



PRIMARY HEALTH CARE  
PERFORMANCE INITIATIVE

## The Domains of PHCPI's Conceptual Framework

The framework reflects a structure similar to the commonly used input-process-output-outcome logic model, indicating logical relationships between constructs. We included a *System* domain prior to the *Inputs* domain to indicate the importance of the modifiable PHC system structure as emphasized in the Control Knobs Framework. Additionally, we more clearly defined process as the various critical sub-domains of *Service Delivery*. The framework exhibits an overall directionality of influence, where the *System* domain influences the *Inputs* domain, which affects the complex interplay within the *Service Delivery* domain. Successful service delivery contributes to effective *Outputs*, which subsequently affect *Outcomes*. Additionally, this framework incorporates the health system goals for the *Outcomes* domain – health status, responsiveness, equity, efficiency, and resilience – as articulated by numerous health systems performance assessment frameworks. We acknowledge that PHC performance lies within a larger health system, which itself lies within wider political, cultural, demographic, and socioeconomic contexts.

### (A) System Domain

The System domain is meant to complement the more proximal (i.e., close to an intervention or interaction) Input and Service Delivery domains. Systems contextual factors, while more distal to performance outputs and outcomes, influence the proximate determinants that impact outcomes. System functions enable the provision of services, and thus understanding the systems context is critical to explain determinants of PHC performance. System characteristics include:

*Governance & Leadership (A1)*: This subdomain includes regularly disseminated policies that reflect the importance of PHC, policies that promote equity; quality management infrastructure, including licensing and accreditation, standards of care, consistency in standards of care from public to private sector; community engagement and social accountability -- including Involvement of private sector, civil society organizations, non-governmental organizations, and other stakeholders in health care planning and governance.

*Health Financing (A2)*: This subdomain addresses the efficacy of health systems to: 1) mobilize adequate funds for health in order to ensure access to PHC in a financially sustainable manner; 2) provide protection from catastrophic financial expenditure on health leading to impoverishment; and 3) ensure equitable and efficient use of resources.

*Adjustment to Population Health Needs (A3)*: This subdomain reflects the need for a system to monitor and adapt to population needs. It includes specific areas such as disease surveillance, priority setting, and innovation and learning.

### (B) Inputs Domain

Inputs include sub-domains that are necessary – but not sufficient – for strong performance of PHC. This domain focuses on the crude availability of inputs at the facility level and reflects whether the systems in place to ensure availability of inputs are functioning. Inputs include:

*Drugs & Supplies (B1)*: This measures the availability of essential medicines, vaccines, and commodities (e.g., cotton gauze). It also includes measures of essential equipment, such as scales and thermometers.

*Facility Infrastructure (B2)*: This measures the actual availability of facilities, including numbers of facilities, the mix of facilities (health posts and health centers), and the distribution of facilities, both public and private, throughout the country.

*Information Systems (B3)*: The health information system should produce reliable, complete, and timely information that allows for the use of data for performance management over time. This sub-domain focuses on the availability of infrastructure for information systems, including things like internet connectivity and information system hardware, such as computers or paper registers.

*Workforce (B4)*: This subdomain reflects the need to have a trained workforce, sufficient numbers of health personnel, and the right mix of staff that is well distributed geographically to promote equitable access for the population.

*Funds (B5)*: This measures the availability of funds at the facility level, looking at the ability to address recurrent and fixed costs incurred at the facility level.

### **(C) Service Delivery Domain**

The Service Delivery domain reflects the intersection of supply components (providers, infrastructure, supplies) and the demand side (patient/population needs, access, utilization). Importantly, our framework includes Starfield's well-established concepts of high quality, people-centered PHC service delivery – first contact accessibility (which is user-oriented, coordination, comprehensiveness, continuity, and safety). The specific sub-domains included are:

*Access (C1)*: This sub-domain measures whether patients have affordable, timely access to a PHC facility that is geographically convenient (The Commonwealth Fund, 2014). Facility-level access in LMICs can be assessed by adopting the operational definition used in high-income countries. This basic structural precondition for care (is there a facility with a provider available for care when it is needed by the community?), is a starting point for understanding effective service delivery. However, it should be clearly distinguished from the related, but separate understanding of a user's perspective on accessibility. A facility with a provider can be structurally present, but if the user still experiences barriers to use it, then accessibility is compromised. Thus, both perspectives (structural and user-centered) are necessary.

*Availability of Effective PHC Services (C2)*: This subdomain represents how raw inputs are transformed into actual functioning facilities and workers able to provide PHC services. In this domain, we measure the presence of competent, motivated providers at a health facility when patients seek care. Motivation captures intrinsic and environmental characteristics that affect the behavior and

performance of providers in the system, with a particular focus on degree of provider autonomy, level of intrinsic motivation, degree of remunerative motivation, supportive supervision, and level of burnout. Competence captures technical clinical quality – specifically, the levels of knowledge and skill of providers, demonstrated through diagnostic and treatment accuracy. Competence also captures what providers do during a typical work-day and the level of effort they expend on care provision. In many facilities, providers are frequently absent, and even when present are not actively working.

*Organization and Management (C4):* The Organization and Management subdomain reflects that optimal delivery of PHC services requires an overall organization of team-based care, supportive supervision, population health management, and use of information systems that aid in monitoring services and continually improve quality.

- *Facility management capability and leadership (C4.a):* Successful delivery of PHC services requires strong management at the facility level in order to ensure that the human resources, finances, and hardware come together at the point of service delivery. Good management is difficult to obtain, but can be a translational component that's critical for high functioning systems.
- *Team-based care (C4.b):* Previous studies have shown that a team-based approach to PHC results in improved management of diabetes, reduced hospitalizations, better patient experience, and reduced provider burnout (Shojania 2006, Reid 2010, Grumbach 2004). A team approach works well when members hold themselves mutually accountable towards a common set of performance goals (Katzenbach and Smith, 1996).
- *Supportive supervision (C4.c):* In low and middle-income countries, supervision is the mechanism that is used to provide informal training opportunities to health workers. Through supportive supervision, supervisors can help strengthen health worker clinical skills as well as management capacity (Rowe A, 2005).
- *Population Health Management (C4.d):* PHC extends beyond the confines of a clinic or health facility into the community. Community linkages and orientation are vital to the integration of PHC facility-based services with community-based public health and promotion efforts. Proactive outreach and connections, including the utilization of community health workers (CHW) have been shown to promote a wide variety of population health management goals.
- *Information Systems (C4.e):* In addition to having effective team members, high-functioning PHC systems also have well designed electronic or information systems. Recent studies suggest that well designed electronic health systems can empower and engage patients, improve communication among team members, and improve continuity and coordinated care, all of which are essential to the delivery of PHC (Bitton 2012, Delbanco 2010, Moore 2014).
- *Monitoring & Continuous Quality Improvement (C4.f):* Finally, an efficient PHC system should have well designed management systems that supervise and engage team

members, as well as identify deficits and focus on monitoring and quality improvement (Edmondson 2004, Sugarman 2014).

People-Centered Care (C3): Several core functions are central underpinnings of high quality care delivery in PHC systems. These factors, defined by Barbara Starfield and colleagues, include first contact accessibility, coordination, continuity, and comprehensiveness. These functions, in addition to safety, presuppose the existence of effective and available PHC services. Through strong organizational management, provider training, information systems, and community orientation, these basic PHC services can be transformed to provide high quality PHC functions.

- *First contact accessibility (C3.a)*: As discussed above, patients have good accessibility to PHC when they perceive they can conveniently access primary health services when and how they need them.
- *Coordination (C3.b)*: Coordinated Care is defined as the ‘coordination of patient care throughout the course of treatment and across various sites of care to ensure appropriate follow-up treatment, minimize the risk of error, and prevent complications.
- *Comprehensiveness (C3.c)*: Comprehensiveness refers to the notion that a wide range of preventive, promotive, curative and rehabilitative services should be available and appropriately delivered (Starfield, 1994).
- *Continuity (C3.d)*: There are at least three types of continuity considered to be important for primary care:
  - Relational continuity – An ongoing therapeutic relationship between a patient and one or more providers (made up of longitudinal continuity with one provider, or continuity with a regular team)
  - Informational continuity – The use of information on past events and personal circumstances to make current care appropriate for each individual
  - Management continuity – The extent to which services delivered by different providers are timely and complementary such that care is experienced as connected and coherent. It can also be thought of as a consistent and coherent approach to the management of a health condition that is responsive to a patient's changing needs (known as flexible continuity, or as a property of care coordination). Examples might include closed information loops about the requested needs, outcomes, and next steps from a vital referral to secondary or tertiary care from primary care.
- *Safety (C3.e)*: Safe care determines whether safe practices are in place in communities and facilities and being routinely followed.

## **(D) Outputs Domain**

Since PHCPI hopes to contribute to the Universal Health Coverage (UHC) movement through measurement of effective coverage, we are adopting many of the measures relevant to PHC as prioritized by the UHC Monitoring Framework (World Health Organization and International Bank for

Reconstruction and Development, 2014) and the Global Reference List of 100 Core Health Indicators (World Health Organization, 2015). The PHCPI Conceptual Framework includes both prevention and treatment outputs. The outputs do not rely solely on coverage of key services, but also on effective coverage, meaning quality-adjusted service coverage. Outputs subdomains are:

- Health promotion (D1.a);
- Disease prevention (D1.b);
- RMNCH (D1.c);
- Childhood illness (D1.d);
- Infectious disease (D1.e);
- NCDs and mental health (D1.f); and
- Palliative care (D1.g).

#### **(D) Outcomes Domain**

PHC Outcomes are influenced by outputs and the indicators reflect the increasing burden of disease attributed to chronic conditions and people-centered care through user reported outcomes. Outcome subdomains are:

- Health Status (E1): morbidity (E1.a) and mortality (E1.b);
- Responsiveness to People (E2);
- Equity (E3);
- Efficiency (E4); and
- Resilience of Health Systems (E5).