Remembering Dr. Matthew Lukwiya and other fallen health care workers: There is an urgent need to protect frontline health care workers

Ambrose Otau Talisuna highlights the epidemics and pandemics that have occurred in Africa and proposes concrete actions to safeguard frontline health workers.

Introduction.

Infectious disease epidemics and pandemics (worldwide epidemics) continue to threaten the health of populations worldwide. In the 20th century, there were three pandemics of influenza in 1918, 1957, and 1968. All three of them were informally identified by their presumed sites of origin, which is presently not recommended because it creates stigma, but they are now known to represent three different antigenic subtypes of the influenza A virus, namely: H1N1, H2N2, and H3N2, respectively [1].

The World Health Organisation (WHO), International Health Regulations (IHR, 2005) as amended in 2024 define a *"pandemic emergency" as "a public health emergency of international concern that is caused by a communicable disease and: (i) has, or is at high risk of having, wide geographical spread to and within multiple States; and (ii) is exceeding, or is at high risk of exceeding, the capacity of health systems to respond in those States; and (iii) is causing, or is at high risk of causing, substantial social and/or economic disruption, including disruption to international traffic and trade; and (iv) requires rapid, equitable and enhanced coordinated international action, with whole of-government and whole-of-society approaches"* [2].

Several new and old infectious diseases have emerged in new regions suggesting that humanity will continue to face future epidemics. Examples of large epidemics in Africa include HIV/AIDs, Cholera, Ebola Virus Disease, Marburg Virus Disease, Malaria, Tuberculosis (both drug susceptible and drug resistant), and most recently, COVID-19 and Mpox[3-12]. The COVID-19 pandemic is the greatest challenge that humankind has faced in generations-costing millions of lives, causing trillions of dollars in economic loss, and disrupting communities [3].

Africa is a hot bed for public health emergencies. As of 30th September 2024, there were 150 ongoing public health events across the WHO African region, including 107 infectious disease epidemics and 43 humanitarian crises. The WHO was supporting Member States to respond to 18 distinct graded emergencies in multiple countries across the African region. These included: epidemics of Anthrax in 3 countries, Cholera in 15 countries, Dengue in 11 countries, Diphtheria in 1 country, Marburg Virus Disease in 1 country, Mpox in 14 countries, and circulating vaccine-derived poliovirus type 2 in 8 countries. In addition, there were climate change related health emergencies due to floods in 3 countries, food insecurity in the horn of Africa due to drought, and complex humanitarian emergencies due to armed conflicts in several countries across the Sahel region, the horn of Africa, the Democratic Republic of the Congo (DRC), Chad, Sudan, and South Sudan[11].



Dr. Matthew Lukwiya

On the 5th of December 2000, Uganda lost Dr Matthew Lukwiya during the first Ebola Virus Disease (EVD) epidemic in the country[13]. Many health care workers (HCWs) were lost over the period October 2000 to February 2001, many of them from Lacor hospital in Gulu district. All the fallen HCWs are heroes but the leading hero for that response was Dr Mathew Lukwiya.

In memory of Dr Matthew Lukwiya and other HCWs who have lost their lives in the line of duty, the Uganda National Association for Community and Occupational Health (UNACOH) has since 2002, held the annual Dr Matthew Lukwiya Memorial Lecture (DMLML). The UNACOH launched its first conference on the 26th of September 1987. However due to teething challenges

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the next conference did not take place until September 1993. Since then, except during the COVID-19 pandemic lockdowns in 2020, UNACOH has held an annual scientific conference.

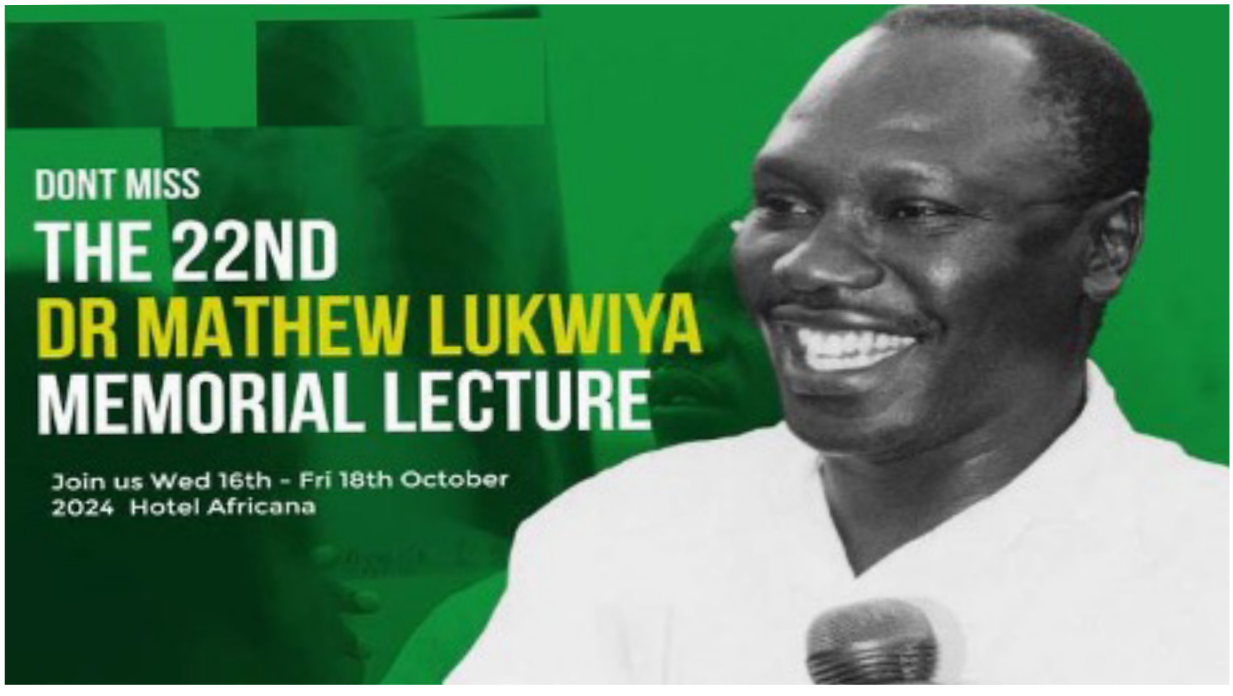
The 2000 annual scientific conference was attended among others by a Master of Public Health (MPH) degree post graduate student-Dr Matthew Lukwiya. Shortly after, on the 8th of October 2000, a mysterious disease, later confirmed to be the first Ebola Virus Disease epidemic in Uganda was reported from Gulu District[13]. Dr Lukwiya who had just completed his MPH degree and was in Kampala was informed about the mysterious disease in Gulu. He travelled from Kampala to Lacor hospital and was the first to make the alarm about a possible Viral Haemorrhagic Disease (VHD) epidemic. He swiftly set up an isolation ward for the management of cases. He also initiated health education of Lacor hospital staff about barrier nursing (as it was called then) and infection prevention and control (IPC) measures. He was one of three doctors, along with Dr Zabulon Yoti, who volunteered to work in the isolation ward from the start of the epidemic. His presence strengthened the response to the epidemic. Unfortunately, Dr Mathew Lukwiya contracted the disease and on the 5th of December 2000, he died, despite medical efforts and nation-wide prayers for God to spare his life.

The first Ebola Virus Disease in Uganda commenced on the 8th of October 2000. The epidemic was characterized by fever and haemorrhagic manifestations and affected HCWs and the general population of Rwot-Obillo, a village 14 km north of Gulu town[13]. Later, the epidemic spread to other parts of the country including Mbarara and Masindi districts. Response measures were instituted including, surveillance, community mobilization, case, and logistics management. Three coordination committees were formed- a National Task Force (NTF), a District Task Force (DTF) and an Inter-ministerial Task Force (IMTF). The NTF and DTF were responsible for coordination and follow-up of implementation of activities at the national and district levels, respectively, while the IMTF provided political direction and handled sensitive issues related to stigma, trade, tourism, and international relations[13]. The international response was coordinated by the WHO under the umbrella organization of the Global Outbreak and Alert Response Network (GOARN) [13].

The epidemic lasted up to 16 January 2001 and a total of 425 cases with 224 deaths were reported countrywide (Case fatality ratio of 53%). The epidemic was finally declared over on the 27th of February 2001, 42 days after the last case was reported[13].

From the 16th - 18th of October 2024, the 18th Joint Annual Scientific Health (JASH) conference, the 30th UNACOH conference and the 8th Uganda Medical Association (UMA) Grand Doctors Conference (GDC) and Annual General Meeting (AGM) was held, culminating in the ***22nd Dr Mathew Lukwiya Memorial Lecture***. The theme for the 2024 conference, that was held at Hotel Africana in Kampala Uganda, was ***"Global Health Security: Partnerships for Epidemic Response and Control in sub-Saharan Africa"***. I was humbled and honored to deliver the 22nd Dr Matthew Lukwiya memorial lecture, on the 18th of October 2024, titled ***Global Health Security: The urgent need for expanding partnerships and protecting frontline health workers***.

In this paper I propose some concrete actions to protect frontline health workers. In 2000, when the first EVD epidemic occurred in Uganda, I was Principal Epidemiologist at the Uganda Ministry of Health (MoH) and I led the surveillance and data management technical working group (TWG) on the NTF led by Dr Sam Okware (then Commissioner for Community Health Services), with overall technical stewardship from Professor Francis G. Omaswa (then Director General of Health Services-DGHS) and political stewardship from Dr Chrispus W,C,B. Kiyonga (then Minister for Health). So, the outstanding role and ultimate sacrifice paid by



Dr Matthew Lukwiya and other HCWs is still painfully etched in my mind.

In 2007, when the Bundibugyo epidemic occurred, I was Assistant Commissioner for the Epidemiology and Surveillance Division. We initially sent blood samples to the US Centers for Disease Control and Prevention (US-CDC) in Atlanta, Georgia, the National Institute of Communicable Disease (NICD), in South Africa, the Kenya Medical Research Institute (KEMRI), Kenya, but the first samples were reported negative for Ebola Virus Disease. However, HCWs continued to get infected, which did not add up to the differential diagnosis of Rift Valley Fever, a vector borne disease. A second rapid response team (RRT) led by Dr Joseph Wamala was redeployed to conduct further investigations and collect additional samples that were sent to the US CDC in Atlanta and this time round it turns out that it was Ebola due to a Novel strain-Bundibugyo[14]. So, the brave role and ultimate sacrifice paid by Dr Jonah Kule and other HCWs is also still painfully etched in my mind.

The urgent need to protect frontline health care workers

It is close to 24 years ago when Dr Matthew Lukwiya (MHSRIEP) said ***"I am going to die now, I pray no one has to die of this disease again"***. Yet even today as the world lionizes HCWs, we fail to keep them safe as they work to keep others safe and alive. Sadly, outbreaks continue to take a toll on HCWs. The COVID-19 pandemic unraveled inadequacies in protecting HCWs[15.16]. As the virus swept the globe, public displays of support for overburdened HCWs were common and yet lack of protections for HCWs, and their consequences, were clear. There were hundreds of thousands of HCW infections because of lack of personal protective equipment (PPE). There was an uptick in mental health issues and suicides, because of the strain on HCWs due to ill-prepared public health systems[15]. The WHO estimates that between 80 000 and 180 000 health and care workers could have died from COVID-19 in the period between January 2020 to May 2021, converging to a medium scenario of 115 500 deaths[17].

Health care worker infections hamper epidemic control efforts. First, HCW infection sideline necessary staff; second, they make HCWs and by proxy, hospitals, and other health care facilities vectors for spreading disease; third, they deplete the health care workforce and finally, they impede provision of routine care. In the Sierra Leone-2014–2016 Ebola outbreak for example, loss of HCWs translated to a 23% reduction in health services[17].

Failing to protect HCWs weakens health care systems and moves us away from the goal of universal health coverage (UHC) and the sustainable development goal 3 (SDG-3)-good health and wellbeing. Inadequate preparedness for epidemics and inadequate protection of HCWs is a failure, not only of governments, but also of international institutions and donors. We need collective responsibility and accountability for the well-being of our HCWs. Knowing is not enough-We must apply: Willing is not enough-We must do.

Ten urgent concrete actions

I propose ten urgent concrete actions that are needed now to protect frontline HCWs.

1. Scale up infection prevention and control (IPC) and water sanitation and hygiene (WASH) programmes at national and facility level. This should include a review and update of tools, indicators and score cards for IPC and WASH, as well as provision of adequate support for IPC and WASH, including sufficient PPE supplies and funding.
2. Invest in training, tools and resources for a safer health care workforce and ensure HCWs have sufficient IPC training, safe work environment and safety equipment.
3. Create a career path for IPC professionals. In the complex world of health care, IPC is crucial to keeping everyone safe. IPC helps protect healthcare professionals and reduces patients' risk for healthcare-associated infections (HAIs), which they can get while or soon after receiving care. There is an urgent need to create a career path for IPC professionals.
4. Improve data collection and accountability by tracking and reporting HCW illnesses, deaths, and impacts on employment in outbreak contexts and the underlying causes of illness and deaths.
5. Review laws and legislation to protect HCWs from attack and stigma. Workplace violence against HCWs is increasing all over the world. Due to the COVID-19 pandemic, violence against HCWs increased rapidly. While the causes are multiple, unfortunately, HCWs feel helpless when this happens. Therefore, legal protection towards HCWs in case of workplace violence is needed.
6. Provide HCWs with mental health and psychosocial support. The term 'mental health and psychosocial support' (MHPSS) refers to any type of local or outside support that aims to protect or promote psychosocial well-being or prevent or treat mental health conditions. MHPSS is not confined to a single sector but requires a multi-sectoral approach with involvement of partners in health, education, and protection. Addressing MHPSS issues for HCWs requires that emergency responses are safe, dignified, participatory, community owned, and socially and culturally acceptable. HCWs should be enabled to attend to their own well-being and that of others in their families and communities. There is a need to ensure that HCWs distressed by mental health and psychosocial problems have access to appropriate support and care and those with moderate or severe mental health conditions should have access to essential mental health services and to social care.
7. Develop and implement effective national health care workforce strategies and plans to improve readiness so that there is adequate HCWs density per population as per WHO standards.
8. Monitor progress and improvements using WHO monitoring frameworks at the national and facility level, such as the Joint External Evaluation (JEE) and State Party Self-Assessment Annual Report (SPAR).
9. Ensure availability of surge capacity and ready to

deploy multi-disciplinary surge teams

10. Build and sustain global health security capacities and resilient health systems. The WHO defines Global Health Security as *"the activities required, both proactively and reactively, to minimize the vulnerability to any public health emergencies that endanger the collective health of populations living across geographical regions and international boundaries" [18].*

Health security becomes a general security and development concern when it threatens a nation's ability to function and safeguard its citizens' welfare, including provision of basic services. The rapid spread of the COVID-19 pandemic demonstrates this new critical concern. It also necessitates the adoption of a holistic approach to health, reflecting both a health security approach (controlling the health emergency) and a health development approach (tackling upstream causes and determinants). Although investments in health security are crucial, including early warning systems and laboratory networks, adequate health work force and adequate clinical care, health security alone is not sufficient because it leads to verticalizing infectious disease prevention and control, often overlooking the broader health systems that are chronically underfunded, fragmented, under resourced and inequitable. The COVID-19 pandemic has brough to the surface the crucial relationship between health system capacities and effective health security response.

In most countries, health system deficiencies hindered effective response. These include a lack of emergency planning and leadership, inadequate health work force, shortages of infrastructure and equipment, disruptions to medical supply chains, limited scale-up capacity to respond to increases in caseloads, inadequate information on health systems capacities, as well as a weak engagement of the private sector providers with governments in national pandemic responses. The sad reality is that there can be no genuine and resilient global health security system without strong and resilient health systems with fit for purpose essential public health functions and adequate resources at all levels. Health systems that can effectively leverage both robust global health security core capacities -for instance risk communication, surveillance, and laboratories- and fundamental universal health coverage interventions such as primary health care, accessible health facilities, health worker force and affordable medicines and supplies, are in a better position to protect their citizens against the social and economic impacts of the epidemics and pandemics.

During epidemics we often witness disruptions to many programmes including those for maternal and child health, communicable disease control, routine immunization, and non-communicable disease control. These disruptions are largely attributed to inadequate progress on universal health coverage and limited consideration for the role of primary health care in preparedness and response to epidemics. Thus, overall health outcomes are unlikely to improve without simultaneously addressing both universal health coverage and global health security. Thus, mobilizing investments in a health system approach therefore represents a "double-win".

Conclusion

Dr Mathew Lukwiya has been and continues to be a symbol that represents all HCWs who have lost their lives in the course of saving the lives of other Ugandans. The COVID-19 pandemic gives further significance to this year's Dr Lukwiya Memorial lecture in view of the numbers of HCWs that have lost their lives because of inadequate capacities in their work environment. In closing, the role of our health care workers is to save lives and alleviate the suffering of patients. It is not to get infected and die because of poor working environments and limited capacities to Prevent, Detect and Respond to epidemics. I call upon the government and Uganda's development partners to act now to stop health care workers infections and deaths during their line of duty.

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