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[1]. 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[2].
According to estimates by *The Lancet*[1], 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[3] 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[4] 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

1 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
2 Global action plan on antimicrobial resistance. Sixty-eight world health assembly (2015). Available at: https://www.who.int/publications/i/item/9789241509763
3 Government of Uganda. Uganda One Health Strategic Plan 2018-2022 (2018) Available at: https://health.go.ug/sites/default/files/Uganda%20OHSP%20Final%20Launched%2015-02-2018%20%281%29.pdf
4 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