

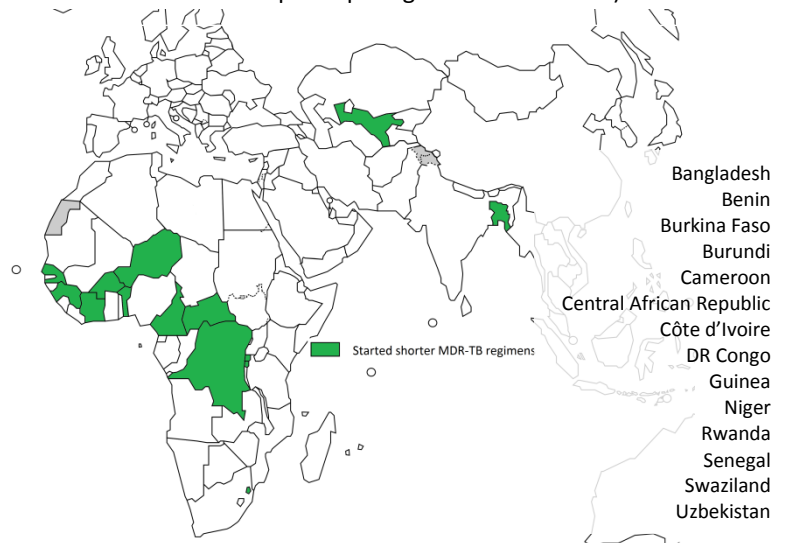
# THE SHORTER MDR-TB REGIMEN

## BACKGROUND

- Multidrug-resistant tuberculosis (MDR-TB) is a public health crisis and a global health security risk carrying grave consequences for those affected.
- An estimated 480 000 people developed MDR-TB in 2014 and 190 000 people died as a result of it.
- MDR-TB cannot be treated with the standard 6-month course of first-line medication which is effective in most TB patients. Patients with rifampicin-resistant or MDR-TB are treated with a different combination of second-line drugs, usually for 18 months or more. Attempts to reduce the length of conventional MDR-TB regimens and to use a combination of drugs which is tolerable have been ongoing for several years through various studies.
- Recently, a standardized treatment regimen lasting less than 12 months has been used in a number of countries (see map). It has shown promising results in selected MDR-TB patients
- Based on data from these studies, WHO updated its treatment guidelines for drug-resistant TB in May 2016 and included a recommendation on the use of the shorter MDR-TB regimen under specific conditions.
- This new recommendation is expected to benefit the majority of MDR-TB patients worldwide; however, there are serious risks for worsening resistance if the regimen is used inappropriately (e.g. in XDR-TB patients).
- WHO encourages ongoing and future randomized controlled clinical trials to strengthen the evidence base for shorter and more effective regimens.

For more information please visit: [www.who.int/tb](http://www.who.int/tb)

**Countries using the shorter MDR-TB regimen**  
(in addition, Ethiopia, South Africa, Viet Nam and Mongolia are participating in the clinical trial)



## FEATURES OF THE SHORTER MDR-TB REGIMEN

- Standardized shorter MDR-TB regimen with seven drugs and a treatment duration of 9-12 months
- Indicated conditionally in MDR-TB or rifampicin-resistant-TB, regardless of patient age or HIV status
- Monitoring for effectiveness, harms and relapse will be needed, with patient-centred care and social support to enable adherence
- Programmatic use is feasible in most settings worldwide
- Lowered costs (<US\$1,000 in drug costs/patient) and reduced patient loss expected
- Exclusion criteria: 2<sup>nd</sup> line drug resistance, extrapulmonary disease and pregnancy.

## REGIMEN COMPOSITION

**4-6 Km-Mfx-Pto-Cfz-Z-H<sub>high-dose</sub>-E / 5 Mfx-Cfz-Z-E**

Km=Kanamycin; Mfx=Moxifloxacin; Pto=Prothionamide;  
Cfz=Clofazimine; Z=Pyrazinamide;  
H<sub>high-dose</sub>= high-dose Isoniazid; E=Ethambutol

# WHO RECOMMENDATIONS ON THE USE OF THE SHORTER MDR-TB REGIMEN

In May 2016, WHO issued a conditional recommendation on the use of the shorter MDR-TB regimen. A flow chart outlining selection of patients on the shorter MDR-TB regimen is presented below.

## CHOOSING THE MDR-TB TREATMENT REGIMEN IN PATIENTS WITH CONFIRMED RIFAMPICIN-RESISTANT OR MDR-TB

### CRITERIA: Do any of the following apply ?

- ✓ Confirmed resistance or suspected ineffectiveness to a medicine in the shorter MDR-TB regimen (except isoniazid resistance)
- ✓ Exposure to  $\geq 1$  second-line medicines in the shorter MDR-TB regimen for  $>1$  month
- ✓ Intolerance to  $\geq 1$  medicines in the shorter MDR-TB regimen or risk of toxicity (e.g. drug-drug interactions)
- ✓ Pregnancy
- ✓ Extrapulmonary disease
- ✓ At least one medicine in the shorter MDR-TB regimen not available in the programme

NO

YES

### Shorter MDR-TB regimen

FAILING REGIMEN, DRUG INTOLERANCE,  
RETURN AFTER INTERRUPTION  $>2$  MONTHS,  
EMERGENCE OF ANY EXCLUSION CRITERION

### Individualised ("conventional") MDR/RR-TB regimens

#### Intensive phase

Duration: 4-6 months

Composition: 4 second-line drugs

#### Continuation phase

Duration: 5 months

Composition: 2 second-line drugs

*Supported by selected first-line TB drugs*

#### Intensive phase

Duration: Up to 8 months

Composition: 4 or more second-line drugs

#### Continuation phase

Duration: 12 months or more

Composition: 3 or more second-line drugs

*Supported by selected first-line TB drugs*

### KEY TERMS

- TB bacteria resistant to the medicines used in its treatment occur in countries all over the world. Drug resistance is fuelled by inadequate treatment; once TB bacteria acquire drug resistance they can spread from person to person in the same way as drug-susceptible TB.
- **Rifampicin-resistant TB (RR-TB)** is caused by TB bacteria that are resistant to at least rifampicin, one of the most effective anti-TB medicines. These patients need second-line treatment similar to MDR-TB patients
- **Multidrug-resistant TB (MDR-TB)** is caused by TB bacteria that are resistant to at least isoniazid and rifampicin, the two most effective anti-TB drugs. These patients need second-line treatment
- **Extensively drug-resistant TB (XDR-TB)** is a form of MDR-TB that is also resistant to any fluoroquinolone and any of the second-line anti-TB injectable agents (i.e. amikacin, kanamycin or capreomycin).