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Stop TB Partnership

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BUILDING RESILIENT HEALTH SYSTEMS THROUGH FURTHER INVESTMENTS IN TB INFRASTRUCTURE

INVESTING IN TB INFRASTRUCTURE IS KEY TO DEVELOPING RESILIENT HEALTH SYSTEMS

"[W]e have the potential to make better use of those precious and scarce resources, if we strategically plan for simultaneous TB and COVID-19 interventions, such as case finding and diagnosis. The TB response has learned lessons that can be applied to the COVID-19 response, and vice versa." – Lucica Ditiu[1], Executive Director, Stop TB Partnership

RESILIENT HEALTH SYSTEMS ARE ESSENTIAL TO EFFECTIVELY COMBATING TUBERCULOSIS

The importance of strong and resilient health systems to end the tuberculosis (TB) epidemic is clear. Effective and sustainable TB control relies on well-functioning primary health care to prevent, diagnose and treat the disease. For this reason, The Global TB Report 2020 calls for 25% of total TB funding to be spent on health systems strengthening. [2]

The Stop TB partnership has been at the forefront of recent efforts in this area, launching several promising initiatives to build resilience and strengthen healthcare systems. In January 2021, the organization unveiled The Digital Technology Hub which leverages technology to help achieve United Nations High-Level Meeting on Tuberculosis targets. Re-Imagining TB Care, another partnership initiative, supports country-level efforts to modernize and upgrade health systems. And the Country & Community Support for Impact program, provides technological infrastructure to improve monitoring to TB at the community level. [3]

What is health systems strengthening?

The World Health Organization defines health systems strengthening as:

- the process of identifying and implementing the changes in policy and practice in a country's health system, so that the country can respond better to its health and health system challenges;
- any array of initiatives and strategies that improves one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency"

Source: WHO "Strengthening Health Systems To Improve Health Outcomes"

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EFFORTS TO IMPROVE TB INFRASTRUCTURE HELP STRENGTHEN HEALTH SYSTEMS, ENHANCING OUR ABILITY TO COMBAT OTHER DISEASES

Investments in TB strengthen health systems for the long term, increasing their ability to fight other diseases and outbreaks [4]. The Zero TB Initiative (ZTBI), for example, has helped numerous communities comprehensively address pressing TB challenges, while also creating the support infrastructure needed to tackle other infectious disease threats [5]. Investing in early and effective TB diagnosis also builds lasting diagnostic, laboratory and case finding capacity within the health system.

As fighting TB requires investment in airborne infection control practices, support for such initiatives helps build the capacity of health systems to quickly respond to other airborne outbreaks. Successfully treating TB also requires strong and reliable medicine supply chain systems. Greater integration of these practices into the wider health operations of countries directly benefits health systems seeking to improve supply chains for other diseases.

TB laboratory networks are known for establishing standardization and quality assurance processes that can positively impact the quality of public health laboratories across the board. Investments that strengthen contact investigation for TB create a system that can be reliably called upon during infectious disease outbreaks. The STRIDES (Strengthening TB Resistance Testing and Diagnostic Systems) program, a partnership run by member company BD and USAID, in conjunction with the National TB Elimination Program (NTEP) in India, improves detection and treatment for people living with multi-drug resistant TB by strengthening liquid culture (the standard of care for TB diagnosis and management in industrialized countries) and drug susceptibility testing across public sector labs within the national network. By investing in labs, BD reinforces the TB diagnosis capacity of the country, which strengthens the healthcare system overall as capabilities acquired through the program can be fostered and expanded to other disease areas.

CASE IN POINT: HEALTH CARE SYSTEMS ARE LEVERAGING SYSTEMS DESIGNED FOR TB TO RESPOND TO COVID-19

Investments to bolster TB infrastructure in the years leading up to onset of COVID-19 have substantially aided global efforts to address the pandemic. Tuberculosis (TB) and COVID-19 are both infectious diseases that primarily attack the lungs. There are similarities in symptoms including a cough, fever and difficulty breathing. Both diseases also have similar requirements for their prevention and control: active case finding, contact tracing, accurate diagnostic tests and well-resourced laboratory networks. Seeing these parallels, early into the pandemic, health care systems began leveraging infrastructure built for TB to tackle COVID-19.

In the wake of the pandemic, PSC member Delft Imaging launched CAD4COVID, a computer-aided detection software that helps rapidly triage new cases. The technology is developed based on Delft's proven CAD4TBsoftware. CAD4COVID supports health facilities in over 40 countries and is also being utilized for COVID-19 and TB screenings.

Since resource-constrained settings often cope with limited access to diagnostic imaging, strengthening TB screening capacity with digital X-rays and CAD software effectively supports TB programs, while digital X-rays strengthen health system resiliency by enabling practitioners to diagnose multiple diseases. In 2018, for example, Delft Imaging installed 52 X-ray systems with CAD4TB in Ghana to assist with the National Tuberculosis Programme, and the multi-functional X-ray systems are used not only for TB screening but also for other disease diagnoses. Now, these systems are also connected to CAD4COVID to triage presumptive COVID-19 and assess disease severity.

PSC Member Cepheid leveraged the design principles used in its existing Xpert® Xpress Flu/RSV cartridge technology to develop a COVID-19 diagnostic test, proving that the notion that investments made in support of one area can be harnessed to tackle other diseases. In February 2020, the members of the Project to Accelerate New Treatments for Tuberculosis (PAN-TB collaboration) – including GSK, Johnson & Johnson, and Otsuka Pharmaceutical Co., Ltd., in conjunction with the Bill & Melinda Gates Medical Research Institute and the Bill & Melinda Gates Foundation – committed to leveraging their unique assets, resources and scientific expertise to develop transformative treatment regimens for TB.

A shorter and safer novel regimen that can treat TB irrespective of pre-existing drug resistance and without the need for drug resistance testing could provide a significant benefit to both people living with TB and health systems. Leveraging the growing use of online platforms, Johnson & Johnson expanded its support for virtual continuing medical education programs with a focus on how to incorporate WHO guidelines on all-oral DR-TB regimens into national treatment paradigms; all-oral regimens were highlighted by the Stop TB Partnership as a crucial component of effecting DR-TB continuity of care in the COVID-19 era.

SystemOne's GxAlert and Aspect improves care by providing real-time text message alerts about diagnoses to appropriate clinical staff as well as integrating these results in real time with contacting tracing applications, patient management systems and outbreak response teams. The platform also enhances supply chain management capabilities via dashboards which enable manufacturers and health systems to better understand any number of metrics from the field, including diagnostic information, use of resources, human error rates, and device malfunctions. Most importantly, the technology allows Ministries of Health to better understand where the disease is moving, which allows them to re-focus resources in real time. A software platform designed to work with Cepheid's GeneXpert®, the technology is now being used in 35 countries and more than 3,600 GeneXperts. Since the GeneXpert is already a multiplexing platform, Aspect was rapidly able to include new modules and features to support the C-19 outbreak and leverage the existing outbreak response systems already present in these countries.

As the world continues to fight COVID-19, healthcare systems will continue to leverage TB infrastructure and technologies to tackle the pandemic. TB specialists and health workers at the primary health care level may be points of reference for people with pulmonary complications from COVID-19. TB program staff, with their experience and capacity, including expertise in active case finding and contact tracing, will keep on sharing their knowledge, expertise, and to provide technical and logistical support.

BEYOND COVID EMERGENCY, HEALTH SYSTEM STRENGTHENING EFFORTS SHOULD BE DIRECTED TO TB FIGHT

Despite the fact that much of the COVID-19 response was built off platforms designed for TB, the pandemic has negatively impacted overall TB care. In fact, STOP TB estimates that the COVID-19 pandemic could set progress back by a minimum of five years, an additional 6 million people ill with TB, and an additional 1.4 million TB deaths. These potential impacts are a result of reduced TB diagnosis and a large reduction in the number of individuals seeking and receiving treatment for TB.

Given the clear similarities in fighting both diseases, there is, understandably, increasing interest in leveraging the substantial investments being made in strengthening health systems to fight COVID-19 to combat the world's number one infectious disease killer. The private sector stands ready to support this integrated approach.

SUSTAINING INVESTMENTS IN TB INFRASTRUCTURE WILL REMAIN KEY TO STRENGTHENING HEALTH SYSTEMS

The application of TB tools and resources towards the COVID-19 response supports research indicating investments in TB are key to building resilient systems over the long-term. But to effectively make this pivot, we also need to ensure that funding for non-siloed infectious disease responses is sustained and elevated in the coming years. Looking ahead, further commitments to TB infrastructure could yield other benefits, including improving pandemic response and crisis response capabilities, enhancing care outcomes via better access to innovative medicines, preventative care, and support services, improving care affordability, reducing healthcare turnover, and driving down overall costs through greater efficiencies.

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TO STOP TB

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MOVING FROM IDEAS TO ACTION: THE NEED FOR INCREASED COLLABORATION

While the private sector has demonstrated its commitment to an integrated approach to care, more support is needed in the coming years to substantially improve the capacity of health care facilities to provide TB care and services for greater numbers of people in need. The members of the PSC stand ready to further leverage their expertise and assets, working with others, to make this a reality. Specifically, public and private sectors must collaborate to:

- Direct more existing funding away from disease-specific responses and towards projects that simultaneously support elimination goals for multiple diseases, while also strengthening overall health systems
- Support phased implementation of evidenced-based, cost-effective / WHO-approved initiatives to enable country-level contextualization and replication at scale
- Create a cross-sectoral global working group, WHO funded or supported, to put together a 5-10 year plan to revitalize TB care
- Rejuvenate the TB innovation pipeline by:
  - expediting regulatory approval for vital products and services
  - better facilitating needed R&D support at the country level
  - helping private sector organizations overcome barriers to the rapid development and distribution of TB tools

CONCLUSION

TB and COVID-19 share a striking number of commonalities in the presentation of symptoms as well as in diagnosis and management. As such, the health system infrastructure developed for the management of TB has been re-purposed and deployed to help tackle the COVID-19 pandemic. The TB community immediately contributed skilled health workers and diagnostic technologies to the fight against COVID-19, helping to accelerate health system capacity to manage this new infectious disease.

As the global community moves beyond the initial, emergency phase of the COVID-19 pandemic, it is time to take stock of the new innovations in diagnosis and care borne out of this period. Because of the similarities between COVID-19 and TB, very many of these new tools will be applicable to TB identification and care. Just as the TB community put forward resources and tools to manage COVID-19, the global community now has a duty to close the loop, creating a “virtuous circle” wherein new COVID-19 innovations are directed back towards the fight against TB.

If implemented, this virtuous circle could serve as a model across disease areas demonstrating the benefits of applying new technologies and care models used for one disease to other similar diseases. Of importance to note: the sharing of innovations and technologies ought to happen in an integrated way, with an eye towards optimizing utilization. The management of one disease should not overtake the management of another.

In order to keep populations healthy, health systems must excel across all of the following areas: management, governance, leadership, service delivery, medical products and technologies, health financing, data infrastructure, and human resources.

Recognizing that these are the basic operating requirements for meeting the care needs of our communities, the Sustainable Development Goals are pushing the global health community to move beyond siloed disease thinking and towards embracing more resilient and sustainable models for care.

It would compound the tragedy of the COVID-19 pandemic if the global community allows it to reverse progress away from health system-level thinking. Instead, policymakers and health system leaders should embrace this opportunity to use the virtuous circle of learning and innovation demonstrated between TB and COVID-19 to reflect on broader opportunities for harmonization across disease areas.

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The Private Sector Constituency to the Stop TB Partnership
Uniting Private Sector to Stop TB

The PSC is the private sector constituency to the Stop TB Partnership. We unite private-sector companies who have come together from all walks of life, leveraging shared knowledge, capabilities and commitment, to fight the tuberculosis epidemic. We do so through individual and collective action, awareness raising and, shaping global strategies - providing unique perspectives to the Stop TB Partnership.

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