The HMN Framework explains why countries need to build stronger systems to deal with health information.

The Framework describes what makes a system effective, how each part of the system can be evaluated, and the principles that help countries to build and strengthen their systems according to an agreed standard.

This leaflet briefly explains six key components that help countries develop their own health information systems (HIS) in a way that empowers all those who contribute to and benefit from health information.

The Framework is designed to build upon existing systems, and offers a set of processes and tools to plan, implement, assess and strengthen country information systems.

A separate four-page leaflet — The Need for Strong Health Information Systems — explains the importance of investing in HIS that follow the agreed framework, and how countries can implement a stronger HIS according to the HMN’s three-phase process.

Six key components

The Framework divides the components into three categories: inputs, processes and outputs.

The inputs category includes all HIS resources — the physical and structural prerequisites of an HIS. These include the ability of those responsible to lead and co-ordinate the process; the existence of necessary laws and policies; financial resources and people with the necessary skills to do the work; and finally the infrastructure — everything from office space and desks to filing systems and computer networks.

The processes used by an HIS include:
- **indicators** — a set of measures that show changes in the country’s health profile;
- **data sources** — an integrated HIS brings together data from a variety of sources.
- **data management** needs enable easy access to relevant information for those who need it, while protecting the privacy of individual patients.

The information produced — the HIS outputs — needs to be relevant, accessible, and useful evidence for decision making.
- **Information products** are collated from a range of sources, and synthesized into usable statistics that can be analysed and compared.
- Through widespread dissemination and use of information products, the HIS provides direct benefit to all those who participate in it, providing an ongoing incentive for users to continue to strengthen the system.
### HIS Components

#### 1. HIS resources
- there are several physical and structural requirements that need to be put in place before a strong system can be built
  - Legislative, regulatory & planning framework.
  - Personnel, financing, logistic support, IT and communication systems.
  - Resources include everything the system needs, from office supplies to computer systems, the staff and their capabilities, and the policies that allow the system to operate. Each country’s HIS needs to be designed to make use of the resources that are available, and to best meet the country’s needs.

#### 2. Indicators
- to monitor the system’s effectiveness, it needs measurable sets of data that reflect change over time
  - Indicators measure determinants of health, health system, and health status.
  - Indicators need to be valid, reliable, specific, sensitive and feasible to measure.
  - WHO has produced a compendium of standard definitions and measurement issues for 40 key core indicators – *World Health Statistics 2009*. This is a good reference for developing indicators.

#### 3. Data sources
- a combination of sources, both periodic and continual, provides the best quality information most efficiently.
  - Population-based sources – population surveys, civil registration, censuses.
  - Institution-based sources – individual records, service records, resource records.
  - An integrated HIS pulls together data from a range of sources, and integrates them into meaningful information products that can be readily accessed and used.

#### 4. Data management
- to get best collection, storage, quality-assurance, processing, compilation and analysis
  - A ‘minimum dataset’ simplifies collection and improves the quality of data.
  - An ‘integrated data repository’ combines data from different sources, and both collects and manages information, and enables wide distribution of data.
  - Once data has been collected and stored, it needs to be processed and compiled in such a way that the data can easily be compared and collated with information drawn from other sources, so that data is not duplicated, mistakes are identified and corrected, and accuracy and confidence levels can be measured.

#### 5. Information products
- data transformed into information that can be used to by decision makers to improve health care
  - A cycle of value adding through compilation, analysis, interpretation, presentation, influence and implementation results in a strengthened HIS and a more effective health system.
  - User dashboards, reports, queries, and alerts give ready access to the results of the value-added information resulting from the analysis of the data.

#### 6. Dissemination and use
- the value of information is enhanced by being accessible to decision makers and by providing incentives for information use
  - Country information can be made a core part of day-to-day management of health systems. This can be achieved by placing a greater value on information collection, management and use.
  - By connecting data production with its use, the HMN Framework empowers all those who contribute to strengthening the system.
Belgium – a single record for each citizen

Belgium, on the Caribbean coast of Central America, has implemented a fully integrated HIS providing every citizen with an Electronic Health Record, to seamlessly support health service delivery. Proper data collection and interpretation has helped to inform decision-making...
The HMN roadmap to building an integrated HIS

**Phase 1**
Leadership, Coordination and Assessment
- Leadership
- Coordination
- Assessment

**Phase 2**
Priority-setting and planning
- Vision
- Strategic Plan
- Implementation Plan and Budget
- Secure Funding

**Phase 3**
Implementation of Country Health Information System Strengthening Activities

**Data Sources**
- Censuses
- Civil Registration
- Population Surveys
- Individual Records
- Service Records
- Resource Records
- Population-based
- Institution-based

**Integrated Health Information System**
- Extract and Integrate Data
- Integrated Data Repository
- Dashboard, Reports, Queries, Events and Alerts

**Health Information System Actors Using Evidence for Decision-Making**
- Senior Country Official
- National Public Health Official
- International M&E Officer
- District Health Manager
- Senior Country Official
- Facility Health Officer
- Etc.

**Policies, Resources and Processes**

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**Further information:**
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A four-page overview of how and why countries should invest in improving HIS — *The Need for Strong Health Information Systems* — is available from the HMN.