



# Components of a strong health information system

## A guide to the HMN Framework

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



## Belize – a single record for each citizen

Belize, on the Caribbean coast of Central America, has implemented a fully integrated HIS providing every citizen with an Electronic Health Record, to seamlessly support individual and public health.

The Belize Health Information System (BHIS) provides connections between government statistics offices and every hospital, clinic, laboratory and pharmacy across the country.

As a web-based, fully computerized system, the BHIS relies on an IT framework, using internet connectivity to share data. The system is designed to be used in any type of health facility, from central hospitals to remote health outposts, and can function independently in the event of internet interruptions.

The BHIS is made up of a range of modules:

- Patient records and information on admission to and discharge from medical facilities;
- Clinician order entries for information on prescriptions;
- Financial records, to determine the overall cost of each patient encounter;
- Maternal and child health, to help identify high-risk pregnancies;
- HIV / AIDS, to record data collected during pre- and post-test counselling, and to track patient progress;
- Laboratory and testing, allowing users to order tests and receive and publish results;
- Supply chain management, to track pharmaceutical inventories, and to minimise waste through monitoring expiry of pharmaceuticals;
- Public health, recording activities that are focussed on communities rather than individual clients;
- Human resources, to assist in administration of health care staff.

## Ethiopia - lightening the burden

Health care workers in Ethiopia have found that an effective and standardized HIS helps to improve health service delivery. Proper data collection and interpretation has helped to inform decision-making right in the health facility.

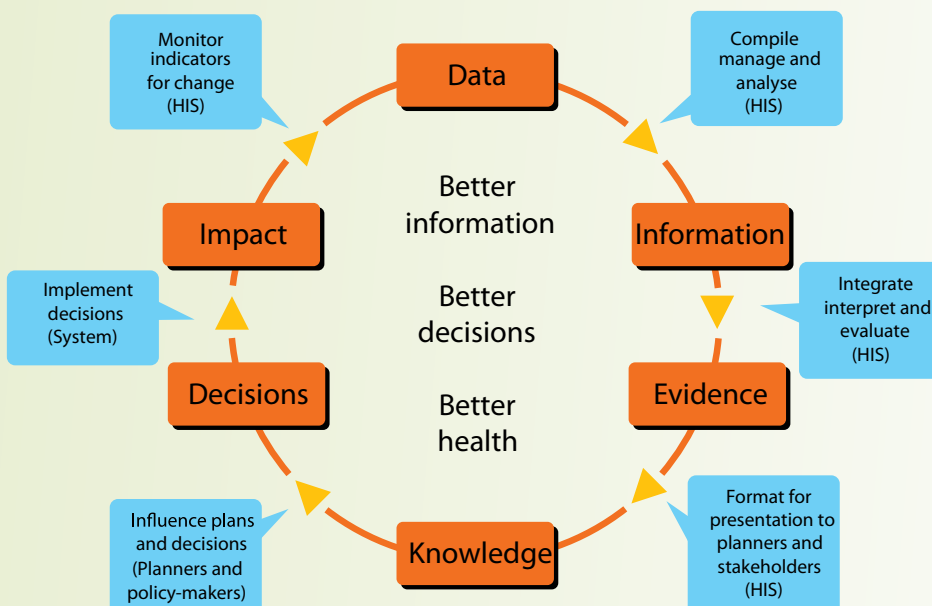
*Before the introduction of our new health information system, there were various health data-gathering forms: one developed by the Federal Ministry of Health and regional health bureaus and others introduced by partners. All the forms served the same purpose but left health care providers having to duplicate efforts. The forms lacked uniformity and were modified by every health care provider at their convenience. Furthermore, few health managers used the information collected....*

*The introduction of the new HMIS forms was initially received unfavourably by health care providers who mistakenly anticipated more paperwork. In truth, the forms lighten the burden through the use of a uniform system that gives everyone access to the same data.*

Ato Girma  
Health Management Information System (HMIS)  
team leader at the Oromia Health Bureau, Ethiopia

Key principles of the BHIS are that data should only be recorded once, at its source (single instance capture); the system needs to be sustainable; data must be standardized and understandable; and the system needs to be available locally.

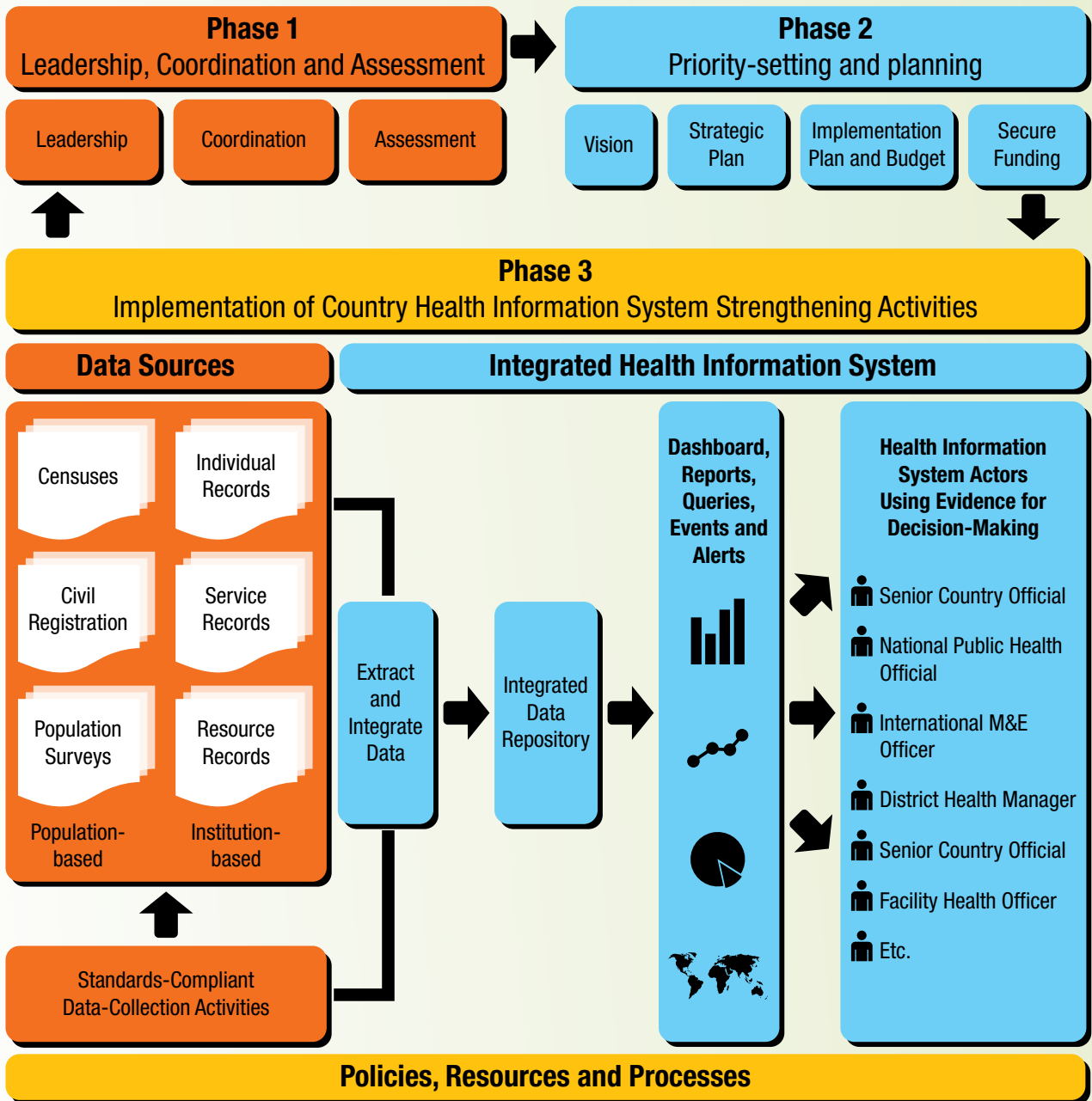
## Transforming data into information and evidence



*Raw data needs to be analysed and evaluated to form knowledge that can be used to inform and aid decision-making.*

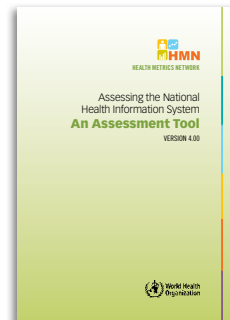


# The HMN roadmap to building an integrated HIS



## 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.