The impact of COVID-19 on TB globally and getting back on track towards TB elimination

Dennis Falzon, WHO Global TB Programme

26th Annual Conference of the Union-North America Region

3 March 2022

World Health Organization

END TB

CONFLICT OF INTEREST DISCLOSURE FORM

☒ I have no Conflict of Interest to report.

☐ I have the following Conflict of Interest(s) to report:

Please tick the type of affiliation / financial interest and specify the name of the organisation:

- ☐ Receipt of grants/research supports: _____
- ☐ Receipt of honoraria or consultation fees: _____
- ☐ Participation in a company sponsored speaker's bureau: _____
- ☐ Tobacco-industry and tobacco corporate affiliate: _____
- ☐ Stock shareholder: _____
- ☐ Spouse/partner: _____
- ☐ Other: _____

LEARNING OBJECTIVES

By the end of the session the participant will have an understanding of the

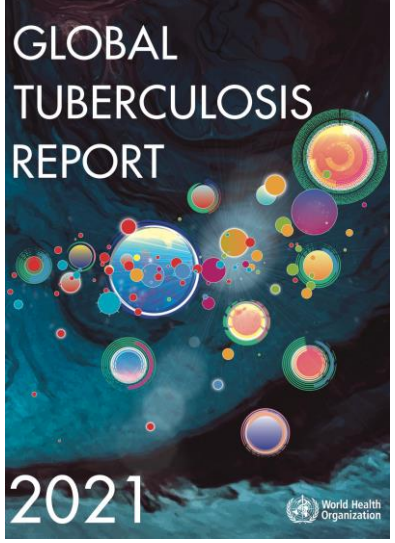
1. impact of the COVID-19 pandemic - and mitigation measures against it - on tuberculosis control and epidemiology, as estimated by the World Health Organization

2. approaches being pursued by countries to recover during and after the pandemic and to step up efforts to get TB prevention and care back on track towards global targets

The impact of COVID-19 on TB

The global TB situation

A quarter of the world's population is infected with TB bacilli.



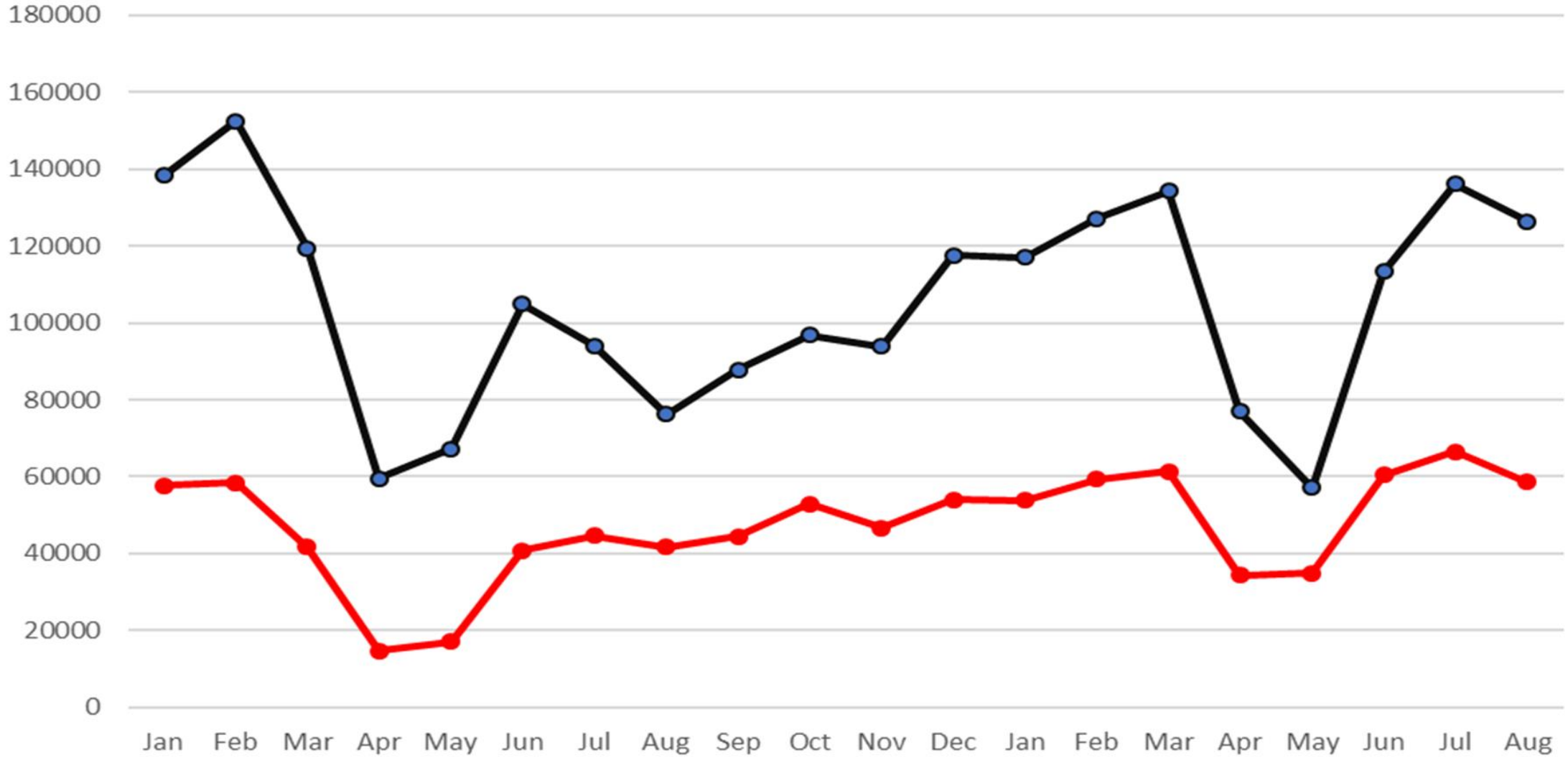
	Estimated incidence	Estimated deaths
All forms of TB, 2020	9.9 million (8.9–10.9 million) 11% children <15y | 56% men | 33% women	1.3 million* (1.2–1.4 million)
HIV-associated TB, 2020	787,000 (701,000–879,000)	215,000 (188,000–244,000)

* Excluding deaths attributed to HIV/TB

World Health Organization

Update, October 2021

Monthly TB notifications in the public and private sectors, India, January 2020–August 2021[a]

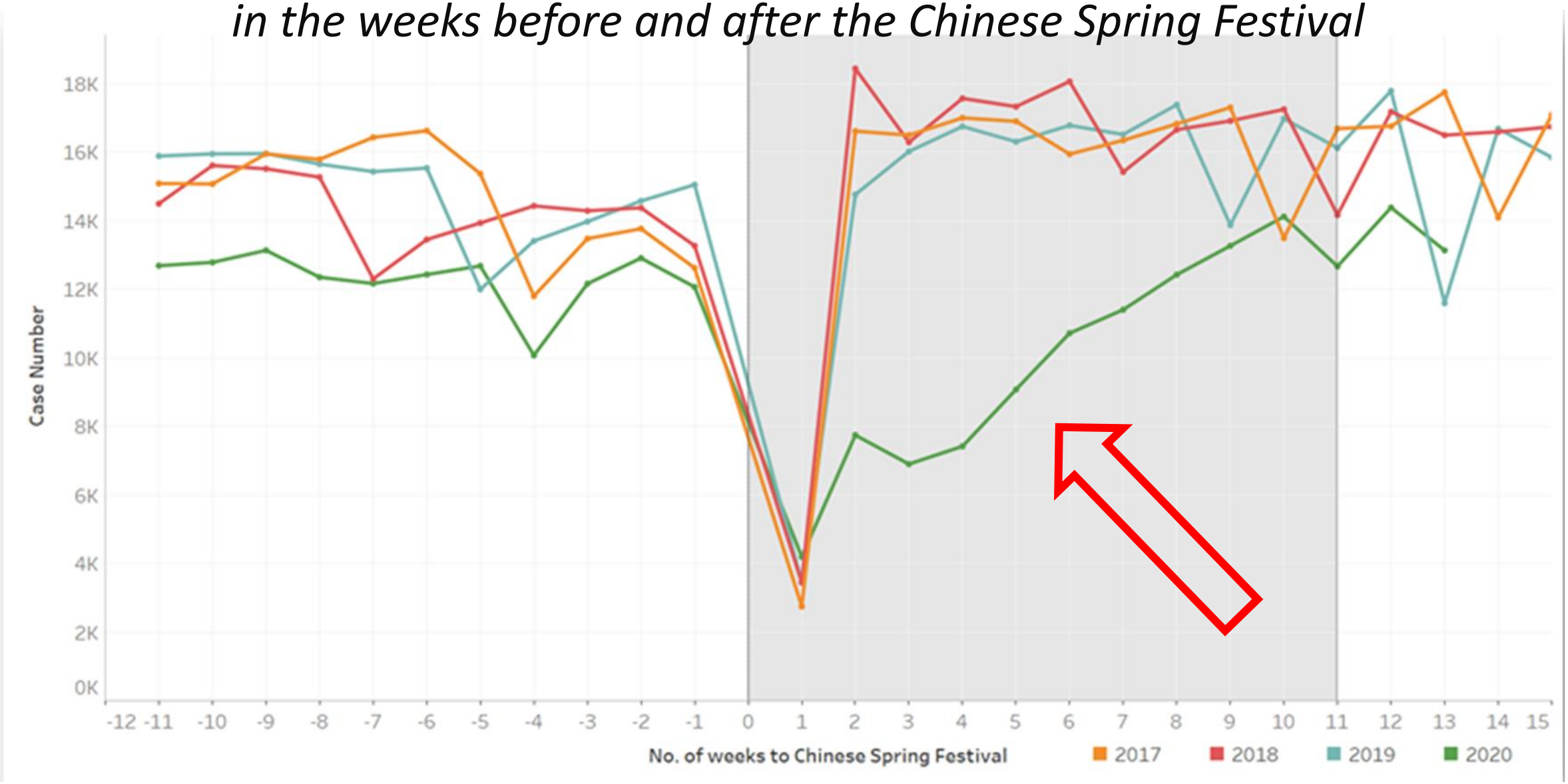


[a] These data were accessed from https://reports.nikshay.in/Reports/TBNotification on 16 Sep 2021.

World Health Organization

China : TB notifications, 2017-2020

in the weeks before and after the Chinese Spring Festival

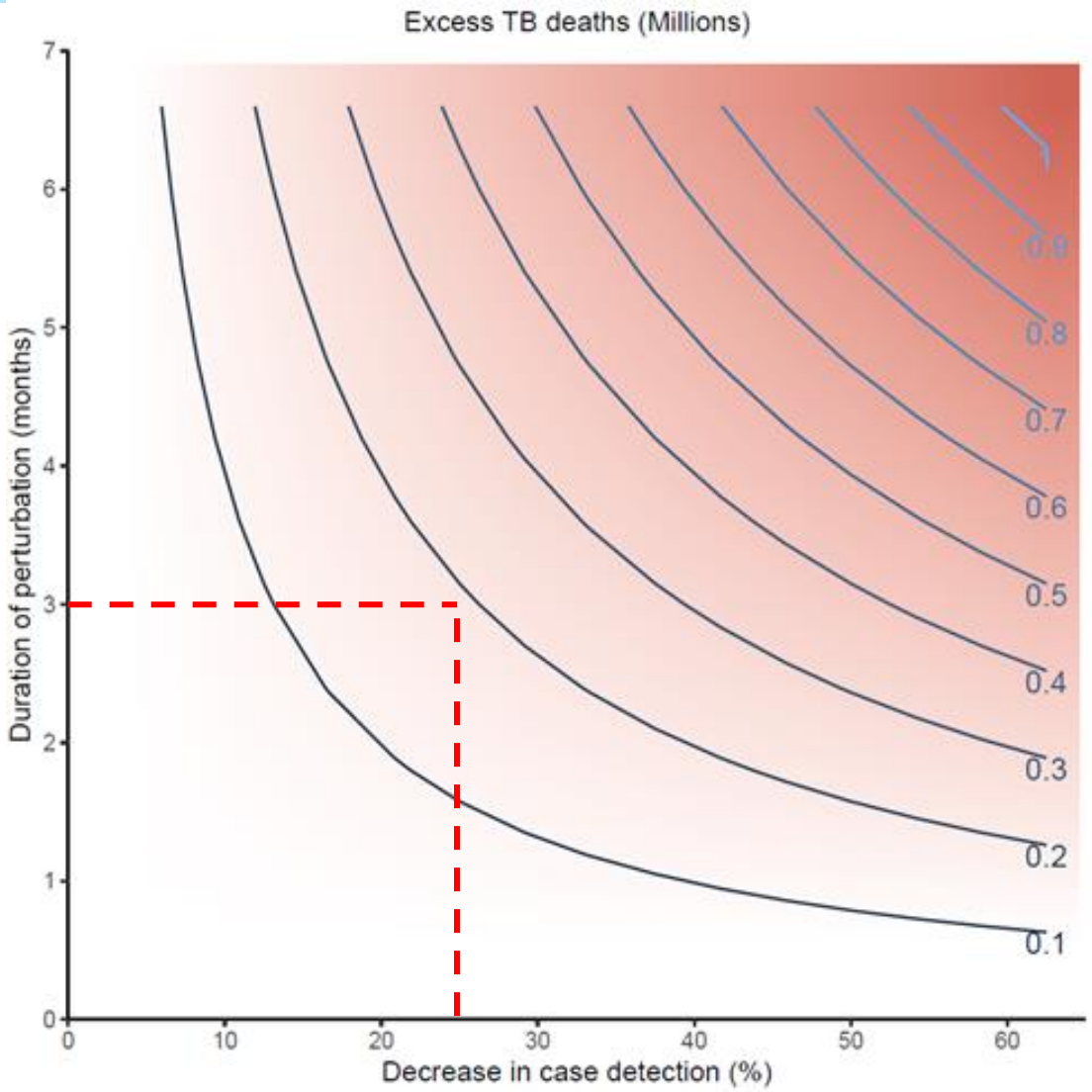


Source: H Fei, China (as on 9 May 2020)

COVID-19 impact on TB:

observed and expected

A global reduction in TB detection of 25% for 3 months – a realistic scenario given levels of disruption in TB services occurring in multiple countries – would increase TB deaths by about 200,000, reversing progress achieved in lowering TB mortality worldwide in the last 5 years.



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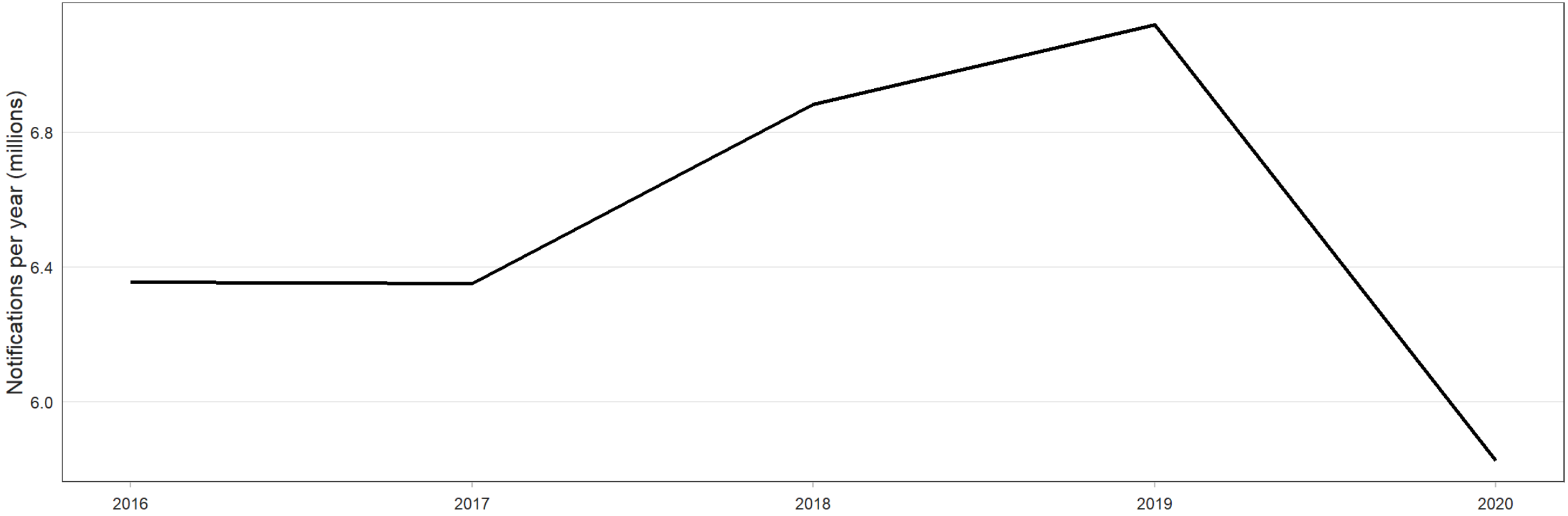
http://medrxiv.org/lookup/doi/10.1101/2020.04.28.20079582

END TB

Update, October 2021

Global trend in case notifications of people newly diagnosed with TB, 2016–2020

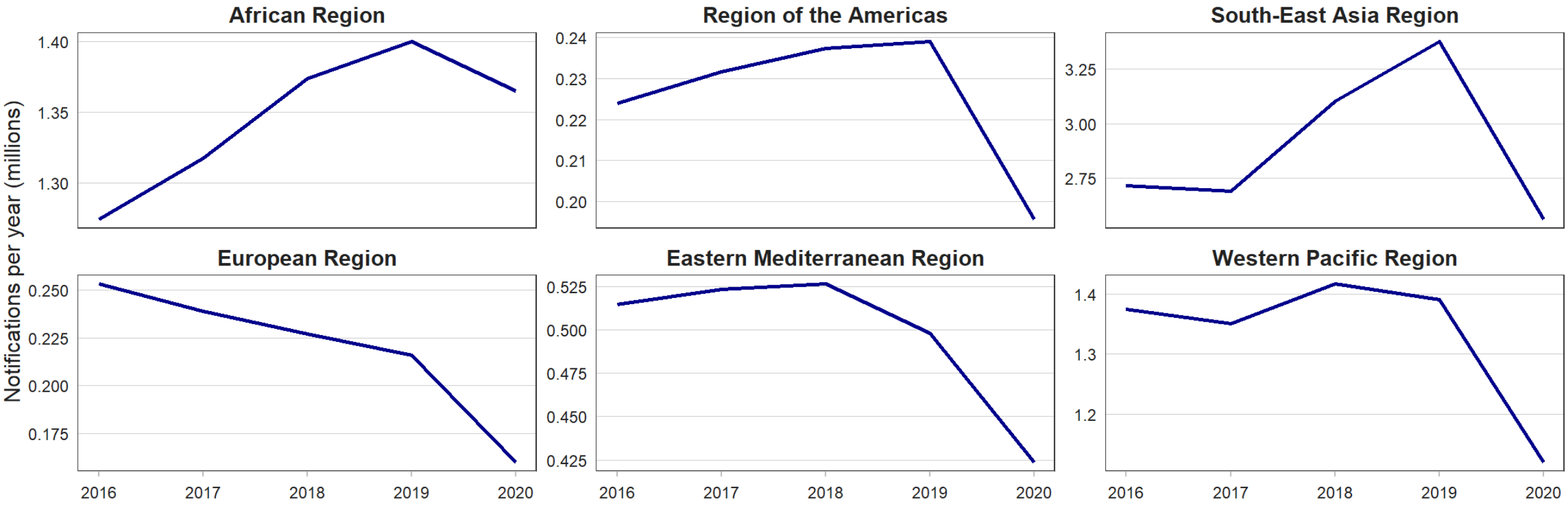


World Health Organization

END TB

Update, October 2021

Trends in case notifications of people newly diagnosed with TB by WHO region, 2016–2020



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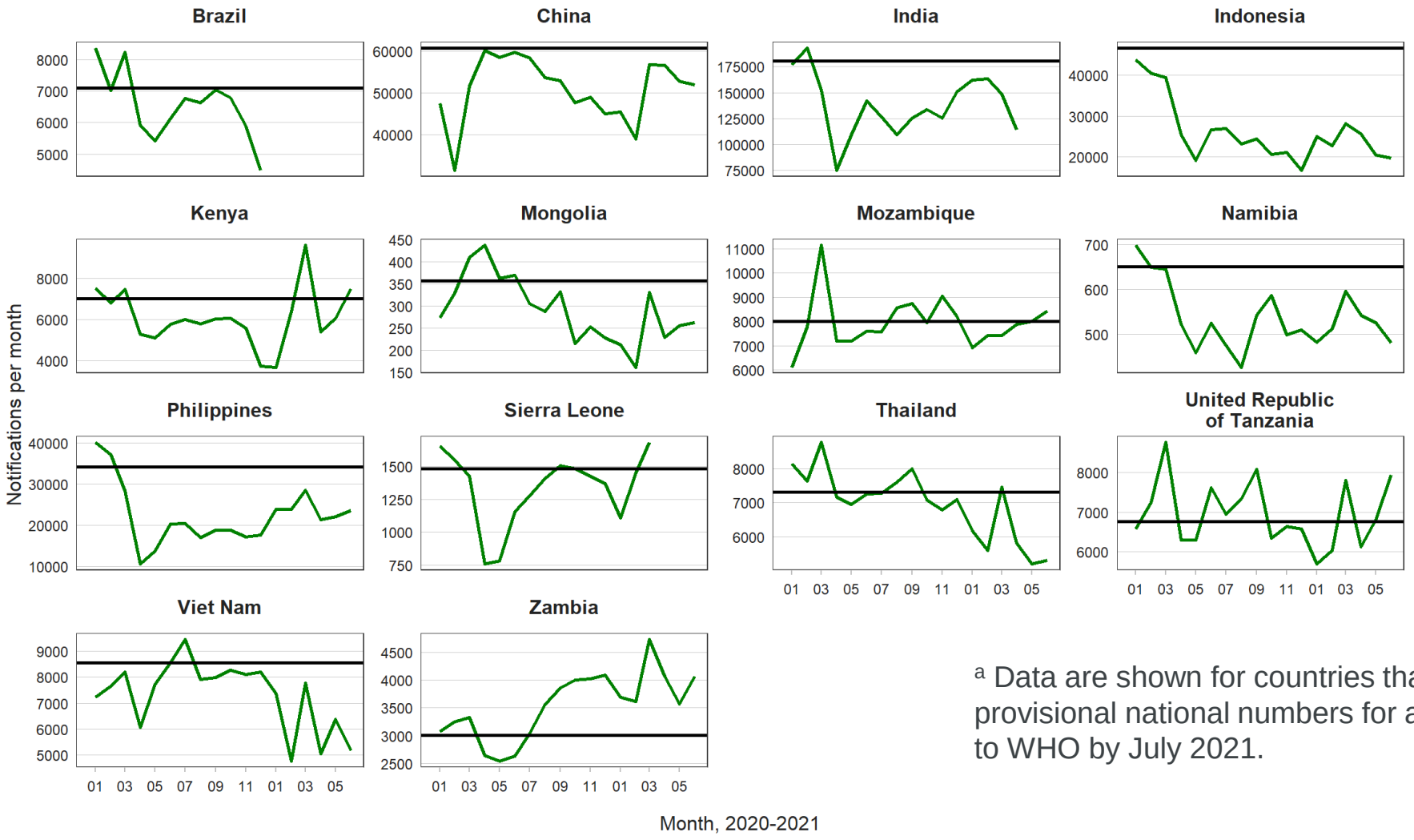
Update, October 2021

Trends in monthly or quarterly notifications of TB cases in selected high TB burden countries, Jan 2020–June 2021[a] (1)



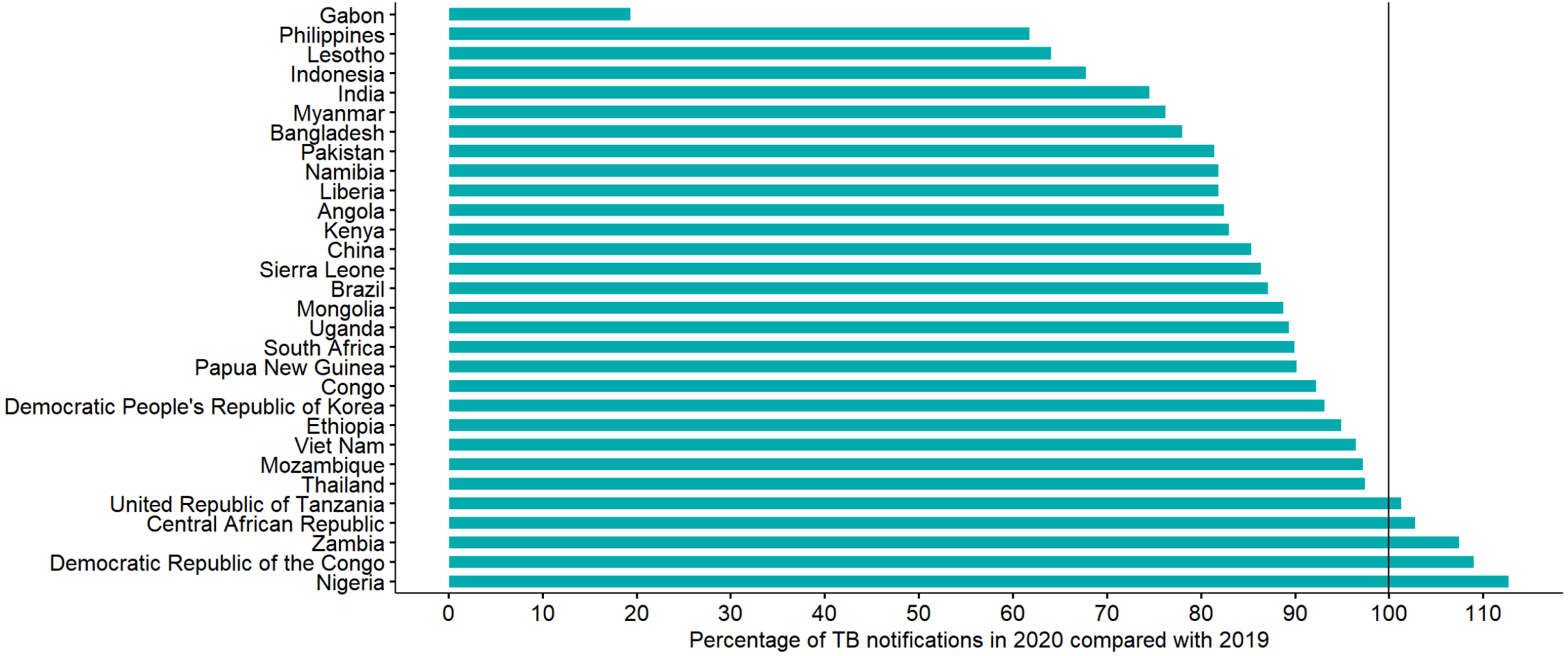
[a] Data are shown for countries that were able to report provisional national numbers for all months or quarters to WHO by July 2021.

World Health Organization

END TB

Update, October 2021

TB notifications in 2020 compared with 2019 in the 30 high TB burden countries



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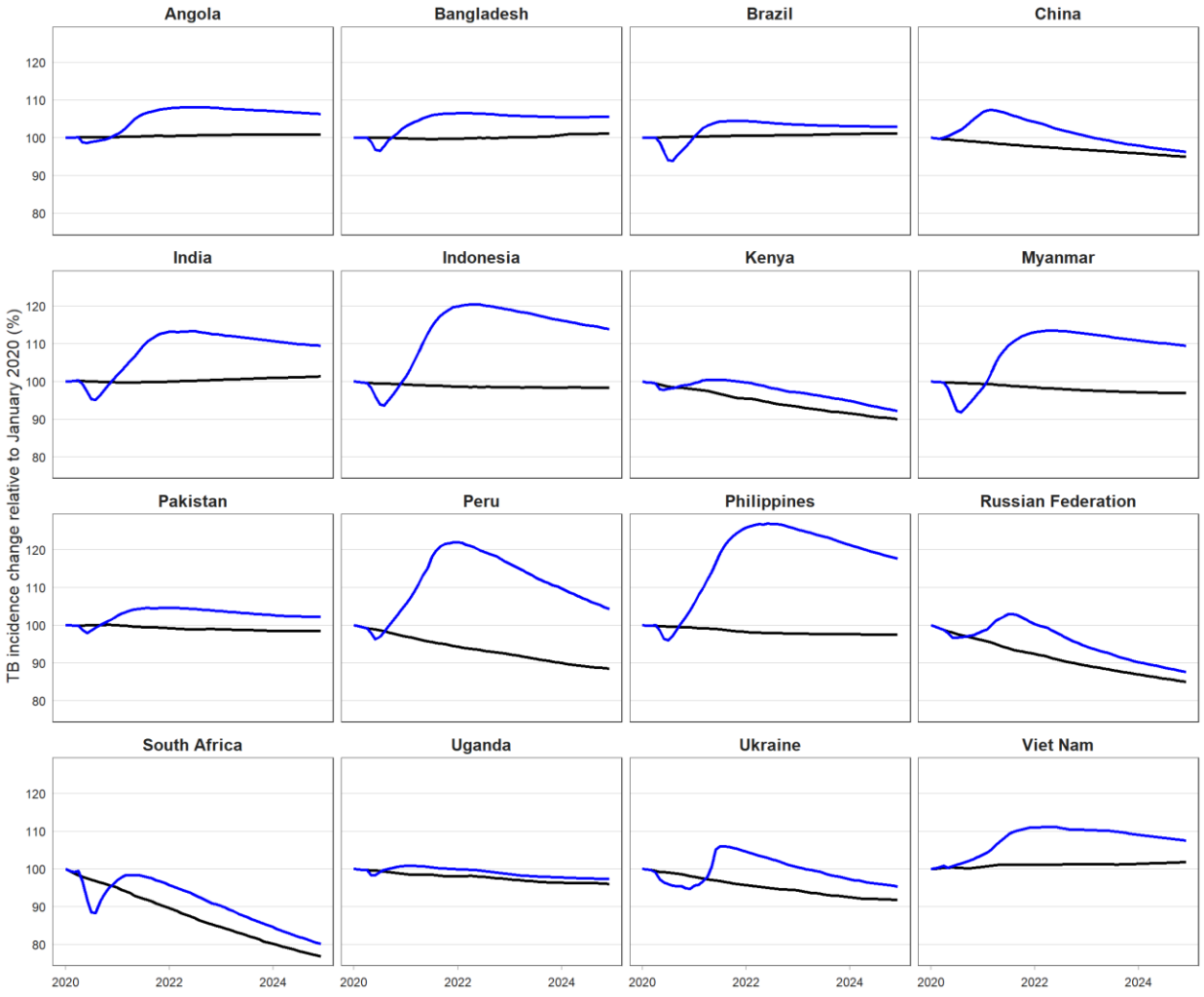
Update, October 2021

Estimated impact of the COVID-19 pandemic on TB incidence for 16 selected countries, up to 2025

Standardized TB incidence rate[a]. The black line indicates the baseline assuming no COVID-19 disruptions, and the **blue** line is the modelled impact.



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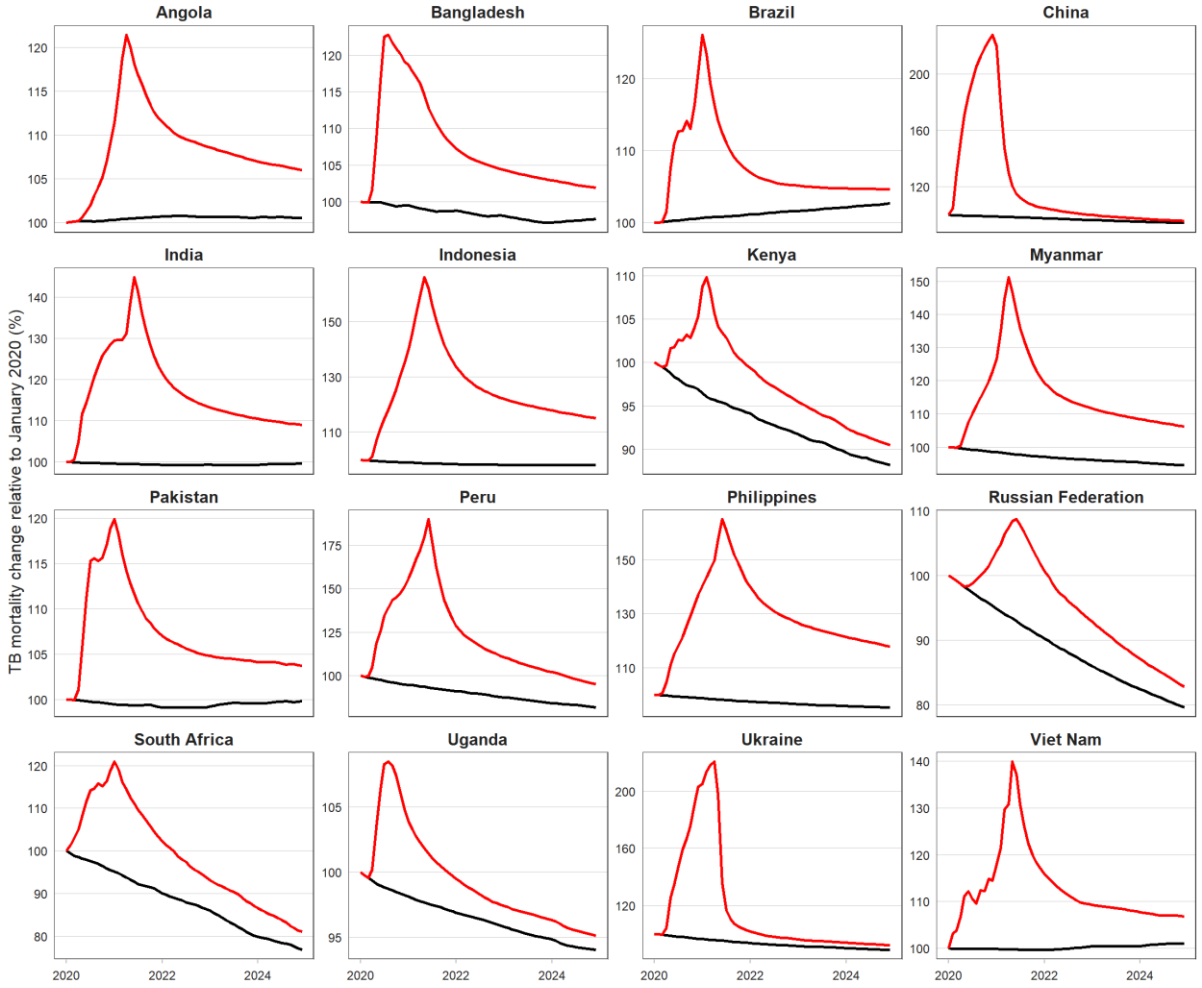
Update, October 2021

Estimated impact of the COVID-19 pandemic on TB mortality for 16 selected countries, up to 2025

Standardized TB mortality rate (including HIV)[a]. The black line indicates the baseline assuming no COVID-19 disruptions, and the red line is the modelled impact.



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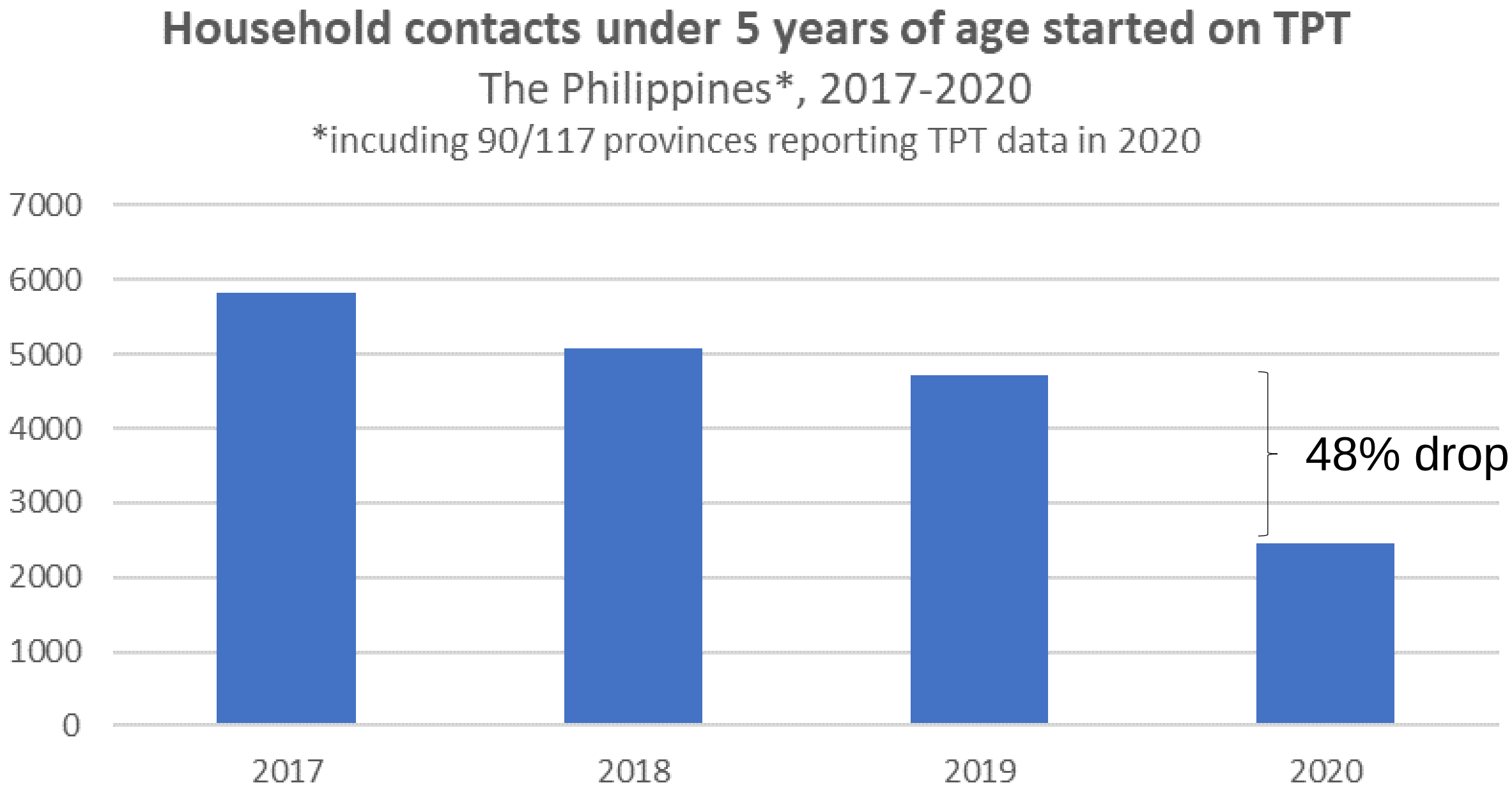
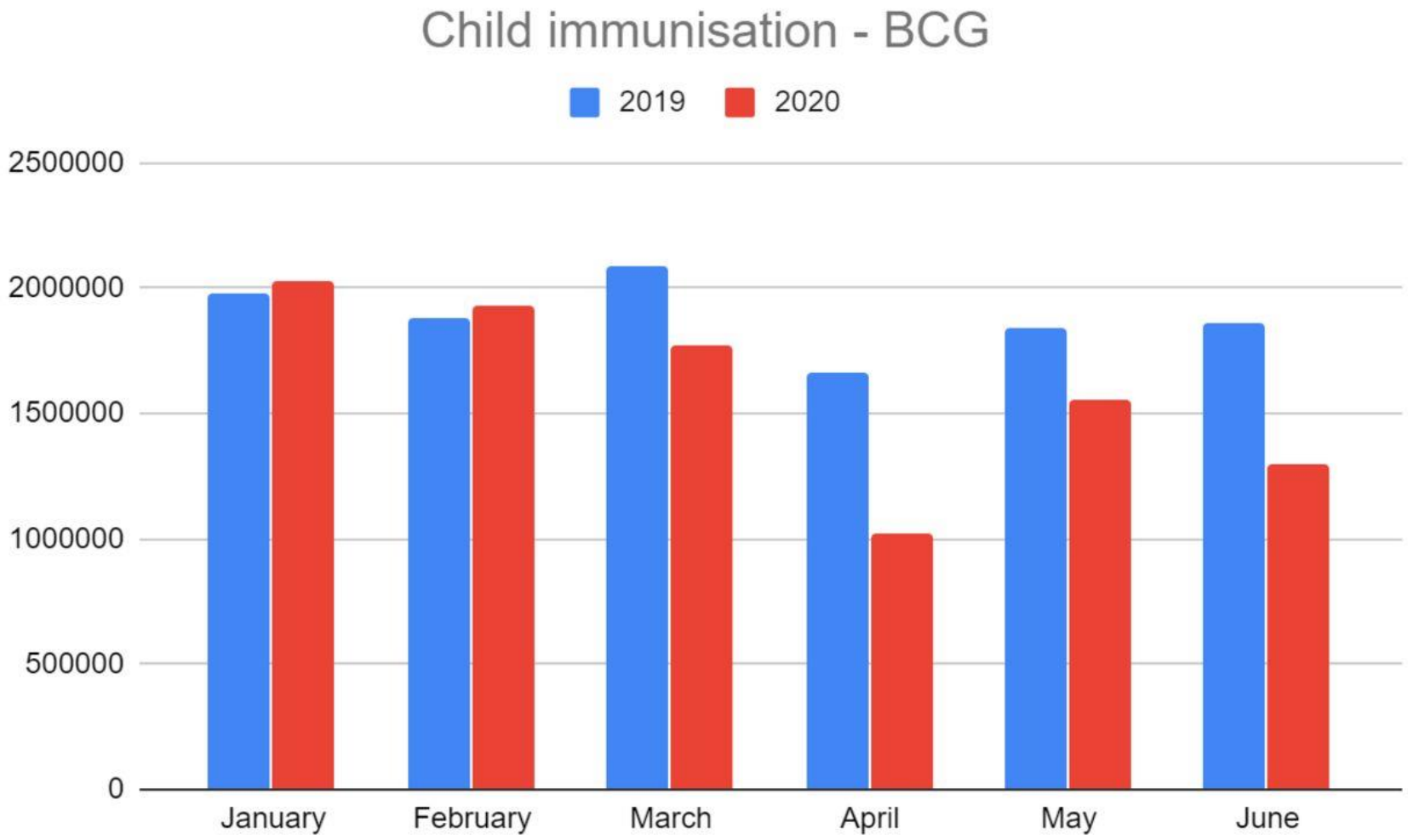


Source: NTP of the Philippines, May 2021

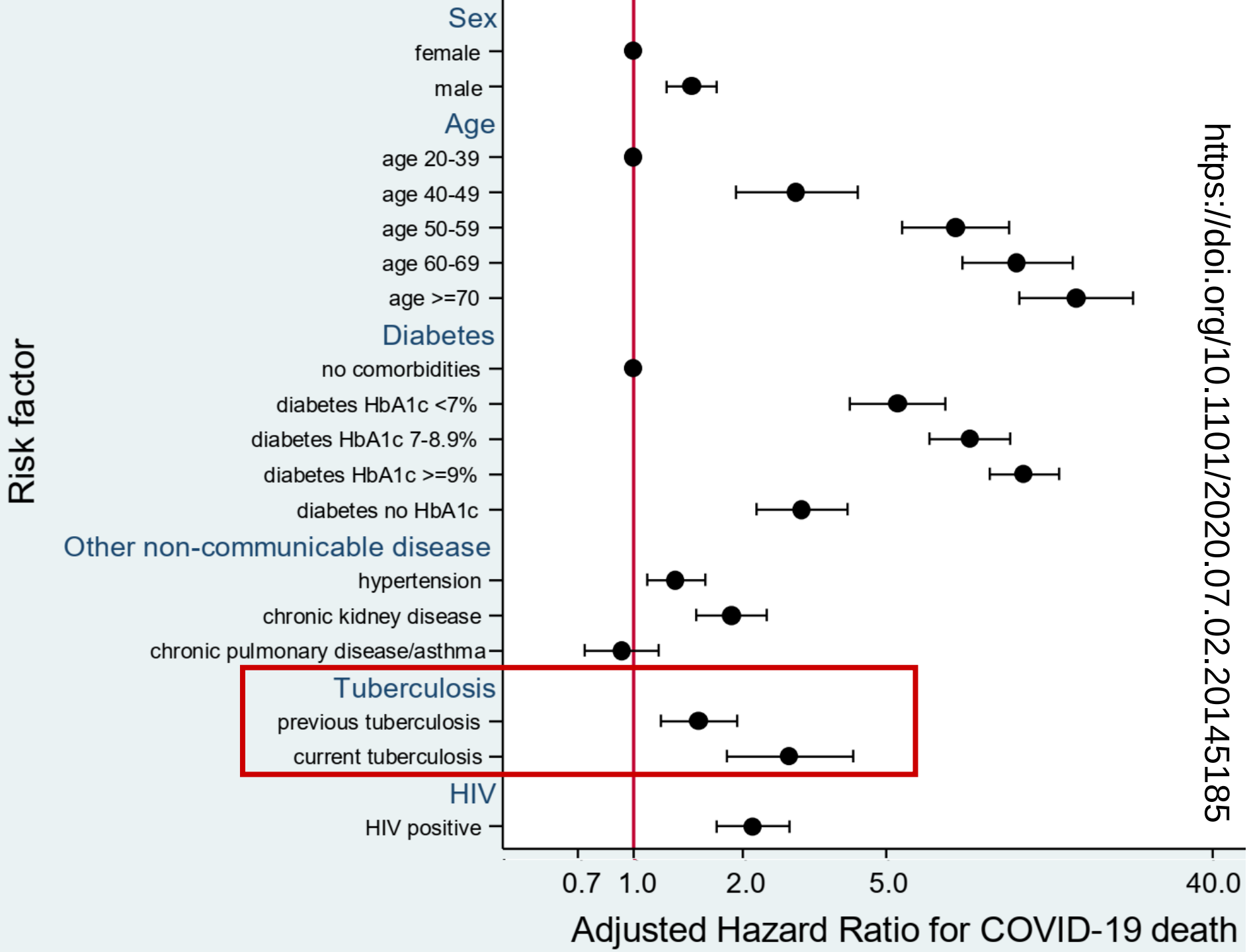
Routine BCG vaccination, India, Jan-Jun 2020 (red) vs. 2019 (blue)

Source: Health Management Information System (NHM-HMIS), National Health Mission, India



Rukmini Shrinivasan et al. BMJ Glob Health 2020;5:e003979

BMJ Global Health



South Africa

(Western Cape), Mar-Jun 2020

Risk of death in COVID-19 patients at public health care facilities

Previous TB
aHR = 1.51
(95%CI:1.18-1.93)

Current TB
aHR = 2.7
(95%CI:1.81-4.04)

COVID-19 related impact on key drivers of TB

World Health Organization

The cost of inaction: COVID-19-related service disruptions could cause hundreds of thousands of extra deaths from HIV

World Health Organization
REGIONAL OFFICE FOR Africa

Search

COVID-19 could deepen food insecurity, malnutrition in Africa

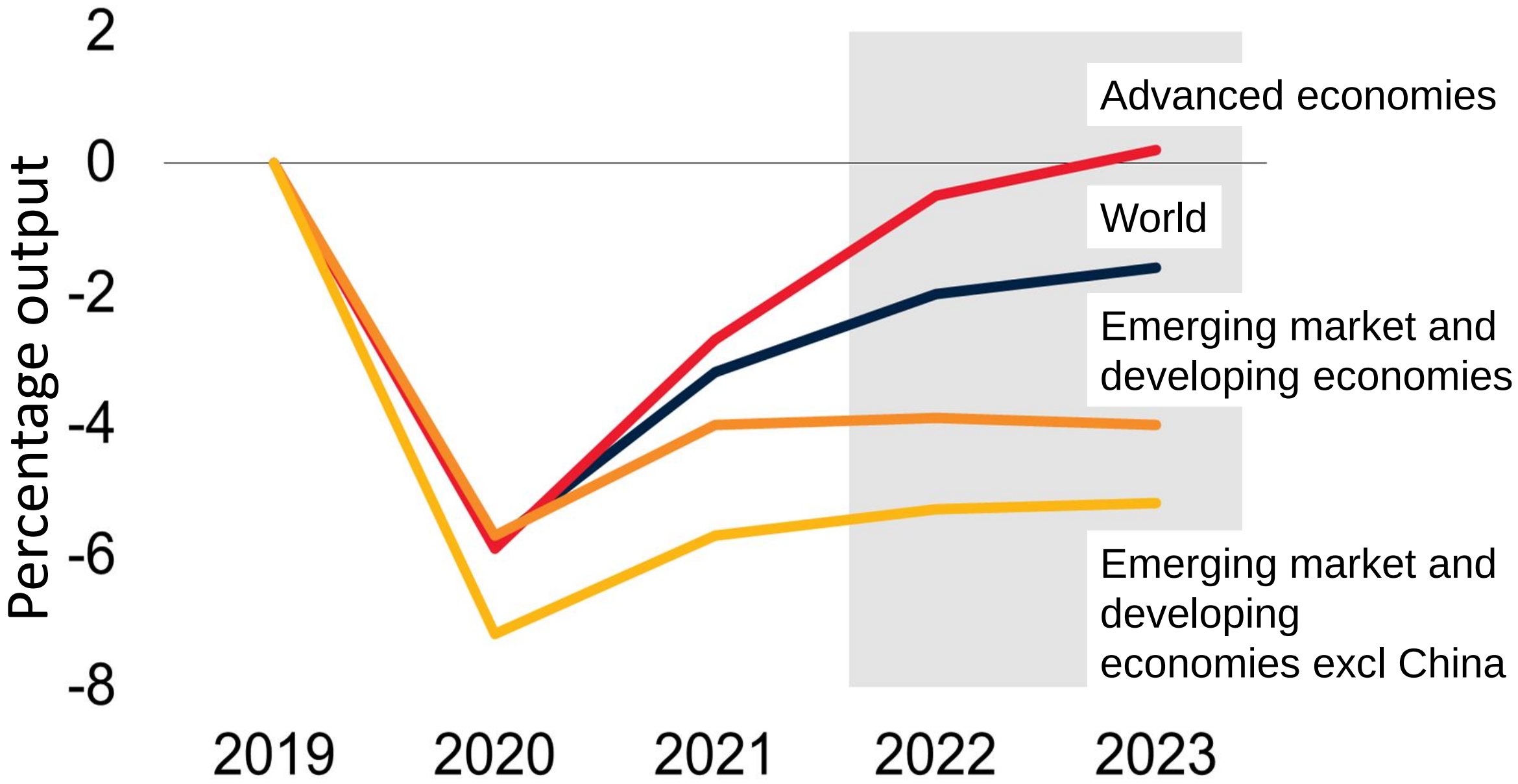
14 May 2020

Brazzaville – The World Health Organization (WHO) today expressed concern at the potential impact of COVID-19 on food security, which is likely to exacerbate the already considerable burden of malnutrition in Africa. The impact of the disease is expected to be greater among those grappling with food scarcity and malnutrition, while widespread food insecurity will likely increase due to movement restrictions.

Click image to enlarge

World Health Organization

COVID-19 significantly impacts health services for noncommunicable diseases

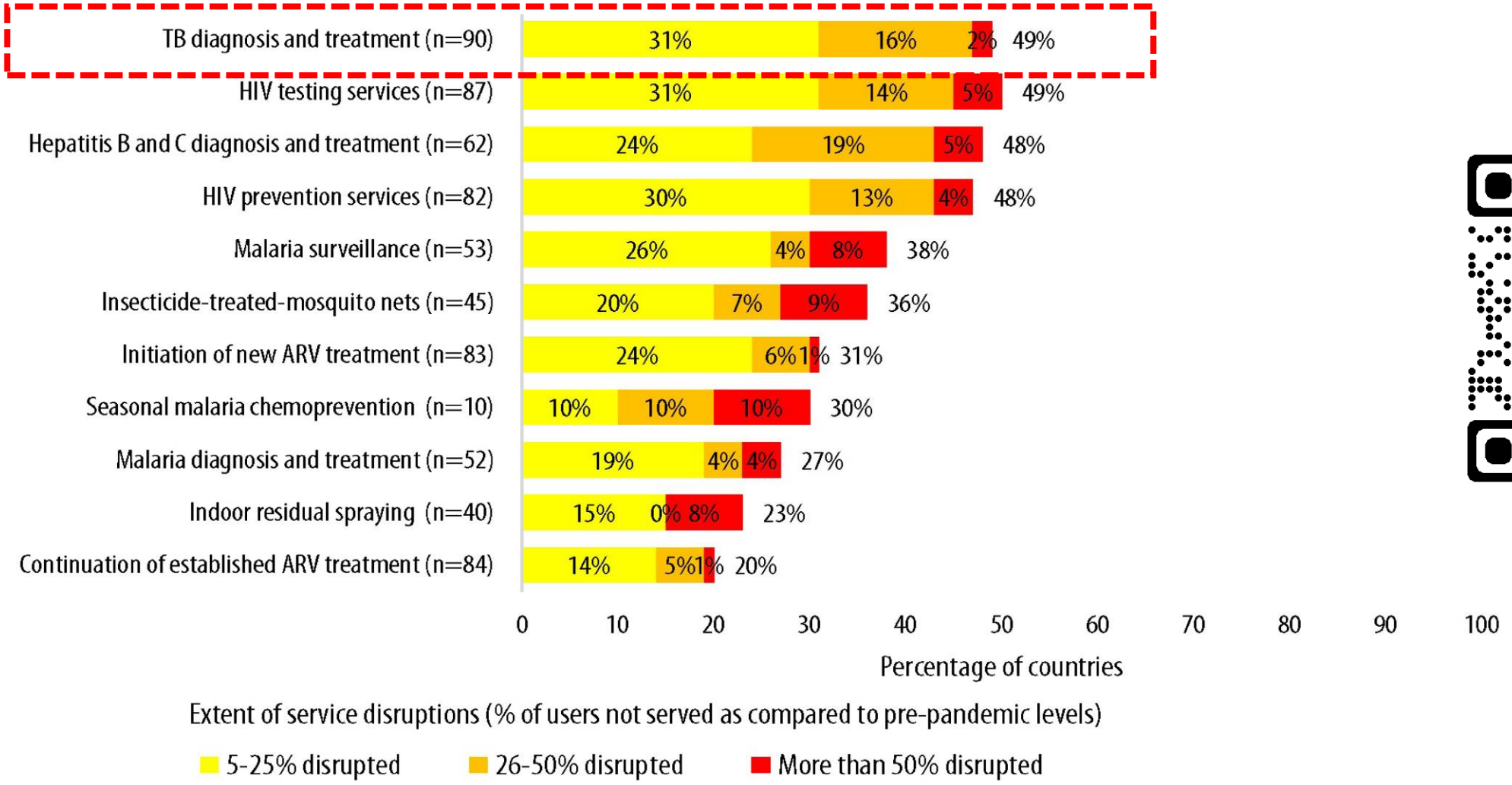


World Bank. Global Economic Prospects, January 2022

Strategies to get back on track towards TB elimination

Disruptions in services for communicable diseases: Tuberculosis, HIV, hepatitis and malaria

FIG. A15. Percentage of countries reporting disruptions in services for communicable disease in Q4 2021

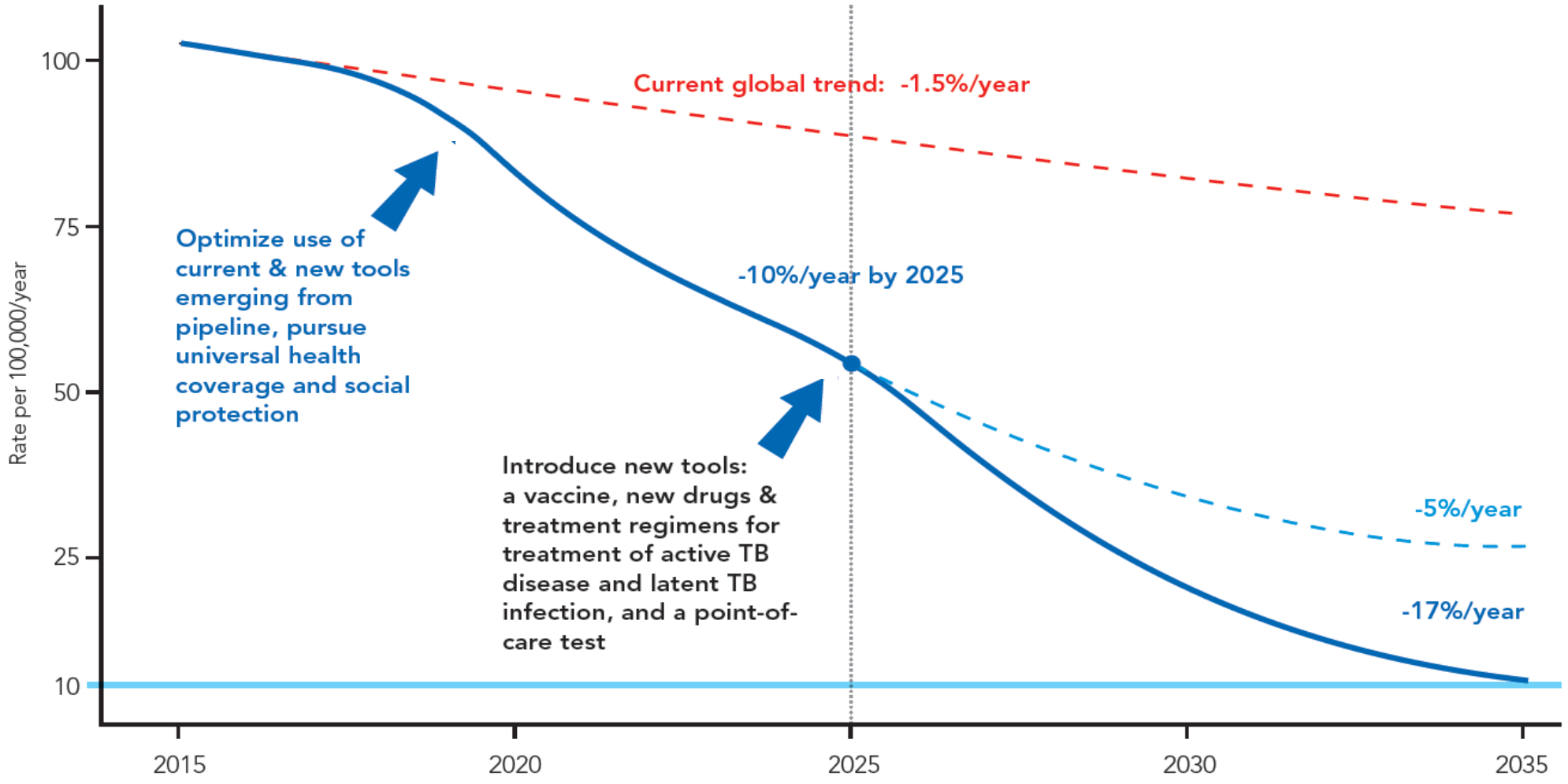


World Health Organization

Third round of the global pulse survey on continuity of essential health services during the COVID-19 pandemic: November-December 2021. Geneva, Switzerland; 2022.

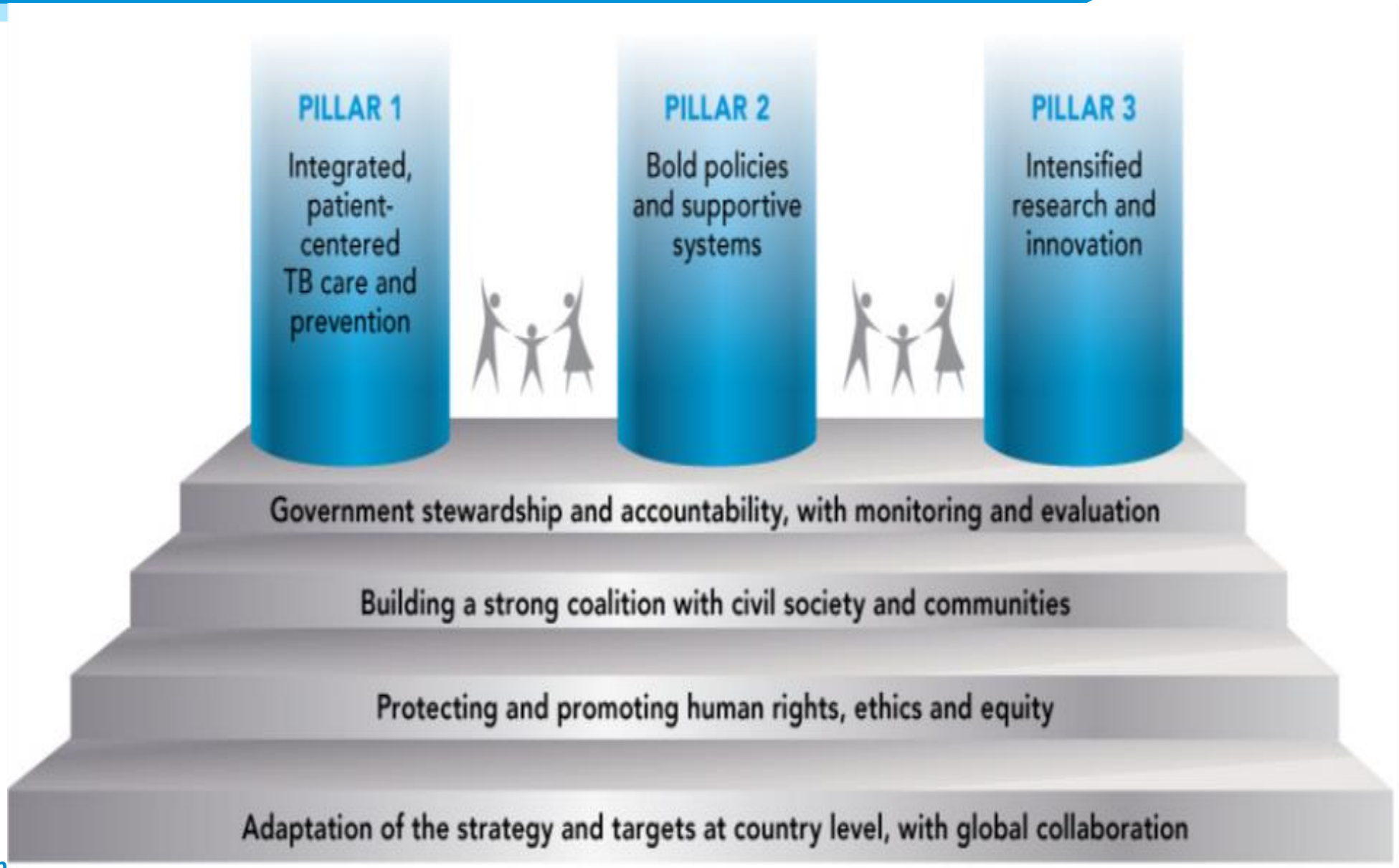
END TB

The End TB Strategy



World Health Organization

The End TB Strategy



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SPRP 2020 – WHO Global strategy for COVID-19

Suppress transmission

Protect the vulnerable

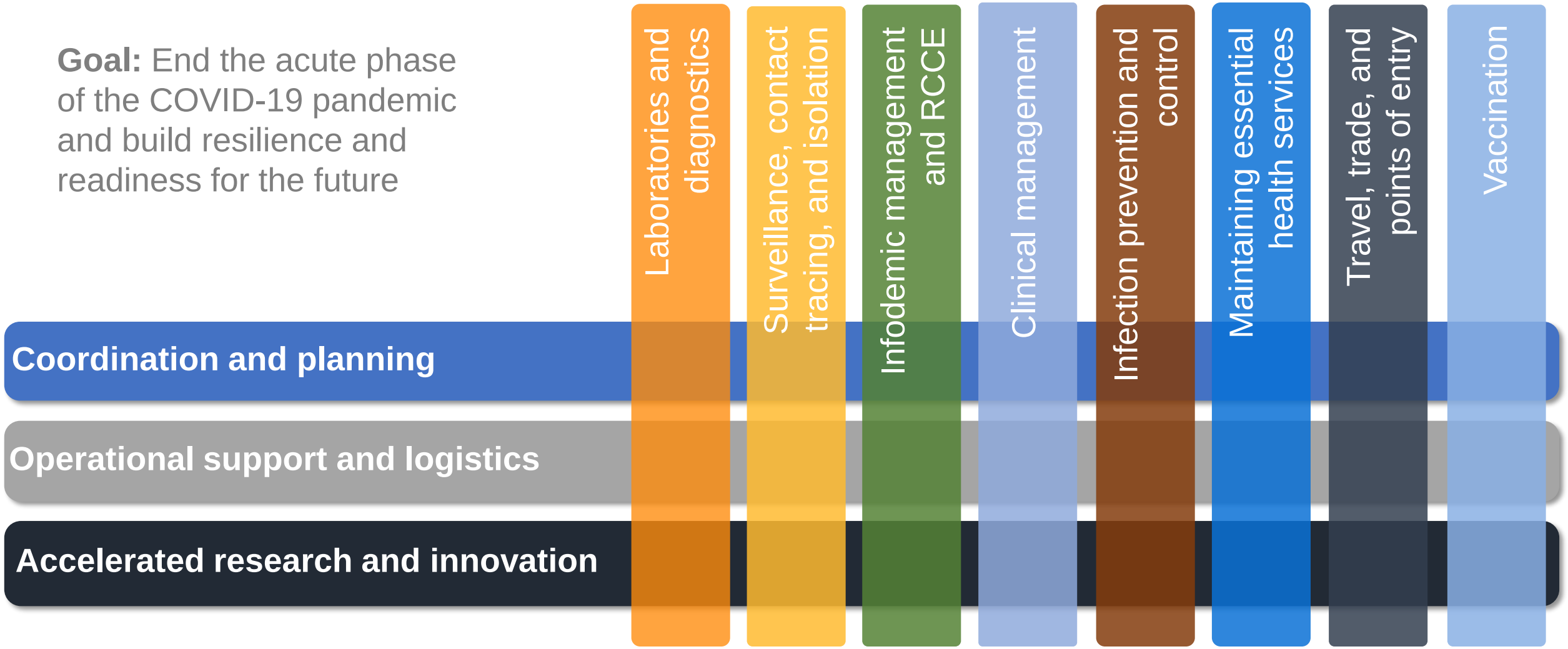
Save lives

Source : M Van Kerkhove

World Health Organization

SPRP 2021 – Integrated pillars

Goal: End the acute phase of the COVID-19 pandemic and build resilience and readiness for the future



Source : M Van Kerkhove

World Health Organization

COVID-19: A multi-layered, comprehensive response…

Since day 1…

1. Country-level coordination, planning and monitoring
2. Risk communication, community engagement and infodemic management
3. Surveillance, case investigation and contact tracing
4. Points of entry
5. National laboratory system
6. Infection prevention and control
7. Case management and knowledge sharing
8. Operational support and logistics in supply chain and workforce resilience
9. Strengthening essential health services
10. COVID-19 vaccination
11. Vulnerable & marginalized populations
12. National legislation & financing
13. Public health & social measures
14. le cross-cutting issues

Source : M Van Kerkhove

World Health Organization

O V E R V I E W

Progress towards achieving global tuberculosis targets and implementation of the UN Political Declaration on Tuberculosis

World Health Organization

RECOMMENDATIONS

1. Fully activate high-level leadership to urgently reduce TB deaths and drive multisectoral action to end TB
2. Urgently increase funding for essential TB services including for the health workforce
3. Advance universal health coverage to ensure all people with TB have access to affordable quality care and resolve under-reporting challenges
4. Address the drug-resistant TB crisis to close persistent gaps in care
5. Dramatically scale up provision of TB preventive treatment
6. Promote human rights and combat stigma and discrimination
7. Ensure meaningful engagement of civil society, communities and people affected by TB
8. Substantially increase investments in TB research to drive technological breakthroughs and rapid uptake of innovations
9. Ensure that TB prevention and care are safeguarded in the context of COVID-19 and other emerging threats
10. Request WHO to continue to provide global leadership for the TB response, working in close collaboration with Member States and other stakeholders, including to prepare for a High-Level Meeting on TB in 2023

Key actions in the time of COVID-19

Involve TB programmes in the response

TB programmes are uniquely equipped to contribute to the COVID-19 response.

They, along with other health services, need to be actively engaged in ensuring an effective and rapid pandemic response.

Provision for COVID-19 in funding proposals and strategic plans. Make use of flexible funding to mitigate the negative impact

Key actions in the time of COVID-19

Advocacy for continuity of essential TB services

- TB programme staff
- Community-based care
- Prevention
- Diagnosis
- TB treatment
- Digital technologies
- Planning, procurement, supply

Key guidance and collation of experiences

Maintaining essential health services: operational guidance for the COVID-19 context

Interim guidance
1 June 2020

Clinical management of COVID-19

Interim guidance
27 May 2020

World Health Organization

JOINING FORCES IN THE FIGHT AGAINST TB AND COVID-19

Message from Dr Tereza Kasaeva
Director, WHO Global TB Programme

Dear colleagues, partners and friends,

has been a test for countries, health systems, key
ing health services at the front line. In the presence
ID-19, it has become even more critical to protect
nsure continuity of care for those grappling with
culosis (TB). This is a time for resilience, rapid
save lives. At the forefront of these efforts are the

#ThanksHealthHeroes
The caretaker buddy: Peer-to-peer support for TB patients
Xu Xing-hua (Yunnan, China)

World Health Organization

GLOBAL TB PROGRAMME
NewsFlash

Updated WHO Information Note:
Ensuring continuity of TB services during the COVID-19 pandemic

04 April 2020 | GENEVA The World Health
bal TB Programme, along with
ntry offices, has developed an
note, in collaboration with
s intended to assist national TB
personnel to urgently maintain
ervices for people affected with
pandemic, driven by innovative
nes, as well as maximizing joint
iseases. It is important that the
vention and care is not reversed
nic. Finding and treating people
amental pillars of TB prevention
ld require maintained attention.
additional details on clinical

WHO Information Note

Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic

Interim guidance
May 2020

IFRC World Health Organization unicef

WHO MODELLING AND ANALYSIS:
Predicted impact of the COVID-19 pandemic on global TB deaths in 2020

WHO has released results of modelling work undertaken on the predicted short-term impact of the COVID-19 pandemic on TB deaths in 2020. Results indicate that TB mortality will significantly increase in 2020 and will primarily affect the most vulnerable TB patients. If global TB case detection decreases by an average 25% over a period of 3 months (as compared to the level of detection before the pandemic), an additional 190 000 TB deaths are predicted (a 13% increase), bringing the total to 1.66 million TB deaths in 2020. This number is near the global level of TB mortality of the year 2015, a serious setback in the progress towards the targets of the UN High-Level Meeting on TB and WHO End TB Strategy.

Read the analysis

Scientific brief

12 April 2020

Bacille Calmette-Guérin (BCG) vaccination and COVID-19

Prepping the Health Systems (public & private) for a TB wave:
Modelling the impact of COVID-19 on TB

Nim Pathy | Tereza Kasaeva | Philippe Glaziou

3 June 2020 14:00-15:00 GMT/London

World Health Organization

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Key actions in the time of COVID-19

Infection control & biosafety

Many TB infection prevention and control measures also apply to COVID-19

In diagnostic sites: training on universal precautions, consistent use of the N95 respirator, handwashing, gloves, goggles or protection shield, waterproof aprons, regular decontamination of surfaces, staff distancing in the lab, ventilated workplaces and safe transportation.

Laboratory biosafety guidance related to coronavirus disease (COVID-19)

Interim guidance

13 May 2020

World Health Organization

Background

The purpose of this document is to provide interim guidance on laboratory biosafety related to the testing of clinical specimens of patients that meet the case definition of coronavirus disease (COVID-19).

This version is an update to the interim guidance adding recommendations on point of care (POC) or near-POC assays *(1)*.

Highlights of COVID-19 laboratory biosafety

- All procedures must be performed based on risk assessment and only by personnel with demonstrated capability, in strict observance of any relevant protocols at all times.
- Initial processing (before inactivation) of specimens should take place in a validated biological safety cabinet (BSC) or primary containment device.
- Non-propagative diagnostic laboratory work (for example, sequencing, nucleic acid amplification test [NAAT]) should be conducted at a facility using procedures equivalent to Biosafety Level 2 (BSL-2).
- Point of care (POC) or near-POC assays can be performed on a bench without employing a BSC, when the local risk assessment so dictates and proper precautions are in place.
- Propagative work (for example virus culture or neutralization assays) should be conducted in a containment laboratory with inward directional airflow (BSL-3).
- Appropriate disinfectants with proven activity against enveloped viruses should be used (for example, hypochlorite [bleach], alcohol, hydrogen peroxide, quaternary ammonium compounds, and phenolic compounds).
- Patient specimens from suspected or confirmed cases should be transported as UN3373, "Biological Substance Category B". Viral cultures or isolates should be transported as Category A, UN2814, "infectious substance, affecting humans".

Laboratory biosafety

It is essential to ensure that health laboratories adhere to appropriate biosafety practices. Any testing for the presence of SARS-CoV-2, the virus that causes COVID-19 or of clinical specimens from patients meeting the suspected case definition *(2)* should be performed in appropriately equipped laboratories, by staff trained in the relevant technical and safety procedures. National guidelines on laboratory biosafety should be followed in all circumstances. For general information on laboratory biosafety guidelines, see the WHO *Laboratory biosafety manual: third edition (3)* in the interim before the fourth edition is released.

Key points

- Each laboratory should conduct a local (that is, institutional) risk assessment to ensure it is competent to safely perform the intended testing with appropriate risk control measures in place as exemplified in Annex II.
- When handling and processing specimens, including blood for serological testing, laboratory practices and procedures that are basic to good microbiological practice and procedure (GMPP) should be followed.
- The handling and processing of specimens from cases with suspected or confirmed COVID-19 infection that are intended for additional laboratory tests, such as haematology or blood gas analysis, should follow standard guidelines without additional measures.
- Non-propagative diagnostic laboratory work, including sequencing and NAAT, on clinical specimens from patients who are suspected or confirmed to be infected with COVID-19, should be conducted adopting the practices and procedures of "core requirements",[1] as detailed in Annex I, and an appropriate selection of "heightened control measures",[2] as informed by the local risk assessment. In the interim, basic Biosafety Level 2 (BSL-2) suitable for diagnostic services in the WHO *Laboratory biosafety manual: third edition (3)* remains appropriate until the fourth edition replaces it.

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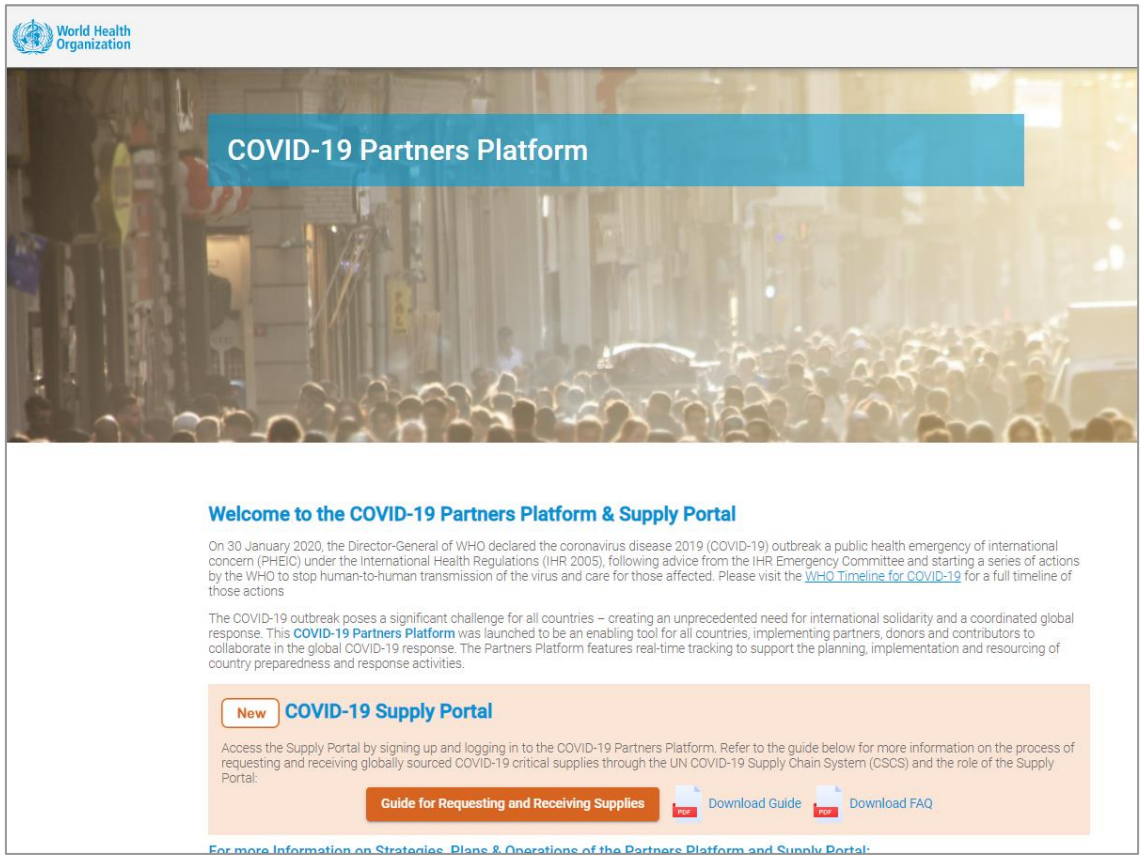
Key actions in the time of COVID-19

Diagnosis



Mechanism for countries to purchase the cartridge, PPE and other consumables for the COVID pandemic was set up through the COVID-19 Partners Platform https://covid-19-response.org/

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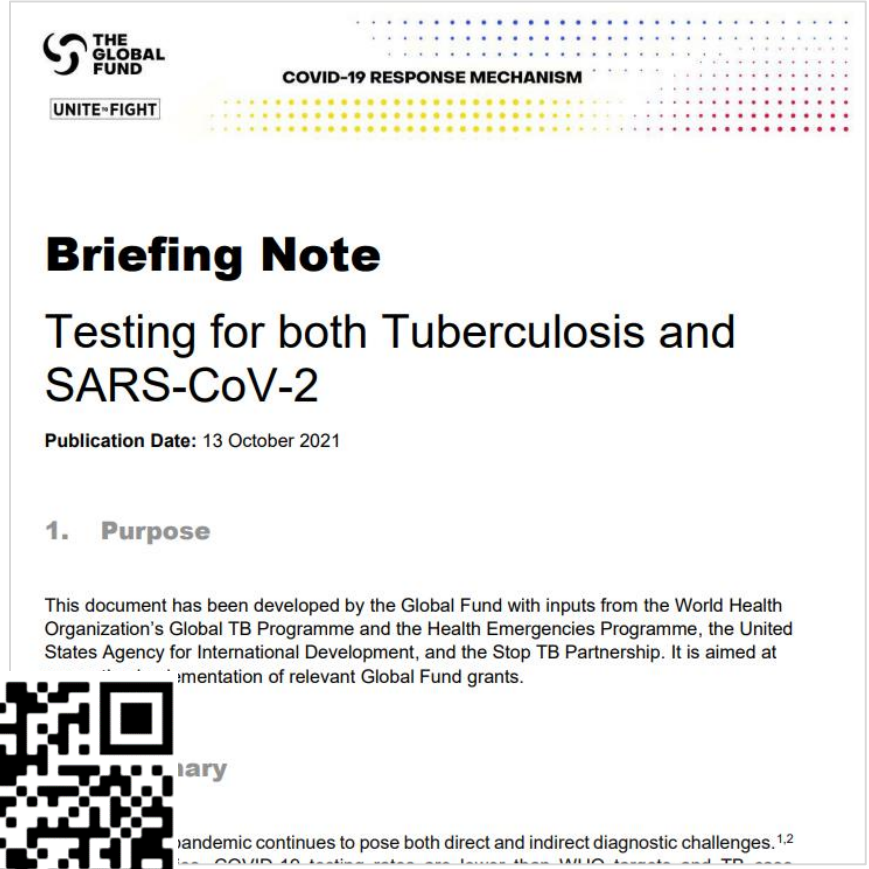
Simultaneous testing for TB and SARS-CoV-2

more information



THE GLOBAL FUND

UNITE FIGHT

COVID-19 RESPONSE MECHANISM

Briefing Note

Testing for both Tuberculosis and SARS-CoV-2

Publication Date: 13 October 2021

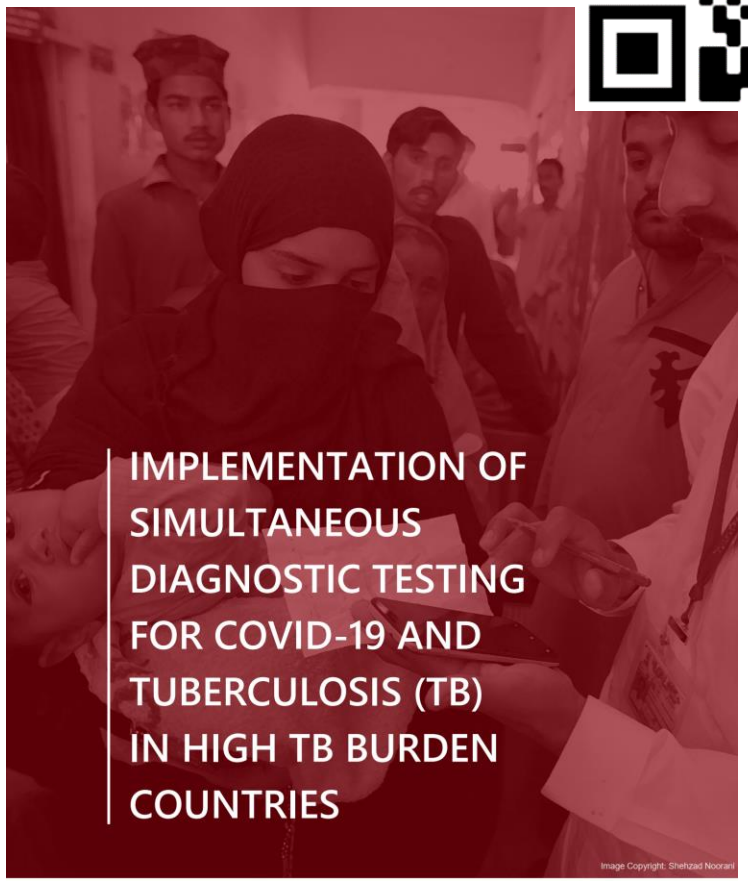
1. Purpose

This document has been developed by the Global Fund with inputs from the World Health Organization's Global TB Programme and the Health Emergencies Programme, the United States Agency for International Development, and the Stop TB Partnership. It is aimed at mentation of relevant Global Fund grants.

ary

andemic continues to pose both direct and indirect diagnostic challenges.[1,2]

https://www.theglobalfund.org/media/11438/covid19_tb-testing_briefingnote_en.pdf



USAID FROM THE AMERICAN PEOPLE

Stop TB Partnership

https://www.stoptb.org/file/9883/download

Rapid reporting of infectious disease cases, deaths and vaccination

World Health Organization

Search by Country, Territory, or Area

Covid-19 Response Fund

Donate

WHO Coronavirus (COVID-19) Dashboard

Overview Data Table Explore

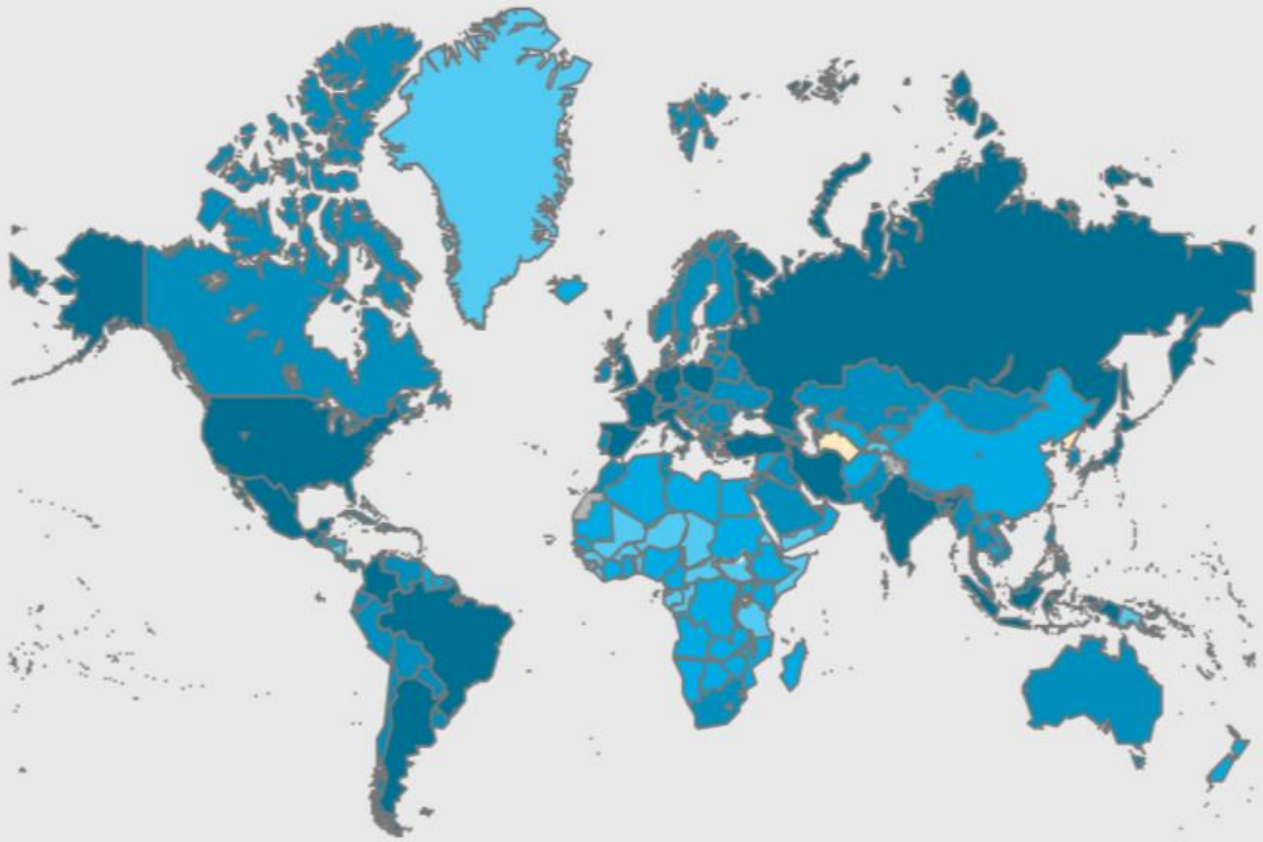
Cases

Total

1,544,646
new cases in last 24hrs

437,333,859
cumulative cases

5,960,972
cumulative deaths



https://covid19.who.int/

Globally, as of **5:11pm CET, 2 March 2022**, there have been **437,333,859 confirmed cases** of COVID-19
5,960,972 deaths, reported to WHO. As of **27 February 2022**, a total of **10,585,766,316 vaccine doses** h

Key actions in the time of COVID-19

Among the challenges, some openings …

Lockdowns and isolation impose a need to fast-track the roll out of some scalable interventions :

- Home-based care
- Joint contact investigation of TB and COVID-19
- Electronic health records
- Shorter all-oral regimens for MDR-TB
- Shorter TPT treatment
- Digital adherence technologies
- eLearning for capacity building

Key actions in the time of COVID-19

Evidence gathering and research

Collecting & interpreting critical information

- Monitoring the provision of TB services amidst disruptions
- Natural history of COVID-19+TB (published studies; case based reports)
- Modelling the potential impact to inform advocacy
- Case studies of best practice in TB care during the pandemic

Global research on coronavirus dis

who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov

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World Health Organization

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Home / Emergencies / Diseases / Coronavirus disease (COVID-19) / Global research on coronavirus disease (COVID-19)

Global research on coronavirus disease (COVID-19)

"Solidarity" clinical trial for COVID-19 treatments

"Solidarity II" global serologic study for COVID-19

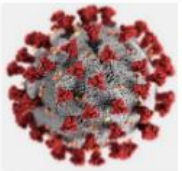
Accelerating a safe and effective

WHO is bringing the world's scientists and global health professionals together to accelerate the research and development process, and develop new norms and standards to contain the spread of the coronavirus pandemic and help care for those affected.

The R&D Blueprint has been activated to accelerate diagnostics, vaccines and therapeutics for this novel coronavirus.

The solidarity of all countries will be essential to ensure equitable access to COVID-19 health products.

Global research database



Update on research activities for novel coronavirus

International Clinical Trials Registry Platform

Operational planning during COVID pandemic (1)

community care

essential services

World Health Organization

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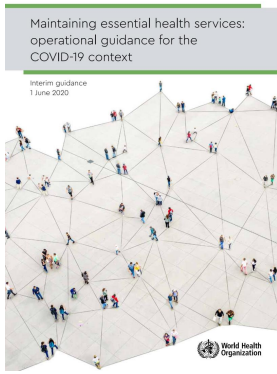
Operational planning during COVID pandemic (2)

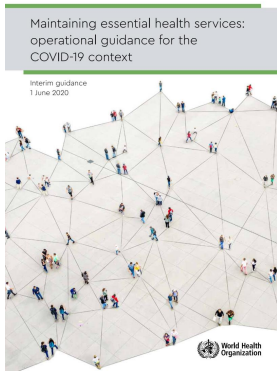
Maintaining essential health services (1)



1. Adjust governance and coordination mechanisms to support timely action
2. Prioritize essential health services and adapt to changing contexts and needs
3. Optimize service delivery settings and platforms
4. Establish safe and effective patient flow at all levels
5. Rapidly optimize health workforce capacity

Operational planning during COVID pandemic (3)

Maintaining essential health services (2)



6. Maintain the availability of essential medications, equipment and supplies
7. Fund public health and remove financial barriers to access
8. Strengthen communication strategies to support the appropriate use of essential services
9. Strengthen the monitoring of essential health services
10. Use digital platforms to support essential health service delivery

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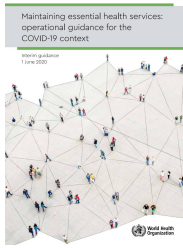
END TB

Summary modifications in TB during COVID-19 (1)



Programme activities	***Modifications for safe delivery of services***	***Transition towards restoration of activities***
Prevention	Leverage established TB contact tracing mechanisms for COVID-19 contact tracing. Provide adequate stocks of medications for TB preventive treatment to households in order to minimize facility encounters	Monitor volume of recruitment for TB preventive treatment and number and yield of TB contact investigations done. Catch up on any contact investigations and TB preventive treatment activities that were suspended

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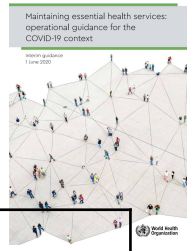
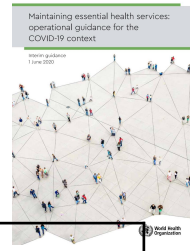
END TB

Summary modifications in TB during COVID-19 (2)



Programme activities	*Modifications for safe delivery of services*	*Transition towards restoration of activities*
Diagnosis	Maintain current molecular diagnostic services for TB and do not move equipment from currently designated TB laboratories to respond to the demand for COVID-19 testing. In areas with TB transmission, test for both COVID-19 and TB whenever clinically indicated. Special precautions are needed when collecting and transporting sputum samples and bronchoalveolar lavage fluid, as well as when samples are received and unpacked in the laboratory. Collect sputum in an open, well-ventilated space, away from others and preferably outside. Encourage sputum collection at home and give specific instructions as detailed in previous point	Monitor requests for TB tests or number of laboratory-confirmed TB cases (or TB notifications) to assess disruptions to TB services during the emergency measures and the competitive use of diagnostic platforms for COVID-19 testing. Maintain universal biosafety precautions; restart sputum collection at facilities

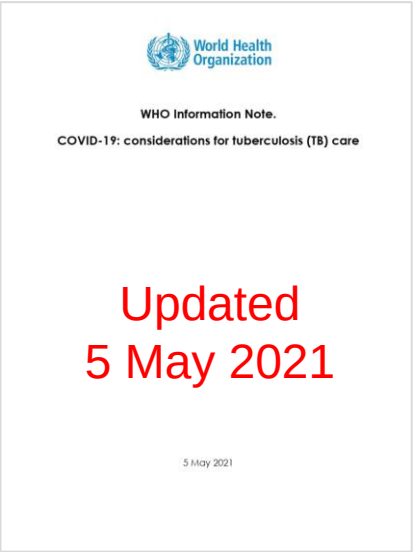
Summary modifications in TB during COVID-19 (3)



Programme activities	*Modifications for safe delivery of services*	*Transition towards restoration of activities*
Treatment & care	Provide adequate stocks of TB medicines to all patients to take home to ensure treatment completion while limiting treatment centre visits. Make alternative arrangements to reduce visits for TB follow up. Use innovative communication technologies to maintain treatment support.	Monitor the use of digital technologies that encourage adherence. Catch up on any TB treatment and care activities that were suspended (e.g. seeing people on waiting list for treatment for drug-resistant TB). Resume any epidemiological surveys that were delayed

WHO Information Note:

Ensuring continuity of TB services during the COVID-19 pandemic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WHO Information Note.

COVID-19: considerations for tuberculosis (TB) care

5 May 2021

Updated 5 May 2021

- **People-centered care:** People-centred outpatient and community-based care strongly preferred where possible and visits to TB treatment centres minimized
- **Prevention and infection control:** Limit transmission of TB and COVID-19 in congregate settings and health care facilities, basic infection prevention and control for health staff and patients, cough etiquette, masks, patient triage. TPT expansion
- **Rapid roll-out of innovative measures to minimize healthcare visits:**
  - TB preventive treatment with shorter regimens
  - WHO recommended, all-oral TB treatments for MDR-TB
  - Mechanisms to deliver medicines and collect specimens at home
  - Effective use of digital technologies for patient support, such as drug safety monitoring
- **Diagnosis:** Simultaneous testing may be necessary if symptoms or risks overlap. TB laboratory services to be leveraged for the COVID 19 response
- **TB treatment:** Provision of anti-TB treatment, in line with the latest WHO guidelines, must be ensured for all TB patients, including those in COVID-19 quarantine and those with confirmed COVID-19 disease. Consider treatment
- **Digital technologies:** intensified to support patients and programmes through improved communication, adherence support, information management, and eLearning, among other benefits.
- **Proactive planning:** procurement, supply and risk management to ensure supplies are not interrupted
- **Leveraging capacity:** TB programme staff can share expertise and logistical support, such as in active case finding and contact investigation.
- **Support COVID-19 vaccination:** to protect staff and people affected by TB; no contraindication to vaccination in TB patients

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https://www.who.int/publications/i/item/WHO-2019-nCoV-TB-care-2021.1

END TB

Conclusions

- The COVID-19 pandemic is likely to have a lasting impact on TB burden and transmission
- Addressing COVID-19 adequately will challenge competing needs to maintain and continue to develop essential services like TB
- Catchup post-pandemic will be influenced by the global socio-economic recovery, with a risk for further marginalization of vulnerable populations
- WHO Global TB Programme, WHO regional and country colleagues and partners continue to monitor the situation and supporting countries in the response