

# **Measuring the Inequity of a health system: A Systems' Perspective**

## **Systematic Analytical Mapping Approach**

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### **ABSTRACT**

The World Health Organization in its 2000's World Health report identified and defined stewardship as the most critical key function that must be undertaken towards a sustainable and well-performing health system. As the ultimate responsibility for the overall performance of health system lies with government, it is therefore its responsibility to take on the role of stewardship for the health system. The government should then involve all stakeholders in the implementation of this role; the ministries in charge of health should therefore take on the role of stewardship for the health care system. The stewardship role comprises the responsibility of:

- defining the vision and direction of health policy,
- developing legislation, regulations, standards, policies and directives to support the vision and the defined directions for health policy; and
- monitoring and reporting on the performance of the health system and the health of the population.

The implementation of the stewardship role will require that the equity principle that is dealt with at the operational level of decision making, be brought at the strategic level of decision making and be taken into account while defining the vision and the direction of health policy. This paper aims at providing an instrument that could be used to factor in and monitor the equity of a health system for a population group at the strategic level, through the measurement of the inequity of health system for this population group. A Strategic Equity Index, an input measure, is defined using the rate of equity of the health system, for a given population group. Applying Systems Thinking methodology, key components of a health system are identified. The Systematic Analytical Mapping approach is proposed as a methodology to be used for the identification of the challenges facing by a population group for access and accessibility to health services. The identified challenges constitute the inequity of the health system for the given population group. A formula for the calculation of the Strategic Equity Index is proposed.

Keywords: health system and health care system, inequity and equity, Systems Thinking, Systematic Analytical Mapping, Strategic Equity Index, strategic decision and operational decision, input measure.

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## Introduction

In order to ensure well-performing health system, it is recommended that governments change their role from health services providers, to take on a stewardship of their respective health system. A well-performing health system is a health system that contributes to the implementation of the health equity principle (Whitehead, 1995):

- to create equal opportunities for health for all population groups and
- to bring down health differentials to the lowest level possible.

This would mean a health care system where equity in health care is based on the fundamental principle of making high quality health care and health care services accessible to all population groups. For this to happen in a stewardship mode, there is a requirement for governments to translate the meaning of equity principle into the health system and health care system strategic decision, including integrating this into the process that guide the definition of the vision and the strategic directions of the health system and health care system. The purpose of this paper is to articulate a systematic approach to support the governments in:

- meeting this requirement and
- assessing and monitoring the equity of health system and health care system at the strategic level, towards ensuring equity both at tactical and operational level.

Inequity of health care system (uneven distribution of resources and facilities) will therefore lead to inequity in access and accessibility of health care and health care services.

A Systems Thinking methodology is chosen as the basis for the conceptual framework of this exercise. It will support the understanding of the complex processes and the inter-relationships among the subsystems or components of the health system and health care system.

## Methodology

### 1. Observation of the health system and health care system:

The fundamental definition of the health system and health care is used to figure out the boundaries of the system.

### 2. Systemic Investigation

A “black box” view is taken to confirm the observation as well as to investigate the system from its functional and structural aspects. This means that the health system and health care system take in input and produce output. There is little here interest in what is happening in between.

### 3. Determining the equity of health system/health care system for a population group through the inequity of health system/health care system:

Using the Systematic Analytical Mapping approach to the inequity of the system for a population group (for the identification of the challenges facing by this population group

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with regard to the input into the health system, which would be translated into output of the system for this population i.e. access and accessibility to health services)

### **4. Calculation of Inequity of health system/health care system**

Formula for the calculation of the Strategic Equity Index, for a population group

## **Results and Discussions**

### **1. Observation of the health system and health care system**

#### **What is a health system?**

The 2000's World Health report includes in the definition of a health system "all activities whose primary purpose is to promote, restore or maintain health."

The articulation of the following constitutes a health system: all the organizations, institutions, and resources that are devoted to the production of health interventions with formal care (family doctors, community health centres, hospitals...) and informal care (e.g. community-based workers), as well as related practices outside the health area.

From the above definition of health system, it is clear that a health system is very broad. For this exercise we will focus on the health care system, which is narrowed compare to the health system. The health care system is the organized provision of the three level of care: primary health care, secondary care and tertiary care. This gives us a clear idea of the boundaries of our system.

The essential functions that support the functional aspect of a health care system are as follows:

- Provision of health services at the three levels of care
- Generation and management of resources: providing resources to make the health care system work (health care professionals, health care facilities, drug and equipment, knowledge).
- Finance: collecting revenues and allocating financial resources to various health care system activities
- Stewardship: developing and enforcing legislation, and providing strategic directions for all stakeholders.

### **2. Systemic Investigation of health care system**

The provision of health services, which is the key output of the health care system, is produced through input from the remaining three above-mentioned essential functions (generation and management of resources, finance and stewardship). From the functional perspective, there is input into the health care system through stewardship, generation of resource and collection and allocation of financial resources for health care system activities, to produce output i.e. health services. Health care system activities are undertaken in health care facilities (hospital, community health centres...). The articulation of the health care facilities that undertake health care system activities constitutes the structural aspect of the health care system.

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The health care system is therefore a set of purposeful, organized and interdependent health care facilities, where health care system activities are undertaken to produce health services for their respective catchment population. The health care facilities are organized in health care sectors (e.g. hospital sector).

### 3. Determining the equity of health care system for a population group

**Access to health services:** The proportion of a defined population that has a health services facility within reasonable reach, which may be measured by distance, time, costs, or social and cultural factors. Access to health services reflects both the supply of and the demand for health services.

**Accessibility of health services:** The extent to which the population in need can use the health services. Examples of accessibility are:

- Geographical accessibility
- Economic accessibility
- Cultural accessibility
- Accessibility regarding organizational issues (availability of services).

Inequity in access and accessibility happens when the distribution of resources and facilities is uneven around a health services planning area (the planning area here could be as large as a country, Regional Health Authority, or as smaller as a health sub-district). The inequity of the health care system will be the uneven distribution of resources and facilities across a defined health services planning area. The identification of the challenges that would face a population group for access and accessibility of health services helps in determining the inequity of the health care system for this population group. The Systematic Analytical Mapping approach is proposed for the identification for the identification of challenges faced by a population group XYZ for access to health services, for each health care sector of the health care system. The accessibility perspective is not covered here.

Systematic Analytical Mapping approach at a Regional Health Authority (RHA) level:

- Distribution of RHA Total Population, RHA's XYZ population, and Number and Distribution of RHA Health Service Providers (HSP) by Planning Area.
- Distribution of RHA's XYZ population, and Number and Distribution of the opportunities created by the regional health care system dedicated for the provision of Health Services to XYZ population group (XYZ's HSPs) by Planning Area
- Distribution of RHA's XYZ population, Number and Distribution of the opportunities created by the regional health care system (i.e. RHA HSPs)

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and the opportunities created by the regional health care system for the population group XYZ (i.e. XYZ's HSPs) by Planning Area, by RHA Communities and by RHA Municipalities

- XYZ population, Distribution of the opportunities created by the regional health care system (i.e. RHA's HSPs) by RHAs Neighboring Planning Areas

### 4. Equity of Health Care System for the population group XYZ through the Calculation of Inequity of health care system

- Inequity (health sector)<sub>i</sub> : level of challenges (or inequality of opportunities) facing by XYZ for equitable access of (Health Sector)<sub>i</sub> services ( %)
- Numerator:  $\sum$  Inequity (Health Sector)<sub>i</sub> X Number HSPs (Health Sector)<sub>i</sub>
- Denominator:  $\sum$  HSPs (Health Sector)<sub>i</sub>

(i=1 to n, n= number of sectors, for example hospital sector)

- Level of inequity of Health Care System

$$(\text{LIHS}) = \text{Numerator} / \text{Denominator}$$

$$\underline{\text{Health Care System Strategic Equity Index for XYZ} = 1 - \text{LIHS}/100}$$

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