outcome. Materials and methods: This retrospective observational study, conducted from January 1 to December 31, 2021, was performed on children with positive blood and respiratory cultures admitted to the PICU of a tertiary care multispecialty hospital. Demographic profile and outcome measures were recorded. Positive cultures and resistance patterns were noted. Results: There were 139 children with positive cultures, with a median age of 12 months. The majority of children had comorbidities (62.6%), previous hospital admissions (83.5%), and/or antibiotic exposure (85.4%). Gram-negative bacilli (GNB) comprised 99% of positive respiratory cultures in hospital-acquired infections (HAI), and the most common organisms grown were Acinetobacter species, Klebsiella species, and Pseudomonas species. On antibiotic sensitivity testing, approximately three-fourths of the organisms showed multidrug resistance. High levels of carbapenem resistance were seen in isolates of Acinetobacter baumannii (40/48), Klebsiella pneumoniae (25/29), and Pseudomonas aeruginosa (22/37). Out of the 139 patients included in the study, 86 (61.9%) survived. On multivariate analysis, multidrug resistant organisms (MDRO) were significantly associated with mortality (p = 0.02). Conclusion: Infections in critically ill children were predominantly due to gram-negative organisms. There is a trend toward increasing antibiotic resistance over time. Infection with MDRO is associated with mortality. Highlights: Infections represent a major burden in developing countries, especially in critically ill children. Our study shows high levels of multidrug resistance and increasing carbapenem resistance over time. We have demonstrated a higher risk of mortality in children with MDRO.

CPD Challenge

Questions

Q1 Clinical manifestations and treatment of urolithiasis in Sub-Saharan Africa:

a. Most urolithiasis cases in Sub-Saharan Africa occur in the kidney, followed by bladder and ureteral stones, with urethral stones being rare.
b. Common symptoms include flank or lower back pain, and nausea or vomiting.
c. The prevalence of urolithiasis is rising across the region, showing wide variation but higher rates in males.
d. Percutaneous nephrolithotomy (PCNL) and semi-rigid ureteroscopy (SR-URS) are effective surgical options even in low-resource settings.
e. Endoscopic surgery plays an important role in managing upper urinary tract stones.

Q2 Maternal and neonatal outcomes in adolescent versus adult mothers:

a. Adolescent mothers are about three times more likely than adults to experience eclampsia, while preeclampsia is more frequent among adults.
b. Adolescents in suburban or rural areas face higher risks of adverse perinatal outcomes compared to adult mothers.
c. Beyond biological factors, adolescent pregnancy increases maternal and neonatal risks due to social and health system challenges.
d. Strengthening antenatal care, education, and social support for adolescents is vital to improve outcomes.
e. Adolescent pregnancy remains a key public health concern linked to poor maternal and newborn outcomes in Sub-Saharan Africa.

Q3 Non-communicable diseases (NCDs) in South Asia, Africa, and the Caribbean

a. Geography, lifestyle, socio-economic conditions, and healthcare quality all shape the prevalence and management of NCDs.
b. In the Caribbean, major risk factors include inactivity, poor diet, sedentary living, and smoking.
c. In South Asia, poverty, low awareness, rapid urbanization, and weak regulatory enforcement contribute to rising NCDs.
d. In Africa, malnutrition, alcohol misuse, low healthcare access, and underfunded systems drive the dual burden of infectious and chronic diseases.
e. Effective control requires integrated, regionally adapted strategies addressing systemic gaps in all three regions.

Q4 Bladder cancer in Sub-Saharan Africa

a. Squamous cell carcinoma (SCC) predominates in areas where schistosomiasis is endemic, unlike in developed countries where transitional cell carcinoma (TCC) is more common.
b. Though TCC occurs in Africa, it is less frequent than SCC in schistosomiasis-endemic regions.
c. Chronic Schistosoma haematobium infection causes SCC, which often presents late with hematuria and necroturia.
d. SCC responds poorly to chemo- and radiotherapy, making surgical resection (e.g., radical cystectomy) the preferred treatment.
e. EAU and AUA guidelines are based mainly on TCC and do not fully address Africa's schistosomiasis-related SCC or resource constraints

Q5 Adolescents living with perinatally-acquired HIV (ALHIV) in Africa

a. ALHIV are at risk of unintended pregnancies that affect their health, education, and increase the risk of mother-to-child HIV transmission.
b. Knowing one's HIV status does not always lead to safer behaviour; stigma and lack of SRH services contribute to unplanned pregnancies.
c. Integrating SRH into HIV care supports ALHIV, reduces unintended pregnancies, and improves overall wellbeing.
d. Newborns of ALHIV should receive PMTCT interventions and ART; early infant diagnosis at six weeks remains essential.
e. Unintended pregnancies among ALHIV often result in emotional, financial, and educational challenges, including barriers to safe abortion.

Answers

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

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