



ANTIMICROBIAL RESISTANCE AND TUBERCULOSIS

In 2023, WHO estimated that the incidence rate of tuberculosis (TB) in the Eastern Mediterranean Region is 116 per 100 000 population per year.

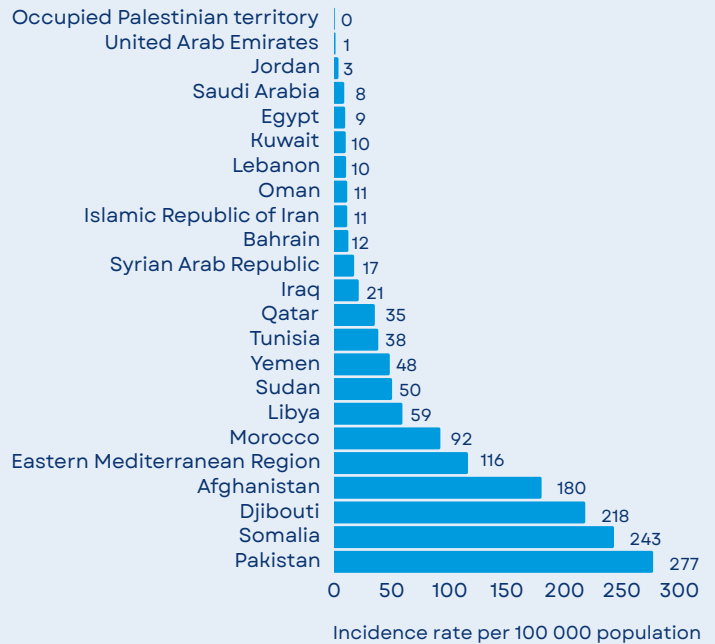
The Region accounts for nearly 8% of global TB cases, and Pakistan (73%) and Afghanistan (8%) have the highest estimated proportions of total TB cases in the Region.

Malnutrition, smoking and diabetes are significant risk factors for TB infection and disease.

THE SCALE OF DRUG RESISTANT TB IN THE REGION

In 2023, 2.7% of new TB patients and 6.6% of those previously treated were multi-drug resistant (MDR)/rifampicin-resistant (RR). Three countries hosted 87% of the cases: Pakistan (71%), Afghanistan (8.1%) and Somalia (7.6%).

ESTIMATED TB INCIDENCE IN THE EASTERN MEDITERRANEAN REGION, 2023



IMPROVEMENT IN TREATMENT COVERAGE & DIAGNOSIS (2020-2023)



35%

Increase in treatment coverage



7%

Improvement in diagnosis



38%

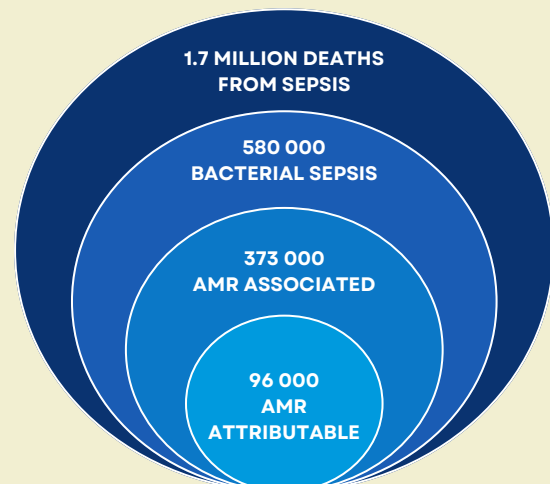
Increase in MDR/RR-TB cases diagnosed & treated

DRUG RESISTANCE IS INCREASING IN THE WHO EASTERN MEDITERRANEAN REGION

In 2021, there were **1.7 million deaths** from sepsis in the Eastern Mediterranean Region. Of these **373 000 were associated with bacterial antimicrobial resistance (AMR)**.

The Eastern Mediterranean Region consumes more antibiotics than any other WHO region.

In 2018, the Eastern Mediterranean Region consumed antibiotics at a higher rate per capita (21.8 defined daily doses per 1000 inhabitants per day) than the global average (14.3) and than any other WHO region. Consumption is greatest in high-income countries, while middle-income countries reported the greatest increase in consumption between 2000 and 2018.









Burden of sepsis and bacterial AMR in the Eastern Mediterranean Region, 2021

Source: Based on data from: GBD 2021 Antimicrobial Resistance Collaborators. Global burden of bacterial antimicrobial resistance 1990–2021: a systematic analysis with forecasts to 2050. Lancet. 2024 Sep 28;404(10459):1199–226.








CHALLENGES IN DIAGNOSING AND MANAGING DRUG-RESISTANT TB IN THE REGION

- High dependency on external financing for drug-resistant (DR) TB management, especially in conflicts and complex emergencies.
- Limited use of WHO-recommended diagnostics for TB and DR-TB.
- Limited integration of DR-TB services in existing TB services.
- Limited laboratory capacities for testing susceptibility to new drugs.
- Limited community involvement in TB and DR-TB case finding delaying TB and DR-TB diagnosis.
- Limited private sector involvement in TB and DR-TB services in the Region (excluding Pakistan).
- Longer regimens widely used instead of readily available shorter, all oral six-month regimens, leading to lower adherence.
- Suboptimal drug safety management leading to inconsistent adverse drug reaction management.

MEASURES TO REDUCE THE DEVELOPMENT AND SPREAD OF DR-TB IN THE REGION

-  Technical support to countries through the regional Green Light Committee mechanism, improving the quality of services for people with DR-TB.
-  Early diagnosis, treatment and case management of drug-sensitive TB to reduce MDR/RR-TB prevalence.
-  People-centred DR-TB services.
-  Introduction of shorter, all-oral regimen.
-  Adopting WHO DR-TB guidelines and algorithm diagnosis prioritizing upfront testing with WHO approved molecular diagnostic tests.
-  Strengthening of contact investigation and preventive therapy of household contacts of MDR/RR-TB patients.

KEY RISK FACTORS

-  **History of TB treatment**
Higher risk of MDR-TB
-  **Direct contact with TB and MDR-TB patients**
Exposure to TB/MDR-TB patients
-  **Suboptimal doses**
Inadequate tissue concentration
-  **Malabsorption due to malnutrition**
Leading to disease progression and resistance
-  **Inadequate treatment**
Poor prescription and combinations of inappropriate doses
-  **Stock ruptures and poor-quality medicines**
Limited access to quality health care and diagnostics
-  **Poor adherence to treatment**
Treatment interruptions

TB AND AMR PROGRAMMES WORKING TOGETHER TO REDUCE RESISTANCE

-  Joint events
-  Advocacy material
-  Investment cases
-  Technical products
-  Capacity-building
-  Experience sharing
-  Joint partner mapping
-  Infection prevention and control activities
-  Surveillance and monitoring and evaluation of programmes
-  National TB and AMR plans and guidance documents, products and deliverables

WHO-EM/CSR/786/E

© World Health Organization 2024.
Some rights reserved.
This work is available under the
Creative Commons Attribution -
NonCommercial-ShareAlike 3.0 IGO licence (CC
BY-NC-SA 3.0 IGO);
<https://creativecommons.org/licenses/by-nc-sa/3.0/igo>.

SCAN THE QR CODE:
TO ACCESS KEY RESOURCES

[ANTIMICROBIAL RESISTANCE RESOURCES](#)

