Supplementary file 1: Operational definitions for the different themes depicted in the framework

Inputs	
Resource availability	**Drugs and supplies:** Availability of essential medicines, vaccines, and other consumable commodities. It also includes measures of essential equipment, such as scales and thermometers
	Information systems: Focuses on the availability of infrastructure for information systems at the facility level, including things such as information equipment, information sources (computers, paper registers, medical records, etc.), Internet connectivity, and systems for data transfer and sharing between facilities for effective reporting.
	Workforce: 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.
Facility environment	Examines interruptions, work environment, ethics, and physical structure within primary healthcare centers
Culture & preferences	Refers to any behavior, service, treatment... a patient would prefer to receive in the primary healthcare setting. It also reflects cultural norms and how it reflects on patients' choices and service provision
Service delivery	
Community engagement & outreach	**Community engagement**: Involvement of communities in the design, planning, and governance of primary health care services.
	Proactive population outreach: Involves health care delivery systems actively reaching out to communities to link those in need to the primary health care system and in particular to preventive and promotive services. This can also include outreach through community health workers. The goal is to ensure that the entire population is aware of and accesses needed PHC services, reducing inequity, and contributing to improving people centered care delivery and outcomes.
Access	**Financial access:** Ensures that there are no or few cost barriers to receipt of care, including user fees and out-of-pocket (OOP) payments. This can be

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	accomplished by a number of approaches including removal of any user fees and universal insurance, as well as the systems-level policy and financing decisions required to implement these changes.
	Geographic access: Defined as the absence of barriers including distance, transportation and other physical challenges in accessing a facility for care when needed.
	Timeliness: Includes the availability of services when needed and acceptable and reasonable waiting time at the point of care.
Team work & leadership	**Team work**: Multi-disciplinary teams (MDT) work well when members hold themselves mutually accountable towards a common set of performance goals. This examines the degree of multidisciplinary team-based approach to PHC and the extent to which MDTs in the facility setting are utilized and fostered in PHC
	Facility management capability and leadership: Examines management and leadership capacities and improvement strategies to ensure that the human resources, finances, and hardware are effectively integrated at the point of service delivery.
Information system use	Examines utilization of information systems including electronic health systems and applications at the facility and team level.
Performance measurement and management	Focuses on measurement systems to identify deficits and facilitate monitoring and quality improvement. This includes quality indicators, public scorecards, public reporting systems, audit and feedback systems, benchmarking, and accreditation systems.
Provider competence	Ability and success in delivery of technical clinical quality. This includes the levels of knowledge and skill of providers, demonstrated through diagnostic and treatment accuracy. Measures of this may include observed provider knowledge or performance and diagnosis and management according to standard protocols. A wide range of potential measurement strategies has been described, including direct observation, clinical vignettes, standardized patients, and chart abstraction.
Provider motivation	Motivation captures intrinsic and environmental characteristics that affect the behavior and performance of providers in the health system, with a particular focus on degree of provider autonomy, level of intrinsic motivation, degree of remunerative motivation, supportive supervision, and level of burnout.

Patient-provider relationship	Examines the interaction between providers and patients. Some measures of this include patient reports of experienced level of respect and degree of trust and provider reports of feeling that their work is respected and valued by patients and communities.
Safety	Defined as safe practices being routinely followed in facilities broadly and in the delivery of care. This can be measured by safety-related incident rates (facility generated or through patient-report), observations of procedures and practices, and facility surveys of facility and healthcare worker capacity and resources to ensure delivery of care that is safe for the patients and providers.
Trainings	All kind of trainings that a health personnel undergo during his work at the primary healthcare setting
Gatekeeping & Referrals	This describes the continuity of care between primary and secondary/tertiary care as well as the degree of referrals between different levels of care
Comprehensiveness	Comprehensiveness refers to the availability and appropriate delivery of a wide range of preventive, promotive, curative and rehabilitative services at the primary care level. Beyond service capacity expansion, comprehensiveness can refer to integration of preventive, curative, and rehabilitative treatment within primary health care, and an approach to treating the "whole person", not just a particular organ system or disease.
Patient-centered	Involves engaging with people as equal partners in promoting and maintaining their health, and assessing their experiences throughout the health system, including communication, trust, respect, and preferences.
PHC Reforms	Focuses on administrative reform, organizational model, and model of care, with emphasis on quality improvement and incentive-based levers, and/or organizational changes to practice.
Outcomes	
Clinical outcomes	Refers to measurable changes in health or quality of life that result from primary healthcare services. It can be measured by activity data such as hospital re-admission rates, or by agreed scales and other forms of measurement. Helps establish standards against which to continuously improve all aspects of practice. We will focus on clinical outcome measures (e.g. mortality, morbidity)as well as how intervention or service provided in primary setting affect the clinical outcomes of patients

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Patient reported outcomes	Refers to outcome measures reported by patients and their families that provide a patient-led assessment of health, and health-related quality of life
Patient Satisfaction	Measures the extent to which a patient is content with the health care which they received from their health care provider. This gives insights into the effectiveness of care and level of empathy at primary healthcare
Provider Satisfaction	Refers to the extent to which providers are content with their jobs and work environment and interpersonal relations in the primary healthcare setting
Service utilization	Measures population's use of the health care services available at primary healthcare
Knowledge/ practice of patients	Refers to changes in knowledge, attitudes or practices of patients as a result of interaction with the primary healthcare
Equity	Measures extent to which there is equity in health, access to health care, responsiveness and financing of primary care
Efficiency	Includes technical, productive, and allocative efficiency. It is concerned with the relation between resource inputs (costs, in the form of capital, labour, or equipment) and either intermediate outputs (numbers treated, waiting time, etc) or final health outcomes (lives saved, life years gained, quality adjusted life years (QALYs)) [1]

Note: Most of the definitions have been adapted from PHCPI framework [2]

1. Palmer S, & Torgerson D.J., Economics notes: Definitions of efficiency. . BMJ: British Medical Journal. 1999; 318(7191): 1136.
2. PHCPI, Primary Health Care System Performance in Low and Middle-Income Countries: A Rapid Scoping Review of the Evidence from 2010-2017. 2017.