

# PDPs ADVANCE GLOBAL HEALTH SECURITY AND STRENGTHEN HEALTH SYSTEMS

Global health security encompasses the preparatory and reactive measures required to minimize the risk, danger, and impact of public health events that endanger people across regions or international boundaries. Global health security will only be achieved through the development of stronger health systems and a range of new tools that can respond quickly to current and emerging threats, which can range from pandemic outbreaks, to antimicrobial resistance (AMR), to bio-terrorism.

COVID-19 has highlighted a lack of international collaboration in preparing for and responding to pandemics, while the persistence of tuberculosis (TB), malaria, HIV/AIDS, and other diseases of poverty show that market-based incentives are insufficient to drive the development of the full arsenal of medical technologies essential to fully advance global health security. Product development partnerships (PDPs) represent a different approach. As non-profit product developers dedicated to disease areas where strong profit incentives don't exist, PDPs help drive global health security by leveraging partnerships to develop new solutions to health crises that lack investment from for-profit product developers.

## Global Health Security Priorities Include:



### Pandemic Preparedness

PDPs help build resilient health systems to prevent, identify, and respond to local health crises before they become pandemics.



### Responding to COVID-19

From developing vaccine and treatment candidates to building scientific capacity in low resource settings, PDPs have contributed to the COVID-19 response.



### Antimicrobial resistance (AMR)

AMR occurs when microorganisms no longer respond to the drugs designed to treat them; PDPs develop new therapies that can overcome drug resistance.

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## PANDEMIC PREPAREDNESS & RESPONSE

The first line of defense against all potential pandemics is local capacity to quickly identify and respond to emerging threats. PDPs not only develop products to help control health threats, but also help build local expertise and health systems that can be deployed when a new health crisis emerges. Long term investment in partnerships and infrastructure is essential to build the structures that can be used in times of crisis.

### Case Study: Responding to COVID-19

The PDP model of collaborative medical innovation helped enable a rapid and effective global response to COVID-19. PDPs have contributed to the fight against COVID-19 in several important ways.



PDPs' work was critical to establishing the infrastructure in many low- and middle-income countries that was operationalized to combat COVID-19.



PDPs have granted access to their chemical libraries to test compounds for efficacy against COVID-19.



PDPs are developing COVID-19 vaccine candidates and therapeutics, as well as providing support and scientific leadership on COVID-19 product development.



Scientific capacity developed through collaborations with PDPs was critical to identifying COVID-19 variants.

## Case Study: 2018 Ebola Outbreak in DRC

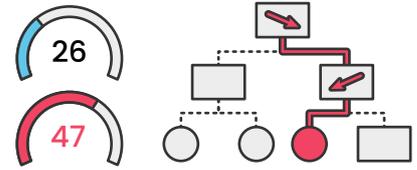
During the Ebola outbreak in 2018, in Democratic Republic of the Congo (DRC), the PDP, **PATH**, partnered with the Ministry of Health to create a dashboard for monitoring important indicators, which helped control the outbreak and avoid a pandemic by:



Improving **data collection** and **communication**



Improving capabilities to **track** and **predict spread** of cases



Enabling **data-based decision** making

## COMBATTING ANTIMICROBIAL RESISTANCE



AMR is emerging as a leading threat to global health security, with dire financial and human consequences. TB, malaria, and a host of neglected diseases of poverty are significant drivers of the AMR threat.

### The impact of drug resistance



**5% of GDP** could be lost by low-income countries by 2050<sup>i</sup>



**28 million people** could be pushed into poverty by 2050<sup>i</sup>

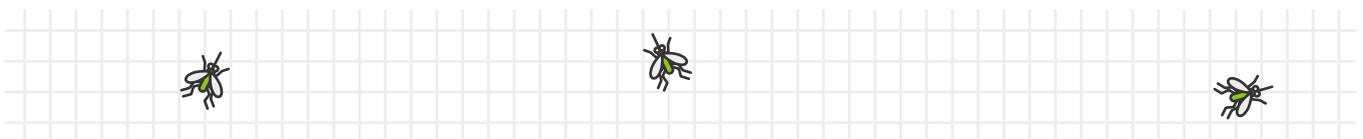
## Case Study: New therapies for highly-drug resistant TB

One third of all AMR deaths are caused by drug-resistant TB<sup>ii</sup>. A new therapy developed by **TB Alliance**, a PDP dedicated to developing improved therapies for tuberculosis, recently became the first-ever treatment approved by the US FDA to treat the most drug-resistant forms of TB.

While extensively drug-resistant TB (XDR-TB) and multidrug-resistant TB (MDR-TB) comprise only about 550K of the world's 10.4M TB cases each year, the length and complexity of treating such cases often consumed more than half National TB Treatment Programs' budgets. This new combination therapy shortens and simplifies treatment while boosting efficacy, enabling more people to be treated and cured. The new therapy, known as BPaL, is available in more than 170 countries..

## Case Study: Combatting drug-resistant malaria

The emergence of drug-resistant malaria has led to the decreased efficacy of first-line malaria therapy. The PDP **Medicines for Malaria Venture** is developing novel therapies that can be effective against all known resistant parasite strains. Another PDP, **IVCC**, and partners developed Interceptor® G2—a dual active ingredient (AI) bed net, which helps address insecticide resistance and stem the spread of malaria including drug-resistant malaria.



<sup>i</sup> World Bank. 2017. "Drug-Resistant Infections: A Threat to Our Economic Future." Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO.

<sup>ii</sup> Pai, M. Drug-Resistant TB: A Clear And Present Danger. Forbes May 7, 2019. <https://www.forbes.com/sites/madhukarpai/2019/05/07/a-clear-and-present-danger/>