

## Leaving no one behind: the need for a truly global response to antimicrobial resistance



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Universal and impartial access to health care for populations at risk is the driving force behind the work of Médecins Sans Frontières (MSF). The COVID-19 pandemic has exposed and magnified entrenched inequities in access to health care in many of the countries where we work. These same inequities also cause harm due to lack of access to life-saving antibiotics and insufficient funding and implementation of plans to respond to antimicrobial resistance (AMR). In low-income and middle-income countries (LMICs), where people already experience a disproportionately high burden of infectious disease, including tuberculosis, HIV, and malaria, the consequences of antibiotic-resistant infections threaten to become catastrophic at an individual, household, and community level.<sup>1-2</sup> The intersection of weak health-care systems with insufficient coverage and inadequate water and sanitation systems in LMICs combined with the impact of political instability, armed conflict, civil unrest, and population displacement has the potential to accelerate the course of antimicrobial resistance and the proliferation of antimicrobial-resistant infections.<sup>3-4</sup>

There is a paucity of national-level data on access to and consumption of antimicrobials in LMICs; crucially, data on the extent of antimicrobial resistance is similarly lacking, most of the data reported from LMICs are derived from tertiary-level centres in urban settings.<sup>5</sup> The extent of antimicrobial consumption and threat of antimicrobial resistance for humanitarian hospitals—often operating amid armed conflict, civil unrest, violence, famine, and natural disasters—has been largely neglected on the global health agenda and requires greater attention.

Through our work we have seen that Rohingya refugees trapped in cramped and unsanitary conditions in Bangladesh have no AMR surveillance systems in place due to an absence of available microbiology; additionally, our war-wounded patients from conflicts in Yemen, Syria, and Iraq have high rates of chronic osteomyelitis caused by drug-resistant organisms.<sup>6</sup> In our programmes in Libya, we see the migrants and refugees held in overcrowded detention centres who have high rates of tuberculosis, but restricted

access to medication or diagnostics. According to unpublished MSF data, severely malnourished children in Niger admitted to hospital with bacterial sepsis have been found to carry bacteria resistant to carbapenems. A study into sepsis in a neonatal unit in the Democratic Republic of the Congo found that nearly 75% of all isolates were resistant to WHO-recommended antibiotics<sup>7</sup> in a context where last-line antibiotics are too expensive for people to afford. In Central African Republic and South Sudan, years of wars and instability have resulted in weak health-care systems and over-reliance on foreign aid; no AMR National Action Plans (NAPs) are being implemented. Moreover, only one in five countries that do have NAPs have identified funding to facilitate their implementation; while the development of the Multi-Partner Trust Fund—a joint funding mechanism to drive the financing and support the implementation of NAPs—is a welcome development, there is a consensus that it is currently only very partially funded, leaving many LMICs without support.<sup>8</sup> We recognise that resistance to artemisinin, the main drug in the treatment of *Plasmodium falciparum* malaria is appearing in sub-Saharan Africa,<sup>9</sup> and that as this resistance grows, it threatens to have a huge impact on malaria treatment for millions of people in need. Given that progress with expensive new technologies is made in high-income countries, and that the global health security architecture favours rich over poor, how can we ensure that all people have access to the medicines; diagnostics; water, hygiene, and sanitation infrastructure; and health-care workers they need to reduce the impact of the silent pandemic of AMR?

There are currently not enough specific plans to address the needs of these people. The absence of a plan is a glaring omission, and a solution must be found. We recognise the difficulty in addressing this problem in low-resource health-care settings, MSF struggles with this too, but it is one that cannot be ignored and must be part of the global plan to respond to AMR. Research and development of new diagnostic tools and therapeutics is currently falling short of addressing the unmet need of many of the populations highlighted here. Ensuring

that these communities are not overlooked by research and development prioritisation and clinical development is critical to assuring equity and access to novel antimicrobials.<sup>10</sup>

MSF has created a solution for microbiology in low-resource settings called Mini-Lab,<sup>11</sup> which is being piloted now in the Central African Republic, but more initiatives are needed to solve the diagnostics gaps in low-resource settings. We are prioritising antimicrobial stewardship programming in our health-care facilities, training our staff on the importance of infection prevention, and expanding access to microbiology where possible. We are rolling out a new short oral regimen for drug-resistant tuberculosis (NCT02589782) and working to identify resistance to antiretrovirals in people living with HIV; however, we know that this is not yet enough, as a global community, we still have a long way to go.

During World Antimicrobial Awareness Week, MSF urges all actors to work on inclusive plans to address a truly global AMR response.

We declare no competing interests.

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