

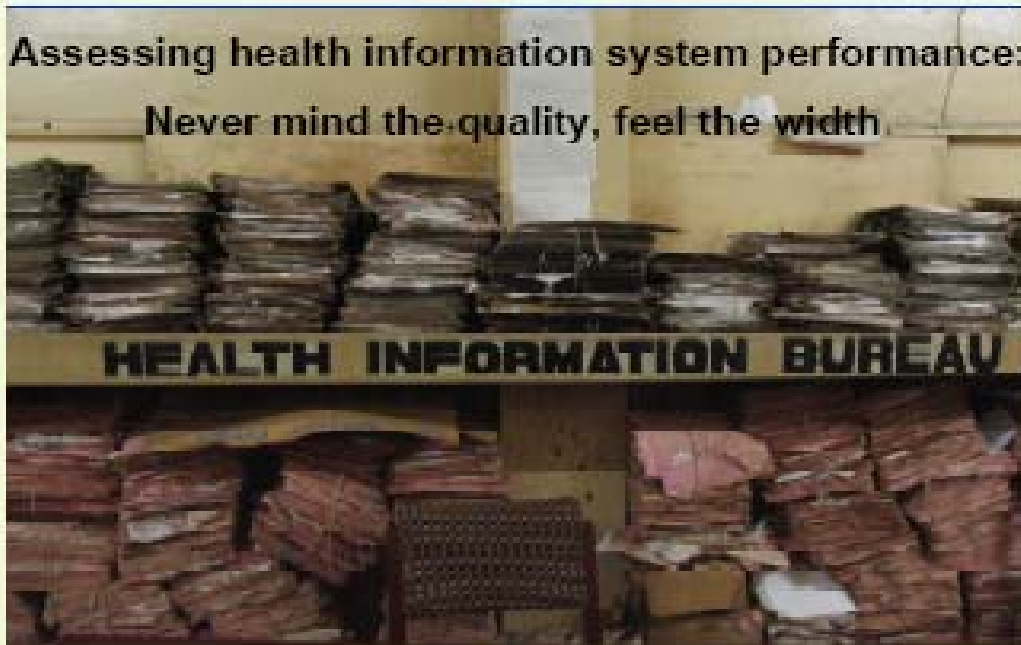
Republic of Kenya



HEALTH SECTOR

Health Information System of Kenya 11 June 2008

Assessing health information system performance:
Never mind the quality, feel the width.



Republic of Kenya



Health sector

Report for the Assessment of the
Health Information System of Kenya

JUNE 2008



By

Afri-Afya

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Christian Health Association of Kenya (CHAK)
Health Sector Programme Support (HSPS) Danida
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National Hospital Insurance Fund (NHIF)
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1 Acknowledgement

The Ministry of Health (MoH) Division of Health Management Information System (HMIS) would like to acknowledge the efforts of all those institutions and individuals who participated in the assessment and whose contributions have made the preparation of this document possible.

Thanks goes to all the stakeholders and development partners especially HSPS Monitoring and Evaluation advisor Dr. Angela Corea and WHO focal person Dr. Joyce K. Onsongo for providing technical assistance. The Ministry also extends gratitude to CBS, CHAK, KEC, KEMRI, KEMSA, Vital Registration, the Provincial Medical Officers (PMOs), District Medical Officers of Health (DMOHs) and all Provincial Coordinators/Directors and District Health Management Teams (DHMTs) and all programme managers for participating in the Focus Group Discussions (FGDs) and making it a success in assessing the Health Information Systems (HIS).

More thanks go to the Health Metrics Network (HMN) Secretariat in particular Dr. Abouzahr Carla and Ties Boerma for providing guidance, technical and financial support for strengthening the Health information system in our country.

Lastly the HMIS acknowledges the comments and suggestions received from many institutions and individuals of the HIS Technical Working Group (HISTWG) following their critical review of the first draft. In particular our appreciation are extended to the Permanent Secretaries , Dr. Hezron Nyangito and Dr. James Nyikal for their constant support, Director of Medical Services Dr. Francis Kimani as well as Heads of Departments especially Dr. S. K. Sharif for their technical advise and direction. Finally we sincerely thank the working team for their invaluable comments and commitment without whom the document could not have been produced.

2 List of Acronyms

ARI	-	Acute Respiratory Infections Programme
CDC	-	Centre for Disease Control
CHAK	-	Christian Health Association of Kenya
CSO	-	Central Statistics Office
DDPC	-	Directorate of Disease Prevention and Control
DfID	-	Department for International Development
DHMT	-	District Health Management Team
DMOH-		District Medical Officer of Health
DPI	-	Directorate of Planning and Information
EPI	-	Expanded Programme on Immunization
EU	-	European Union
FGD	-	Focus Group Discussion
GIS	-	Geographic Information System
HIS	-	Health Information System
HMIS	-	Health Management Information System
HMN	-	Health Metrics Network
HSPS	-	Health Sector Programme Support
HSRDP-		Health Sector Reconstruction and Development Project (World Bank)
HSSP	-	Health Sector Support Project
ICT	-	Information Communication Technology
IDSR	-	Integrated Disease Surveillance and Response
IMCI	-	Integrated Management of Childhood Illness
IT	-	Information Technology
JICA	-	Japanese International Cooperation Agency
KEC	-	Kenya Episcopal Commission/ Conference
KEMRI-		Kenya Medical Research Institute
KEMSA-		Kenya Medical Supplies Agency
KETRI	-	Kenya Trypanosomiasis Research Institute
KNBS	-	Kenya National Bureau of Statistics
MCH	-	Maternal and Child Health Programme
MoH	-	Ministry of Health
MSF	-	Médecins Sans Frontières
NASCOP-		National AIDS and STI Control Programme
NCAPD-		National Council Agency for Population and Development
NGO	-	Non-Governmental Organisation
NHIF	-	National Hospital Insurance Fund
NSDA	-	National Strategy for Development of Statistics
NSO	-	National Statistics Office
NSS	-	National Statistical System
PHUs	-	Peripheral Health Units
SAM	-	Service Availability Mapping
SWAp	-	Sector Wide Approach
TB	-	Tuberculosis programme
UNAIDS-		The Joint United National Programme on HIV/AIDS
UNDP	-	United Nations Development Programme
UNFPA-		United Nations Fund for Population Activities
UNICEF-		United Nations Children's Fund
USAID-		United States Agency for International Development
VR	-	Vital Registration
WHO	-	World Health Organization

3 Foreword

Globally health partners have agreed to strengthen country health information and information constituencies. The main aim of facilitating this is to:

- Improved health through data for evidence-based decision-making
- Better measurement, through strengthened health information and statistical systems and
- Networking to galvanize partners and resources for improved health information **Better data - better decisions - better health.**

Globally and nationally, there is a growing interest in comparative performance assessments in health, benchmarking, performance-based disbursement of funds and performance contracting which Kenya has adopted and implementing through the Sector Wide Approach (SWAp). Also investing in Health Information, you strengthen the ability to undertake all aspects of Health Systems because all parts of Health System Strengthening (HSS) depends on good information. Focusing on Health Information System (HIS) is one of the most powerful investments you can make to improve your ability to show evidence of your progress. Kenya faces greatest challenges in collecting, analyzing, evaluating and interpreting indicator data to guide evidence based policy-making.

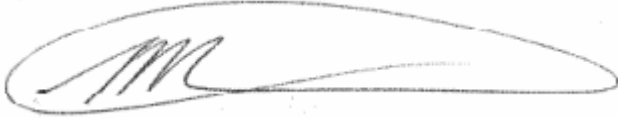
Despite the importance of monitoring and evaluation in the health sector, the system has not been adequately targeted for development and is characterized by:

- Inadequate funding for collecting, consolidating, integration and strengthening of the monitoring and evaluation systems within the decentralized health system;
- Low institutional capacity within the national health system to fully operate HIS in the context of decentralized health system;
- chronic shortage of experienced personnel,
- poor skills mix,
- inadequate infrastructure such as equipment and access to information and communication technologies to effectively deliver quality, relevant, effective and competitive data;
- Lack of clearly defined functional linkages between the different components of the health system especially with regard to quality standards for health services and sharing of health information;
- Policy ambiguity, unclear responsibility division and mismatches between policy intention and implementation leading to poor policy implementation and functional coordination between the different ministries and departments as well as between the government and non-governmental stakeholders within the national and decentralized health system.
- Lack of one plan, one monitoring and evaluation frame work, one funding to strengthen a functional and reliable or comparable comprehensive health information system.
- Lack of integration of the health information system;

Data availability and quality pose problems within and between the statistical constituencies despite our emphasis on a Health information system that need to be capable of systematic, high quality data collection. We therefore, need support in the following areas to enable us improve our HIS;

- Technical and financial assistance for development of policy and country plan for HIS development;
- Strengthening of specific areas of concern such as weak data collection system and
- Support capacity development of the HIS staff.

Functionally, the above issues require a policy framework that will guide the re-orientation and capacity building of the monitoring and evaluation systems in the health sector including equipping health personnel with essential and adaptable skills and capacities in order to effectively manage health information in a fairly dynamic and complex environment. It will also require the active participation and commitment of the TWG to implement strategic visioning of the good information better health.

A handwritten signature in black ink, consisting of a large, stylized 'M' followed by a long horizontal stroke that tapers to the right.

DR. FRANCIS KIMANI
DIRECTOR OF MEDICAL SERVICES

4 Executive Summary

The report details the findings based on the Health Metrics Network (HMN) assessment tool which asks a broad group of HIS producers and users of health information. Six different components of HIS was assessed and scored independently. The broad areas included:

- Resources
- Core Indicators.
- Data Sources
- Data management
- Information products and
- Dissemination and use.

The report also outlined various HIS historical backgrounds strategies and support to strengthen the Health Facility based, population based and administrative data from: Health Management Information System, Vital Registration and Central Bureau of Statistics.

A total of 8 clusters were identified from various institutions and 7 out of 8 clusters participated in a focus group discussion using the HMN tool. Each question was discussed in depth and scored according to score categories. The report also highlighted various National Health facility and population based assessments carried out to support the HIS. It also gives stock of the core health information scientists actively working in Kenya and public health research institutions.

Results indicated that data management was the weakest with mean score of 31% (Not adequate at all). This was followed by resources with an average score of 44%, information products had an overall score of 46%, Dissemination and use of data had an overall score of 51%. Data sources were highly outlined by various clusters and this had an overall score of 53%. However, the number of indicators identified by various clusters was too many; and ranked overall as quite adequate with 70%.

Specifically: -

The assessment identified various areas that need support and also put in place to strengthen HIS.

Thus;

- Lack of HIS policy guidelines and clear responsibilities of health workers at all levels.
- Weak linkages and data sharing.
- Inadequate feedback at all levels.
- Inadequate capacity building in data management.
- Inadequate health information scientists at all levels.
- Lack of standard operating guidelines at all levels.
- Inadequate infrastructure at all levels i.e. email, computer services and databases.
- Inadequate use of HIS for planning and allocation of resources.
- Inadequate allocation of resources to support HIS activities.
- Lack of integration in implementing some activities in various Health Facility Assessments.
- Lack of data warehouse at national and sub-national levels.
- Incomplete data for various indicators and
- Lack of integrated standardized data collection and reporting tools.

Recommendations

- Build capacities of the Health Information Scientists and redeploy them in all areas.
- Support the infrastructure to enhance the efficiency of reporting.
- Develop policy guidelines and legal framework for HIS.
- Strengthening the Monitoring and Evaluation (M&E) framework of the health sector.
- Capacity of the manager builds on data management; this will enhance use of evidence based practical during supervision, planning and budgeting.
- Development of HIS strategic plan to support activities at all levels.
- Conduct regular review meetings at all levels and share feedback reports.
- Create linkages to both facility based data, administrative data and population based data.
- Government to allocate resources to support Performance Monitoring & Evaluation.
- Establish data warehouses at national, provincial and district levels.
- Standardize data collection and report tools.
- Provide integrated data collection and reporting tools in all districts country wide.
- Harmonize the indicators.
- Develop a legal framework for Kenya's Health Information System.

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6 Background Information

The present assessment was done as an initial activity through a grant from the Health Metrics Network (HMN). The assessment was based upon the HMN Assessment Tool which asks a broad group of HIS stakeholders (producers, users and sources of finance for health information) to rate 6 different components of the information system:

- Resources (human resources, institutions, infrastructure, and legal/policy framework);
- Selection of core indicators;
- Data sources (census, vital statistics, household surveys, health and disease records, service statistics and administrative records);
- Data management;
- Information products; and
- Dissemination and use.

A 13 member steering committee of HIS stakeholders met 4 times during 2006 to assure coordination and plan joint activities. This steering committee includes representatives of the Ministry of Health , Central Statistics Office, Kenya Medical Training college, WHO, UNICEF, Kenyatta University (KU), CDC, KEMRI, and Vital Registration. The steering committee mandated a sub-committee to conduct an assessment of the current HIS in various organizations including PMOs, DMOHs, Heads of Division and Development Partners/NGOS institutions. The total number of identified institutions was 8 and each formed a cluster. Training institutions (Universities) were not interviewed as most of them were on strike.

The assessment was conducted individually for each of the clusters with key persons of the seven selected organizations:

- | | |
|--|-------------------|
| • Ministry of Health (MoH) | - 65 participants |
| • Central Bureau of Statistics (CBS) | - 15 |
| • Christian Health association of Kenya (CHAK) | - 8 |
| • Kenya Episcopal Conference (KEC) | - 5 |
| • Vital Registration (VR) | - 4 |
| • Kenya Medical Research Institute (KEMRI) | - 15 |
| • Kenya Medical Supplies Agency (KEMSA) | - 12 |

6.1 The Key participants included:-

- Biostatisticians
- Database managers;
- Demographers
- Director / Medical co-ordinators
- District Medical Officers
- Economist
- Statisticians,
- Financial Managers
- Health Planners
- Health Records and Information Officers
- Monitoring and Evaluation Specialists,
- NGOs and development partners
- Programme officers/ Managers
- Provincial Medical Officers
- Public Health Specialists and
- Research Scientists

6.2 Methodology

The steering committee identified eight (8) clusters from different organizations collecting and using health information. A team of at least three officers comprising of Health Records and Information Officers, Information Communication Technology (ICT), one doctor from Ministry of Health and Demographer/Statistician from CBS carried out the assessment in 7 out of 8 clusters selected giving a response rate of 88%. One cluster, i.e. Universities was not assessed as lecturers/dons were on strike. Focus Group Discussions (FGD) were used with meetings organized by participants in their institution board rooms. This saved the cost of hall hire and time for officers' movements. This also allowed other sub-staff to participate and get the concepts.

The Focus Group Discussion was used as a learning process for both the participants and teams administering the tool. Each question was discussed in-depth and scored. The process was agreed by the teams and the scoring was given as one score for the group. Individual scores as well as small group averages and overall averages for all participants were recorded on the assessment spreadsheet. It took small groups approximately 5 hours each to assess and go through the whole assessment tool. The sample size was at least 4 key officers as elaborated above and any other member of staff was welcome to participate learn and contribute. The tool was projected using LCD projector and after discussion of each questionnaire the preliminary results were given as feedback to the participants.

The tool was circulated earlier to the Managers/Directors to familiarize and an introductory letter from the Director of Medical Services requesting managers participation. Most District Directors participated to get the insight of the tool and generated interesting discussions.

6.3 Study limitations:

Most of the directors, senior managers were not in the discussions full time but areas concerning them were adequately covered before they left for office duties. Other limitations were;

- An interruption since it was done at various office premises.
- It is difficult to coordinate time and venue.
- Lack of long term commitment from stakeholders

7 Existing Information Systems

7.1 The Health Management Information System of the Ministry of Health of Kenya

In 1972 a committee including representatives from the Ministry of Health, World Health Organization, Central Bureau of Statistics and the Attorney General Chambers was formed. The task of this committee was to design a Health Information System (HIS) for Kenya. A pilot project was designed and tested in three Districts. The pilot project was completed in 1976 and the suggestion and recommendations were adopted. In 1982, another Committee of professions was formed to investigate on the accuracy and efficiency of all health data collection forms. The Committee suggested a number of changes.

In 1984, in response to the national policy on District focus for Rural Development, the Ministry of Health decentralized its reporting activities by establishing Health Information Systems offices in all districts where all Health data from all health facilities would be processed. The previous Kenya's National Health Sector Strategic Plan (1999 – 2004) articulated the ministry's strategy to strengthen its co-ordination function with the private sector and non-governmental organizations in health care delivery, proper design and implementation of integrated health information systems was critical.

The Ministry has fragmented data-based information system. At the Central level there are stand-alone information systems, which operate within the ministry. This tends to support a vertical reporting function with little integration. At provincial and district levels equally information is fragmented and designed to provide information to centrally managed provincial and district health service units and hospitals. With this, essential information is largely unavailable for effective planning, monitoring and evaluation at all levels.

Based on the Health Policy Framework Paper (1994 - 2010), implementation plans (1996), HMIS Needs assessment report (2003) and the current National Health Sector Strategic Plan II (NHSSPII) 2005 – 2010 (Reversing the current trends) have also outlined those areas that require immediate attention. That is provision of integrated data collection and reporting tools, improvement of data flow mechanisms, support districts in supportive supervision, provide clear policy guidelines on HIS and improve feedback mechanisms at all levels. Investing in the development of effective health information systems would have multiple benefits and would enable decision- makers at all levels to:-

- Detect and control emerging and endemic health problems, monitor progress towards health goals; and promote equity;
- Empower individuals and communities with timely and understandable health related information and drive improvements in quality of services;
- Strengthen the evidence –based for effective health policies; permit evaluation of scale- up efforts; and enable innovation through research;
- Improve governance; mobilize new resources and ensure accountability in their use;
- Frequently monitor short-term programme outputs and support performance-based resource allocations;
- Enhance reporting of health outcomes to monitor MDGs and
- Provide a foundation for sound informed decision-making.

Strengthening national, provincial and districts health information systems will also require a collaborative effort.

Vision

The HMIS vision is to be a centre of excellence for Quality Health Information.

Mission

Its mission is to provide timely, reliable and accessible quality health service data for informed decision making in order to maximize utilization of scarce resources in the Health Sector.

Goal

The goal of HIS is to generate and use health information for policy formulation, management, planning, budgeting, implementation, monitoring and evaluation of health services and programme interventions in the health sector.

Previous studies undertaken show that the Ministry of Health has a very fragmented information system. At the regional level where provincial systems exist the information is equally fragmented and designed to provide information to centrally managed Provincial health service units and hospitals. At the central level, it is acknowledged that there are a number of stand alone information systems which operate within the Ministry. Each system tends to support a vertical reporting function and there is little horizontal integration. As a result essential information is largely unavailable for effective planning, monitoring and evaluation either at district, provincial or national level. This was clearly shown by the information obtained during the assessment using the HMN tool in the clusters.

Collection, processing, analysis and utilization of accurate data at the facility and district levels is of utmost importance in provision of quality care but the fact that utility of data is not appreciated, programme strategies and monitoring indicators as a basis for information systems are not efficiently defined, data are inadequately and inefficiently integrated into the managerial process regarding collection, processing, analysis of data and micro-computer and information technologies are not sufficiently developed.

Since a properly organized Health Management Information System (HMIS) is needed to provide timely, relevant and quality information required by the Ministry to manage its programmes and activities, the development of an effective health management information system will therefore greatly improve the efficiency of health services delivery at all levels and link up with population based information systems.

PROBLEMS STATEMENT

Health Management Information Systems have mainly been concerned with the collection of epidemiological data in the past lacking the management subsystems that deal with human resources, finance, essential drugs, public health services such as preventive and promotive services, transport and other logistics, infrastructure, community services, research and laboratory services. Since the establishment of HMIS in 1980, Several constraints have been an impediment to HIS growth as a modern management information system: Health Management Information Systems have been faced with lack of a written health information policy to ensure compliance and enforcement in reporting. Reporting from NGO and private health facilities is far lower than their share of health service provision. Problems contributing to this are:-

- Low reporting rates (under 60% for most of the sub systems), making the data unrepresentative for management, planning and budgeting at all levels.
- Un-timeliness/late reporting; resulting in delays in data processing, analysis, utilization and outbreak response.
- Inadequate Health Records and Information Personnel and inadequate capacity for data analysis and management skills.
- Inadequate financial resources resulting in insufficient printing and distribution of data collection and reporting tools, equipment and its maintenance.
- Inadequate utilization and feedback of the available data at all levels and lack of management of information to support epidemiological data and inadequate capacity in the existing manpower;
- Lack of community based information systems in most districts and support for network of districts and provinces by national level.
- Inadequate supportive supervision and monitoring of HMIS activities in the field leading to lack of verification at the point of collection;
- Many vertical programmes have been establishing their own database with no links to the main HIS- this has created disjointed information systems within the ministry;
- Lack of data repositories/ Data warehouse at all levels.

It is good to note that all these were also identified as weaknesses of the current HIS in all the clusters and hence the urgent need to strengthen these areas of weaknesses. The Ministry of Health (MOH) is still committed to rebuilding its HMIS. This commitment is clearly manifested by the recruitment of the following key staff: Medical epidemiologists, Health Records and Information Officers and nurses and deploy them in PHUs to help strengthen the National and sub-national HMIS.

The Health Management Information System in Kenya is the principal responsibility of one directorate within the Ministry of Health (MoH). Routine health data collection in Kenya is conducted through a network of some 5,170 peripheral health facilities [Peripheral Health Units or PHUs] and 234 hospitals that are distributed throughout the country in 78 different health districts. Within each district there are at least 2 Health Records and Information Officers as well as one Disease Surveillance Officer whose role is to collect data at the district level. Data collection registers are often improvised at the PHUs and reporting forms are not always available at all PHUs for monthly reporting of morbidity data and other health statistics. Effective coordination of health information is lacking, resulting in duplication and gaps in data collection, reporting, use and management of data. Consequently, vast amounts of data collected remain mostly incomplete, unreliable and unused. PHUs never receive feedback on the information they collected. . This genuinely affects the willingness of the PHUs staff to collect complete and accurate data. Though most districts have computers for data entry and initial analysis, data is not computerized at district level. A primary reason for this is the absence of a relevant database for data entry and automatic indicator analysis. Central Bureau of Statistics Office has also assigned District Statisticians to each district and the Vital registration office has district registrars. The Health Records and information officers have been assigned to a number of key public health programs like malaria, reproductive health, disease surveillance and response, EPI, NASCOP, tuberculosis, nutrition and laboratory including laboratory. Capacity building of staff has not been consistent and not geared to information management and use. There are positions for Health Records and Information Technicians and Officers in all Government hospitals. The report of recent assessments (SAM, 2004 and MOH-FBO assessment 2007 draft reports) of the HMIS states that districts are understaffed and PHUs do not meet the staffing norms as stipulated in the Ministry of Health, Norms and Standards 2006. Several key partners are supporting data collection of health data in the country. UNICEF is supporting data collection for the Expanded Programme on Immunization (EPI). WHO, World Bank and CDC are supporting surveillance of communicable diseases [through the Integrated Disease Surveillance and Response or IDSR strategy – evaluated in August of 2003. The government of Denmark is supporting HIS through the Health Sector Programme Support (HSPS Danida). Activities supported by the HSPS Danida include the rolling out of the automated Integrated District Health Management Information System and supporting the National HMIS in co-ordination of these activities. PEPFAR and Clinton Foundation through the MoH/NASCOP is paying salaries for some Key Staff of the HIS deployed in each district. The Government of Kenya supports HMIS through the provision of infrastructure, payment of most staff and some office supplies. WHO supported the Service Availability Mapping (SAM) initial exercise in 2004 but support to update the database was not guaranteed. Capacity building of national and district staff has not been supported and individual initiatives have taken a leading role in M&E, Database management and Epidemiology. The development of HIS Policy guidelines and a Strategic plan has not been supported by any of the development partners and is critical to support the HIS linkages, operations and the M&E. USAID through the MoH department of Planning and Policy is supporting a National Health Accounts assessment survey from May 2007 to September 2007. The European Union is supporting HMIS in 2 Provinces (Eastern and Central) through a Health Sector Support Project (HSSP).

Work plans for the HMIS are prepared annually. Senior MoH officials acknowledge that the legislation to support the collection, management and dissemination of health information is weak and not enforced. This, is outlined in the report of the **needs Assessment study on health management information system for health sector monitoring and evaluation, 2004.**

“In 2000 - 2005, internal and external consultants undertook several studies of the existing HIS. The assessments identified the following problems:

- Underreporting
- Lack of elaborate feedback at all levels

- Lack of integration at various levels
- Inadequate capacities of HMIS staff
- Too many data collecting and reporting tools (forms and registers).
- Too many indicators to monitor the sector
- Lack of guidelines and policy to make reports mandatory
- Lack of Standard Operating Procedures (SOPs).
- Inadequate data collection and reporting tools in PHUs
- Inadequate supportive supervision to districts and provinces.
- Majority of HMIS staff are untrained
- Presence of many parallel data collection systems established by various programmes and agencies, with very poor coordination among them.

The report also identified 6 priority actions to strengthen HMIS in the country, namely;

- Institute mandatory reporting from private providers and NGO facilities and this can be elaborated through provision of HIS policy guidelines;
- Build data collection, analysis and reporting capacity at the health facility, district and national levels;
- Streamline the data collection process and establish data warehouses at districts, provinces and national level with linkages with all the statistical units;
- Conduct a census of health providers. The current HMIS system does not take into account the full range of providers in the country and NGO's operations are at times questionable and their contributions not well documented. Mapping them is crucial.
- Develop and elaborate integrated harmonized data collection tools and create a user friendly data capture systems with adequate linkages with all the statistical units.
- Develop a comprehensive HIS strategic plan which will support the HIS that will be buy in and supported by all stakeholders.

Towards this goal the MoH has already conducted the following activities:

- Developed a list of health indicators through a consultative process.
- Train district and national Health Records and Information Officers in appropriate planning and basic use of reports for planning and support supervision.
- Provide computers to some districts for data management.
- Mapping of staff from government Health facilities were conducted in 2004. However, this requires an update and inclusion of FBO and private health facilities.

7.2 Institutions for registration of births and deaths (Vital registration)

1.1 Historical Background

Registration of births and deaths came into effect in Kenya (Then the East African Protectorate) in 1904, when it was compulsory for Europeans and Americans to be registered only. In 1906 compulsory registration was extended to cover all deaths in townships and all deaths of Europeans, Americans, and Indians. Compulsory registration was extended in 1928 to cover Asians, and eventually at independence in 1963; it was extended to include all births and deaths occurring in Nyeri and Nairobi area. During the subsequent years, compulsory registration was extended gradually to other districts until the entire country was covered on 1st September 1971.

1.2 Definition of civil Registration.

As defined by the United Nations "Civil Registration is the continuous and permanent compulsory recording of the occurrence and the characteristics of vital events primarily for their value as legal documents, as provided by law and secondarily for their usefulness as a source a source of statistics". Vital events include live births, deaths, fetal deaths, marriages, divorce, adoptions, legitimation, recognition, annulments and separations. At present however, the department is only mandated to register births, deaths, recognition, and legitimation.

1.3 Legal Mandate.

The Department derives its registration mandate from the Births and deaths registration Act Cap 149 of the Laws of Kenya. It also operates under some provisions of the Legitimacy Act Cap 145 of the laws of Kenya, and some Provisions of the Children Act Cap 586 of the Laws of Kenya on adoptions. The births and deaths registration Act cap 149 of the laws of Kenya provides for the notification and registration of all births and deaths occurring in Kenya regardless of nationality. It also provides for the optional registration of births and deaths of Kenyan citizens occurring abroad. The births and Deaths Registration Act Cap 149 has never been comprehensively revised since its enactment in 1928. Its products do not therefore fully meet the needs of statistical users and administrators. Equally, computerization of Births and Deaths records will require changes to the Principal Act and rules and regulations made there under. It is against this background that the department has started a comprehensive revision of the Act and Rules in consultation with the affected stakeholders.

1.4 Importance of Civil Registration

Vital records generated from civil registration are frequently utilized in general public administration and many other areas including personal identification of a child and its mother, citizenship, marital status, Family structure, inheritance and other related Civil rights. The government of Kenya, NGOs and research institutions also use vital registration data to conduct demographic analysis at both regional and National levels.

The basis of all development planning initiatives including public security, causes of deaths, fertility rates, net additions to size of population and other demographic data, is the vital records generated from continuous registration of vital events, surveys and periodic National Censuses.

1.5 Mission of the Department

To promote and enhance security and development of Kenya by creating a comprehensive population database for personal legal records and generation of timely and reliable vital demographic statistics through registration of births and deaths.

1.6 Vision of the Department

To be a comprehensive and reliable source of personal legal records and vital statistics.

1.7 Strategic Objectives of the Department

- (a) To register all Births and deaths taking place in Kenya immediately they occur.
- (b) To preserve and secure all births and deaths records in the Districts and at national level.
- (c) To create and maintain a computerized database of all registered births and deaths that has occurred in the country.
- (d) To process natality (births) and mortality (deaths) statistics.

1.8 Key policy priorities

- (a) To bring registration services closer to the sub-location level
- (b) To computerize records management function
- (c) To built the capacity in human resource through training and career development

1.9 Core functions

- (a) Registration of births and deaths immediately they occur
- (b) Preservation, security and custody of births and deaths records
- (c) Processing of vital statistical data
- (d) Issuance of resultant certificates
- (e) Generation of vital statistics
- (f) Re registration on legitimization
- (g) Re registration on recognition
- (h) Collection of A in A from issuance of births and deaths certificates

1.10 Institutional Framework

The institutional framework for the department of civil registration is both centralized and decentralized. Vital events are registered as they occur in every sub-location in this country directly by Provincial administration and Agents found at health institutions. District Civil registrars prepare summaries of vital events and forward them to the headquarters for further analysis.

2.0 CURRENT STATUS

2.1 Departmental Practices.

- (a) Births registration (current registration)
- (b) Births registration (late registration)
- (c) Death registration (current deaths)
- (d) Death registration (late deaths)
- (e) Birth and death certificates: Birth and death certificates are issued to applicants on application at the prescribed fee.

(f) Statistical data processing

Although it is a statutory duty of the principal civil registrar to compile annual summaries of births and deaths, the increase or decrease of the population of Kenya, and the factors affecting the same, the department has never possessed the requisite electronic data processing capability.

There is therefore a huge backlog of births and deaths records, which have not been entered for data processing thereby denying planners' administrators and researchers' valuable information on demographic trends in Kenya.

(g) Customer Services

Apart from the issuance of Births and Deaths certificates the department is required to supply administrators' planners and researchers in the public and private sector with reliable and timely vital statistical products. However, the department has not been able to supply user needs.

(h) Archival and Records management system

All births and deaths registers are hand written and are transmitted both to the respective registries in hand written form. In many cases, names are misspell and the handwriting difficult to decipher. As a result, there are many corrections at a fee both at the districts and at Nairobi. Applicants for births and deaths certificates are therefore penalized through no fault of their own.

Transmission of records from the districts to the head office is done manually.

There are therefore occasional losses of individual records, an unacceptable time lag between the reporting of a birth or a death and earliest date that a birth or death certificate can be obtained.

Both the district registries and the central registry records for the entire period that registration of births and deaths has been in force are kept in paper form and no attempt has been made to preserve them through computer data storage or microfilm. There has also been a time lapse between record creation and binding.

Binding of records is also a very expensive exercise, which does not fully protect records from high rate of damage through normal wear and tear during manual searches. Overtime therefore, many records have been totally damaged or lost. Nevertheless since the law requires that the original records be maintained for their evidential value, the binding of records will continue as an integral part of our records management.

There has been a steady increase of registration data and since each of these events is represented by a paper record, the department holds a vast amount of paper documents which takes a lot of storage. Being permanent records, which cannot be disposed off, more storage space has to be found. It is therefore important to improve the department's records management and information system by computerizing its functions.

2.2 Departmental Policies

The key policy Priorities of the Department are;

- i. To bring registration services to the sub-location level
- ii. To computerize records management function
- iii. To build the capacity in human resource through training and career development.

2.3. Implementation Strategies

.Although the law postulates that applicants for registration of births should present themselves to the District Registrar and where they complete and sign the relevant forms, the department has adopted the strategy of a community based registration system. The main feature is the empowerment of hospital staff and assistant chiefs to act as Registration agents for births and deaths before the expiration of six months from the date of occurrence, and submit the forms to the district registrar for registration. However registration after six months (late registration is the responsibility of the district registrar. This strategy is implemented firstly, by training Chiefs, Assistant Chiefs and health personnel in the law and practice of registration, and, secondly, securing the cooperation of their people and their leaders through social mobilization.

- (i) Acquisition and installation of computer systems (and training personnel in the use of the system).
- (ii) Train Staff in statistics and demography.(currently, the department has only four members of staff with diploma in statistics, and has no trained demographer)
- (iii) Need to train staff in basic classification of diseases and coding of causes of deaths, both multiple and underlying.(currently the department has two members of staff trained on this field but not underlying causes of death)
- (iv) Need to train staff in basic course in human anatomy and physiology. Currently the department has no member of staff trained in this field including epidemiology

2.4 Technology, ICT Skills and connectivity.

There are no specific Databases available for Civil Registration. The current mode of operation for critical business processes of the department is entirely manual. Retrieval of information for reference is laborious and delays service delivery. Communication services with offices all over the country are not up to date and sometimes cause unnecessary delay. Civil Registration has some simple applications in spreadsheets that are used for basic data recording and summarizing, but these are limited in functionality and flexibility.

Key ICT Issues are as follows:-

- Birth and Death records are hand written therefore prone to illegibility and spelling errors
- Register of Birth and Death are not linked and hence data maintained by the Civil Registration department cannot confirm the life/death status of an individual without manual cross reference to both sets of records.
- Manual transport of records to the registries subjecting essential documents to loss, wear and tear.
- Lack of ICT equipment.
- Poor archival of records management;
 - (a) Records are stored in paper form and no attempt has been made to preserve them electronically
 - (b) There is a lapse between registration and binding, which subjects the records to wear and tear as well as sometimes the loss of records
 - (c) Lack of storage space
 - (d) Lack of records inventory system, which makes retrieval search a nightmare
 - (e) Lack of capacity of the central registry to instantly avail information for all registered births and deaths in Kenya
 - (f) Lack of disposal policy for Births and Deaths records

Statistical data processing

- (a) Lack of pre requisite electronic data processing capacity
- (b) There is a huge backlog of birth and death records, which have not been entered for data processing.
- (c) Lack of essential skills in data entry, processing and analysis
- (d) Low utilization of vital statistics.

Customer service

- (a) The certification process is manual and therefore slow and inefficient
- (b) Lack of information sharing between the department of civil registration and other stakeholders

2.5 IT Staff Inventory

All Headquarter staffs have some end user skills on computer operation. A few District staffs have some skills in end user computer operations. On E-Mail connectivity, the department has one dial up E-Mail line for the PCR only.

2.6 Current ICT Equipments

Civil registration has installed stand-alone computers. A server purchased in 2000 is still in its original package and no efforts have been made to install it. Some network cabling had been laid down and two hubs of 24 ports mounted but the issue appears to have been shelved. More so, the department's premises where the cabling had been done have been evacuated. Below is a summary of the current ICT assessment.

2.7 Existing and planned Projects.

Existing projects

The department is in the process of reviewing the births and deaths registration act with a view to making it conform to the internationally recognized standards and be in harmony with other relevant acts and policy changes.

Planned projects.

The department has proposals for computerizing the operations of the department. Needs assessment was done and estimates made. However, no resources have so far been allocated.

2.8 Staff Strength.

As far as the staff establishment is concerned, the department is currently under staffed, operating with staff strength of 359 against the authorized establishment of about 866 members of staff. This shows a total deficit of about 507 members of staff in all cadres.

7.3 Population-based statistics and health facility surveys

7.3.1 Kenya 1999 population and Housing Census

The Kenya 1999 population and Housing Census was the fourth to be carried out since independence and the sixth since 1948 when the first census was conducted in Kenya. It was carried out on a de facto basis with the night of 24/25th August being taken as a reference date under the provision of the statistics Act (Cap. 112) of the laws of Kenya and legal notice No. 121 of 11th September 1998 and amendment No. 25 of 22nd February 1999. The main objective of this was to collect demographic and socio-economic data required for policy formulation and decision making in planning processes. The objective was emphasized by the 1999 census theme "Counting Our People for Development." Basic results were released in Volume I and II in January 2001 and the Second set of nine analytical reports addresses topics of fertility and nuptiality, mortality, migration and urbanization, population projections, education, labour force, housing and gender dimensions. This was an enormous and costly operation supported by Government of Kenya, United Nations Population Fund (UNFPA), United Nations Development Programme (UNDP), United States Agency for International Development (USAID) and Department for International Development (DFID).

7.3.2 Kenya Demographic and Health Survey (2003 KDHS)

The Kenya Demographic and Health Survey (2003 KDHS) was carried out nationally with a sample survey of 8,195 women aged 15 to 49 years and 3,578 men aged 15 to 54 years selected from 400 sample points (clusters) throughout Kenya. It is designed to provide data to monitor the population and health situation in Kenya as a follow-up of the 1989, 1993 and 1998 KDHS Surveys. The survey utilized a two-stage sample based on the 1999 population and Housing census and was designed to produce separate estimates for key indicators for each of the eight provinces in Kenya. Unlike prior KDHS surveys, the 2003 KDHS covered the Northern half of Kenya. The survey obtained information on fertility levels, marriages, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutritional status of women and young children, childhood and maternal mortality, maternal and child health, awareness and behaviour regarding HIV/AIDS and other STIs. New features of 2003 KDHS included collection of information on malaria and use of bed nets, domestic violence and HIV testing of adults. Implementation was by CBS in

collaboration with the Ministry of Health, National Council for Population and Development (NCPD). Technical assistance provided by MEASURE/DHS programme, Centre for Disease Control (CDC). Financial support was through a consortium and funded by the government of Kenya, USAID, UNFPA, JICA, UNDP, UNICEF, DFID and CDC.

7.4 Kenya National Health Accounts Survey, 2001- 2002

National Health Accounts (NHA) has become a feasible and useful approach for understanding many health care financing issues. National Health Accounts is a tool for health sector management and policy development that measures total public and private (including households) health expenditure. It tracks all expenditure flow across a health system and links the sources of funds to service providers and to ultimate use of the funds. Thus, NHA answers the questions: who pays? How much? For what? One major problem in the health care planning has been limited data on expenditure on health care services especially from private sources including households. The overall objective of the NHA study was to comprehend the total resource envelope for the Kenyan health sector with a view of obtaining data that will inform future policy development and planning. The Kenya NHA estimation describes expenditure in the form of a matrix structure which distinguishes between the source and final use of funds. Kenya's NHA study 2001- 2002 relied extensively on primary and secondary data and used the recently published guide to produce National Health Accounts with special application for low-income and middle- income countries.

A wide range of data and information was collated from various government publications/ sources. In addition various independent surveys were carried out as NHA initiatives. The surveys were Households Health Expenditure and Utilization Survey and Institutional Survey. The NHA also showed international comparison for the selected indicators. Aim was to:

- Determine the total health care expenditure in Kenya.
- Document the distribution of total health expenditure by source of financing and financing agents
- Describe the distribution of the health care expenditure by use
- Analyze efficiency, equity and sustainability issues arising from the current health care financing and expenditure patterns in Kenya and
- Provide data that will inform future policy development and planning.

The Kenya NHA study was financed mostly by the USAID, and DFID.

7.5 Household Health expenditure and Utilization Survey Report, 2003

The Kenya Household Expenditure and Utilization Survey were carried out in February/ March 2003. The survey was part of the elaborate NHA framework comprising the household and institutional Surveys. The sampling frame consisted of 737 clusters (505 rural and 232 urban) covering 8,844 households. A total of 8,423 households were covered giving a response rate of 95.2%. The central issues addressed by the survey were the utilization, expenditure levels and principal determinants for health care use as well as health insurance coverage. The goal of the survey was to provide essential data describing the use of health care services, choice of providers, spending on health care and the demographic and social-economic determinants of health care use. The survey primarily looked at:

The estimation of the utilization rates of health care services by those reporting illness by specific subgroups in the population;

- Analysis of the pattern and choice of providers used for outpatient and in-patient health care by various socioeconomic and demographic variables;
- Estimation of the amount spent on health care services at the per capita levels;
- The perceptions of quality of care for different types of providers and
- The extent of health insurance coverage in the population.

The survey was conducted by the Ministry of Health in collaboration with the CBS. The survey was financed partly by the National Health Insurance Fund (NHIF) and partly by the USAID. The production of the report was supported by DFID.

7.6 Multiple Indicator Cluster Survey (MICS), 2000

The Kenya Multiple Indicator Cluster Survey (MICS) 2000 was conducted to generate indicators for assessing progress made in achieving the World Summit for Children (WSC) goals, while forming basis for future actions. Secondary education for women was found to have a strong positive effect on the quality of care given to children, knowledge with respect to HIV/AIDS, under 5 mortality, nutritional status and administration of preventive health services.

Children in the rural areas are notably more under nourished according to all the three indices than their urban counterparts. Comparatively, 9.3% weighed less than 2500 gm at birth. Overall, 60.8% of children received full doses of immunization, while 17.2% of < 5years slept under a bed net to prevent malaria. Nearly, 76.2% receive antenatal care from skilled health personnel (Doctor, nurse and midwife). Other findings showed that 63% of the children < 5years in Kenya have their birth officially notified. Generally, there was a general deterioration in accessibility to sanitation and nutrition.

7.7 Kenya Integrated Household Budget Survey (KIHBS) 2005/06

The Kenya Integrated Household Budget Survey (KIHBS) was designed to capture data that would be used to update poverty, welfare statistics and employment statistics, derive the consumer price index and revise the national accounts information. The survey provided data on socio-economic aspects of the Kenyan population including education, health, energy, housing, water and sanitation. Kenya's sex ratio stands at 97 males per 100 females while the age dependency ratio stands at 84 persons for every 100 people in the working population. The mean household size is 5.1 persons. Overall, 7out of 10 households are headed by males. Nationally, 63.5% of the households are married into monogamous unions. Results on orphan hood show that 5% of children aged below 18 years have lost their fathers while 1.2% have lost both parents.

On education, 93.4% of the population aged 6-17 years has attended school for at least one school term. Nationally, 79.5% of the population aged 15 years and above can both read and write. Nairobi province has the highest literacy levels of 96.6% for males followed by Nyanza province (91.9%). The majority of students in primary, secondary and university attend government institutions.

On health, the results of this survey indicate that 27.4% of the survey population has suffered from some kind of illness during the four weeks prior to the survey period. The prevalence of illness is relatively higher (30.1%) for females than for males (24.7%). Malaria is the most common sickness, affecting 41.4% of the sick population. Nationally, 36.1% of illnesses were self diagnosed, while 46.2% were diagnosed by a medical worker. The use of mosquito bed-nets was 26.6% of the population. The results also showed that 53.1% of the children in the country are delivered at home and 39.1% in health facilities. Overall, 39% of children are delivered by trained medical personnel while 39.1% by Traditional Birth Attendants (TBAs).

Agriculture contributes about 25% of the Gross Domestic Product (GDP) and providing employment to an estimated 70% of the labour force. Over two thirds (68.8%) of all households in Kenya engaged in crop farming activities. The most common types of livestock are chicken and cattle with 67.0 and 64.0% of livestock rearing households respectively keeping them. Two thirds of households engage in wholesale/ retail trade sector. About half of the households used own savings, while 13.7% gifts from friends to start business. Only 30% of all households were able to access credit.

Overall, 57.0% of the household use safe drinking water, while 14.8% have no toilets. Over three quarters of households use paraffin lamps while electricity is used by 15.6% of Kenyans. The results also show that 25.9% of Kenyan communities have the nearest public primary school within a kilometre or less, while 51.4% are located 5 or more kilometres away from school. Only 11.3% of Kenyans travel one kilometre or less to reach a health facility, while about half (47.7%) travel for 5 kilometres or more. More than a half of rural dwellers 5 or more kilometres to reach a health facility while only 11.9% of the urban dwellers travel similar distances.

7.8 Kenya Service Provision Assessment (KSPA) survey 2004

The Kenya Service Provision Assessment (KSPA) 2004 is a follow-up to the 1999 KSPA, conducted in conjunction with the 2003 KDHS. The assessment was carried out by the National coordinating Agency for Population and Development (NCPAD) and the Ministry of Health with logistical support from CBS. ORC Macro provided technical assistance through the MEASURE DHS project for this USAID, DFID, UNICEF funded project designed to collect information on health facility infrastructure, resources and management systems and on services for child health, family planning, maternal health and selected communicable diseases. The KSPA was designed to provide national and provincial information on the availability and quality of services from representative sample of 440 health facilities (hospitals, health centres, dispensaries, maternity and nursing homes, private clinics and VCT centres). The survey also provides information on the capacity of health facilities to provide quality HIV/AIDS services. The information from KSPA gives an indication of our progress towards attaining the Millennium Development Goals (MDGs).

7.9 Service Availability Mapping for Health, 2004

Kenya's Ministry of Health (MoH) in collaboration with the World Health Organization (WHO) conducted the Service Availability Mapping (SAM) in 2004. The goal was to collect information on the availability and distribution of key health services by interviewing the district Medical Officers' of Health (DMOHs) and his/her management team in all 72 districts of the country. SAM provided baseline data for the scale-up of key HIV/AIDS-related services such as antiretroviral therapy (ART), prevention of mother-to-child transmission (PMTCT) of HIV, and HIV testing and counselling. Data were obtained directly from all districts. Using personal digital assistants (PDAs) for data entry in the field, data were uploaded in WHO's HealthMapper and linked to a global positioning system (GPS) database containing the geographic coordinates for health facilities in the country. This information was used to produce maps for selected services. The facility questionnaire was applied in three major cities: Nairobi, Mombasa and Nakuru. The former two are large urban centres containing more private health facilities than the national average, while the latter has more rural characteristics and is characterized by government-run facilities. Three districts were also visited: Thika, an urban district, and Kilifi and Kisumu, rural districts.

SAM can be used when there is immediate need for information such as infrastructure, services available and the human resources available. It offers an easy to use and simple way of presenting data that is relevant at national, district and sub-district levels. It combines health and non-health data which impact on health into a single format that facilitates decision-making. This is made possible by the GIS software that makes up one of SAM's components- WHO's HealthMapper, a public health GIS database with a simple mapping interface. Creates a database; additionally, previous use of HealthMapper has resulted in a comprehensive database that also contains information on boundaries, other sector resources, and non-health data.

The district-level SAM was a first step towards an integrated system of health services monitoring that is operated and led by the district. Supervisory visits to health facilities could benefit greatly from using a simple monitoring tool that allows the supervisor to summarize the results at the end of the visit. SAM is such a tool. Use of HealthMapper, for example, involves uploading the data resulting from supervisory visits into a national monitoring system. With SAM this is relatively easy to do, and will not increase the workload of health professionals.

7.10 Human Resource Mapping in Health 2004,

Ministry of Health recognized that human resource planning for health by region, type of expertise, staff category, gender and skill is essential for health care delivery. In recognition of this, MOH is in the process of creating updated human resource data bank to facilitate policy decisions in matters of staff deployment, posting, and training and skill mix gaps. The Human Resource Mapping study highlights health manpower available in Ministry of Health facilities by giving information of their distribution by designation, skill mix, training needs and mobility, amongst others. The results show that a total of 34,986 health employees of whom 19,353 (55.3%) are women and 15,633 (45.7%) men were mapped in their respective health facilities. By definition an employee was mapped if he was physically found at the facility by survey teams or if absent, the head of the facility confirmed to the survey team by countersigning their forms. The absent employees were classified as those who

were on leave, on night shifts, attending training locally or overseas, on study/sick leave. Those whose forms could not be countersigned to be working at the facilities were excluded. Further those whose forms were brought to the headquarters for countersigning are excluded until verification is done by the Ministry. The data show that members of the staff are concentrated in district hospitals accounting for 48.0% followed by health centres with 16.0% and dispensaries account for 14.0% while provincial hospitals account for 11.0% of the personnel. Further analysis of the staffing at the facility levels indicate that dispensaries are mostly grossly understaffed by one person and in some cases support staff was in charge of the facilities. Other findings show that at district and provincial hospitals, most of the work of staff are related to care of inpatients while the staff employed in health centres and dispensaries attend to outpatient curative and MCH/FP services.

7.11 Needs assessment report for Health Management Information System 2004.

The MoH recognizes that a properly organized HMIS is needed to provide timely, relevant and quality information required for the management of health programmes and activities. In recognition of this a needs assessment study on HMIS for Health Sector's M&E system at the district, provincial and national level was carried out.

The findings were that:

The current structure where HMIS and M&E are placed had problems and the MoH had not implemented the structure proposed in various policy documents. The reporting system was not adequately addressed by the MoH. The reporting tools used at the PHUs were many (45) and different reporting tools out of which only 20 were regularly filled or used. Lack of the tools in health facilities were also found not only affecting the flow of data from the institutions to central level but also affected the delivery of patient care. The number of staff required was inadequate and the majority of staff (nurses and clerical staff) are not trained in Health records and information skills. The results show that 46% of staff working on HMIS tasks had no professional training and this compromises the capacity of the institutions to generate reliable, up to date and timely information for policy, planning, monitoring and evaluation.

At both the provincial and national level, the study identified needs for capacity building both in computer skills and statistical packages. The human resources in terms of numbers were inadequate and the few available require further high skill development such as epidemiology, statistics and demography. The division of HMIS also lacked computers, equipment and the division was short of information technology. There was low availability of computing equipment and there was no uniform system to manage and process data at all levels to facilitate efficiency of receiving and processing data.

There was inadequate availability of vehicles, unreliable network telephone, email and fax services. The allocation of resources to HMIS was very minimal with an allocation of Kshs. 250,000 per quarter. There was also weak linkage with other information systems e.g. community based HIS (CBHIS) and close to 80% of CBHIS information was not included in district reports. Communication to PHUs was poor and HMIS policies were not implemented and sufficient resources are not allocated. The study recommended in general that HMIS develop policies and procedures at all levels: Improve co-ordination, establish centralized data banks and articulate clear policy guidelines, reorganize HMIS and its roles and responsibilities, prepare an annual work plan, harmonize data collection tools and establish network and linkages for data sharing. It was also recommended that the MoH should build capacity of HIS staff and enhance financial allocation to HMIS at all levels and finally establish an M&E unit at HMIS.

7.12 Geographic Information System Population mapping on-going- enumeration areas.

The next upcoming events/ assessments are NHA, planned for May to September 2007 and the KDHS 2008.

7.13 Kenya National Bureau of Statistics (KNBS)

The history of organized statistical activities in Kenya goes back to the 1920's. The Colonial Government appointed its first official statistician in 1925. In 1926 the statistician was assigned to work for the Conference of Governors of the three East African territories of Kenya, Uganda and Tanganyika and this foreshadowed the creation of the East African Statistical Department (EASD). The EASD was formally established in 1948 the same year that the East African High Commission (EAHC) was formed. The EASD collected, processed and published statistical data for the three territories. The department published on a regular basis the East African Economic and statistical Bulletin. In 1948 the first population census in Kenya was undertaken but the results were published in 1952.

In 1956, the EASD was decentralized into three separate Statistical Units to serve Kenya, Uganda and Tanganyika at the territorial level while retaining the EASD to deal with statistical needs common to the three territories. This was the first time that a fully-fledged Statistical Unit was set up in Kenya. In 1961, the Kenya Statistical Unit was fully integrated within the government machinery as the government statistical office. The statistics Act was enacted and took effect on 4th July 1961. The Statistical Unit was formally established as the Economics and Statistics Division of the Treasury. In 1962, the division undertook the second population census in Kenya prior to attainment of Independence.

In 1963, the Ministry of Economic Planning and Development was established and the division was transferred from the Treasury to the new ministry. Subsequently, the division was split into two units that were elevated to departments namely the Planning Department headed by a chief Economist and the Statistics Department headed by a chief statistician. This was an important milestone in the institutional evolution of the Bureau as it formed the embryonic stage of the Central Bureau of Statistics (CBS). It should however be noted that the Agricultural statistics section of the former Economics Planning and Development was physically located in the ministry of Agriculture. This arrangement continued up to 1972. During this year, the statistics Department of the ministry of Planning and development was renamed the Central Bureau of Statistics (CBS) and the head of the department was designated "Director" instead of Chief Statistician.

In 1965, a common scheme of service for economists and statisticians was established with the aim of developing a cadre of professional officers to undertake the government's planning and statistical operations. The scheme has undergone several reviews over time but as regards the statistical service, the scheme has remained fairly demanding and restrictive in its recruitment and promotional criteria which has had some adverse effects on the Bureau's ability to attract and retain a critical mass of high caliber staff in the areas of statistics as well as other disciplines e.g. cartography, sociology, nutrition etc. which are required in a modern statistical office.

The Bureau expanded its operations in the 1960's and 1970's both at the headquarters in Nairobi and at the field level. During this period, the Bureau undertook a wide range of data collection activities and kept a healthy publication programme. This impetus continued up to the mid 1980's when the Bureau greatly expanded its field survey programme to respond to the need for district level statistical data following the adoption of the District Focus for Rural Development (DFRD) strategy in 1983. However, a deteriorating trend set in mid 1980's and continued into the 1990's. This period was characterized by low level data collection efforts, minimal processing and analysis of collected data and discontinuation of issuance of publications which in the past, used to be regular features of the Bureau's activities. The factors responsible for the downward trend included inadequate budgetary allocation as a result of reduction in government expenditure and inadequate number of professional staff particularly at senior levels. It is therefore axiomatic that effective measures are needed to reverse this negative trend and to prepare the Bureau for the challenge of the 21st century.

Central Bureau Statistics Office is responsible for conducting the decennial census (most recently in 1999) as well as large, nationally representative household surveys. An HIV prevalence survey was completed in 2003; a World Bank-financed Integrated Household Survey (a Living Standards

Measurement Survey measuring incomes and expenditures including those for health) was organized in 2003-2004; and a UNICEF-funded Multiple Indicator Cluster Survey was carried out in 2005. Through the harmonization of the Health Facility Assessments (HFA) it will be imperative for future KDHS be supported through the network. This is a priority for them as the surveys will focus on the range of health issues typically covered in a DHS and one that uses a methodology that will produce more robust and internationally comparable estimates of infant and child mortality.

The Kenya National Bureau of Statistics Office also has a Geographic Information System (GIS) section which has compiled the geo-coordinates of the enumeration areas. The Ministry of Health together with its development partners have some of the health facility's geo-codes and these geo-coordinates will permit the mapping of service availability using data gathered from health facility surveys including the current WHO, Germany Technical Cooperation (GTZ), USAID, MOH, DFID and World Bank-funded health facility surveys. There are as yet no plans for continued support on WHO-supported Service Availability Mapping or USAID-supported Service Provision Assessment.

8 Health Information Scientists

The following table shows the number of core health information scientists' resident long-term and actively working in Kenya.

HEALTH INFORMATION SCIENTISTS	KENYA NATIONAL BUREAU OF STATISTICS	MINISTRY OF HEALTH	VITAL REGISTRATION (VR)	UNIVERSITIES AND RESEARCH INSTITUTES	DEVELOPMENT ASSISTANCE AGENCIES			
					WHO	CDC	UNICEF	AMRE
Demographers	5	0						
Epidemiologists	0	12						
Statisticians	58	3						
Health economists	0	0						
Economists		9						
Database managers	1	0						
ICT officers		9						
Health records and Information Officers	0	258						
Health Records and information Technicians/ Assistants	0	332						

8.1 Public Health Research

Public health research is conducted by individuals and organization at, various institutions for example, the Department of Community Health of the University of Nairobi (UoN), Kenyatta University (KU), Kenya Trypanosomiasis Research Institute (KETRI), Kenya Medical Research Institute (KEMRI), Kenya Medical Training College (KEMTC), Maseno university, Moi University Eldoret, Great Lakes University of Kenya (GLUK), Kenya Medical Training College, Aga Khan University, African Medical Research Foundation (AMREF) Kenya Medical Research Institute Wellcome Trust which supports and conducts Demographic surveillance Systems (DSS), Population Studies and Research Institute (PSRI), Nairobi and Ministry of Health together with the University of Nairobi, KEMRI Wellcome Trust supports and runs sentinel surveillance sites in various regions in the country. Most of the sentinel sites are geographically linked and acts as representative of the geographical regions.

8.2 Development of the National Strategy for Development of Statistics (NSDS)

The establishment of statistics unit in Kenya dates back to 1961 with the passing of the Statistical Act (cap.112) by legislative council. The Act provides for “the collection, compilation, analysis, publication of statistical information, and for taking of censuses. The unit predecessor; the East African Statistical Department (EASD) had been established way back in 1948 to provide statistical services to the three East African countries of Kenya, Uganda and Tanzania.

With Kenya attaining its independence in 1963, and with the creation of the ministry of planning and national development soon there after, the unit was upgraded to the statistics department being headed by a chief statistician. In 1972, the statistical development of the ministry of planning and national development was upgraded as the Kenya National Bureau of Statistics (KNBS) and the title of its head was changed to “Director of statistics”.

The Kenya National Bureau of Statistics (KNBS) as a Government department mandated by law to collect, analyze and disseminate socio-economic statistics needed for planning and policy formulation in the country. The Bureau maintains the National Sampling Survey and Evaluation Programme (NASSEP), which provides the framework for designing household surveys to generate different forms of household based data.

It maintains a Master file of all establishments in the country. The Master file provides a framework of collecting establishment based data. KNBS has an elaborate infrastructure of data collection such as District Statistical officers and trained enumerators in every district. The Bureau is also the custodian of all Government Statistical information and for this it maintains a database of all national surveys including National Population and Housing censuses. KNBS has six divisions and 14 sections, each deal with specific type data collection. There are Statistical officers posted in the Ministries of education, health, agriculture, transport and communication, and environment to augment data collection and analysis in those institutions.

In February, 2007 the bureau changed to Kenya National Bureau of Statistics (a semi autonomous body) formed by an Act of parliament in away of trying to achieve excellence in the provision of timely, reliable and affordable statistics for informed decision making to maximize the welfare of all Kenyans. As a parastatol, the bureau will be headed by a director General and a board of directors.

8.3 AfriAfya

AfriAfya (African Network for Health Knowledge Management and Communication) is a leading agency in health knowledge management and Communication with rural and other marginalized communities. Established in Kenya in April 2000, *AfriAfya* was set up to explore ways of harnessing modern Information and communication technologies (ICTs) for community health and Development.

Founding agencies

AfriAfya is a consortium of seven Kenya-based health development agencies including the Ministry of Health, Aga Khan Health Services, Kenya, African Medical and Research Foundation (AMREF), CARE Kenya, Christian Health Association of Kenya (CHAK), Health Net Kenya, PLAN Kenya and World Vision International, Kenya. *AfriAfya* was started on the premise that while modern ICTs had provided commercial entities, universities, ministries, research institutions and big hospitals with information and assistance in their activities, it had done very little for rural communities, particularly rural Kenyan (and African) communities in the area of health.

Vision

AfriAfya's vision universal and equitable access to quality health information to create informed, empowered and healthy communities, contributing to social transformation.

Mission

AfriAfya's mission is to link information processes with communication technologies (ICTs) to generate, manage and disseminate information by:

- Exploring, developing and demonstrating innovative and participatory models for knowledge management and communication.

- Establishing sustainable, collaborative communications networks to identify information needs.
- Developing a reliable procedure for collecting, validating and synthesizing local and global information.
- Facilitating interaction of change agents and communities to draw upon the network for improved community health.

Success in improving communities' access to health and development information

- Improving health through increasing the availability of relevant up-to date health and development information in target communities. *AfriAfya* has grown from 7 sites in the pilot/exploratory phase to 34 sites in Kenya and 4 sites in Somalia currently.
- *AfriAfya* has demonstrated the use ICTs to generate local content that is relevant to local communities.
- Groups have created audio and video recordings of drama, songs, and poetry, puppetry.
- Group discussions in local languages that challenge cultural practices that spread HIV/AIDS, and documented local traditions. These are also being shared with other communities.
- School children in rural communities and poor urban informal settlements are now using computers to access, create and store materials for dissemination in the form of play-scripts, poems and songs.
- Community leaders collect health and development information in their community and print out pie charts and bar graphs to illustrate the problems facing them and the success of their interventions. This has given a voice to rural communities and is contributing to reducing the digital divide.
- Community members have additionally been able to contribute to the WSIS forum in a bid to influence policy on ICT and development.

Evaluations have established that *AfriAfya* has a good program that has demonstrated methods of applying ICTs, operated by simply educated community members, to yield health and other benefits. The program has resulted in increased community discussion of sensitive issues on HIV/AIDS, increase in requests for VCT and condom up-take, and demands for additional information including non-health information. There has been improvement in community participation in health activities. Socially, this has been an important empowerment tool for the rural women involved and their communities. Access to management information has led to their active, informed participation in management and improved facility performance. Neighboring communities, hearing of these activities, have requested to join the Network.

There has been staff capacity enhancement, increased motivation, and learning from one another. Change agents and their communities are realizing the power of information. Poverty, hunger and health are intertwined challenges that continue to affect many of the communities. *AfriAfya* is making a contribution towards addressing them by providing information on agriculture and livestock production to communities. Through the resource centers, this information has particularly benefited women's groups in some areas. For example, Riwa is a women's group from Homa-Bay that is concerned with the wellbeing of widows and OVCs in their area. Recently, they got funding to start a poultry keeping but did not have adequate knowledge of how to go about this. Although they know how to rear the traditional chicken, they had a challenge with the modern breeds that they wanted to keep such as special care including how to house, feed and deworm chicken. Through their local resource centre – the Kabunde community resource center - they were able to access a huge amount of information on all aspects of poultry keeping that had been made available by *AfriAfya*.

AfriAfya is also involved in the transfer of agricultural knowledge from research institutes to farmers. For example, they are currently working with ICIPE to promote knowledge to farmers on how to control the *striga* weed that affects maize yields in some areas of Nyanza.

Case Studies Illustrations how Information is used in the communities

1. Willy Mwangi: Mukamaka Community resource centre

Willy Mwangi, a 16 years boy old finished class 8 at Muslim Primary School, where Mukamaka Resource Centre is housed. After getting 119 points in his class eight exams, Willy decided to join Kivuli Centre as a trainee mechanic. He lives with his parents and a younger brother near the school. The centre was opened in the school when Willy was in class seven and he started using it immediately. During his free time the trainers in the centre would teach him how to operate a computer. At other times he would watch movies on television with other pupils. Now Willy can operate a computer very well. He can type, print and download items from the internet. He pointed out that though the internet has not yet been installed in the centre, the skills, knowledge and the familiarity he got in the centre helped him a lot to start browsing the internet because as he says: *“When I first came here, I did not even know how to catch a mouse. This centre gave me the confidence to walk into the cyber and open a computer”*

He revealed that the skills he has acquired in the centre include computer use, drugs and diseases like HIV/AIDS. He confessed that:

“The knowledge I got here has helped me in many ways about life outside school and how to avoid problems like drugs and diseases like HIV/AIDS.

I have educated my brother and my father. I have even made my father stop smoking. I put pressure on him using the information learnt about the dangers posed by smoking. We also asked questions on how to handle parents with AIDS’.

He pointed out that the problem with the centre is that everybody wants to know how to use the computer but the challenge is that it is only one. As a result only 4 pupils have managed to learn how to use a computer fully in the whole school. The school does not have a hall that can be used for youth meetings.

2. Bar Korwa community resource center

Bar Korwa Resource centre stood out as one of the best run resource centers. The Centre started operations in August 2005 after sensitization and mobilization of the CBO done in 2004. The Resource Center Management committee was elected early 2005 and went for resource center management training course in February of the same year, after which the committee held a joint meeting with Bar Korwa school committee to facilitate establishment of the center. Subsequently, fundraising was done in May 2005 to raise funds for renovation of room. The center was inspected by *AfriAfya* team May 2005 then took two members of the committee for computer training in June. In July 2005, *AfriAfya* delivered ICT equipment, which included a computer set, printer, world space receiver, video deck. The equipment was set up and started operation in August 2005. The activities that are currently being undertaken in the center include typing and printing of documents and photocopying at a fee; training in computer literacy; accessing information on health and development issues like bee keeping and sustainable development in general and emerging issues like Rift Valley Fever; Charging of mobile phones at a fee. People come to watch news and special programmes on health, nutrition, child rights and international matches.

They also use the center for seminars on emerging issues; and community journalism. The strengths of the center include availability of electricity; enthusiasm and positive attitude of community and schools in the area; easy accessibility; wide catchments area; proximity to health institutions; the center is open from Sunday to Sunday; presence of skilled personnel; adequate security provided by school watchman and Administration Policemen; and the presence of trained community journalists in the center. However, the center still has inadequate computers and library materials. It also lack essential facilities like own photocopier (the current one is borrowed) and funds to expand the services like the internet.

In terms of achievements, the center has accessed ICT and other sources of information to the children. During a visit to the center pupils from Bar Korwa Primary school made the following comments:

“I have used the computer...opened my documents typed letters printed read books and watched news”

Another said: *“I have used the computer to read books”* The children were unanimous that: *“We have been informed by news from around the world...and now know/learn more about diseases affecting people”*

The youth and the resource center committee have received some training. The officials of the center made the following statements to that effect.

CBO official: “School leavers are trained on computer applications and are currently engaged and are not idle”. The Secretary Resource Centre:

“Resource centre committee have been trained on management leadership Record keeping community mobilization while others have been trained on community journalism and journalists have been collecting information” An official: “There have been several applications of training including mobilization of the community and sensitization of the community on hygiene and HIV/AIDS”

The Community Based Health Information Management Systems (CBHIMS) Project

The project aims to strengthen existing community based health information management systems (CBHIMS) projects that are funded by the Rockefeller Foundation. These other projects are namely;

- AMREF working on a community based health information system in Eastern Province in 3 districts namely; Makueni, Kibwezi and Mtito Andei
- Aga Khan Health Services working on a health facility (district level) health information system built on the existing model used by the Ministry of Health in 4 districts in Coast Province namely; Kilifi, Mombasa, Malindi and Lamu.
- Moi University in Eldoret with a health information system for HIV/AIDS patients on ARV therapy and being followed up in the main hospital as well as outreach health facilities.
- Great Lakes University of Kisumu (formerly Tropical Institute of Community Health) which has a community based health information system currently in use in Kisumu district and the environs.

Through the different projects, ICTs are used to facilitate generation of health information at community and health facilities levels to aid in decision making and planning of health services in the respective districts. In the first phase of the project, *AfriAfya* created opportunities for learning and networking among these organizations. In the second phase which is currently ongoing, *AfriAfya* is assisting the CBHIMS project partners to implement the use of Personal Digital Assistants (PDAs). The PDAs have been found to be a better alternative to the existing data collection system of using manual form. *AfriAfya* has been key in networking the various groups and sharing both best practices and lessons learnt in the various projects. Working closely with the Ministry of Health, it is hoped that this project will influence policy makers in adopting a modification of the systems currently running in the various projects.

Also as part of the project, *AfriAfya* has helped establish three community resource centers in each of the provinces where the CBHIMS project partners are working in i.e. Coast, Eastern and Nyanza provinces. The centers were equipped with ICTs and local resource people trained on basic computer and documentation skills. The centers are helping to meet local communities' needs for health and development information especially those highlighted through the evidence generated by the CBHIMS.

Collaboration of *AfriAfya* and the Ministry of Health (MOH)

- The MOH is a founding member of *AfriAfya* and sits on its Executive Board. In the Ministry of Health, then head of Health Management Information Systems (HMIS) is the nominated as the ministry representative.
- During the pilot/exploratory phase in 2001-2002, *AfriAfya* was involved in piloting the Kwale HMIS system with Aga Khan and MOH.
- *AfriAfya* also extensively collaborated with the ministry in Siaya especially within the HMIS department of Siaya District Hospital.
- *AfriAfya* also sits on the ministry's e-Health and the HMIS Technical Working Groups. Through this, *AfriAfya* was part of the presentation by Mind Set from South Africa on their e-Health concept. From that we helped write a proposal alongside the concept but it did not get funding.
- In 2005, *AfriAfya* participated in the MOH WSIS Tunis e-Health presentation and part of this included a documentary in which *AfriAfya*'s working relationship with the ministry was featured.

Way forward

- *AfriAfya* has tested different models of applying ICTs in rural and urban poor communities in the past 6 years. These range from rural primary schools, urban informal settlements, health facilities (both government and faith-based), community training centers, women groups, etc. Several of these have proved replicable. For example, the model of using ICTs in rural primary schools has been replicated successfully from 1 site in 2002 to 12 sites in 2004.
- In collaboration with UNICEF, *AfriAya* has set up 4 sites in Somalia, working with youth groups and hope to be able to set up more centers due to the great success seen with the first 4 sites. In summary, *AfriAfya* has grown from 7 sites in Kenya to 34 sites presently and with more on the way. We are looking forward to working closely with the government as it rolls out the digital village concept.
- In terms of providing health and development to communities, *AfriAfya* through its Knowledge Management Unit has set up a service of gathering, exchanging and disseminating information on health topics and other development topics of interest to communities. Adding on to the first topic which was HIV/AIDS, there is also epilepsy, disability, malaria, alternative herbal remedies, child health, and nutrition. The development information that is being disseminated includes income generating activities, micro-finance solutions, modern farming methods, innovative irrigation methods and alternative fuel sources.
- The Knowledge Management Unit also engages NGOs outside the consortium in information exchange, thus allowing *AfriAfya* to act as an *info-mediary* between information 'haves' (the NGOs) and 'have-nots' (who are the communities).
- Through a joint initiative with the Kenya Association for the Welfare of Epileptics, for example, there is ongoing information exchange with community resource people in different parts of the country. KMU has also created linkages other development agencies with agricultural information and projects such as ICIPE, Kenya Organic Farming Network, Kenya Agricultural and Research Institute (KARI) and so on. It has also facilitated networking between the centers and NGOs that fund and promote income generating activities.
- *AfriAfya* will continue to expand its information service to meet the information needs of communities while at the same time building their capacity to enable them repackage the information provided to suit their local needs. *AfriAfya* will also continue to forge linkages for community resource centers with other development organizations that offer information and other development services to ensure sustainability of the resource centers.

A functional resource community centre in Nyanza province



Reading area in a resource center



Health messages through songs



The elderly work on the computer



Health message displays

9 Strategies for Developing Statistics

Central Bureau of Statistics through the help of World Bank initiative has laid down a number of strategies aiming to improve its statistics in terms of data collection, analysis, interpretation and presentation. First and foremost is its transformation from being a Government department into a semi-autonomous called Kenya National Bureau of Statistics. The vision for the new Kenya National Bureau of Statistics is to become a center of excellence in statistical production and management for national development. The strategic outcomes of the plan will be user satisfaction, quality processes and staff satisfaction. User satisfaction will be ensured by first of all creating a general awareness about statistics, raising the profile of National Bureau of Statistics and producing high quality statistical products and service by concentrating on: accuracy, consistency, relevance, timeliness, analysis, dissemination and access.

In order to achieve the strategic outcome of quality processes, the following strategies have been adopted:

- A new Statistical Act has been provided for the establishment of a National Statistical System (NSS) and a semi- autonomous Bureau.
- Management Information System especially in line Ministries has been improved through collaboration and networking, giving them technical back up by the Bureau and ensuring that they are appropriately resourced.
- Horizontal and technical coordination will be improved among data producers. Concepts, definitions and classifications will be standardized so that data across the NSS are comparable.
- A semi-autonomous National Bureau of Statistics ha been created to produce national statistics, coordinate and supervise the NSS.
- Organizational effectiveness of the Bureau will be improved through establishment of one main headquarters building in Nairobi and securing accommodation for District Statistical Offices.
- The establishment of NSS include scientific methods, codes and classifications, the Field Organization, Master Sample for household based surveys, Registration of Establishment and the Geographic Information System (GIS).
- Statistical governance is improved by focusing on quality, maximizing benefits from technical cooperation, enhancing knowledge management and better data management.
- IT is being used to improve data collection processing, analysis, storage and access. A coherent IT policy and infrastructure is being created.
- Greater government commitment is being sought for building a sound and sustainable Bureau and NSS. Assistance is being sought from donors to supplement resources provided by government.
- There will be active participation in a number of sub-regions, regional and international statistical capacity building initiatives.

Regarding staff satisfaction, appropriate procedures are being developed to ensure that staff recruitment and promotion are based on merit without external influence. A major training programme is being established to build a huge skills base and expertise in order to meet the ever-increasing demand for national statistics. The Bureau is aiming to establish a performance oriented culture based on modern management principles of openness, participation, teamwork and innovation.

9.1 Decentralization

In 1984, in response to the national policy on District focus for Rural Development, the Ministry of Health decentralized its reporting activities by establishing Health Information Systems offices in all districts where all Health data from all health facilities would be processed. The Kenya Ministry of Health, Health Policy Framework 2004 – 2010 document recognizes that a shift to decentralization

of planning necessitates effective decentralization of health management systems. This is considered a vital component of health sector reform that plays a key role in determination of efficiency and effectiveness of implementation of health service delivery system at all levels. Further, the Ministry also noted that integration of health information systems through liaison with other components of health service delivery is one of the key strategies towards strengthening monitoring and evaluation, data collection, analysis, reporting and dissemination which in turn, enhance effective implementation of the health sector decentralization.

Current policy trends suggest a growing role of PHUs and districts in planning, management and oversight of health services. District health management teams now receive their funds from MoH Headquarters which have themselves received earmarked health funds from the central government and development partners. Over the next few years ministry of health headquarters is likely to play a growing role in allocation of local resources and grants to the facilities and such decision making implies the need to develop the technical and administrative capacities of local PHUs and districts to utilize and account for the resources in addition to improvements in the information provided to them.

9.2 Support for major reforms and development of the health information system

The Ministry of Health operates a variety of management information systems at both headquarters and elsewhere. These systems are characterized by lack of integration and are disjointed and widely dispersed with no effective coordination to ensure that information which they contain is readily available to all who need it. As part of reforms, the Government is implementing its Economic Recovery Strategy (ERS), supported through a Medium Term Financial Framework (MTFF). The Kenya health sector plays an essential role in the scaling up of priority interventions to allow Kenya to reach some of the targets mentioned in its Economic Recovery programme (ERS) and the Millennium Development Goals (MDGs). Although the health status of the Kenyan population has deteriorated over the last 10 years and most health indicators showed a downward trend, the government of Kenya and the MoH have taken encouraging steps to reverse this trends and address the many challenges the health sector is facing through its recently adopted second National Health Sector Strategic Plan (NHSSP II 2005 – 2010), the Joint Programme of Work and Funding (JPWF) and Annual Operational Plans (AOPs).

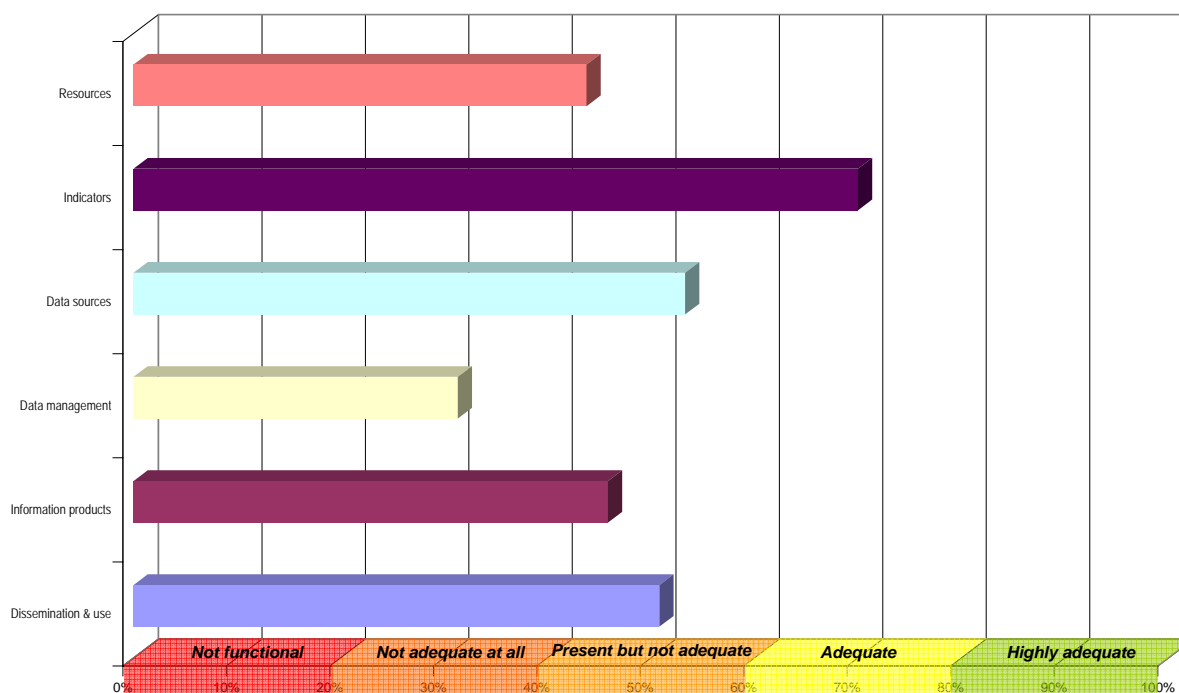
Resources are primarily allocated towards (i) implementation of the Kenya Essential Packages for Health (KEPH), (ii) Strengthening of various support Systems such as planning, human resource development and monitoring and evaluation and (iii) restructuring the ministry of health to better guide and manage the health sector.

Danida has supported the Health Sector in Kenya for over 30 years with different interventions and with different levels of intensity. The first phase of the Health Sector Programme Support (HSPS I 2005 -2006) responded to the commitment of the new Kenya government to address good governance, poverty eradication and sustainable development. In this first phase Danida HSPS supported HMIS with Kshs 68 Millions to rollout the integrated District HMIS in 16 (plus 7 via Coast Health sector project) districts. Experience with this first generation programme have been positive as MoH increasingly showed commitment to the principles of Sector Wide Approach (SWAp) and willingness to work with the Development Partners (DPs) towards harmonization and alignment. The identification Mission in April 2006 and concept paper of the Royal Danish Embassy (RDE) therefore concluded that the formulation of a new support phase is required: the second phase of the HSPS II 2007 – 2011. HSPS II will focus on two intervention areas:-

- A Joint Funding Arrangement (JFA) that will support the financing of recurrent costs and supply of Essential Medicines and Medical Supplies (SMMS) to PHUs together with the setting up of the common fund and the required strengthening and capacity building for planning and budgeting and the introduction and operating of a “Pull-System” for EMMS.
- Programme support to strengthen support systems to deliver and monitor the Kenya Essential Package for Health (KEPH), in particular to strengthen and expand the Performance Monitoring and Evaluation (PM&E) framework and target support to pastoralist populations with a focus on North Eastern province. The remaining is to support the capacity building activities. The HMIS from the resources has been allocated a total of Kshs

219 Million spread in 5 years period to strengthen the Health information system and improve the M&E.

10 Key Assessment Findings



As shown by the following graph, scores for *Data management and Resources* were lowest. *Information Products, Dissemination and use and Data sources* scored, on average but somewhat below the adequate level. The *indicator* component scored the least adequate.

Note that the scores should be interpreted as follows:

- 0 to 19% -- not functional**
- 20% to 39% -- not adequate at all**
- 40% to 59% -- present but not adequate**
- 60% to 79% -- adequate**
- 80% to 100% -- highly adequate**

10.1 Data management:

In all 7 clusters *Data management* was cited as the weakest area with a mean score of 31%. Information was said to exist in piecemeal and no standardized database to manage the data. There existed a variety of tools to collect information and mostly there is a lot of duplication. The MoH together with her stakeholders have initiated the process of reviewing and harmonization of the health sector integrated data collection and reporting tools. The capacity of current staff collecting, collating, analyzing and managing data was inadequate and training was not geared towards data management or monitoring and evaluation but programme specific interventions. There is a lack of policy guidelines on Health Information Management in all the clusters. The planning is not linked to information and therefore support for data management was not guaranteed. The number of indicators to be monitored was too many (86) and harmonization has been initiated. Printing of these tools has been costly and difficult for districts. There was lack of backup of data by all the participants. There was also no data repository at each level and this has been elaborated in most

HMIS assessments. Therefore the creation of data repositories will form part of the M&E framework 2006. In all the clusters, data validation was carried out but the process was manual hence taking a lot more time.

10.2 Resources:

The assessment of resources had 3 components with various questions: Policy and planning, HIS institution, Human resources and financing and HIS infrastructure. The overall average score for resources was 44%. Support to collect the information was not available except population based data and censuses. Managers require information but instead of allocating money to enable implementers to collect the information only goodwill is given but no monetary resource attached. HIS resources from development partners each support parallel programmes/ interventions and funds are not consolidated and co-ordinated from one basketry to support the activities of HIS. Since 1997 districts were asked to print their own tools, allocation to districts dwindled down and eventually was scrapped. Support to Health Records and Information Officers to go round to collect reports and support PHUs in filling forms and provide on job training to weak areas of reporting has not been forthcoming. Some districts with good economic status raise good sums of revenue through user fees which is ploughed back and are able to print tools and follow-up reports but these is a very small proportion.

10.3 Information products:

The HIS lacks systematic methods of data collections. In all clusters of routine data collection, there are no standardized methods of data collection from health facilities. The population based data had systematic methods and data collection was consistent over time. Since population based surveys (Censuses and KDHS, DSS, NHA and other assessments) are done over a short period of time and are costly and also heavily funded by donors. Most of the data obtained from all clusters follow different reporting schedule and were not received in time. Reporting periods of health facilities was not consistent and need harmonization and guidelines to inform those generating data on consistent reporting to monitor trends. Completeness was also a serious problem. Some areas have been marginalized and no reports submitted or included in the different surveys carried out including KDHS e.g. Northern part of the country. Not all health facilities are reporting especially the private practitioners. Lack of health information policy guidelines to formally address information and who should report and when has not been addressed and data flow is the main problem to address. There are few Standard Operating Procedures (SOPs) which have not been circulated wide in all health facilities. Lack of integrated reporting forms and stock outs has made the facilities not to report consistently. Data aggregation and analysis is also weak. Most of the demographers, statisticians are skewed in CBS where remuneration and different surveys heavily funded assessments are planned while in the line ministries like Ministry of Health epidemiologist are few and also looking for greener pastures. Mostly these epidemiologists are doctors and at administrative positions hence not hands on. The only cadre left without much capacity build is the Health Records and Information officers who lack support for advancement. The overall average score for information products was 46%.

10.4 Dissemination and use of data:

Data dissemination and use was weakest especially for data that is routinely collected. At most including most assessments, information was collected but printing was not done or done late and few copies that could not be disseminated widely. Planning in all the 7 clusters was not linked to Health information and allocation of resources was not based on available evidence. Due to lack and varied human capacity to collect, analyze and standardized database and printing resources, most reports are not printed in time and reports generated are few years back (History but good to use). There is no feedback to PHUs and emphasis on allocation of resources to facilitate dissemination. The overall average score for these elements was 51%.

10.5 Data sources:

Various data sources exist as outlined by various clusters. Each of the data source operates separately without linkage. Most of this shows a lot of duplication efforts to obtain data and both Population Based Assessments (PBA) and Health Facility Assessments (HFA) require coordination, harmonization and standardization of tools. Information is obtained at piecemeal and there is no one common data repository for all HIS information. The overall average score for data sources was 53%.

10.6 Indicators:

The number of indicators to be monitored is too many (86) and harmonization of the HIS indicators has identified 29 key routine indicators to be monitored and total of 68 indicators including Surveys. The difficulty is that there are no criteria and policy on data collection and different donors financing programmes create own indicators and would like it monitored. The other weakness is that the health sector data collection tools have not been harmonized and printed. Therefore everyone tries to collect their own data thus overburdening the staff at the PHUs. In all the clusters there were enough indicators collecting data but need harmonization of the systems. The overall average score for the indicators was quite adequate with 70%.

11 Resources

Note that the scores should be interpreted as follows:

0 to 1 -- not functional

1 to 2 -- not adequate

2 to 3 -- more than adequate

11.1 Policy and planning

Overall average score = 1.14

Items		Rationale/ comments	Response from interviewees (Clusters)							Average
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
I.A.1	The country has up-to-date legislation providing the framework for health information covering the following specific components: vital registration, notifiable diseases, private sector data including social insurance, confidentiality, and fundamental principles of official statistics	Legislation on VR exists but not enforced. It does not also address all stakeholders' e.g. culture, Islamic burials. CHAK as an organisation has a governing policy for her operations	2	1	0	0	2	1		1.0
I.A.2	There is a written HIS strategic plan in active use addressing all HIS components as in the HMN Framework that is being implemented at the national level	Individual NSO Strategic plan exists. No integration	0	1	1	3	1	0		1.0
I.A.3	There is a written HIS strategic plan addressing all HIS components as in the HMN Framework that is being implemented at sub-national level	No HIS strategic plan but Health sector is developing the M&E framework which can be used support the activities of HIS	0	0	0	2	1	0		0.5
I.A.4	There is a representative national committee in charge of coordination of HIS	HMIS, TWG and steering committee existed but not active /motivated. Formed HIS Steering committee	2	0	0	3	3	0		1.3
I.A.5	Country Statistical Office and Ministry of Health have established coordination mechanisms (e.g. task force on health statistics; this mechanism may be multi-sectoral)	National Statistical System (NSS)	2	3	3		0	3		2.2
I.A.6	Is there a regular system in place for monitoring the performance of the HIS and its various sub-systems?		0	0	0	3	2	3		1.3
I.A.7	There is a written policy (part of the HIS strategic plan) to promote a culture of information use throughout the health system. Senior managers act as role models for use of information		1	0	1	3	2	0		1.2
I.A.8	It is an official policy to conduct regular meetings at facility, district and other levels to review HIS information and take action based upon such information	No policy but meetings/ practice based on circulars given.	0	0	0		3	0		0.6

The average score of all items related to policy, planning and coordination was 1.14. This was one of the lowest scores of any sub-component assessed. It was noted that some pertinent legislation (such as that dealing with vital registration) existed but needed to be enforced. All the clusters stated that Legislation exists but does not cover every aspect and even the existing legislation was not being implemented.

Concerning I.A.4, the Health sectors HIS has formed a steering committee but the committee is not fully functional. The established steering committee needs to be strengthened and if possible the HMN secretariat should visit the committee to give them more support. Concerning I.A.5, the HMIS has not been effective in coordination and collaboration with KNBS and Other National Statistical Offices has been minimal i.e. Data request only. There is urgent need to create linkages and ensure frequent data sharing.

Concerning I.A.8, it was noted that most districts and provinces regularly organized meetings at which HIS data were reviewed. However, such a practice was less frequent at facility level and even at district level the policy to promote and support such meetings needs to be developed.

11.2 HIS institutions, human resources and financing

Overall average score = 1.37

Items	Rationale/ comments	Response from interviewees							Average	
		MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS		
I.B.1	There is national capacity in core health information sciences to meet health information needs (epidemiology, demography, statistics, health planning)	MOH- Health Records and Information officers. All statistical units have limited capacity and require TA	1	1	1	1	2	1		1.2
I.B.2	There is a functional central HIS administrative unit in the Ministry of Health for design, development and support of health information collection, management, analysis, dissemination and use for planning and management		1	2	2		1	0		1.2
I.B.3	At sub-national levels (e.g. regions / provinces, districts) there are designated full-time health information officer positions and they are filled	No established posts by MOH but officers are nominated to coordinate the information	0	1	0		1	1		0.6
I.B.4	HIS capacity building activities have occurred over the past year <i>for HIS staff</i> (statistics, software and database maintenance, and/or epidemiology)	Software training has been done in 10 out of 78 districts. Need to build the HIS capacity	1	1	2	3	3	1		1.8
I.B.5	HIS capacity building activities have occurred over the past year <i>for health facility staff</i> (data collection, self-assessment, analysis, presentation)	Done in areas that only have Rollout of the kwale model.	0	1	0	3	3	1		1.3
I.B.6	Availability of IT and database support to health and HIS staff at national and sub-national levels	At national level IT capacities are there but still has gaps especially lack of ICT engineers and capacity at sub-national levels	1	1	1	2	1	1		1.2
I.B.7	Do written guidelines exist for the processes of HIS data collection, management and analysis?		1	3	0	3	2	3		2.0
I.B.8	Acceptable rate of health information staff turnover at national level (either at Ministry of Health or Central Statistics Office)		1	2	2	3	3	3		2.3
I.B.9	Are there specific budget line items within the national budgets for various sectors to provide adequately for a functioning HIS for all data sources (the HMN HIS sub-systems)?		1	2	0	1	0	0		0.7

The average score of all items related to HIS institutions, human resources and financing was 1.37.

Concerning I.B.1, it was noted that there were few epidemiologists in MoH and statisticians and demographers were all in KNBS. The Health Records and Information Officers were also few and mostly in government. However, capacity needs to be built in medical demography, epidemiology, statistics and system management to assure rebuilding of the HIS.

Regarding I.B.4 and I.B.5, the respondents stated that more support was needed for more capacity building especially in data management.

Regarding I.B.2, One group of respondents noted that the HMIS unit is not strengthening the district and PHUs by training personnel in data management and information was not flowing adequately bottom top and from the top to the bottom. There were too many communications from the top to bottom requesting various data sets but no feedback of information at all levels.

Several groups noted that IT and database support at national and sub-national level was inadequate and capacity should be built on data based management. At the same time a simple integrated database should be developed and used at all levels uniformly. The national level also requires an ICT engineer to support the HIS system. Several groups noted that there are some written guidelines for Standard Operating Procedures (SOPs) but no guidelines on data collection, management and analysis. In all clusters, the respondents expressed that budget line allocation for HIS specifically was not provided for and scored 0.7.

11.3 HIS infrastructure

Overall average score = 1.47

Items		Rationale/ comments	Response from interviewees							Average
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
I.C.1	A complete list of public sector health facilities exists and is up-dated every year	KEMSA focus on Public health sector.	2	3	3	3	2	2		2.5
I.C.2	A complete list of private sector health facilities exists, and is up-dated every year		2	0	0	0	2	3		1.2
I.C.3	Is there availability of paper forms, paper, pencils, and supplies that are needed for recording of health information?		0	2	2	3	2	1		1.7
I.C.4	Are computers available at the relevant offices at national, regional, and district levels to permit rapid compilation of sub-national data?		1	1	0		1	0		0.6
I.C.5	Is the basic communication technology infrastructure (telephones, internet access, e-mail) in place at national, regional and district levels to ensure rapid compilation of sub-national data?	Require own direct telephone , fax	1	2	0	3	2	1		1.5
I.C.6	Is there IT equipment maintenance support available at national and sub-national levels to ensure data and information reporting requirements are met and on time?	No tool box and experts to support the system	1	3	0	3	1	0		1.3

Summary of Result		Maximum	Score	%
A	Policy and Planning	24	9	38%
C	HIS Infrastructure	18	9	49%
B	HIS institutions, human resources and financing	27	12	46%
Overall Results		69	30	44%

The average score of all items related to HIS infrastructure was 1.47. Concerning item I.C.1, A survey to map out all health facilities in the country was carried out as recent as December 2004. There is a comprehensive list of health facilities backed by maps indicating their locations. However, not all health facilities could be mapped due to wrong or lack of geocodes (geographic coordinates).

Concerning I.C.2, The listing covers over 90% of private sector health facilities and plans are being made to integrate it into routine system and update every year. With respect to stationary and supplies (item I.C.3), all 7 clusters expressed that there are occasional 'stock outs' of recording, registers, forms, papers & pencils, pens & supplies, but this does not affect their ability to record the required information. Primary Health Units (PHUs) improvise registers with hard covered booklets. At the same time procurement process for stationery takes a long time.

During the discussions it was suggested that I.C.5 (communication technology infrastructure at sub-national level) had probably been overrated. The HMIS managers scored this item as 1.0 whereas three of the seven groups had scored it over 2.0. The basic communication technology was not in place at all levels but all respondents were able to ensure compilation of national and sub-national data as needed. This suggests that access to email, telephone and other communication technology needs to be enhanced to support feedback mechanisms. Most of the districts have a computer and need support to work on the network to facilitate report transmission. As for IT equipment maintenance support (item I.C.6), several respondents noted that this was usually only available on the private market. In-house maintenance was not adequate. Overall, policy and planning had the least score 9 out of 24 giving 38%. This explains why planning was not linked to Health information. HIS institutions, Human Resources and financing had 12 out of 27 (46%) and also showed areas that may be weak. Resources are not allocated specifically to support data generation (HIS activities). HIS infrastructure exists but machines require capacity for maintenance and support systems.

12 Core Indicators

Selection of core health indicators (Overall score = 2.1)

Items		Rationale/ comments	Response from interviewees						Average	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
II.A.1	National minimum core indicators have been identified for national and sub-national levels covering all categories of health indicators (determinants of health; health system inputs, outputs, outcomes; health status)	Too many indicators (86). Need harmonisation with definition of data sets for each reporting level. CHAK has aligned the indicators to fit into the national health sector indicators	1	2	3			2		2.0
II.A.2	There is a clear and explicit official strategy for measuring each of the country relevant health-related MDG-indicators		2	2	3			3		2.5
II.A.3	Are core indicators defined in collaboration with all key stakeholders, e.g., Ministry of Health (MoH), National Statistics Office (NSO), other relevant ministries, professional organizations, sub-national experts, and major disease-focused programs?	Not defined in collaboration with NSO but other key stakeholders, and major focused programmes	1	3	2			0		1.5
II.A.4	Have the core indicators been selected according to explicit criteria including usefulness, scientific soundness, reliability, representative-ness, feasibility, accessibility	CHAK has aligned with the Health sector as required to be involved and participate in research.	2	2	2			2		2.0
II.A.5	Reporting on the minimum set of core indicators occurs on a regular basis		1	3	3			3		2.5

Summary of Result	Maximum	Score	%
Indicators	15	11	70%

The average score of all items related to selection of core health indicators was 2.10. There are various policy documents developed each with varied core indicators ranging between 46 – 86. HMIS was mandated to critically analyze all this documents and harmonize the indicator lists and definitions towards the end of 2006. A total of 68 core indicators have been identified out of which 29 can be reported through a routine system. It should be noted that the core indicators had been selected according to explicit criteria including usefulness, scientific soundness, reliability, Representativeness, feasibility, accessibility (item II.A.4) as well as the Kenya country national health sector priority and the monitoring of her strategies for ERS and MDGs.

Overall, the health indicators were available in all clusters, reported well but need harmonized tools to consistently collect and compare the trends. The health sector for many years has been changing the indicators frequently and this made reporting difficult as tools were to be frequently changed. Data sources

13 Data sources

Overall Data sources score = 1.5

As shown by the graph below, scores for **vital statistics** and health-services-based statistics (**health & disease records, health service records and administrative records**) were lowest.

Note that the scores should be interpreted as follows:

0 to 19% -- not functional

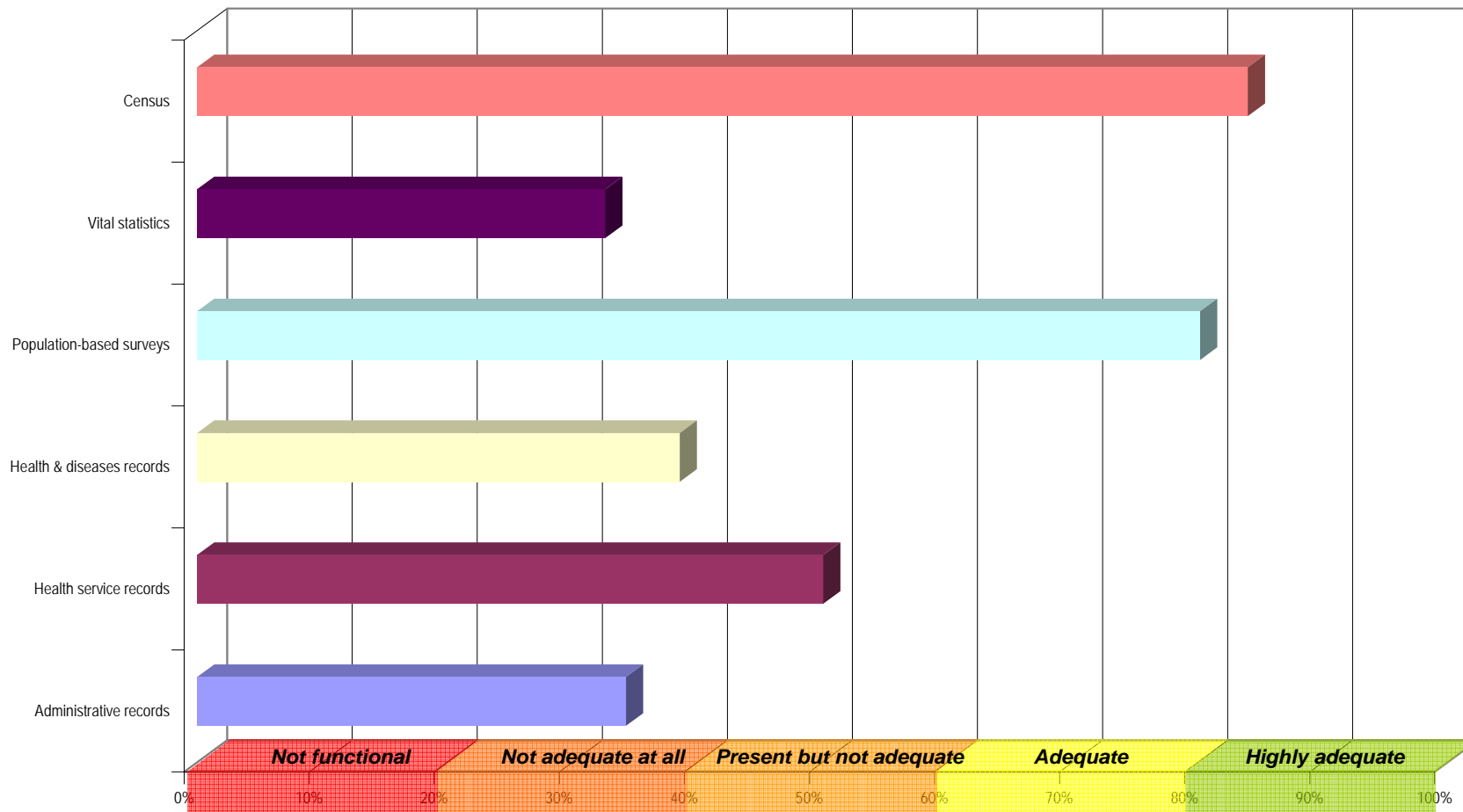
20% to 39% -- not adequate at all

40% to 59% -- present but not adequate

60% to 79% -- adequate

80% to 100% -- highly adequate

Data sources



The population based surveys and censuses were carried out in a short period of time but were an expensive exercise as well as heavily funded by donors. Both scored adequate and above (70 %+). Vital Registration (VR) scored lowest with slightly over 30%. It was reported that VR at national level had no database and need urgently develop a software system to enable them generate reports. There were weak linkages with the HMIS to compare mortality data and deliveries. Health and disease records scored below 40% (Not adequate at all). Health facilities had inadequate data reporting instruments i.e. registers, forms and data management at facility level was poor. Most of the staff in PHUs maintaining the records had not been trained on record keeping and information was not adequately stored. Administrative records for example human resource and finance was not adequately kept and information was always missing or non-available when required.

13.1 Census

Overall Census score = 2.56

Core dimensions	Items	Rationale/ comments	Response from interviewees							Average Score
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
III.A.1 Contents	1.1 Mortality questions on the last census Note: This question is not applicable if vital registration covers at least 90% of deaths								3	3.0
III.A.2 Capacity & practices	2.1 The country has adequate capacity to (1) implement data collection, (2) process the data and (3) analyze the data								3	3.0
	2.2 A census was carried out in the last ten years and results have been published or are likely to be published in the next 5 years								3	3.0
	2.3 Census sample re-interview has been completed and a written report is available and widely distributed								1	1.0
III.A.3 Dissemination	3.1 Report including descriptive statistics (age, sex, residence by smallest administrative level) from the most recent census are available and widely distributed (on line or with paper copy)								3	3.0
	3.2 Lag between the time that descriptive statistics (age, sex, residence by enumeration area) were last published and the time that the data were collected								3	3.0
	3.3 Accurate population projections by age and sex are available for small areas (districts or below) for the current year								2	2.0
	3.4 Microdata are available for public access								3	3.0
III.A.4 Integration and use	4.1 Census projections are used for the estimation of coverage and planning of health services								2	2.0

The average score of all items related to selection of the national population census was 2.56. Central Bureau of Statistics (CBS) now, Kenya National Bureau of Statistics (KNBS) were asked whether they required further assistance with the census, given that they already scored themselves so highly. In response, it was noted that for the last census in 1999, Kenya had the capacity in-country to organize data collection, data processing and data analysis and even have supported other countries in successive censuses. On the other hand, external support was certainly being sought for the next census which is scheduled to take place in 2009. Already preliminary work to map remuneration areas is on-going. The exercise previously has been well funded by the government of Kenya, USAID and DFID etc.

KNBS acknowledged that further capacity was required for the next census to provide estimates of maternal mortality and other health statistics. Several participants commented upon the need to improve on dissemination of census statistics to a wider audience. While summary tables of census statistics were available and were distributed, the micro-data themselves were not disseminated widely. The data has been rendered anonymous so as to protect the confidentiality of census informants and data security has been one of the qualities of the KNBS.

13.2 Vital Statistics

Overall Vital Statistics score = 2.08

Core dimensions	Items	Rationale/ comments	Response from interviewees							Average Score	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS		
III.B.1 Contents	1.1 Is there a reliable source of nationwide vital statistics: civil registration vs. sample registration system (SRS) vs. demographic surveillance systems (DSS)?							3		3.0	
	1.2 Coverage of vital registration of deaths (in percent)							2		2.0	
	1.3 Cause of death information is recorded on the death registration form							3		3.0	
III.B.2 Capacity & practices	2.1 The country has adequate capacity to (1) implement data collection, (2) process the data and (3) analyze the data from vital registration or SRS or DSS							3		3.0	
	2.2 Frequency of the assessment of completeness of vital registration							3		3.0	
	2.3 International Statistical Classification of Diseases and Related Health Problems (ICD) is currently in use Note: not applicable if there is no cause of death registration							0		0.0	
	2.4 Proportion of all deaths coded to ill defined causes (garbage codes) - in percent Note: this question is not applicable if there is no cause of death registration							1		1.0	
	2.5 Published statistics from vital statistics (VR) or SRS are disaggregated by (1) sex, (2) age, and (3) geographic region (or urban / rural) Note: not applicable if no VR or SRS	Including occupation in our set							3		3.0
	2.6 Sample registration system (SRS) developed and generating timely and accurate data Note: not applicable if no SRS								0		0.0
	2.7 Demographic surveillance system (DSS) sites developed and generating timely and accurate data Note: not applicable if no DSS								0		0.0
	2.8 Verbal autopsy (VA) tool Note: not applicable if no DSS or SRS								0		0.0
III.B.3 Dissemination	3.1 Lag between the time that statistics from VR / SRS / DSS were last published and the time that the data were collected Note: not applicable if no VR or SRS or DSS							0		0.0	
III.B.4 Integration and Use	4.1 Information from VR / SRS / DSS on (1) mortality rates and (2) causes of death is used for national and sub-national analyses Note: not applicable if no VR or SRS or DSS	Information is used for statistical purpose.						0		0.0	

The average score of all items related to vital statistics was 2.08.

It was agreed that the percentage of births and deaths which were registered was quite low. The VR acknowledged and proposed that they need their capacity be built in terms of numbers and expertise. Participants were familiar with demographic surveillance and sample registration systems. UNICEF had supported a similar sample survey in three districts and had shown successive results using this approach. The VR had not compiled any single report for over 10 years and requested for their capacity be strengthened through the initiative. Despite having reviewed the Act, implementation will be the biggest challenge. The other great challenge is to create a firm linkage to the Ministry of Health which in a long term will strengthen their capacities and enhance production of mortality statistics that are reliable.

13.3 Nationally representative, population-based survey

Overall population-based surveys score = 2.5

Core dimensions	Items	Rationale/ comments	Response from interviewees						Average Score
			M O H	CHAK	KEC	KEMSA	KEMRI	Vital Reg	
III.C.1 Contents	1.1 In the last five years, a nationally representative survey has measured the percentage of the relevant population receiving key maternal and child health services (family planning, antenatal care, professionally attended deliveries, immunization)					3		3	3.0
	1.2 In the last five years, a nationally representative survey has provided sufficiently precise and accurate estimates of infant and under-five mortality.					3		3	3.0
	1.3 In the last five years, nationally representative population-based survey(s) have measured the prevalence of some priority non-communicable diseases/health problems (e.g. disability, mental illness, hypertension, diabetes, accidents, violence) and leading risk factors (e.g. smoking, drug use, diet, physical inactivity)					2		1	1.5
III.C.2 Capacity & practices	2.1 The country has adequate capacity to (1) conduct household surveys (including sample design and field work), (2) process the data and (3) analyze the data					3		2	2.5
	2.2 Surveys follow international standards for consent, confidentiality and access to personal data (see OECD Guidelines on the Protection of Privacy)					3		3	3.0
	2.3 The data allow desegregation by age, sex and geographical regions (urban/rural, first administrative level)					3		3	3.0
	2.4 The data allow desegregation by socio-economic status: a) wealth and b) education					3		3	3.0
III.C.3 Dissemination	3.1 Metadata (design, sample implementation, questionnaires) are available for recent surveys					3		3	3.0
	3.2 Microdata are available from recent surveys					2		3	2.5
III.C.4 Integration and use	4.1 There are meetings and a multi-year plan to coordinate the timing, key variables measured and funding of nationally representative population-based surveys which measure health indicators					1		2	1.5

	4.2 The health and statistical constituencies in the country work together closely on survey design, implementation and data analysis and use					1		2	1.5
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The average score of all items related to household surveys was 2.50. The above results were highlighted but there were no further comments from the respondents.

In almost all the items both KEMRI and KNBS scored high in terms of population based surveys. Item III.C.4 - 4.2 (collaboration between KNBS and MoH on survey design, implementation and data analysis and use) scored only 1.5. All the groups which assessed this item (program managers, senior planners, statisticians, demographers and HMIS managers) agreed that such collaboration was inadequate. It is on course, but not adequate and needs strengthening. According to the MoH managers, a multi-year plan to coordinate the timing, key variables measured and funding of nationally representative population-based surveys was not yet undertaken and made public.

13.4 Health and disease records

Health and disease records including acute disease surveillance Overall score = 1.44

Core dimensions	Items	Rationale/ comments	Response from interviewees							Average Score
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
III.D.1 Contents	1.1 For each of the key epidemic prone diseases and diseases targeted for eradication / elimination (see text) appropriate case definitions have been established and cases can be reported on the current reporting format		3	3	3		3			3.0
	1.2 For health conditions of substantial importance other than in 1.1 above, a measurement / assessment strategy exists and is reflected in appropriate plans, tools, supporting structures, and assignments of responsibility	Disability information is available in health information but not sure who they report to especially rehabilitation units.	3	0	3		2			2.0
	1.3 Mapping of public health risks, populations at risk and health resources (facilities, labs, health workers)		1	1	0		1			0.8
III.D.2 Capacity & practices	2.1 The country has adequate capacity to (1) diagnose and record cases of notifiable diseases, (2) report and transmit timely and complete data on these disease (3) analyze and act upon the data for outbreak response and planning of public health interventions		3	1	3		3			2.5
	2.2 Percentage of health workers making primary diagnoses who can correctly cite the case definitions of the majority of notifiable diseases		2	0	1		2			1.3
	2.3 Percentage of health facilities submitting weekly or monthly surveillance reports on time to the district level		1	1	0		1			0.8

	2.4 Percentage of districts submitting weekly or monthly surveillance reports on time to the next higher level	CHAK health facilities report to District medical officer of health	1	0						0.5
	2.5 Proportion of investigated outbreaks with laboratory results		0	0			3			1.0
	2.6 Individual patient records (patient charts or patient-retained "health passports") support quality and continuity of care		1	2	2		3			2.0
	2.7 International Statistical Classification of Diseases and Related Health Problems (ICD) is currently used for reporting hospital discharge diagnoses Note: not applicable if No ICD coding of discharge diagnoses	Not all major health facilities are using ICD 10 because of inadequate technical personnel (health records and information officers) deployed	3	3	0		3			2.3
III.D.3 Dissemination	3.1 Surveillance data are disseminated and fed back through regularly published weekly, monthly or quarterly bulletins		0	0	0		0			0.0
III.D.4 Integration & use	4.1 Integration of reporting for disease surveillance and other focused public health programs (e.g. maternal care, family planning, growth monitoring...)		0	0	0		0			0.0
	4.2 Proportion of epidemics detected at regional or national levels through analysis of surveillance data from districts and that were missed by the district level		3	2	3		2			2.5

The average score of all items related to health and disease records was 1.44. In their requests the groups noted the need for logistic support (fuel, Registers, reporting forms, transport such as motorbikes) to improve timely reporting and ensure supportive supervision promptly carried out that will enhance quality assurance for data management. At the district and PHUs, HIS management capacities need to be adequately strengthened. Most comments also noted that those reporting data seldom received feedback (item III.D.3 - 3.1) and score was 0.0 (**not functioning at all**). Data feedback mechanisms need to be developed and regular sharing of these information will motivate the reporting units and give them confidence that data they generate is being used by somebody else and these will encourage them collect more and also use it at source.

13.5 Health service records

Health service records overall score = 1.47

Core dimensions	Items	Rationale/ comments	Response from interviewees						Average Score	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
III.E.1 Contents	1.1 There is a health services based information system that brings together data from all public and private facilities	At district level exists strongly but lack resources to print tools and feedback to the facilities. Faith Based Organisations also	1	0			3			1.3

	1.2 There is a systematic approach to evaluating the quality of services provided by health facilities. This includes both a) systematic standardized supervision with reporting of findings to district and national levels; and b) a health facility survey of all facilities or of a nationally representative sample at least once each 5 years	Maintains list but for facilities supported by their organisation only.	2	1	1		3			1.8
III.E.2 Capacity & practices	2.1 The health information system has a cadre of trained health information specialists who have at least two years of training and are placed at the district level	Trained but not employing or private absorbing them.	3	1	0		1			1.3
	2.2 Health workers in clinics receive regular training in health information, which is either integrated into continuing education or through special workshops		2	0	3		3			2.0
	2.3 There are mechanisms in place at national and sub-national levels for supervision and feedback on information practices		0	1	2		1			1.0
	2.4 There is a mechanism in place from district up through national level to verify completeness and consistency of data from facilities		1	1	2		1			1.3
	2.5 Population projections based upon census statistics are used to calculate coverage rates (e.g. for immunization) at district level		3	0	0		1			1.0
III.E.3 Dissemination	3.1 When was the last time that an annual summary of health service statistics was published with statistics disaggregated by major administrative region?	Last published in 1999. HMIS has prepared 2000- 2002, 2003 and 2004 ready but no resources for printing	0	3	3		3			2.3
	3.2 Districts or similar administrative units compile their own monthly, and annual summary reports, disaggregated by health facility	Districts with some good resources from cost sharing have printed tools and able to compile and write their own annual reports. But these are only a few.	1	1	2		1			1.3
III.E.4 Integration and use	4.1 Vertical reporting systems such as those for tuberculosis and vaccination communicate well with the general health service reporting system	TB, NASCOP have not integrated the reporting and reports through their programme officers.	1	2	2		1			1.5
	4.2 Managers and analysts at national and sub-national levels frequently use findings from surveys, vital registration or DSS to assess the validity of clinic-based data		1	1	0		1			0.8
	4.3 The data derived from health service records are used to estimate coverage with key services such as antenatal care (ANC), delivery with a skilled attendant and immunization	Basically only EPI where we monitor Access and Utilization.	1	2	3		2			2.0

The average score of all items related to health service records was 1.47. Item III.E.1 - 1.1 was scored low due to non-reporting by most of the private facilities. These reporting units do not have personnel designated to make reports for the institution. Item III.E.2 - 2.1 was scored low due to inadequate training of the Health Records and Information Officers and who are used as M&E Officers: A cadre exists in the person of Health Records and Information Officers but not given the desired training to serve as specialists. The establishment has not factored into the aspects of capacity strengthening of this cadre and this will be vital as the highest is at Diploma level. On item III.E.3 - 3.1. The statistics has been published but are out of date 2003 and 2004 (two years behind). Concerning item III.E.4 - 4.1, all clusters noted that, there is need to establish a computer centralized database with a good networking system nationwide.

13.6 Administrative records

Database/mapping of infrastructure and health services

Database/mapping of infrastructure and health services (overall score = 0.77)

Core dimensions	Items	Rationale/ comments	Response from interviewees						Average Score	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
III.F.1 Contents	1.1 There is a national roster of public and private sector health facilities. Each health facility has been assigned a unique identifier code that permits data on facilities to be merged	HMIS has unique identified facility codes which can be updated and used.	1	0	0		0			0.3
	1.2 Global Positioning Satellite (GPS) coordinates are included in the facility database for the majority of facilities	Most facilities do not have coordinates but are included in database. Urgent need to collect the facility geo-codes. CHAK have GPS but rarely using them and the database not linked to geomapping.	0	0	0		0			0.0
III.F.2 Capacity & practices	2.1 There are human resources and equipment for maintaining and updating the database and maps	Trained 20 so far on GIS/HealthMapper. Need to further training and rollout in all districts.	1	1	1		1			1.0
	2.2 The national database of facilities was updated no less than:	During SAM in 2004.	3	3	3		3			3.0
III.F.3 Dissemination	3.1 Maps are available in most districts showing the location of health infrastructure, health staff and key health services		1	0	0					0.3
III.F.4 Integration and use	4.1 Managers and analysts at national and district levels commonly evaluate physical access to services by linking information about the location of health facilities and health services to the distribution of the population		0	0	0					0.0

Mapping is the current pictorial approach of displaying data. Despite the MoH having mapped all the Health facilities and assigning unique identifiers (codes), still collaborators are assigning different codes when they create individual databases. Most health facilities had different coordinates and mapping point data will be difficult. It will be vital for NGOs and development partners' to be mapped. At the same time the HIS unit should be supported to update the geographical coordinates of various health facilities. The database will be under the custody of HIS and few health units will on annual basis updated by districts.

Database of human resources

Database of human resources overall score = 1.63

Core dimensions	Items	Rationale/ comments	Response from interviewees						Average Score	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
III.F.1 Contents (continued)	1.4 There is a national human resources (HR) database that tracks the number of health professionals by major professional category working in either the public or the private sector	Staff Mapping was only done for public. Database need updated and include private sector	1	1	3					1.7
	1.5 There is a national database that tracks the annual numbers graduating from all health training institutions	Training institutions currently not linked to the MOH, are operating as parastatal and therefore information not always available	0	0	3		3			1.5
III.F.2 Capacity and practices (continued)	2.3 There are human resources for maintaining and updating the national HR database	No HR for data base	0	0	3		1			1.0
	2.4 The national HR database statistics on the number of public sector health professionals was last updated no more than:		3	0	3		3			2.3

The average score of all items related to tracking the health workforce was 1.63. Human resource for health mapping was carried out in 2004 and this only covered the MoH not the entire sector. The MoH is piloting a database system for tracking the human resource in the sector and all aspects of information are captured. The recommendation of the teams was to build on this process and database linked to HIS.

Monitoring the financing of health services

Monitoring the financing of health services overall score = 1.56

Core dimensions	Items	Rationale/ comments	Response from interviewees						Average Score	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
III.F.1 Contents (continued)	1.6 Financial records are available on general government expenditures on health, private expenditures on health (and their components) and external expenditure on health		1	1						1.0
	1.7 There is a system for tracking budgets and expenditures from all sources of finance (general government including social security and local government, donors, health insurance, out-of-pocket) disaggregated by sub national / district level		1	1						1.0
III.F.2 Capacity and practices (continued)	2.5 Adequate numbers of qualified, long-term staff are regularly devoted to work on National Health Accounts (NHA) (whether or not employed by the Ministry of Health) Note: not applicable if no NHA conducted		0	2						1.0
	2.6 Periodicity and timeliness of routine National Health Accounts. Note: not applicable if no NHA conducted		1	3						2.0
	2.7 NHA routinely provides information on the following 4 classifications - sources, agents, providers, functions Note: not applicable if no NHA conducted		3	3						3.0
	2.8 NHA provides information on health expenditure by major diseases, health program areas, geographical areas and/or and target populations (according to major policy concerns) Note: not applicable if no NHA conducted		2	1						1.5
III.F.3 Dissemination (continued)	3.2 NHA findings are widely and easily accessible Note: not applicable if no NHA conducted		1	2						1.5
III.F.4 Integration and use (continued)	4.2 NHA has been used for policy formulation and resource allocation Note: not applicable if no NHA conducted		1	2						1.5

The average score of all items related to monitoring the financing of health services was 1.56. Two National Health Accounts (NHA) exercises have been carried out in 1999, 2001 - 2002. On the up coming events this year NHA is planned to commence May 2007 – September 2007 and already resources have been secured. Although government expenditures on health are felt to be adequately monitored, private expenditures on health have not yet been estimated. Participants discussed the possibility of using data from the Integrated Household Survey (a World Bank-funded Living Standards Measurement Survey) to measure private expenditures on health and also include it in the tool for 2007.

Database on equipment, supplies and commodities

Database on equipment, supplies and commodities overall score = 0.77

Core dimensions	Items	Rationale/ comments	Response from interviewees						Average Score	
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
III.F.1 Contents (continued)	1.8 Each facility is required to report at least annually on the inventory and status of equipment and physical infrastructure	Each facility reported on inventory but not on infrastructure and equipment.	0	0	0	0				0.0
	1.9 Each facility is required to report at least quarterly on its stock of health commodities (drugs, vaccines, contraceptives, other supplies)		3	0	0	3				1.5
III.F.2 Capacity and practices (continued)	2.9 There are sufficient numbers of adequately skilled human resources for managing the logistics of equipment, supplies and commodities		1	1	0	3				1.3
	2.10 Periodicity and completeness of reporting on equipment and physical infrastructure	There is no system to follow-up what was procured as equipments or infrastructure.	0	0	0					0.0
	2.11 Periodicity and completeness of reporting on health commodities		1	1	0	1				0.8
III.F.4 Integration and use (continued)	4.3 Are reporting systems for different commodities integrated?		0	0	0	2				0.5
	4.4 Do managers at national and sub-national levels routinely attempt to reconcile data on consumption of commodities with data on cases of disease reported?	Monitor on consumptions data but not reconciling with data on cases of diseases.	0	2	1	2				1.3

The average score of all items related to monitoring of equipment, supplies and commodities was 0.77. The results indicate that the supply chains in all aspects of equipment, medical supplies and commodity security was **not functional**. There was insufficient human capacity to handle logistics. Monitoring of use and tracking them down was a major problem in all the clusters. Surprisingly there was no system to follow –up what had been procured in the 4 clusters that reported these indicator areas.

14 Data management

Data management overall score = 0.96

Items	Rationale/ comments	Response from interviewees							Average
		MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
IV.A.1	There is a written set of procedures for data management including data collection, storage, cleaning, quality control, analysis, and presentation for target audiences, and these are implemented throughout the country	0	0	2		3	1		1.2
IV.A.2	The HIS unit at national level is running an integrated "data warehouse" containing data from all data sources (both population-based and facility-based sources including all key health programmes), and has a user-friendly reporting utility accessible to various user audiences	0	2	0	3	0	2		1.2
IV.A.3	Sub national levels have a data warehouse equivalent to the national one and have a reporting utility accessible to various audiences	1	0	0	3	1	2		1.2
IV.A.4	A "metadata dictionary" exists which provides data variable definitions as well as their use in indicators, specification of data collection method, periodicity, geographic designations, analysis techniques used and possible biases	0	0	0	3	3	0		1.0
IV.A.5	Identifier codes are available for health facilities and administrative geographic units (e.g. province, district, municipality, etc.) to facilitate merging of multiple databases from different sources	1	0	0	0	0	0		0.2

Summary of Result		Maximum	Score	%
IV.	Data management	15	5	31%

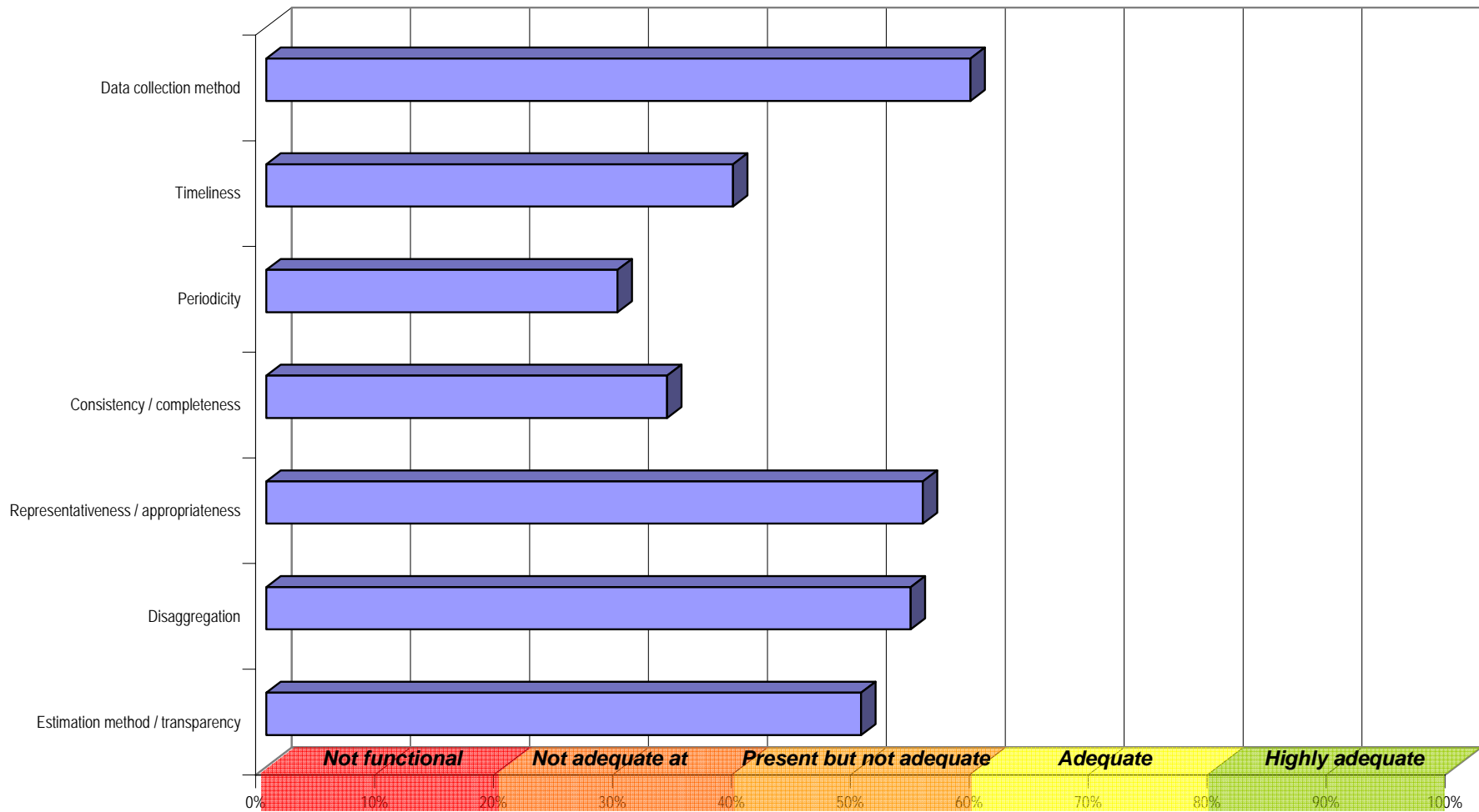
The average score of all items related to data management was 0.96. Data management overall had 31% and hence is not functional. During the discussions, participants confirmed that these low scores for data management were justified. The need for written procedures for data management (item IV.A.1) was emphasized, although few respondents stated that some written set of Standard Operating Procedures for data management exists; but not covering every source and aspects of data collection e.g. private sector.

Concerning item IV.A.2, the MoH managers and all groups also stated that there is no Data Warehouse at the national and sub national levels. The groups recommended to create the three levels of data repositories as stated in the Performance Monitoring and Evaluation (PM&E) Framework of the health sector. While moving in the direction of an integrated electronic database for compilation of all major health data, participants noted the value of establishing resource centers at national and district levels where stakeholders, including district council representatives, parliamentarians and District Health Service Forums (DHSF) could manually access key reports for reference and planning. Data backups and security was also mentioned as key and needed fire proof safes. The other area that needs capacity strengthened is establishing a simple integrated database with robust capacity to handle data and also capacity of the MoH staff build to maintain the system. This will ensure that any future changes of indicators are in cooperated as well as trouble shoot.

15 Information products

Information products (overall score = 1.9)

Overall, the information products scored lowest on consistency and completeness.



16 Mortality

Mortality overall score = 1.97

16.1 Under-five mortality

Under-five mortality overall score = 2.04

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
1. Under five mortality (all cause)	V.A.1.1 Data collection method	Method used to collect the most recent major data point	Mortality is reported using the routine health facility reports which is not representative as most deaths occur at home.	2	0				3		1.7
	V.A.1.2 Timeliness	For the most recently published estimate, how many years ago were the data collected?		1	2				2		1.7
	V.A.1.3 Periodicity	How many times were data collected in last 10 years?		1	0				3		1.3
	V.A.1.4 Consistency	Data points consistent over time and between sources during last decade		0	2				2		1.3
	V.A.1.5 Representativeness	Coverage of data upon which the most recently reported estimate is based		2	2				3		2.3
	V.A.1.6 Desegregation	Most recent data point disaggregated by demographic characteristics (e.g. sex and age) socioeconomic status (e.g. wealth or occupation or education of their parent) and by locality (e.g., urban-rural or major administrative region)		3	3				3		3.0
	V.A.1.7 Estimation methods	In country estimates use transparent, well-established methods		3	3				3		3.0

The overall score for under-five mortality was 2.04. Data on under-five mortality was not complete. Vital Registration (VR) depended on the KDHS and sample surveillance system which was not regularly collected and funded. The scoring of the VR was overrated and maximum score could be at 1.5. The MoH data was also not up to date and only covers information from reporting hospitals where we have health records and information officers. At the Office of civil registration capacity needs to be strengthened and linkage to the MoH enhanced if complete mortality statistics have to be generated.

16.2 Adult Mortality

Adult Mortality Overall score = 1.83

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
2. Adult mortality (all cause)	V.A.2.1 Data collection method	Method used to collect the most recent major data point		1	1				3		1.7
	V.A.2.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		1	2				2		1.7
	V.A.2.3 Periodicity	Number of data collection rounds in last decade		1	0				3		1.3
	V.A.2.4 Consistency	Data points in last decade consistent over time		0	2				2		1.3
	V.A.2.5 Representativeness	Coverage of data upon which the most recently reported estimate is based		2	2				3		2.3
	V.A.2.6 Disaggregation	Most recent data point disaggregated by demographic variables (age and sex), socio-economic status (e.g. by wealth quintiles, level of education, or occupations) and by locality (e.g. urban/rural, major administrative regions)		3	3				3		3.0
	V.A.2.7 Estimation methods	In country estimates use transparent, well-established methods			3				0		1.5

The overall score for adult mortality was 1.83. Data on this indicator was not complete. The linkage for these data needs to be enhanced by both the central HIS and the Vital Registration to get complete statistics.

16.3 Maternal mortality

Maternal mortality overall score = 2.04

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
3. Maternal mortality	V.A.3.1 Data collection method	Data collection method for most recent data point		1	1				3		1.7
	V.A.3.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		1	2				2		1.7
	V.A.3.3 Periodicity	Number of data collection rounds in last decade		1	0				3		1.3
	V.A.3.4 Consistency	Data points in last decade consistent over time		0	2				2		1.3
	V.A.3.5 Representativeness	Coverage of data upon which the most recently reported estimate is based		2	2				3		2.3
	V.A.3.6 Disaggregation	Most recent data point disaggregated by demographic variables (age), socio-economic status (e.g. by wealth quintiles, level of education, and occupations) and by locality (e.g. urban/rural, major administrative regions)		3	3				3		3.0
	V.A.3.7 Estimation methods	In country estimates use transparent, well-established methods		3	3				3		3.0

The overall indicator for maternal mortality score was 2.04. This indicator as well as adult mortality has been scored high. Kenya has had some reliable means (vital statistics, sample vital registration, demographic surveillance) to estimate the levels of maternal or general adult mortality. Hence the score for V.A.3.1 should be at best 2.0. Proper maternal mortality data and maternal deaths audit reviews need be collected. Deaths in the community and at the health facility level need to be routinely collected to have complete statistics.

16.4 Morbidity

Morbidity overall score = 2.5

HIV prevalence overall score = 1.84

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
4. HIV prevalence	V.A.4.1 Data collection method	Methods used to collect the most recent data point									
		1. If generalized epidemic;		3	1				1		1.7
		2. If concentrated epidemic;		2	2				1		1.7
	V.A.4.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		1	0				3		1.3
	V.A.4.3 Periodicity	How many times was it measured in the last 5 years?		0	2				0		0.7
	V.A.4.4 Consistency	Data points and trends in last 5 years consistent		0	2				3		1.7
	V.A.4.5 Representativeness	Coverage of data upon which the most recently reported estimate is based									
		1. If generalized epidemic;		3	3				1		2.3
		2. If concentrated epidemic		3	3				1		2.3
	V.A.4.6 Disaggregation	Recent estimates are disaggregated by demographic characteristics (e.g. sex and age), socioeconomic status (e.g. wealth or occupation or education) and by locality (e.g. urban-rural, major administrative region or geographical region)		3	3				3		3.0

The overall HIV prevalence score was 1.84. Prevalence was measured through a survey as well as through sentinel Antenatal Clinic (ANC) surveillance. Scores suggest that HIV prevalence has been measured among high risk groups. ANC surveillance sites were consistent data points and information was generated at a specified period regularly.

16.5 Under weight children

Under weight children overall score = 2.08

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees							Average
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
5. Underweight in children (<59 months or <36 months)	V.A.5.1 Data collection method	Method used to collect the data for the most recent estimate		3	1						2.0
	V.A.5.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		2	2						2.0
	V.A.5.3 Periodicity	How many times was it measured in last decade?		2	3						2.5
	V.A.5.4 Consistency	Estimates in last decade consistent		2	1						1.5
	V.A.5.5 Representativeness	Coverage of data upon which the most recently reported estimate is based		3	3						3.0
	V.A.5.6 Disaggregation	Most recent data point disaggregated by demographic characteristics (e.g., sex and age), socioeconomic status (e.g., wealth or occupation or education of their parent) and by locality (e.g., urban-rural, major administrative region)		3	0						1.5

The overall under weight children score was 2.08. Data was collected routinely through the Child Welfare Clinics (CWC) on growth monitoring. However, the KDHS 2003 also captured some information on this indicator. Most of the health facilities are now equipped with saltier scales and future support to collect the data will ensure complete and very reliable information for any nutrition programme.

17 Health system indicators

Health System indicators overall score = 1.7

17.1 Outpatient attendance

Outpatient attendance overall score = 1.30

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
6. Outpatient attendance	V.B.6.1 Data collection method	Methods use to collect and validate the information		1	0						0.5
	V.B.6.2 Timeliness	For the most recently published data, how many months ago were the last data collected (typically from December of the year being reported)		0	2						1.0
	V.B.6.3 Periodicity	How many times was it nationally published in last 5 years?		0	2						1.0
	V.B.6.4 Consistency	Consistency over time and between clinic reports and sample clinic records		0	0						0.0
	V.B.6.5 Representativeness / completeness	Most recent statistic includes data from (i) teaching hospitals; (ii) more than 90% of public and private sector health facilities		2	2						2.0
	V.B.6.6 Disaggregation - 1	Distinguishes curative consultations from visits solely for preventive services and initial visits from follow-up visits for the same illness		0	3						1.5
	V.B.6.7 Disaggregation - 2	Statistics on curative consultations are disaggregated by disease		3	3						3.0
	V.B.6.8 Disaggregation - 3	Most recent data point disaggregated by geographic region, sex and age for relevant indicators		2	1						1.5

The overall score for Outpatient attendance was 1.30. The respondents from districts who participated stated that they should be facilitated to evaluate completeness and consistency in validating information. Most of the information comes late to the districts. The most recent statistics on this indicator have not been published at the national level in the last 2 years though some attempts in some districts on their own have published. Concerning the low score for consistency, all groups recommended that there should be training of health personnel on DQA (data quality audit) and strengthen the DHMT and PHMTs to conduct regular supportive supervisions.

17.2 Measles coverage

Measles coverage overall score = 1.71

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
7. Measles coverage by 12 months of age	V.B.7.1 Data collection method - administrative statistics	Measles coverage can be estimated from routine administrative statistics submitted by at least 90% of immunizing health facilities. These statistics are systematically reviewed at each level for completeness and consistency and inconsistencies are investigated and corrected. To calculate coverage, reliable estimates of population are available		2	3						2.5
	V.B.7.2 Data collection method - household survey statistics	Measles coverage has been measured by at least two nationally representative household surveys in the last five years and immunization cards were shown during each survey for at least 2/3 of children		2	3						2.5
	V.B.7.3 Timeliness	For the most recently published estimate, how many months ago were the last data collected		0	3						1.5
	V.B.7.4 Periodicity	How many times in the last 5 years was an annual estimate published based upon administrative statistics?		1	0						0.5
	V.B.7.5 Consistency	Data points consistent between recent surveys and reports		2	0						1.0
	V.B.7.6 Representativeness	Coverage of data upon which recent estimates were based		2	2						2.0
	V.B.7.7 Disaggregation	Most recent survey disaggregated by demographic characteristics (e.g., age and sex), socioeconomic status (e.g., wealth or occupation or education of their parent) and by geographical region (e.g., urban-rural, major administrative region)		1	3						2.0

The overall score for measles coverage was 1.71. During the discussions concerns were raised about the accuracy of local population estimates. Based upon doses of vaccine administered districts are often reporting coverage levels of over 100%. The MoH EPI programme is coordinating this indicator well and reports have been strengthened in all the areas. Correct projections by the Kenya National Bureau of Statistics will support the programme and districts computing the right coverage.

17.3 Deliveries by skilled attendant

Deliveries by skilled attendant Overall score = 1.43

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
8. Deliveries attended by skilled health professionals	V.B.8.1 Data collection method - administrative statistics	The percentage of deliveries attended by a skilled health professional can be estimated from routine administrative statistics submitted by at least 90% of relevant health facilities. These statistics are systematically reviewed at each level for completeness and consistency and inconsistencies are investigated and corrected. To calculate coverage, reliable estimates of population are available		0	0						0.0
	V.B.8.2 Data collection method - household survey statistics	The percentage of deliveries attended by a skilled health professional has been measured by at least two nationally representative household surveys in the last five years		2	3						2.5
	V.B.8.3 Timeliness	For the most recently published estimate, how many months ago were the last data collected		1	2						1.5
	V.B.8.4 Periodicity	How many times was it measured in last 10 years?		0	2						1.0
	V.B.8.5 Consistency	Data points consistent between recent surveys and reports		0	3						1.5
	V.B.8.6 Representativeness	Coverage of data upon which recent estimates were based		2	2						2.0
	V.B.8.7 Disaggregation	Most recent estimate disaggregated by age, socioeconomic status (e.g. wealth or occupation or education of parent) and by geographical region of respondent / client		1	2						1.5

The indicator on deliveries by skilled attendant scored 1.43. It was noted by the groups that not all health facilities are submitting their routine reports and estimation could be difficult. There were also inadequate capacity in PHUs and private health facilities to report in-patient data. Coding and indexing was not done in all admitting health facilities but where Health records and information assistants or officer existed. The ICD 10 coding manuals were also not enough for all health facilities. The MoH may try enhancing this by rolling out the just completed registers and summary reporting tools to the health facilities. However, capturing domiciliary skilled delivery will be a challenge.

17.4 Tuberculosis treatment success rate

Tuberculosis treatment success rate overall score = 0.57

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
9. Tuberculosis (TB) treatment success rate under DOTS	V.B.9.1 Data collection method	Methods used to collect the most recent data		2	1						1.5
	V.B.9.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		0	0						0.0
	V.B.9.3 Periodicity	How many times was it measured in the last year? (should be quarterly)		0	0						0.0
	V.B.9.4 Consistency	Trend in treatment success rate consistent since 1995		0	0						0.0
	V.B.9.5 Representativeness	Coverage of data upon which last estimate is based -- % of sub national DOTS quarterly reports received by national TB programme in most recent year		1	0						0.5
	V.B.9.6 Disaggregation - 1	Most recent data point disaggregated by age, socioeconomic status (e.g, wealth or occupation or education) and by locality (e.g., urban-rural, major administrative region) of respondent / client		1	1						1.0
	V.B.9.7 Disaggregation - 2	Most recent data point disaggregated by HIV status and by drug resistance		0	2						1.0

The overall Tuberculosis treatment success rate score was 0.57. The information on this indicator is available but not widely shared. It was noted that terms used should be simplified in order to make them more understandable. The data was not submitted in time. Data submission from the districts needs to be strengthened and allow districts analyze their information.

17.5 Proportion of Children under-five years sleeping under ITN

Proportion of Children under-five years sleeping under ITN overall score = 0.50

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
10. Proportion of children (<59 months or <36 months) sleeping under insecticide treated bed nets	V.B.10.1 Data collection method	Data collection method used for most recent data point		3	3						3.0
	V.B.10.2 Timeliness	Time lag since last data collection		0	0						0.0
	V.B.10.3 Periodicity	Number of data points available over past decade		0	0						0.0
	V.B.10.4 Consistency	Data points consistent over time		0	0						0.0
	V.B.10.5 Representativeness	Coverage of most recent data points		0	0						0.0
	V.B.10.6 Disaggregation	By demographic characteristics, by socioeconomic status and by locality		0	0						0.0

The overall score for proportion of children > 5 years sleeping under ITN was 0.50. This data can only be collected through survey in the households. The current revised MoH tools captures what have been issued to both the pregnant mother and the child attending CWC under 5 years. The system can also be build into the current strategy by MoH of initiating the community strategy using the Community Health Workers and field extension workers in the reporting of the activities.

17.6 Government expenditure on health

Government expenditure on health (overall score = 1.63)

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
11. General government expenditure on health (GGHE) per capita	V.B.11.1 Data collection & estimation	Data collection method		3							3.0
	V.B.11.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		2							2.0
	V.B.11.3 Periodicity	Periodicity		2							2.0
	V.B.11.4 Consistency	Consistent across components of the indicator and over time		2							2.0
	V.B.11.5 Representativeness	Components represented		2							2.0
	V.B.11.6 Disaggregation - 1	General government expenditure available by district or sub-national level		2							2.0
	V.B.11.7 Disaggregation - 2	Share of general government expenditure funded through external resources (if not relevant, 3 is given by default)		0							0.0
	V.B.11.8 Transparency			0							0.0

The overall score for government expenditure on health was 1.63. MoH expenditure is accounted for. The areas that were outlined as **not functional were** the aggregation of expenditure data and transparency with **0.0** scores. This creates room for embezzlement of funds. The MoH has employed accountants and deployed them in all the districts and is working on guidelines for management and monitoring of finances. Plans are also under way to build capacities of health facility boards, district health management boards and facility committees that will provide governance to the health facility and ensure good service delivery to all Kenyans and beyond.

17.7 Private expenditure on health

Private expenditure on health overall score = 0.13

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
12. Private expenditure on health per capita (out-of-pocket, private health insurance and NGO)	V.B.12.1 Data collection & estimation	Data collection over 5 years		1							1.0
	V.B.12.2 Timeliness	Time lag between most recent national publication and the time that the data were collected		0							0.0
	V.B.12.3 Periodicity	Periodicity		0							0.0
	V.B.12.4 Consistency	Consistent across components of the indicator and over time		0							0.0
	V.B.12.5 Representativeness	Components represented in aggregated figure		0							0.0
	V.B.12.6 Disaggregation - 1	Private expenditure available by district		0							0.0
	V.B.12.7 Disaggregation - 2	Tracking of private expenditure funded through external resources (if not relevant, 3 is given by default)		0							0.0
	V.B.12.8 Transparency			0							0.0

The overall score for private expenditure on health was 0.13. The government (MoH) does not support private practices with financial resources. There is a move towards creating public- private partnerships and also including them in the annual operational plans. In future these may enhance the collection of information on private expenditure. There is also lack of funds to support the process. The NHA survey should breach this gap and collect this information which may be used to facilitate the partnership process.

17.8 Health workforce density

Health workforce density overall score = 1.17

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average score	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
13. Density of health workforce (total and by professional category) by 1,000 population	V.B.13.1 Data collection method	Routine administrative records are validated with findings from a regularly conducted health facility survey/census, labour force survey and the population census		1							1.0
	V.B.13.2 Timeliness	For the most recently published estimate, how many years ago were the data collected		1							1.0
	V.B.13.3 Periodicity	How many times was it measured in last 5 years?		1							1.0
	V.B.13.4 Consistency	Variables and data definitions and classifications consistent over time and across sources		2							2.0
	V.B.13.5 Disaggregation- 1	Categories of health workers (ISCO: International Standard Classification of Occupations)		0							0.0
	V.B.13.6 Disaggregation-2	Most recent estimate disaggregated by; (1) gender, (2) urban/rural, (3) major administrative areas and (4) public/private sector		2							2.0

The overall score for health workforce density was 1.17. The human resource mapping for health was done in 2004. This did not take into account the human resources in private, NGOs and Mission health facilities. The data collected had specific use and further statistical aggregation of data was not done. The other information on health workforce was collected during service availability mapping as a snap short of the districts. This data has been widely used as we were able to get workforce density but was limited to a few cadres of staff and now need updates. Overall information on entire workforce density is not readily available and the MoH is piloting an integrated Human resource information system for health and should soon be able to rollout country wide to enable all districts have complete data on workforce.

17.9 Risk Factors Indicators

Risk Factors Indicators overall = 0.0

Indicators	Source of Data	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
14. Smoking prevalence (15 years and older)	V.C.14.1 Data collection method	Data collection methods used for most recent data point	No information available on this indicator. Routine data collection tools do not capture this information.	0							0.0
	V.C.14.2 Timeliness	For the most recently published estimate, how many years ago were the data collected?		0							0.0
	V.C.14.3 Periodicity	How many times was it measured in last 10 years?		0							0.0
	V.C.14.4 Consistency	Data points consistent over time		0							0.0
	V.C.14.5 Representativeness	Coverage of data upon which last estimates are based		0							0.0
	V.C.14.6 Disaggregation	Most recent data point disaggregated by (1) demographic characteristics, (2) socioeconomic status and by (3) locality		0							0.0

The data collection on risk indicators is virtually not available. This indicator scored 0.0. The KDHS 2008 should be able to capture information on smoking and this will facilitate policy direction on smoking.

17.10 Condom promotion

Condom promotion overall score = 2.00

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
15. Condom use with higher risk sex	V.C.15.1 Data collection method	Survey with self reports and appropriate questions 1. If generalized HIV epidemic; 2. If concentrated HIV epidemic		3							3.0
	V.C.15.2 Timeliness	For the most recently published estimate, how many years ago were the data collected?		2							2.0
	V.C.15.3 Periodicity	Estimates based on new data points during five years		1							1.0
	V.C.15.4 Consistency	Data service statistics and survey based data points		1							1.0
	V.C.15.5 Representativeness	Type of sample upon which last estimates are based		2							2.0
	V.C.15.6 Disaggregation	Most recent data point disaggregated by (1) demographic characteristics, (2) socioeconomic status and by (3) locality		3							3.0

The overall score for condom promotion was 2.00. Information on condom promotion is everywhere and many pill boards had been put in place and messages in high risk populations using local language developed. It should be noted that not all players are taking part in this and this should be strengthened.

17.11 Improved Water supply

Improved Water supply Overall score = 1.58

Indicators	Quality assessment criteria	Results	Rationale/ comments	Response from interviewees						Average	
				MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg		KNBS
16. Proportion of households using improved water supply (pipe borne or borehole or protected well)	V.C.16.1 Data collection method	Data collection method		3	3						3.0
	V.C.16.2 Timeliness	For the most recently published estimate, how many years ago were the data collected?		0	3						1.5
	V.C.16.3 Periodicity	Estimates based on new data points during five years		0	1						0.5
	V.C.16.4 Consistency	Data points consistent over time and between sources during last decade		0	3						1.5
	V.C.16.5 Representativeness	Sample general population or all major risk groups		1	3						2.0
	V.C.16.6 Disaggregation	Most recent data point disaggregated by (1) demographic characteristics, (2) socioeconomic status and by (3) locality		0	2						1.0

The overall score for improved water supply was 1.58. The information on this indicator is not frequently collected. Water supply is the responsibility of the Ministry of Water but MoH provides technical services on water quality sampling, protecting the springs and wells. The MoH should strengthen the public health surveillance system to collect this information regularly and also map out the various safe water points. At the same time the MoH should partner with the ministry of water and ensure that data is shared regularly.

18 Dissemination and Use of Health Information

Dissemination and use of health information overall score = 1.35

	Summary Result	Maximum	Score	%
A	Analysis and Use of Information	18	12	64%
B	Policy and Advocacy	12	6	50%
C	Planning & Priority Setting	9	3	37%
D	Resource allocation	12	5	43%
E	Implementation/action	9	4	49%
	TOTAL	60	30	51%

The average score of all items related to dissemination and use of data was 1.35 (**present but not adequate**). Concerning item VI.C.2, all groups stated that there were national benchmarks with which district health workers could compare their health statistics. Item VI.B.1, there is an annual national statistical report pulling together, analyzed health statistics from all sub-systems but the reports is out of date. VR had not prepared any report for the last 10 years. The other clusters had individual organizational reports but with minimal statistics.

Planning and priority setting was not based on health information and managers showed the concern and stated that the trend should be changed to use evidence. The government Resource allocation should be based on HIS information and not on quesstmate allocations. Plans were also to be translated into actions but respondents mentioned that since plans are not linked to HIS information, implementation was difficult.

The allocation of resources for publication of reports for wider dissemination was a major problem and there were no email or computers services available at the lower level to circulate it. There is no policy for HIS and advocacy was weak. There is need for the health sector to develop a policy guideline for Health information and support wider dissemination of reports or feedbacks at all levels.

18.1 Policy and Advocacy

Policy and Advocacy Overall score = 1.50

Items		Rationale/ comments	Response from interviewees							Average
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
VI.B.1	HIS information is readily available in a written annual (or biannual) report that pulls together and analyzes critical health information from all subsystems	Has comparable data from almost all subsystems but out of date due to lack of resources for printing.	2	2	3	0	3	3		2.2
VI.B.2	Integrated HIS summary reports covering (at least a minimum set of core indicators including of MDGs and global health partners (GHPs) where relevant) are distributed regularly to all relevant parties	lack of an integrated system to generate these indicators	1	3	3		2	1		2.0
VI.B.3	The national "Under 5 mortality rate", "Maternal mortality ratio", "Immunization rate" and "HIV prevalence" are well known among politicians and media.	Need to have publications of fact sheets	1	1	1		1	1		1.0
VI.B.4	Policy and decision makers regularly use health information to evaluate performance and set policies on health.	Information not readily available.	1	1	0		2	0		0.8

18.2 Planning & Priority Setting

Planning & Priority Setting overall score = 1.13

Items		Rationale/ comments	Response from interviewees							Average
			MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
VI.C.1	Health information (risk factors, systems, status) is demonstrably used in the planning process, e.g. for annual integrated development plans, medium-term expenditure frameworks, long-term strategic plans, and annual health sector reviews		1	1	0	1	3	1		1.2
VI.C.2	District health workers analyse all health statistics in their province / district, compare them with national benchmarks and act accordingly		1	1	0		3	0		1.0
VI.C.3	All indicators in the national minimum core indicator set are linked to the relevant short (1 year), medium (3-5 years), and long-term (10-15 years) targets		2	0	0		3	1		1.2

18.3 Resource allocation

Resource allocation: Overall score = 1.30

Items	Rationale/ comments	Response from interviewees							Average
		MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
VI.D.1	HIS information is widely used to set national resource allocations	1	2	2	2	1	1		1.5
VI.D.2	HIS information is widely used, by district and sub-national management teams to set resource allocation in the annual budget processes	2	3	2		1	1		1.8
VI.D.3	HIS information is used to advocate for equity and increased resources to disadvantaged groups and communities by e.g. documenting their disease burden and poor access to services	0	1	2		2	1		1.2
VI.D.4	During the last 5 years, HIS information has resulted in significant changes in annual budgets and/or general resource allocation	0	1	0	2	0	1		0.7

18.4 Implementation/action

Implementation/action overall score = 1.47

Items	Rationale/ comments	Response from interviewees							Average
		MOH	CHAK	KEC	KEMSA	KEMRI	Vital Reg	KNBS	
Managers at all levels use health information for local health service delivery management, planning and monitoring		2	1	3	2	0	2		1.7
Care providers at all levels use health information for local service delivery, planning and monitoring		1	1	3	1	0	2		1.3
Information on health risk factors are systematically used to advocate less-risk behaviour in the general public as well as in targeted vulnerable groups.		1	1	2		1	2		1.4

The culture to use information by managers need be build. Implementation of activities and support supervision should at all times be based on available evidence.

19 Next Steps

Next steps were identified at the conclusion of the data writing two days retreat workshop:

- The draft assessment report shall be circulated for review and feedback by TWG members.
- Finalisation of the assessment report and presentation to the steering committee.
- Print the documents/report
- Disseminate the package
- Develop TOR for the development of an HMIS Policy and develop the funding proposal for M&E.
- Tender and selection of qualified organisation/individuals to develop the policy and funding proposal for M&E.
- Integrate the activities into the Annual HIS plan and implement the activities.

20 References

1. Central Bureau of Statistics; Kenya Integrated Household Budget Survey (KIHBS) 2005/06
2. Central Bureau of Statistics; Kenya Multiple Indicator Cluster Survey (MICS) report, 2000.
3. Ministry of Health; Reversing the Trends The Second National Health Sector Strategic Plan (NHSSP) II 2005 – 2010
4. Ministry of Health; Joint Programme of Work and Funding (JPWOF) 2006/07 – 2009/10 for the Kenya Health Sector SWAp.
5. Ministry of Health; The First National Health Sector Strategic plan (NHSSP) I 1999 – 2004.
6. Ministry of Health; Kenya National Health Accounts 2001 – 2002.
7. Ministry of Health; Household Health Expenditure and Utilisation Survey Report 2003.
8. Ministry of Health; Kenya's Health Policy Framework 1994 – 2010
9. Ministry of Health; Health Management Information System – A report on the performance Status 2003 and 2004.
10. Ministry of Finance and Planning; Kenya Demographic Health Survey 2003.
11. Kenya Service Provision Assessment (KSPA), 2004.

21 Annexes:

Your answers to the following questions will provide lessons on how best to organize an assessment of a health information system

1. **Name of country:** Kenya
2. **Members of the stakeholder group --** Members of the HIS steering committee include the following:
 - Afri-Afya
 - Centre for Disease Control (CDC)
 - Christian Health Association of Kenya (CHAK)
 - Health Sector Programme Support (HSPS) Danida
 - Japanese International Cooperation Agency (JICA)
 - Kenya Catholic Secretariat (KEC)
 - Kenya Medical Research Institute (KEMRI)
 - Kenya Medical Training College (KEMTC)
 - Kenya National Bureau of Statistics (Central Bureau of Statistics) (KNBS or CBS)
 - Kenyatta University (KU)
 - Ministry of Health (MoH)
 - National Council Agency for Population and Development (NCAPD)
 - National Hospital Insurance Fund (NHIF)
 - United Nations Children's Fund (UNICEF)
 - University of Nairobi (UoN)
 - United States Agency for International Development (USAID)
 - Office of Vital Registration (VR)
 - World Health Organization (WHO)
3. **Which unit or units took the lead in organizing the assessment? -** Ministry of Health
4. **Please describe briefly how the assessment was organized.** A 13 member steering committee of HIS stakeholders met 4 times during 2006 to assure coordination and plan joint activities. This steering committee includes representatives of the Ministry of Health , Central Statistics Office, Kenya Medical Training college, WHO, UNICEF, KU, CDC, KEMRI, and Vital Registration). The steering committee mandated a sub-committee to conduct an assessment of the current HIS in various organizations including PMOs, DMOHs, Heads of Division and Development Partners/NGOS institutions. The total number of identified institutions was 8 and each formed a cluster. Training institutions (Universities) were not interviewed as most of them were on strike.

5. Methodology

The steering committee identified eight (8) clusters from different organizations collecting and using health information. A team of at least three officers comprising of Health Records and Information Officers, Information Communication Technology (ICT), one doctor from Ministry of Health and Demographer/Statistician from CBS carried out the assessment in 7 out of 8 clusters selected giving a response rate of 88%. One cluster, i.e. Universities was not assessed as lecturers/dons were on strike. Focus Group Discussions (FGD) were used with meetings organized by participants in their institution board rooms. This saved the cost of hall hire and time for officers' movements. This also allowed other sub-staff to participate and get the concepts.

The Focus Group Discussion was used as a learning process for both the participants and teams administering the tool. Each question was discussed in-depth and scored. The process was agreed by the teams and the scoring was given as one score for the group. Individual scores as well as small group

averages and overall averages for all participants were recorded on the assessment spreadsheet. It took small groups approximately 5 hours each to assess and go through the whole assessment tool. The sample size was at least 4 key officers as elaborated above and any other member of staff was welcome to participate learn and contribute. The tool was projected using LCD projector and after discussion of each questionnaire the preliminary results were given as feedback to the participants.

The tool was circulated earlier to the Managers/Directors to familiarize and an introductory letter from the Director of Medical Services requesting managers participation. Most District Directors participated to get the insight of the tool and generated interesting discussions.

Organization of small groups for the assessment

The assessment was conducted individually for each of the clusters with key persons of the seven selected organizations:

- Ministry of Health (MoH) - 65 participants
- Kenya National Bureau of Statistics - 15
- Christian Health association of Kenya (CHAK) - 8
- Kenya Episcopal Conference (KEC) - 5
- Vital Registration (VR) - 4
- Kenya Medical Research Institute (KEMRI) -15
- Kenya Medical Supplies Agency (KEMSA) -12

The Key participants included:-

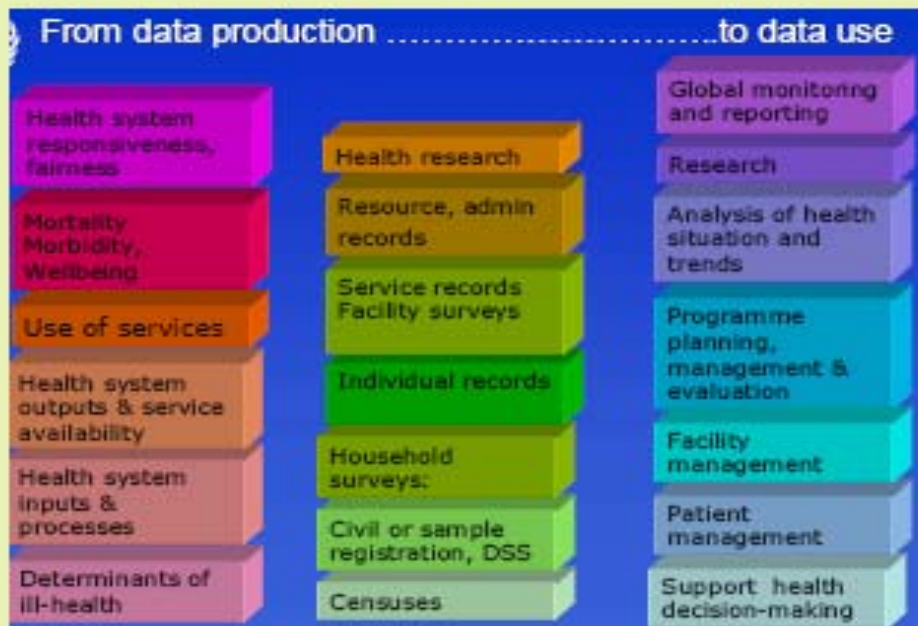
- Biostatisticians
- Database managers;
- Demographers
- Director / Medical co-ordinators
- District Medical Officers
- Economist
- Statisticians,
- Financial Managers
- Health Planners
- Health Records and Information Officers
- Monitoring and Evaluation Specialists,
- NGOs and development partners
- Programme officers/ Managers
- Provincial Medical Officers
- Public Health Specialists and
- Research Scientists

6. Study limitations:

- Most of the directors, senior managers were not in the discussions full time but areas concerning them were adequately covered before they left for office duties.
- An interruption since it was done at various office premises.
- It is difficult to coordinate time and venue.
- Lack of long term commitment from stakeholders

7. What role, if any was played by a national or international consultant? No consultant was used.

- 8. Was a national consensus conference organized to conclude the assessment and review the findings?** The assessment, team consolidated the findings and circulated to the steering for comments and building consensus by also participants.
- 9. Briefly describe any modifications that were made to the assessment tool. Also note if the tool was translated.** The existing English language version of the HMN assessment tool was used without modification.
- 10. List the item# of any items that were omitted from the assessment because they were judged to be inappropriate- All items were assessed.**
- 11. List the item# of any items that were not well understood. Please offer any suggestions for clarifying the meaning of specific items-** None of the items were not understood.
- 12. Describe any special problems you had with organizing the assessment –** In most clusters, monitoring of finances and administrative records lacked appropriate information. There are still some problems organising the assessment with the research institutions and private practitioners as they have no established office coo-rdinating this at national level. Also participation of key development partners was not consistent and lacked commitment for example EU, UNICEF, USAID
- 13. Has the final report on the assessment been completed?** The draft report was developed shared with the steering members for comments and revision done.
- 14. How much time was required to complete the assessment process -- from; the first planning meeting until the concluding meeting, how many weeks elapsed-** The time required to cover this exercise was 2 months. This was as a result of using convenience Method and Focus Group Discussions. If the groups were put at one place then it could have taken 2 weeks .i.e. One day per cluster as it was participatory.
- 15. Please offer any further comments or recommendations on how to improve the assessment tool or how to organize a successful assessment -** The assessment tool should be improved by adding areas of individual organisational assessments. The model should also cover the NGOs and specific institutions so that it can be used at the lower levels. The organisation can be enhance by focus group discussions and sharing of the tools in advance before administration or allow individual scores and compiling them.



Measurement and Health Information system

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