

A model integrating tuberculosis and Covid-19 screening at primary care clinics in Johannesburg

Authors: Chipu Mutyambizi, Lynne Wilkinson, Kate Rees, Tom Boyles

Data shows that tuberculosis (TB) testing and treatment services were heavily impacted by the emergence of COVID-19. During the first month of lockdown in April 2020, South Africa experienced a more than 40% reduction in TB notifications. Avoidance of health facilities due to fear of contracting COVID-19, transport restrictions due to lockdowns, shifts of human resources to COVID-19, and primary healthcare service delivery changes impacted on access to healthcare including TB services. With the focus on testing, treating and infection prevention and control for COVID-19 increasing at the expense of TB, it became important to develop models of care that account for both infections.

An integrated primary facility approach to ensure appropriate TB testing was developed and implemented in 6 pilot facilities within Johannesburg district before being expanded to a further 100 within the district.

Model description



Why adopting the model was important?

1. To protect patients and healthcare workers from COVID-19 infection
2. To allow health facilities to continue to deliver health services
3. To facilitate COVID-19 and TB testing, referral, and management

Briefly the model applies color coding zones within clinics to enable patients and clinic staff to know which zone they were entering or exiting. The essential components of each zone are highlighted below:



YELLOW ZONE

- It is the single point of entry into the facility
- The first COVID-19 symptom screening station



ORANGE ZONE

- Cordoned section of the facility
- Second COVID-19 screening and management station
- HIV testing station
- TB and COVID-19 testing station



BLUE ZONE

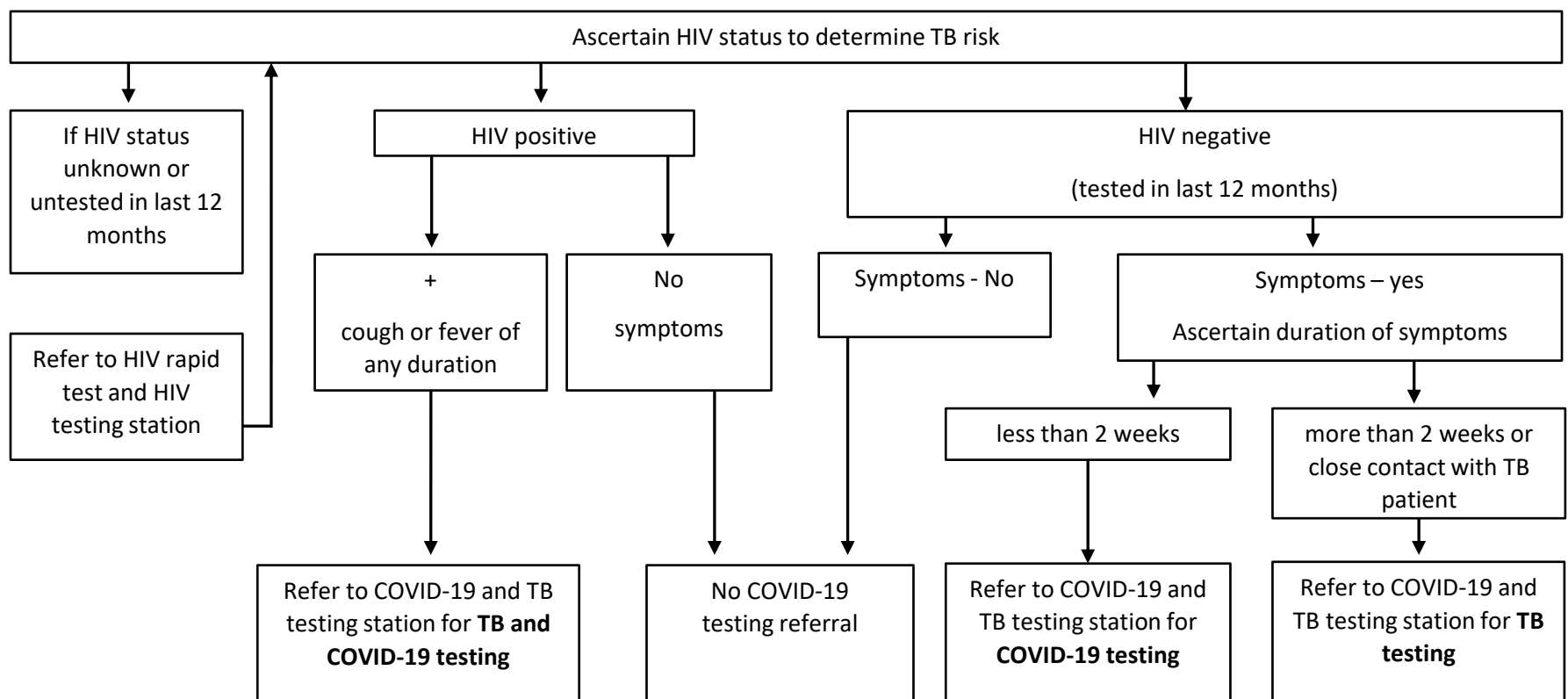
- Zone in which all patients without COVID-19 symptoms are managed

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Patients who screened positive for COVID-19 in the yellow zone proceeded to the orange zone and were investigated according to the following algorithm:

ORANGE ZONE – Clinical Algorithm



Study purpose

This study explored the outcomes of a model integrating TB testing into COVID-19 services at two primary care clinics in SA. The study also looked at the factors that influenced a TB or COVID-19 test being conducted and the factors that influenced a positive COVID-19 test result.



Study setting - Data for this study was collected at two community healthcare centres (CHCs) serving high density urban areas.



Data collection - Data captured on clinical notes forms, COVID-19 registers and TB registers were captured into REDCap. Data was captured for patients visiting the orange zone between May to July 2020. When COVID-19 or TB results were not available on the relevant register, results were traced from the National Health Laboratory Service (NHLS) laboratory information system (LIS).



Study variables - Data extracted from the clinical forms included gender, COVID-19 symptoms checklist, symptom duration, reason for facility visit, HIV status, information on whether a TB or COVID-19 sample was sent for testing and the type of COVID-19 sample that was sent. Test results were extracted from the registers.



Data analysis - data was analysed in Excel and STATA version 14.

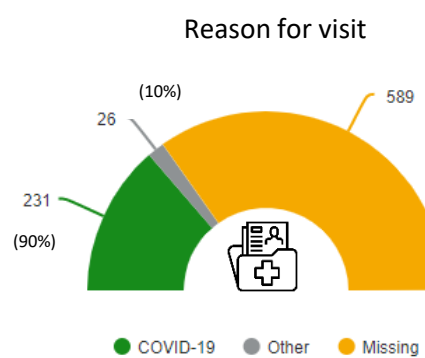
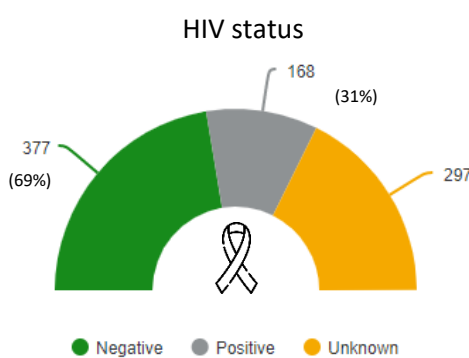
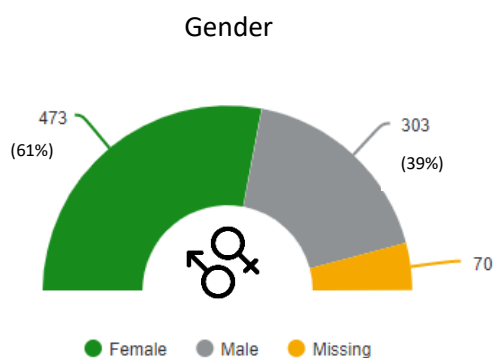
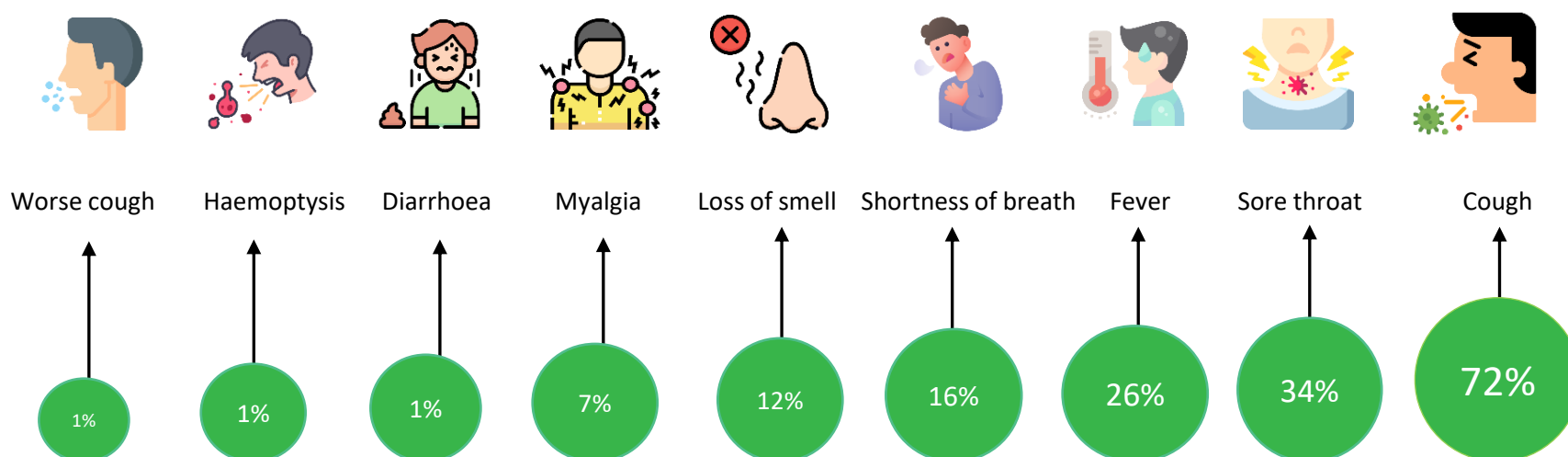
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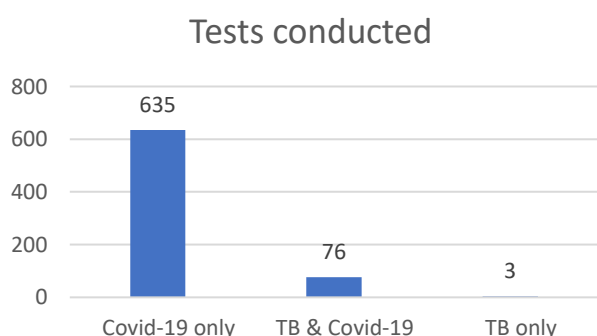
What did we find out?

We report results for 846 patients who had clinical forms. This is what we found:

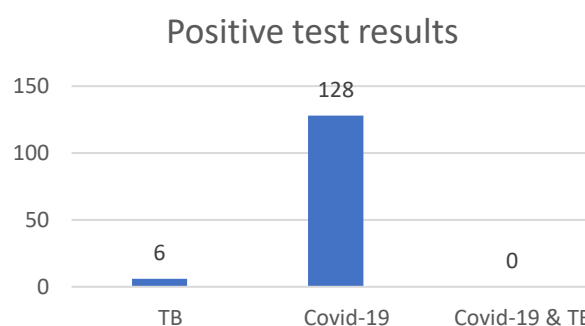
Reported COVID-19 Symptoms and patient characteristics



TB and COVID-19 tests and results



76 out of 846 (9%) patients were sent for both a TB and COVID-19 test

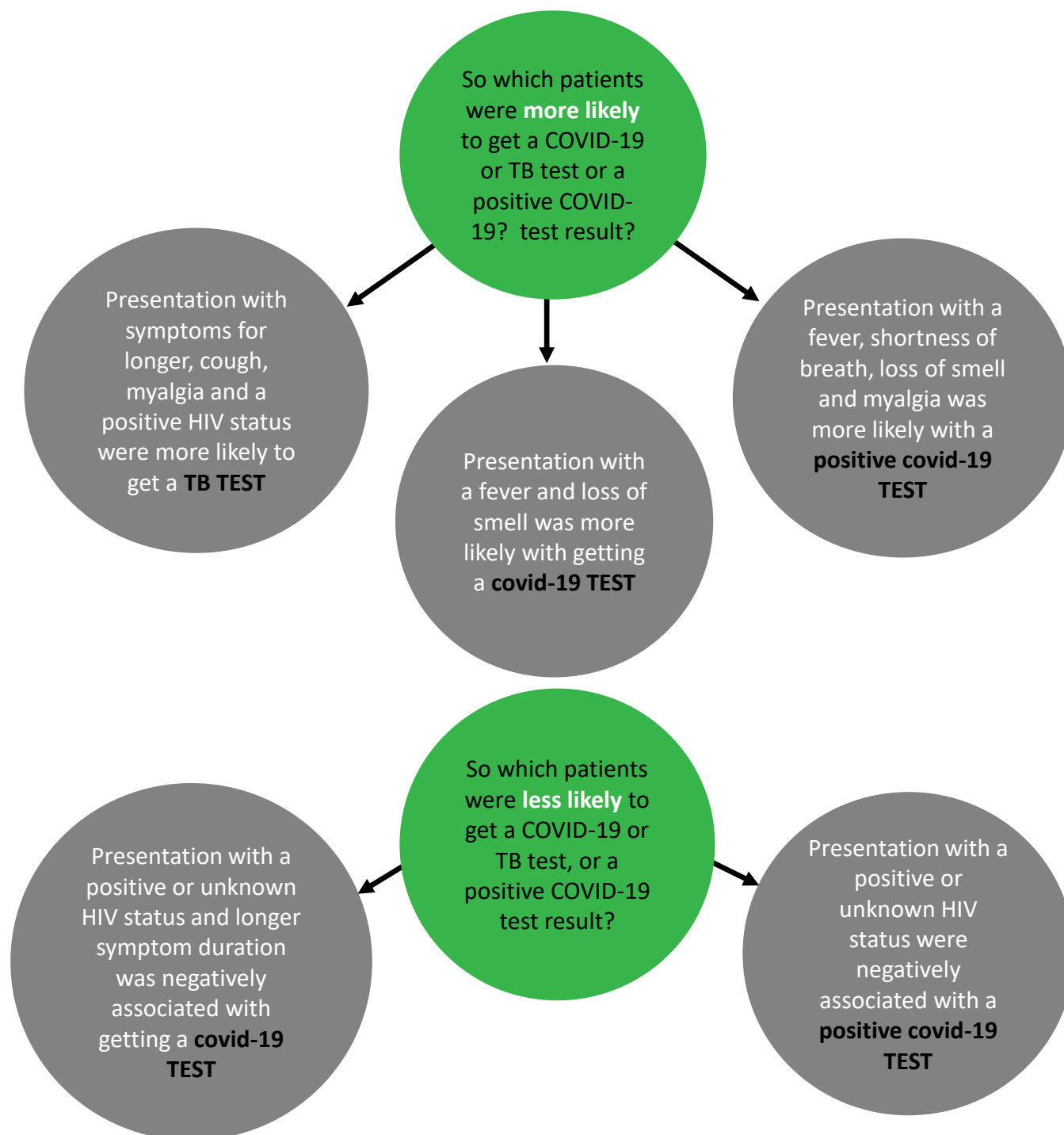


6 out of 79 (8%) patients who tested for TB were found to have TB
128 out of 711 (18%) patients who tested for COVID-19 were found to have COVID-19

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- What factors influence a TB or COVID-19 test and a positive COVID-19 result



Conclusion

The model implemented at these facilities helped with continuity of TB services as the COVID-19 pandemic continued to spread across the country. Our study showed the potential of the screening assessment and management tool in picking up TB cases. Our study also identified the factors that are associated with a COVID-19 or TB test and also a positive COVID-19 test result. Priorities should be placed on educating and encouraging health seeking behaviour at the onset of illness symptoms, and for health services to ensure continuity of services during Covid waves

Take-home message

The reported clinical algorithm is a novel approach that can be implemented in facilities to ensure adequate TB services during the COVID-19 pandemic. For further information, please refer to the publication below:

"Upcoming publication"