

Target Population Outputs (TPOs): Creating High-Value Health Systems Through Strategic Public-Private Partnerships



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Why TPOs?

Health systems face mounting challenges globally as demand and costs for healthcare increase at a time of growing inequity.¹⁻³ Most health systems are not adequately adapting to rapid changes in demographics, epidemiology, citizen expectations, and social trends.³⁻⁵

Despite major advances in science and health technologies, many people across the globe struggle to access essential healthcare, diagnostics, vaccines and medicines.^{6,7} Without major health system transformation, the world is unlikely to achieve health-related aspects of the United Nations (UN) Sustainable Development Goals.^{8,9}

The current model of pharmaceutical development is not providing an acceptable or sustainable solution to the challenges faced by health systems.^{10,11}

Partnerships across public and private sectors have emerged as a way of addressing these challenges; examples of successful public-private partnerships (PPPs) can be identified from the experience during the COVID-19 pandemic for their role in rapid development and rollout of diagnostics and vaccines. However, most PPPs have so far failed to adapt their approach, lacking adequate tools to measure population health impact at scale with little accountability for achieving results.^{10,12}

To achieve population health targets, health systems need to be able to measure progress. It helps to break the care process down into steps, also known as process measures.¹³ However, shared and consistently agreed measures for aligning health system stakeholders are few, hence a 'common language' of measurement tools and metrics is needed.¹⁴

What are TPOs?

First developed at Novartis, and implemented in that organization since 2020, Target Population Outputs (TPOs) are novel tools for disease modeling and business forecasting, planning, and prioritization.¹⁵ In its simplest form, a TPO is:

The % of individuals with a specific condition at a specific stage in a healthcare journey within a health system.

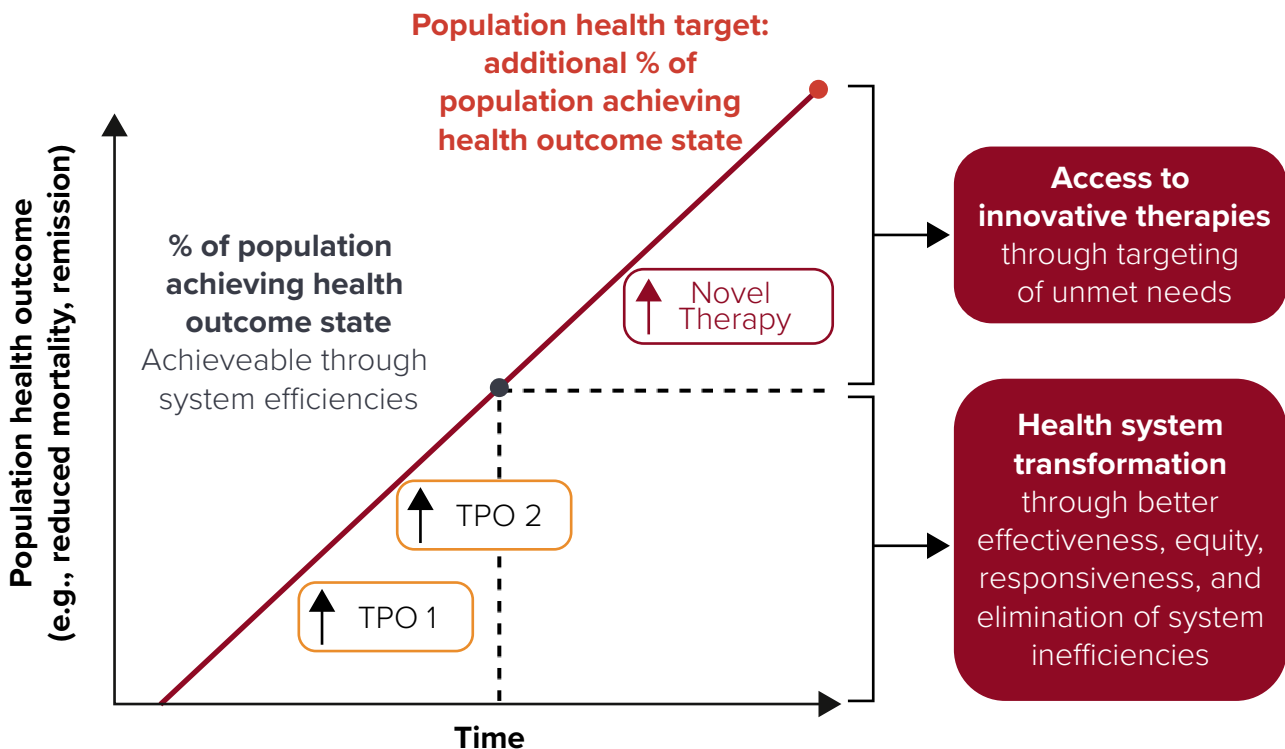
Each TPO is specific to a population rather than a drug or treatment; it is selected to overcome a specific healthcare journey barrier. They are direct measures of individual movement in healthcare journeys or a proxy (e.g., behavior of selected healthcare professionals).

TPOs address a lack of shared and agreed measures of health system performance, encouraging meaningful partnerships. **They are novel in that they are simple, collaborative, and scalable.**

TPOs act as stepping stones towards achieving population health targets (**Figure 1**) by:

- 1 Transforming health systems**, using current resources to create effective, efficient, equitable, and responsive personal and public health services;
- 2 Identifying priority areas for innovation**, by quantifying individuals with unmet need, thus providing a platform for expanding access to innovations.

Figure 1: How TPOs help achieve population health targets through health system transformation and innovation



This figure illustrates one potential strategy for TPO implementation. TPOs are displayed here as a stepwise process leading to iterative improvement, however it should be noted that TPOs may also be applied simultaneously to achieve synchronous improvement. **Abbreviations:** TPO: Target Population Output

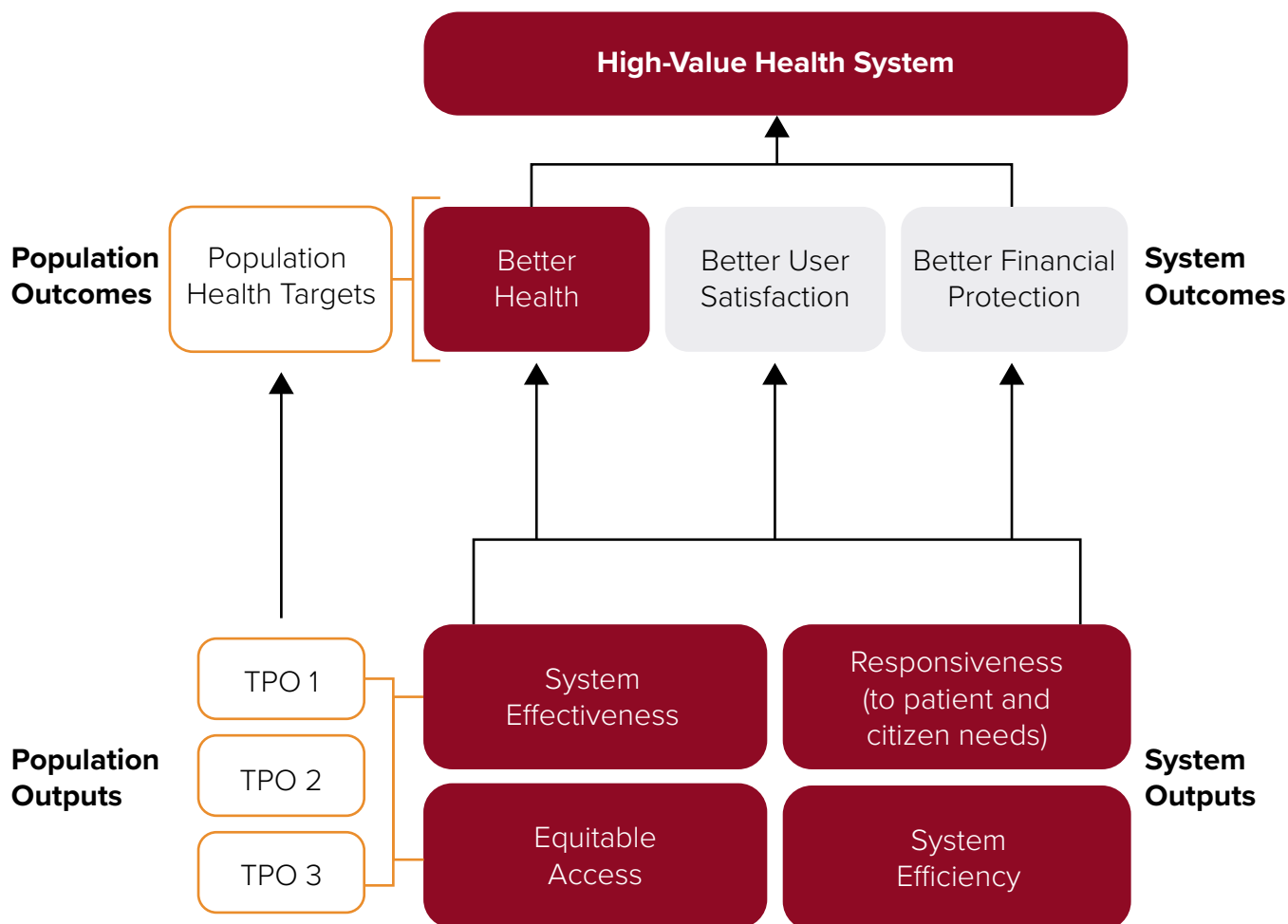
High-Value Health Systems and TPOs

A 'high-value health system' is defined as one that produces outputs (personal and public health services) that are effective, efficient, equitable, and responsive to user needs in changing contexts, and achieves the three key system outcomes of improved health, financial protection, and user satisfaction.¹⁶

High-value health systems need systematic measurement of performance to ensure that targets are set for improvement – TPOs provide this measurement (with measures that are aligned with those used by the World Health Organization Observatory).¹⁷

Each TPO can be designed to bring about improvements in **system effectiveness, efficiency, equity, and responsiveness**, and can be engineered to target specific barriers in a system through a root cause analysis (**Figure 2**).

Figure 2: The outcomes and outputs of a high-value health system, and how TPOs relate to them



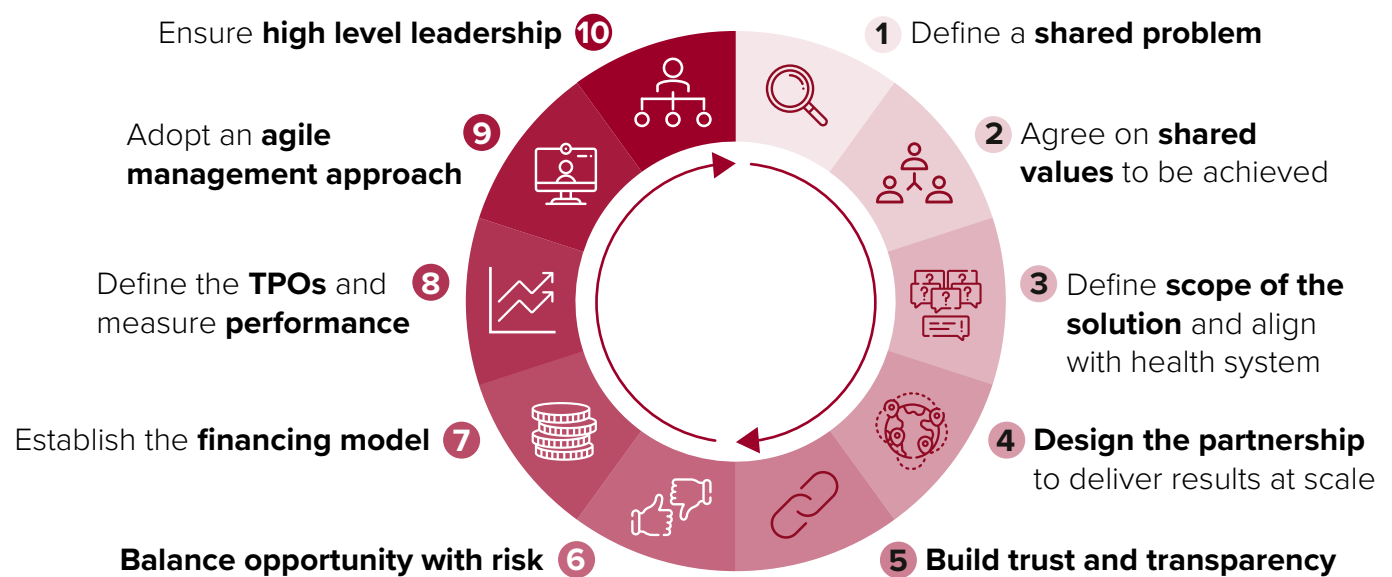
Abbreviations: TPO: Target Population Output

Strategic PPPs and TPOs

Strategic PPPs are **novel, collaborative, high-impact, large-scale initiatives** that are purposefully designed to improve health outcomes at the population level.¹⁰

- Unlike traditional PPPs, they are designed to achieve impact at scale and with close attention to aligning stakeholders and measuring outcomes.¹⁰
- Strategic PPPs focus specifically on **aligning strategy and pooling resources** between public and private partners to address mutually-defined problems, based on the principles of trust, transparency, integrity, interdependence, learning, and iterative improvement.¹⁰
- Strategic PPPs have 10 components (**Figure 3**), with a comprehensive increase in depth as these components are successfully incorporated into the partnership.¹⁰

Figure 3: The 10 components of a Strategic PPP



Abbreviations: PPP: public-private partnership; TPO: Target Population Output

A challenge for Strategic PPPs, and in projects that look to improve population health more widely, is a lack of commonly available tools to define and measure success.^{13, 18} TPOs underpin Strategic PPPs by providing a **success measure** for such partnerships:

<p>For the public sector, benefit from improved population health outcomes, with greater equity, and responsiveness at reduced cost.</p>	<p>For the private sector, benefit by identifying and quantifying individuals with unmet need and who would therefore benefit from innovation, and improved standard of care.</p>	<p>For all stakeholders, benefit from the facilitation of novel financial structuring to enable equitable access to current and innovative medicines.</p>
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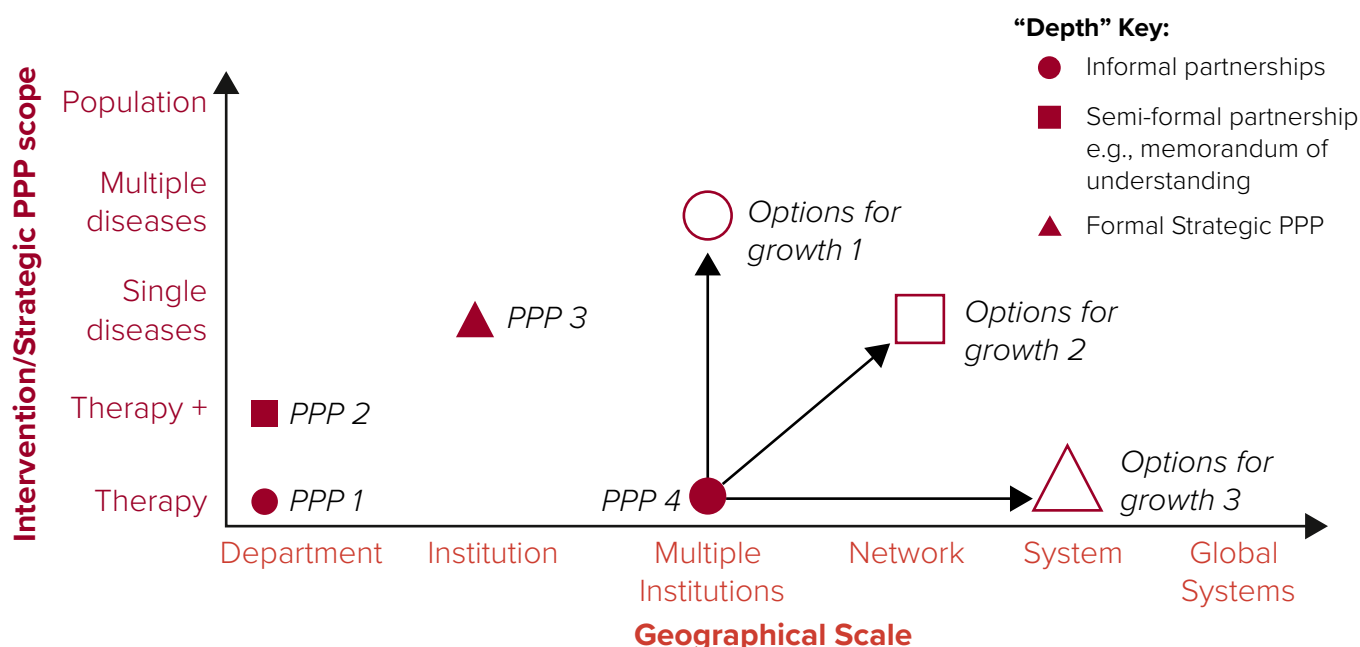
Making It Happen

Equitable population health outcomes will only be achieved through the creation of high-value health systems. To further this objective, several innovative elements are proposed to provide health system stakeholders with a common language, common measures, and common goals:

- 1 **TPOs: innovative instruments** for measuring and driving change in health system outputs.
- 2 **Strategic PPPs: long-term, novel approaches** to partnerships in health systems.
- 3 **Strategic PPP Dynamic Visualization Database:** a best-practice **evidence base**, documenting case studies of Strategic PPPs, TPOs, population health targets, and impacts achieved. *This will support creation of a community of innovators and public and private health professionals who seek to continually raise the standard of global population health.*
- 4 **TPO Playbook:** the **know-how** for rapid implementation, replication, and scale-up to support Strategic PPPs.
- 5 **TPO Learning Community:** a **learning network** for experience sharing and cross-learning.

Bringing these elements together can help current and future Strategic PPPs achieve their potential for impact, through greater scale, scope, and/or depth (**Figure 4**).

Figure 4: The scale/scope/depth graph of PPPs



Adapted from Atun R. Transitioning to High Value Health Systems: a primer. Health Systems Innovation Lab, Harvard University, 2023. This figure depicts the concept of PPP strengthening. Multiple potential options for growth are illustrated as methods of strengthening PPP 4, however any PPP could be strengthened using any combination of scale, scope, and depth. **Abbreviations:** PPP: public-private partnership

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