



**MEDICI  
CON L'AFRICA**  
CUAMM  
Doctors with Africa



## **HEALTH AND DEVELOPMENT**

Magazine on  
International Development  
and Health Policy  
August 2025 — No. **90**

*Economic growth  
over public health*





## NEWS

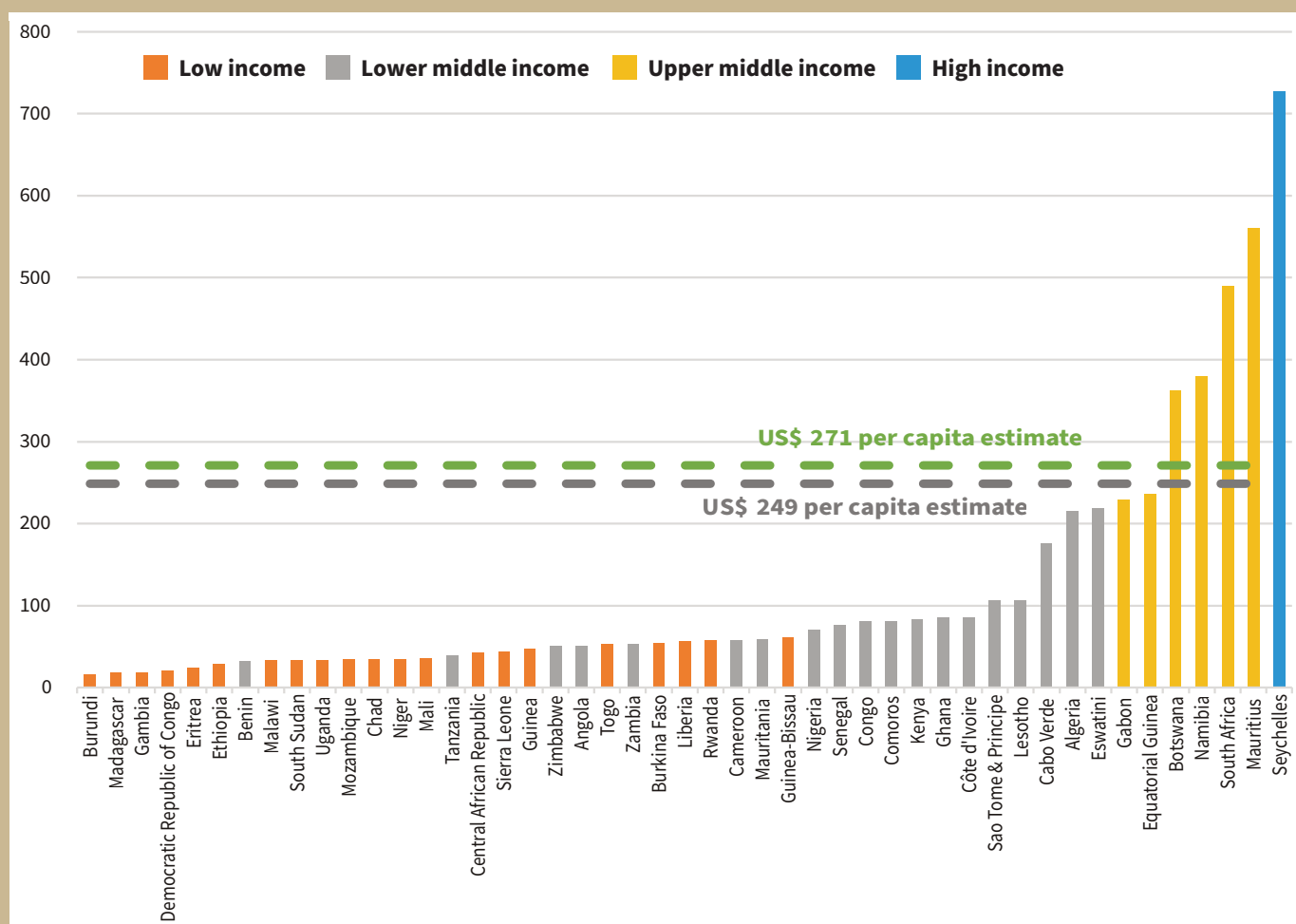
### Health expenditure in sub-Saharan Africa

Current health expenditure per capita in much of sub-Saharan Africa is significantly low, averaging well under US\$100 per year. In many of the region's countries, the figure falls to under US\$50 per year. Uganda, to which much of this issue of our magazine is dedicated, falls into the latter group.

Comparing these figures with the average health expenditure per capita in the European Union (around US\$5,000) or the United States (around US\$12,000) brings to the fore the enormous inequality in the distribution of healthcare resources – just one of the consequences of the obscene concentration of global wealth in the hands of an ever-smaller group of individuals.

The numbers shown below (see **Figure 1**) are rooted in what began to happen in the late 1980s, when the World Bank, in exchange for its financial support, imposed harsh conditions on African countries that were already heavily indebted and verging on bankruptcy. In line with the Bank's neo-liberal economic policies, these conditions included making severe cuts to public spending, especially on health and education, obliging patients to pay for public health services, and forcefully promoting the private and insurance sectors. The trend has continued over the decades, and indeed, bears vague similarities to what is now happening in our own country.

**FIGURE 1 /** CURRENT HEALTH EXPENDITURE PER CAPITA, BY COUNTRY, 2020, WHO AFRICAN REGION



# CONTENTS



## DIALOGUE

PAGE 2

### “CARING IS AN ACT OF STRENGTH”

Text by / don Dante Carraro

PAGE 3

### IMMIGRATION, OR WHEN POWER IS SCHIZOPHRENIC

Text by / Gavino Maciocco



## FORUM

PAGE 6

### HEALTHFORALL? UGANDA'S ONGOING JOURNEY TOWARD UHC

Text by / Peter Lochoro

PAGE 8

### INSIDE HEALTH SYSTEMS

Jessica Marzaro interviews Aliyi Walimbwa

PAGE 10

### IMPROVING PREPAREDNESS AND RESPONSE IN EMERGENCY

Text by / Jerry Ictho, Godfrey Esiru, Peter Lochoro, Alexia Pastori



## EXPERIENCES FROM THE FIELD

PAGE 12

### BEYOND SERVICES: INSIGHTS FROM HOSPITALS

Jessica Marzaro interviews Dr. Sam Orach

PAGE 13

### WORKING WITH LIMITED RESOURCES IN OYAM DISTRICT

Text by / Giovanni Dall'Oglio

PAGE 15

### TACKLING ANTIMICROBIAL RESISTANCE IN KARAMOJA

Text by / Simone Cadorin



## FOCUS

PAGE 18

### IMMUNIZATION, DATA AND HEALTH: LESSONS FROM UGANDA

Jessica Marzaro interviews Joseph Katetemera



## REVIEW

PAGE 19

### CLIMATE CHANGE AND HEALTH: AFRICA'S OTHER CRISIS

Text by / Andrea Atzori

#### EDITOR

Gavino Maciocco

#### EDITORIAL STAFF

Andrea Atzori, Dante Carraro, Adriano Cattaneo, Silvio Donà, Fabio Manenti, Martha Nyagaya, Ana Pilar Betran Lazaga, Giovanni Putoto, Angelo Stefanini, Anna Talami, Ademe Tsegaye and Calistus Wilunda

#### EDITOR-IN-CHIEF

Anna Talami

#### A PUBLICATION OF

Doctors with Africa CUAMM

#### ADMINISTRATION

Via S. Francesco, 126 - 35121 Padua

t +39 049 8751279-8751649

f +39 049 8754738

e-mail cuamm@cuamm.org

#### EDITORIAL COORDINATION

Jessica Marzaro

#### COVER ILLUSTRATION

Lorenzo Gritti

#### LAYOUT AND PRINTING

Publistampa, Via Pennella, 70 - 38057 Pergine Valsugana (Trento)

#### COPYRIGHT

Doctors with Africa CUAMM, Via S. Francesco, 126 - 35121 Padua.

Articles and materials contained in this publication can be reproduced in whole or in part provided that the source is cited.

#### REGISTRATION AND AUTHORIZATION

Law Courts of Padua no. 1129 on 6 May 1989 and on 11 September 1999.

*Health and Development* is a triannual magazine on international development and health policy.

#### DISPATCH

Poste italiane s.p.a. - Spedizione in Abbonamento Postale - D.L. 353/2003 (convertito in Legge 27/02/2004 n° 46) art. 1, comma 1, NE/PD

#### TRANSLATION

Sara Copeland Benjamin

Cover illustration

#### Economic growth over public health

The widespread focus on economic growth through production and infrastructure expansion has not brought about more robust public health, but instead put it at further risk. This is evident in many African countries, where already weak and underfinanced healthcare systems risk being crushed by the weight of other priorities.

This issue's cover shows skyscrapers towering over a tiny hospital, vividly illustrating the crisis: as infrastructure development explodes, access to healthcare continues to falter. How can this access be guaranteed for all when the right to health remains on the periphery of political agendas? The situation in Uganda, where development is visibly racing ahead while healthcare lags behind, exemplifies that found in many other low- and middle-income countries.





## DIALOGUE

### “CARING IS AN ACT OF STRENGTH”

As global crises, cuts to cooperation aid and short-sighted policy decisions increasingly jeopardize the right to health, essential services are being denied to millions. This edition of *Health and Development* features reports from the field on inequalities and difficulties, but also signs of resilience. Now more than ever, providing healthcare requires courage, vision and responsibility.

TEXT BY / DON DANTE CARRARO / DIRECTOR OF DOCTORS WITH AFRICA CUAMM

In a world fraught with uncertainty, war and renewed arms races, it is all too easy to forget a fundamental truth: that everyone has a right to health.

Yet even though this right has long been recognized by the United Nations (whose 2030 Agenda for Sustainable Development includes it among the Sustainable Development Goals), it is increasingly under threat. Inadequate resources, a lack of political commitment, competing interests and unforeseen crises are just some of the many barriers that have led to millions of people being denied access to essential health services, especially those in resource-limited countries. Indeed, more than half of sub-Saharan Africa's population lives in such conditions.

Doctors with Africa CUAMM is only too familiar with the real-life impacts of this situation. We hear about them from our people in the field, and in the silence of hospitals brought to a standstill due to a lack of supplies. We see it on the faces of those awaiting unavailable treatments. We've collected some of their voices in this issue of *Health and Development*, to help our readers learn more about and reflect on the inequalities experienced every day in the countries we partner with.

Recent foreign aid policies are making matters worse. The current U.S. administration has suspended or cut billions in funding to the U.S. Agency for International Development (USAID), which has historically provided vital support for the right to health of millions of people in the world's poorest countries. The United Kingdom, too, has reduced its international aid budget from 0.5% to 0.3% of gross national income<sup>1</sup>. These cuts are impacting not only humanitarian and development work, but also scientific research, with funding for essential work on HIV, malaria, climate change and more being slashed in the name of more “efficient” public spending.

And it is human beings, especially the most vulnerable, who are bearing the greatest brunt of these policies. With ever scarcer funding, a growing absence of political will, and a loss of sight of priorities, the very notion of the right to health is losing its meaning. And this is happening both at the national and international levels, making it a dual challenge.

Yet the countries that are paying the highest price, many of them African, are responding to this challenge with resilience, and we can learn from them. A case in point is Uganda, where investment in health remains inadequate despite the country's robust economic growth. As Peter Lochoro, our Ugandan Country Manager, and Dr. Aliyi Walimbwa of the Ugandan Ministry of Health recount in these pages, even while economic development often fails to translate to improved access to basic healthcare, efforts can and are being made to find solutions to these difficulties and strengthen the healthcare system.

This issue presents testimony from various levels of the system, from hospital to district level (Dr. Giovanni Dall'Oglio); on the immunization front, with its many challenges (Dr. Katetemera); and more, including tackling the growing impact of climate change by adopting the One Health approach (Andrea Atzori).

How can health be guaranteed for all when there still aren't enough resources for even the most basic needs? How can we respond to today's challenges while still struggling to address yesterday's? Humble yet determined, we will continue to look for answers to these predicaments and to share what we learn. We will also continue to work tirelessly on the ground with our partner countries to achieve our mission: putting health at the center, including in the world's most remote corners.

In closing, we embrace the words of *The Lancet*<sup>2</sup>, which have never rung more true or necessary: “[C]ooperation and constructive partnerships are vital, and (...) science has the ability not only to advance our understanding of the world but also to bring people together. [H]ealth is a social good, beneficial for societies, a driver of economies, and a path to development. (...) [E]quity – treating according to need – is fundamental to what medicine is. And (...) to care is an act not of weakness, but of strength.”

#### NOTES

<sup>1</sup> <https://www.reuters.com/world/uk/charities-appalled-by-uk-cut-aid-budget-fund-defence-spending-2025-02-25/>

<sup>2</sup> [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(25\)00237-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(25)00237-5/fulltext)



## IMMIGRATION, OR WHEN POWER IS SCHIZOPHRENIC

Even as Italy acknowledges its need for migrants, it remains laser-focused on keeping unauthorized migrants and asylum seekers out, and harshly treating those who find their way in. Those who come through legal channels, too, encounter scant investment and difficulty in acquiring Italian citizenship. Is there an invisible line drawn between migrants and “patria”?

TEXT BY / GAVINO MACIOCCO / DEPARTMENT OF HEALTH SCIENCES, UNIVERSITY OF FLORENCE

At a recent hearing before the Parliamentary commission of inquiry into the economic and social effects of the country's ongoing demographic transition, the Italian Minister of Economy and Finance, Giancarlo Giorgetti, professed great concern over our demographic crisis. If fewer and fewer children continue to be born here and our borders are closed to migrants, we will no longer have the ability to move forward or the resources with which to ensure financial resources and care for our elderly. “This is an issue that the entire political class is aware of, but tends to put aside,” Giorgetti said, underscoring that “It's left unaddressed because it's not a priority for anyone.” (*Il Sole 24 Ore*, 18 June 2025<sup>1</sup>).

For years, demographic analyses have pointed to an inexorable population decline in Italy, which has one of the lowest birth rates in the world. If the current birth rate trend continues, today's population of 58.8 million (data from early 2024) is projected to fall to 53.2 million by 2054 and 44.7 million by 2074. In other words, in just 50 years the population size might be what it was in 1940. This was the subject of an earlier editorial in *Salute e Sviluppo* (no. 88, February 2024) entitled “*Only Africa Will Save Us*”. Indeed, Africa has the fastest-growing, youngest population of any continent, one teeming with energy and resources – just what Italy needs to save it from its own depopulation and decline. Echoing this fact, *Corriere della Sera* recently wrote<sup>2</sup>, “*How many migrants would Italy need to save jobs, healthcare and our country's GDP? More than 13.5 million by 2050.*”

Certain actors in our political system decry such propositions as “ethnic replacement”, a sort of “absolute evil”. For all his informed and concerned avowals, Minister Giorgetti is among them, and the government he serves has done far worse than just “putting aside” our depopulation predicament. It has established stringent and burdensome immigration policies, made even harsher by a 2023 migrant decree – the so-called Cutro decree – that calls for zero reception and integration and authorizes even longer periods of detention in Italy's notorious *Centri di Permanenza per il Rimpatrio* (CPRs) and deportation.

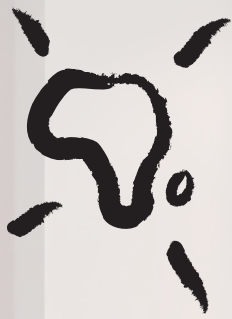
The Italian Society for Migration Medicine (SIMM) has sounded the alarm on these so-called migrant repatriation centers, which have also been set up in Albania, due to growing evidence of their poor conditions of hygiene and sanitation as well as the physical and mental suffering and neglect of detainees, many of whom have self-inflicted injuries or have been the victims of violence by others. SIMM has appealed to the National Federation of Doctors and Surgeons (FNOMCeO) “to close the CPRs immediately; to launch a European-level debate over the abolition of administrative detention, given that they are pathogenic places that violate the fundamental rights of migrants and put their health and lives at risk; and to declare that no health professional operating in accordance with Article 32 of the Italian Constitution and the Code of Medical Ethics can provide, or be required to provide, services in connection with the operation of such facilities either inside or outside of Italy (for example, by signing assessments at the request of the police that an individual may suitably be detained in a CPR), as they lack essential safeguards for detainees and are contrary to the professional ethics of care. FNOMCeO has issued a similar statement on the unacceptability of using healthcare personnel to determine which migrants can be sent detention centers in Albania.”

Italy therefore seems schizophrenic when it comes to the issue of immigration: despite acknowledgment that our country needs migrants, the focus is all on keeping unauthorized migrants and asylum seekers out, harshly treating those who get in, and erecting hurdles for those already here and no danger to society who want to legalize their status. In addition, those who come through legal channels encounter scant investment and difficulty in acquiring Italian citizenship – as if there were an invisible line drawn between migrants and “patria”. In short, it's convenient to use migrants, but we don't really want them.

### NOTES

<sup>1</sup> N. Cottone, Giorgetti: spopolamento drammatico, politica accantona il tema, *Il Sole 24 Ore*, 18 giugno 2025.

<sup>2</sup> [https://www.corriere.it/economia/lavoro/25\\_giugno\\_16/quant-immigrati-servono-all-italia-per-salvare-lavoro-sanita-e-pil-oltre-13-5-milioni-entro-il-2050-9ad23a4f-235a-4b99-87d9-def5a64d9x1k.shtml](https://www.corriere.it/economia/lavoro/25_giugno_16/quant-immigrati-servono-all-italia-per-salvare-lavoro-sanita-e-pil-oltre-13-5-milioni-entro-il-2050-9ad23a4f-235a-4b99-87d9-def5a64d9x1k.shtml)



## SHINING A LIGHT ON OPERATIONAL RESEARCH: MATERNAL AND CHILD HEALTH IN AFRICA

On May 16, 2025, in Milan, Doctors with Africa CUAMM hosted an event on the role of operational research in advancing maternal and child health across Africa.

Organized in partnership with the Lombardy Region and held in the institutional setting of Palazzo Lombardia, the event gathered 250 participants, including institutional representatives and field professionals.

Young researchers took the stage to share grounded **experiences**. They presented creative solutions for premature babies, studies on malnutrition, the use of low-cost respiratory devices, and research on nurses' working conditions.

A central moment of the day was the roundtable discussion, which brought together African and Italian voices in an open and dynamic exchange. It underscored the real value of innovation and created space for dialogue between academic insight and field-based knowledge.

In a world where each year 260,000 women die from pregnancy-related causes, 2.3 million newborns do not survive, and more than 5 million children die before the age of five, **research** is a key piece of the puzzle to make health a true driver of sustainable development and to reduce these unacceptable numbers.

## DIALOGHI DI RICERCA RICERCA CHE CREA SALUTE: INNOVAZIONI FRUGALI

**Intervengono:**  
**Annajoyce Claver**  
**Kamugishato,**  
Caposala reparto m  
ospedale di Tosama  
Tanzania

**Tarikua Endrias B**  
Responsabile sanità  
intensiva neonatale  
Hospital, Etiopia

**Modera:**  
**Andrea Atzori,**  
Responsabile Relazioni  
internazionali,  
Medici con l'Africa Cuamm

**SFIDE E SOLUZIONI PER LA SALUTE MATERNO-INFANTILE:**  
IL CONTRIBUTO DELLA RICERCA OPERATIVA IN AFRICA



y  
maternità  
aganga,  
  
utta,  
aria terapia  
Saint Luke

**Serge Boni,**  
Professore ordinario di  
Ginecologia e ostetricia,  
Consulente del Ministro della  
Salute della Costa d'Avorio

**Mario Merialdi,**  
Founder di Maternal Newborn  
Health Innovation (Mnhi)\*

In collaborazione con  
 Regione  
Lombardia

 **MEDICI  
CON L'AFRICA**  
CUAMM





# HEALTH FOR ALL? UGANDA'S ONGOING JOURNEY TOWARD UHC

Achieving truly inclusive health systems is no easy task.

In Uganda, where Universal Health Coverage is set as a 2030 goal, structural disparities between urban and rural areas, resource constraints, and aid dependency remain key hurdles, yet they also inspire locally driven innovations.

TEXT BY / PETER LOCHORO / DOCTORS WITH AFRICA CUAMM

Uganda, a landlocked country in East Africa, is home to more than 47 million people and one of the world's fastest-growing populations.

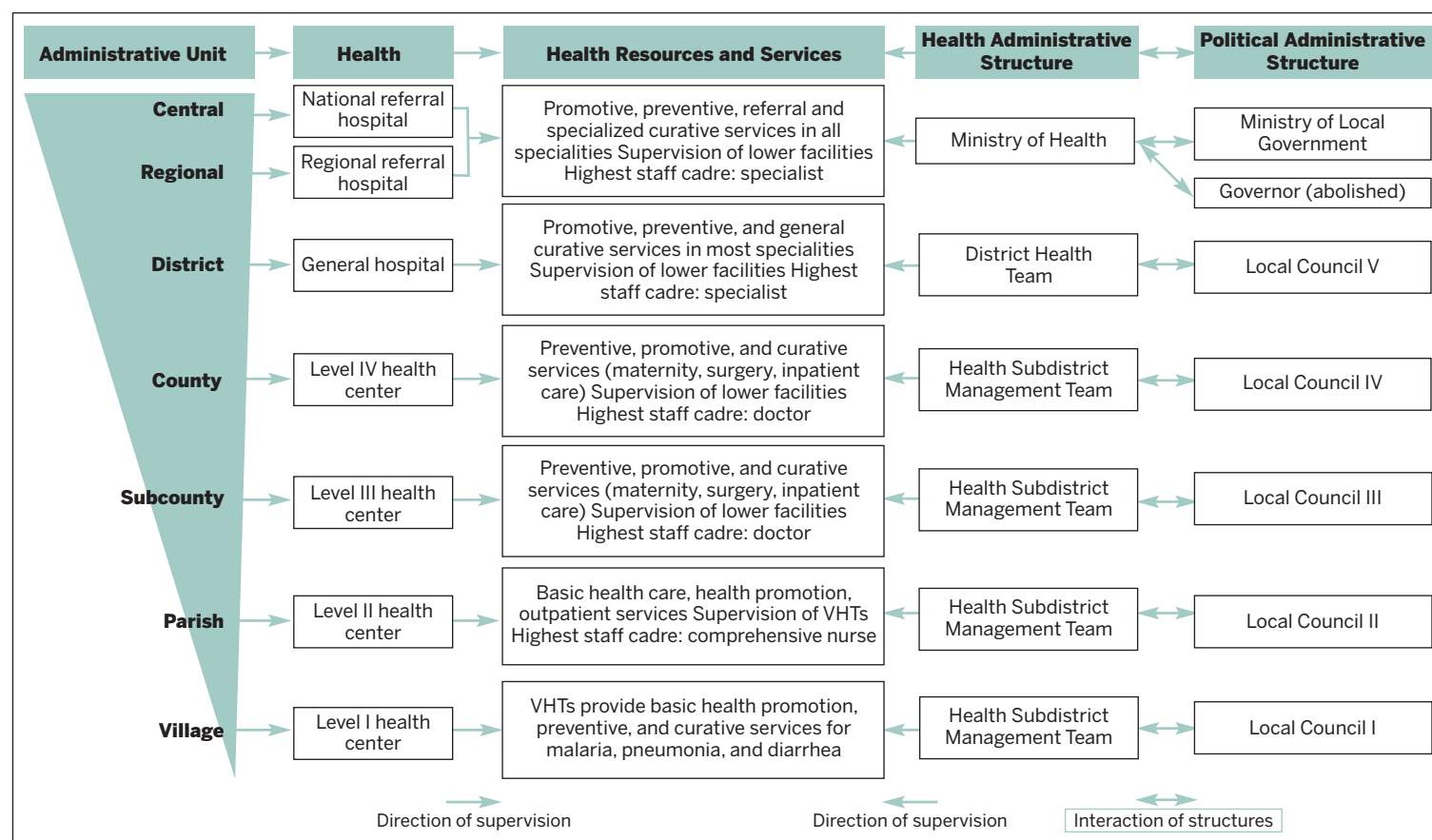
Through its Health Sector Strategic Plan (2020/21–2024/25), Uganda aims to “strengthen the Health System and its support mechanisms with a focus on Primary Health Care to achieve Universal Health Coverage by 2030”<sup>1</sup>. Progress is tangible: 91% of the population now lives within five kilometres of a health facility, HIV prevalence has declined from 7.2% in 2010 to 5.1% in 2023, and the country now offers routine immunization against 14 diseases, with coverage rates among the highest in the region. Yet

Uganda still faces a high burden of preventable diseases, limited infrastructure, and critical gaps in healthcare financing and human resources.

## THE STRUCTURE OF CARE

The Ugandan health care system is organised in a multi-tiered structure designed to provide specific packages of health services. The system also incorporates private and non-govern-

FIGURE 1 / UGANDA'S HEALTH SYSTEM STRUCTURE (FROM NANYONJO A, ET AL)



mental organizations (NGOs) that complement government efforts, providing additional services in urban and rural areas.

The foundation of Uganda's health system lies in community health services, focusing on preventive, promotive, and basic curative services. The base are **community health services**, provided by Village Health Teams (VHTs) — volunteers who serve as the first link between households and the formal health system. Since 2016, Uganda has been working to professionalize this layer through the introduction of Community Health Extension Workers (CHEWs)<sup>2</sup>, though the rollout remains incomplete.

At the **primary level**, Health Centres II and III provide basic outpatient services, maternal care, and outreach for disease prevention. **At the referral facility level, Health Centre IVs and general hospitals** offer more advanced diagnostics, surgeries such as caesarean sections, and blood transfusion services. At the top are **Regional Referral Hospitals and National Tertiary Care**, which are equipped with advanced medical technologies and specialists, offering comprehensive and complex treatments.

## RESILIENCE THROUGH DIFFICULTIES

Despite a structured health system, the health divide between **urban and rural Uganda** remains stark. Cities like Kampala benefit from better infrastructure, equipment, and a higher concentration of skilled health workers. In rural districts, facilities often lack essential medicines, staff, or electricity<sup>3</sup>. Long distances, cultural barriers, and limited awareness further discourage timely care-seeking. As a result, despite efforts made to improve health, rural populations face higher rates of morbidity and mortality — particularly among mothers and children.

At 189/100,000 live birth, maternal mortality rate remains high, largely due to inadequate access to skilled birth attendants, quality maternal healthcare, and emergency obstetric services. Child health indicators, including infant mortality and malnutrition are improving but, remain very high.

The country is still grappling with limited financial resources to fund healthcare adequately. The health sector relies heavily on external aid and donations, which are often unpredictable. In 2023/24<sup>4</sup> of the 4.052 Trillion budget 38.4% was funded by the

donors and it was much higher in some disease programmes, like in HIV/AIDS. As a result, Uganda struggles with budget constraints, leading to a shortage of essential medicines, medical equipment, and trained healthcare workers.

In the recent years, there has been an increase in the available health workers per population, the number of medical doctors and nurses and midwives now registered with the professional councils is 9,388 and 119,132 respectively. Despite, the health workforce remains stretched: only 34% of public staffing positions are filled, despite a growing pool of trained professionals. Many rural areas<sup>5</sup> rely on underpaid or voluntary staff to meet basic needs.

Despite structural gains, Uganda's health system remains vulnerable to external shocks, including epidemics and climate-related disasters. In recent years, the country has faced recurrent outbreaks of Ebola, Monkeypox, and malaria, as well as a high burden of tuberculosis. The proximity of Uganda to neighbouring epidemic hotspots like Congo and South Sudan and the free movement of people including refugees puts Uganda at continuing risk of epidemics. Climate change effects leading to extreme weather events like floods, droughts increase the likelihood of epidemics.

The growing burden of **non-communicable diseases** — including hypertension, diabetes, and cancer — is another challenge. These conditions require long-term management and specialized care, which are often unavailable outside of major urban centres.

## THE ROAD AHEAD

The Ugandan health system has made notable strides in improving healthcare access and tackling major health challenges, particularly HIV/AIDS and malaria. However, it remains fragile, underfunded, and hampered by a shortage of skilled health workers and inequitable distribution of resources. As the country works toward more resilient and equitable health services, the experiences from the ground remind us that **universal health coverage is not just a policy goal — but a collective responsibility**. These challenges provide a continuing role for CUAMM in the Uganda health system.

## NOTES

<sup>1</sup> Ministry of Health, Health Sector Strategic Plan 2020/21 - 2024/25

<sup>2</sup> Ministry of Health, National Community Health Strategy 2021/22-2025/26

<sup>3</sup> Ministry of Health, Human Resource for Health Audit Report, 2017/18

<sup>4</sup> Uganda Ministry of Health, Annual Health Sector Performance Report 2023/24

<sup>5</sup> Ramadhan H, 2015, Retention challenges of human resources for health: What are the alternatives incentives for retention of skilled health workers in Uganda health sector? Med. Pract. Rev. <https://doi.org/10.5897/MPR.2014.0110>



## INSIDE HEALTH SYSTEMS

Delivering on the right to health starts with strong, resilient health systems. Aliyi Walimbwa is an expert in health systems strategies and policies from the Uganda Ministry of Health. In this interview, he shares insights into the strategies being pursued to improve healthcare access, reduce financial burdens on families, and overcome systemic obstacles.

JESSICA MARZARO INTERVIEWS ALIYI WALIMBWA / EXPERT HEALTH PLANNER AND HEALTH ECONOMIST, HEALTHCARE SPECIALIST AT THE UGANDA MINISTRY OF HEALTH

Access to quality health services remains a critical challenge in many countries, especially where resources are limited and populations continue to grow. But how can innovative financing, system development, and national health initiatives shape the future of the health system?

In this interview, we speak with Aliyi Walimbwa, expert Health Planner and Health Economist and Healthcare specialist at the Uganda Ministry of Health.

### **What is the political commitment of the Ugandan government when it comes to health?**

If you look at the official documents, the level of political commitment is described as “high”. But it’s fair to ask: how do we define that?

One way to measure it is by looking at the national budget allocation. In Uganda, the health sector is ranked among the top five priorities, which signals that health is considered a priority. In times of emergency, such as during epidemics, the sector often receives supplementary funding, which further reflects the government’s responsiveness to health needs.

Beyond budget figures, Ugandan political commitment for health as national priority is also evident in public pronouncements made by the President, the Minister of Health, Cabinet members, and members of Parliament. So, in Uganda, the commitment is strong. Whether these translate into action, that’s another issue.

### **Since you raised the issue, is this commitment truly being translated into action?**

That’s the key point: we need to move from commitment to action. Take financial access. Uganda still has one of the highest levels of out-of-pocket expenditure in the region. In the past five years, about 30% of total health spending has come directly from people’s pockets – well above the WHO and World Bank recommendation of 15-20%. And this happens despite a policy framework that officially offers free services.

To address this, we point to international benchmarks. The Abuja Declaration commits governments to allocate at least 15% of their national budget to health. Uganda has consistently stayed between 7% and 8% over the last decade. WHO also recommends that governments in sub-Saharan Africa spend at least \$86 per person annually to ensure essential health services. Uganda currently spends around \$11 per capita. As a

share of GDP, health spending remains below 2%, far from the suggested 5%.

Even where reforms exist, like increasing staffing norms at health facilities, the action often stalls due to budget limitations: staffing norms tripled, but with no matching budget, coverage fell from 60% to 22%.

### **You raised two fundamental indicators: health public expenditure and health costs for families. Can we develop them more? For example, Uganda’s GDP is growing, but is the government’s public health expenditure keeping pace?**

Currently, Uganda allocates about 1.7% of its GDP to public health spending, which is significantly below the national target of 5%. This gap highlights a major challenge: even as the economy grows, the proportion of the budget dedicated to health does not increase correspondingly.

In practical terms, this means that while the overall economic pie is expanding, the slice reserved for health often remains small or fluctuates. This underfunding limits the health sector’s ability to improve services, increase staffing, or expand coverage.

Recognizing this, Uganda has held National Financing Dialogues to set clear goals. One key commitment is to gradually increase public health spending to reach 5% of GDP by 2040. Achieving this target is considered essential for meeting the country’s universal health coverage ambitions and ensuring sustainable financing of essential health services.

For example, in reducing out-of-pocket expenditure, which often becomes catastrophic expenditure for families. When people visit public health facilities and find that essential medicines are out of stock, diagnostics services are unavailable, or the wait times are long, they have to seek services elsewhere, often in the private sector where they must pay.

### **So, how can the health system work to reduce financial burden of health expenses on families?**

To tackle this, increasing government funding to the health sector is fundamental. However, despite efforts to raise the health budget, the funding does not always increase proportionally to the growing needs of the population. Uganda faces rapid population growth, which means that even if the health budget grows nominally, it might not keep pace with per capita needs.

Recognizing this, the government has been exploring prepay-

ment and contributory schemes, such as the National Health Insurance Scheme, which aims to pool resources from all citizens according to their ability to pay, allowing access to healthcare based on need rather than immediate payment. Similar schemes are operational in neighboring countries like Kenya, Rwanda, Tanzania, and others, often under the umbrella of Universal Health Coverage strategies.

In addition to financing reforms, Uganda has innovated with resource-based financing models that reward health facilities based on performance indicators. For example, facilities receive quarterly funding partially linked to how well they perform on about a dozen indicators, many related to reproductive, maternal, neonatal, and child health (RMNCH), as well as non-communicable diseases and tuberculosis. This results in facilities being incentivized to actively seek and treat patients, improving access and service quality. Evidence shows that such results-based financing (RBF) has led to significant increases in access to targeted services.

Infrastructure expansion also plays a key role. New health centers and upgrading existing ones at the county and sub-county levels aim to reduce physical barriers like distance to care. Likewise, staffing has been increased, with plans to have medical officers available at more health centers to improve care quality and strengthen referral pathways.

Prevention is another critical focus. Uganda's national community health strategy promotes health education and disease prevention at the grassroots level, leveraging community health workers who provide timely treatment and health promotion in communities, reducing the need for costly hospital care. All these interventions work together to reduce out-of-pocket payments and catastrophic expenditure, yet challenges remain.

### **Which do you think are the main challenges to the achievement of all these goals and actions?**

I believe one of the biggest obstacles we face is political influence. Often, politicians prefer to invest in projects that yield immediate, visible results – like roads or buildings. Health investments, on the other hand, typically take years or decades,

to show measurable improvements, such as reductions in maternal mortality or increases in life expectancy. This long-term horizon makes it harder to secure adequate and consistent funding for health, while demonstrating the value and return on investment of health spending is essential when competing against other sectors for limited resources.

Another significant challenge lies in inefficiency. Historically, the health system has focused heavily on treating illness rather than preventing it, which has led to wasted resources and missed opportunities. While there is growing awareness of the importance of prevention, shifting resources and mindsets towards this approach is not easy. Additionally, fundings are typically allocated based on fixed formulas rather than actual service delivery or patient volumes, which undermines incentives for improving efficiency and quality.

We also face a high dependence on donor funding, which can complicate planning and reduce national ownership. Donor priorities don't always align with our country's needs, and the absorption rate of externally funded projects is often low compared to locally sourced funds. This disparity creates uncertainty and limits our ability to execute long-term strategies effectively.

Domestic resource mobilization remains a challenge as well. Unlike some countries that have earmarked taxes for health, here these revenues go into the general treasury and are subject to competing demands like defense. As a result, the health sector receives minimal budget increases year after year, making it difficult to scale up services.

Finally, rapid population growth puts enormous pressure on our health system so that it becomes nearly impossible to meet increasing demand sustainably.

Despite these considerable challenges, I remain hopeful. There is clear political will and commitment to translate promises into action. The responsibility now lies with the health sector to be more innovative, to build strong advocacy, and to engage effectively with all stakeholders: government, parliament, donors, civil society, and the private sector. Only by working collaboratively and strategically can we turn these intentions into real progress and build a stronger health system for the future.



# IMPROVING PREPAREDNESS AND RESPONSE IN EMERGENCY

How to address public health emergencies in limited resources regions?

How to respond to epidemics outbreaks and crisis?

Some lessons come from Uganda's experience, a country that has faced Ebola, malaria, tuberculosis and, more recently, COVID-19.

TEXT BY / JERRY ICTHO, GODFREY ESIRU, PETER LOCHORO / DOCTORS WITH AFRICA CUAMM  
ALEXIA PASTORI / JUNIOR PROJECT OFFICER IN PUBLIC HEALTH

In Uganda, key health indicators remain below SDG targets: up to 1 in 28 children die before their first birthday, and 1 in 19 before age five<sup>1</sup>. Frequent outbreaks of infectious diseases contribute to these outcomes. The country faces **repeated threats** from both long-standing and emerging diseases – such as Ebola, yellow fever, Mpox, malaria, TB, HIV, COVID-19, measles, and cholera<sup>2-3</sup>. Uganda's open-door policy for refugees from neighboring countries adds to the burden, increasing population mobility and the risk of disease spread<sup>4-5</sup>.

To address these challenges, Uganda adopted the National Multi-hazard Emergency Preparedness and Response Plan (NMEPRP) in 2019<sup>6</sup>.

Since then, the country has responded effectively to multiple crises thanks to strong leadership and rapid implementation of key actions including risk communication, clinical care, logistics, laboratory diagnostics, surveillance, and community engagement – while maintaining essential health services. These efforts reflect the strength of Uganda's emergency health workforce, especially during the COVID-19 pandemic.

## THE EXPERIENCE OF COVID-19

Between 2019 and 2022, COVID-19 revealed the need for a multidisciplinary and decentralized approach to public health emergencies<sup>7</sup>. In response, the Ministry of Health established a national Public Health Emergency Operations Center (PHEOC) and 17 regional centers supporting district taskforces. Built on the WHO framework, the PHEOCs helped coordinate outbreak responses, guide field operations, and align emergency planning<sup>8</sup>.

Doctors with Africa CUAMM contributed to this structure, particularly in Karamoja, Lango, and West Nile, by strengthening preparedness and continuity of essential health services. With support from partners such as ELMA Foundation, UNICEF, the Global Fund, AICS, USAID, and WHO, CUAMM enhanced planning and coordination across district, sub-county, facility, and community levels. Activities included scaling up risk communication, social mobilization, and data use for mapping and targeting preparedness and response actions.

## CUAMM'S ROLE IN RESPONDING TO PUBLIC HEALTH EMERGENCY

CUAMM provided technical support to district emergency task forces, supported risk assessments and hotspot mapping in all nine Karamoja districts, and bolstered community engagement to promote COVID-19 prevention measures, including vaccination. Supplies and equipment were distributed to 456 health workers in 76 health facilities, while 323 frontline workers (136 men, 187 women) received training on infection prevention, case management, and another 330 were trained on COVID-19 vaccination, supporting vaccination activities at all 76 sites. CUAMM also increased medical oxygen production and distribution in six hospitals and four Health Center IVs, addressing critical shortages during the pandemic.

Overall, 3,332 cases of COVID-19 were registered in Karamoja by March 2022, with 3278 (98.4%) recoveries and 54 (1.6%) cumulative deaths.

## THE ROLE OF COMMUNITIES

In Karamoja, 1,125 Village Health Teams (VHTs) were trained on the COVID-19 Community Engagement Implementation Guidelines and Home-Based Care. VHTs played a vital role in mobilizing communities, addressing vaccine hesitancy, facilitating service linkage, and sharing feedback with providers. In coordination with District Health Teams, CUAMM identified 45 hotspot sub-counties and deployed 25 active VHTs per sub-county to form local COVID-19 taskforces.

During vaccination campaigns, VHTs used public address systems and megaphones to **raise awareness** on preventive measures and health-seeking behaviors. Alongside ongoing sensitization efforts by District Health Educators (DHEs), this contributed to a sharp increase in vaccine coverage among adults (18+), rising from 3.7% in July 2021 to 74.1% by March 2022. Vaccination sites increased from 45 to 76. CUAMM also supported community outreach with five motorcycles for communication activities in Karenga, Napak, Amudat, Nakapiripirit, and Kaabong, complementing other efforts led by UNICEF and

**TABLE 1 / OVERALL UPTAKE OF COVID-19 VACCINATION MARCH 2021- MARCH 2022 AMONG ADULTS (DATA SOURCE HMIS REPORTS)**

DISTRICT	TOTAL FIRST DOSE OF OTHER ANTIGENS	TOTAL SECOND DOSE VACCINATION	OVERALL UPTAKE AMONG TARGETED POPULATION MARCH 2021-MARCH 2022
ABIM	20,271	22,721	66.7%
AMUDAT	16,956	5,492	47.9%
KAABONG	21,954	10,809	86.9%
KARENGA	11,933	6,212	85.8%
KOTIDO	25,311	17,800	61.4%
MOROTO	22,221	13,410	82.6%
NABILATUK	18,719	10,185	80.2%
NAKAPIRIPIT	16,311	19,662	86.7%
NAPAK	25,897	25,395	82.8%
KARAMOJA	178,636	131,686	74.1%

the Ministry of Health. Despite progress, deep-rooted cultural beliefs remained a barrier to vaccine uptake in some areas. (**Table 1**).

## LESSONS LEARNED FOR THE FUTURE

This experience highlighted several **good practices** for future emergency preparedness and response.

In Karamoja, district disaster response task forces – led by Resident District Commissioners – actively supervised activities and took part in review meetings, fostering local ownership of CUAMM-supported actions and encouraging advocacy for additional preparedness resources.

District local governments coordinated integrated planning and budgeting with partners, pooling staff, vehicles, and equipment and allocating them based on shared priorities and identified needs. CUAMM supported hotspot mapping using spatial and temporal data, including GPS and service utilization, to identify the most vulnerable areas.

These maps guided targeted responses, efficient resource use, contact tracing, and resilience-building in high-risk communities. **Capacity was strengthened** through continuous training and orientation of both new and existing frontline health workers and VHTs, equipping them with practical skills, building confidence, and increasing motivation under challenging conditions.

## NOTES

**1** UBOS, Uganda Demographic and Health Survey 2022, Uganda Bureau of Statistics Kampala, Uganda.

**2** Ashraf, S., et al., Emerging viruses are an underestimated cause of undiagnosed febrile illness in Uganda. *International Journal of Infectious Diseases*, 2023. 130: p. S17.

**3** Mbonye, A.K. and M. Sekamatte, Disease outbreaks and reporting in Uganda. *The Lancet*, 2018. 392(10162): p. 2347-2348.

**4** Bohnet, H. and C. Schmitz-Pranghe, Uganda: A role model for refugee integration? 2019.

**5** Mylan, S., Key Considerations: Balancing Epidemic Preparedness and Response with Humanitarian Protection in Ugandan Refugee Settlements. 2024.

**6** Ario, A.R., et al., The logic model for Uganda's health sector preparedness for public health threats and emergencies. *Global health action*, 2019. 12(1): p. 1664103.

**7** Muhwezi, W.W., et al., The Performance of the COVID-19 District Task Forces in Uganda: Understanding the Dynamics and Functionality. 2020: ACODE.

**8** Kayiwa, J., et al., Establishing a public health emergency operations center in an outbreak-prone country: lessons learned in Uganda, January 2014 to December 2021. *Health security*, 2022. 20(5): p. 394.



## EXPERIENCES FROM THE FIELD

### BEYOND SERVICES: INSIGHTS FROM HOSPITALS

In Uganda, hospitals play a broader role than clinical care. They are key pillars for training, local access, and the protection of communities. Dr. Sam Orach, Executive Secretary at the Uganda Catholic Medical Bureau, outlines how the network is responding to the demands of Universal Health Coverage while facing underfunding, shifting priorities, and the need to balance accessibility with long-term sustainability.

JESSICA MARZARO INTERVIEWS DR. SAM ORACH / EXECUTIVE SECRETARY AT UGANDA CATHOLIC MEDICAL BUREAU

In Uganda, the hospital level holds a **pivotal** and multifaceted role within the national health system. These hospitals are not only providers of secondary care but also serve as essential referral points for lower-level health centers and remote areas, hubs for training healthcare workers, and safety nets for communities facing complex health challenges. The Uganda Catholic Medical Bureau (UCMB) manages one of the country's largest networks of faith-based health facilities, comprising 308 units including 33 hospitals and numerous health centers at different levels. To better understand the challenges and perspectives around this hospital-based model, we explore the topic together with Dr. Sam Orach, Executive Secretary of UCMB.

#### FUNCTIONING WITHOUT FUNDING

Funding these facilities involves navigating a complex landscape of financial flows. According to UCMB data, in 2023–2024 health units relied on three principal sources: user fees from patients (60%), government support (8%), and contributions from donors and international actors (22%). Uganda's health sector still faces the **burden** of catastrophic health expenditures, pushing vulnerable families deeper into poverty, along with the slow progress in establishing a comprehensive National Health Insurance scheme. "The rollout has been too slow," says Dr. Orach. This is compounded by the chronic underfunding of preventive and health promotion services, essential for reducing both disease incidence and long-term costs.

#### HEALTH OR HEALTH SERVICES?

Beyond financial matters, Dr. Orach urges a fundamental re-examination of the concept of Universal Health Coverage itself. "First, people need to properly define Universal Health Coverage," he says. "The tendency is for many to understand it as 'Universal Healthcare Coverage'.

Yet, it means the **whole continuum of health services**, including preventive services, health promotion, rehabilitative services, and healthcare."

He adds that even this broader definition still falls short. "SDG 3 is about ensuring healthy lives and promoting well-being for all at all ages, not just about health services. Health is a state of well-being."

Current UHC metrics, such as the Health Services Coverage Index, focus on access to services but not on actual health status of the population. "Uganda's Index reportedly doubled between 2020 and 2022," he notes, "but this increase does not mean the population is healthier." There's a need, he says, for indicators that reflect how many people are free from illness or injury and have well-functioning bodies.

#### THE CATHOLIC MEDICAL BUREAU STRATEGY

To improve access and protect households from financial hardship, UCMB encourages its network of health facilities to maintain affordable fee structures, balancing cost recovery with equity. Partnerships with Joint Medical Store (JMS) ensure consistent availability and efficient use of medicines and supplies. JMS's gradual move into local pharmaceutical manufacturing could strengthen supply chains over time.

Community-based health financing mechanisms, including Community Health Insurance schemes, are promoted as key tools to reduce the risk of catastrophic expenditures. The Bureau also supports expanded preventive services and community outreach. Digital health is part of UCMB's future strategy. "We are exploring how to better use technology to increase access to healthcare services and health promotion," says Dr. Orach. UCMB also encourages regular check-ups rather than care only when illness strikes, promoting a "holistic healthcare" model that sees the person as a whole.

Despite these efforts, substantial challenges remain. Prevention and health promotion are still underprioritized. "There is an increase in non-communicable diseases that we need to pay great attention to," Dr. Orach warns, "yet communicable diseases are not decreasing". The path to genuine Universal Health Coverage will require a **broader, health-centered approach**—one that goes beyond improving access and affordability to improving actual health outcomes and well-being for all Ugandans.



## EXPERIENCES FROM THE FIELD

### WORKING WITH LIMITED RESOURCES IN OYAM DISTRICT

Working in a Ugandan district means being involved on multiple levels – from the hospital to the community, from procurement to health centers. It also means engaging both nationally and globally while maintaining strong ties with local staff and the rural dimension of the district itself.

TEXT BY / GIOVANNI DALL'OGGIO / DOCTORS WITH AFRICA CUAMM AREA PROJECT MANAGER, LANGO SUB-REGION, UGANDA

In Oyam District in northern Uganda's Lango sub-region, where CUAMM has been active for years, "leaving no one behind" – especially mothers, children, adolescents, and those who live far from health facilities in the poorest and most remote areas – is very challenging. The many problems, often of an economic, organizational and/or logistical nature, reflect even broader and deeper complexities.

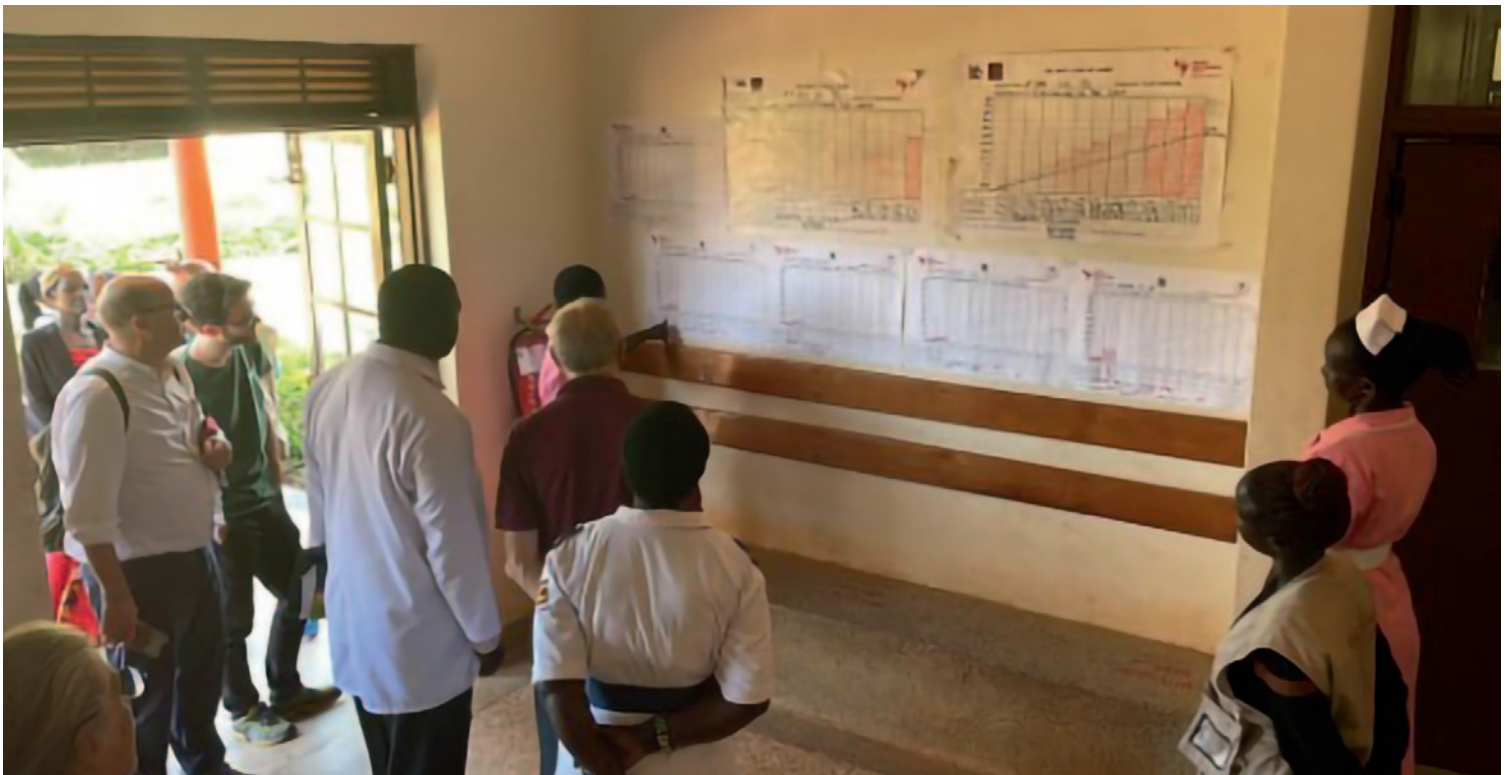
#### A GLOBALLY-CONNECTED DISTRICT

Supporting this district means **meeting the health needs of more than half a million people** who live in rural areas, yet are still affected by global dynamics. Even while hoping that challenging periods like the COVID-19 pandemic will not recur, Oyam has been impacted by the consequences of the war in Ukraine for years now, with soaring food prices and medicine shortages

up to 50%. 2025 also brought the unexpected news that Donald Trump was shutting down the U.S. Agency for International Development (USAID) and suspending its programs. Oyam District is also affected by the situation in broader Uganda, where economic growth has not kept pace with the country's commitment to improving public health. Only 35% of the personnel meant to work in government health units per the country's organizational chart have been hired. Those who *are* working are completely overwhelmed, which impacts the quality of care delivery as well. In a context this complex, how can we ensure the **continuity** of our projects?

#### FOCUSING ON SOLUTIONS

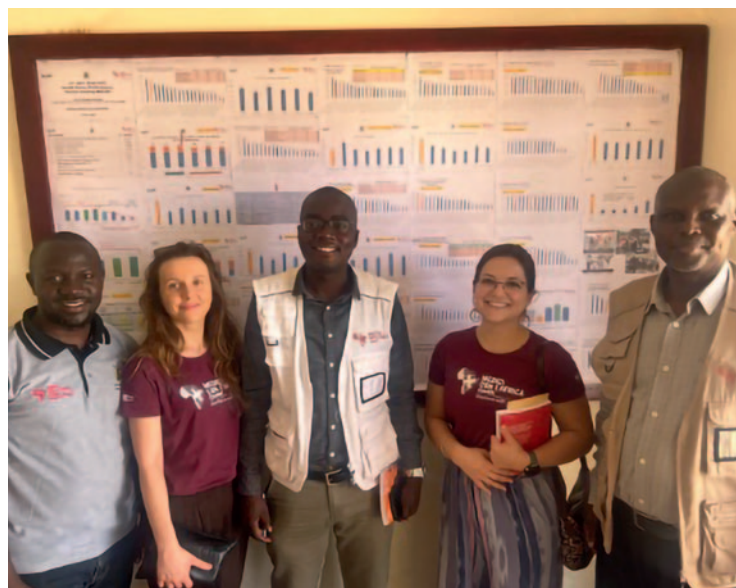
Our top priority is to find **solutions** to mitigate the consequences of the situation on people's health. We try to ensure the continu-



ity of vital activities, such as those provided by Village Health Team volunteers, and of the availability of drugs for the treatment of diarrhea, malaria, and pneumonia in children. When drugs are in short supply, we redistribute what is available among the health units; in fact, those that do their job well and succeed in treating a high volume of patients are the first to run out of drugs. We optimize drug prescriptions in the units in compliance with the Ministry of Health's clinical guidelines, which entails making visits – sometimes joined by local authorities – to support and supervise the units and resolve issues affecting team spirit, such as job negligence, absenteeism or failure to comply with contractual obligations.

### PEOPLE ARE TRULY “RESOURCES”

**People are the primary resource** in resource-limited settings. This means that key outcomes should be shared, first and foremost among those who are most directly involved: health unit staff and their managers. We did so, for example, after recording a significant (over 35%) drop in maternal deaths thanks to training provided to midwives working in the units, improved quality of care, and the availability of two ambulances for emergencies. This is why every year, CUAMM prepares graphs in each health unit to highlight key indicators (for example, the number of deliveries), updating them on a monthly basis, comparing them with previous figures and targets, and discussing them in monthly meetings before sending reports to the district. In addition, presentations are given every three months at evaluation



meetings attended by unit managers, politicians, partners, and members and directors of the District Health Team, and posted on large notice boards in the district to keep everyone **aware of the work** being done and the challenges still to be met.

It is essential that people be kept informed about the results of their hard work, which they generally carry out with great perseverance, in precarious living conditions, often far from their families. In Oyam, this is not only a CUAMM priority, but also a formula for success. Giving visibility to **data and people**, and optimally communicating the latter's accomplishments, are vital for enhancing health service quality at every level.



## EXPERIENCES FROM THE FIELD

# TACKLING ANTIMICROBIAL RESISTANCE IN KARAMOJA

In Africa, too, research topics and the practical applications of findings advance over time. A case in point is our work in the rural region of Karamoja, Uganda, where we have adopted “One Health” – an integrated approach that recognizes the interconnectedness and interdependence of human health, animal health and the wider environment – to limit the spread of antimicrobial resistance.

TEXT BY / SIMONE CADORIN / PROJECT MANAGER, DOCTORS WITH AFRICA CUAMM

An estimated 27.3 deaths per 100,000 inhabitants are attributable to **antimicrobial resistance** (AMR) in western sub-Saharan Africa<sup>1</sup>. Although AMR research has been conducted for over sixty years, efforts to pinpoint the key drivers contributing to its spread and implement effective strategies to tackle it intensified globally in 2015, following that year’s World Health Assembly<sup>2</sup>.

According to estimates by *The Lancet*<sup>1</sup>, 4.95 million deaths were associated with bacterial AMR globally in 2019, including 1.27 million deaths directly attributable to bacterial AMR; and one in five deaths from AMR involved children under the age of five. Other findings have projected that as many as 10 million people could die annually from AMR by 2050, with sub-Saharan Africa at the top of the ranking.

### AN INNOVATIVE RESPONSE FROM UGANDA

Uganda has responded to the international call to action on AMR by developing a range of national policies. The Uganda One Health Strategic Plan<sup>3</sup> lays out strategies for three key dimensions – human, animal and environmental health – with a focus on prevention, control and surveillance of zoonotic diseases. At the same time, the Antimicrobial Resistance National Action Plan<sup>4</sup> incorporates specific objectives to improve infection prevention and control, promote appropriate access to and use of antimicrobials, and upgrade hospital microbiology laboratories.

In 2023 Doctors with Africa CUAMM, with the support of the Italian Agency for Development Cooperation (AICS), began implementing a project to assist hospitals in Matany and Moroto, both located in the rural region of Karamoja, in developing and implementing **three vital initiatives** to combat AMR.

First and foremost, the project involves strengthening diagnostic laboratories and adopting microbiological technologies. CUAMM has helped to create a microbiology unit at Matany Hospital and to upgrade an existing unit at Moroto Hospital. This work is very

challenging in Africa, as it requires essential tools to help identify AMR pathogens, improve microbiological surveillance and steer health strategies to tackle AMR. The project also involves an antibiotic stewardship effort to support the training of healthcare personnel, define hospital guidelines, and monitor antimicrobial use to ensure that antibiotics are used properly and only when necessary. Infection prevention and control (IPC) measures are also a crucial element for reducing the spread of infection in healthcare settings (nosocomial infections). The overall aim of the project is to bolster hygiene, medical device management and staff training, thereby helping to curb healthcare-associated infections as well as to tackle AMR.

### HEALTH BECOMES “ONE HEALTH”

These measures are all components of One Health, an integrated approach based on the interconnectedness of human, animal and environmental health that fosters coordinated action between the public health, veterinary, and environmental sectors.

As one of the world’s most significant health challenges, AMR requires a **paradigm shift**, with a rethinking of priorities and a broadening of the focus to areas that until now have been marginal in African health programs. Addressing the challenge will call for coordinated commitment, targeted investments and a multidisciplinary approach. Our experience in Karamoja demonstrates how integrated strategies can improve health services and lower costs, optimizing the use of antibiotics in hospitals and easing the economic burden for families in the case of prolonged or ineffective treatments. The work being done by Doctors with Africa CUAMM in partnership with our local and international partners is an exemplar of an intervention that strengthens community health while also building a more **resilient and sustainable system**. We will continue along this path to protect future generations and ensure the continued effectiveness of antibiotics in treating infections.

### NOTES

<sup>1</sup> Christopher J L Murray et al. (2022) Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. Available at: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02724-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02724-0/fulltext)

<sup>2</sup> Global action plan on antimicrobial resistance. Sixty-eight world health assembly (2015). Available at: <https://www.who.int/publications/i/item/9789241509763>

<sup>3</sup> Government of Uganda. Uganda One Health Strategic Plan 2018-2022 (2018) Available at: <https://health.go.ug/sites/default/files/Uganda%20OHSPP%20Final%20Launched%2015-02-2018%20%281%29.pdf>

<sup>4</sup> Government of Uganda. Antimicrobial Resistance National Action Plan 2018-2023 (2018) Available at: [https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-spc-npm/nap-library/uganda-nap-amr.pdf?sfvrsn=6ea2650d\\_5&download=true](https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/amr-spc-npm/nap-library/uganda-nap-amr.pdf?sfvrsn=6ea2650d_5&download=true)



## NEW HOPE FOR NEWBORNS IN KARAMOJA

In one of Uganda's most underserved regions, Karamoja, a new **Neonatal Intensive Care Unit (NICU)** has been inaugurated at St. Kizito Hospital Matany. The initiative, supported by Doctors with Africa CUAMM, the Embassy of Ireland, and Uganda's Ministry of Health, offers critical care to newborns in a context where neonatal mortality remains unacceptably high. With around 550 perinatal deaths recorded annually in the region – 160 of which occur in the first 28 days of life – the NICU provides not only a safe space for fragile newborns but also a broader **investment** in health system strengthening. Alongside the new infrastructure, CUAMM is ensuring training for local staff, essential equipment, and support to other district hospitals in Moroto, Kaabong, and Abim. This marks a vital step forward in reducing preventable deaths and giving every child a better chance at life.

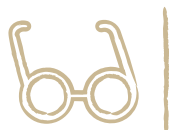


ATION WARMER 1



Not available to lift the machine from this mattress!





## FOCUS

# IMMUNIZATION, DATA AND HEALTH: LESSONS FROM UGANDA

A crucial component of UHC is equitable access to vaccines. In Uganda unreliable vaccine data has hindered immunization efforts, limiting access to essential vaccines for vulnerable populations. To address this gap, a targeted project was launched in Karamoja to enhance vaccine data reliability. We discover the lessons learned with Dr. Joseph Katetemera, Technical Advisor at Doctors with Africa CUAMM.

INTERVIEW BY / JESSICA MARZARO INTERVIEWS DR. JOSEPH KATETEMERA / DOCTORS WITH AFRICA CUAMM

Reliable vaccine data is essential for effective immunization programs and achieving Universal Health Coverage (UHC). However, Uganda faces persistent challenges in vaccine data quality, particularly in Southern Karamoja, where records are often incomplete, untimely, and inaccurate.

To address these gaps, Doctors with Africa CUAMM, in collaboration with the Ministry of Health and Co.Lab, launched the *Improving Vaccine Data Quality and Usability across Three Districts in Southern Karamoja* project. This initiative, part of the Vaccine Data CoLab and funded by the UK Foreign and Commonwealth Development Office (FCDO/UK-AID), aimed to **enhance vaccine data reliability**, improve reporting systems, and strengthen decision-making processes.

### Dr. Joseph Katetemera, what is the problem regarding data inaccuracy?

“Our assessment, conducted in 30 of 38 high-volume health facilities, highlighted major gaps in vaccine data management. Health workers needed more training in data handling and Continuous Quality Improvement (CQI), as well as better tools for data capture and archiving. Even when equipment was available, challenges such as security, equipment maintenance, and power supply hindered effective data collection. The most persistent issue was inconsistencies across reporting tools—Registers, Tally Sheets, Reports, and the DHIS2 system. These discrepancies compromised data accuracy, **delayed decision-making**, and affected vaccine distribution, making it harder to reach under-immunized populations in Amudat, Moroto, and Nabilatuk.”

### What strategies were implemented to address these challenges?

“First, we trained mentors in vaccine data management using the Ministry of Health’s Immunization in Practice guidelines. They then supported frontline health workers through a cascade mentorship model, ensuring widespread skill transfer. We also strengthened Continuous Quality Improvement (CQI) by focusing on accurate recording, reporting, archiving, and data analysis. In Moroto, 17 health facilities adopted Smart Paper Technology

(SPT), paired with solar power installations, laptops, and scanners to mitigate power shortages. This digital solution improved data accuracy while addressing infrastructure barriers. To further enhance reporting systems, we distributed updated National Health Management Informatic System (HMIS) forms, archiving cabinets, and vaccine data monitoring tools. Additionally, we established facility-led Quality Improvement (QI) initiatives, allowing health centers to identify and resolve gaps in data completeness and timeliness. Through CQI collaboratives and learning sessions, health workers shared **best practices**, reinforcing a culture of data-driven decision-making.”

### What have we learn with this project?

“This project revealed several critical lessons that highlight both challenges and opportunities for improving vaccine data quality. At the national level, limited investment in vaccine data systems and delays in distributing updated HMIS tools have historically hindered data quality improvements. Additionally, restrictions on cloud-based data storage complicated national immunization coverage reporting.

At the district level, widespread inconsistencies in reporting chains emphasized the need for comprehensive last-mile digitization, addressing power supply, computer literacy, and equipment maintenance.

At the health facility level, we initially found vaccine data to be more unreliable than expected, but through targeted training, mentorship, and provision of essential tools, we saw significant improvements. However, CQI remains underutilized, as many health workers are not yet accustomed to applying these methods. To sustain these improvements, we must strengthen the **data culture** within health facilities, ensuring that accurate vaccine data supports decision-making and contributes to UHC.

The experience in Southern Karamoja underscores that investing in data management – alongside technical and human resources – is fundamental to immunization programs. Strengthening vaccine data systems is not just a technical necessity but a critical step toward ensuring equitable access to life-saving vaccines and advancing Universal Health Coverage (UHC).



## REVIEW

# CLIMATE CHANGE AND HEALTH: AFRICA'S OTHER CRISIS

The African climate is experiencing warming at a faster rate than the global average, generating a rise in infectious diseases, food insecurity, internal migration and inequalities. Strengthening health systems and adaptation strategies is the first line of defense in tackling these worsening social and health crises.

TEXT BY / ANDREA ATZORI / DOCTORS WITH AFRICA CUAMM

Climate change is rapidly and drastically transforming the African climate. The average temperature on the continent rose by **+0.3°C** per decade between 1991 and 2023<sup>1</sup>, a rate above the global average. Africa is responsible for less than 10% of global greenhouse gas emissions<sup>2</sup>, yet many of its countries – including Uganda – are disproportionately affected by some of the worst consequences of climate change. The Intergovernmental Panel on Climate Change (IPCC) reports that extreme events such as heat waves, droughts and floods are becoming more frequent and intense due to climate change<sup>1</sup>, severely impacting populations.

### CLIMATE INEQUALITY

Climate risk is not evenly distributed. It depends not only on the intensity of events, but also on the capacity of those affected to prepare for, respond to, and recover from them, which is heavily influenced by income level and access to essential services. Because poor communities are often excluded from safety nets and lack resilient infrastructure, they tend to have limited adaptive capacity to the impacts of climate change.

Among the continent's most vulnerable areas are the Great Lakes region, the Sahel region and the Horn of Africa.<sup>1</sup> In Uganda, the average temperature has climbed by about 1.3°C since 1961, and 2023 – the country's warmest year on record – saw significant rainfall anomalies, with some areas affected by prolonged droughts and others by devastating floods. The climate crisis thus engenders **social and health crises** as well.

### RURAL AREAS UNDER PRESSURE

Because it relies almost entirely on seasonal rains, agriculture is among the most heavily-impacted sectors in Uganda.<sup>3</sup> In 2023 production of cereals such as sorghum and millet plummeted. The number of Ugandans facing acute food **insecurity** increased by approximately 30% between 2012 and 2022, and today, one-third of the country's under-five children are stunted due to malnutrition. Infectious diseases (ID) are another problem: in Uganda's mountainous areas, record temperatures and rising humidity have fostered the

proliferation of mosquitoes carrying malaria, dengue, and yellow fever.<sup>4</sup> In addition, rural communities with inadequate access to safe drinking water are facing cholera outbreaks.<sup>4</sup> These factors are pushing ever greater numbers of rural people to move to urban areas.

### URBAN CRISIS AND PUBLIC HEALTH

Over the last two decades, internal migration from rural to urban areas in Uganda has grown by 50%, leading to ever larger slums with very limited access to healthcare, drinking water and sanitation.

Cities are also being impacted by extreme weather events that severely damage infrastructure including roads, schools and hospitals, hindering people's access to essential services. Moreover, flooding contaminates water sources, heightening the risk of cholera, diarrhea and typhoid outbreaks.

Thus Ugandan cities – which are both especially **vulnerable** and **unprepared** to cope with these phenomena – are under mounting pressure, with health systems overwhelmed by a rise in ID and malnutrition. The problem is even more severe among climate-displaced people; Kampala and other cities have seen major upsurges in cases of diarrhea, and cholera outbreaks have more than doubled over the last 15 years.

### STRENGTHENING HEALTH SYSTEMS

It is thus imperative to strengthen health systems and make them climate-resilient. According to the WHO and IPCC, this requires infrastructure able to withstand extreme events, operators trained in climate risk management, surveillance systems integrating health and climate data, and access to safe water and sanitation.<sup>1</sup>

Uganda's Climate Change Health National Adaptation Plan 2025-2030 supported by partners such as the Rockefeller Foundation<sup>5</sup>, incorporates some of these recommendations. Adopting a One Health approach that **integrates** health, agriculture, the environment and urbanization is essential to address the climate crisis effectively, reducing inequalities and protecting not just vulnerable communities but the very future of the region.

### NOTES

<sup>1</sup> IPCC, *Sixth Assessment Report – Working Group II: Impacts, Adaptation and Vulnerability*, Chapter 9 – Africa, 2022. <https://www.ipcc.ch/report/ar6/wg2/>

<sup>2</sup> WMO, *Africa suffers disproportionately from climate change*, <https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change>

<sup>3</sup> FAO, *Uganda Country Brief – Food Security and Nutrition*, <https://www.fao.org/countryprofiles/index/en/?iso3=UGA>

<sup>4</sup> WHO, *Climate Change and Health Country Profile – Uganda* <https://www.afro.who.int/countries/uganda>

<sup>5</sup> Ministry of Health (2024), *Climate Change Health – National Adaptation Plan (H-NAP) 2025-2030*, Government of Uganda <https://www.rockefellerfoundation.org/wp-content/uploads/2024/08/Health-National-Adaptation-Plan-H-NAP-2025-2030-Final.pdf>



# DOCTORS WITH AFRICA CUAMM

Founded in 1950, Doctors with Africa CUAMM was the first non-governmental organization focused on healthcare to be recognized by the Italian government. It is now the country's leading organization working to protect and improve the health of vulnerable communities in sub-Saharan Africa.

CUAMM implements long-term development projects, working to ensure people's access to quality health care even in emergency situations.

## HISTORY

In over **74** years of existence

- o More than **200** programs have been carried out;
- o **2,500** individuals have worked on our projects;
- o **43** countries have partnered with our organization;
- o **239** hospitals have been assisted;
- o **1,200** students have lodged at CUAMM's university college, including 900 Italians and 286 citizens from 34 other countries;
- o More than **5,000** years of service have been provided, with each CUAMM worker serving for an average of three years.

## SNAPSHOT

Doctors with Africa CUAMM is currently active in Angola, the Central African Republic, Ethiopia, Mozambique, Sierra Leone, South Sudan, Tanzania and Uganda with:

- o **162 major development projects** and approximately 100 smaller related initiatives. Through this work we provide support to:
  - 21 hospitals;
  - 116 local districts (with activities focused on public health, maternal and infant health care, training, and the fight against HIV/AIDS, tuberculosis and malaria);
  - 843 health facilities;
  - 4 nursing schools (in Lui, South Sudan; Matany, Uganda; and Wolisso, Ethiopia);
  - 1 university (in Beira, Mozambique);
- o **3,465 health workers**, including 282 from Europe and abroad.

## IN EUROPE

Doctors with Africa CUAMM has long been active in Europe as well, carrying out projects to raise awareness and educate people on issues of international health cooperation and equity. In particular, CUAMM works with universities, institutions and other NGOs to bring about a society – both in Italy and in Europe – that understands the value of health as both a fundamental human right and an essential component for human development.

## PLEASE SUPPORT OUR WORK

**Be part of our commitment to Africa in one of the following ways:**

- **Post office current account** no. 17101353 under the name of Doctors with Africa CUAMM
- **Bank transfer** IBAN IT 32 C 05018 12101 000011078904 at Banca Popolare Etica, Padua
- **Credit card** call +39-049-8751279
- **Online** [www.mediciconlafrica.org](http://www.mediciconlafrica.org)

Doctors with Africa CUAMM is a not-for-profit NGO; donations made to our organization are tax-deductible. You may indicate your own in your annual tax return statement, attaching the receipt.

In **Health and Development** you will find studies, research and other articles which are unique to the Italian editorial world. Our publication needs the support of every reader and friend of Doctors with Africa CUAMM.



## WHAT AFRICA NEEDS

### EVERY YEAR IN SUB-SAHARAN AFRICA:

- 4.5 million children under the age of 5 die from preventable diseases that could be treated inexpensively;
- 1.2 million infants die in their first month of life due to lack of treatment;
- 280,000 women die from pregnancy- or childbirth-related complications.



Doctors with Africa Cuamm works in

**SIERRA LEONE**

**IVORY COAST**

**THE CENTRAL AFRICAN REPUBLIC**

**SUD SUDAN**

**ETHIOPIA**

**UGANDA**

**TANZANIA**

**ANGOLA**

**MOZAMBIQUE**

to bring care and help to these women  
and their children.

Help us fight this silent, forgotten battle.

Help care for a mother and child:

- 10 euros to provide pediatric vaccinations for 10 children;
- 40 euros to ensure access to safe, assisted childbirth;
- 60 euros to provide outpatient treatment for 6 months for a child with acute malnutrition;
- 80 euros to support a professional training course for a midwife;
- 100 euros to support a professional training course for a local doctor (continuous training)

**We embrace the words of *The Lancet* (2), which have never rung more true or necessary:**

**“Cooperation and constructive partnerships are vital, and (...) science has the ability not only to advance our understanding of the world but also to bring people together. Health is a social good, beneficial for societies, a driver of economies, and a path to development. (...) Equity – treating according to need – is fundamental to what medicine is. And (...) to care is an act not of weakness, but of strength.”**