PARR-TB STUDY

PRECISION ACTION FOR RR-TB

GenPath
PARR-TB

Information Pamphlet for Medical Officers

Study Aims

Better Treatment

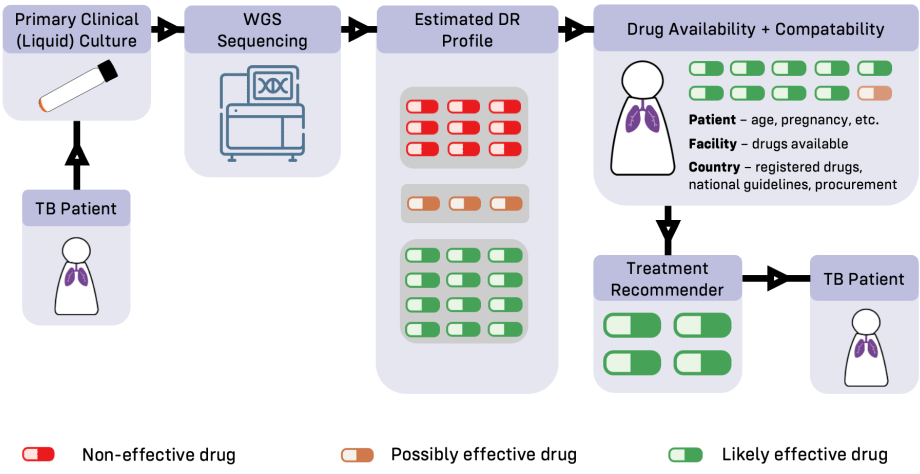
Use drug susceptibility results generated from next-generation sequencing to guide individualisation of RR-TB regimens when there is (possible) resistance to one or more BPaLL drugs.

Better Prevention

Guide TB preventative treatment (TPT) and increase contact tracing efficacy.

Study Flow

Whole genome sequencing (WGS) is done on routinely submitted sputum samples. MAGMA-MICK platform is used to analyze data and generate resistance profile. Artificial intelligence (which has been trained by South African and international DRTB experts) recommends a treatment strategy for patients and their contacts.



Note Where patient is under 15, pregnant, has EPTB or resistance to BPaLL drugs, treatment recommendation is sent to PCAC/NCAC for approval and input.

Accessing Results

Next-generation sequencing (drug susceptibility test) results, including a proposed treatment regimen for your patients will be accessible through the secure MICK-MAGMA electronic platform. See training videos below:

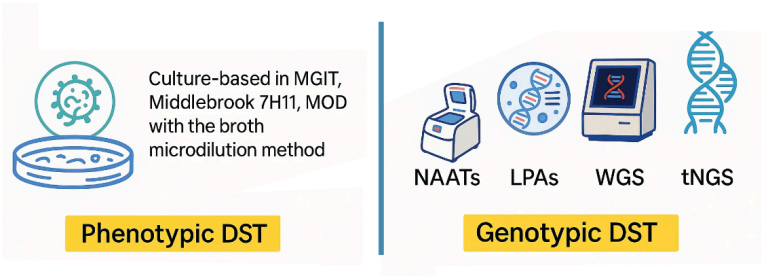
Logging in to MICK-MAGMA

Accessing Results

Frequently Asked Questions

What is meant by the term 'next generation sequencing'?

Phenotypic drug susceptibility testing on Mycobacterium tuberculosis (*Mtb*) culture takes about two months. Molecular drug susceptibility testing includes Xpert, line probe assays and next generation sequencing (whole genome and targeted). To identify mutations that may confer resistance, Whole genome sequencing (WGS) looks at the entire *Mtb* genome; targeted next-generation sequencing (tNGS) looks at specific genes of the *Mtb* genome. WGS can also identify transmission events.



What is the MICK-MAGMA platform?

A secure platform for the communication of sensitive patient information that analyzes the *Mtb* genome, uses state-of-the-art methods to interpret *Mtb* genetic variants to provide a treatment recommendation based on the drug resistance profile through artificial intelligence). It also streamlines and coordinates communication between the laboratory, health care workers in the field and provincial and/or national clinical advisory committee for TB (PCAC/NCAC).

What is my role as medical doctor participating in PARR-TB?

- Access platform for results when receiving a message that results are ready
- Enter a minimal set of clinical patient data
- Accept MICK-MAGMA treatment recommendations or request expert input
- Record consent from the patient

Will this study give me extra work?

The goal is to save time by streamlining decision-making concerning RR-TB treatment and prevention. The study hopes to reduce time spent communicating between you, the laboratory, and PCAC/NCAC.

How does next generation sequencing (NGS) benefit my patient?

- Improved drug susceptibility tests: a single test gives information on many drugs used to manage RR-TB in a shorter turnaround time (including to BPaLL drugs) than traditional phenotypic drug susceptibility tests
- Improved regimen composition in case of resistance to BPaLL drugs
- Improved post-exposure management of patients' contacts

When will the results be available?

The estimated time from sample collection to treatment recommendation is one to two weeks for tNGS. The estimated time from sample collection to treatment recommendation is one month for WGS.

Need help or have further questions?

- Technical issues: MICK-MAGMA support team (support@mick.bio)
- PARR-TB study specifics: Prof Fanie Malherbe (malherbe@sun.ac.za)
- Clinical advice or support: Dr Anja Reuter (082 220 7001)
- MICK-MAGMA queries: Dr Vincent Rennie (vincent.rennie@uantwerpen.be)

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