Facility Infrastructure

Facility infrastructure captures the physical availability and physical quality of facilities, including Facility density and distribution, facility design, Facility amenities, and safety equipment and precautions.

**Facility density and distribution**

Ensuring that all populations have timely, geographic access to care requires sufficient facility infrastructure. The density and distribution of primary care facilities refers to the physical locations of primary care facilities and their spread relative to the population. The number and type of facilities needed in a country or region depends on two categories of factors. The first is population needs, including burden of disease and population distribution. The second is models of care, including the availability of services at facilities, staffing of facilities, and referral expectations. Because a range of factors and needs influence facility density and distribution, there are not specific global normative guidelines for making these decisions. Instead, it is important for countries to assess their own facility density and distribution needs and set targets that respond to these needs and the local context.

Note: Geographic access from the patient perspective is explored in the Geographic Access module.
Facility infrastructure is a key input of strong primary health care systems.
What can you learn about Facility Infrastructure from the Improvement Strategies?

**SECTION 1**

**What is Facility Infrastructure?**

**What it is:** Learn more about the core principles and goals of Facility Infrastructure.

**Relevance to PHC:** Learn about Facility Infrastructure role in PHC improvement.

**SECTION 2**

**How do I assess my performance?**

**What it is:** Learn more about some indications that improvements might be relevant in your context and what you can achieve by focusing improvements on Facility Infrastructure.

**Vital Signs Profile:** Use the information in your Vital Signs Profile to help determine relevant areas for improvement.

**SECTION 3**

**How do I get started?**

**Case studies:** Learn from implementation approaches and challenges in other country contexts.

**Tools and Resources:** Explore and identify useful tools and resources relevant to Facility Infrastructure.

**What to ask:** Use guiding questions to help determine how you might begin to plan and enact reforms in your country context.

Guided by the above considerations and relevant resources, start to build out an improvement plan with your CE lead and/or focal point.
What can my country achieve by focusing on Facility Infrastructure?

Goals & Outcomes

✓ **First contact accessibility**: Well-designed and equitably-distributed facility infrastructure helps to ensure that all populations have timely, geographic access to care.

✓ **Responsiveness to the community**: Facility design is a critical component to achieving person-centered care, ultimately helping to build health systems responsive to health status and needs of community members.

✓ **Safe facility operations**: Sufficient facility infrastructure, including standard safety precautions and equipment, helps to promote a culture of safety, in turn helping to improve clinical outcomes and patient experience of care.
Facility Infrastructure

How do I assess my performance?

Learn more about whether you should focus on Facility Infrastructure in the Vital Signs Profile.
How do I assess my performance?

Use the information in the Vital Signs Profile to help determine relevant areas of improvement.
How do I assess my performance?

Use the information in the Vital Signs Profile to help determine relevant areas of improvement.
How do I assess my performance?

Use the information in the Vital Signs Profile to help determine relevant areas of improvement.
What are other indications that Facility Infrastructure might be an appropriate area of focus?

**Other Indications**

- **Patients, providers, and facility staff are frequently at risk for infection and disease** due to factors such as contaminated water, food, or medical equipment, inadequate sharps and infectious waste disposal, and potential for unsafe blood transfusion.

- **There is little to no data on current conditions and what is lacking at the facility**, such as tools to measure service availability, readiness, and provision.

- **The facility does not provide all four of water, sanitation, hygiene, and waste management services.**

- **The facility lacks reliable energy services.**
Facility Infrastructure - What is it?

Facility infrastructure captures the physical availability and physical quality of facilities, including Facility density and distribution, facility design, Facility amenities, and safety equipment and precautions.

Learn more about the core principles of Facility Infrastructure and what you can achieve by focusing improvements.
What is Facility Infrastructure?

Facility infrastructure captures the physical availability and infrastructural quality of public facilities, including numbers of facilities, facility infrastructure, the distribution of facilities, and the appropriate mix of facility types to meet population health needs.
What is Facility Infrastructure?

Facility infrastructure captures the physical availability and infrastructural quality of public facilities, including numbers of facilities, facility infrastructure, the distribution of facilities, and the appropriate mix of facility types to meet population health needs.

What should I know before beginning improvements?

1. **What is the ideal density and distribution of PHC facilities?**
   The density and distribution of PHC facilities refers to the physical locations of facilities and their spread relative to the population. The number and type of facilities needed in a country or region depends on population needs and models of care.

2. **Which facility design(s) will meet the most common needs in the community?**
   Person-centered care begins with facility design and is achieved through close understanding of the health status and needs of community members. Evidence has shown that patient-centered design can facilitate improved access, improve the waiting experience, privacy, and physician/staff-patient communication, and reduce the risk of infection.

3. **Are basic safety tools easily available and are standard safety precautions in place?**
   Standard safety precautions and equipment support safe PHC delivery and prevent transmission of communicable diseases. Safety is a core component of health facility readiness to provide high-quality services and ensure the safety of patients and providers.
Facility infrastructure captures the physical availability and infrastructural quality of public facilities, including numbers of facilities, facility infrastructure, the distribution of facilities, and the appropriate mix of facility types to meet population health needs.

What is Facility Infrastructure?

Facility infrastructure captures the physical availability and infrastructural quality of public facilities, including numbers of facilities, facility infrastructure, the distribution of facilities, and the appropriate mix of facility types to meet population health needs.

What are some key steps to improving Facility Infrastructure?

Ensure that basic essential features and utilities are available at facilities.
Facility amenities are the most basic essential features and utilities that capacitate PHC facilities to deliver high-quality PHC. Essential facility amenities may include electricity, safe water, sanitation facilities, communications equipment, and computers with internet or network connectivity, among others.

Implement standard safety equipment and safety procedures.
Standard safety equipment are the basic level of infection control precautions that are to be used in the care of all patients. Standard precautions are established processes that require health care workers to assume that the blood and body substances of all patients are potential sources of infection in order to provide a high level of protection to patients, health care workers, and visitors.

Create and maintain a Master Facility List.
A Master Facility List is a complete listing of health facilities in a country. It is composed of administrative information and data that identifies each facility and is used as a standard mechanism for identifying health facilities and allowing for information to be compared across time and across data sources for facilities.
Visual aid: Facility Infrastructure

**Facility Infrastructure**

Facility infrastructure refers to the physical availability and quality of facilities, including their density and distribution, design, amenities, and safety equipment and precautions. Ensuring access to thoughtfully designed, safe, and well-equipped facility infrastructure is an important step to providing high-quality primary health care.

**Facility Density and Distribution**

To ensure that all populations have timely, geographic access to care, facility density and distribution targets should reflect the local context, including population needs and models of care.

**Facility Design and Amenities**

The design elements, features, and utilities that enable primary care facilities to provide quality, person-centered primary health care.

**Standard Safety Precautions and Equipment**

The established processes and materials that support safe primary care service delivery and prevent disease transmission.

- Bar or liquid soap along with running water or alcohol-based hand sanitizer
- Latex gloves
- Waste bins with lids and liners
- Sharps boxes or containers
- Surface or environmental disinfectant
- Single-use standard disposable or auto-disposable syringes
- Safe disposal of sharps and medical waste
- Exam rooms with auditory and visual privacy
- Communication equipment
- Access to emergency transportation
- Electricity
- Light sources
- Internet or network connectivity
- Safe water
- Sanitation facilities
- Facility designed for person-centered care
- Patients, visitors, staff, and practitioners
Facility Infrastructure

How do I get started?

Facility Infrastructure

Facility infrastructure captures the physical availability and physical quality of facilities, including Facility density and distribution, facility design, Facility amenities, and safety equipment and precautions.

<table>
<thead>
<tr>
<th>What it is</th>
<th>What others have done</th>
<th>What to ask</th>
<th>How to succeed</th>
</tr>
</thead>
</table>

Derive information from **What others have done**, **What to ask** and the **Tools and Resources** tool to help determine where and how you might begin to plan and enact forms in your country context.
Planning for improvement in your context

The guidance and recommendations described within the Facility Infrastructure module are not intended to provide a one-size-fits-all solution.

The considerations involved in planning and implementing strategies will depend on your local context.

Sample activities

- **Consider** implementation challenges and approaches in other country contexts
- **Understand how the features of your health system**, such as how decisions get made and the role of the private sector, will impact your improvement plans
- **Identify** key elements that need to be in place to support improvements
- **Use the guiding questions in the Improvement Strategies** to spur thinking about Facility Infrastructure in your country context and stimulate ideas for improvement
- **Start to develop** an improvement plan
Questions to ask to help you get started

The **specific considerations** involved in planning and implementing strategies will depend on your local context.

The questions listed may be a useful **starting place to determine how you might begin to plan and enact reforms** in your context.

**Sample questions**

- Has primary health care facility density and distribution in the country been assessed? Are there documented targets for optimal health facility density and distribution to meet population health needs?
Questions to ask to help you get started

The specific considerations involved in planning and implementing strategies will depend on your local context.

The questions listed may be a useful starting place to determine how you might begin to plan and enact reforms in your context.

Sample questions

☐ Has primary health care facility density and distribution in the country been assessed? Are there documented targets for optimal health facility density and distribution to meet population health needs?

☐ Does your country maintain a Master Facility List?
Questions to ask to help you get started

The **specific considerations** involved in planning and implementing strategies will depend on your local context.

The questions listed may be a useful **starting place to determine how you might begin to plan and enact reforms** in your context.

**Sample questions**

- Has primary health care facility density and distribution in the country been assessed? Are there documented targets for optimal health facility density and distribution to meet population health needs?

- Does your country maintain a Master Facility List?

- Are your country’s PHC facility design and planning considerations specifically focused on team-based care and patient-centeredness? Is facility design responsive to patient needs?
Questions to ask to help you get started

The specific considerations involved in planning and implementing strategies will depend on your local context.

The questions listed may be a useful starting place to determine how you might begin to plan and enact reforms in your context.

Sample questions

☐ Has primary health care facility density and distribution in the country been assessed? Are there documented targets for optimal health facility density and distribution to meet population health needs?

☐ Does your country maintain a Master Facility List?

☐ Are your country’s PHC facility design and planning considerations specifically focused on team-based care and patient-centeredness? Is facility design responsive to patient needs?

☐ Does your country track the proportion of primary health care facilities with all of the identified standard safety precautions and equipment in place?
Questions to ask to help you get started

The specific considerations involved in planning and implementing strategies will depend on your local context.

The questions listed may be a useful starting place to determine how you might begin to plan and enact reforms in your context.

Sample questions

☐ Has primary health care facility density and distribution in the country been assessed? Are there documented targets for optimal health facility density and distribution to meet population health needs?

☐ Does your country maintain a Master Facility List?

☐ Are your country’s PHC facility design and planning considerations specifically focused on team-based care and patient-centeredness? Is facility design responsive to patient needs?

☐ Does your country track the proportion of primary health care facilities with all of the identified standard safety precautions and equipment in place?

☐ Does your country engage in any surveys tracking service availability and facility amenities, such as the Service Availability and Readiness Assessment (SARA), Service Provision Assessments (SPA), or Service Delivery Indicators (SDI)?
Learn from what others have done

Continuous Survey Strategy | Senegal
Results from continuous surveys led to the implementation of essential facility amenities at health care facilities.

Service Availability and Readiness Assessment | Sri Lanka
Regular facility service assessments demonstrated gaps in service readiness and outlined future health systems priorities.
Senegal has a history of partnering for national surveys focused on health system performance, dating back to the 1980s.
### Senegal: At-a-glance context

<table>
<thead>
<tr>
<th>GDP per capita ($PPP)</th>
<th>Human Development Index</th>
<th>Life expectancy at birth</th>
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<th>Percentage of population living in rural areas</th>
<th>Percentage of population living under $1.90 per day</th>
<th>Population</th>
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<tbody>
<tr>
<td>53%</td>
<td>38%</td>
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GDP per capita: $3,536
Human Development Index: 0.51
Life expectancy at birth: 67 years

- Percentage of population living in rural areas: 53%
- Percentage of population living under $1.90 per day: 38%
- Population: 16.3M
Background and rationale

- **Senegal’s facility density and distribution is driven by three main sectors:** The Ministry of Health, the private sector, and the country’s armed forces.

- **In Senegal, a proactive approach to gathering data through nationally representative assessments** has helped the country determine priorities for implementing changes to facility infrastructure and amenities.

- **In 2010, Senegal was a pilot-test country for the Service Delivery Indicators survey**, which measures the availability of key inputs and resources in health facilities.
  - The pilot survey found that on average only 39% of PHC facilities reported access to basic infrastructure.

- **In 2012, the country conducted its first Service Provision Assessment (SPA)**
  - The SPA found while more than half of health care facilities had basic water services (61%), nearly a quarter (24%) had limited service, and 14% had none.
Learn from what others have done: Senegal

Approach

In 2012, Senegal became only the second LMIC country to adopt the Continuous Demographic and Health Survey (CDHS) and, in conjunction, a continuous Service Provision Assessment (SPA) (CSPA) survey.

Supported by the continuous DHS and annual infrastructure assessments, in 2014, Senegal’s Ministry of Health and Social Action embarked on a single, national strategy to harmonize community health programs and initiatives into one integrated approach:

• The main goals of the strategy focused on improving coverage and quality of community health services, strengthening community participation in problem solving for health issues, and ensuring sustainability of community health interventions.
• Steps to achieve these goals prioritized improving supply systems for essential medicines and products, harmonizing service packages, and improving equity of access.
Learn from what others have done: Senegal

- The assessments reflect continued prioritization and improvement in healthcare facility infrastructure.

- After the 2012 SPA, Senegal’s Ministry of Health took actions to equip health huts, the lowest level of health systems, to:
  - Provide injectable contraceptives
  - Provide in-service training for health care providers on long-lasting family planning methods
  - Order malaria diagnostic and treatment supplies be restocked at all health service delivery sites

- While only 61% of health care facilities had regular electricity or internet access in 2017, that year’s SPA found 94% of health care facilities now had improved water services; 99% had visual and auditory privacy for patient exams; and 99% had latrines or other basic sanitation services for patients.

Outcomes & Impact

Learn from what others have done: Senegal

- **Monitoring and continuous quality improvement**: The CDHS and CSPA together provide essential health system performance indicators for Senegal, providing data on infrastructure that are for action. As a Government of Senegal representative mentioned in a USAID review of the continuous assessment process, “if the survey shows the coverage isn’t good, we can do something.”

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In Sri Lanka, a focus on equitable access to health care has led to comparatively high provision of basic health services, but at the expense of consistent quality of care.
### Sri Lanka: At-a-glance context

<table>
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<th>Percentage of population living in rural areas</th>
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<tr>
<td>82%</td>
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</table>
Learn from what others have done: Sri Lanka

Background & rationale

- **Compared to other countries in Southeast Asia, Sri Lanka has relatively high health status**, with comparatively high-quality provision of basic health services.

- In 2000, Sri Lanka had a comprehensive network of health facilities and a large PHC workforce. However, the health system has faced important challenges, including limited development of human resources outside the largest cities and inadequate geographical distribution of providers.

- As the population has experienced increases in education and income – as well as a rising burden of non-communicable disease – many have begun to bypass PHC facilities for higher-level care facilities.
  - **This has led to underuse of the PHC system** and overcrowding of the secondary and tertiary care system.
Learn from what others have done: Sri Lanka

Approach

In an effort to encourage providers to serve non-urban populations, a “dual-practice” system was developed, allowing government sector providers to engage in private practice when off-duty. This is an incentive for providers to practice in remote areas.

In 2017, Sri Lanka’s Ministry of Health, Nutrition and Indigenous Medicine and Department of Census and Statistics partnered with the Global Fund and WHO to conduct the country’s first Service Availability and Readiness Assessment.

- Results showed that only 51% of facilities had all tracer items for basic amenities
- While there was generally high service availability, service readiness was low for most of the services measured (such as guidelines for staff training and diagnostic capacity)

Learn from what others have done: Sri Lanka

- The dual practice system for providers has helped to improve health care access in harder-to-reach areas. This system has also helped the government retain many of the highly skilled graduates of the country’s health education system.

- In Sri Lanka, facility infrastructure assessments have helped to demonstrate gaps in service readiness and determine priorities for the country as it plans for its health system needs going forward.

- PHC facilities are beginning to focus on equipping facilities to prevent, detect, and manage the growing chronic disease burden.

- As Sri Lankans’ health needs and expectations change, adapting the health system to improve quality assurance, improve health care waste management streams, and strengthen health facility infrastructure are increasingly recognized as important steps to improve PHC.

Outcomes & Impact


Recap: Facility Infrastructure

System
- Governance & Leadership
  - Primary Health Care Policies
  - Quality Management Infrastructure
  - Social Accountability
- Health Financing
  - Payment Systems
  - Spending on Primary Health Care
  - Financial Coverage
- Adjustment to Population Health Needs
  - Surveillance
  - Priority Setting
  - Innovation & Learning

Inputs
- Drugs & Supplies
- Information Systems
- Workforce
- Funds

Service Delivery
- Population Health Management
  - Local Priority Setting
  - Community Engagement
  - Empowerment
  - Proactive Population Outreach
- Facility Organization & Management
  - Team-based Care Organization
  - Facility Management Capability & Leadership
  - Information Systems Use
  - Performance Measurement & Management Outreach

Outputs
- Access
  - Financial
  - Geographic
  - Timeliness
- High Quality Primary Health Care
  - First Contact Accessibility
  - Continuity
  - Comprehensiveness
  - Coordination
  - Person-centered
- Availability of Effective PHC Services
  - Provider Availability
  - Provider Competence
  - Provider Motivation
  - Patient-Provider Respect & Trust
  - Safety

Outcomes
- Effective Service Coverage
  - Health Promotion
  - Disease Prevention
  - RMNCH
  - Childhood Illness
  - Infectious Disease
  - NCDs & Mental Health
  - Palliative Care
- Health Status
- Responsiveness to People
- Equity
- Efficiency
- Resilience of Health Systems

Social Determinants & Context (Political, Social, Demographic & Socioeconomic)
Recap: Facility Infrastructure

Facility Infrastructure

Facility infrastructure refers to the physical availability and quality of facilities, including their density and distribution, design, amenities, and safety equipment and precautions. Ensuring access to thoughtfully designed, safe, and well-equipped facility infrastructures is an important step to providing high-quality primary health care.

**Facility Design and Amenities**

- The design elements, amenities, and utilities that enable primary care to achieve primary health care standards for primary health care centers.

- Facility designed for primary care centers.

- Communication equipment
- Information network connectivity
- Water
- Sanitation facilities
- Electricity
- Light sources

**STANDARDS AND SAFETY PRECAUTIONS AND EQUIPMENT**

- Established processes and materials that support safe primary care service delivery and prevent disease transmission.

- Waste bins with lids and labels
- Restrooms with sinks and soap
- Sharps boxes or containers
- Sterilization equipment
- Single-use standard disposable or non-disposable syringes

**Facility Density and Distribution**

- To ensure that all population groups receive equitable and timely access to health care services, facility density and distribution are critical. This should reflect the sociodemographic, economic, and geographic needs and models of care.