Health Metrics Network

Republic of The Gambia

The Gambia Health Information System

Review and Assessment
**Tendaba, The Gambia**
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By:

Department of State For Health & Social Welfare: Gambia Bureau of Statistics: World Health Organization (WHO) Country Office: United Nations Children's Educational Fund (UNICEF): Department of State for Local Government (Local Government Authorities & Municipalities): Department of State for Justice: Department of State for Education: Department of State for Finance & Economic Affairs: Private & NGO Health Facilities: United Nations Fund for Population Affairs (UNFPA).The Gambia college schools of Public Health & Nursing: University of the Gambia schools of Public Health and of Nursing & Midwifery: Nurses & Midwives council, the Gambia Medical & Dental Council and Riders for Health.

Coordinated by:

Department of State for Health & Social Welfare (DOSH & SW) , The Gambia Bureau of Statistics (GBOS) and WHO Gambia Office

Figure 1. Local Government Areas of The Gambia
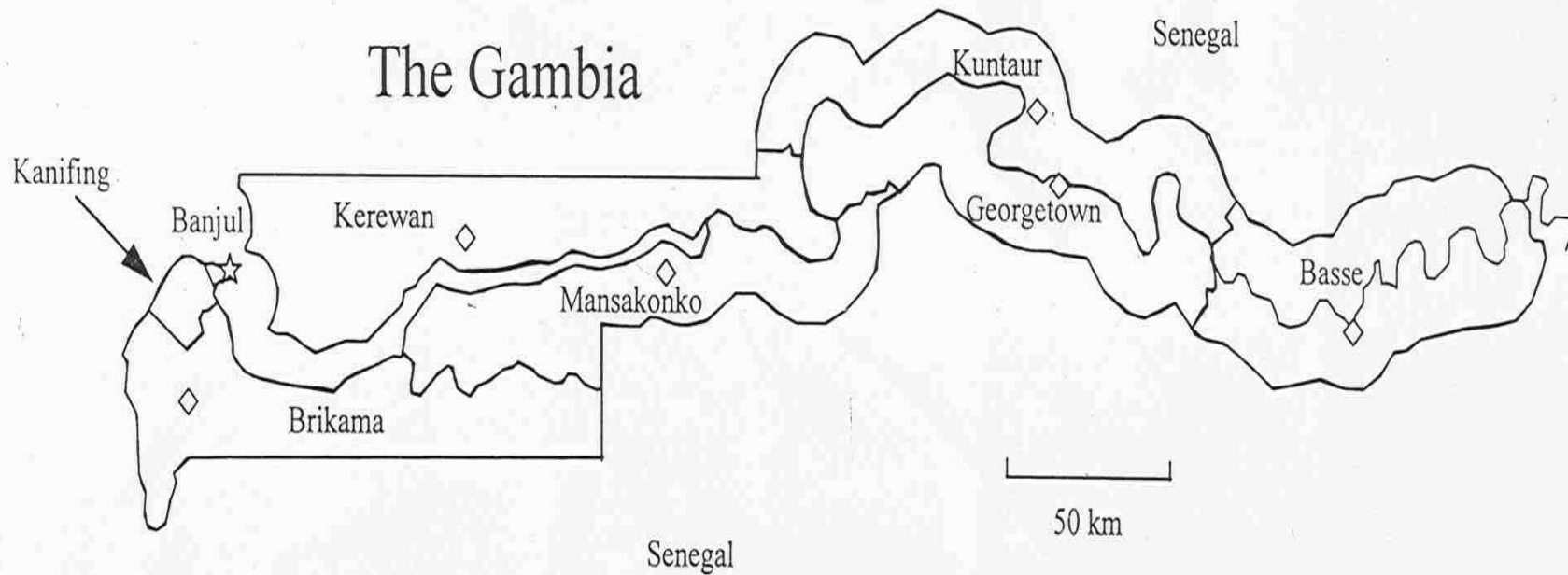
Contact authors

Name of authors   **Email Address**

1. Momodou Lamin Cham   HMIS   mlcham2000@yahoo.co.uk

2. Alieu Sarr   GBOS   alieubadou@yahoo.com

3. Musa M. M. Sowe   HMIS   musammmsowe@yahoo.co.uk

4. Sanna M. Sambou   EDC   sanamsambou@hotmail.com

5. Omar Ceesay   Birhts & Deaths   bofsceesay@yahoo.com
.
6. Musukuta Komma   HMIS   kommagirl@hotmail.com

7. Baba Suwareh   GBOS   babasuwareh@yahoo.co.uk

8. Janko Jimbara   IST   jskjimbara@hotmail.com

9. Saaro Darboe   WHO   darboes@gm.afro.who.int

10. Sankung Jaiteh   HMIS/IT   sankungba@hotmail.com

Acknowledgement

Abbreviations and acronyms

AIDS	Acquired immunodeficiency syndrome
AFPRC	Armed Forces Provisional Ruling Council
CERPOD	Centre for Applied Research on population and Development
DHT	Divisional Health Team
DoSFEA	Department of State for Finance & Economic Affairs
DOSH & SW	Department of State for Health & Social Welfare
DPI	Directorate of Planning & Information
EDC	Epidemiology & Disease Control
ESU	Epidemiology & Statistics Unit
GBOS	Gambia Bureau of Statistics
HIS	Health Information System
HIV	Human immunodeficiency virus
HMIS	Health Management Information System
HMN	Health Metrics Network
ICD	International Classification of diseases
ICT	Information Communication Technology
IDSR	Integrated Disease Surveillance and Response
IST	In-Service Training
IT	Information Technology
MCH	Maternal and Child Health
MICS	Multiple Indicators Cluster Survey
MDG	Millennium Development Goals
NACP	National AIDS Control Programme

NaNA	National Nutrition Agency
NAS	National AIDS Secretariat
NBW	North Bank West
NGO	Non Governmental Organization
NPS	National Pharmaceutical Services
ODA	Overseas Development administration (British
PES	Post Enumeration survey
PHPNP	Participatory Health Population & Nutrition Project
PMO	Personnel Management Office
PS	Permanent Secretary
RFH	Riders for Health
RHT	Regional Health Team
SOS	Secretary of State
STI	Sexually transmitted infection
UNFPA	United Nations Fund for Population Affairs
UNICEF	United Nations Children's Fund
WD	Western Division
WHO	World Health Organisation

EXECUTIVE SUMMARY

The assessment of the Gambia Health Management Information system was done using HMN assessment tool and frame work and it's overall objectives is to map out it's weaknesses and strengths in other to pave a way forward for developing a system that is sensitive and captures all that is required to integrating all data methods and sources.

The assessment which looked at the following six components shall be repeated periodically.

1. CONTENT AND RESOURCES

There is an HMIS policy in place but it has failed to capture current HIS issues such as maintenance and there is no adequate system for it's enforcement, therefore scoring the lowest score of 30%. The lack of an HIS strategic plan has also contributed to this very low score.

HIS Institution, Human resources and financing

HIS institution, human resources and financing had an overall low score of 39% which is found to be not adequate at all. The results of such a low score could be attributed to the fact that there is no adequate office space, trained HIS staff and lack of adequate financial and material support for the development of HIS.

HIS Infrastructure

HIS Infrastructure was found to be adequate scoring 67% and this may be due to huge investment by the then PHPNP project.

The overall results for context and resources (45%) indicate that this component requires more and immediate attention. There is an urgent need to provide/allocate enough financial resources to facilitate the development and strengthening HIS.

2. INDICATORS

The summary results of indicators are found to be adequate scoring 66% but it does not capture/cover all the health related MDGs indicators.

Selected Indicators

Health status, Mortality was found to be adequate. Risk factors & Health Systems were found to be present but not adequate. This is due to the fact that more attention is concentrated on capturing them by HIS and very little is done on the others.

Data Quality

Overall indicators quality was found to be adequate. Among the seven elements of data quality, Timeliness and Disaggregation were found to be adequate whilst the remaining were found to be present but not adequate.

3. DATA SOURCES

The summary results on data sources shows that Vital Statistics and Administrative records were found to be not adequate at all.

Data collection methods

The overall performance of all the data collection method is found to be present but not adequate.

4. DATA MANAGEMENT

Data management scored 37% indicating that it is not adequate at all. The low score is due to lack of skills in terms of capacity and another factor is lack of adequate computer hardware and software.

5. INFORMATION PRODUCTS

The overall assessment results shows that quality of information product is adequate (60 80 %). Information collected on mortality was found to be highly adequate (80 100%).

6. DISSEMINATION AND USE

The overall assessment results of Dissemination and use was found to be present but not adequate (20 40%). Resource allocation had the least score of not adequate at all (0 20%).

1.0 Background

The Health Statistics Unit was established in 1976. The Epidemiology unit was created in 1979 and merged with the Health Statistics unit to form the then Epidemiology and Statistics unit (ESU). Several reviews of the health statistics system were done by donors and partners. The British Overseas Administration (ODA) did a desktop review to assess the system in 1987 through technical assistance. The review basically looked at the data collection tools and some variables/indicators that were measured. In 1990 UNFPA provided technical assistance to improve data collection and analysis for the Family Health Programme of the then Maternal and Child Health (MCH) programme unit. The Centre for Applied Research on Population and Development (CERPOD) were subcontracted to develop a computerized database that will facilitate data entry and simple analysis. Dbase clipper software called the Gambia software was produced by CERPOD in 1990/91.

In 1995 and 1998 the World Health Organization Regional Office for Africa provided technical assistance to review the overall performance of the unit in data collection, management, analysis and use. A key recommendation in the report emphasized the need to move the Statistics component to the Directorate of Planning and Information and to provide enough resources to facilitate computerization.

In 2000, the Participatory Health, Population and Nutrition Project (PHPNP) provided funds to assess and put in place an integrated computerized and a functional Health Information system. The assessment focused on five main areas; Data collection tools, database, indicators, personnel and infrastructure. A five days indicators selection workshop was done at Tendaba Camp involving all stakeholders including partners, donors, the private and NGO facilities.

Although, the reviews contributed to some improvements in strengthening the Health Information system, there still exist a fragmented and vertical HIS systems operating within DOSH. This is mostly due to lack of consensus on ownership, leadership and coordination.

The Health Metrics Network project and framework is meant to establish norms, standards and principles for HIS development based on the two pillars; the NORMATIVE and ROADMAP. The Gambia was among the low and lower-middle income countries invited to the Nairobi HMN Inter-country workshop which took place from 2nd to 4th August 2005. It was at this workshop that the HMN framework, monitoring and needs assessment tool was first introduced to participants.

The presentations were followed by country proposal development exercise. The country was represented at this meeting by the Manager, Health Management Information System, Directorate of Health Planning and Information and a Principal Statistician from the Gambian Bureau of Statistics.

In November 2005, the Gambia completed and submitted to HMN a proposal to support strengthening Gambia's HIS development.

The independent Review Committee approved the country's proposal for the sum of $70,000.00 (seventy thousand dollars) to conduct three main activities; HIS Needs Assessment, a comprehensive HIS Strategic Plan and Capacity building starting from 1st. May 2006 to 30th. April 2007.

1.1 Objectives

The objectives of the Needs Assessment were as follows:

1. To Provide for objective baseline and follow-up evaluation
2. To Inform stakeholders about aspects of the HIS about which they may not be familiar
3. To Build a consensus
4. To Mobilize joint technical and financial support for the implementation of a strategic plan that identifies priority investments during the short (1-2 years), medium (3-5 years) and long term (10 years)

It is envisaged that the assessment exercise would be repeated at an appropriate interval, preferably involving similar stakeholders, thus providing a tool to monitor progress and inform future plans to improve the country's health information system.

1.2 Methodology

The Gambia HIS Needs Assessment was conducted using the HMN frame work and tool looking at all the six components e.g.

1. Context & resources,

2. Indicators,

3. Data sources,

4. Data Management,

5. Information product

6. Dissemination and use.

There were few assessment items added to the tool to capture information on transport services & supplies which were placed under the third component "Data sources".

2.0   Context and Resources

Although the Department of State for Health and Social Welfare (DoSH&SW) is primarily responsible for Health care delivery in the Gambia, NGOs and the private sectors also contribute to governments efforts.

In 1993, as a move to reform primary and secondary services, the 3 Regional Health Teams (RHTs) were sub-divided into 6 geographical health divisions. Each Division is managed by a Divisional Health Team (DHT). The DHTs are responsible for the day-to-day administration, management, monitoring and supervision of the secondary level (major and minor health centres and dispensaries) and primary level (village health services) in their respective divisions.

The health care system follows the primary health care strategy and is organized into three levels - tertiary, secondary, and primary. In addition there are a number of vertically based programmes that complement the general health care system. The thrust of the health policy has been extending health services to the under-served rural areas.

The public health sector now has 5 hospitals – Royal Victoria Teaching Hospital [RVTH], situated in the capital city of Banjul; Bansang Hospital in Bansang in Central River Division and the AFPRC General Hospital located in Farafenni in North Bank East. Two new hospitals were built. One in Bwiam, Sulayman Junkung and another is located at Kanifing called Serre Kunda general hospital. The private/NGO sector has a total of 7 hospitals, all of which are located in the WD, within the Kanifing Municipality. Overall, there are 12 functioning hospitals in the country with 9 of them located in WD.

There are forty Government health centres, six of which are major and the remaining thirty-four minor health centres. There are sixty-five private/NGO facilities.

2.1 Policy and Planning

There is no written HIS strategic plan per se for developing and strengthening the system, although there were areas mapped out with ad hoc plans to improving them. Policy and Planning can be looked at in seven (7) components as listed below:

- Information Usage
- Reporting Requirements
- Information/ Database Management
- Information Technology (IT)
- Health Research
- Capacity
- Co-ordination

Information usage

Quality information plays a key role in policy making and planning of any institution. When used effectively, information can maximize the use of limited resources,

support policy formulation and facilitate priority setting, planning and programme monitoring.

The main objectives for information usage are:-

- To make accurate timely and appropriate management information easily accessible throughout the health sector.
- To encourage the use of information derived from the HIS in management decision making in the public and private sectors.

Reporting requirements

Accurate, timely and complete information obtained from credible sources is the backbone and effectiveness of reporting. As we know, some difficulties are faced with acquiring information. They include:-

- Late reporting of information.
- Some reporting centers do not submit the requested information
- Private health practitioners have not been fully incorporated into the reporting structure.
- Due to poor communication, requirements for reporting have not been effectively communicated.

However, HIS has an objective to establish a sustainable reporting mechanism within DOSH& SW and between DOSH&SW and other stakeholders.

Information and data base management

The sustainability, efficiency and effectiveness of any HIS depends on proper management of information. Outlined below are some of the problems with information/database management within the current structure:

- Inadequate resources and trained staff at all levels
- Inappropriate access to and use of information
- Duplication of information and
- Inconsistency of information.

Furthermore, some objectives related to information and database management are as follows:

- To ensure HIS component interoperability
- To regulate, access and use HIS information as appropriate to specific user groups
- To provide security for HIS information/database

Information technology

Information technology performs a vital role in the creation of any effective computer-based HIS. IT infrastructure needs that must be addressed includes:

- Coordinated IT resource management (both human and equipment)
- Insufficient and inadequate IT resources including trained personnel and equipment
- The lack of system standards that complicates maintenance and inefficient use of resources
- Procurement and installation of non-sustainable computer equipment.

In addition to the above needs, three (3) objectives are identified.

1. To identify resource requirement
2. To improve management of IT resources
3. To increase IT capacity

Health research

It is important that research findings be used to strengthen health system management. HIS will make research findings readily available to DOSH&SW and its stakeholders for more informed decision-making. HIS objectives for health research include

- Use of HIS information in identifying research topics
- To make health research reports more accessible to DOSH&SW and other stakeholders.

Capacity

Adequate trained personnel, as well as an appropriate working environment are essential to develop, maintain and use effective HIS. The infrastructure currently available is inadequate. There are inadequate staffs with limited skills necessary to deliver the needed management information in usable format.

Co-ordination

Co-ordination is required to gather information in an efficient manner from the operational levels to the centre. Efficient information exchange requires willingness to share information in compatible formats with common technical standards. Currently, there are limited mechanisms in place to facilitate these exchanges.

To conclude, implementation and monitoring mechanisms are considered /developed in relation to the policy and planning of the HIS. The overall implementation and management of the HIS will be the responsibility of the DPI. However, for policy purpose, there are three (3) levels involved in the specific implementation tasks of HIS. They are Central, Divisional, Autonomous bodies, donors, partners, private and NGOs facilities. The Donors and Partners will assist in resource mobilization and advocacy whilst the Private and NGO facilities will be involved in implementation.

Specific responsibilities for implementation at each level (with principal responsible parties in brackets) are as follows:

CENTRAL

- Co-ordination of information for and from stake- holders (DPI)
- Gathering and distribution of information (DPI)
- Generation of information e.g. commodity information (NPS, DPI)
- Data processing (DPI)
- Resource allocation/ mobilization (PS DOSH, DPI)
- Enforcement of policy (PS DOSH, DPI)
- Development of policy (DPI)
- Monitoring and evaluation (DPI)
- Design and implementation of HIS computer system(DPI and 3rd Party Developers)
- Finance and budgeting (DPI, DoSFEA , PMO, Donors and Partners)
- Use of HIS information (ALL)

DIVISIONAL

- Collect, verify and report data to central level (DHT& Health facilities)
- Monitoring and Evaluation (DHT)
- Use of HIS information (ALL)

AUTONOMOUS BODIES

- Collect, verify and report data to divisional or central level (INDIVIDUAL BODIES)
- Use of HIS information (ALL)

Data collection and reporting of information (excluding notifiable diseases) which require immediate reporting from the autonomous bodies and the divisional levels to the central will be on monthly or quarterly bases. Supervisory visits will occur on quarterly bases.

Monitoring and evaluation will be required so as to enable policy makers and managers determine whether activities planned are being carried out and are achieving the set objectives. The monitoring and evaluation mechanisms should provide linkages at operational level and timely dissemination of information to stakeholders.

2.2 HIS Institution, Human resources and financing

The Gambia Health Information System is housed in the Directorate of Health Planning and Information, Department for State for Health & Social Welfare. The Office has appointed Data entry clerks at all the six Divisional Health Offices and all major government health centres. There are also HIS Focal persons in all the government hospitals and programme units at DOSH & SW.

At the central level there is only one trained Health Information Officer who is the Health Management Information System's Manager. Other staffs include a Senior Health Planner, a Statistician (on the job training), an ICT Officer and a data entry clerk.

At the Sub-National Level there is no trained Health Information Officer but there are plans to create such positions in the National Budget Estimate in the near future. This will be followed by the recruitment. Currently the Government takes care of the salaries of all HIS staff on yearly bases. The unit is faced with the problems of high attrition in both the Information and IT sections due to low wages, poor working environment and lack of motivation.

The funds for financing the HIS other than staff salaries are mainly provided by donors & partners mostly loans through projects such as the then PHPNP. Although there are budget line items provided for in the annual government budget estimates, the unit has experienced problems in accessing them. The ICT equipments including computers, internet services, servers and accessories were bought by the then PHPNP project. Currently the unit is faced with the problems of paying annual internet subscription fees and bills, the maintenance and replacement of equipments.

In the area of software development, there is limited capacity in house to take care of it and this is usually subcontracted to other computer firms. The unit uses Microsoft Excel for data entry and management. There is a need to develop user friendly software for data management and analysis. The capacity of the IT staff needs to be developed equally to enable them handle the issue.

Figure 2: Organogram of HIS under the Directorate of Health Planning & Information
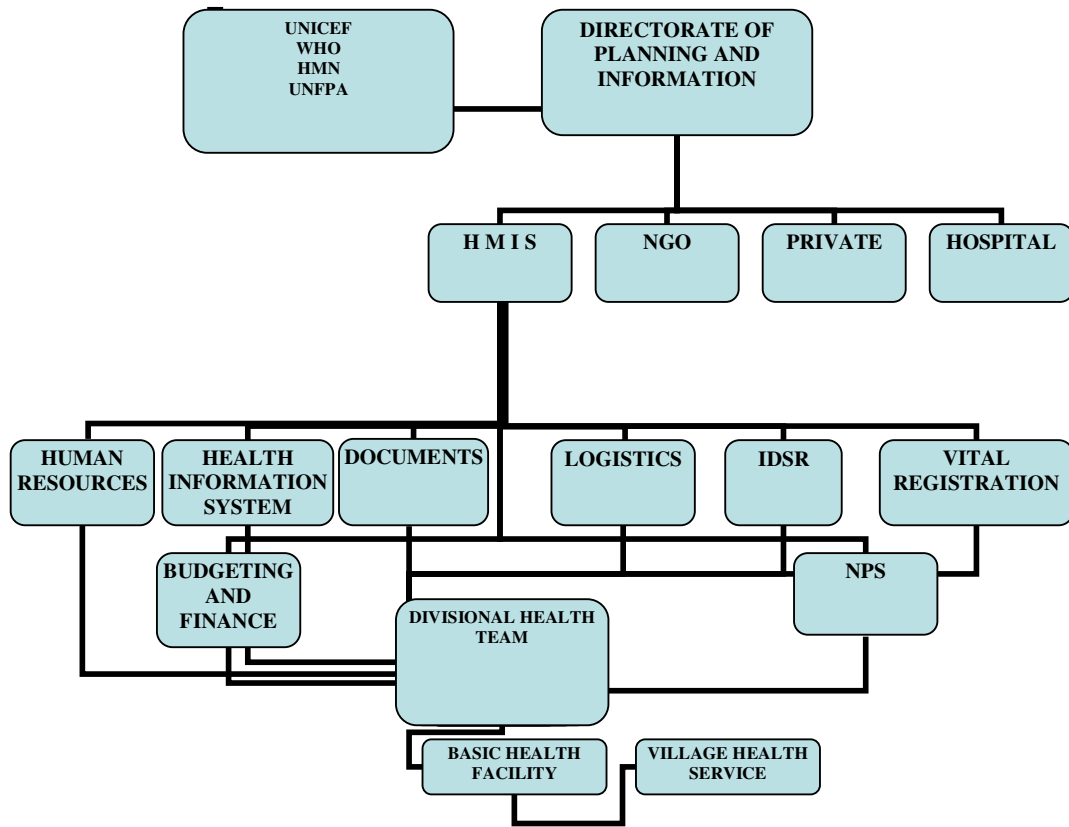
Figure3: Department of State for Health & Social Welfare Conceptual

Frame Work Health Management Information Flow Diagram

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┌─────────────────────────┐          ┌─────────────────────────┐
│     OFFICE OF SOS        │ ───────▶ │    DONORS/PARTNERS       │
│                         │ ◀─────── │                         │
└─────────────────────────┘          └─────────────────────────┘
          │   ▲
          ▼   │
┌──────────────┐   ┌──────────────────────────────────────────┐
│ PROGRAMME    │◀──│  DIRECTORATE OF PLANNING & INFORMATION    │
│ UNITS        │──▶│                                          │
└──────────────┘   └──────────────────────────────────────────┘
                        │   ▲
                        ▼   │
                   ┌──────────────────────────────────────┐
                   │     DIVISIONAL HEALTH OFFICES         │
                   └──────────────────────────────────────┘
                        │   ▲
                        ▼   │
                   ┌──────────────────────────────────────┐
                   │     BASIC HEALTH FACILITIES           │
                   └──────────────────────────────────────┘
                        │   ▲
                        ▼   │
                   ┌──────────────────────────────────────┐
                   │  PRIMARY HEALTH CARE COMMUNUNITY       │
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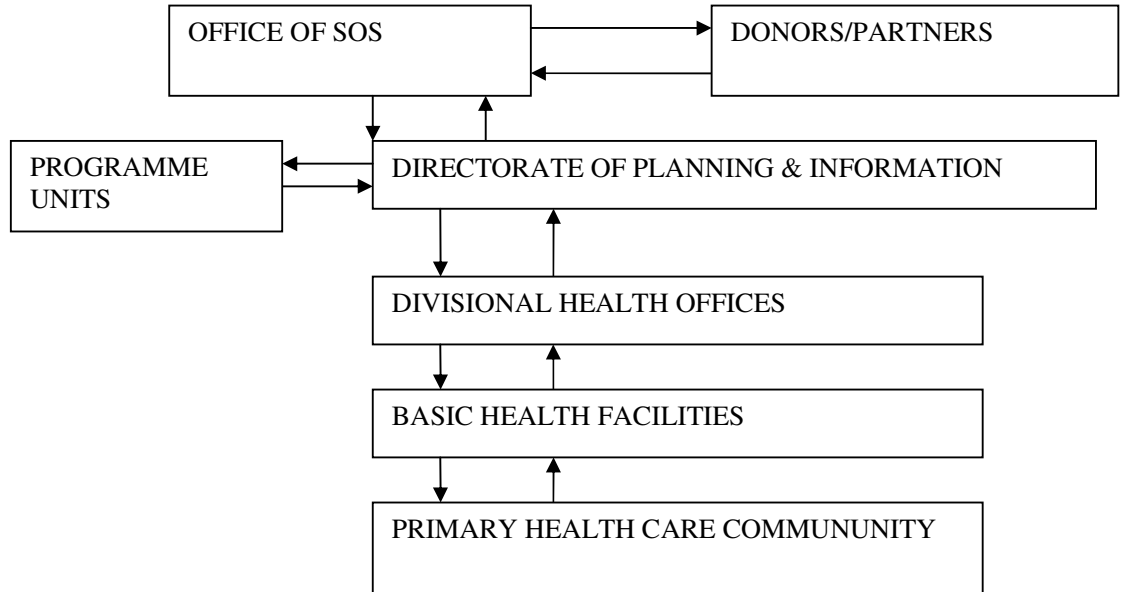
2.3 HIS Infrastructure

The HIS unit has an office space provided at the central level with some infrastructure at the sub-national level. In 2005 a local area network was established connecting almost all programme units to internet services through a server.

There is a need to provide electric power back-ups to provide continuous supply of power to aid data entry, processing and management. Fuel supply should be provided on regular bases to keep stand-by generators running

Table 1: Context and Resources

	Summary of Result	Maximum	Score	%
A	Policy and Planning	24	7	30%
B	HIS institutions, human resources and financing	27	11	39%
C	HIS Infrastructure	21	14	67%
	Overall Results	**72**	**32**	**45%**

The table above shows the summary results of context and resources. All except one of the assessment items are found to be "not adequate". Although there is an HMIS policy in place but it has failed to capture current HIS issues such as integration of data sources, maintenance and replacement of equipments and staffing. There is no adequate system for its enforcement, therefore scoring a lowest assessment point of 30%. The lack of an HIS strategic plan has also contributed to this very low score.

The next assessment item, HIS institution, human resources and financing had a low score of 39% which is found to be not adequate at all. The results of such a low score could be attributed to the fact that there is no adequate office space, trained HIS staff and lack of adequate financial and material support for the development of HIS.

According to the results shown in table 1, HIS infrastructure was found to be adequate (67%) and this may be due to huge investment by the then PHPNP project. The overall results for context and resources (45%) indicate that this component requires more immediate attention. There is an urgent need to provide/allocate enough financial and material resources to facilitate developing and strengthening HIS.

3.0 Essential Health Indicators

A wide range of health indicators are covered by the Gambia Bureau of Statistics (GBOS) in Population and Housing Censuses and in ad hoc surveys jointly conducted with the Department of State for Health and other stakeholders.

Indicators covered in Population and Housing censuses include life expectancy at birth and at various ages, infant and under-five mortality rates and crude and age specific death rates. Population and Housing Censuses are conducted every ten years with the last been done in 2003. From the analysis of the 2003 data, life expectancy for the population has increased to 64 years with sex differentials of 62 years for males and 65 years for females. The 2003 census also shows a reduction in the mortality rates among infants and the under-fives. The infant mortality rate declined to 75 per 1000 live-births (79/1000 among males and 70/1000 among females) whereas the under-five mortality rate declined to 99 per 1000 live births (103/1000 among males and 94/1000 among females). Inter-censal estimates of these indicators are usually done to facilitate population projections.

Numerous household surveys with health modules are done between censuses by GBOS in collaboration with DOSH and other stakeholders to meet the demand for health data at both national and international levels. Health and health related indicators covered in these ad hoc studies include maternal mortality, immunization coverage, delivery assistance and malnutrition.

The last maternal mortality study was in 2001 and according to the results of that study maternal mortality rate is currently estimated at 730 per 100,000 live-births. Given the importance of maternal mortality for health planning and for monitoring the empowerment of women, some institutions and individuals are requesting that GBOS should attempt to collect the data in the census. Though, the requests may be tabled before stakeholders for the 2013 census, it should be noted addressing maternal mortality in a Population and Housing Census would be costly and time demanding.

Immunization coverage among children and skilled attendant at birth for pregnant women are important health indicators, which are collected on periodic bases e.g. the maternal mortality survey and the multiple indicators cluster survey (MICS). The 2006 MICS was the most recent study in which such information was collected. However, results of the 2000 MICS shows that immunization coverage among children 12 – 23 months was 61.9 percent whilst skilled attendant at birth was 54.6 percent.

Health status of the population particularly of pregnant women, lactating mothers and children to a large extent depends on their level of nutrition. DOSH in collaboration with the National Nutrition Agency (NaNA) regularly collects anthropometric data to determine the extent of malnutrition among infants and under-fives. On the other hand, the MICS sponsored by UNICEF and executed by GBOS and DOSH is carried out every five years and contain modules for anthropometric and skilled attendant at birth. As stated above, the data for the 2006 MICS is yet to be published. It is important to mention that the frequency of MICS has now been reduced to three years and the next MICS study is expected to be in 2008.

Government's commitment to contain the spread of HIV/AIDS and other STIs is high. Funds have been made available to the National Aids Secretariat (NAS) and the National AIDS Control Programme (NACP). NAS conducts sentinel surveillance at (8) sites, data from which are used to monitor the impact of their activities on the population. Current indications are that the prevalence of HIV-1 is

(1.0) and that of HIV-2 is (0.6), quoting from the 2005 HIV Sentinel Surveillance results.

Table 2: Indicators

	Summary of Result	Maximum	Score	%
II.	Indicators	**15**	**10**	**66%**

This table shows the summary results of Indicators and it is found to be adequate (66%) although there is more room for improvement. The need to capture all the health related MDGs would be very useful for reducing poverty, health promotion and protection.

Figure 4: Selected Indicators
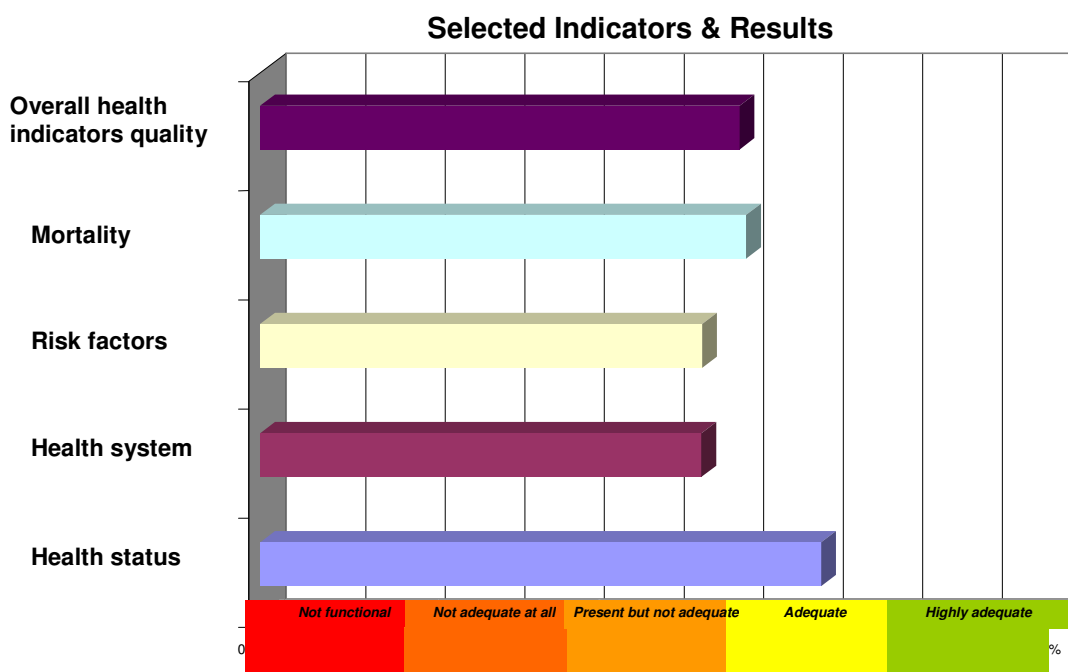
The results of the indicators shows (figure 4) that three of the assessment items Health status, Mortality and overall indicators quality were found to be adequate whilst the remaining two, risk factors and Health system were found to be Present but not adequate. This might be due to the fact that more attention is concentrated on capturing them by present HIS and very little is done on the others. This is revealed by the analysis in figure 4.

Data on Risk factors and Health systems are not collected either by routine or special studies. For instant there has never been any study on cigarette smoking by the health sector nor was there any on alcohol consumption. Although data is collected on road traffic accident but it is not collated and analyzed.

Figure 5:   The Seven Elements of Data Quality
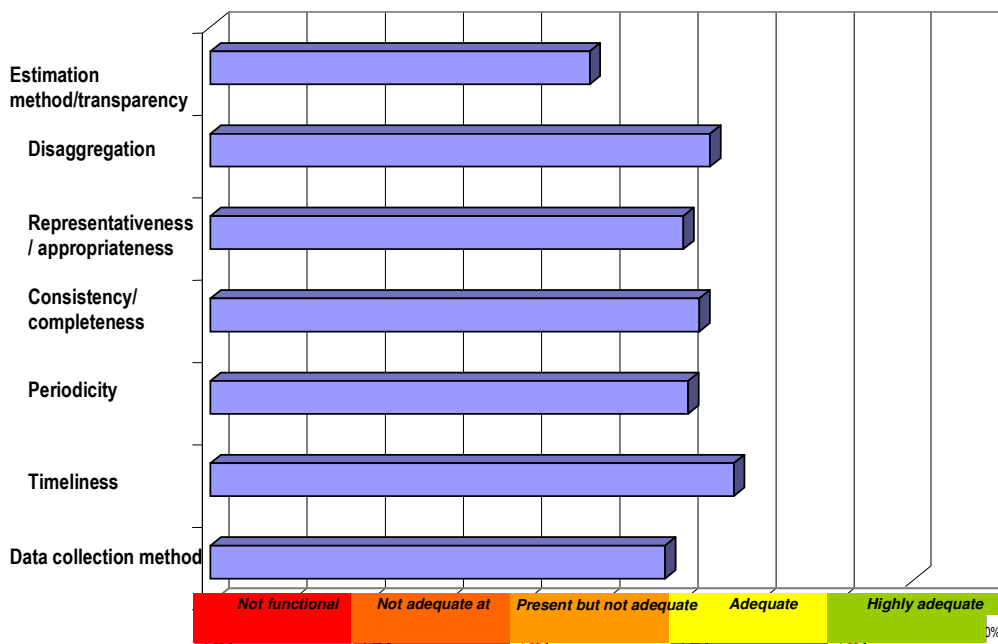
Figure 5 shows the analysis of the quality of the various data collection methods assessed. Except for Timeliness and Disaggregation, the remaining assessment elements are all found to be present but not adequate. The least adequate among them is the Estimation method/ transparency, this scored very low on average.

The overall result indicates that there is an urgent need to improve on data quality and this will need more investment in terms of resources.

4.0   Data Sources

Main sources of health data are censuses and surveys, vital registration and hospital / administrative records. Whilst censuses are conducted every ten years, periodic surveys are done to meet inter-censal demands for health data. The content of health and health related data collected in these are adequate for health planning purposes. On the other hand, registration of births and deaths is a routine activity done at the Department of State for Health (DOSH) whilst marriages and divorce are done at the Department of State for Justice. Though, the content of the vital registration system may be adequate, the coverage is generally not adequate. Hospital records are mainly on major diseases particularly on communicable ones and clinical data. These records are not sent to the center (HMIS).

Censuses and surveys are principally conducted by GBOS in collaboration with other stakeholders. The capacity of GBOS is limited however in terms of human, material and financial resources to adequately conduct censuses and surveys without delay. For example, a post enumeration survey (PES) planned for the 2003 census but due to inadequate human and material resources, this could not take place.

DOSH on the other hand do not have the capacity to computerize the vital registration system, have statistical focal persons at divisional level and have a health data analyst at national level. Added to these, there is only one hospital that uses ICD-10 and that is RVTH.

Census and survey data are available in publications. There are plans to disseminate data from the 2003 census and the 2006 MICS on the GBOS website. With regard to hospital / administrative records, annual service reports are produced but do not adequately cover all aspects of health service delivery (e.g. drug information, staffing by cadre) and do not provide an in- depth analysis of the data it contain. In general, a health database was created and installed at DOSH but has not been regularly up dated due to lack of resources.

Table 3: Results of Data Sources

Data Source	Contents	Capacity & Practices	Integration	Dissemination and use	Total
A. Census	Present but not adequate	Present but not adequate	Present but not adequate	Present but not adequate	Present but not adequate
B. Vital statistics	Not adequate	Not adequate	Not adequate	Not adequate	Not adequate
C. Population-based surveys	Adequate	Highly adequate	Not adequate	Not adequate	Present but not adequate
D. Health and disease records (including disease surveillance systems)	Present but not adequate	Present but not adequate	Not functional	Present but not adequate	Present but not adequate
E. Health service records	Not adequate	Present but not adequate	Present but not adequate	Present but not adequate	Present but not adequate
F. Administrative records	Present but not adequate	Not adequate	Not functional	Not functional	Not adequate

According to the results in the table above, Vital Statistics is found to be not adequate by content, capacity & practices, integration and dissemination. The total result shows that two of the six data collection methods, Vital Statistics and Administrative records were found to be not adequate. These areas should be given priority during the strategic planning exercise.

The remaining four methods should be given due consideration either on a medium or long term plans, because results implies that there is more room for improvement.

Figure 6: Data Collection Methods
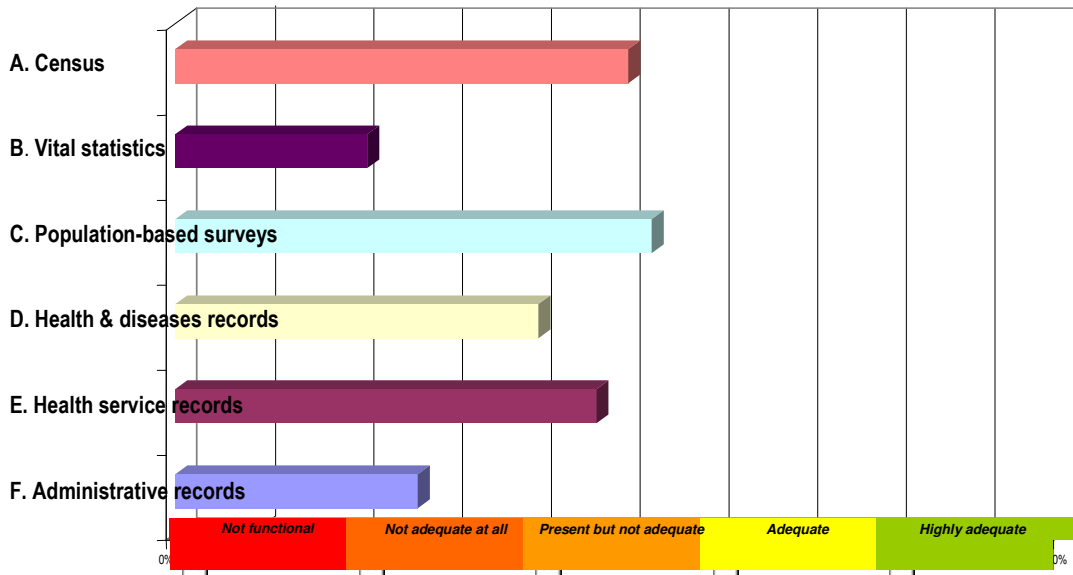
The data collection method with the highest average score is the population based survey. This is an area that attracts most of the donor support. Vital Statistics had the least average score. This implies that more efforts should be focused on improving the vital statistics system, Administrative records, Health & disease records and Health service records respectively.

The overall performance of all the data collection methods is present but not adequate. In-view of the above evidences a comprehensive strategic plan should include activities to improve the entire data collection methods.

5.0   Data Management

Modern data management requires professional skills in information technology (IT). Most data managers at GBOS and DOSH are computer users but needs special training in data management. To properly manage statistical and health data, a conducive working environment with the requisite hard and soft ware needs to be in place.

Table 4: Data Management

	Summary of Result	Maximum	Score	%
IV.	Data management	**15**	**6**	**37%**

This component has the lowest score of 37%, indicating that it is not adequate. The very low score is due to lack of skills. Another factor is due to inadequate computer equipments and software. Issues or factors affecting this component requires immediate attention and should be addressed by a strategic plan.

6. Information Products

Table 5: Quality of data collection method, Timeliness, Periodicity, Consistency, Representativeness, Disagregation & Estimation Method

Marking Indicators *Elements for assessing selected indicators*	Health status			Health system indicators	Risk factors indicators	Overall health indicators quality
	Mortality	*Morbidity*	Overall			
Data collection method	not adequate	highly adequate	present but not adequate	adequate	present but not adequate	present but not adequate
Timeliness	Adequate	highly adequate	Adequate	adequate	adequate	adequate
Periodicity	present but not adequate	highly adequate	Adequate	adequate	present but not adequate	adequate
Consistency/ completeness	Adequate	highly adequate	Adequate	adequate	present but not adequate	adequate
Representativeness/ appropriateness	present but not adequate	highly adequate	Adequate	present but not adequate	adequate	adequate
Disaggregation	highly adequate	Adequate	highly adequate	present but not adequate	present but not adequate	adequate
Estimation method/transparency	Adequate		Adequate	Not adequate		present but not adequate
Overall assessment of results	Adequate	highly adequate	Adequate	present but not adequate	present but not adequate	adequate

Overall assessment results shows that quality of information product is adequate. The Health status shows that the quality measuring mortality is adequate whilst morbidity was found to be highly adequate. The results of the Health System and risk factor indicators on the contrary are found to be present but not adequate scoring less than 40%. The reason being that they are not adequately captured by the routine data collection method of the HMIS. This point should be given due consideration in the development of the strategic plan.

7. Dissemination and Use

Table 6: Results of Dissemination and Use

Summary	Result
Analysis and Use of Information	Present but not adequate
Policy and Advocacy	Present but not adequate
Planning & Priority Setting	Present but not adequate
Resource allocation	Not adequate
Implementation/action	Present but not adequate
Overall	Present but not adequate

Among the items being assessed, Resource allocation had the least score, "not adequate". This has contributed to an overall result of "present but not adequate".

This has supported the assertion made earlier that Gambia's HIS lacks adequate financial and logistic support. Therefore adequate resources are required to support running of the system and it should be captured in the strategic plan.

8.0   Summary of HIS Assessment and Policy Implications

Table 7: HIS components

Resources	45%
Indicators	66%
Data sources	40%
Data management	37%
Information products	60%
Dissemination & use	48%
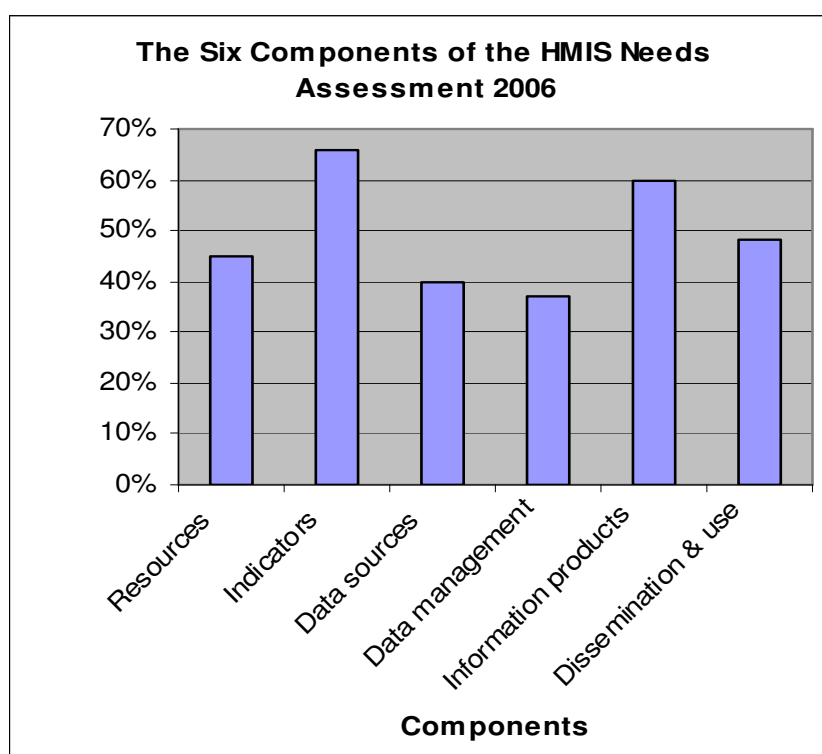
Data management scored the lowest percentage point 37%. This is followed by Data sources 40%. Resource is third on the rank with 45% and Dissemination & use scoring 48%. Indicators scored the highest with 66% and Information product 60%. These two are found to be adequate.

The results indicate that there is lack of adequate capacity and resources to support data management, data sources and resource allocation.

The HMIS policy should be reviewed to capture current issues affecting components as revealed by the assessment results.

Table 8: HIS Data Sources

A. Census	51%
B. Vital statistics	22%
C. Population-based surveys	54%
D. Health & diseases records	41%
E. Health service records	47%
F. Administrative records	27%

Figure 8: HIS Data Sources
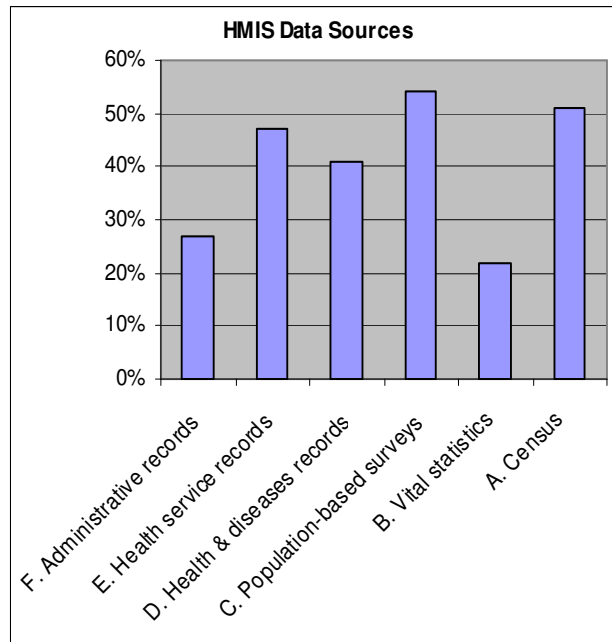
According to the assessment results none of the data collection methods is adequate. Vital statistics had the lowest score of 22%. This is a true reflection of what obtained on the ground. Administrative records ranked second with 27% followed by Health & Disease record, 41%. Population based surveys had the highest score, 54%. And this is followed by Census, 51%. This implies that there is more room for improving these methods so as to provide accurate information for evidence based planning and policy formulation.

Table 9: Quality of Data sources

Data collection method	58%
Timeliness	67%
Periodicity	61%
Consistency/ completeness	63%
Representativeness/ appropriateness	61%
Disaggregation	64%
Estimation method/transparency	49%

Figure 9: Quality of Data sources
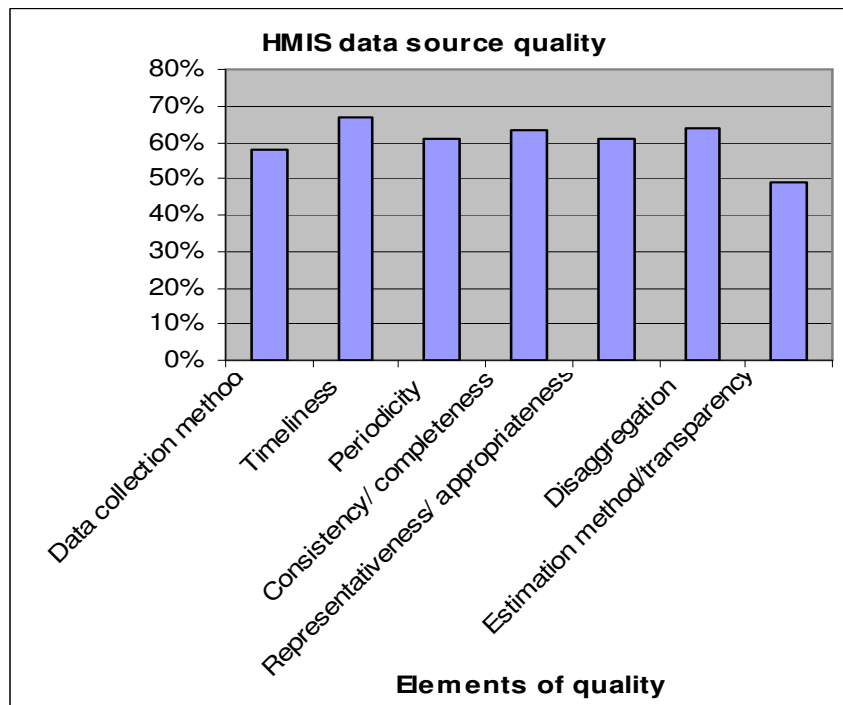
The results presented in the table shows that two of the six elements of data quality have scores that are not adequate. Estimation method/transparency 49% & data method 58%. For information to be useful all the six elements must be adequate

Table 10: HIS Core Indicators

Health status	70%
Health system	55%
Risk factors	56%
Mortality	61%
Overall health indicators quality	60%
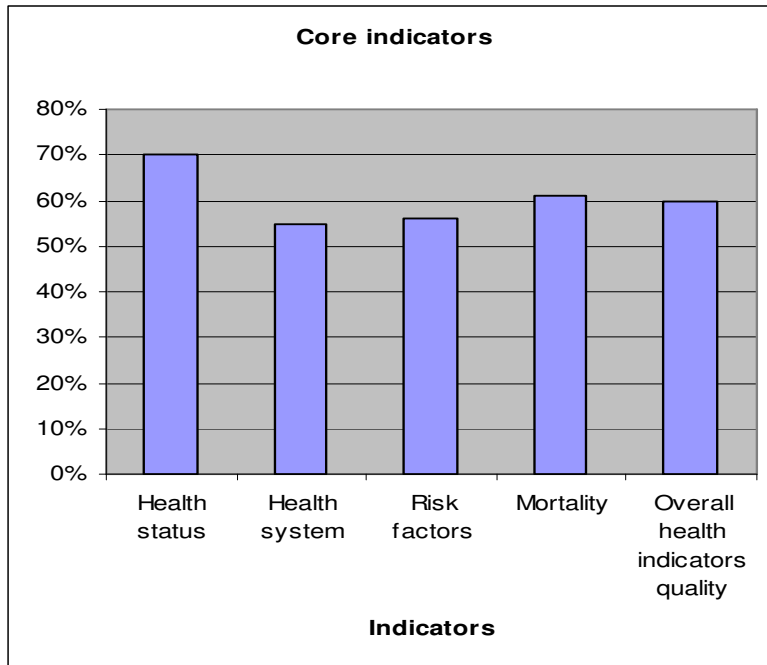
HIS indicators are found to have the best summary results as compared to the others. Health system indicators scored the lowest with 55% and Health Status scoring 70%. On average indicators measurements are more adequately covered by the data collection methods being used.

9.0   Issues Raised

Resources (policy and planning)

- HMIS policy is available but has not been properly implemented
- There is in existence a national HMIS committee but not functional
- HMIS unit is seriously under-resourced
- There is limited national capacity in core-health information sciences (Epidemiology, Statistics, Demography and health planning) to meet the health information needs.
- A budget line exist but inadequate and difficult to access
- Staff attrition has seriously affected services especially in the area of Health information.

Indicators

- The core indicators revised in 2002 did not capture the MDG health related indicators (eg number of children orphaned by HIV/AIDS)

Data sources

- Vital registration has a very low coverage and the information generated is primarily used for certification
- The unit is still using the old way of registering births and deaths. The registers are of very low quality and with time they are found torn all over making the accessing of information difficult sometimes
- Population projections are not based on cohort component methods
- There are no statistical offices at the divisional levels
- ICD-10 is not used by most facilities
- Annual service report are sometimes produced but do not adequately cover all aspect of health service delivery(e.g. finance and drug information) and do not provide an in-depth analyses
- Inadequate planning and response to disease outbreaks
- Finding from surveys, vital registration and DSS are not used to assess the validity of clinic based data
- Inadequate supervision and poor feedback mechanism
- Data generated from divisional level not used by them for planning
- Health service records and reports feature very little information from NGOs, private facilities, community health facilities and hospitals
- The data base used by health is not regularly updated
- Coding for health facilities existed but no longer in use
- Health maps are available but are not adequate, not widely used and not updated

Health financing

- Financial records are available on Government expenditure on health but limited records on private, community, individual or external expenditure on health.
- The first ever NHA is being conducted but the funding is inadequate

Data base on equipment, supplies and commodities

- Facilities are not reporting on inventory and status of equipment and physical infrastructure
- No report on stock of health commodities from the divisions to the central level.

Data management

- Data warehouse which is limited only to service statistics existed both at the national and divisional level.

- Inadequate data management procedures and limited capacity at all levels

Information products

- Hospital records not captured in the HIS processes
- Base line data on HIV/AIDS among the high risk groups is limited to sex workers
- Health parameters do not include accidents(Road and other forms of accidents)
- No information is collected on smoking and alcohol consumption.

Dissemination and use of HIS information

- HIS reports are not regularly produced
- HIS reports are not made available to policy makers/politicians outside health
- Access to HIS data collected by public institutions are strictly controlled
- HIS reports are not user friendly to policy makers as they are usually presented in table and graph with limited simplified interpretation

9.1 Recommendations on potential development areas with existing Resources.

Resources (policy and planning)

- It's more than three years since the development of the HMIS policy and operationalizing has proved difficult and as a result not much could be achieved. It is therefore recommended that the policy be reviewed and a strategic plan be developed to operationalised the policy.

- The policy is very clear on the formation of a national HMIS committee and even suggested its membership. It has been noticed with concern that the committee is not at all functional. An effective national HMIS committee is crucial for the effective coordination of HMIS activities. Therefore the provision of adequate resources to ensure a functional national HMIS committee is recommended.
- To increase the efficiency of the HMIS unit, it is recommended that adequate resources be made available.
- It came out very clearly during the needs assessment that some capacity in the core health information sciences (Epidemiology, Statistics, Demography and health planning) is required for the effective implementation of HMIS activities. There is need to train staff in these disciplines.
- Although a budget line exists for HMIS, the amount available in this budget is grossly inadequate and difficult to access. It is recommended that some resources be mobilized and a mechanism be put in place to facilitate the easy access of funds.
- For evidence-based decision making and budgetary allocation, it is recommended that information generated by HMIS be used.
- Staff attrition has affected services seriously and this trend may continue unless something is done to motivate them and in this regard it is recommended that the Human Resource for Health (HRH) strategic plan be implemented

Indicators

- The core indicators reviewed in 2002 did not capture all the MGD health related indicators. It will be important to review them so that all the MDG health related indicators will be included.
- The state of the births and death registry regarding handling and filing of the information being generated need much to be desired for. The registers are torn thus making access to some information difficult. To mobilize funds to computerized vital registration was strongly recommended
- The establishment of statistical offices at the divisional level has been expressed and recommended during the assessment.
- It is strongly recommended that health facilities be train and encouraged to use the ICD-10 which is useful for disease classification.
- Although service reports are not always produced, it is recommended that they should be produced and should cover all aspects of health service delivery such as information on drugs and other commodities.
- Adequate resources should be made available for the timely response to disease outbreaks and epidemic management.
- Supervision is weak and feedback poor in the Gambia. It will be extremely important to strengthen supervision and mechanism for feedback.
- Train and encourage Divisional Health Management Teams (DHMT) to interpret and use the data they generate for planning and decision making at their level.
- The HIS report produce do not include information from NGO, private and community health facilities. It is therefore recommended that mandatory provision be made for them to send monthly return to HMIS.

- The HMIS is using an excel data base which has not been updated since the closure of the Participatory Health population and Nutrition Project (PHPNP). The regular updating of the data base is therefore recommended.

Health financing

- The process of the first ever NHA that is being conducted should be expedited and adequate funding is recommended to facilitate regular NHA.

- Financial record on external support to health be properly coordinated.

Data base on equipment, supplies and commodities

- Guidelines be developed to ensure annual inventorisation and reporting on the status of equipments and physical infrastructure

Data management

- The data warehouses both at the national and divisional level should be well resourced to cover all data sources
- Good inventory of DOSH&SW assets e.g. structure, equipment and furniture.
- Vehicle and generator fuel to be inventorized and accounted for by RFH and DOSH&SW.
- The provision of clear guidelines, procedures and steps for data management at all levels is recommended.

Information products

- It is recommended that HIS report be produced annually and the information be made available to managers and policy makers/politicians at all times.

- Custodians of data from public institutions be sensitized and informed that HIS data from these institutions are in the public domain and should be accessible to the public. These reports need to be detailed but also simple for policy makers to evaluate performance and set priorities.

- Smoking and alcohol consumption has been associated with important health risk yet none or very little information is collected on smoking. It is recommended that information on smoking be collected.

- Design a data collection tool for road traffic accident.

General recommendations

Years ago DHTs were planning on their own and at their own level. This was found useful as they had chance to look at areas affecting health in their areas of operation. This important divisional activity could not continue due to lack of support. The revitalization of divisional planning meetings is recommended.

These planning meetings should make use of information produced at the sub-national level of the HIS. Therefore there is ardent need to allocate more resources in strengthening the sub-nation systems to facilitate evidence based planning and informed decision making and policy formulation.

HMN Secretariat should continue its support in resource mobilization, advocacy and technical assistance to the Gambia HIS Development and strengthening. The HIS unit was established in 2000, it is in its infancy and there is an urgent need to provide continuous financial, logistics and technical support.

Considering the size of the country it would be prudent to include it among Pathfinder countries which will serve as a model to others by 2011 in HIS development in low and lower middle income countries that are targeted by the HMN project. Review the existing HMIS policy

9.3   Opportunities for donor coordination

HIS assessment results revealed some major weaknesses and the areas affected mostly are ranked as follows:

a). Data Management
b). Data sources
c). Resources
d). Dissemination & use

Data management has the lowest average score of 37% as indicated by the results. This implies that there is an urgent need to look into issues affecting the various elements of the data processing and management. Other factors that could have contributed to this very low average score could be listed as follows: lack of adequate financial support, lack of capacity in terms of human resources, in-adequate logistics support and none conducive environment just to name a few.

Therefore data management is an area that would require adequate funding and investment. It is hoped that some of the development partners and donors would be interested to support in strengthening this very important component of the Health Information System.

The next component with the lowest average score (40%) is data sources. This is one very important component which includes the following data collection methods:

> Census
> Vital statistics
> Population based surveys
> Health and diseases records
> Health service records
> Administrative records

Vital statistics is shown to be not functional with an average score of 22%. This is due to inadequate financial and human resources to support its development. The

Gambia being the smallest country on the content, it will be easy to achieve 100% coverage. This is another area which requires donor funding and support.

9.4 Critical next steps

The next step in developing and strengthening HIS is to focus all attention and investments to developing a ten year strategic plan. The plan should address issues on short, medium and long term bases such as problems relating to the two components with the lowest assessment scores such as "Data management and Data collection methods".. On medium term the issues relating to Context & resources and Dissemination &Use should be addressed equally. Indicators and Information products are components that require periodic reviews on a long term bases.

The development of a strategic plan should involve all stakeholders more so donors and partners alike. Such a plan when completed should be costed and presented at a donor's conference. This process need to be supported with intensive advocacy activities.

The next critical step is to review the existing policy which fails to address critical issues relating to HMIS.

10   References

Government of the Gambia: Health Management Information System Policy

HMN: Needs Assessment guide lines

Government of the Gambia: National Health Policy (Framework)

Government of the Gambia: Public Expenditure Review

Government of the Gambia: Health Mapping

Government of the Gambia: Reproductive Health Policy

Government of the Gambia: National Malaria Policy

WHO: Integrated Disease Surveillance guide lines

NACP: National HIV Sentinel Surveillance (2005)

UNICEF & CSD: Multiple Indicator Cluster Survey 2000

CSD: National Population & Housing Census (2003)

PHPNP: Project document (1998 – 2005)

HMIS: Service Statistics report (2001 – 2004)

HMN. Needs Assessment tool

HMN. Issues in Health Information 1 National & Sub-National

HMN. Issues in Health Information 2 Information Needs For HIV/AIDS, Tuberculosis & Malaria

HMN. Issues in Health Information 3 Integrating Equity into Health Information System

HMN. Issues in Health Information 4 Improving Systems for Measuring and Monitoring Vital Events

HMN. Issues in Health Information 5 Household and Facility Surveys

HMN. Issues in Health Information 6 Disease Surveillance

HMN. Issues in Health Information 7 Modeling & Estimation

Indonesia. Unedited Needs Assessment report

Thailand. Unedited Needs Assessment report

Iran. Unedited Needs Assessment report

Ghana. Needs Assessment report

11.   Annex 1: Organisation of the Gambia HIS Tendaba Assessment Summary Report

The Republic of the Gambia, Department of State for Health & Social Welfare conducted the Needs Assessment using the HMN Assessment tool and the members of the stakeholders, producers, users and donors who participated in the exercise are as follows:

Department of State for Health & Social Welfare (DOSH & SW)

Gambia Bureau of Statistics (GBOS)

Department of State for Education (DOSE) EMIS (Education Management Information System)

Department of State for Finance & Economic Affairs (DOFEA) IFMIS (Integrated Financial Management Information System)

Department of State for Local Government (DOSLG) LGAs (Local Government Authorities)

Department of State for Justice (DOSJ) Registrar of Marriages & Divorces

The National Population Commission Secretariat Office of the President

Representative of the Private & HGO Health facilities

World Health Organisation (WHO) the country office (WR)

United Nations Children's Educational Fund (UNICEF) country office

United Nations Fund for Population Affairs (UNFPA) country office

Department of State for Information, Communication & Technology (DOSICT)

The Health Management Information Unit, Directorate of Planning & Information DOSH &SW and the Gambia Bureau of Statistics led the process of organising the Gambia Tendaba Needs Assessment 2006.

Organization of the Tendaba Needs Assessment

A stake-holder's meeting was convened in July to inform and solicit approval for the conduct of the exercise as an initial step of the preparatory phase. It was at this meeting that a tentative date (6th. to 11th August) for the consensus workshop was scheduled. The meeting also agreed on Tendaba Camp as the venue for the meeting and a proposed list of participants and facilitators were agreed upon. Invitations together with the Needs Assessment tool and programme were sent to invitees well in advance. This was to allow participants to read and familiarize themselves with the tool in preparation for the exercise.

A team of facilitators and some stake holder's reviewed and adopted the generic questionnaire in preparation for the Needs Assessment exercise. Seven Facilitators were trained for two weeks by three resource persons trained at the Ghana workshop.

Unfortunately, because of circumstances beyond control, the meeting finally took place from 27th. August to 1st. September 2006. Participants traveled to the workshop venue on 27th. August and the meeting was officially opened on 28th August.

The consensus workshop

The meeting was officially opened by the Deputy Permanent Secretary Finance and Administration on behalf of the Permanent Secretary and this was followed by two presentations which took the first half of the day's work. This was followed by the introduction of the tool and the grouping of participants into eight different groups using HMN Group Builder.

The assessment proceedings went according to plan but with some slight changes in the second day. After the recap of the first day, participants suggested that groups should be allowed to continue and finish the assessment then presentations and discussions to follow at plenary. This was unanimously endorsed and group work continued through the fourth day when presentations started with the first four groups presenting. These were followed by discussions, consensus building and unanimously agreeing to key issues raised.

The last four groups presented after lunch, followed by discussions and consensus building. All groups presented both the quantitative (scores) and qualitative (comments) data. The facilitation team put together the eight presentations in the form of challenges and a way forward. The final results of both the quantitative and qualitative assessments were compiled. These results were presented at plenary to the bigger participant group by the Health Information System Manager, then discussions and final consensuses were reached by all on the fifth day.

Meetings of smaller working groups

The consensus workshop started with smaller group meetings using the HMN Group Builder Guide and this was followed by a larger group plenary. The country adopted

the groupings suggested by the HMN group builder and the groupings by number, type of participants, and the numbers of items assessed are as follows:

a) HMIS group comprised of ten participants who assessed all the items;
b) Program Managers comprised of nine participants who were able to assess ninety one items;
c) Senior Planners comprised of nine participants and assessed seventy seven items;
d) Statisticians & Demographers comprised of eight participants who were able to assessed one hundred and nine items;
e) Financial M & E comprised of eight participants and assessed twenty eight items;
f) Sub- National comprised of eight participants who assessed sixty one items;
g) Administrative Statistics comprised of nine participants and were able to assess twenty two items;
h) Non Project donors comprised of nine participants who assessed all items;
i) Facilitators comprised of seven members who guided the process of the assessment.

All groups did the assessments during the first three days of the assessment period and every participant had a chance to rotate among the groups to contribute to the exercise.

The Gambia Needs Assessment used a seven member facilitation team which included the four resource persons trained at the Accra Workshop. The team's role was purely facilitation explanation and clarification on issues and points.

There are plans to conduct a day's validation meeting to share the assessment findings with all stakeholders nationally. This is yet to be done.

There were some additional questions on the Health transport fleet and maintenance which the country felt that should have been included but there were no changes.

None of the items were omitted from the assessment because the country felt that they are in place. The facilitation team read the assessment guideline thoroughly and understood the content and process very well; therefore there was no problem with that.

Organising meetings with stakeholders is not an easy task because most of them especially donors, NGOs, private sector and partners are often very busy with other commitments or assignments. A successful meeting should involve all major stakeholders. The Gambia HIS assessment coincided with the presidential election.

The final report on the assessment is yet to be completed because there are plans to conduct a day's validation meeting with all stakeholders in order to in-cooperate comments, suggestions, additions and deletions. Draft copies will be sent to all invitees to the meeting two weeks in advance for review and comments.

The Gambian experience shows that it might take about three to four months to complete the assessment starting with a stakeholders meeting first. This has

involved series of smaller and larger group meetings meant to sensitize all especially the higher authorities, policy and decision makers.

One lesson that the Gambian team learnt was that there is a need to give more time for planning with adequate financial support, a proper budget. Monies should be made available to countries immediately to maintain team spirits and enthusiasm. The entire assessment process should be well coordinated through out.