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JOURNAL



Success story for Capacity Enhancement of Medical Technical Services (CEOMETS) project and health care technical services in Tanzania.

Uganda's rekindled safe motherhood journey, a case of the National Safe Motherhood Expert Committee (NASMEC)

Cross-Border Surveillance in Pandemic Preparedness: The East African Case

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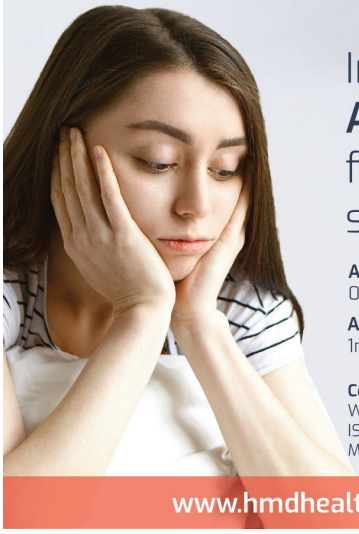
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Health Workforce Remains Central to the Conversation

The July issue of the African Health Journal (AHJ) presents a diverse array of articles focusing on various aspects of the health workforce, primarily drawing from experiences in Uganda and other African nations.

Francis Omaswa's Opinion piece emphasizes the significance of South-South collaboration, highlighting successful examples from Africa. He argues that these partnerships offer a more practical approach to addressing Africa's challenges of poverty, disease, and lack of education - issues that have persisted since independence from colonial rule. Omaswa advocates for increased support and promotion of such collaborations, viewing them as key to achieving the long-held aspirations of African nations. By leveraging shared experiences and resources, South-South partnerships are seen as a vital pathway to sustainable development and progress across the continent.

The issue opens with a brief conference report on the Dr. Lee Jong-Wook Fellowship Program (LJWFP) General Assembly in Seoul, organized by the Korea Foundation for International Healthcare (KOFIH). KOFIH's commitment to international collaboration and humanitarian values through health assistance projects in Asia and Africa is highlighted, emphasizing the importance of South-to-South cooperation.

Two articles showcase KOFIH-supported work in Tanzania and Uganda. The first, "Capacity enhancement of medical technical services (CEOMETS) project and health care technical services in Tanzania," written by Engineer Suniva Haule, emphasizes the value of training biomedical engineers and technicians. It demonstrates the positive impact on healthcare technical services management and health technology management improvement in Tanzania. The second article, "The Uganda Trauma Assessment and Treatment Algorithm" by Dr. Alfonse Omona, illustrates how in-service training using local, cost-effective modules can enhance emergency care quality in Uganda. Both authors are beneficiaries of the LJWFP, underscoring the program's impact on capacity building in Africa.

John Paul Bagala's article describes an initiative by Uganda's Ministry of Health to improve maternal and child outcomes. This comprehensive approach includes awareness campaigns, advocacy, training, and the establishment of monitoring and evaluation systems, reshaping the safe motherhood landscape in the country.

Francis Kakooza's piece highlights the crucial role of cross-border surveillance in enhancing pandemic preparedness in East Africa. The article discusses efforts to integrate surveillance systems, share information, build capacity, and engage communities to improve the region's ability to detect and respond to health threats. It also outlines challenges and recommendations for strengthening cross-border surveillance, emphasizing the need for collaboration among policymakers, educators, and health professionals to ensure regional and global health security.

An innovative health education project is described by Yamawaki et al., detailing the adaptation of Japan's Creative Health project for post-genocide recovery in Rwanda. Implemented at two schools, the project focuses on anatomy, medical history, and practical skills, fostering cross-cultural learning and collaboration. The article notes the active engagement of Rwandan students and the successful adaptation of storytelling techniques to the local context.

Dr. Fabruce Ramaherimamonjy's story exemplifies the African Union's Africa Day theme: "Educate an African fit for the 21st Century." His journey from aspiring engineer to founder of Bethany Hospital Centre in Madagascar showcases dedication to medical education and improved healthcare standards, aligning with Africa's goal of inclusive, lifelong learning for sustainable development.

Tamale Elvis, a young Ugandan doctor, shares his experience founding Medxmentor, a hybrid mentorship program supporting the holistic development of undergraduate health sciences students. He emphasizes the importance of mentorship in guiding students toward self-discovery and personal growth.

Alfred Driwale, Commissioner for Institutional Capacity Building and Human Resource Development at Uganda's Ministry of Health, reports on the National Policy Dialogue on the Health Workforce in Uganda. He outlines the event's proceedings, key findings from the Health Labour Market Analysis, and recommendations from the dialogue. This is complemented by David Okello's policy brief addressing the paradoxical challenge of rising unemployment among health workers and the need to manage the externalization of excess health workforce in Uganda.

The issue includes an obituary for Dr. Joshua Bazaale Musinguzi, who recently passed away following cardiac surgery. Dr. Musinguzi had served as Assistant Commissioner/Program Manager of the AIDS control program in Uganda's Ministry of Health.

The journal concludes with its regular features, including a medicine digest, quiz, news, and advertisements. The AHJ is available as an open-access web-based publication at Africa-health.com, which is updated daily with current affairs and engages readers through social media platforms like Twitter and Facebook. The journal welcomes advertisers to utilize both print and electronic channels, following provided guidelines.

This issue of the African Health Journal offers a comprehensive look at various aspects of healthcare in Africa, from capacity building and innovative education programs to policy dialogues and cross-border health initiatives. It showcases the ongoing efforts to improve healthcare delivery, education, and workforce management across the continent, while also highlighting international collaborations and the importance of mentorship in developing the next generation of healthcare professionals.



Elsie Kiguli-Malwadde
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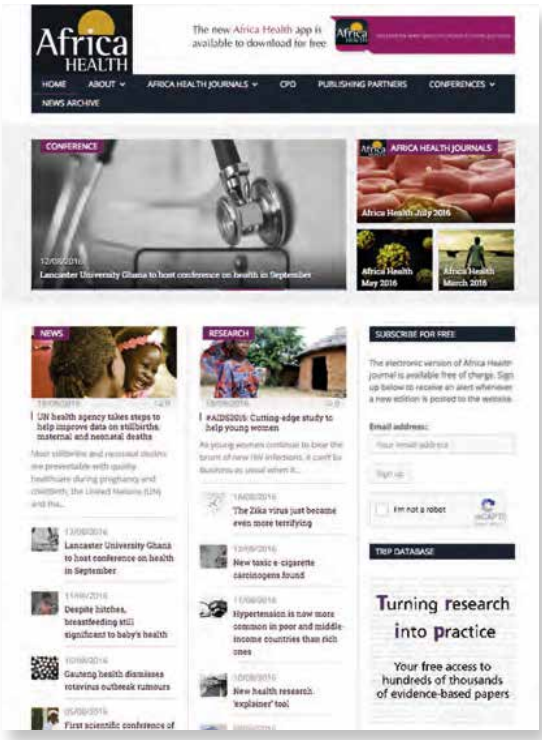
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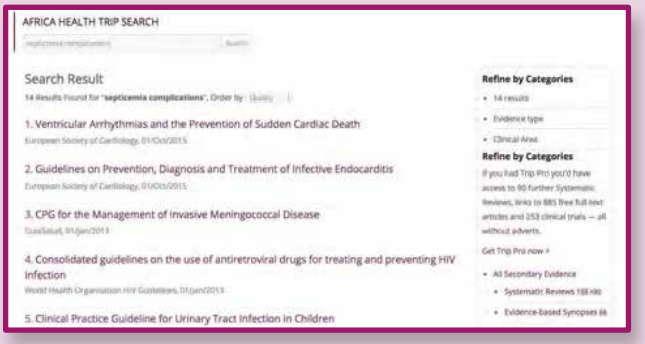
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South-South Cooperation



South-South collaboration is defined as the exchange of resources, technology, and knowledge between developing countries, also known as countries of the Global South. These are countries that have emerged from colonial rule and are moving towards improving the living conditions of their populations and are also making significant contributions to global development.

African countries gained independence from colonialism on a high and positive note. It was expected that within a relatively short time Africa would have eradicated poverty, disease and ignorance which was not possible under colonialism. However, resources for this to be achieved were lacking leading to African countries turning to international institutions such as the World Bank, the International Monetary Fund (IMF) and development agencies of developed countries not only for resources but also for ideas and leadership.

On the other hand, South Asian countries such as South Korea and Singapore that got their independence at the same time as African countries and with similar development indices achieved much faster economic and social growth than African counterparts. South Korea has a well-developed South-South collaboration institution, known as Korean International Cooperation Agency (KOICA). This institution provides technical assistance and financial grants for development programs in African countries in a similar way to developed countries.

Another example of successful South-South collaboration is where the government of Brazil has over the years provided development assistance to Portuguese speaking countries in Africa including financial and technical support. This has filled a gap where due to language issues, these countries were not benefitting from other donor programs.

A powerful mode of South-South collaboration is centrally coordinated partnership between African countries sharing knowledge and good practice. These have happened through coordinated pan African agencies such as the recently established Africa Centers for disease Control (Africa CDC) that has guided the establishment of Health Security Agencies in African countries known as Public Health Institutes. This agency is also promoting the sharing of locally manufactured commodities such as vaccines and other pharmaceuticals. Another example of African continental partnership is the establishment of the Free Trade zone that enables duty-free movement of goods between African countries thus facilitating economic growth.

There are many examples of successful collaboration at the level of the African Regional Economic Communities such as the West African Health Organization (WAHO), the East, Central and Southern African Health Community (ECSA-HC) and the Southern African Development Community (SADC). These organizations convene Health Ministers and technical leaders regularly to share experience and to learn from each other. I have personally promoted successful initiatives on South-South collaboration through the ECSA HC such as the establishment of the regional College of Surgeons and the dissemination of the Quality of Health Care principles and practices.

In the area of Health Professionals Education and Training there are many examples of collaboration between institutions. During the implementation of the Medical Education Partnership Initiative (MEPI) funded by PEPFAR and NIH many medical schools shared experience through joint meetings and exchange visits in promoting good practices such as developing research support centers and medical education units both of which worked to strengthen the quality of medical education and research. MEPI ended with the establishment of the African Forum for Research and Education in Health (AFREhealth) that includes other professions such as nursing and midwifery, physical therapy, pharmacy etc. AFREhealth hold annual symposia where joint learning and capacity building take place between African education institutions. There are currently many collaborations both South to South and North South between educational institutions in Africa which need support and encouragement as they have potential to contribute to improved living conditions of the African people.

There are also pan African and regional professional associations which provide another opportunity for South-South collaboration and joint learning. My work over the years has benefited from being a member of the Pan African Society of Cardiology.

The success of any collaboration is premised on the observance of certain partnership principles. These include a shared vision of the expected results, mutual respect, strong management structures, documented working arrangements and availability of resources needed to achieve the expected results. The individuals involved in the collaboration need to be personally committed to the partnership and open to learning from the all parties involved.

The environment to promote South-South collaboration is favorable and all efforts should be supported to promote these partnerships and collaborations as they hold a more realistic possibility of riding Africa of poverty, disease and ignorance that we aspired for at the time of gaining our independence from colonial rule.

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

Dr. Le Jong-Wook fellowship program (LJWFP)General Assembly in Seoul, KOFIH

Elsie Kiguli-Malwadde reports on the Dr. Le Jong-Wook fellowship program (LJWFP) General Assembly in Seoul, KOFIH



Participants of the LJWFP General Assembly

KOFIH (Korea Foundation for International Healthcare) is a government affiliated agency under the Ministry of Health and Welfare of the Republic of Korea. KOFIH was established in 2006 to honor the legacy of Dr LEE Jong-wook, the late 6th Director-General of the World Health Organization (WHO). KOFIH commits itself to promoting international collaboration and spreading humanitarian values through health assistance projects for partner countries in Asia and Africa, North Korea, overseas Koreans and migrant workers in Korea.

LJWFP (Dr. LEE Jong-wook Fellowship Program) is a training program designed to invite the global healthcare workforce from partner countries to build their competence. LJWFP was launched in 2007 and has seen more than 1,500 fellows from 30 countries as of 2023 and KOFIH supports KGA(KOFIH Global Alumni) established by LJWFP fellows in 12 countries.

As the president of the African forum for Research and Education in Health, I was invited to attend the LJWFP GENERAL ASSEMBLY in Seoul this year, as a speaker for the commemorative forum during the assembly. The meeting was held on June 5, 2024 at the Hotel Naru, M Gallery . The main Objective was "To share the experience of capacity building activities of health and medical workers and to discuss paradigm transition of international cooperation in health sector under the theme: Strengthening Healthcare Workforce Capacity in the Post-Pandemic Era.

My topic of discussion was "Pandemic Training Experience for Healthcare Workforce at the African Forum for Research and Education in Health (AFREhealth)". The COVID-19 pandemic has underscored the critical importance of a well-trained and resilient healthcare workforce. As the world transitions into a post-pandemic era, it is imperative to reflect on the training experiences of healthcare professionals to better prepare for future health crises. My talk delved into the insights garnered from the African Forum for Research and Education in Health (AFREhealth) regarding the post-pandemic training experience for the healthcare workforce.

AFREhealth, as a leading platform for advancing healthcare education, service delivery and research in Africa, offers a unique perspective on the challenges and opportunities faced by healthcare professionals in the region. Through collaborative efforts, AFREhealth aims to enhance training programs, curriculum development, and skill-building initiatives tailored to the evolving needs of the healthcare sector. The presentation explored key themes such as Interprofessional Education, Scaling up Digital (online) education, collaboration and partnership.

Additionally, it highlighted innovations and adaptations to new models of education, innovative approaches and best practices identified by AFREhealth members to foster a resilient and adaptable healthcare workforce capable of navigating future health emergencies. It was a pleasure to be part of this great event.



The President Of AFREhealth making her presentation

Success story for Capacity Enhancement of Medical Technical Services (CEOMETS) project and health care technical services in Tanzania

Engineer Haule from Tanzania shares how the Tanzanian government has leveraged technical support from various sources to enhance its medical equipment management systems

South-South collaboration is Medical Equipment and other infrastructure Management within health facility is important to ensuring quality health services provision in any country. While Health-care technology is central to boosting the productivity and quality of healthcare systems, in many African countries medical equipment management systems are either weak or not available. A Health Policy reform is required for underdeveloped countries in Sub Saharan African Countries to change the status to a better system. Policy reform can help to ensure health-care technology is translated into everyday practice and how an integrated systems approach can enhance the operation of medical device management.

In the 1970s, the government of the United Republic of Tanzania established equipment maintenance systems to reduce downtime and raise uptime so that lifetime of equipment is prolonged. The Ministry of Health established hospital maintenance workshops at referral hospitals in the cities of Dar es Salaam, Mbeya, Moshi and Mwanza. Further, maintenance workshops were established to serve voluntary agency hospitals under the Christian Social Services Commission (CSSC).

Within this era, faith-based health institutions incurred huge investment in health technology/ equipment when compared to other areas like buildings renovations and human resource recruitment. Their source of funds was from overseas organizations. The idea to advocate for management change in health facilities evolved within this era. The Christian Organization - Tanzania Episcopal Council (TEC) through its medical board and Tanzania Christian Medical Association (TCMA) in one of the health facilities owned by Anglican Church Diocese of Central Tanganyika established a short course (Three Month) training center for maintenance of basic equipment at Mvumi Hospital in Dodoma whereby all technician and artisans working in health facilities (mechanic, electrician and plumbers) were enrolled.

This course was supervised by Christian Social Services Commission (CSSC) of Tanzania which is among the divisions managed by Tanzania Episcopal Council to specifically to coordinate for social health and education. Still the demand to improve for health technology management was recognized and in the 2000's a Health Care Technical Services Coordination office

Eng. Suniva Sivero Celestin Haule, Biomedical Equipment Engineer, Health Technology Management (HTM) specialist, Head of Healthcare Technical Services Ministry of Health - Tanzania



Biomedical Engineers at work

was established within the CSSC office headquarters. It was mandated to coordinate trainings and maintenance activities in faith-based health facilities while an idea to set Zonal Maintenance Centers in Tanzania was also muted.

In between 2000 and 2004 several maintenance workshops were put in place, namely Mbeya Hospital Maintenance Workshop (MBEHOMA), Evangelical Lutheran Church Moshi Workshop, Kilimanjaro Christian Medical Centre (KCMC) Workshop, Bugando Medical Centre Workshop, Kagera Medical Technical Services (KAMTES) workshop, Nyanza Medical Engineering Association (NMEA) workshop, Southern Highlands Hospital Maintenance (SHHOMA) Workshop and Eastern Zone Maintenance (CCBRT) Workshop under CSSC. It was supported by funds from GIZ by then was it was GTZ, KFW and the British Government. From the Government side the maintenance workshops were established at Muhimbili National Hospital, Mbeya Region Hospital and Mtwara Regional Hospital through

funding from GTZ, JIKA and SIDA from 1970's onwards although sustainability of all mentioned workshops was not maintained due to unavailability of policies.

The second phase of Health Technology Management happened between 2002 and 2010 whereby advocacy from external and internal health stakeholders urged the public sector to include Health Technology Management interventions in the government main budget and to include scheme of service for the biomedical engineering cadre in public service.

During discussions, it was noted that the available small number of biomedical engineers were not recruited in the country and no training institution had a curriculum to train for such cadre. Partners like Swiss Development Corporation (SDC) through its project called Health Promotion and System Strengthen Project (HPSS) implemented by Swiss Tropical and Public Health Institute (STPHI) towards Universal Health Coverage Insurance advocacy, added Health Technology Management (HTM) among the project elements.

The Ministry of Health acknowledges the importance of medical device management in all its health sector strategic plans. Three plans illustrate how the importance and anchoring of strategic interventions grew: Health Sector Strategic Plan III (2009–2015) only touched briefly on medical device management,19 whereas Health Sector Strategic Plan IV (2015– 2020) embedded medical device management within the infrastructure, transport and equipment strategy.20 Subsequently, Health Sector Strategic Plan V (2021–2026) outlined specific strategic outcomes for health infrastructure and committed to improved preventive maintenance.

During this project implementation, advocacy to establish a training course for biomedical engineers within Tanzania yielded results and managed to align this idea with Dar es salaam Institute of Technology (DIT) and Technical College Arusha (TCA) where by training started from 2011 for Diploma Level and bachelor level in 2016, followed by Mbeya University of Technology (MUST) diploma level in 2018, Muhimbili University of Health and Allied Science bachelor level in 2019. The University of Dodoma is expecting to start training in biomedical engineering bachelor level in 2024/2025 academic year.

The total number of biomedical engineering cadre graduated from local training institutions from 2014 to June 2024,1330 at diploma level and 166 at bachelor's degree level of which 427 are employed and working in public health facilities. Others are employed in private health facilities, pharmaceuticals industry and medical equipment venders/companies (No data created to determine the distribution).

The availability of biomedical engineers has increased through new training courses and the creation of permanent positions in government. Moreover, additional district and regional maintenance and repair workshops have been built, and a National Centre for Calibration and Training established to ensure optimal functioning of medical devices. Every level of government is encouraged to allocate more human and financial resources to medical device management. The percentage of functioning equipment increased substantially, and costs reduced for repairing compared to replacing equipment.

According to reports, formal medical device management is either ineffective or lacking in Africa. For instance, in the United Republic of Tanzania, there was virtually no system in place for medical device management before 2011. During the last decade, however, medical device management in the country has undergone changes thanks to a continuous Swiss - bilateral effort in cooperation with other unlimited number of partners from the private sector and other development agencies, most notably the Korea International Cooperation Agency and Korea Foundation for International Healthcare (KOFIH).

The Health Care Technology Policy Guideline has still not been fully implemented. Although the guideline outlined a referral system for planning and managing the maintenance of health-care technology, which included the establishment of zonal, regional and district workshops, implementation was poor and support from the ministry of health was limited. Moreover, there were few qualified technical staff for planning and maintaining medical devices who had undergone formal education and received a certificate from a technical school, community college or similar institution and who had undertaken an apprenticeship or received more hands-on training.

In terms of infrastructure, most healthcare facilities from primary to tertiary level lacked qualified staff to plan and execute maintenance activities. Lack of a maintenance culture was evident in the absence of a systematic approach, regular inspections and long-term maintenance planning. In addition, the supervision of outsourced services was often insufficient, which raised concerns about service quality.

Based on initial assessment, we took a holistic systems approach to reforming medical device management. We piloted the implementation of the medical device management system in the Dodoma Region, guided by four principles: (i) alignment with national technology management policy and regulations; (ii) utilization of all available maintenance resources, including those of local and central government, health facilities, the private sector and faith-based organizations; (iii) integration of the maintenance of both medical equipment and infrastructure into overall management of the health system and individual healthcare facilities; and (iv) adaptability, scalability and sustainability of the suggested improvements.

The development of the medical device management system followed established health-care technology management practices. In addition, tools were provided for documentation and reporting, such as: (i) standard operating procedures; (ii) data collection checklists for equipment inventories; (iii) planning and budgeting templates; and (iv) maintenance registers. These tools are digitized and integrated into the national Medical Equipment and Infrastructure Management Information System (MEIMIS).

The ministry of health had a dialogue and collaboration on health-care technology policy with national authorities through its Diagnostic and Health

Care Technical Services Section. All resulting actions were designed and discussed by the regional health technology working group established within the project and were endorsed for implementation by local government authorities. Members of the working group also lobbied district administrations to raise awareness of medical device management and of the need for an earmarked maintenance budget. In collaboration with the President's Office – Regional Administration and Local Government, we developed policy guidelines that provided a strategic direction for medical device management and that covered planning, acquisition, installation, inventory management, training, maintenance and decommissioning.

Due to economic constraints, dependence on donors and inadequate implementation of the National Health Policy, the Tanzanian government has faced problems with simultaneously maintaining various pieces of technology with different brands.

In 2011, the Director of Curative Services of the health ministry oversaw the medical device management through the Diagnostic and Health Care Technical Services Section. In 2022, the health ministry underwent reforms, which led to the establishment of a new Directorate of Diagnostic and Health Care Technical Services, which comprises three main components: (i) radiology and imaging services; (ii) health laboratory services; and (iii) healthcare technical services. This transition from a section to a directorate markedly enhanced the importance of medical device management within the ministry and is accompanied by a corresponding additional allocation of personnel and funding.

The reforms initiated by the ministry of health within the cooperation framework with partners in health led to the adoption of a systems approach to addressing problems with medical device management.

With partner SDC through Health Promotion and System Strengthening Project (HPSS) Ministry of Health incorporated equipment and infrastructure management software called Medical Equipment and Infrastructure Management Information System (MEIMIS) in health facility registry system (HFRS) in 2022. This management information system is made available nationwide. Currently, the system facilitates inventory management for all types of healthcare facilities, including hospitals, health centres and dispensaries. The software aids equipment management and supports informed decision-making on investment, technology deployment, maintenance and decommissioning. Having an online register of the operational status of all equipment greatly aids the government in managing medical devices nationwide.

In 2022 the ministry of health established the only facility in country the "National Centre for Calibration and Training" at Mirembe Institute of Mental Health at Dodoma to meet the increasing demand for medical equipment calibration services. During preparatory work for the centre in 2019, ministry of health with support from HPSS identified tools and equipment needed, develop product specifications and carry out procurement. Unfortunately, procurement of some highly specialized equipment was not feasible within



Biomedical Engineering students

the project's timeframe more funding was from other donors, for example, the Kingdom of the Netherlands, the Republic of Korea (Korea Foundation for International Healthcare – KOFIH) and UNITAID through NEST360 project.

The Government of Republic of Korea joined his efforts to strengthen management of medical equipment to biomedical engineers employees working in public health facilities specifically from 2005 whereby each year between two (2) to four (4) participants is going to Korea for a maximum of 5 months to attend for Dr. Lee Jong-Wook Fellowship training Program for mid and senior levels and when they are back some of them who demonstrated a good capacity has been deployed to be local trainers during Capacity Enhancement of Medical Technical Services (CEOMETS) training program which is conducted each year between October and November. At the same time from 2015 local training has been locally conducted whereby between 25 and 35 participants are invited to attend this CEOMETS training for four weeks duration. Up to 2024 we have total of 249 which is 59% of employed biomedical engineer personnels attended training in Korea and total of 26 which is 6.16% of Biomedical engineer personnels attended local training.

This has a big impact to healthcare technical services (HCTS) management and health technology management (HTM) improvement in Tanzania.

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Locally developed trauma assessment and treatment and training with local resources may contribute towards the reduction of preventable trauma mortalities; a case of "The Uganda Trauma Assessment and Treatment Algorithm"

Omona Alfonse and colleagues describe the development of a trauma assessment and treatment algorithm, which they used to train staff at a regional referral hospital in a rural area. Their evaluation demonstrated improved health outcomes as a result of the training.

Trauma is a major public health problem in Uganda. 25,729 crashes occurred on Ugandan roads in 2016 alone, involving 59,077 individuals with 7,558 fatalities . Road traffic accidents were the cause of injury in 50% of all trauma patients in Kampala hospitals . Overall, the total incidence of fatal, disabling, and recovered injuries in Uganda was 116/1000/ year .

A major trauma outcome study in Mulago showed a high incidence of preventable trauma deaths (59%) which was due to inadequate clinical evaluation, inadequate investigations, inadequate resuscitation, and poor interpretation of radiological results .

Any attempt to lower the burden of injuries in Uganda calls for injury preventive strategies and a robust emergency medical system to respond to managing injury victims at the scene, during transportation, and at the emergency department.

The newly established Emergency Medical Department of the Ministry of Health (initially the national ambulance system) was established with among other objectives, to ensure dedicated human resources for emergency care through training, and capacity building at Health facilities and pre-hospital level by 2025. The National EMS strategic plan also emphasized in-service training, quality improvement, and research to improve emergency care in the country.

The Emergency Departments' Human Resources (HR) mainly consist of medical officers, clinical officers, and nurses. These cadres are not formally trained in emergency medicine let alone trauma care. This in part can be attributed to the lack of such training in Uganda. A structured trauma assessment and treatment such as the Advanced Trauma Life Support (ATLS), and the Korea Trauma Assessment and Treatment (KTAT) are the most important elements in reducing preventable trauma deaths.

Standardized and structured trauma care training is still lacking in Uganda. Foreign-developed trauma care programs such as Advanced Trauma Life Support (ATLS), Prehospital Trauma Life Support (PHTLS), and the Korea Trauma Assessment and Treatment (KTAT) are not readily available and are very expensive. Having a locally developed trauma assessment and treatment program allows for the standardization of trauma care in the Ugandan context, and therefore, is paramount for successful and sustainable trauma care in Uganda. The Uganda Trauma Assessment and Treatment Algorithm (TUTATA) was developed to achieve successful and sustainable trauma care by improving the identification and treatment of life-threatening conditions, trauma resuscitation, and patient stabilization before transfer for definitive care. TUTATA aims to achieve lactate dehydrogenase and base deficit clearance at 24 hrs post-resuscitation and reduce preventable trauma deaths to less than 10% by 2040. Training ED staff and Trainers of Trainees (TOTs) will allow for scaling the training program throughout the country.

Description of activities.

The activities were divided into three phases. Phase I was the development phase, phase II was training staff of the emergency department of Masaka RRH and Phase III was for evaluation.

Phase I: Develop the Uganda trauma assessment and treatment algorithm and procurement of training ultrasound scan machine.

Volunteer trauma care specialists (trauma surgeons, emergency physicians, LJW Alumni) supported writing articles on 12 topics in trauma care with an emphasis on local literature and practice tailored towards the Ugandan health workers and available resources, making PowerPoint slides for theory training, MCQs for pre and posttests, a practical manual for emergency procedures (materials and methods). A training ultrasound scan machine was procured and is currently in use at the emergency department.

Dr. Omona Alfonse Degozone[1], Dr. Marion Nakyeyune[1], Dr. Sumaiya Nanteza[1,4], Dr. Zalwango Victoria , Ms. Auma Winifred[4], Ms. Atyang Elizabeth[4], Ms. Ijangolet Harriet[4]. General Surgeon and Head of Emergency Department, Masaka Regional Referral Hospital[1], Principal Medical Officer, EMS department, Ministry of Health[1], Pediatric Surgeon, Naguru National Referral Hospital[3], EMS KOFIH Global Alumni – Uganda[4], Prichard Denzel Kavuma, Senior Project Manager, Korea Foundation for International Healthcare[5].

Phase II: Training of staff at the Masaka Emergency Department.

All staff were trained over three weeks in TUTATA. Training involves theory and clinical skills sessions including eFAST. Trainees learned to identify and treat life-threatening conditions in a structured and organized manner, prioritizing injuries, trauma resuscitation teamwork, communication, and documentation among others. Trainees who scored 95% and above in the posttests and skills sessions were selected as trainers of trainees



Skills session – identification and treatment of airway injuries



Skills session – life saving procedures



Skills session - eFAST

Phase III Evaluation

Trained personnel were followed up at the emergency department. The WHO International Registry for Trauma and Emergency Care (IRTEC) was used to capture patient care data including vital signs, nature of injury including life-threatening injuries, and nature of treatment given from triage, resuscitation, and the post-resuscitation period. Mortality after two weeks was determined. LDH and BD clearance were meant to be used as markers of adequate resuscitation, hence the effectiveness of the training program. Mortality at two weeks was a measure of outcome. The registry data will over time be used to improve training content and methods.

RESULTS

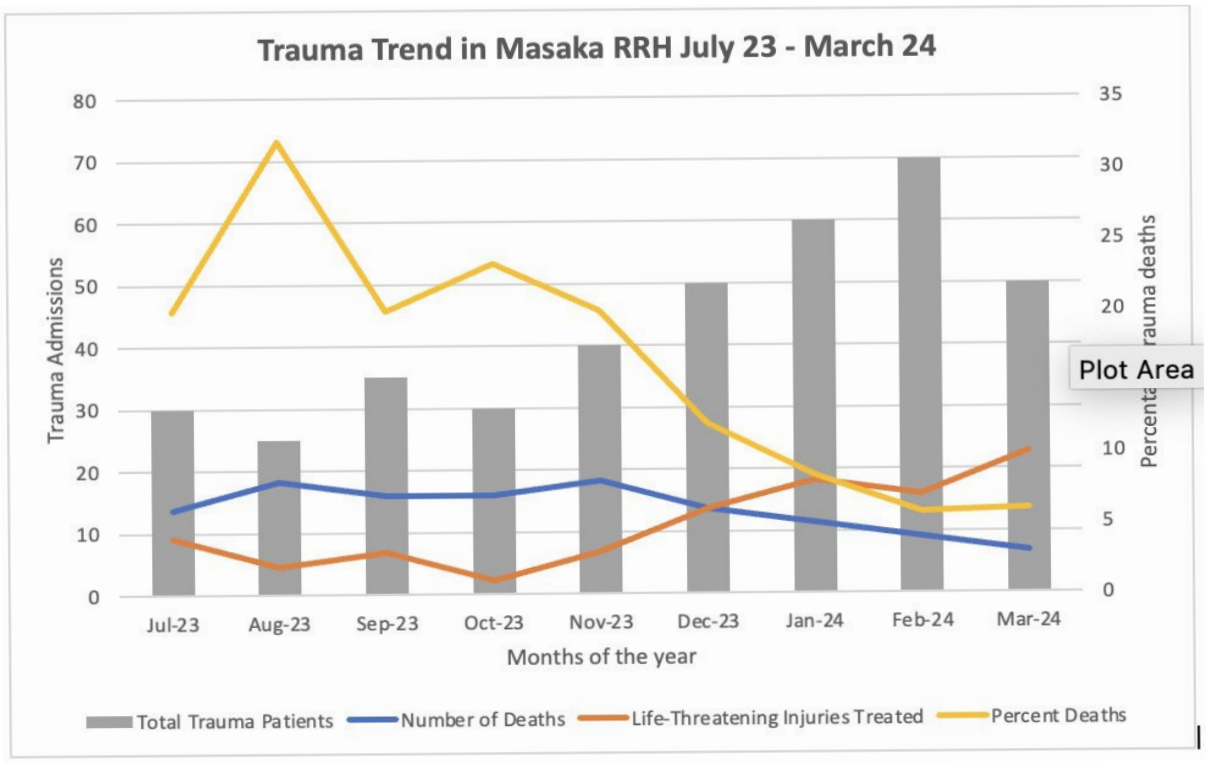
32 staff, including all staff of the emergency department, were trained. 10 were selected as trainers of trainees. In the follow-up period at the emergency department, the average number of trauma patients attended per month was 44, with peaks in January to March and the festive seasons. These peaks were due to mass casualty incidents that occurred in nearby districts.

Trauma mortality was relatively constant from July to November but there was a reduction from December to March after the introduction of TUTATA in December. The recognition and treatment of life-threatening injuries were low in the early half of this period but steadily increased after the introduction of TUTATA. Overall there was a decline in trauma mortality from 32% in August 2023 to 6% in March 2024. The result of the lactate dehydrogenase and base deficit were not obtained because the arterial blood gas machine broke down due to electrical failure, and since the cost of the reagents was very high, we did not go ahead to purchase more reagents.

DISCUSSION

Generally, simple interventions with even limited resources can save lives. in the Masaka region, the Ministry of Health EMS pilot project supported by the Korea Foundation for International Healthcare (KOFIH) has been ongoing for five years. The main areas of intervention were governance, human capacity development, infrastructure, and strengthening the referral system. Health workers were trained in basic emergency care, among other training. This intervention could be the reason for the relatively lower preventable trauma deaths at 32% compared to the national average of almost 60%.

After the trained staff returned to the emergency department, there was an increase in the recognition and treatment of life-threatening conditions such as airway obstruction, cervical spine fracture, tension pneumothorax, massive hemothorax, flail chest, cardiac tamponade, open pneumothorax, shock among others. This was due to the knowledge and skills imparted to the health workers – for easy identification, prioritizing, and effective treatment of injuries. Despite the few number of staff on each shift (3 staff; one medical officer and two nurses), the teamwork ensured effective assessment and



treatment. With the use of the point-of-care ultrasound scan, the speed and accuracy of identifying life-threatening injuries increased.

The arterial blood gas analysis failure may shed light on its usefulness in the emergency department. Considering the cost of procurement and maintenance, it may not be such a sustainable option for use in the emergency department. Its role therefore should be limited to the intensive care unit until such a time when resources are available.

Conclusion

Locally developed training is possible and less expensive with significant impact. Despite the general limitations of resources, local innovations may still impact positively on health outcomes.

Recommendations

TUTATA may be scaled up to all hospitals and health workers in Uganda.

Conflict of interest

This project was funded by the Korean Foundation for International Healthcare under the Lee Jong Wook Memorial fund in support of the Ministry of Health EMS Project in Uganda. Technical support from the EMS department of the Ministry of Health, Staff and administration of Masaka Regional Referral Hospital, and the KOFIH Global Alumni – Ugandan Chapter

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Uganda's rekindled safe motherhood journey, a case of the National Safe Motherhood Expert Committee (NASMEC).

J.P. Bagala, gives an account on the formation and achievements of an initiative that has been put in place to improve maternal and child outcomes in Uganda.

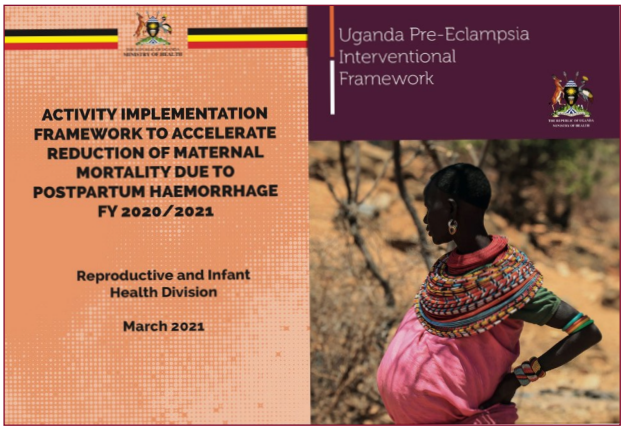
The Uganda Demographic and Health Survey report released in 2016 indicated the Uganda had a maternal mortality ratio of 336 deaths per 100,000 live births and a newborn mortality of 27 deaths per 1000 live births. Just like many other low-income countries, the 2030 SDG targets of reducing the maternal mortality ratio to 70 deaths per 100,000 live births and the newborn deaths to 12 deaths per 1000 live births was far from reach.

The advent of Covid-19 which was coupled with disruptions in service delivery meant that as a country we had to re-think our approach to stake holder engagements and ensure that innovative measures are instituted to continue service delivery. Just like elsewhere, the restrictions in human movement posed a challenge to the delivery of emergency obstetric care and we witnessed cases of delayed response which led to a spike in maternal and newborn deaths during the lock down period. The Covid – 19 pandemic tested our healthcare system to the core and we had to act differently and fast. Part of the quickest measures we had to institute was embracing virtual stake holder engagement on a routine.

This approach has been magical in quickening our response to issues affecting service delivery and keeping our ears on the ground at all times. We also had to quickly think of through the systems, processes and teams through which we would operate to reach masses on continuity of Safe motherhood service delivery. Our thinking led to the birth of the National Safe motherhood Expert Committee (NASMEC). This entity which convened the four major professional associations with a footing in safe motherhood (Association of Obstetricians and Gynaecologists of Uganda, Association of Anaesthesiologist of Uganda, Uganda Paediatric Association and the National Midwifery Association of Uganda) was officially launched in August 2020 by the Permanent Secretary of the Ministry of Health. Its core responsibility is to act as a Think-Tank to the Ministry of Health, inform policy decisions and develop system changing innovations aimed at strengthening the delivery of Safe motherhood in Uganda.

NASMEC is composed of four major subcommittees which target the leading causes of maternal death. These include the Preeclampsia, Postpartum Haemorrhage, Maternal and Newborn Infection Prevention and Safe birth subcommittees. From the onset, NASMEC was intentional in doing things differently and challenging the scholar community to make a significant contribution to the maternal and new-born care landscape. All the leads of these various NASMEC Subcommittees are subject matter expects in each of the designated areas.

One of the innovations that NASMEC started with was the development of intervention frameworks to reduce maternal mortality due to each of the leading causes of death. These frameworks stipulate targeted approaches aimed fixing service delivery gaps and ensuring that there are consented multistakeholder efforts to make service delivery better.



Snap shot of the Intervention Framework to reduce maternal mortality due to PPH and Uganda Pre-eclampsia Intervention Framework. These were developed by the NASMEC PPH and NASMEC PET Subcommittees respectively.

Part of the intervention frameworks are the annual catalytic safe motherhood campaigns. These catalytic campaigns are aimed at raising awareness against the leading cause of maternal and newborn death. They are month long activities and include activities like simulation trainings aimed to enhance health workforce skills and competencies, multi stake holder and political engagements, community engagements, mass media engagements and facility open days. These campaigns offer an opportunity to cascade the message of safe motherhood to the last mile and develop targeted interventions to address existing service delivery gaps. In the month of March of every year, NASMEC working closely with the Ministry of Health gears all its efforts towards raising awareness on safe birth, May is the Preeclampsia awareness month, August is for post-partum haemorrhage and November is designated for maternal and newborn infection prevention.

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From Top left corner: Preeclampsia champions under the NASMEC PET subcommittee raising awareness against PET in Church, on radio stations, in community and at health facilities during the PET awareness month of May 2024.

In the Quest to foster accountability for maternal and newborn service delivery, NASMEC supports the Ministry of Health in the weekly National Maternal Perinatal Death surveillance and response (MPDSR) virtual meetings. These meetings take place every morning at 7:30 am on Monday and Thursday and convene on average 500 participants from across the country to audit maternal deaths that have transpired across the country. These accountability meetings offer an opportunity to identify service delivery gaps and bridge them in real time, share learning among healthcare workers from the different Local Maternity and Neonatal Systems in the country and also share updates on the status of service delivery in the country. at the end of every year the ministry compiles the Annual MPDSR report which is a compilation of the maternal and newborn landscape in that particular year.

At the foundation of the weekly MPDSR meetings are the weekly maternal and newborn analytics. The statistical extracts including the mortalities, near misses and their causes which happen in any facility across the country. This measure enables the Ministry of Health to map the various deaths that happen and identify preventable measures that need to be instituted in order to avert other preventable deaths. These meetings are



Captions of the some of the National MPDSR Reports Launched in the past years.

attended by senior officials from the Ministry of Health, frontline healthcare workers, officers from the district local government, development and implementing partners, academics, researchers and civil society organisations. These analytics are also shared with the members of parliament who are encouraged to support their respective constituencies to address existing gaps.

All these statistics are compiled every year into the National MPDSR report which is launched during every Annual National Safe motherhood Conference (NSMC). The NSMC is by far the largest gathering of stakeholders working in the safe motherhood space in Uganda and on average convenes 700 – 800 safe motherhood Champions every year. These champions range of prominent political figures, heads of organisations, academics, professional bodies, councils and frontline healthcare workers. The NSMC take place in the last week of October every year with the next one due from 28th to 31st October 2024 at Speke Resort Munyonyo, Kampala. At the end of every NSMC, strategic national resolutions are set which contain implementable actions aimed addressing gaps to improve service delivery. During this conference, the Ministry of Health also awards some of the exceptional performers in safe motherhood during the National Safe motherhood Awards Dinner.

In the quest to bridge existing gaps in safe motherhood skills and knowledge, NASMEC supports the Ministry of Health in coordinating monthly safe motherhood webinars. These learning sessions which are convened by the NASMEC subcommittees give and opportunity for safe motherhood experts from across the country to share



The Hon. Minister of Health and the Permanent secretary participate in the Launch of the PPH Campaign in various Local Maternity and Neonatal Systems.



An extract of the weekly maternal and newborn analytics discussed during the National MPDSR Meeting every Monday and Thursday.

updated knowledge and information including latest research evidence in Safe motherhood. The webinars have been running every month since 2020.

The NASMEC webinars also offer an opportunity for latest evidence and research in Safe motherhood to be shared with the wider Safe motherhood fraternity in Uganda. In order to structure safe motherhood Research,



An Extract of one of the NASMEC Webinars which take place every Month

NASMEC championed the development of the National Safe motherhood Research Agenda. The purpose of this agenda is to guide research performance in institutions, research centres, patient centred research in facilities and also to promote its utilisation to inform both policy and practice.

Previously it was very evident that the publication and utilisation of safe motherhood research was low. Stemming from the NSMC, NASMEC has embarked on the efforts to establish the Safe motherhood Journal. This space will offer an opportunity for safe motherhood researchers, scientists and academics to share best practices which are shaping safe motherhood in Uganda with not only the workforce in Uganda but also with other countries across the globe. This will definitely position Uganda as an expeller in reviving the safe motherhood agenda globally.

In general, NASMEC's role in reshaping the safe motherhood landscape in Uganda has taken a systems approach. At the centre of this system are the people and their ability to enthusiastically embrace change. Establishing leadership, governance and accountability initiatives like the Local Maternity and Neonatal Systems has enabled people to be brought on the table of change and challenged each other to do things differently. 15 regional Local Maternity and Neonatal Systems have been established across the country. These platforms serve as catalytic service delivery mechanisms aimed at ensuring the gaps in service delivery are identified and addressed in real time. These local maternity and Neonatal systems meet every week and they discuss the delivery of safe motherhood services in their respective regions.

As I concluded, the various efforts invested by the Ugandan Ministry Health have given a Glimpse of Hope in the journey to avert preventable maternal and perinatal deaths. It's noteworthy that the SDG targets of reducing maternal death to 70 deaths per 100,000 live births and the Newborn death to 12 deaths per 100,000 live births are definitely in site.

PRE-ECLAMPSIA FACT SHEET

Act Early! Screen Early!

1. What is pre-eclampsia?

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

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

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

3. What causes pre-eclampsia

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

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

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

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

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

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

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

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

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

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

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

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

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

Women who have a new partner fathering that pregnancy

Women who conceive through assisted reproductive technologies (IVF)

Etc.

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

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



6. Is there a cure for pre-eclampsia?

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

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

Immediate complications of pre-eclampsia to the woman include:

Cross-Border Surveillance in Pandemic Preparedness: The East African Case

Francis Kakooza describes how integrating surveillance systems, facilitating information sharing, building capacity, and engaging communities, in the East African region can enhance the regions ability to detect and respond to health threats.

Introduction

Throughout history, the pattern of infectious diseases outbreaks has been shaped by regional and international migration inspired by trade and commerce . This has been escalated by economic and social-cultural practices such as pastoralism, tourism to mention but a few. Due to the emergence and resurgence of infectious diseases in an interconnected world, the threat of pandemics has gained prominence and thus a global drive for all countries to strengthen mechanisms for effective cross-border surveillance and response .

Historical examples like the 1918 influenza pandemic, the H1N1 pandemic in 2009, and the COVID-19 pandemic underscore the need for robust cross border preparedness and response plans . These pandemics have shown that early detection and rapid response are critical in controlling disease spread and minimizing societal disruption. As a result, a global health security framework was formalized in the 2005 as the International Health Regulations, focused on rapid detection and response . Cross-border surveillance involves collaboration between neighboring countries to share data, harmonize reporting standards, and coordinate response activities of health-related data across national borders . The surveillance system monitors the spread of infectious diseases and identify potential public health threats that may arise due to the movement of people, animals, and goods between countries. Points of entry (PoE) airports, ports and ground crossings play a key role in the international spread of diseases through persons, conveyances and goods. East Africa, with its porous borders and diverse ecosystems, faces unique challenges and opportunities in this regard.

Since the creation of the East African Community bloc, there has been increased traffic due to free movement of people and goods across the borders of Partner States in the region. This has led to the development of local urban centers at border points and population influx. The increased traffic, combined with inadequate cross-border outbreak coordination mechanisms and climate change have consequently resulted into easy spread of diseases. This situation is exacerbated by the ecological distribution of communicable diseases and the porous nature of the borders.

With the accelerated process of regional integration reflected by the new member states, establishment of the East African Customs Union and the EAC Monetary Union its logical that measures are put in place to ensure that cross-border transmission of diseases does not interfere with the current process of establishing a sustainable East African economic bloc.

This article describes the east African cross-border surveillance efforts, challenges and recommendations for strengthening cross-border surveillance delves into the role of cross-border surveillance in enhancing pandemic preparedness in East Africa, highlighting its impact

The East African Context;

The East African Community (EAC) is a regional economic community comprising six partner states: the Republics of Burundi, Kenya, Rwanda, South Sudan, the United Republic of Tanzania, and the Republic of Uganda . Its headquarters are in Arusha, Tanzania. 150 million citizens live in the EAC. The region is characterized by high mobility due to trade, tourism, and migration, increasing the risk of cross-border disease transmission. Moreover, the presence of numerous refugee camps and internally displaced persons adds complexity to disease surveillance efforts. Climate change, fragile heath care system among other vulnerabilities lie in the geographic belt prone to epidemic prone diseases hemorrhagic diseases.

East Africa has faced significant infectious disease outbreaks, impacting public health and stability. Uganda reported 3 major Ebola cases in 2000-Gulu, Budibugyo-2019 and 2022 in Mubende . Cholera outbreaks were severe in Kenya (4,835 cases, 37 deaths in 2019) and Tanzania (33,000 cases, 550 deaths from 2015-2018). Kenya's RVF outbreak in 2006-2007 caused 684 cases and 155 deaths ; Tanzania's 2007 outbreak had 309 cases and 144 deaths. Measles cases surged in Kenya (3,460 cases, 27 deaths in 2019). COVID-19 significantly impacted Kenya (200,000 cases, 3,900 deaths) and Uganda (75,000 cases, 1,300 deaths) by mid-2021. These statistics underscore the need for effective public health measures .

Current Cross-Border Surveillance Efforts

East African Community Border health initiatives;

The East African Community (EAC) has recognized these challenges and taken steps to enhance regional health security . The EAC's Health Department works closely with member states to implement joint surveillance and response activities. The East African

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Community Treaty, Articles 108 and 118 mandates the Community to coordinate the control of human and animal trans-boundary diseases. Partner states have States developed the regional plan of action for the control of human and animal trans-boundary diseases in East Africa (2007-2012).

The community has intensified regional efforts to enhance cross-border disease prevention and control. Some of the notable initiatives include the East African Integrated Disease Surveillance Network (EAIDSNet) , established in 2000 with support from the Rockefeller Foundation, aimed at generating quality epidemiological information for early warning and response to outbreaks. In 2005, the African Field Epidemiology Network (AFENET) was launched with support from the CDC and various ministries to develop a pool of field epidemiologists. Additionally, the East Africa Public Health Laboratory Networking Project (EAPHLNP) is coordinated by the East, Central, and Southern Africa Health Community (ECSA-HC) in collaboration with the CDC, WHO, and EAC Partner States. Earlier initiatives, such as the WHO inter-country surveillance project (2004-2007), focused on collaboration among countries in the Great Lakes bloc. These efforts highlight the crucial role of national and international agencies in establishing a robust cross-border surveillance system.

Creation of cross border surveillance zones;

The Health Desk at the EAC secretariat in collaboration with line ministries, formed the Regional Surveillance Technical Working Group (RSTWG) and the respective Country Surveillance Technical Working Group (CSTWG) of EAPHLNP . Working with the Ministries of Health, established cross-border zones through mapping high-risk districts based on traffic patterns and historical occurrences of disease outbreaks. This proactive approach aims to enhance surveillance and response capabilities in border regions, where movement of people and goods can facilitate the spread of infectious diseases. By identifying and prioritizing these zones, the ministry can target resources more effectively, implement tailored health interventions, and strengthen collaboration with neighboring countries to mitigate public health risks. This initiative underscores east Africa's commitment to proactive health management at its borders, ensuring readiness to address potential health threats before they escalate.

The 2023-2028 EAC roadmap for cross-border health

The EAC led the formulation of the 2023-2028 roadmap for cross-border health, aimed at improving public health emergency readiness and response throughout the region. This effort prioritizes the implementation of an EAC Minimum Package of Essential Health Services at Points of Entry (PoEs), the introduction of Health Border Mobility Management (HBMM) training, and the establishment of Standard Operating Procedures (SOPs) for Community Event-Based Surveillance (CEBS) and Risk Communication and Community Engagement (RCCE) in border communities. Stakeholder consultations will focus on strategies for disseminating communication materials to enhance project visibility and ensure the sustainability of its outcomes.

Regional Electronic Cargo Tracking System (RECTS)

The Uganda Revenue Authority employs the Regional Electronic Cargo Tracking System (RECTS) with GPS to monitor truck movements from entry to exit points, preventing cargo dumping and trade route risks. During COVID-19, the National COVID-19 Taskforce collaborated with the Ministry of Trade and URA to leverage RECTS for monitoring compliance with health guidelines at borders. The system tracked adherence to social distancing and hygiene measures, detected unauthorized entries, and facilitated real-time feedback to truck drivers crossing borders. The Central Command Targeting Center ensured continuous monitoring of border activities, enhancing surveillance and response capabilities during the pandemic.

Uganda's Experience in setting up Border Health;

Conduct the baseline assessment for point of entries and activation of the points of entry;

In August 2019, Uganda established a multi-sectoral committee with representatives from the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Ministry of Health (MOH), Infectious Diseases Institute (IDI), World Health Organization (WHO), Ministry of Water and Environment (MWE), and District Health Officers. This collaboration aimed to enhance public health emergency management at points of entry (PoEs). The assessment revealed that Uganda has 77 PoEs, 54 of which are gazetted, and only three are major PoEs. Key gaps identified included porous border management, insufficient human resources, lack of SOPs, inadequate PoE capacity, and the absence of a National Border Health Unit in the Ministry of Health. These provided a baseline for improvement of point entry IHR capacities.

Identification of staff and capacity building of the Points of entry;

Staffs were identified from the nearest health facilities and reassigned additional roles to support the respective points of entry as screeners and in-charges. These individuals were trained in cross-border surveillance, basic laboratory diagnostics, and field investigation. Subsequently, they were given the opportunity to participate in the Field Epidemiology and Laboratory Training Program (FELTP), which is instrumental in equipping the region's health workforce with the necessary skills. The training was completed successfully, with ongoing mentorship to improve the capacity of the staff to manage the points of entry effectively.

Point of entry Partner mapping;

To address identified gaps, the Ministry of Health's technical group mapped partners using the 4W matrix, including both governmental and non-governmental entities. These partners provide crucial technical, logistical, and financial support to strengthen points of entry (PoEs). Their collaboration ensures a coordinated response and enhances PoEs' capacity to manage public

health threats effectively.

Develop site-specific multisectoral, public health emergency response plans (PHERPs) and associated standard operating procedures (SOP) for 2 PoEs (Elegu and Arua Airport).

To enhance preparedness and response capabilities, site-specific multisectoral Public Health Emergency Response Plans (PHERPs) and Standard Operating Procedures (SOPs) have been developed for Points of Entry (PoEs). These plans are aimed at establishing a coordinated strategy across various sectors including health, transportation, immigration, and security. The PHERPs outline clear roles and responsibilities during public health emergencies, detailing procedures for detection, isolation, and management of cases and standardized communication protocols, data sharing, and resource allocation to ensure effective collaboration among stakeholders. Tabletop exercise was conducted to familiarize PoE staff with these plans, emphasizing the importance of rapid response and adherence to protocols. By implementing these tailored PHERPs and SOPs, PoEs capacities have been improved to mitigate health risks and respond promptly to emerging threats.

Strengthening Cross-Border Collaboration;

The national border health team conducted meetings to set up agreements, such as memoranda of understanding, to formalize cross-border public health information sharing and collaboration between Uganda, South Sudan, and the Democratic Republic of the Congo (DRC). These agreements establish a cooperative framework, ensuring all parties align in managing public health threats. Representatives from each country develop standard operating procedures (SOPs) for coordinated responses to public health emergencies, facilitating timely and accurate information exchange.

The team also built the capacity of points of entry to conduct local-level meetings, such as point of entry staff border health meetings. These meetings adapt national guidance to border regions, providing a platform for local health officials to share updates, discuss challenges, and ensure current contact information. By maintaining communication and collaboration at both national and local levels, the involved countries enhance their collective ability to detect, respond to, and manage cross-border public health threats efficiently.

Results for Point of entry capacity built over time following the IHR assessment.

Challenges in Cross-Border Surveillance

Despite the progress made, several challenges persist in implementing effective cross-border surveillance in East Africa.

1. Resource Limitations;

Limited financial and human resources pose significant challenges. The established points entry countries in the region struggle with underfunded health systems, which can impede surveillance activities. Sustainable funding mechanisms and international support are needed to address these resource constraints.

2. Data Sharing and Privacy Concerns.;

Sharing sensitive health data across borders raises privacy and security concerns and doesn't meet Establishing clear protocols and agreements for data sharing, while ensuring data protection, is crucial. Trust between countries and adherence to international guidelines.

Recommendations for Strengthening Cross-Border Surveillance:

1. Digital Health Technologies;

Digital health technologies, such as mobile health applications and electronic health records, can revolutionize cross-border surveillance. These technologies enable real-time data collection, analysis, and sharing, enhancing the speed and accuracy of surveillance activities. Investing in digital health infrastructure and training is key to leveraging these technologies.

2. One Health Approach;

The One Health approach, which recognizes the interconnectedness of human, animal, and environmental health, is critical for effective surveillance. Integrating One Health principles into surveillance systems ensures a holistic approach to health security. Collaborative efforts between the health, veterinary, and environmental sectors are essential for addressing zoonotic disease threats.

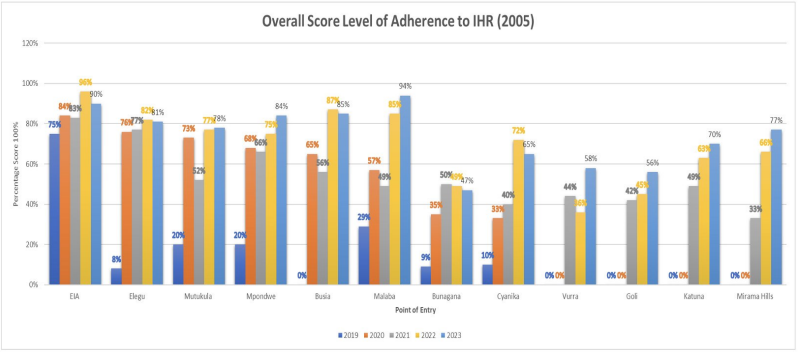


Figure 1: A bar graph showing a comparison of the levels of adherence to IHR (2005) performance of all the Twelve PoEs for 2019, 2020, 2021, 2022 and 2023 respectively.

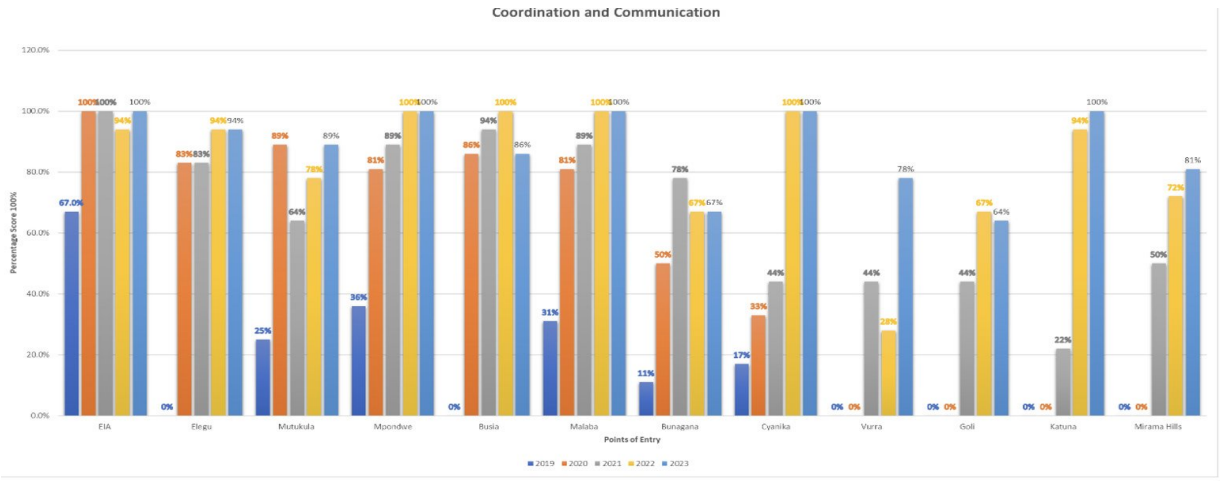


Figure 2: A bar graph showing a comparison of the levels of adherence to IHR (2005) in the capacity of communication and coordination in all the twelve PoEs for 2019, 2020, 2021, 2022 and 2023 respectively.

3. Public-Private Partnerships

Public-private partnerships can provide additional resources and expertise for cross-border surveillance. Collaborating with private sector entities, such as technology companies and pharmaceutical firms, can enhance surveillance capacity and innovation. Establishing mutually beneficial partnerships is crucial for sustainable surveillance efforts.

Conclusion

Cross-border surveillance is a cornerstone of pandemic preparedness in East Africa. By integrating surveillance systems, facilitating information sharing, building capacity, and engaging communities, the region can enhance its ability to detect and respond to health threats. Policymakers, educators, and the health fraternity must work together to address challenges and leverage innovative approaches. Strengthening cross-border surveillance is not only vital for regional health security but also for global health resilience.

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To Rwanda from Japan, and back: "Creative Health" BODY workshops in urban and rural primary schools

Yamawaki et al describe a unique method of training that was developed in Japan that is intended to empower children with a sense of agency and resilience. They describe how it was implemented at two schools in Rwanda.



Students at one of the schools in Rwanda participating in activities

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Background

The Creative Health project is a series of classroom, youth-led participatory exercises conceived, piloted, and implemented in Fukushima Prefecture, Japan in the aftermath of the 2011 Great East Japan Earthquake, the tsunami it caused, and subsequent Fukushima Daiichi nuclear power plant disaster.[1] Uncertainty and anxieties surrounding possible health effects of low-dose environmental radiation may disproportionately affect families with young children, who are vulnerable to a higher mental health burden following natural or man-made disasters.[2] The project, created by community residents, local teachers, and university researchers, aims to foster community resilience as a protective measure and component of post-disaster recovery efforts.

Creative Health includes three workshops, each with specific themes and activities: BODY, FOOD, and ACT. The BODY workshop began as a way for children to learn how facts about blood and its circulation were discovered, and how to apply those facts, for example, by finding and measuring one's pulse. The FOOD

workshop, with a focus on anemia, highlights local, culturally relevant foods and connects food with health, community, and nutrition through drawing and cooking activities. The ACT workshop underpins the other two workshops by engaging children in participatory theatre, wherein children produce and act in short, self-directed performances to ideate the roles of food in their communities. In these workshops, adults provide a safe space and educational tools for children to work independently, and then actively listen to the children.[2] Lessons learned from the Creative Health project are intended to empower children with a sense of agency and resilience. By engaging in these workshops, children can develop a deeper understanding of their bodies, the importance of nutrition, and their own roles in shaping the communities to which they belong.

The Sendai Framework for Disaster Risk Reduction 2015–2030 recognizes children as important stakeholders and active agents in a community under crisis. The Framework highlights children's unique capacity to contribute to risk reduction, influence decision-making processes on behalf of their communities, and their ability to communicate and bring meaningful changes in behaviour and attitudes.[3] The Creative Health project was developed in the spirit of the Sendai Framework, with the complementary aims of fostering children's ability to voice their own, independent opinions and providing adults with tools and opportunities to truly listen to children in their communities.

Building on the success and principles of the Creative Health project in Fukushima, the Non-Profit organisation Think about Education in Rwanda (NPO-TER) has started to adapt these workshops to an African context. NPO-TER aims to improve child education and health in Rwanda. The Creative Health project's aim of empowering younger generations in the wake of drastic, disaster-related events is particularly relevant in the context of the 1994 Rwandan genocide and its country-wide implications for health, education, and community development programmes. ACT trials were previously reported in Africa Health.[4] Here, we report on the BODY trials conducted after online training with NPO-TER staff and local teachers.

Workshop Trials in Rwanda

The BODY trials were conducted at two Rwandan schools in February, 2024: Umuco Mwiza Primary School in the capital city of Kigali and Ikirezi Primary School an hour to the east in rural Muhazi District. Twenty elementary school students participated in the BODY workshops at each school. In this trial, the Creative Health project was implemented by a collaborative team of a Japanese researcher and a local Rwandan doctor and a local nurse. In the future, we aim to transition Creative Health from local healthcare professionals to local elementary school teachers, with periodic observation by Japanese staff.

At Umuco Mwiza Primary School in Kigali, the participating students were 14 boys and 6 girls, with 5 in the fourth grade, 9 in the fifth grade, and 6 in the sixth grade. Staff who conducted the BODY workshop at Umuco Mwiza included one main facilitator (the lead author), one doctor from NPO-TER (the fourth author), one auxiliary staff member, and three teachers from the school. The children were divided into four groups of five, with three teachers from Umuco Mwiza and one NPO-TER staff member assigned to each group as facilitators.

At Ikirezi Primary School in Muhazi, the participating students were 12 males and 8 females, with 5 in the fourth grade, 8 in the fifth grade, and 7 in the sixth grade. The implementation team was similar in composition to that of Umuco Mwiza Primary School, with a main facilitator (the lead author), a doctor (the fourth author), a nurse from NPO-TER, and auxiliary staff from NPO-TER. The children were divided into four groups of five, with four teachers from Ikirezi acting as the adult facilitators for group activities.

The BODY workshops were structured as follows: first, an initial discussion of the body's fundamental structures led by the main facilitator and medical staff, followed by students working in their groups and then sharing discussion results with the whole class, using a visual diagramming aide. After the preliminary session on basic human biology, the workshop shifted gears to focus on the history of science and medicine, using storyboard illustrations to connect historical scientific figures to contemporary medical knowledge. Finally, with some didactic instruction, participants learned how to measure their own pulse and create a histogram using everyone's results.

The first session, taught by the medical staff from NPO-TER, introduced anatomy and physiology of cardiovascular circulation, focusing on the heart, lungs, and blood. Following this lesson, students moved to their breakout groups to discuss the interrelatedness of these organ systems. Group discussions were followed by students writing words and phrases from their discussion on sticky (e.g., Post-it®) notes, then arranging the notes on a pre-printed Venn diagram. The Venn diagram is a powerful pedagogical tool with which children can explore the mutually inclusive and exclusive characteristics of whatever they are studying.[5] Participants used reasoning and logic to decide where to place their sticky notes on the Venn diagram.

The second session focused on significant historical figures in science and medicine. From a set of A3-sized storyboards and A4-sized explanation sheets about the lives and work of 12 historical figures, each student group selected 1 historical figure to learn about and discuss. Thereafter, representatives from each group presented their chosen historical figure to the rest of the class. This took approximately 40 minutes in total. Finally, students learned how to monitor their pulse. NPO-TER physicians and staff demonstrated the procedure, then students in each group paired up to measure and record each other's heart rate over a one-minute observation time, and collectively filled out a histogram with the results.

How did adults in Rwanda prepare to guide school children through a Creative Health BODY workshop that was developed in Japan? A fortuitous byproduct of the COVID-19 pandemic was widespread adoption of remote education technologies. Using an online training of trainers ("ONLINE ToT") format developed with other international partners, Fukushima Medical University

hosted a Zoom videoconference with NPO-TER and academic colleagues in Rwanda. This conference was nominally built around PowerPoint slides that illustrated BODY workshop guidelines with photographs from successful workshops held in Japanese elementary schools. Online, this powerpoint was less didactic and more interactive, with Rwandan colleagues role-playing what children would do through each step of a BODY workshop.

Student Responses: Comparing Rwanda and Japan

A major takeaway from the BODY workshop trial in Rwanda is the significant impact of presentation style on developing children's confidence and sense of self. Rwandan students were encouraged to articulate thoughts and ideas in their own words, supporting the Creative Health project's goal of fostering independent expression of opinions about health. This manifestation of student autonomy and decision-making stands in contrast to how the workshop has thus far proceeded in Japan, where students typically read directly from scripts already written for each historical figure. Moreover, the interactive activities in Rwanda led to highly engaging discussions among students, allowing them to raise questions and insights that might not have surfaced in a traditional classroom setting, where authority and knowledge typically rest with the instructor rather than the pupil.

The Rwandan BODY workshop was the first time a majority of participants had ever learned about their own physiology and taken their own pulse. It was therefore necessary to devote additional time to thoroughly explain relevant physiological mechanisms and demonstrate the procedure multiple times in order for the students to develop self-confidence to independently replicate the process. The time used to explain cardiovascular aspects of the human body at the beginning of the workshop was an addition to the project as piloted in Japan, where such details were more familiar to students. Implementation of Creative Health could thus contribute meaningfully to the curriculums of these schools.

Adapting Educational Materials – Kamishibai

The workshop materials were originally piloted in Japan, where storyboards have a long history in education and entertainment. "Kamishibai" (literally, "paper theater") began as a Japanese storytelling art performed in and around streets. It subsequently developed into an early childhood education resource that combines art and information in an engaging and interactive format. Kamishibai uses storyboards accompanied by explanatory texts that a performer uses to convey a story.[7] The purpose of using kamishibai storyboards and storylines in the BODY workshop is to engage students' imagination beyond what passive reading of text might accomplish. Storyboarding necessitates an understanding of how a topic can be brought to life and as a key step, it involves students as protagonists throughout the process.

Teachers in the pilot workshops were familiar with kamishibai and how to organise the presentation materials; however, as kamishibai is largely a product of Japanese culture, Rwandan colleagues had fewer preconceptions about how to use the materials before the start of each workshop session. There also were urban-rural disparities in English-language comprehension between the two schools. Ikirezi Primary School is in a rural district with lower levels of English-language proficiency, rendering the implementation of the materials more challenging. Consequently, group facilitators and NPO-TER staff explained the information sheets to the students in the local Rwandan language. We are currently redesigning the teaching materials to be a better fit, tailored to the local language and teaching style. The revised version for use in Rwanda will incorporate double-sided storyboards, with illustrations for the audience on one side and explanatory text on the other side, for reference before and, as necessary, during a student performance.

Discussion and Conclusion

The Creative Health BODY workshop was piloted in Japan and subsequently shared with Rwandan collaborators, who adapted its materials and methods for children in two primary schools, urban and rural. Introductory explanations about human cardiovascular anatomy and physiology were followed by letting subgroups of students chose a person from the history of medical science, which they discussed as a group and then presented to the whole class. Pre-printed materials in English provided an impetus for Rwandan students to use their own words during their discussions and presentations. Through this, Creative Health project developers see Rwandan students as role models for Japanese students to emulate, as details from Rwanda are shared with Japanese colleagues. The project provides a platform for international exchanges in which global health and local concerns are encountered.[8]

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This Africa Day: A Beacon of Hope - Dr. Fabruce's dedication to Madagascar

He aims to develop a better medical future for his fellow citizens and has already outlined a plan for the construction of a new hospital.

TOAMASINA, Madagascar, May 24, 2024, Dr. Fabruce Ramaherimamonjy epitomizes the African Union's theme of this year's Africa Day: Educate an African fit for the 21st Century. He remains steadfast in his commitment to prioritizing medical education to elevate the standards of healthcare for his fellow Malagasies. But it wasn't always his life plan.

Dr. Fabruce began his medical journey with just a simple kit gifted to him upon his graduation, housing a humble headlamp that would become his steadfast companion. Fast forward 15 years, and he stands as the visionary behind Bethany Hospital Centre in Tamatave. Today, he sets his sights on the horizon, envisioning a future adorned with elevated levels of medical education.

Born and raised in the northern region of Madagascar, Dr. Fabruce harbored a grand ambition of becoming an engineer. He had a knack for fixing things, but when he applied for engineering school, he faced rejection. Never did he consider medicine as an alternative path. It wasn't even on his radar. In fact, he discouraged a friend who nursed dreams of becoming a doctor, warning him, "You'll waste time; the training takes eight years." However, both men submitted their applications and were accepted to medical school.

After seven years, he finished his general medical studies and decided to take a gap year to devote more attention to Bible studies. "Everything changed with a call from my mother," according to Dr. Fabruce. "She informed me of an opening at the medical school in Majunga (Northern Madagascar), urging me to apply within a month." That would mean he had to study for another five years to specialize as a surgeon.

He told himself, "If I can't find a place to stay, I'll continue my sabbatical." Upon arrival, the Pan-African Academy of Christian Surgeons (PAACS) warmly welcomed him on the first day, swiftly arranging accommodation.

Supported by PAACS, which often dispatched its students on missions abroad, including to Mercy Ships, he began on a new chapter. "In 2016, I joined the Mercy Ships mission in Tamatave, devoting three months to serving in the hospital, assisting doctors in plastic surgery and fistula treatments," said Dr. Fabruce. Following these operations, Dr. Gary Parker, a long-term and well-respected volunteer maxillofacial surgeon with Mercy Ships, took his laptop and provided extra lessons to Dr. Fabruce.

During these sessions in the operating room, Dr. Parker said to him: "We thought Madagascar's healthcare system was improving since our last visit, but it appears progress has been limited. I know you are planning to do your practice in another nation, but I would urge you to consider returning to serve in your own country."

Initially planning to dedicate two years to Cameroon after his time with Mercy Ships and then transition to Congo, his trajectory shifted. Following dialogues with Dr. Parker and heartfelt conversations with patients' families, he recognized the urgent needs within his homeland.

Dr. Fabruce recalled: "One poignant memory that remains vivid is the case of a young boy whose head had become fused to his shoulder due to a burn injury. These are preventable medical conditions, not inherently complex. Yet, no one in Madagascar could provide assist."

Inspired by the wise words of Dr. Parker and driven by the daily medical challenges he faced, Dr. Fabruce sought sponsorship to shape his ambitious plans.

"In 2018, we turned a mere warehouse into the Bethany Hospital Center in Tamatave. Today, we offer 35 beds, with a team of 13 dedicated doctors, 8 of whom are full-time, and supported by a staff of 70," he said.

He takes pride in what he has accomplished, even though the maternity ward is housed in containers, as the land is not his own. The equipment he works with is outdated and discarded in the Western world, but it still serves its purpose in his hands.

At the back of the hospital, he has a large shed he jokingly refers to as his personal Amazon, given the number of cardboard boxes. He said: "Inside are obsolete medical supplies that may still prove useful. Some items' purposes remain a mystery to me, as I am yet to acquire that knowledge." And that, according to him, is where the problem lies: lack of knowledge.

He is in harmony with this year's Africa Day theme - Educate an African fit for the 21st Century: Building resilient education systems for increased access to inclusive, lifelong, quality, and relevant learning in Africa.

Dr. Fabruce is determined to continue his own mission: serving his country.

He aims to develop a better medical future for his fellow citizens and has already outlined a plan for the construction of a new hospital. He is adamant about prioritizing education to elevate the medical standards in Madagascar.



Dr. Fabruce Ramaherimamonjy

"Inspired by Dr. Parker's insights, I remain steadfast in my commitment to prioritizing education as the foundation for raising Madagascar's medical standards," Dr. Fabruce added.

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From Ambition to Achievement: The Role of Effective Mentoring

Tamale Elvis gives an account of what mentorship is using his journey as an example

Mentorship often likened to a guiding light on one's professional journey, plays an instrumental role in personal and career development, with a national mentoring month dedicated to it[1]. In personal and professional growth, mentoring stands as an unwavering cornerstone[2]. It embodies a powerful exchange of wisdom, experience, and support between individuals, with the career mentor serving as a beacon of knowledge and the mentee as the eager recipient. Mentorship is more than just a professional interaction; it's a symbiotic bond that transcends the confines of corporate corridors or educational institutions. It thrives on trust, nurtures potential, and empowers individuals to unlock their latent talents[3]. Whether you're a seasoned professional seeking to impart your insights or a budding talent yearning for guidance, effective mentoring programs can transform lives and foster a culture of continuous learning and improvement.

One may ask oneself, why read about this topic? Does it matter? All I can say is you can never know until you start. What's mentorship? Who is a mentor? Why do we need mentors? How do I get a mentor? Is mentorship even important? These are questions that kept ringing in my mind as I heard about this mentorship subject. Throughout my teenage years, I was just cruising through life. I had ambitions and goals, but I thought I could take this on by myself. I believed that if I were to be successful, I needed to face my challenges head-on by myself. However, when the going got tough, I turned to one or two peers whose advice was exactly what my ears wanted to hear. These were the very thoughts that lingered in my mind that I was afraid to act upon, but now feeling justified after a chat with a friend.

I will surely admit that most times, this advice led to a ditch that I was going to land in regardless of whether I sought it or not. Don't get me wrong, peer advice isn't entirely wrong, but most times, we go to peers who will give us a go-ahead rather than those with positive criticism. It is encrypted early in our young minds to have a role model; someone we want to be like when we grow up. For many of us medical students, names like Ben Carson come to mind. Then we grow up and realize the gap between their reality and ours, which leaves us in an oblivion of the next course of action. With almost no role model, we cruise through our formative years at university making unquestioned life decisions and with little accountability.

It is against this background that I realized that without a role model, life becomes a series of cyclic decisions, reliving the same mistakes we continually make in various life aspects. This realization hit deep and intrigued me, with one question kept ringing: How do I navigate these formative years with precision? How do I achieve the best version of myself and bring about positive change in the world? I didn't want to arrive at my destination with countless scars as emphasized in multiple successful stories. While digging deep through successful stories over the internet and biographies, one thing kept resonating, and this was: MENTORSHIP. Galileo Galilei once said, "You cannot teach a man anything; you can only help him discover it within himself." A mentor is more of a personal guide to becoming the best version of oneself. A mentor provides a sure guide on the path of self-discovery, someone to count on in this journey.

The essence of mentorship lies in a dynamic and transformative relationship that transcends traditional notions of education and professional development[4]. At its core, mentoring networks involve seasoned and knowledgeable adults, the mentors, guiding and nurturing the growth of a less experienced counterpart, the mentee[5]. It is a reciprocal exchange of wisdom, support, and expertise, bound by trust and mutual respect. Effective mentoring is an invaluable compass in professional development, providing mentees with direction, insight, and a profound sense of purpose[2].

The positive impacts of the mentorship process reverberate throughout one's career and personal life. In the professional sphere, mentoring networks offer mentees a unique opportunity to tap into the reservoir of their mentor's experience, gaining access to invaluable insights and lessons learned from the mentor's journey[6]. This guidance accelerates the mentee's growth and helps them navigate challenges and confidently seize leadership opportunities. Mentorship fosters a culture of continuous learning, encouraging mentees to expand their horizons, acquire new skills, and refine existing ones[7]. Beyond the tangible benefits, effective mentoring instills a sense of motivation and empowerment, boosting mentees' self-esteem and resilience. It nurtures a sense of belonging, as mentees feel supported and valued, fostering a professional ecosystem where knowledge is shared, talents are honed, and aspirations are realized[8].

What matters is where you see yourself and who you want to become, not becoming like your mentor in the role model mentality that perpetuates the same mistakes. Instead, it's about being the best version of yourself

Tamale Elvis is a young Ugandan medical doctor, a proud alumnus of Mbarara University, Uganda, and the founder of Medxmentor, a hybrid mentorship program that supports the holistic development of undergraduate health sciences students through capacity development and access to mentorship.



Mentors and Mentees from Mbarara University of Sceince and Technology

with the full expression of your potential. Mentorship avails an avenue to navigate our formative years with accountability, allowing us to think through key decisions in life—academics, social, spiritual, career, and family. We get to avoid some of the mistakes our predecessors succumbed to, and we can be a better generation.

From the day I took a step forward to explore this aspect in my personal life and extend the opportunity to others through a founded mentorship program: Medxmentor, I have had the rare opportunity to explore facets of its impact on my life. Hearing the testimonies of mentors and mentees over the last two years in this program, I can't help but esteem the role mentorship can play not only in guidance but also in transformative learning that explores beyond the aspects of a classroom, which I think we need in our current education setting if we are to build holistic professionals. Effective mentorship, through mutually sharing knowledge and insights, can accentuate the achievement of career goals and foster critical thinking. Key principles like trust, active listening, empowerment, feedback, and clear goals ensure a dynamic and effective mentoring relationship, empowering individuals to achieve their full potential.

In conclusion, mentorship is a powerful and effective tool for personal and professional development. It creates a dynamic, enriching, transformative, and equitable experience that empowers individuals to thrive and achieve their aspirations. If we want to see the best of each one of us and transform learning, I believe mentorship is critical.

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Investing in and Optimising health workforce to achieve Sustainable Development Goals in Uganda

A report of the National Policy Dialogue on the Health Work Force in Uganda, 27th and 28th June 2024



Closing Ceremony

Introduction and background

The Ministry of Health held it first National Dialogue on Health Workforce on 27th and 28th June 2024 at Serena Hotel in Kampala Uganda, under the theme "Investing in and Optimising health workforce to achieve Sustainable Development Goals". The Dialogue was informed by the Uganda Health Labour Market Analysis Report that was produced with technical and financial support from the World Health Organization. The report was the result of a request by the ministry of health to better understand the health workforce dynamics in the country especially in the context of seemingly high levels of production of health workers from health training institutions, high unemployment rates, staff shortage in public health facilities and unclear understanding of the share of health workforce in the private sector, and heightened externalization of labour in response to limited employment opportunities.

The expected output

During the dialogue, the National Health Labour Market Analysis report was disseminated and officially launched. Guided by subsequent presentations over the two days, participants were stimulated by the findings of the report and engaged in in depth discussions based on the themes in the different sessions.

Alfred Driwale, Commissioner for Institutional Capacity building and Human Resource Development.

The official function Ceremony

The Dialogue was organized under the auspices of the Honorable Minister of Health, Dr Jane Ruth Aceng Ochero and officiated by the Ministers of State in the Ministry of Public Service and the two Ministers of State in the Ministry of Health. Other key personalities included the Permanent Secretary Ministry of Health, The Director General of Health Services, the Chairman of the Health Service Commission, Representatives of the permanent Secretaries of Ministry of Finance Planning and Economic Development, Ministry of Public Service and Ministry of Education and Sports, and the Former Director general of Health Services Professor Omaswa Francis accompanied by a number of distinguished health professionals and senior citizens.

The participants in attendance

The dialogue was attended by participants drawn from institutions which were instrumental in the data collection process and key stakeholders in the value chain of Health workforce production, employment and management. The stakeholders included the Government Ministries, Departments and Agencies, Private Sector, Civil Society and Non-Governmental Organizations. The Ministry of health particularly expressed its gratitude to the Ministry of Education and Sports (MoES), Ministry of Gender Labour & Social Development (MoGLSD), Ministry of Local Government (MoLG), Ministry of Finance, Planning and Economic Development (MoFPED), Ministry of Public Service (MoPS), Uganda Bureau of Statistics (UBOS), National Planning Authority



WHO Country representative at chatting with the Hon. Minister of State of Ministry of Public Service

(NPA), Joint Admissions Board, Uganda Allied Health Professional Council, Uganda Nurses And Midwives Council, Uganda Nurses And Midwives Examination Board, Uganda Allied Health Examinations Board, Uganda Medical And Dental Practitioners Council, Uganda Protestant Medical Bureau, Uganda Catholic Medical Bureau, Uganda Muslim Medical Bureau, Uganda Orthodox Medical Bureau and Professional Associations; for the successful collaboration with the Ministry of Health. There was strong representation from the UN missions in Uganda; United Nations Children's Fund (UNICEF), International Labour Organization (ILO), United States Agency for International Development (USAID), US Center for Disease Control and Prevention (CDC), Clinton Health Access Initiative (CHAI), and the United Nations Population Fund (UNFPA).

Methodology

The event was facilitated by a team of experts and resource persons from the Ministry of Health, World Health Organization supported by teams from the WHO country office in Uganda, regional office in Brazzaville and the head quarter staff from Geneva.

Presentations and topics covered

The key findings and recommendations in the HLMA report were presented. This was followed by plenary sessions that were guided by setting the scene presentations by experts. A Panel of 6 experts then responded to specific questions to give perspectives from their expert position and that of the entity they represent. The session was then opened up for discussion to all present. There was the option for virtual presentations and attendance.

Presentation of HLMA

1. The Health Labour Market in Uganda: Reimagining health workforce development and management by Dr Alfred Driwale/ Dr Sunny Okoroafor
2. Using evidence to inform investment in the health workforce: The African Health Workforce Investment Charter by Dr James Avoka Asamani.

Plenary Sessions:

Session 1: Strengthening health workforce governance, stewardship and financing in Uganda

Scene presentation; Innovative strategies for strengthening multi-sectoral health workforce governance, stewardship and financing in Uganda

Session 2: Enhancing the management and regulation of health worker education, practice and migration

Scene Presentation: Improving Health Workforce Education and regulation: the role of Competency Frameworks and effective regulatory practices in achieving Universal Health Coverage or Improving health outcomes through ethical practice: the importance of competency based education and code of ethics

Session 3: Ensuring the availability of health workforce data and information for evidence-based decision-making

Scene Presentation: Improving the availability of health workforce data and information for evidence-based decision-making and attracting investments in the health workforce

Scene presentation: The HRH financial space in Uganda and expanding fiscal space to employ more health workers

Session 4: transforming words into action: strategic policy directions for optimizing and investing in the health workforce in Uganda



Hon. Minister of State of Ministry of Public Service, Hon. Grace Mary Mugasa Akiiki

Strategic policy directions for optimizing and investing in the health workforce in Uganda by Prof. Francis Omaswa, Global Health Workforce Expert

Key findings in the HLMA report:

1. Uganda had a density of 25.9 doctors, nurses, and midwives per 10 000 populations in 2022, this had improved by 76% between 2005 and 2022. The density was 58% of the international benchmark of 44.5 per 10 000 populations.
2. The estimated population-based need for health workers in 2022 was 342,832, however, the overall supply of HWF was 154,016, which met only 44.9% of the population's need.
3. To employ all the stock of qualified health workers in 2023, it was estimated that the country required about USD 1.70 billion in wages.
4. The health sector's contribution to the overall employment in the economy increased from 4.6% in 2010 to 5.5% in 2020.
5. The public health sector wage bill had increased by 15% (from 9% to 24%) in the health sector budgets from 2018/19 to 2022/23 financial years.
6. Uganda had a total of 210 health training institutions located in 66 districts in 2022 - Private for-profit owned health training institutions were in the majority (n=133), representing 63.3%, Government owned - 22.4% (n=47) and Private not-for-profit - 14.3% (n=30). Stakeholders reported the need to improve oversight and coordination.

Key Recommendations

1. Strengthen multi-sectoral health workforce governance, stewardship and financing
   a. Conduct a high-level multisectoral national health workforce policy and investment dialogue to agree on modalities for the relevant ministries and entities to co-create interventions aimed at improving access and availability of qualified, skilled, and motivated health workers within Uganda's health system.
   b. Engage the executive and parliament to obtain sustained commitment to incrementally improve investment in the health sector to improve the HRH financial space, and in health workforce development.
   c. Revise the national HRH strategic plan and develop a national health workforce investment plan to address contemporary issues in the HLM - concerning education, supply, demand and need - with a robust M&E mechanism instituted to track performance.
   d. Scope the health workforce education policies across various sectors and conduct revisions needed to align them to Uganda's UHC agenda.
   e. Develop and implement guidelines for improved partnership and oversight of the private sector to improve mutual accountability and guarantee access to quality health care to Ugandans.

2. Ensure the availability of health workforce data, and functionality and interoperability of HRH information systems
   a. Conduct a holistic review of HRH information systems and ensure that they track the agreed minimum data set for the health workforce based on the national needs.
   b. Progressively track inflows and outflow/attrition

through retirements, emigration, deaths, resignations, and dismissals of the health workforce at regulatory bodies and by employers.
   c. Engage and leverage existing and periodic Labor Force, Manpower and Household surveys conducted by the National Planning Authority and UBOS to obtain disaggregated information on the macroeconomic and demand contexts of the health workforce.
   d. Institute mechanisms to track the distribution of health workers across the private service delivery systems for evidence-based HRH planning.
   e. Track and report the HLM dynamics through the Annual National Health Workforce Accounts.

3. Enhance the professional regulatory bodies to regulate health workers
   a. Develop and implement interventions aimed at ensuring that all trained health workers are registered and tracked irrespective of sector of employment and employment status.
   b. Establish mechanisms to track the emigration of health workers and routinely report this to relevant ministries and entities to guide planning for the training and recruitment of health workers.
   c. Enforce renewal of practising licenses for health workers providing health services to the population in public and private settings
   d. Monitor and ensure quality in the establishment and operations of the public and private health training institutions.
   e. Partner with the MoE and MoH in the development and/or review of preservice training standards and curricula to ensure they align with the disease burden and clinical service delivery modalities.

4. Sign and implement health worker mobility bilateral agreements with the aim of strengthening Uganda's health system to achieve its SDG targets
   a. MOH should engage other ministries to articulate interventions for addressing the gaps and challenges.
   b. MOH and other relevant ministries and entities should engage a broad range of stakeholders to be impacted by the bilateral agreement to gain perspectives and manage concerns.
   c. Designated ministry/MOH should conduct negotiations with relevant benefactors to develop a mutually beneficial agreement with clear terms, execution and management plan, and monitoring mechanisms.

MOH should develop an investment plan aimed at ensuring that the benefits of the agreement directly contribute to Uganda achieving its health sector goals.

Highlights of the dialogue

The governance, stewardship and financing of the health workforce in Uganda is key in attaining UHC but this all relies on data to inform planners and implementers on the best cause of action. Current HRH data has many loopholes that need to be rectified in order to accurately plan, assess skills gaps and to train the health work force.

There is need to embrace multi-sectoral coordination to improve the gains in the health sector and political commitment is key to this. Political commitment is critical in ensuring additional investment in health, and also to push for a "one health national Plan and budget" that all development partners contribute to for improved governance and stewardship.

Ministry of public service need to better understand the value of the health workforce and the health sector in general through prioritized clearances for recruitment at all levels, implementation of the rewards and sanction framework for improved performance management. MoPS should also prioritize building a health workforce of non-professional cadres e.g lawyers, Counsellors etc.

Performance management should be strengthened to ensure that there is quality of services provided at all levels through regular performance evaluations. The recent salary increment, and infrastructure developments are not enough to motivate the health workforce. Target setting, development of KPIs and setting a framework for evaluating performance are critical.

Additional resources for wage should be prioritized by Ministry of Finance, Planning and Economic Development (MoFPED) to enable increased recruitment by the health sector. The revised staffing structures have provided for an increased footprint and skills mix of HCWs and this will need additional resources over time to fill.

The level of training at health training institutions should be checked so that the pool of HCWs available for recruitment is of a high quality. The Ministry of Education and Sports has developed a National Health Training Policy that will consequently address the gaps in quality of health education training and provide a framework for health training modalities for the health sector. The ministry also intends to leverage data from the LMA to feed into the plan.

There is need to develop a capacity building plan and retention strategy for the health sector so that for positions that have remained vacant, staff in-pots can be elevated to these roles. Additionally, recruitment planning needs to be improved at all levels in order to effectively manage how staff are recruited and also transitioned off GOU payroll. Additionally, HRH research is key in informing the staffing needs and gaps for effective planning.

Need to harmonize the recruitment process at all levels to enable institutions such as HSC to recruit better for the health sector. Recruitment plans should be prepared early, positions declared in time and clearances provided by Ministry of Public Service (MOPS) for health sector institutions to recruit. Regional hubs at RRHs should also be strengthened to ensure that the role of Health Service Commision (HSC) is decentralized to improve efficiencies in the recruitment process.

Closing Ceremony

Remarks and summary of key issues and way forward were given by the Chair of the Health Service Commission, Dr. Pius Okong followed by a vote of thanks from Dr. Yonas Tegegn Woldemariam, WHO Representative to Uganda. A statement of commitment to following up of the recommendations was made by Dr. Diana Atwine, Permanent Secretary, Ministry of Health Uganda followed by closing remarks from the Hon. Minister of State of Ministry of Public Service, Hon. Grace Mary Mugasa Akiiki.

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Addressing Unemployment and Ethical Externalization of Health Workforce in Uganda

A policy brief on the paradoxical dual challenge in Uganda of rising unemployment among health workers and the need to manage the externalization (migration) of excess health workforce.



Africa needs a skilled motivated health workforce

Introduction

Uganda is grappling with a dual challenge: rising unemployment among health workers and the need to manage the externalization (migration) of excess health workforce in line with ethical standards outlined in the WHO Code on the International Recruitment of Health Personnel. This policy brief outlines strategic actions to tackle unemployment locally while considering opportunities and challenges associated with health workforce migration.

Current Challenges

The National Policy Dialogue 27–28 June, 2024, convened by WHO and the MOH on the health workforce situation in Uganda highlighted a significant issue; namely that despite increasing numbers graduating from training institutions, shortages persist, many health workers face unemployment, leading to the underutilization of valuable skills and contributing to brain drain as skilled professionals seek opportunities abroad.

The main challenge for the Government is closely tied to the dwindling fiscal space, with a substantial portion of the national budget allocated to servicing the debt burden. This financial constraint complicates the identification of investment priorities, which should be guided not only by economic benefits but also by the moral imperative to sustain essential social services such as health, education, gender equality, labor, and social development.

It was reported that despite recent enhancements of the salaries of health workers, there has been little improvement in their commitment to their work, particularly among senior-level health professionals. This has sparked a general public outcry regarding the quality of service delivery, particularly in public health facilities. Addressing this issue requires increased focus on support supervision and motivation of health workers across all levels. Moreover, engaging senior professionals in the governance and management of service delivery could enhance accountability and effectiveness in the sector.

David Okello is the Executive Director of the African Centre for Global Health and Social Transformation (ACHEST)

In a nutshell, addressing these challenges necessitates a comprehensive approach that includes sustainable investment in the health workforce, prudent fiscal management to safeguard social services, and effective governance structures to ensure quality service delivery in Uganda's health sector.

Policy Recommendations:

1. **Strategic Workforce Planning and Local Employment:** It is strongly proposd that government conducts a comprehensive assessment to align health workforce production with actual needs. Such assessment should lead to the development of a national health workforce plan that ensures geographic distribution and specialized skills. At the moment there is skewed distribution of highly skilled health workforce in the cities and urban areas. In addition, there is a need to strengthen partnerships between the Ministry of Health, training institutions, and healthcare providers to create pathways for local employment. It is also proposed that hiring be incentivized through subsidies and infrastructure improvements.
2. **Promoting Entrepreneurship and Innovation:** Government should explore the possibility of supporting some cadres of health workers to establish private practices or healthcare-related businesses through training and financial assistance. Furthermore, Government should encourage innovation in healthcare delivery to create new job opportunities, particularly in underserved areas
3. **Improving Service Delivery and Utilization:** To enhance Service Delivery and Utilisation, it is crucial to promptly assign unemployed health workers to underserved rural and remote communities. This should be facilitated through government-managed placement programs. Additionally, integrating telemedicine and mobile health initiatives could maximize their expertise in providing healthcare services effectively.

Externalization under Ethical Standards:

During the national dialogue on Uganda's health workforce situation, there was a discussion on the externalization (migration) of the workforce, but consensus on the way forward was not reached. To explore policy options further, we outline here the benefits and challenges that require careful consideration.

Benefits:

1. **Economic Advantages:** Externalization allows health workers to send remittances home,T thus stimulating local economies. It may also provide opportunities for professional growth through exposure to advanced medical practices abroad.
2. **Global Knowledge Exchange:** Externalization provides opportunity for participation in global health initiatives, which enables health workers to bring back valuable knowledge and skills to enhance local healthcare delivery.
3. **Temporary Relief of Unemployment:** Above all, migration of health workers can temporarily alleviate local unemployment pressures within the health sector.

Challenges:

1. **Brain Drain Concerns:** Migration may exacerbate health worker shortages in rural and underserved areas, weakening local health systems.
2. **Ethical and Legal Issues:** There is always the inherent challenge of adhering to ethical recruitment practices outlined in the WHO Code which is essential to prevent exploitation and ensure adequate support for migrant health workers.
3. **Dependency Risks:** There is a risk of economic dependency on remittances if migration becomes a primary economic strategy.
4. **Implementation Challenges:** If the government chooses to institutionalize the externalization of the health workforce, it's crucial to consider the following implementation challenges that may arise.
    i. **Regulation and Monitoring:** Effective regulation of recruitment agencies and monitoring of working conditions abroad are crucial to protect migrant health workers.
    ii. **Policy Coordination:** Coordination between sending and receiving countries is critical to manage migration flows and ensure mutual benefits.

Conclusion

Addressing unemployment among health workers in Uganda requires a coordinated intersectoral approach integrating local employment strategies with ethical management of health workforce migration. By implementing these recommendations and adhering to the WHO Code, Uganda can optimize its health workforce, improve healthcare delivery, and mitigate the challenges associated with migration.

Policy Recommendations for Action:

i. Develop and implement policies that promote ethical recruitment practices as per the WHO Code.
ii. Strengthen monitoring and regulation of recruitment agencies and working conditions abroad.
iii. Foster partnerships with receiving countries to ensure mutual benefit and facilitate return migration of skilled health workers.

Uganda is grappling with a dual challenge: rising unemployment among health workers and the need to manage the externalization (migration) of excess health workforce in line with ethical standards outlined in the WHO Code on the International Recruitment of Health Personnel. This policy brief outlines strategic actions to tackle unemployment locally while considering opportunities and challenges associated with health workforce migration.

Obituary: JOSHUA B. MUSINGUZI, MB. ChB., MPH

Remembered By George K. Mutema, Oncologic Surgical Pathologist, Southern Ohio Pathology Consultants, Cincinnati, Ohio, USA

Dr. Joshua Bazaale Musinguzi, MB ChB, MPH born on September 9, 1963 passed away on June 7, 2024 in India, following an unsuccessful cardiac surgical procedure. Joshua had recently retired as Assistant Commissioner/ Program Manager of the AIDS control program in the Ministry of Health, Uganda.

Our journey with Joshua began in 1977, when we joined Kings College Budo for high school education. What was striking about Joshua, was that he was not only amongst the brightest and most gifted intellectual in our cohort, but also had a great sense of humor and possessed the rare ability to see good in everyone. Following his successful completion of both O level and A level education, he joined Makerere University Medical School where he maintained his self-discipline, commitment to his studies and not only remained close with those of us with whom he had been in Budo, but he went on to make many more lifelong friends with other members of the Medical School class.

Following his medical school graduation in 1989, Joshua only served as a Medical Officer at Lubaga Hospital for a short time and was quickly tapped by the AIDS Control Program (ACP) manager at the Ministry of Health to go and support the ACP that was battling the HIV epidemic at the time. Joshua spent almost all his professional career at the ACP where he rose through the ranks from a Medical Officer, Senior Medical Officer, Principal Medical Officer and finally to Assistant Commissioner Health services/Program Manager. Joshua has been a pillar in the national HIV response and published his scientific work on HIV widely, which in turn guided policy formulation, HIV prevention and control strategies in Uganda and globally. Serving as Assistant commissioner/Program Manager ACP in the Ministry of health, Joshua coordinated partners and efforts for HIV prevention, treatment and support in Uganda. Under his able leadership, several initiatives for HIV prevention, treatment and integration of non-communicable diseases management into HIV programs were scaled up. As a result, Uganda registered sustained declining numbers of new HIV infections and AIDS related deaths. In addition, children born with HIV also drastically reduced from over 18,000 prior, to around 5000 per year. By so doing, Joshua not only led efforts to evert new HIV infections, but also efforts that saved lives of many people in Uganda. In fact, Uganda is on the verge of obtaining HIV epidemic control. He also facilitated and supported collaborations and research and policy making throughout his career. Joshua's advocacy was instrumental in garnering support from the global fund, leading to several impactful research studies between 2013 and 2017, conducted in partnership with the Makerere School of Public Health. He was a champion of ensuring access and availability of antiretroviral drugs and strongly supported HIV self-testing to reduce stigma. We remember him as a health integration champion who promoted evidence-based policy and advocated for comprehensive health care.



Dr. Joshua Bazaale Musinguzi

On the personal side, Joshua was friendly but principled, laughed a lot, had a whacky sense of humor and loved International politics as well as political debates. To stay well-informed, the local national newspaper (New Vision) was delivered daily to his house at 6 am and he religiously listened to the BBC. Surprisingly, he never took the next logical step of standing for elective office. His lovely wife Juliet and their 3 children, Karen, Timothy and Mark were his entire world. He was thankful for them and would beam with pride when talking about them. Joshua was a man of deep faith and his love of God manifested prominently throughout his life, an attribute we all witnessed since our teenage years. He regularly attended church both in Kampala and his home area in Masindi town, where he was the Head of Laity at his local church. It is at Kings College Budo that he started he is lifelong passion for both cricket and football.

Fare well Joshua, it has been a privilege over the last 47 years to have known you as both a friend and medical colleague, yours was a life well lived, you are a shining example of compassion, dedication and unfaltering loyalty. Rest In Peace - "my main man".

Remembered By George K. Mutema, Oncologic Surgical Pathologist, Southern Ohio Pathology Consultants, Cincinnati, Ohio, USA

General

Reteplase superior to alteplase in ischemic stroke

Alteplase is typically administered to patients with ischemic stroke presenting within 4.5 hours of symptom onset, but alternative thrombolytics are needed. Researchers in this trial, conducted in China, compared reteplase to alteplase. A total of 1412 eligible patients were equally randomized to either reteplase or alteplase. The primary outcome was excellent functional outcome (mRS of 0 or 1) at 90 days. The primary outcome was seen in 80% of patients in the reteplase arm compared to 70% in the alteplase arm (RR 1.13). There was no significant difference in symptomatic intracranial hemorrhage within 36 hours between the two arms (i.e. 2.4% Vs 2.0%). The researchers concluded that double-bolus reteplase was both non-inferior and superior to alteplase as regards an excellent functional outcome at 90 days.

Reference

Li, S., et al. (2024). Reteplase versus Alteplase for Acute Ischemic Stroke. New England Journal of Medicine, 390, 2264–2273.

Updated guidelines in the management of allergic bronchopulmonary aspergillosis and allergic bronchopulmonary mycosis

An expert group of the International Society for Human and Animal Mycology recently updated guidelines on managing allergic bronchopulmonary aspergillosis (ABPA) and allergic bronchopulmonary mycosis (ABPM) after more than a decade. The group recommended screening for Aspergillus fumigatus *(A. fumigatus)* sensitization using fungus-specific IgE in all newly diagnosed asthmatic adults and only difficult-to-treat asthmatic children. ABPA is diagnosed in those with risk factors, compatible clinic-radiological presentation, evidence of fungal sensitization, serum total IgE ≥500 IU/mL, and two of; fungal-specific IgG, peripheral blood eosinophilia or suggestive imaging. ABPM is considered in an ABPA-like presentation but normal A. fumigatus-IgE. The group further recommended monotherapy with prednisolone or itraconazole therapy in acute ABPA and a combination of both therapies in recurrent exacerbations.

Reference

Agarwal, R., et al. (2024). Revised ISHAM-ABPA working group clinical practice guidelines for diagnosing, classifying, and treating allergic bronchopulmonary aspergillosis/mycoses. European Respiratory Journal, 63(4), 400061.

Dapagliflozin shows no benefit in critically ill patients with acute organ dysfunction.

Sodium-glucose cotransporter 2 (SGLT-2) inhibitors improve outcomes in patients with type 2 diabetes, heart failure, and chronic kidney disease. Researchers in this study evaluated their role in critically ill patients with organ dysfunction. A total of 507 participants admitted to three ICUs in Brazil were equally randomized to either dapagliflozin 10mg (up to 14 days or discharge whichever came first) plus standard of care or standard of care alone. The primary endpoints were mortality, kidney replacement therapy initiation, or ICU stay of up to 28 days. The researchers found that the addition of dapagliflozin to the standard of care didn't improve clinical outcomes. The highest probability of benefit was observed in the use of kidney replacement therapy (10.9% in the dapagliflozin arm versus 15.1%). Otherwise, benefit or harm couldn't be ascertained due to the wide confidence intervals.

Reference

Tavares, C. A. M., et al. (2024). Dapagliflozin for Critically Ill Patients with Acute Organ Dysfunction: The DEFENDER Randomized Clinical Trial. JAMA.

Continuous or intermittent -Lactam Antibiotic Infusions in Critically Ill Patients with Sepsis

There's conflicting evidence on which □-Lactam antibiotic infusion method is better. Researchers in this large multi-centric BLING III trial equally randomized 7031 patients with sepsis to either continuous (n = 3498) or intermittent infusions (n = 3533) of □-Lactam antibiotics (piperacillin-tazobactam or meropenem). The primary outcome was all-cause mortality at 90 days, while secondary outcomes included clinical cure up to 14 days. The researchers found no significant difference in all-cause mortality between the two infusion strategies. Clinical cure was however higher in the continuous infusion strategy versus the intermittent strategy; that is 55.7% versus 50.0% respectively. The study therefore sheds more light on the clinical dilemma of whether to administer the □-Lactam antibiotics as continuous or intermittent infusions.

Reference

Dulhunty, J. M., et al. (2024). Continuous vs Intermittent □-Lactam Antibiotic Infusions in Critically Ill Patients With Sepsis: The BLING III Randomized Clinical Trial. JAMA.

Mortality and Morbidity in Adults with Rheumatic Heart Disease

Rheumatic heart disease (RHD) remains a major public health challenge in LMICs. The INVICTUS Investigators in this large prospective observational study enrolled 13,696 RHD and followed them up for a median of 3.2 years. The primary endpoint was all-cause mortality, and other outcomes included cause-specific mortality, heart failure (HF) hospitalization, stroke, recurrent rheumatic fever, and infective endocarditis. Mortality was high, estimated at 15% (4.7% per patient-year), the majority of it from vascular causes i.e. mainly HF or sudden cardiac death. Severe valvular disease indicators including congestive HF (HR, 1.58), pulmonary hypertension (HR, 1.52), and atrial fibrillation (HR, 1.30) were associated with increased mortality. Surgery (HR, 0.23) or valvuloplasty (HR, 0.24) were associated with lower mortality. The researchers note that mortality correlated with valve disease severity and recommended improving access to surgical intervention.

Reference

Karthikeyan, G., et al. (2024). Mortality and Morbidity in Adults with Rheumatic Heart Disease. JAMA.

Metformin on the risk of cardiometabolic diseases and related mortality among US cancer survivors

Metformin has pleiotropic effects and is protective of cardiometabolic disorders in diabetic patients. Whether a similar effect could be seen in cancer survivors is not known. Researchers in this prospective cohort study used the US National Health and Nutrition Examination Survey data and identified 3995 cancer survivors who were followed up to 17 years (median duration 6.42 years). About 448 (11%) reported metformin usage. Metformin was associated with a lower risk of all-cause (HR, 0.62) and cardiometabolic death (HR, 0.65). It was also associated with a lower risk of total cardiovascular disease (odds ratio [OR], 0.41), stroke (OR, 0.44), hypertension (OR, 0.27), and coronary heart disease (OR, 0.41). Researchers concluded that metformin was associated with a lower risk of cardiometabolic diseases, all-cause, and cardiometabolic deaths.

Reference

Li, Y., Liu, X., et al. (2024). Metformin use correlated with lower risk of cardiometabolic diseases and related mortality among US cancer survivors: evidence from a nationally representative cohort study. BMC Medicine 2024 22:1, 22(1), 1–16.

Pulmonologist-directed care in undiagnosed COPD or asthma

Over 70% of patients with COPD and asthma remain undiagnosed. Researchers in this study identified and enrolled patients with undiagnosed COPD or asthma from the community, and determined if early diagnosis and treatment would reduce health-care utilization and improve outcomes. Five hundred eight (508) participants underwent randomization to either intervention (evaluation and treatment by a pulmonologist and an asthma–COPD educator) or usual care by their primary care practitioner. The primary endpoint was the annual rate of participant-initiated healthcare utilization for respiratory illness. The primary endpoint was lower in the intervention arm than usual care i.e., 0.53 versus 1.12 events per person-year; incidence rate ratio, 0.48. The researchers concluded that in a community strategy of identifying patients with undiagnosed COPD or asthma, pulmonologist-directed care reduced healthcare utilization than usual care.

Reference

Aaron, S. D., Vandemheen, K. L., et al. (2024). Early Diagnosis and Treatment of COPD and Asthma — A Randomized, Controlled Trial. New England Journal of Medicine, 390(22), 2061–2073.

Semaglutide on chronic kidney disease in type 2 diabetes mellitus

Patients with type 2 diabetes mellitus (T2DM) with chronic kidney disease (CKD) are at high risk of kidney failure. Whether semaglutide reduces this risk isn't known. This placebo-controlled trial enrolled 3,533 participants with T2DM and CKD. CKD was defined as an estimated glomerular filtration rate of 25 to 75ml per minute per 1.73 m2. They were randomized to subcutaneous semaglutide at a dose of 1.0 mg weekly or placebo, the primary outcome being major kidney disease events. The primary outcome was significantly lower in the semaglutide than in the placebo group i.e. HR, 0.76. A pattern favoring semaglutide was seen in all kidney-specific outcomes, including death from cardiovascular causes among others. They concluded that semaglutide improves kidney outcomes in T2DM patients with CKD.

Reference

Perkovic, V., Tuttle, K. R., et al. (2024). Effects of Semaglutide on Chronic Kidney Disease in Patients with Type 2 Diabetes. New England Journal of Medicine.

Combination treatment with glucagon-like peptide-1 receptor agonists and sodium-glucose cotransporter-2 inhibitors is better than either drug alone.

Among patients with T2DM, glucagon-like peptide-1 receptor agonists (GLP1-RA) and sodium-glucose cotransporter-2 inhibitors (SGLT2is) are second to third-line antihyperglycemic agents. Whether a combination of the two drug classes reduces the risk of major adverse cardiovascular events (MACEs), and renal events than either drug alone isn't known. The researchers matched GLP1-RA- SGLT2i combination users to single-drug users using 2 cohorts with the primary outcome being MACEs and serious renal events. Combination therapy was associated with a 30% lower risk of MACEs (HR, 0.70), and a 57% lower risk of serious renal events (HR, 0.43). GLP1-RAs were also associated with a 29% lower risk of MACEs than SGLT2i (HR, 0.71). The researchers concluded that in this study, the GLP1-RA-SGLT2i combination was associated with a reduction in MACEs and renal events than either drug alone.

Reference

Simms-Williams, N., Treves, N., et al. (2024). Effect of combination treatment with glucagon-like peptide-1 receptor agonists and sodium-glucose cotransporter-2 inhibitors on incidence of cardiovascular and serious renal events: population-based cohort study. BMJ, 385.

Comparative effectiveness of second-line oral antidiabetic agents among T2DM patients.

Researchers in this study conducted a comparative analysis of second-line oral hypoglycemic agents (OHAs) in routine clinical practice. They conducted a cohort study involving 75,739 adults with T2DM who initiated second-line oral antidiabetic treatment with a sulfonylurea, DPP-4 inhibitor, or SGLT-2 inhibitor added to metformin. The primary endpoint was an absolute change in glycated hemoglobin from baseline to 1 year. Secondary endpoints included body mass index (BMI), systolic blood pressure (SBP), and eGFR. SGLT2 inhibitors were more effective than sulfonylurea and DPP-4 inhibitors at reducing the HBA1c i.e. -2.5mmol/mol versus -3.2mmol/mol respectively. SGLT-2 inhibitors also more effectively reduced BMI and SBP. They thus concluded that SGLT-2 inhibitors were more effective than sulfonylurea and DPP-4 inhibitors as second-line OHAs.

Reference

Bidulka, P., Lugo-Palacios, D. G., et al. (2024). Comparative effectiveness of second-line oral antidiabetic treatments among people with type 2 diabetes mellitus: emulation of a target trial using routinely collected health data. BMJ, 385.

Long-acting cabotegravir and rilpivirine in virologically suppressed adults with HIV in Africa.

Long-acting cabotegravir (CBG) and rilpivirine (RPV) are licensed for HIV-1 treatment in resource-rich countries. Whether it can be used in Africa where demographics and HIV characteristics might differ wasn't clear. This study evaluated if switching to long-acting therapy with injections every 8 weeks is non-inferior to daily oral therapy. This study enrolled a total of 512 patients with HIV viral load below 50 copies per mL on oral antiretroviral therapy and no history of virological failure. These were randomized in a 1:1 ratio to CBG+RPV or to continue oral therapy. The primary outcome was week 48 viral load below 50 copies/ml. The primary outcome was observed in 96% of 255 participants in the CBG+RPV arm and 97% of 257 in the oral therapy group. The researchers reported that long-acting therapy was non-inferior compared to oral therapy.

Reference

Kityo, C., Mambule, I. K., et al. (2024). Switch to long-acting cabotegravir and rilpivirine in virologically suppressed adults with HIV in Africa (CARES): week 48 results from a randomized, multicentre, open-label, non-inferiority trial. The Lancet Infectious Diseases, 0(0).

Stress Ulcer Prophylaxis during Invasive Mechanical Ventilation

It's not clear whether stress ulcer prophylaxis in patients who are mechanically ventilated is beneficial or harmful. In this large international randomized control trial, 4821 critically ill patients undergoing invasive ventilation were randomized in a 1:1 ratio to receive intravenous pantoprazole 40mg daily or placebo. The primary endpoint was clinically significant upper gastrointestinal bleeding at 90 days, and the safety outcome was all-cause death at 90 days. The primary outcome was observed in 1.0% of patients in the pantoprazole arm compared to 3.5% in the placebo arm (HR, 0.30). There was no significant difference in mortality at 90 days. The researchers thus concluded that among invasively ventilated patients, pantoprazole resulted in a lower risk of upper gastrointestinal bleeding than placebo, but did not reduce the risk of mortality.

Reference

Cook, D., Deane, A., et al. (2024). Stress Ulcer Prophylaxis during Invasive Mechanical Ventilation. New England Journal of Medicine.

MCH

Lateral episiotomy or no episiotomy in vacuum-assisted delivery in nulliparous women

Vacuum-assisted vaginal deliveries are associated with significant maternal complications including injury to the anal sphincter. Researchers in this Swedish study determined if a pre-emptive lateral episiotomy as compared to no episiotomy could reduce obstetric anal sphincter injury. A total of 702 patients equally randomized to lateral episiotomy or no episiotomy were included in the final analysis. Fewer patients in the episiotomy arm sustained anal sphincter injury compared to no episiotomy i.e. 6% versus 13% (adjusted risk ratio, 0.47). There was no difference in postpartum pain, blood loss, neonatal outcomes, or total adverse events, though the episiotomy arm had more wound infections and dehiscence. The researchers concluded that lateral episiotomy can be recommended for nulliparous women requiring vacuum extraction to reduce the risk of anal sphincter injury.

Reference

Bergendahl, S., Jonsson, M., et al. (2024). Lateral episiotomy or no episiotomy in vacuum-assisted delivery in nulliparous women (EVA): a multicentre, open-label, randomized controlled trial. BMJ, 385, e079014.

Modifiable risk factors associated with neonatal mortality in sub-Saharan Africa.

With sub-Saharan Africa (SSA) shouldering the highest burden of neonatal mortality, knowing the modifiable risk factors is crucial to averting neonatal mortalities. Researchers in this study analyzed the demographics and health survey data sets from 35 SSA countries conducted between 2010 and 2022, and calculated the population-attributable fractions (PAF) for modifiable risk factors. The researchers found that the highest PAF was attributed to delayed initiation of breastfeeding (>1 hour after birth) (23.88%), uncleaned cooking fuel (5.27%), mothers lacking formal education (4.34%), mothers lacking tetanus vaccination (3.54%), and infrequent antenatal care visits (2.4%), and together these modifiable risk factors were associated with 40% of neonatal deaths among singleton children. The researchers thus concluded that a significant number of neonatal deaths in SSA were preventable.

Reference

Ahmed, K. Y., Thapa, S., et al. (2024). Population modifiable risk factors associated with neonatal mortality in 35 sub-Saharan African countries: analysis of data from demographic and health surveys. EClinicalMedicine, 73.

Azithromycin prophylaxis in pregnancy and labor.

Early evidence suggested that azithromycin prophylaxis in pregnant women improved maternal and neonatal outcomes. However, recent trials have yielded conflicting results. Researchers conducted a systematic review and meta-analysis to ascertain if azithromycin prophylaxis reduced neonatal or maternal mortality. The primary outcome was neonatal mortality and intrapartum, and antenatal administration were assessed separately. In the 20 RCTs reviewed, intrapartum azithromycin wasn't impactful on neonatal or maternal mortality i.e., RR, 1.02 and RR, 1.26 respectively. Antenatal azithromycin similarly didn't show any effect on neonatal or maternal outcomes. The researchers hence concluded that low to very-low certainty evidence suggests that azithromycin prophylaxis in pregnant women might not reduce neonatal or maternal mortality

Reference

Shamim, M. A., Kumar, J., et al. (2024). PeRinatal, neOnatal, and Maternal OuTcomEs with azithromycin prophylaxis in pregnancy and labor (PROMOTE-PROPHYLAXIS): systematic review and meta-analysis. EClinicalMedicine, 73.

Kangaroo mother care on early neonatal mortality.

Kangaroo mother care (KMC) is recommended by the WHO, but its effect on neonatal mortality and cost-effectiveness remains unclear. In this study conducted in Uganda, 2221 neonates with 700 to 2000 grams were enrolled and randomized to either KMC initiated before stabilization (intervention group) or standard care (incubator or radiant heater). The primary endpoint was all-cause neonatal mortality at 7 days. The researchers found no effect on early neonatal mortality as a similar number of neonates died in either group i.e., 7.5% of neonates died in either group. KMC was however found to be cost-effective from both provider and societal perspectives. The researchers thus concluded that additional investment in neonatal care is needed for further impact on SSA.

Reference

Tumukunde, V., Medvedev, M. M., et al. (2024). Effectiveness of kangaroo mother care before clinical stabilization versus standard care among neonates at five hospitals in Uganda (OMWaNA): a parallel-group, individually randomized controlled trial and economic evaluation. The Lancet, 403(10443), 2520–2532.

General Surgery

Liberal versus restrictive blood transfusion in traumatic brain injury

Most transfusion guidelines recommend a restrictive blood transfusion strategy for most patient groups. Whether this strategy is safe in patients with traumatic brain injury and anemia isn't clear. Researchers in this trial randomized 742 patients (1:1 ratio) with traumatic brain injury to a liberal or restrictive strategy, transfusing at a hemoglobin level of ≤10 or ≤7 g/dl respectively. The primary endpoint was an unfavorable outcome by the Glasgow Outcome Scale-Extended at 6 months. There was no significant difference in the rate of undesirable outcomes between liberal (68.4%) or restrictive (73.5%) transfusion strategies. They thus concluded that in critically ill patients with traumatic brain injury and anemia, the liberal transfusion strategy didn't reduce the risk of unfavorable outcomes at 6 months.

Reference

Turgeon, A. F., et al. (2024). Liberal or Restrictive Transfusion Strategy in Patients with Traumatic Brain Injury. New England Journal of Medicine.

Different antiplatelet strategies following coronary artery bypass grafting (CABG) on five-year clinical outcomes.

Dual antiplatelet therapy (DAPT) with ticagrelor is more effective than aspirin monotherapy in preventing saphenous vein graft failure after CABG. Whether DAPT has effects on long-term clinical outcomes is unclear. Researchers in this trial randomized participants (1:1:1) to ticagrelor 90 mg twice daily plus aspirin 100 mg once daily, ticagrelor monotherapy, or aspirin monotherapy for one year after surgery. The primary outcome was MACEs at 5 years. The researchers found that the primary outcome occurred in fewer patients in the dual antiplatelet arm (22.6%) than in aspirin monotherapy (29.9%) or ticagrelor monotherapy (32.9%). The researchers thus concluded that dual antiplatelet therapy for 1 year after CABG reduced major adverse cardiovascular events at 5 years than monotherapy alone.

Reference

Zhu, Y., Zhang, W., et al. (2024). Antiplatelet therapy after coronary artery bypass surgery: five-year follow-up of randomized DACAB trial. BMJ, 385.

Burr-hole drainage with or without irrigation in chronic subdural hematoma.

Chronic subdural hematoma is commonly surgically managed with burr-hole drainage, irrigation of subdural space, and insertion of subdural drain. The role of irrigation of subdural space has however not been well evidenced. Researchers in the non-inferiority trial randomized 589 adult patients with chronic subdural hematoma to either with or without subdural irrigation. The primary outcome measure was reoperation within 6 months, with the non-inferiority set at a 7.5% margin. Secondary outcomes included unfavourable outcomes (mRS 4-6), and mortality rate at 6 months. The researchers found the reoperation rate was 6.0% higher without subdural irrigation, and thus were not able to demonstrate non-inferiority of burr holes without irrigation. The researchers concluded that since there were no differences in functional outcomes or mortality between arms, subdural irrigation was better.

Reference

Raj, R., Tommiska, P., et al. (2024). Burr-hole drainage with or without irrigation for chronic subdural hematoma (FINISH): a Finnish, nationwide, parallel-group, multicentre, randomized, controlled, non-inferiority trial. The Lancet, 403(10446), 2798–2806.

Early Minimally Invasive Removal of Intracerebral Hemorrhage

For patients with spontaneous intracerebral hemorrhage (ICH), surgical evacuation is recommended as a lifesaving measure only, because of inadequate evidence for functional outcomes benefit. This trial compared early minimally invasive surgical removal of hematoma and best medical management with the latter alone. Three hundred (300) patients presenting in 24 hours with a supratentorial ICH were randomly assigned (1:1) to minimally invasive surgery and medical management or latter alone. The primary endpoint which was the mean score for disability on the utility-weighted mRS at 180 days, favored surgery with 0.458 versus 0.374 in the control arm (an estimated difference of 0.084). The surgical benefit was mostly derived from lobar hemorrhage. Death by 30 days occurred less commonly with surgery. The authors thus concluded that early minimally invasive surgery with best-medical therapy for intracerebral hemorrhage improved outcomes compared with medical management alone.

Reference

Rradilla, G., Ratcliff, J. J., et al. (2024). Trial of Early Minimally Invasive Removal of Intracerebral Hemorrhage. New England Journal of Medicine, 390(14), 1277–1289.

CPD Challenge

Questions

Q1 Which of the following are TRUE or FALSE concerning Mortality and Morbidity in Adults with Rheumatic Heart Disease?

a. The causes of mortality in patients with Rheumatic Heart Disease (RHD) may include any of the following: heart failure (HF) hospitalization, stroke, recurrent rheumatic fever, and infective endocarditis (T).
b. The majority of the causes of mortality in patients with RHD are linked to vascular causes i.e. mainly heart failure or sudden cardiac death. (T)
c. Severe valvular disease indicators in RHD include congestive heart failure, pulmonary hypertension, and atrial fibrillation. (T).
d. Surgery or valvuloplasty will NOT lower the overall Rheumatic Heart Disease mortality. (F) .
e. Mortality correlates with valve disease severity and improving access to surgical intervention is recommended. (T)

Q2 Which of the following are TRUE or FALSE concerning the use of Metformin?

a. Metformin is known to be protective of cardiometabolic disorders in patients with diabetes mellitus. (T).
b. Metformin is associated with a lower risk of all-cause and cardiometabolic death in cancer survivors. (T)
c. Metformin is associated with a lower risk of total cardiovascular disease, stroke, hypertension, and coronary heart disease. (T)
d. Metformin is generally associated with a lower risk of cardiometabolic diseases, and cardiometabolic deaths in all conditions where they are used. (T)
e. All TRUE

Q3 Please indicate TRUE or FALSE options regarding lateral episiotomy or no episiotomy in vacuum-assisted delivery in nulliparous women.

a. Pre-emptive lateral episiotomy in Vacuum-assisted vaginal deliveries are associated with fewer anal sphincter injury compared to no episiotomy. (T)
b. Patients undergoing episiotomy have more wound infections and dehiscence compared to those with no episiotomy. (T)
c. Lateral episiotomy is recommended for nulliparous women requiring vacuum extraction to reduce the risk of anal sphincter injury. (T)
d. Vacuum-assisted vaginal deliveries are associated with significant maternal complications including injury to the anal sphincter regardless of use of a pre-emptive lateral episiotomy or no episiotomy. (T)
e. All TRUE

Q4 Which of the following interventions are TRUE or FALSE in cases of brain injury interventions?

a. Chronic subdural hematoma is commonly surgically managed with burr-hole drainage and insertion of subdural drain. (T)
b. Irrigation of subdural space is recommended as standard practice following burr-hole drainage to improve functional outcome. (T)
c. For patients with spontaneous intracerebral hemorrhage surgical evacuation is NOT recommended as a lifesaving measure. (F)
d. Early minimally invasive surgical removal of hematoma and best medical management is recommended for intracerebral hemorrhage compared with medical management alone. (T)
e. Surgical intervention does not prevent death by 30 days following intracerebral hemorrhage. (F)

Q5 Which of the following are TRUE or FALSE in routine obstetric care?

a. Azithromycin prophylaxis improves maternal and neonatal outcomes in pregnant women. (T)
b. Antenatal azithromycin does not show any effect on neonatal or maternal outcomes. (F)
c. Although Kangaroo mother care (KMC) is recommended by the WHO, its effect on neonatal mortality and cost-effectiveness remains unclear. (T)
d. Kangaroo care has been found to have no effect on early neonatal mortality. (T)
e. All TRUE (F)

Answers

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

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Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection. Geneva, World Health Organization, 2013, (http://www.who.int/hiv/pub/guidelines/arv2013/en)

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