The interactions between COVID-19, HIV and TB: effect on health service delivery

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The Covid-19 Syndemic

• Two (or more) diseases or health conditions cluster within a specific population;
• Contextual and social factors create the conditions in which two (or more) diseases or health conditions cluster; and
• The clustering of diseases results in adverse disease interaction, either biological or social or behavioural, increasing the health burden of affected populations.

Tuberculosis

• Modelling results
  • Disruption of services
    • 11% excess cases over 5yrs
    • 16% excess deaths over 5yr
  • Reduced case detection
    • 25% drop on average
    • 13% excess deaths over 5yrs

• Observed impacts
  • Notifications 87% to 21% decline
  • Treatment success/completion rates 17% to 0% decline

HIV

• Modelling results
  • ART Interruption
    • Excess cases 1 to 16% over 1yr
    • Excess deaths 39% to 87% over 1yr
  • Reduced viral suppression
    • Excess cases 15% over 1yr
    • Excess deaths 18% over 1yr

• Observed impacts
  • Mixed impact on ART consultations
  • Moderate decrease in viral load Cd4 tests
  • Decrease in testing

Breakdown of reasons for the change in patient attendance from April to September 2020, organized into facility reasons and community reasons, according to the perception of staff interviewed in spot-checks across 32 countries.

**Site/facility reasons**
- More patients being redirected from and to other facilities (17%)
- Scope of specific services reduced (15%)
- More patients presenting with any respiratory infection symptoms (14%)
- Communications to the public about reactivation of any services that were previously suspended or reduced (13%)
- Backlog resulting from disruption of services (12%)
- Reduced general health communications campaign to promote care-seeking (11%)
- Provision of specific services completely suspended (10%)
- Reduced or changed opening hours (9%)
- Facility closure (7%)

**Individual/community reasons**
- Fear, mistrust, uncertainty of getting infected with COVID-19 from facility visits (28%)
- Disruption in public transportation (20%)
- Lockdown or stay-at-home order (20%)
- Delayed care-seeking (15%)
- Changes in recommendations to the public for mild illness and elective care (11%)
- Other (6%)
HIV Referrals

Drug-sensitive TB Dx & Screening

HIV Testing

Screen/test for HIV in TB patients
# Service Adaptations

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<thead>
<tr>
<th>Changes in the management of health workers and community health workers</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Staff were re-assigned to different units in the facility</td>
<td>70%</td>
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<tr>
<td>Staff were temporarily transferred to a different facility</td>
<td>34%</td>
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<tr>
<td>Over-time hours of full-time staff were increased</td>
<td>32%</td>
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<tr>
<td>New staff were recruited to support the increased volume of patients</td>
<td>31%</td>
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<tr>
<td>Volunteers were recruited to support the increased volume of patients</td>
<td>16%</td>
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<tr>
<td>Part-time staff had their hours increased</td>
<td>14%</td>
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<table>
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<tr>
<th>Adaptive measure for delivery of health services</th>
<th>Frequency</th>
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<tr>
<td>Facilities extended drug prescriptions to ensure patients had long-term and uninterrupted access to their medication</td>
<td>71%</td>
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<tr>
<td>Facilities gave priority to the consultations of high-risk patients</td>
<td>64%</td>
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<tr>
<td>Facilities provided all care for multiple morbidities in a single visit</td>
<td>39%</td>
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<tr>
<td>Facilities re-directed patients to alternative facilities</td>
<td>32%</td>
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<tr>
<td>Facilities provided home-based care for certain patients</td>
<td>29%</td>
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<tr>
<td>Facilities changed their locations for outpatient service provision</td>
<td>29%</td>
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<tr>
<td>Facilities provided medical consultations over the phone (telemedicine) and digital platforms</td>
<td>23%</td>
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<tr>
<td>Facilities organized a window outside of the health facility for pick-up and drop-off of pharmacy services</td>
<td>22%</td>
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<tr>
<td>Facilities digitized patients' prescriptions for medication refills</td>
<td>15%</td>
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</tbody>
</table>

South African Findings – Tuberculosis

**Fig. 11. Number of GeneXpert tests done for tuberculosis between January 2020 and February 2021 compared with the expected number (source: Moultrie et al. [10] National Health Laboratory Service).**


Health Outcomes

Fig. 2. Year-specific cross-sections of incidence age distributions and 95% CIs from years 2004, 2012, and 2019. The largest difference in age distribution occurred in the latter half of the study period, between 2012 and 2019.


Conclusions

• Local health services fairly resilient to the impact of Covid-19
• Need for longer term assessment
• Integration of information systems