



IMPROVEMENT STRATEGIES MODEL: ACCESS: TIMELINESS

Led by: **BILL & MELINDA**
GATES foundation



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CORE PRINCIPLES OF ACCESS

This subdomain measures whether patients have affordable, timely access to a PHC facility that is geographically convenient.(1) The basic structural availability of facilities is a starting point for understanding effective service delivery and is measured under inputs. By contrast, this subdomain is considered from the point of view of the patient when trying to access care or at the point of care. By this definition, in order for services to be considered accessible, patients must face no actual or perceived barriers to receiving services. Ensuring access from the users' perspective can help enable patients to receive the right care at the right place at the right time. Access is a linchpin in improving primary health care; even if services are present and high quality at the point of care, if users experience barriers to accessing and using it, outcomes will not improve. The delivery of high quality and appropriate care is discussed in [provider competence](#). The component of access which relates to issues of equity, stigma and acceptability of care are also critical but addressed within [patient-provider respect and trust](#) and person-centered care (forthcoming).

Here we consider three elements of access: financial access; geographic access; and timeliness. Each of these components of access may be impacted by a wide array of individual and/or community socioeconomic characteristics—including poverty, gender, sex or sexual identity, caste, ethnicity, age, and race. These social determinants may have a significant impact on access within or between countries, and improvement may require concomitant efforts to improve social disparities. Another important element of access that is frequently overlooked is the role of language, particularly among indigenous populations. Global health interventions that fail to incorporate linguistic access for indigenous populations may contribute to widening health disparities.(2) Thus, while social determinants and context - political, social, demographic, and socioeconomic - underlie all aspects of the PHCPI framework, they are particularly salient within access.

FINANCIAL ACCESS

Financial access means that there are no or few cost barriers to receipt of care, including prohibitive user fees, out-of-pocket (OOP) payments, or other costs associated with care seeking such as transportation or childcare costs. Ensuring financial access can be addressed by a number of approaches ranging from community to national-level interventions. Financial access is distinct from financial coverage. While financial coverage means having adequate financial protection, financial access focuses on the local success of interventions to ensure financial access from the patient perspective. An individual may have financial coverage through health insurance, but if he or she must use significant financial resources to access care in practice, financial access is not achieved.

GEOGRAPHIC ACCESS

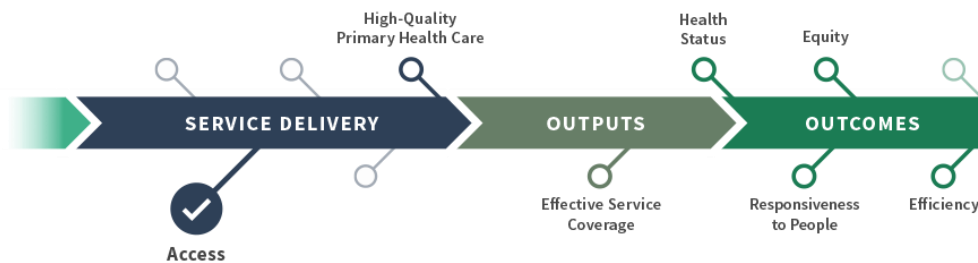
Geographic access is defined as the absence of barriers including distance, transportation, and other physical challenges in accessing care when needed. This is influenced in part by decisions made in allocation of resources, equity, and investments into infrastructure.

TIMELINESS

Timeliness of care includes two elements. First, patients should be able to physically access care with acceptable and reasonable waiting times. Second, hours and days of facility operation should be such that patients can find a time to visit facilities without sacrificing other obligations and duties such as work or childcare and can access care for emergent needs, including on nights and weekends.

WHAT COULD YOUR COUNTRY ACHIEVE BY FOCUSING ON ACCESS?

When done effectively, improved access can contribute to an array of downstream effects:



ACCESS: WHAT ARE THE FIRST STEPS?

STEP 1: ENSURE FINANCIAL AND GEOGRAPHIC ACCESS

In order for patients to be able to receive care when needed, services must be *both* within a reasonable geographic distance – in regard to travel time from patients’ homes -- and not prohibitively expensive. Thus, financial and geographic access should be prioritized and addressed at the same time.

STEP 2: ENSURE TIMELY ACCESS

Timely access will not vastly improve utilization of care if financial and geographic access are not first in place. As such, timely care may be a follow-up consideration after financial and geographic access are ensured for all sub-populations.

AT THE SAME TIME, ENSURE ATTENTION TO HIGH-QUALITY CARE AND SOCIAL DETERMINANTS

While it is outside of the scope of this domain, it is important to note that perceived and actual service quality and provider competence are closely linked to access. Even easily accessible care may be underutilized if patients do not believe they will receive appropriate and high-quality services. Thus, accessible but poor-quality services will also do little to improve outcomes. This phenomenon is well documented in childbirth where women’s perceptions of quality of care are often more salient than both distance or cost in decisions to bypass a facility. (3)

Finally, it is important to reiterate the strong impact that social factors can have on access to care. In order to improve equity and reduce discrimination it is imperative that “accessibility” means “accessibility for all.” To achieve this, access must be assessed not just overall in a particular area but by disaggregated sub-groups, including but not limited to gender, sex, sexual orientation, class, caste, race, ethnicity, religion, and age. A useful tool for evaluating disparities in access is the WHO [Health Equity Assessment Toolkit \(HEAT\)](#). HEAT is a software that can help stakeholders explore within-country inequalities.

TOOLS & FRAMEWORKS

As already noted, this subdomain focuses on access to care from the perspective of the patient. However, there are a number of upstream system-level factors that affect patient access to care. Many of these components, including availability of drugs and supplies, infrastructure, workforce, and health financing, are discussed in other modules (forthcoming). When considering access from the patient perspective, it is necessary to conduct a thorough evaluation of the barriers and facilitators patients face when seeking care. The tools and frameworks discussed below are only a few examples of myriad methods for assessing access and can be used to evaluate financial, geographic, or timely access.

TANAHASHI FRAMEWORK

The Tanahashi Framework examines health service coverage as an interactive process between a health service (a specific service intended to meet a health need of a population, in this case primary care) and its target population through five successive dimensions: **availability**, **accessibility**, **acceptability**, **contact**, and **effectiveness**.^(4,5) The percentage of the target population with effective coverage depends on coverage reached in the earlier dimensions.⁽⁴⁾ Effective coverage depends on the health service's level and quality of interaction with the target population at each dimension and its ability to transform these interactions into a successful health intervention.⁽⁴⁾ While some dimensions of the Tanahashi Framework overlap with other components of the PHCPI framework, it is a useful conceptual model for assessing patient-perceived access to care and pathways to comprehensive primary care delivery for all. Using population-specific analysis, the Framework evaluates the bottlenecks and facilitators that subpopulations experience as a way to help identify why some subpopulations access and benefit from the health system and why others do not.⁽⁴⁾ These barriers and facilitators are influenced by health system barriers and wider contextual issues in which people live, work, and age.⁽⁵⁾ In this way, the Framework highlights the importance of evaluating access experiences of different sub-populations, including those related to socioeconomic or cultural factors.

Evaluating barriers and facilitators at each dimension helps to identify operational bottlenecks, the constraining factors responsible for creating these bottlenecks, and ways forward for effective primary care delivery (WHO 2016d; Tanahashi 1978). For example, implementers can use the Tanahashi framework to understand how different health system and contextual barriers may preclude access to high-quality care. Implementers might consider the following barriers to effective coverage at each dimension:

- ▶ **Availability: subpopulation for whom the service is available**, consider availability of resources (adequately skilled personnel, availability of services and health education for different diseases, necessary inputs)
- ▶ **Accessibility: subpopulation who can use the service**, consider opportunity-costs lost (e.g. child-care, work), limited autonomy, decision making capacity, transport cost and availability, schedules and opening times
- ▶ **Acceptability: subpopulation willing to use the service**, consider cultural beliefs (are these at odds with the service and the ability of a subpopulation to access effective coverage), gender responsiveness of services (e.g. same-sex provider where desired), risk of social stigmatization or discrimination from the provider, family, or community
- ▶ **Contact: subpopulation using the service**, consider utilization
- ▶ **Effectiveness: subpopulation receiving effective care**, consider capacity for treatment adherence (patient compliance ability, poor patient-provider relationships, gender roles and

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social conditions preventing follow up and management), barriers in diagnostic accuracy (linked to knowledge of the condition and inputs), barriers in health service delivery (poor provider training, poor accountability systems, weak referral systems)

While this example focuses on barriers to accessing effective coverage, it is also important to also note the facilitators that certain subpopulations experience relative to others, to better analyze disparities in comprehensive and equitable health primary care coverage.

INNOV8

Although not specific to financial, geographic, or timely access, the WHO has developed an approach for evaluating inequities in national health programs, called [Innov8](#).⁽⁶⁾ In this model, a multidisciplinary team of stakeholders reviews a national health program with attention to barriers and inequities. The eight-step review process includes:

- ▶ Step 1: Complete diagnostic checklist
- ▶ Step 2: Understand the program theory
- ▶ Step 3: Identify who is being left out by the program
- ▶ Step 4: Identify the barriers and facilitating factors that subpopulations experience
- ▶ Step 5: Identify mechanisms generating health inequities
- ▶ Step 6: Consider intersectoral action and social participation as central elements
- ▶ Step 7: Produce a redesign proposal to act on review findings
- ▶ Step 8: Strengthen monitoring and evaluation

The eight steps, their development, specific tools to complete the steps, and examples of application are discussed in greater detail in the [technical handbook](#). This method may be useful for stakeholders to understand the landscape of inequities of access before implementing or adapting a health program. Attention to inequities in access from the start will result in a more comprehensive and accessible program and help countries achieve universal and equitable health coverage.⁽⁶⁾

TRIANGULATION

When assessing barriers to care, it is important to triangulate using both qualitative and quantitative data. Together, these two forms of data can provide a more nuanced understanding than either one alone.⁽⁷⁾ The order in which evaluators collect qualitative and quantitative data will yield different information. If community engagement has been prioritized in the health system and stakeholders already have baseline understanding of the type of barriers patients face, it may be useful to collect quantitative data specific to those barriers first and then use qualitative methods such as focus groups or in-depth interviews to understand unexpected data or gain a more nuanced understanding of particularly salient quantitative data. Alternatively, if stakeholders do not have a strong baseline understanding of access barriers, starting with qualitative methods may help them understand what kind of quantitative indicators to subsequently collect and assess. Additionally, using qualitative methods that engage the community can help community members feel that they are contributing to decision-making and that their concerns are being heard. A brief discussion on the value of mixed-methods can be found [here](#).

What it is**TIMELINESS**

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Timeliness of care includes two elements. First, patients should be able to physically access care with acceptable and reasonable waiting times. Second, hours and days of facility operation should be such that patients can find a time to visit facilities without sacrificing other obligations and duties such as work or childcare and can access care for emergent needs, including on nights and weekends.

WHAT SHOULD I KNOW BEFORE BEGINNING IMPLEMENTATION?**WHO IS NOT ACCESSING SERVICES DUE TO FACILITY TIMELINESS?**

Individuals who have obligations (employment, household work, school) during typical facility operating hours are most likely to face barriers to access due to timeliness. As discussed in financial access as well, these patients may face substantial external costs if they must miss work or find alternative child care in order to access services which can in turn lead to catastrophic health expenditure. (8)

WHAT FACTORS ARE CAUSING BARRIERS TO TIMELY CARE?

There are many reasons why patients may not be able to access timely care. Some of these include:

Inconvenient operational hours

Facility hours may be a barrier to care for individuals who work or have regular obligations. This is most often the case when facilities do not offer evening or weekend hours. Few convenient hours of operation can also contribute to long waiting times, short consultations, and provider burnout.

A systematic review of public and private healthcare facilities in LMIC found that across multiple settings, waiting times, operational hours, and availability of staff were more favorable in private clinics compared to public ones. (9)

Inefficient appointment systems

Appointment systems - coupled with effective use of resources and high-quality care - may be an effective starting point for ensuring timely access to care. A 2016 review of primary care experiences in six Latin American countries found substantial gaps in performance regarding waiting times and appointment systems: one-fifth of respondents skipped an appointment due to problems with scheduling, one-third had to wait more than five days for an appointment, and 39% could not schedule an appointment by phone. (10)

Long waiting times

Long wait times may be attributable to diverse causes including insufficient human resources, inefficient or absent appointment systems, limited operational hours, and ineffective facility management regarding human resources or facility flow. Facility managers may choose to conduct activities such as process flow mapping (discussed in greater detail in the [performance measurement and management](#) module) in order to assess how and why patients are experiencing long waiting times.

HOW CAN TIMELY ACCESS BE IMPROVED FOR THESE POPULATIONS?**Facility Operational Hours**

To ensure access to care, patients must be able to visit health facilities at times and days that are convenient to them and do not require substantial sacrifice in work or childcare. Because expanded days and hours of service may require

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more human resources, stakeholders must consider how they can reorganize the health system to accommodate these changes. The suggestions for reducing waiting times below may help facility managers rearrange service delivery to accommodate more hours of operation:

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- ▶ Staggered shifts - Because increased hours may reduce the density of patients throughout the day, fewer providers may be scheduled on each shift in favor of extending the hours or days of operations. This may involve some pilot testing and observation of patient flow to optimize, and it is important to ensure that all services are staggered as well so patients still have access to comprehensive care.
- ▶ Integrated services - Often, clinics may have designated days for services such as antenatal care or antiretroviral therapy. Instead, clinics should ensure that patients can receive a comprehensive range services at any time to optimize appointment time and minimize return visits.
- ▶ Increasing staff and/or expanding service delivery hours - Both of these considerations involve substantial financial inputs from the health system to direct funds to the compensation of additional staff or extended hours. Stakeholders should consider if they have the resources necessary to implement these changes. However, facility managers must ensure that staff receive adequate incentives and support to reduce provider burnout and maintain motivation. If staff are asked to work inconvenient hours, health systems may choose to consider additional incentives.
- ▶ On-call telephone systems - In areas where patients have access to phones or computer, clinics may choose to have providers available to provide remote consultations during non-clinic hours. Unless there is substantial telemedicine technology in place, these consultations may be limited to acute or emergency care.

Appointment systems

Appointment systems can improve access to services at the point of care. These systems need not be complex but should be easy to use for both patients and providers, appropriately tailored to the internet connectivity and literacy in a given context, and adaptable to anticipate any changes in service delivery. These systems, if supported by a sufficient workforce, can improve waiting times and person-centeredness of service delivery. Appointment system options include:

- ▶ In-person or community-based appointment systems - In areas where some or all of the population does not have access to internet or phones, appointments should be able to be scheduled through in-person visits to the clinic. If the clinic is not conveniently located, appointment systems could be made available in the community. For instance, CHWs may make referrals or help schedule appointments during routine population outreach activities.
- ▶ Appointments made via SMS or telephone and linked with an appointment tracking system (paper or electronic) - In areas where patients have reliable access to telephones, appointments may be scheduled by calling or texting the facility. However, there must be an organized system for recording appointment availability for the clinic staff answering phones. Additionally, in low-literacy settings, texting cannot be the only system for requesting appointments.
- ▶ Electronic portals - Electronic portals may be an efficient option if patients have reliable access to computers or mobile devices and internet. Additionally, systems must be in place to ensure that these portals remain up to date, and alternative means of scheduling should be available if any portion of the patient panel does not have access to the internet.

Even with efficient appointment systems, facility managers should ensure that patients can access care for urgent needs. This may be done by reserving specific days and/or times for walk-in visits or same-day appointments.

What it is**Waiting times****What others
have done**

While reduced waiting times will improve patient experience and access, they can also contribute to clinic efficiency.

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Patients who miss their appointments often do so because of long waiting times or the need to select an appointment time that is inconvenient for them.⁽¹¹⁾ Thus, improved systems may reduce no-shows and ensure that the provider time is maximized. It is also important for facilities to have systems for triaging patients once they arrive in facilities. For instance, patients may be triaged between emergency, chronic, and acute care. Assuming that facilities have sufficient human and material resources to address demand, some strategies to make appointments more efficient and reduce waiting times—along with questions stakeholders may use to assess the appropriateness of the strategy for their context—include:

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- ▶ **Group visits** - Are there any patient types whose needs are fairly standardized (certain chronic care conditions, antenatal care, etc.) and could receive care in a group context? What sort of logistics would need to be in place to organize these visits? How will this change be effectively communicated to patients?
- ▶ **Effective delegation to different providers** - Are there any services that are currently being provided by doctors that can be effectively provided by nurses or CHWs who are in greater supply? What kind of training (if any) would these providers need to receive to be able to provide a wider range of services? Can any of these services be provided outside of the facility?
- ▶ **Options for telemedicine appointments** - Does the patient panel have access to mobile devices and appropriate connectivity? What form of communication would be most efficient for patients and providers (text message, video conference, email)? Which providers would be responsible for telemedicine and how would their workflow need to change to accommodate this responsibility?

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WHAT HAS BEEN DONE ELSEWHERE TO IMPROVE FINANCIAL ACCESS?

What others have done

FACILITY OPERATIONAL HOURS - SOUTH KOREA

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In South Korea, establishment of the National Health Insurance Service in conjunction with rapid economic development has increased access to services and improved health outcomes over the last few decades. However, there is evidence of high rates of overutilization of hospital services attributable to the absence of weekend access to PHC. In October 2013, South Korea instituted a program that pays General Practitioners (GPs) 30% beyond their normal compensation to provide care on Saturdays. This incentive proved sufficient to encourage GPs to work on Saturdays, improving patient access and reducing the volume of patients on other days of the week.(12) Increased access on Saturdays also likely decreased utilization of emergency rooms for conditions treatable in primary care settings, though the evaluation was unable to measure this impact.

APPOINTMENT SYSTEMS - MULTIPLE COUNTRIES

Without an efficient appointment system, providers or administrative staff may face difficulties in tracking patients who do not return for follow up or are non-compliant in treatments, compromising coordination and continuity of care. This is particularly important for chronic diseases that require regular monitoring such as HIV or NCDs. There is evidence that one year retention rates for antihypertensive and antidiabetic medications are as low as 2% in parts of Africa. The International Network for the Rational Use of Drugs Initiative on Adherence to Antiretrovirals (INRUD-IAA) piloted an appointment system in Tanzania, Rwanda, and Kenya in conjunction with the HIV/AIDS control programs to improve patient attendance tracking and follow-up.(13) In addition to the ability to track patients, these appointment systems facilitated other activities that benefited providers and patients alike. In Tanzania, the appointment system helped reduce waiting times and distribute patients throughout the day. Both Rwanda and Kenya used the appointment and patient tracking system to monitor performance. In Rwanda, these data were linked with performance based financing related to patient attendance, and in Kenya, data were used to evaluate and plan during staff meetings. Following this pilot, all three countries incorporated appointment systems into national policies.(13)

Like many LMICs, Nigeria has experienced a shortage of human and material resources in primary care facilities, leading to overcrowding in outpatient waiting rooms, dissatisfaction with care, poor treatment outcomes, and overworked providers. A study in Lagos, a large city in Nigeria, evaluated patient perspectives on the acceptability, feasibility, and willingness to adopt a SMS service for appointment scheduling to increase efficiency of appointments and improve waiting times.(14) This feasibility study found widespread support for the technology among providers; most participants indicated that they would pay for and use the service, and even those without a cell phone or with limited literacy indicated that they would be able to find ways to utilize a SMS appointment system. Though this study did not subsequently implement and evaluate such a program, it highlighted the demand and utility of such a service in a resource-constrained setting.

SHARED MEDICAL APPOINTMENTS - GHANA & UNITED STATES

Shared medical appointments are not only more efficient from a facility flow perspective but can also help patients develop supportive communities. This is particularly true for antenatal (ANC) and postnatal care, where women attend group visits with women of a similar gestational age, sharing information and forming relationships within and outside of the facilitated group visit. Compared to individual visits, women are able to spend more time with providers, form relationships with providers and other mothers, and reinforce knowledge with one another.(15) A group ANC curriculum was implemented in Ghana using seven lesson modules designed by the American College of Nurse-Midwives. Each of the sessions was 60

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minutes and involved story-telling, peer support, and demonstration with a focus on delivering information to women with limited literacy. This design was compared to individual ANC with the same providers, and women who received group ANC care were more likely to discuss delivery arrangements and transportation with midwives, have saved money for birth, report positive exclusive breastfeeding practices, and discuss newborn problems with midwives. Thus, group visits for ANC can contribute to facility efficiency while better equipping women with maternal knowledge.(15)

What others have done

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Shared medical appointments have been used extensively for NCD management in high income countries to limit repetition of educational medical appointments and build cohorts of patients with similar needs and concerns.(16) A study of shared medical appointments for diabetes in The United States found that the success of these programs depended on patients’ motivation and willingness to learn and could contribute to improved patient satisfaction and productivity.(16) While there is limited evidence of shared medical appointments for NCDs in LMICs, the success of shared appointments for ANC suggests that shared medical appointments may continue to be a strategy for improving clinic efficiency.

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WHAT QUESTIONS SHOULD BE CONSIDERED TO BEGIN IMPROVEMENTS?

The questions below may be a useful starting place for determining if timeliness is an appropriate area of focus for a given context and how one might begin to plan and enact reforms:

HOW DO PATIENTS PERCEIVE WAITING TIMES BOTH TO THE NEXT AVAILABLE APPOINTMENT AND ONCE THEY ARRIVE AT A FACILITY, AND ARE THESE PROHIBITIVE TO SEEKING CARE WHEN NEEDED?

In order to determine how and when services need to be extended, it is important to qualitatively understand patient experience with waiting times before and during appointments and to assess the feasibility and acceptability of potential solutions with them.

IF AVAILABILITY ON SPECIFIC DAYS OR TIMES OF DAY IS AN AREA OF WEAKNESS, IS THERE FLEXIBILITY IN EXISTING FACILITY OPERATIONS AND WORKFORCE TO EXTEND HOURS OR DAYS OF OPERATION?

Expanding hours or days of operation within a facility is a clear solution if facility operational hours pose barriers to the population. However, this may not be feasible in all settings. It is important for facility managers and assess the existing facility operations and workforce to understand how expanded hours would impact the facility, and it may be useful to begin with a pilot.

IS THERE AN EXISTING SYSTEM FOR SCHEDULING APPOINTMENTS AND ARE THERE SCHEDULING OPTIONS AVAILABLE TO ALL INDIVIDUALS WITHIN THE CATCHMENT AREA REGARDLESS OF THEIR ACCESS TO TECHNOLOGY OR PHYSICAL PROXIMITY TO THE FACILITY?

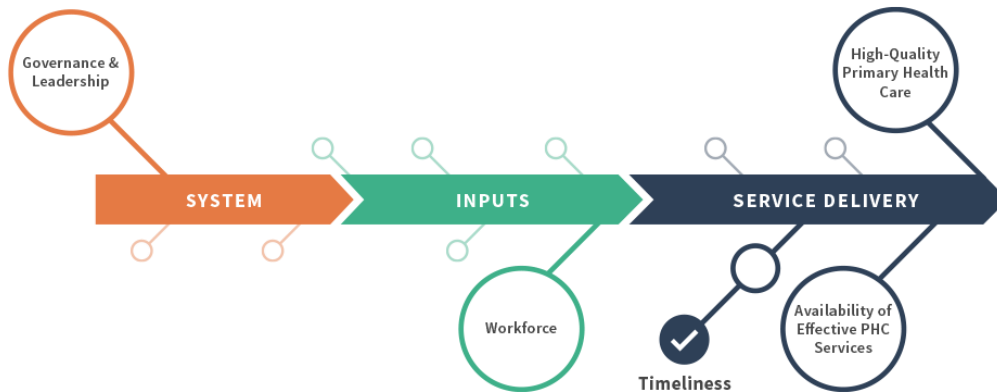
Contextual realities such as technology and literacy may be a limiting factor when developing appointment systems. Appointment systems do not need to be complex, but the presence well-designed systems can contribute to improved facility efficiency. It is important to robustly evaluate patients' access to relevant technologies before implementing a system.

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WHAT ELEMENTS SHOULD BE IN PLACE TO SUPPORT EFFECTIVE IMPROVEMENTS?

In order for interventions aimed at improving timeliness to be most successful, the following elements of the PHCPI Conceptual Framework should be in place or pursued simultaneously:



C4.B & C5 PROVIDER COMPETENCE & HIGH-QUALITY PRIMARY HEALTH CARE

Regardless of financial, geographic, and timely access to services, it is unlikely that patients will access care if they perceive that providers lack competence, services are not tailored to their needs, and care is not delivered with trust and respect. Additionally, if patients do seek care that is not high quality, it is unlikely to result in improved outcomes. Thus, if patients are not accessing services, it is important to understand whether it is due to perceived quality of care or accessibility, and if both are lacking, they may have to be addressed in tandem to improve utilization of care and subsequent positive health outcomes and impact.

C2.B FACILITY MANAGEMENT CAPABILITY AND LEADERSHIP

Certain approaches to improving access require logistical changes within a facility, such as scheduling outreach activities, adopting new appointment systems, or shifting provider schedules to facilitate greater coverage. For all of these changes to be effectively integrated, facilities must have strong leadership and management to communicate, implement, monitor, and adapt necessary changes with internal and external stakeholders.

C2.D PERFORMANCE MEASUREMENT AND MANAGEMENT

As with any changes to a health system, it is important to have a clear system in place to evaluate the efficacy of a given intervention. Performance measurement and management systems with clear targets, measurement activities, and plans for improvement should be designed in conjunction with service delivery changes to monitor changes in access and adapt approaches as needed.

B4. & C2.A WORKFORCE AND TEAM-BASED CARE ORGANIZATION

As with other service delivery changes intended to improve access to care, improved timeliness may result in an influx of patient demand. Therefore, there must be sufficient human resources within facilities to serve the population. Additionally, workforce organization and establishment of care teams may make services more efficient, thus facilitating timely access.

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C2.C INFORMATION SYSTEM USE

Improving facility flow or establishing appointment systems requires adequate integration of information systems. Providers or administrative staff who would be responsible for facility planning should have clear information systems use expectations and training. If patients are also expected to use information systems for scheduling appointments, these should be clearly communicated during facility visits or during community-based care.

A1.C SOCIAL ACCOUNTABILITY

In addition to engaging community members in the identification of barriers to care and potential interventions to improve access, social accountability mechanisms should be in place to ensure that community members are able to monitor and react to health systems interventions and changes.

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