

ACT Accelerator Therapeutics Partnership

COVID-19 THERAPEUTICS INVESTMENT CASE

THE URGENT NEED FOR EFFECTIVE THERAPEUTICS TO LIMIT THE DAMAGE OF COVID-19

There is an urgent need to develop effective therapeutics for COVID-19. Therapeutics are essential to reduce morbidity and mortality from the pandemic and mitigate the long-term damage for people's health. Therapeutics can also be used as prophylaxis, to prevent symptoms and the spread of the disease. Effective therapeutics – used in conjunction with systematic testing through equitable access to diagnostics – will provide countries with a wider set of tools to manage the pandemic while minimizing the damage to their economy and enabling societies to function. Even when a vaccine eventually becomes available, a global roll-out will take time and may not reach full protection. There will be a persistent need to test and treat those who continue to fall ill from the disease.

Since in pandemics no one is safe until everybody is safe, it is essential that the search, production and access to therapeutics and diagnostics are an international, collaborative enterprise ensuring access to all, regardless of geography and level of economic resources. We need to accelerate development and evaluation of new and repurposed drugs to treat patients. This requires investment, but also speed. An investment of at least US\$ 11.6 billion over the coming 12 months is necessary¹. This includes collective international financial assistance to provide US\$ 7.2 billion, of which US\$ 3.8 billion is needed immediately.

Such an investment will facilitate the coordination of a number of individual efforts to ensure investments in production capacity to manage the demand, procurement and supply chain management of effective therapeutics in low- and middle-income countries.

Model estimates show that more than 4 billion people could get infected and that up to 20m people could die if no action is taken to mitigate the impact of COVID-19 in low- and middle-income countries. The use of effective therapeutics, as part of a package of essential interventions in the response to COVID-19, could therefore contribute to saving millions of lives and to averting several million infections.

Effective therapeutics can also reduce the spread of the disease, ease pressure on health systems, and in combination with extensive testing, enable societies to ease restrictions on movement and economic activities. In the absence of a vaccine – or in combination with one – effective therapeutics will therefore play a crucial role in reducing the economic fallout of the pandemic, enable people to return to work and societies to return to a near-normal existence.

It will also assist in preventing an increase in mortality and morbidity from other diseases (such as AIDS, TB and malaria) as health systems and prevention efforts are disrupted, strained or overwhelmed by COVID-19.

The key to shorten the time from development to availability is unprecedented levels of collaboration and coordination, including anticipation of activities to prepare for market entry and deployment of effective products, running activities in parallel where possible.

The investment needed is divided into three concurrent workstreams:

1. **Rapid evidence assessment** of candidates, coordinating the clinical trials portfolio, scientific direction and selection of candidates for development at scale (including evaluation beyond the current portfolio of Therapeutics Accelerator candidates)
2. **Market preparedness, facilitating market entry and supply at scale**, including regulation, production capacity, pricing, designing appropriate tools and interventions adapted to the specific product
3. **Adequate deployment in all countries**, ensuring procurement, equitable distribution and delivery at scale and in all settings

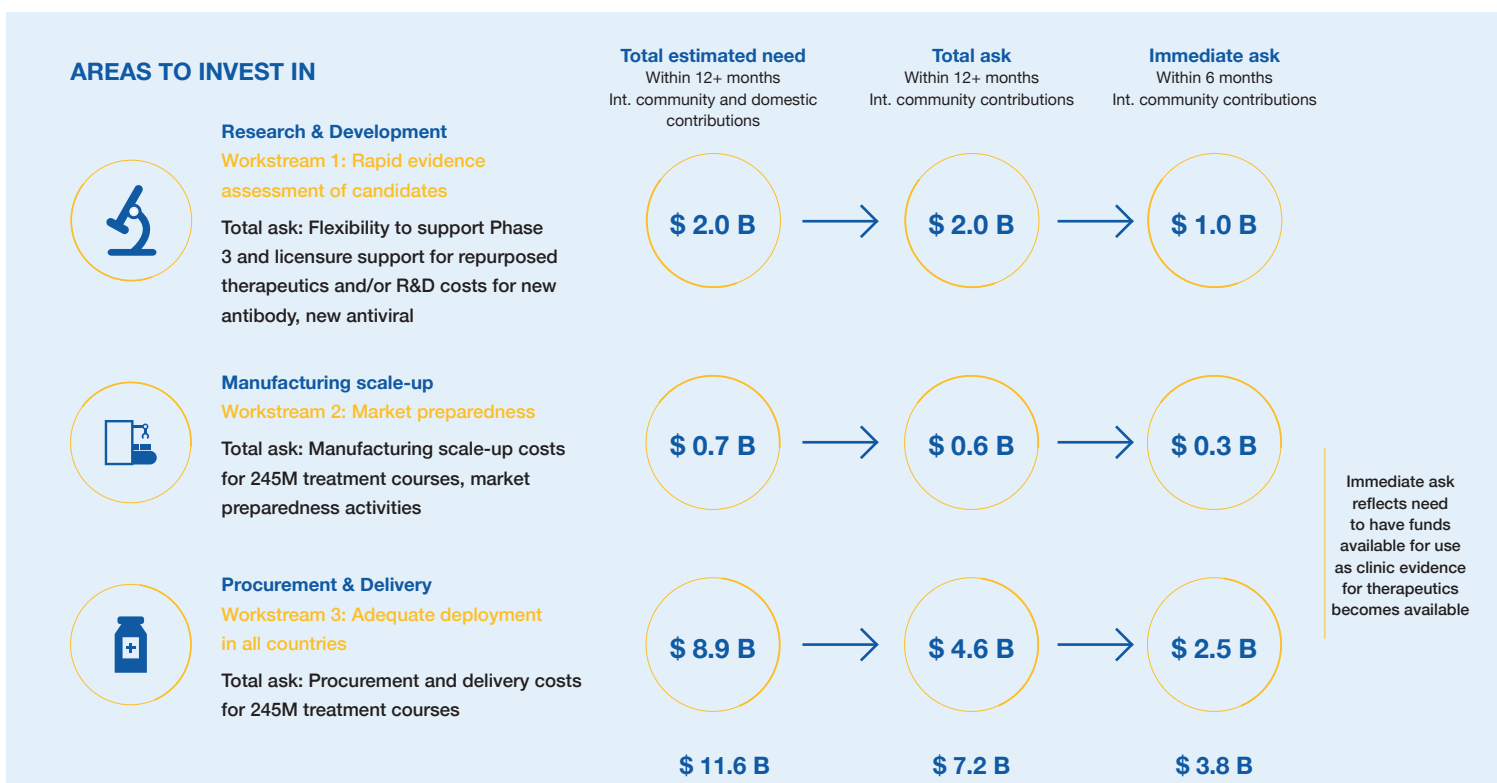
¹ This paper – and the figures it contains – takes into account the needs of all low- and middle-income countries, except China; assuming that upper middle-income countries would cover 80% of costs of therapeutics through domestic funding, lower middle-income countries would cover 40%, and low-income countries would cover 0% of the cost.

Currently, limited therapies for COVID-19 are only authorized under compassionate use or exceptional approval; in general, there is a lack of safe and effective therapeutics. The challenges ahead are considerable and without a guarantee of success. Finding, producing and providing appropriate and equitable access to therapeutics means that large investments will have to be made at a level of risk not normally contemplated by international public finance.

However, the extreme urgency and importance of this work, with potentially millions of lives at stake, makes accepting such risks not only defensible but also fully worthwhile. Current

efforts are unprecedented in their level of international and cross-sector collaboration, speed and innovation, generating optimism for the ability to overcome the challenges the pandemic poses.

The international request for at least US\$ 7.2 billion over 12 months is a preliminary estimate, based on a robust modelling of a large number of variables, although depending on a number of assumptions. It is important to note that the numbers have been extrapolated from a limited amount of available data. These numbers may be revised as more information becomes available.



FINDING EFFECTIVE THERAPIES FOR COVID-19 (US\$ 2 BILLION)

Therapeutics play a role in all stages of a disease: as a prophylactic preventing infection; as a post-infection suppressant that can prevent symptoms and the spread of infection to others; as a treatment for mild symptoms to prevent moderate or severe symptoms; as a life-saving treatment for severe symptoms; and finally as a treatment that can speed up recovery. Research is ongoing to find therapeutics for all these stages.

It is important to note that the demand, complexity of delivery and safety concerns vary significantly depending on the stage for which a therapeutic is considered. This also affects cost and access. (For example, intravenous drugs for treatment of severe symptoms with potentially serious side effects may not only be expensive but will demand higher investments in treatment infrastructure. An effective, safe, post-infection treatment that can prevent severe symptoms may need to be produced and distributed in very large quantities.) The cost estimates in this paper are therefore approximate based on proxy cases.

Currently, there are no widely available, approved and effective prophylactics or treatments for COVID-19. While several efforts are ongoing to find one or more repurposed therapeutics and develop new antibody or antiviral therapies, there is an urgent need to support key ongoing efforts to ensure collaboration rather than competition, speed up efforts, and ensure global access, affordability and safety for any product that shows promise.

The race to find effective therapeutics is global and will benefit all countries. However, an investment of US\$ 2 billion over the coming 12 months, of which US\$ 1 billion is made available over the coming 6 months, would accelerate the development of effective products. The funding would enable activities that ensure that products found will be applicable also in low- and middle-income countries, including for patients with multiple conditions, such as HIV, TB and malaria, by providing flexibility to support for Phase 3 trials and for licensure for repurposed therapeutics. It could also support R&D costs for new antibody and/or new antiviral products. The funding would allow flexibility to support different combinations of R&D options, depending on what shows most promise.



PREPARING THE MARKETS FOR LARGE-SCALE, EQUITABLE DISTRIBUTION (US\$ 600 MILLION)

Any repurposed therapeutics found effective in the fight against COVID-19 will face a dramatic increase in demand, and this will put strains on the ability to scale up production. Demand will vary depending on the use of a therapeutic, with a higher demand expected for prophylaxis and mild treatment than for treatment of moderate and severe cases.

The funding needed for market preparation will be invested in analysis of existing bottlenecks of promising products, in increasing production capacity to ensure delivery to

all countries in need, in ensuring affordable pricing, and in facilitating regulatory passage of the products in low- and middle-income countries.

A best estimate for the costs to ensure manufacturing capacity for 245 million therapeutics courses available for low- and middle-income countries, and for market preparedness activities in these countries, is US\$ 600 million, of which US\$ 300 million would be needed over the coming 6 months.



SUPPORTING PROCUREMENT AND DELIVERY (US\$ 4.6 BILLION)

Even if a low-cost, repurposed, off-patent product were found to be effective in treating one or several stages of a COVID-19 infection, the already stretched health budgets of many countries would not on their own be able to bear the cost of making products available to all those who need them.

The procurement and deployment costs of 245 million therapeutics courses is estimated to be at least US\$ 4.6 billion over 12 months. This assumes that the therapy is based on repurposed, off patent products, meeting 40% of needs, over

the initial 12 months. Of this, US\$ 2.5 billion would be needed within the next six months, and an additional US\$ 2.1 billion over the subsequent six months, assuming that a product will become available in that timeframe.

The total population eligible to receive therapy is calculated based on the current epidemiological data around the rate of infection, the rate of symptom development, and the distribution of disease severity. These calculations may evolve as more data becomes available over time.

THE ACT-ACCELERATOR AND ITS THERAPEUTICS PARTNERSHIP

The Access to Covid-19 Tools Accelerator (ACT-A) global response program was launched in April 2020 to accelerate the development of countermeasures for the COVID-19 pandemic. Organized into three partnerships (vaccines, therapeutics and diagnostics) and a health system strengthening Connector, the ACT-A offers an avenue for international donors to fund a coordinated response to COVID-19.

The objective of the Therapeutics Partnership is to achieve equitable and affordable access to safe and effective COVID-19 prophylactics and treatments to reduce COVID-19 deaths and healthcare burden throughout the world.

The Therapeutics Partnership of ACT-A is co-convened by the Wellcome Trust, on behalf of the Therapeutics Accelerator, and Unitaid.

Wellcome Trust is an independent foundation that exists to improve health by helping great ideas to thrive. Wellcome supports researchers, takes on big health challenges, campaigns for better science, and helps everyone get involved with science and health research. In March 2020, Wellcome co-founded the COVID-19 Therapeutics Accelerator with the Bill & Melinda Gates Foundation and

Mastercard. The Therapeutics Accelerator is an initiative to coordinate research, remove barriers to drug development and scale up treatments to address the pandemic.

Unitaid invests in innovations to prevent, diagnose and treat diseases including HIV and coinfections and comorbidities, tuberculosis, and malaria more quickly, affordably and effectively. Unitaid's work also ensures access to critical health products for women and children, with recent investments in cervical cancer and management of childhood fever. Unitaid is a hosted partnership of the World Health Organization (WHO).

The partnership consists of a large number of public and private-sector organizations, foundations, academic institutions, civil society representatives and companies. The Bill and Melinda Gates Foundation functions as a co-lead with Wellcome for the work stream on rapid evidence assessment of therapeutics candidates. The Global Fund to Fight AIDS, Tuberculosis and Malaria leads the workstream on adequate deployment in all countries. Unitaid leads the work streams on market preparedness and costing and financing.

OVERVIEW OF MODELLING APPROACH AND REPURPOSED THERAPIES

The graphic below describes an overview of the primary components and approach to the costing estimates included in this document.

