Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Tuberculosis and malaria in the age of COVID-19

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With the world still focused on the COVID-19 pandemic and hopes for vaccine rollout, the 2020 WHO global reports on tuberculosis and malaria are timely reminders that these diseases remain two of the three deadliest infectious diseases. A key question in early 2020 was how the added strains of the pandemic on health-care systems would impact their management, with some dire early conjectures. So where are we now?

Tuberculosis elimination is on the right track, but progress is slower than necessary to meet the 2030 Sustainable Development Goals target of reducing incidence by 80% and mortality by 90% from 2015 levels. By 2020, incidence has fallen by 9% (target 20%) and mortality by 14% (target 25%). About 3% of 2019 cases and 18% of previous cases were at least rifampicin-resistant. There is still huge between-region variability, with the low-burden European Region already at the SDG milestones, and the high-burden African Region progressing well. However, the three highest-burden countries (India, Indonesia, and China) are lagging, stressing the need for further investment in testing, treatment, prevention, and research capacities.

For malaria, there has also been considerable progress since 2000 towards the WHO Global Technical Strategy targets (a reduction of incidence and mortality by 90% over 2015–30 and by 40% by 2020), but improvements have stalled in the past 5 years. There were 409 000 deaths globally in 2019, a 10% decrease from 2015 (this decrease was 24% in 2010–15). WHO estimates that the world is off track to meet the 2030 goals by 37% for incidence and by 22% for mortality, with trajectories representing a near levelling-off of any progress for the next decade. In 2019, 384 000 people died and 215 million became infected in Africa, accounting for 94% of malaria cases globally. Southeast Asia represents only about 3% of the global malaria burden, but the biggest contributors in the region are again India and Indonesia. Such countries doubly burdened by tuberculosis and malaria have also been hard-hit by COVID-19.

By June 2020, tuberculosis screening and notifications of new diagnoses had declined sharply because of repurposing of diagnostic machines, health workers and facilities, and budgets, and lapses in data reporting. Disruptions of a similar nature have affected malaria-endemic countries, particularly delayed deliveries of bed-nets and chemoprophylaxis before seasonal peaks (affecting prevention) and stay-at-home orders for people with fever (affecting diagnosis and treatment access). The malaria report does not account for the impact of COVID-19, but an Article in this journal projects up to 261·6 million cases and 768 600 deaths in 2020 in Africa alone. This is a worst-case scenario that assumes simultaneous disruption of prevention services by up to 75%, a complete reversal of any post-2000 success. For tuberculosis, WHO estimates that if global notifications decrease by 25–50% for 3 months as a result of COVID-19, there could be up to 400 000 excess deaths in 2020, equivalent to the annual mortality for 2012.

An Article in *The Lancet Global Health* modelled four COVID-19 pandemic management strategies assuming a basic reproductive number (R_0) of 3·0 and the resultant tuberculosis and malaria incidence and mortality. At worst, there could be a 20% increase in excess deaths from tuberculosis and 36% from malaria by 2025. For malaria, incidence and deaths would be most affected in the short term by delays in prevention measures that coincide with seasonal peaks in transmission, but this could revert quickly with a return to pre-pandemic schedules. For tuberculosis, the world has broadly followed scenarios that the model found to be less damaging—mitigation of COVID-19 spread interspersed with stringent lockdowns. These approaches seem to better shrink the pandemic with less disruption of care-seeking and health services for non-COVID-19 diseases than no mitigation or prolonged lockdowns. Moreover, the study assumed a reproductive number that was probably an overestimate, with the global R_0 having been mostly in the 1–2·5 range since March, according to data from Harvard TH Chan School of Public Health.

From experience so far, perhaps the worst predictions have not materialised. Still, diseases do not exist in isolation and one COVID-19 management scenario might work for tuberculosis, but exacerbate malaria burden, creating the need for exceedingly complex policy decisions. The bottom line is that while health-care workers in endemic countries have battled exceptionally hard on three fronts, policy makers cannot forget that tuberculosis and malaria are greater long-term threats than COVID-19, and planning of resource allocation must account for that. ■ *The Lancet Infectious Diseases*

For the **2020 Global Tuberculosis Report** see https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2020

For the **2020 Global Malaria Report** see https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2020

For the ***Lancet Infectious Diseases* study** see **Articles** *Lancet Infect Dis* 2020; published online Sept 21. https://doi.org/10.1016/S1473-3099(20)30700-3

For the ***Lancet Global Health* study** see **Articles** *Lancet Global Health* 2020; **8:** e1132–41

For the **R_0 data from Harvard TH Chan School of Public Health** see http://metrics.covid19-analysis.org/