



# **DISTRICT HEALTH MANAGEMENT INFORMATION SYSTEM (DHMIS) POLICY**

2011



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## ABBREVIATIONS

<b>AIDS</b>	- Acquired Immunodeficiency Syndrome
<b>ANC</b>	- Antenatal Care
<b>ARV</b>	- Antiretroviral (ARV)
<b>DHS</b>	- District Health System
<b>DHIS</b>	- District Health Information System (software solution)
<b>DHMIS</b>	- District Health Management Information System
<b>DIM</b>	- District Information Manager
<b>DIO</b>	- District Information Officer
<b>DOH</b>	- Department of Health
<b>FIC</b>	- Facility Information Coordinator
<b>FIM</b>	- Facility Information Manager
<b>FIO</b>	- Facility Information Officer
<b>ETR</b>	- Electronic TB Register
<b>GHS</b>	- General Household Survey
<b>HIS</b>	- Health Information System
<b>HISP</b>	- Health Information Systems Programme
<b>HIV</b>	- Human Immunodeficiency Virus
<b>HMIS</b>	- Health Management Information System
<b>HMN</b>	- Health Metrics Network
<b>HOD</b>	Head of Department
<b>HR</b>	- Human Resources
<b>HSRC</b>	- Human Sciences Research Council
<b>HST</b>	- Health Systems Trust
<b>ICT</b>	- Information and Communications Technology
<b>IT</b>	- Information Technology
<b>M&amp;E</b>	- Monitoring and Evaluation
<b>MDG</b>	- Millennium Development Goals
<b>NDOH</b>	- National Department of Health
<b>NGO</b>	- Non-Governmental Organization
<b>NIDS</b>	- National Indicator Data Set
<b>NHC</b>	- National Health Council
<b>NHISSA</b>	- National Health Information Systems Committee of South Africa Africa
<b>NHLS</b>	- National Health Laboratory Services
<b>NIM</b>	- National Information Manager
<b>PHC</b>	- Primary Health Care

<b>PHISC</b>	- Provincial Health Information Systems Committee
<b>PIDS</b>	- Provincial Indicator Data Set
<b>PIM</b>	- Provincial Information Manager
<b>SDIO</b>	- Sub-district Information Officer
<b>SADHS</b>	- South African Demographic and Health Survey
<b>SOPs</b>	- Standard Operating Procedures
<b>Stats SA</b>	- Statistics South Africa
<b>TB</b>	- Tuberculosis
<b>UN</b>	- United Nations
<b>WHO</b>	- World Health Organization



## FOREWORD BY THE DIRECTOR-GENERAL

The establishment of the District Health Information System (DHIS) in 1996/97, as a routine system for tracking health service delivery in the public health sector, must rank amongst the most significant developments in the new democratic dispensation. During the last 13 years, the DHIS has incrementally generated essential data for health service planning; monitoring and reporting. It has served as one of the vital components of the comprehensive Health Management Information System (HMIS), towards which the health sector is working.

The health sector and its partners have now had more than a decade's experience of DHIS implementation, and vital lessons have been learned along the way. Key challenges have also been part of this journey, and these have necessitated introduction of new measures for strengthening DHIS implementation.

One such challenge is that our routine District Health Management Information System (DHMIS) is now synonymous with the DHIS software solution or electronic database used to collect, store and analyse information. The DHMIS is inclusive of, but much broader than the DHIS software. It includes the people; policies, procedures; hardware; software; networks and datasets required to ensure a well functioning information system.

To ensure uniformity in the implementation and use of the DHMIS, a need exists for the development of an overarching national policy with associated processes, standard operating procedures (SOPs), norms and standards. This document sets out the overarching policy for the DHMIS. This should be read in conjunction with the SOPs produced by the National DoH as a separate publication.

The DHMIS policy focuses on seven (7) high level priority areas, namely: **Health Information Coordination and Leadership; Indicators; Data management, Data security; Data analysis and information products; Data dissemination and use and Health information system resources.** These priority areas have sub-components, under which detailed policy provisions are made.

It is of particular significance that this policy includes the ownership and management of the DHMIS. For the DHMIS to continue to provide the essential information it generates, and for its limitations to be overcome, it is imperative that health managers at national, provincial, district and facility levels assume full ownership of this system.

Additionally, recent key reforms in government emphasise the linkages between individual and organisational performance. Managing with information has to become an important component of each manager's performance agreement.

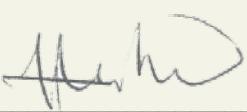
Government's vision for 2010-2014 is to achieve a "long and healthy life for all South Africans". Linked to this, the Negotiated Service Delivery Agreement (NSDA), signed in October 2010, requires the health sector to achieve four key outputs: increasing life expectancy; decreasing maternal and child mortality rates; combating HIV and AIDS and Tuberculosis; and strengthening health systems effectiveness. A well-functioning DHMIS, generating good quality data with incontrovertible integrity has a vital contribution to make, together with other data sources, in monitoring progress towards the health sector's NSDA.

A well-functioning DHMIS will guarantee us improvements in the monitoring and evaluation of health sector performance and improved health outcomes.

My gratitude goes to the Health Information Task Team of the National Department of Health (DoH), which I established in August 2010, and its DHMIS Sub-committee that steered the production of this policy. The immense contribution of senior managers for Health Information and Monitoring and Evaluation from the 9 Provincial DoHs, as well as members of the National Health Information Systems Committee of South Africa (NHISSA) to the production of this policy, is also acknowledged. I therefore expect NHISSA and the Provincial Health Information Systems Committees (PHISC) across all 9 Provinces to ensure successful implementation of this policy.

The South African public health sector always works in partnership with Non-Governmental organisations (NGOs) and as much as possible provides space for inputs from international development partners. The constructive feedback received from NGOs and development partner organisations about this policy is enormously acknowledged.

Together with the Technical Advisory Committee (TAC) of the National Health Council, I will provide the leadership and oversight required to ensure successful implementation of this policy.



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**MS. MP MATSOSO  
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DATE: 27-07-2011**

## ACKNOWLEDGEMENTS

### **The DHMIS Sub-committee consisted of the following officials from the National DoH:**

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**Provincial DoHs:** Mr. Lulamile Klaas (Eastern Cape); Mr. Andile Ngcobo (Gauteng); Ms. Nirvasha Moodley (KwaZulu-Natal); Ms. Botsisi Makutu (Mpumalanga); Mr. Gilbert Makgopa (Northern Cape) and Mr. Eugene Reynolds (Western Cape). Mr. Norman Sekhukhune from Statistics South Africa also provided written inputs on the policy.

**Representatives of Non-governmental Organisations (NGOs) and development partners who contributed to the development of the policy were:** Ms. Christa Van den Bergh, Enhancing Strategic Information (ESI); Ms. Ronel Visser, Health Systems Trust (HST); Ms. Fiorenza Monticelli (HST); Ms. Celicia Serenata, Clinton Health Access Initiative (CHAI); Dr. Justin Yarrow (CHAI); Dr. Morris Mathebula (Thebuthebu Consulting); and Mr. Derek Kunaka (ESI).

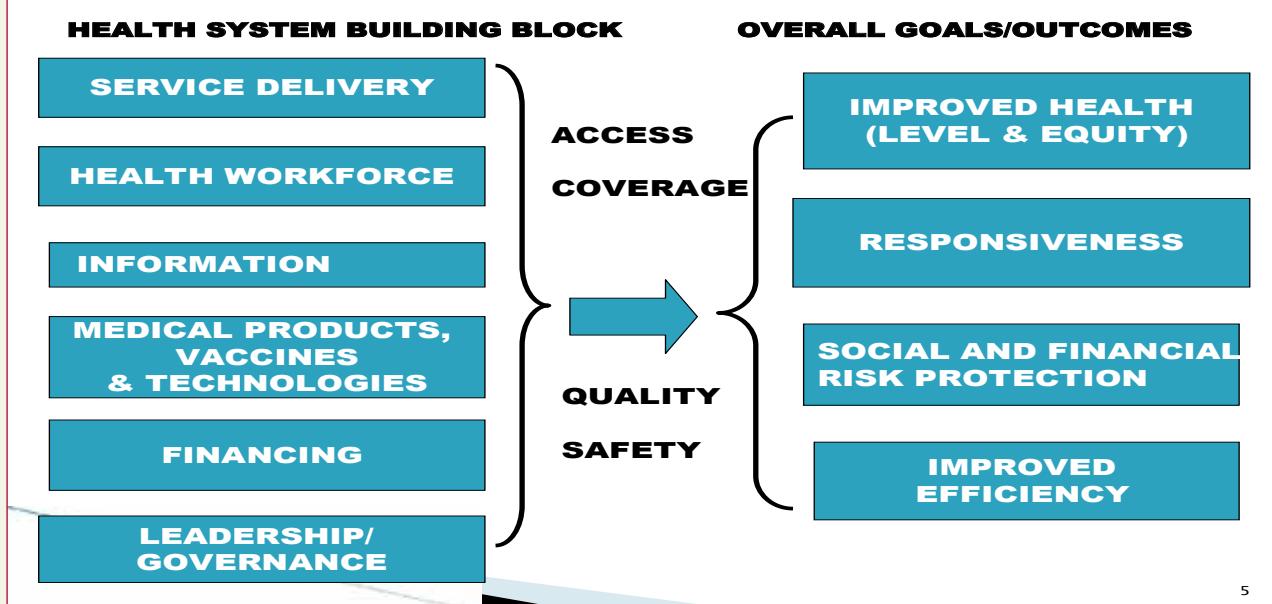
## 1. INTRODUCTION

The National Department of Health (DoH) is required in terms of the National Health Act (Act 61 of 2003) to facilitate and coordinate the establishment, implementation and maintenance of the information systems by provincial departments, district health councils, municipalities and the private health sector at national, provincial and local levels in order to create a comprehensive national health information system. One such system is the District Health Management Information System (DHMIS), which is a system for deriving a combination of health statistics from various sources, mainly from routine information system used in the public sector to track health service delivery in sub-districts, districts, provinces and nationally.

This document sets out an overarching policy for the DHMIS for South Africa. It defines in detail the requirements and expectations from users of the DHMIS at all levels of the health system, namely, national, provincial, district, sub-district, and health establishments.

The pivotal role of a well-functioning and efficient information system in tracking the performance of health systems is well documented. As reflected in Figure 1 below, the World Health Organisation (WHO, 2007) lists information as one of the key building blocks of a health system<sup>1</sup>.

**FIGURE 1: WHO HEALTH SYSTEMS FRAMEWORK (2007)**



WHO (2004) distinguishes between three key information related concepts namely: (i) an *Information System*, which is defined as “a system that provides information support to the decision-making process at each level of an organization”<sup>2</sup>; (ii) a *Health Information System*,

<sup>1</sup> Everybody's Business: Strengthening Health Systems to improve Health Outcomes, WHO's Framework for Action, 2007.

<sup>2</sup> Developing Health Management Information Systems: A Practical Guide for developing Countries, World Health Organization, Regional Office for the Western Pacific (2004).

which is a system that integrates data collection, processing, reporting, and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services"<sup>3</sup>; and (iii) a *Health Management Information System*, which is "an information system especially designed to assist in the management and planning of health programmes, as opposed to delivery of care"<sup>4</sup>. It is widely accepted that health management information systems can build on existing data and health information system standards and infrastructure.

WHO (2008) cautions that: "the goal of a health information system is often narrowly defined as the production of good-quality data. However, the ultimate goal is more than this – it is to produce relevant information that health system stakeholders can use for making transparent and evidence-based decisions for health system interventions. Health information system performance should therefore be measured not only on the quality of data produced, but on evidence of the continued use of data to improve health system performance, to respond to emergent threats, and to improve health. Improving health information systems in terms of data availability, quality and use often requires interventions that address a wide range of possible 'determinants of performance'".<sup>5</sup>

In the South African context, the DHIS software plays a pivotal role in the collection, capturing, storage, analysis and reporting of routine data. However, a need exists for a comprehensive National Health Management Information System (NHMIS), which would consist of at least five components namely: (i) Population-based information; (ii) Health services based information; (iii) Health resources records; (iv) vital registration data; and

(v) transversal (government-wide) support systems. To develop such a system, the health sector would have to collaborate with other government departments such as Home Affairs, which is the custodian of the civil registration system; Statistics South Africa (StatsSA), the custodian of all official statistics, including vital statistics and census data, and private health sector data.

The focus of this policy is on enhancing the management of health service based information, with the vision that South Africa will over time develop a comprehensive and integrated National HMIS, of which the DHMIS will be a key component.

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<sup>1</sup>Developing Health Management Information Systems: A Practical Guide for developing Countries, World Health Organization, Regional Office for the Western Pacific (2004).

<sup>2</sup>ibid

<sup>3</sup>ibid

<sup>4</sup>Health Metrics Network, Framework and Standards for Country Health Information Systems, World Health Organisation (2008)

<sup>5</sup> Ibid

## 2. BACKGROUND TO THE DISTRICT HEALTH INFORMATION SYSTEM (DHIS)

After 1994 the information systems of the public health sector were overhauled to support the new Primary Health Care (PHC) approach aimed at transforming the health system.

The first national *minimum data set* for PHC was adopted in 1999 by the NHISSA Committee, and rolled out to all public primary level facilities. A free and open source *District Health Information Software* was adopted as the national standard system for the capture, storage, analysis, and reporting of routine data. This was commonly referred to as the *District Health Information System (DHIS)*. In the process of implementing the DHIS (software solution), it has become synonymous with a District Health Management Information System (DHMIS). Notwithstanding their close association, it is imperative to distinguish the *DHIS software* from the DHMIS. Most importantly, a need exists for an overarching policy for the DHMIS, as well as Standard Operating Procedures (SOPs), processes, norms and standards.

### 2.1. KEY ACHIEVEMENTS OF THE DHIS TO DATE

The DHIS software has gradually expanded to cover hospital data, Emergency Medical Services (EMS) data, Environmental Health System (EHS) data, Client Satisfaction Surveys (CSS), Core Standards and Measures of quality of care, survey data sets, and data sets related to infrastructure and populations. It provides a large proportion of the information used for planning, budgeting, health service management, monitoring and evaluation at all levels of the South African health care system.

The DHIS now contains routine data representing around 1.4 billion patient encounters. The number of data items or values collected and captured as routine data records in the system increased from around 2.5 mill in 2001 to 10.6 mill in 2009 (i.e. over 400%). The number of DHIS users involved in the capturing or processing of this data increased from around 465 in 2001 to 1,180 in 2010, i.e. around 250%. Most of this growth has been in the Data Capturer group. The number of highly skilled information officers and managers involved with data processing has remained modest.

In addition to the large increase in collected and captured data, major progress has also been made with regard to the timely capture of data. The average time lapse between the end of a reporting month and capture of the data into the DHIS, has been reduced from around 27 days in 2003 to around 14 days in 2009/10. One crucial development is that the DHIS over these years has changed from being raw data driven to become indicator driven, with most indicators and related targets emanating from priority health programmes of the public health sector.

## 2.2. SOME KEY CHALLENGES

The increased demand for routine information during the last few years has also revealed many weaknesses in the routine information system, which this DHMIS policy and its related SOPs aim to address. These weaknesses contribute to compromised data quality, data flow bottlenecks, and sub-optimal use of available data and information. Some of the weaknesses are elaborated in detail below:

- (a) Limited alignment between the goals and objectives of the health sector, the key indicators of success, and the information system
- (b) Inadequate involvement of programme managers at district, provincial and national level in data validation, analysis, reporting, feedback and use.
- (c) Lack of governance and *standardisation* of the DHIS, evidenced by ad-hoc and uncoordinated implementation of new indicator/data sets and lack of rationalisation of indicators.
- (d) Shortage of experienced information officers as well as a common tendency to burden information officers with tasks not related to information management. This is a result of a lack of human resource development planning and career pathing for health information personnel. There is also a lack of high level technical expertise required to provide “public health intelligence to information”, which implies providing a picture of the performance of the health sector in relation to the intended health outcomes.
- (e) Inadequate Information and Communication Technology (ICT) infrastructure development and management which makes a shift to the use of web-based systems and remote data storage difficult. Personnel often rely on personal email accounts and variety of internet connectivity solutions to do work.
- (f) Limited availability of basic materials like paper-based data collection tools, as well as inadequate attention paid to the efficiency and effectiveness of the data collection tools to provide useful information for the attainment of the goals and objectives of the health sector.
- (g) Limited or no version control for basic software (e.g. MS Windows and Office), and anti-virus software. This results in major variations among users, which in turn creates obstacles in formal training, on-the-job user support, and co-operation / skills transfer among DoH staff.
- (h) Mushrooming of vertical data collection systems due to donor driven programmes, among others.

### 3. PURPOSE OF THIS POLICY

The policy outlined here provides an official regulatory framework for the DHMIS in terms of the National Health Act of 2003, which empowers the Minister to establish the legal framework for health information systems. It presents in detail what the NDOH expects from users of the DHMIS at all levels of the health system, i.e, national, provincial, district, sub-district, and health establishments. The benefits of such a policy include harmonisation of information across the country, as well as formalisation of the resources required for effective implementation of a well functioning DHMIS.

Moving from this premise, the policy clarifies the roles of different users in ensuring the production of comprehensive, timeous, reliable, and good quality from the DHMIS; converting data into meaningful information, and using such information for decision making, planning, and monitoring in the health sector. This policy aims to normalise and streamline all the practices and procedures developed since 1994 in relation to health information and consolidate the gains made.

The policy is not yet applicable to the private sector. The next iteration of the policy will encompass this sector.

#### 3.1. LEGAL AND POLICY FRAMEWORK

South Africa has key legislation that supports the development and implementation of its health information systems. Those most important for the DHMIS policy are briefly outlined below.

- (a) **National Health Act (Act 61 of 2003)** - In terms of section 74(1) of the Act, the national Department of Health shall facilitate and coordinate the establishment, implementation and maintenance of the information systems by provincial departments, district health councils, municipalities and the private health sector at national, provincial and local levels in order to create a comprehensive national health information system. Section 74(2) of the Act stipulates that the Minister may, for the purpose of creating, maintaining or adapting databases within the national health information system contemplated in subsection (1), prescribe categories or kinds of data for submission and collection and the manner and format in which and by whom the data must be compiled or collated and must be submitted to the national department.
- (b) Future development of the National Health Management Information System will include the incorporation and integration of health formation from the private sector, to portray a comprehensive picture of the performance of the entire health system, which is currently not the case. The promulgation of Chapter 9 of the National Health Act of 2003 will provide the legal framework for this process. The DHIS software has been prepared for this eventuality. Private health facilities, which include some private hospitals and a number of General Practitioners and Pharmacies with nursing services, are accommodated in the DHIS using the standard National DOH naming convention for health establishments.

- (c) **National Treasury Regulations** issued in terms of the *Public Finance Management Act (Act 1 of 1999)* of 1999 stipulate that: “The Accounting Officer of an institution must establish procedures for quarterly reporting to the executive authority to facilitate effective performance monitoring, evaluation and corrective action”.
- (d) **Section 40 (1) (d) of the PFMA of 1999** (as amended) stipulates that: “The accounting officer for a department, trading entity, or constitutional institution - must submit within five months of the end of a financial year to the relevant treasury and, in the case of a department or trading entity, also to the Executive Authority responsible for that department or trading entity—(i) an annual report on the activities of that department, trading entity or constitutional institution during that financial year;(ii) the financial statements for that financial year after those statements have been audited; and (iii) the Auditor-General’s report on those statements.
- (e) **Statistics Act (Act 6 of 1999)** - In terms of section 2 (e) of the Act, the Statistician-General shall formulate quality criteria and establish standards, classifications and procedures for statistics. In terms of section 14, the Statistician-General shall promote coordination among producers of official statistics in order to advance quality, consistency; comparability and optimum use of official statistics and avoid unnecessary duplication. The practical consequence for the DHIS policy is an imperative to closely collaborate with StatsSA and other related institutions, both in developing norms and standards and in sharing data.
- (f) **Section 20(1)(c) of the Public Audit Act of 2004** stipulates that an audit report must reflect such opinions and statements as may be required by any legislation applicable to the auditee which is the subject of the audit, but must reflect at least an opinion or conclusion on the reported information relating to the performance of the auditee against predetermined objectives.
- (g) **The Promotion of Access to Information Act of 2000** give effect to the constitutional right of access to data and information held by the State and that is required for the exercise or protection of any rights, and it provides a framework for requesting such data and information. The Act aims to foster a culture of transparency and accountability in public and private bodies, and to actively promote a society in which the people of South Africa have effective access to information to enable them to more fully exercise and protect all of their rights. The DHIS predominantly contains aggregated public health data that should, within the parameters provided in this policy, be available to all South Africans.

**Key health policies that provide the broader context for the DHMIS policy include:**

- (a) *White Paper for the Transformation of the Health System* (1997) contains a range of proposals related to the management of national health information systems, proposals to implement norms and standards, and a commitment to ensure that national systems like the DHIS comprise health data from the private and NGO sectors in addition to the public sector. Many of these proposals are as relevant today as in 1997, and progress in areas like integration of private sector data has been very slow.

- (b) The *Framework for Managing Programme Performance Information* from National Treasury contains a framework for designing good performance indicators, developing capacity to manage, use, and publish performance information, and the role of performance information in planning, budgeting, and reporting. National Treasury is committed to work with all government departments and other institutions identify and implement performance indicators that may be used for decision-making in resource allocation. The Quarterly Reporting System (QRS) indicators have been established for this purpose within the Department of Health, and the Department will continue to work closely with the National Treasury in monitoring these. The Auditor General of South Africa (AGSA) uses the framework as the basis for the annual audits of performance information.

## 3.2. VISION AND MISSION OF THE DHMIS

### 3.2.1. VISION

A comprehensive and integrated District Health Management Information System (DHMIS) which provides comprehensive, timeous, reliable and good quality evidence for tracking and improving health service delivery, and contributes to the development of a National HMIS.

### 3.2.2. MISSION

To collect, collate and analyse a combination of health data from various sources including health service delivery data from all health facilities and communities using routine, event-based, or survey data collection methods in line with national norms and standards and international best practice, and convert these into good quality and comprehensive information for measuring and enhancing service delivery and health impact for a discreet population in a district.

## 3.3. GOALS OF THE POLICY

The goals of this policy are twofold namely, (1) to formally standardise the implementation of the DHMIS and create uniformity across the country; and (2) to clarify the roles and responsibilities of each level of the health system in DHMIS implementation. The policy will contribute significantly to improving the availability, quality and use of health information for efficient and effective planning and management of health programmes, as well as enhancing the coverage and quality of health services to improve health outcomes.

### **3.4. OBJECTIVES**

The main strategic objectives of the policy are to:

- (a) Strengthen monitoring and evaluation as well as the use of information in policy and programme planning through the regulation and standardisation of the collection, collation and dissemination of health data
- (b) Clarify the main roles and responsibilities for each administrative level and each category of staff in the mechanisms for ensuring data completeness, data quality and data use and “ownership” at all levels of the health system
- (c) Ensure data security and integrity.

## **4. FOCAL AREAS OF THE DHMIS POLICY**

### **4.1. HIGH LEVEL PRIORITY AREAS**

The DHMIS policy consists of seven (7) high level priority areas, namely:

- (a) Health Information Coordination and Leadership;**
- (b) Indicators;**
- (c) Data management,**
- (d) Data security;**
- (e) Data analysis and information products;**
- (f) Data dissemination and use; and**
- (g) Health information system resources.**

These priority areas have sub-components, under which detailed policy provisions are made. The DHMIS policy must be read and implemented in conjunction with the DHMIS Standard Operating Procedures (SoPs), which have been produced as a separate detailed document.

## 5. KEY POLICY PROVISIONS

### 5.1. HEALTH INFORMATION COORDINATION AND LEADERSHIP

#### 5.1.1. OWNERSHIP AND MANAGEMENT OF THE DHMIS

##### 5.1.1.1. NATIONAL DEPARTMENT

- (a) Overall ownership of the DHMIS resides with the Director-General of the National Department of Health.
- (b) The open-source DHIS software solution belongs to the vendor who developed it, but the data conveyed on a daily basis through the DHIS is a property of the people and the government of the Republic of South Africa.
- (c) The Director-General shall regulate access to DHMIS data. All external stakeholders in need of access to DMHIS data shall complete and sign the Data Users Agreement Form and submit this to the National DoH.
- (d) The Director-General shall be responsible for mobilising resources from the national fiscus and ensuring stable relations with development partners for improving information management for enhanced monitoring of health sector performance.
- (e) The Director-General shall establish a core national team located within the appropriate branch to be responsible for the management of the DHIS. This team shall include at least one information manager, one data analyst with advanced skills in health statistics, one GIS specialist with health sector experience, and one DHIS database developer/manager with an ICT background. The team shall provide services to all relevant programmes within the National DOH.

##### 5.1.1.2. PROVINCIAL DEPARTMENTS

- (a) Overall ownership of the DHMIS with the provincial departments resides with the Head of Department.
- (b) The Provincial HoD shall regulate access to DHMIS data. All external stakeholders in need of access to DHMIS data shall complete and sign the Data Users Agreement Form and submit this to the Provincial DoH.
- (c) The Head of Department shall be responsible for mobilising resources and ensuring stable relations with development partners for improving information management for improved health outcomes.
- (d) The Head of Department shall establish a core Provincial team located within the appropriate section or directorate to be responsible for the management of the DHMIS. This team must include at least one information manager, one data analyst with skills in health statistics, and one DHIS database developer/manager with ICT/IT background. The SOPs for this

team must ensure they provide a service to all relevant programmes within the provincial department.

- (e) Monitoring and evaluation must form part of each Provincial manager's performance agreement.

#### 5.1.1.3. HEALTH DISTRICTS

- (a) **Overall ownership of the DHMIS with the health district resides with the District Manager.**
- (b) **The District Health Manager shall be responsible for mobilising resources from the Provincial DoH (and development partners) for improving information management.** The core human and financial resources required to run the DHMIS must be a permanent part of the district staff structure and budget, and key positions must be filled at the district, sub-district, and health establishment levels.
- (c) **Progress with DHMIS implementation and information trends in priority areas shall be a standing item in District Management meetings at least once every quarter.** Reports from District Management Team meetings must be submitted to the provincial DHMIS management unit.
- (d) **Monitoring and evaluation must form part of each manager's performance agreement.** Quarterly reviews of health programme data shall be conducted, and appropriate remedial interventions developed, where required.

#### 5.1.2. GOVERNANCE OF THE DHMIS

##### 5.1.2.1. NATIONAL LEVEL

- (a) The National Department of Health is tasked in terms of Section 74 of the National Health Act of 2003 to facilitate and coordinate the establishment, implementation and maintenance of the information systems by Provincial Departments, District Health Councils, Municipalities and the Private Health Sector at National, Provincial and Local levels in order to create a comprehensive national health information system.
- (b) The National DoH has established the National Health Information Systems Committee of South Africa (NHISSA Committee), as a sub-committee of the Technical Advisory Committee of the National Health Council.
- (c) NHISSA Committee membership shall comprise officials responsible for Health Information, Monitoring and Evaluation, Monitoring and Evaluation, Research; Epidemiology; District Health Systems and Primary Health Care; and Health Sector Planning, in the National and Provincial DoHs. Non-governmental organisations (NGOs) and development partners working in partnership with the health sector shall also nominate representatives to serve as NHISSA members.
- (d) NHISSA Committee shall ensure that all health information systems adhere to national guidelines and specifications.
- (e) The functions of NHISSA Committee shall be to:  
(i) develop policies and regulations to govern information management in the health sector.

- (ii) ensure harmonisation and standardisation of health information systems in the country.
- (iii) co-ordinate consultations with all stakeholders about revisions to the New Indicator Dataset (NIDS) and other datasets used in the health sector, and present recommendations to the Director-General and the Technical Advisory Committee of the National Health Council.
- (iv) ensure that all health information systems procured are in-line with national specifications and guidelines.
- (v) define the standards, classifications and coding system for health information in collaboration with relevant stakeholders.
- (vi) establish procedures to protect the security, confidentiality and accuracy of information.
- (f) Monitor DHIS versions and builds prior to implementation. This is to prevent any instability and errors associated with frequent builds.
- (g) DHIS builds shall be done once within a 12-month period, unless a motivation has been agreed to by NHISSA for a new build to be implemented within a shorter time frame.
- (h) Monitor DHMIS policy implementation; NIDS implementation and receive reports from Provincial DoHs.

### **5.1.2.2. PROVINCIAL LEVEL**

- (a) The National Health Act of 2003 requires each Member of the Executive Council (MECs) for Health to establish a provincial committee to establish, maintain, facilitate and implement health information systems at Provincial and Local levels, to contribute to the creation of a comprehensive national health information system, as outlined in section 74 of the Act.
- (b) Provincial Health Information Systems Committees shall ensure that all health information systems developed adhere to national guidelines and specifications.
- (c) Where required, Provincial Health Information Systems Committees shall guide the development of provincial policies and regulations to govern information at Provincial and local levels.
- (d) Provincial Health Information Systems Committees shall monitor DHMIS policy implementation; NIDS implementation and receive reports from Provincial DoHs.

## **5.2. INDICATORS**

### **5.2.1. NATIONAL INDICATOR DATASET (NIDS)**

- (a) The National DoH is responsible for developing and monitoring the national indicator set (NIDS). The DOH shall lead and finalise the development of all health indicators and associated data elements, aimed at making the NIDS aligned to the achievement of the national health goals and objectives.
- (b) Over time, the NIDS shall be applicable to data generated outside the public health sector, by the private sector and non-governmental organisations (NGOs).

- (c) The NIDS shall be reviewed every 2 years to ensure that it is up to date and aligned with health systems priorities.
- (d) The Director-General of the National DoH is the final authority on the NIDS.
- (e) All changes to the NIDS shall be signed off by the Director-General. Individual health programmes shall not be allowed to establish parallel routine reporting systems outside of the DHIS unless there are cogent reasons for this (e.g. the need for cohort monitoring in TB and HIV programmes) that are formally approved by the Director-General.
- (f) All revisions to the NIDS shall include standard, usable, easily understandable definitions data collection methods or sources and guidelines for their use.
- (g) All revisions to the NIDS shall ensure that the NIDS is not unduly expanded, but that it focuses on collection of critical data elements and indicators, which directly assist in tracking health priorities, decision-making processes, and are used as such.
- (h) Future NIDS revisions shall follow a formal process. Any revised NIDS shall as far as possible be aligned with international standard indicator and data element definitions, to ensure that the country is able to meet its international reporting requirements.
- (i) The NIDS shall be formally communicated by the Director-General to the Provincial Heads of Department.
- (j) The NIDS shall be formally communicated at least six months before the commencement of the new financial year to allow sufficient lead time for complex implementation processes in Provinces.

### 5.2.2. NATIONAL PROCESS OF REVISING THE NIDS

- (a) **All requests for additions to the NIDS by national health programmes shall be communicated in writing**, and addressed to the Director-General of the DOH through the normal submission process. Such requests must clearly outline why the NIDS is insufficient for their needs and be signed off by the Cluster Managers and Deputy Directors-General.
- (b) **All requests for additions to the NIDS by provinces shall be communicated in writing**, and addressed to the Director-General of the DOH. Such requests must clearly outline why the NIDS is insufficient for their needs and be signed off by the Provincial Head of Department.
- (c) **Future NIDS revisions shall follow a formal and regular 2-year cycle.**
- (d) **All requests for additions to the NIDS by other stakeholders like NGOs or international development partners shall be communicated in writing**, and addressed to the Director-General of the National Department of Health. Such requests must clearly outline why the NIDS is insufficient for their needs.
- (e) **Requests for additions or modifications of the NIDS shall be submitted at least six months prior to the commencement of the financial year.<sup>5</sup>** The Director-General can

<sup>5</sup> The South African financial year runs from 01 April to 31 March 2011.

waive this rule in exceptional cases, but there must be sufficient time for technical assessment of all requests and for consultation with provinces and districts. The Director-General shall ensure that the revised NIDS is finalised and made available to provinces and districts and other stakeholders at least three months prior to the commencement of the financial year.

### **5.2.3. DEVELOPMENT OF PROVINCIAL INDICATOR DATASET (PIDS)**

- (a) **The Provincial Indicator Data Set (PIDS) bears a close relationship to the NIDS. The PIDS shall contain all the indicators in the NIDS, and any other Province-specific indicators that may be required for monitoring the performance of the health system.** Province-specific indicators are not required for reporting nationally.
- (b) **The Provincial Head of Department (HoD) is the final authority on the PIDS.** All changes to the PIDS shall be signed off by the HoD, and individual health programmes shall not be allowed to establish parallel routine reporting systems outside of the DHIS.
- (c) **Future revisions of the NIDS aligned PIDS shall follow a formal process.** Any revised PIDS shall be fully aligned with the revised NIDS.
- (d) **All requests for additions to the PIDS by provincial health programmes shall be communicated in writing,** and addressed to the HoD.
- (e) **All requests for additions to the PIDS by districts shall be communicated in writing,** and addressed to the provincial HoD. Such requests shall be signed off by the District Manager.
- (f) **All requests for additions to the PIDS by other stakeholders like NGOs or Community Based Organisations shall be communicated in writing,** and addressed to the HoD. Such requests must clearly outline why the PIDS is insufficient for their needs.
- (g) **Requests for additions or modifications of the PIDS shall be submitted at least three months prior to the commencement of the financial year.** The HoD can waive this rule in exceptional cases, but there must be sufficient time for technical assessment of all requests and for consultation with the districts and sub-districts.
- (h) **The District Manager shall be responsible for signing-off on any additional district indicators and data elements.**
- (i) **The manager of a health establishment shall be responsible for the sign-off on additional indicators and data elements collected for purely local use.**

#### **5.2.4. INDICATOR DEFINITIONS AND DATA ELEMENTS**

- (a) The National DoH shall ensure that each indicator included in the NIDS has a clear indicator definition; the formula for calculating it, as well as the data elements (variables) that must be collected in order to calculate the indicator and the data collection methods and tools.
- (b) Data elements shall be defined in clear and unambiguous terms that are easy to understand for all health personnel.
- (c) The Head of Department in each province shall be responsible for ensuring that all provincial data elements not contained in the NIDS (i.e. Province-specific ones) have accurate and usable definitions and verifiable data sources.
- (d) Provincial data element definitions shall be specified and formatted according to the NIDS format.
- (e) The District Manager shall also be responsible for ensuring that all DHIS users within the district (including sub-districts and facilities) update their DHIS data files on time when new Indicator/Datasets are implemented.

#### **5.2.5. TARGETS, NORMS AND BENCHMARKS**

- (a) **The Director-General shall be responsible for ensuring that annual targets are established for all NIDS indicators.** These targets will be set in conjunction with the relevant programme managers in the NDOH, taking into consideration international targets and existing programme performance reflected by DHIS data.
- (b) **National targets shall be linked to the relevant indicators in the National Data Dictionary** and thus available for viewing or download by DHIS users and other stakeholders.
- (c) **Each HoD shall be responsible for ensuring that national targets** are adapted for their provinces, and establish similar targets values for provincial indicators.
- (d) **Each District Manager shall be responsible for ensuring that provincial targets** are adapted for their district.

### **5.3. DATA MANAGEMENT**

#### **5.3.1. DATA COLLECTION TOOLS**

Up-to-date and easy-to-use data collection procedures and data collection tools are fundamental pre-requisites for a functional routine information system and for improved data quality.

- (a) The **National Information Cluster Manager** shall work together with national programme and service managers to streamline and standardise a set of data collection tools. These tools may be enhanced or modified for lower level use without compromising the collection of the NIDS.
- (b) The **Provincial Information Manager** shall work together with provincial programme and service managers to adapt such tools to their PIDS. The final PIDS and collection tools shall be endorsed by the Provincial HoD.
- (c) **Provincial HoDs** shall be responsible for ensuring that the financial resources required to print data collection tools are available.
- (d) **Each District Health Manager** shall be responsible for ensuring that a system is in place for supplying to all health establishments and sub district offices the required data collection and collation materials (tools, related guidelines, hardware, software, telephone, stationery, and vehicles where required) throughout the year.
- (e) **Each District Health Manager** shall be responsible for ensuring that there is a human resource development plan for information management for both new and existing staff in the district.

### 5.3.2. DATA FLOW PROCESS

- (a) **The HoD shall be required to sign-off** the data being submitted to the National DoH as an agreement that the data is a true reflection of the situation in the province.
- (b) **Provincial DoHs shall submit provincial data to the National DoH by electronic means.**
- (c) **An FTP server shall be established at National DoH onto where Provinces shall load their data.**
- (d) **Each District Health Manager shall be required to sign-off** the data being submitted to the Provincial Department of Health as an agreement that the data is a true reflection of the situation in the district.
- (e) **Each Sub-District Manager shall be required to sign-off** the data being submitted to the district as an agreement that the data is a true reflection of the situation in the sub district.
- (f) **The health establishment manager shall be required to sign-off** the data being submitted to the sub-district as an agreement that the data is a true reflection of the situation in the health establishment. The data signed off at the facility level must include data collected on the community-based platform for which the said facility is responsible and accountable.
- (g) **Clear guidelines for the data flow process including deadlines** shall be included with the SOPS to be disseminated to all stakeholders to ensure that they know what is

expected of them. The key stipulation is that the sign-off of data shall be linked to a cut-off date, which is detailed in the SOPs.

- (h) **Submission of data by most direct electronic means.** The department shall gradually implement infrastructure for secure electronic (server to server) transmission of data (upwards and feedback) between all administrative levels.

### 5.3.3. DATA FLOW TIMELINES

- (a) The deadline for routine data submission to NDOH **shall progressively be reduced from 60 days to 45 days.**
- (b) Clear guidelines for the data flow process including deadlines shall be included with the SOPs.

### 5.3.4. FEEDBACK ON ANALYSED DATA AND REPORTS

- (a) Districts shall provide formal quarterly feedback to sub-districts and health establishments with regards to how they compare with their peers on data quality and programme performance.
- (b) Provincial DoHs shall provide formal quarterly feedback on analysed data to Districts with regards to how they compare with their peers on data quality and programme performance
- (c) The National DoH shall provide formal quarterly feedback on analysed data (sharing of reports, tables, graphs) to Provincial DoHs with regards to how they compare with other Provinces on data quality and programme performance.
- (d) The National DoH shall produce a comprehensive health statistics publication, starting from the end of the financial year 2011/12, which reflects the performance of the entire health system. The intention is to eventually produce a set of high quality statistics that Statistics South Africa will after rigorous testing and verification, accept as part of the official national statistics.
- (e) These reports will be collated into a national health statistics report that is disaggregated by province.
- (f) Apart from the formal feedback channels mentioned above, monthly informal feedback must be provided to relevant stakeholders on observations in terms of data quality and programme performance to optimise data management, data/information quality and program progress.

### 5.3.5. DATA QUALITY ASSURANCE

Statistics South Africa (StatsSA), the custodian of all official statistics in South Africa, defines data quality in terms of “*fitness for use*”. StatsSA has produced a South African Statistical Quality Assurance Framework (SASQF), which consists of 8 dimensions of data quality. Due to the predominantly routine nature of data in the DHIS the National DoH has adopted these dimensions with slight modification namely: relevance, integrity; timeliness, accessibility; reliability; completeness, accuracy, and coherence and comparability.

#### 5.3.5.1. RELEVANCE

- (a) To ensure relevance of all indicators and data elements included in the NIDS, the National Department of Health shall engage with a broad range of stakeholders at all levels of the health system, development partners and researchers, during the revision of the NIDS for each planning cycle.
- (b) A structured consultation process shall be followed during the revision of the NIDS, within the framework of the **National Health Information Systems Committee of South Africa (NHISSA)**.
- (c) **Provincial DoHs** shall follow similar processes with their Provincial Health Information Systems Committees.
- (d) **District Health Managers** shall ensure that health establishments have put in place processes for all staff to understand the relevance and utility of all the indicators collected at their level.

#### 5.3.5.2. INTEGRITY

Integrity refers to values and related practices that maintain the confidence users have in the system producing health information and ultimately, in the health information itself.

- (a) Health Districts, Provincial DoHs and National DoH shall ensure synchronisation of DHIS data on a quarterly basis.
- (b) The **Sub-District Information Officer** shall be responsible for validating the integrity of facility data in their sub-district
- (c) The **District Information Officer** shall be responsible for validating the integrity of sub-district data in their district
- (d) The **Provincial Information Unit** shall be responsible for validating the integrity of district

data in their province

- (e) The **national team responsible for the DHIS** shall be responsible for validating the provincial data in their country
- (f) **Access to DHIS data for editing purposes shall be limited to personnel authorised by the District Manager at district level, the HOD at provincial level and the Director-General at national level, and specified in the SOPs.**

#### 5.3.5.6. TIMELINESS

Significant delays in data collection, conversion into information or data submission compromise the value of the data for decision-making purposes. To address this, the following stipulations are made:

- (a) **National, Provincial and District HIS units shall compile a timeliness report every quarter.**
- (b) **National, Provincial and District HIS units shall keep data submission logs** to monitor adherence to reporting timeframes to identify bottlenecks where different levels do not adhere to data flow policy time frames.

#### 5.3.5.7. ACCESSIBILITY

Accessibility refers to the ease with which users can obtain the information as well as the suitability of the form or medium through which the information can be accessed.

- (a) **All programme managers at national, provincial and district levels of the health system shall have, as part of their performance agreements, responsibility for assessing the completeness and quality of data pertaining to their programmes.**
- (b) **To this end, Directorates responsible for Health Information at National, Provincial and District level shall make data available to programme managers as per data flow policy, and prior to submission to the next level.**
- (c) **High level decision-makers (Deputy Directors-General; Provincial HoDs, Director-General and Ministers) shall have access to data and information as per the data flow policy, except for exceptional circumstances where data may be required for specific purposes.**

### 5.3.5.8. RELIABILITY

- (a) DHIS data shall be analysed by each provincial health information unit for each financial year, with the purpose of identifying health establishments with unstable data, and by implication unstable service delivery. This shall be done to address the verifying factors for the unstable data, and the extent to which it reflects unstable service delivery.

### 5.3.5.9. COMPLETENESS

- (a) The National, Provincial and District levels of the health system shall implement mechanisms for verifying the completeness and consistency of data from facilities.
- (b) Submission of comprehensive, timely and good quality data shall be part of the performance contract of each District Health Manager and Hospital CEO or a health facility manager including **Regional and Tertiary Hospitals and EMS units**.
- (c) **Each District Health Manager shall ensure that all health establishments submit complete data.** Submission of comprehensive, timely and good quality data shall be part of the performance contract of each health facility manager.
- (d) **Each Provincial HoD shall implement systems to ensure that all health facilities in all districts, including regional, tertiary hospitals and specialised hospitals and Emergency Medical Services (EMS) submit complete data.**
- (e) The Director-General shall implement systems to ensure that all Provinces submit datasets with complete data.

### 5.3.5.10. ACCURACY

- (a) **All facility managers** shall be responsible for ensuring that data accuracy assessments are conducted in each facility, comparing tally sheets, registers and/or patient folders with the summary data and applying data validation rules before data are submitted for capturing.
- (b) **The National DoH shall** incorporate relevant data validation rules for the NIDS into the NIDS and into the National Data Dictionary. Where relevant, such validation rules will be limited to specific types of health establishments.
- (c) **The National DoH shall** ensure that new and streamlined paper-based data collection tools for each NIDS revision include data validation checks.
- (d) **Computerised data collections tools** used in health establishments capturing their own data shall include validation rule checking.
- (e) **Training of programme managers in data quality assessment and data use shall**

include training in understanding and using validation rules.

- (f) **All Hospital Chief Executive Officers (CEOs) shall ensure that each facility conducts at least one Data Quality Audit** using data quality audit tools in DHIS or other systems shall be done by each facility. In the case of PHC facilities, Sub-district managers shall ensure that these data quality audits are conducted.
- (g) **Hospital CEOs and Sub-district managers shall ensure that the findings of the Data Quality Audits** are written up and data quality improvement plans are developed for weak areas identified.

#### **5.3.5.11. COHERENCE AND COMPARABILITY**

Coherence of information is the degree to which it can be successfully brought together with other similar information from different sources within a broad analytical framework over time. Comparability of information is the ability to compare data on the same characteristics between different points in time and geographical areas.

- (a) The **National DoH** shall at regular intervals compare routine DHIS data with survey data.
- (b) The **National DoH** shall also work with other departments and government institutions to compare data sets wherever feasible.

#### **5.4. DATA SECURITY**

The Minimum Information Security Standards (MISS) policy of the National Intelligence Agency (NIA) stipulates that: “the Head of every institution bears overall responsibility for the provision and maintenance of security in his/her institution, under all circumstances”. The MISS policy defines information security as: “that condition created by the conscious provision and application of a system of document, personnel, physical, computer and communication security measures to protect sensitive information”. Inversely, the MISS policy defines compromise of information as: “the unauthorised disclosure/exposure or loss of sensitive or classified information, or exposure of sensitive operations, people or places, whether by design or through negligence”.

**While most of the DHIS data is aggregated and anonymous data, strengthening data security is important. Improving the security of DHIS data will ensure that:**

- (i) Data is not lost due to technical malfunctions or theft of equipment;
- (ii) Data used by higher levels and data released for public use are consistent with the data collected at source level and later corrected/updated through a documented data quality assurance process;
- (iii) No unauthorised modifications of the data occurs, either through illegal external access

- (cracking) or managerial manipulation of data; and that
- (iv) Primary data collection tools, error correction logs, and similar documentation are securely stored.

**The following measures will be implemented to enhance data access and security:**

#### **5.4.1. Management of Access to the DHIS**

- (a) **The National DoH shall implement additional functionality in the DHIS**, including enforcing the use and regular change of appropriate passwords and enable segregation of duties by “locking” national indicators and data elements for modification.
- (b) Passwords shall be compulsory for logging into the DHIS, and the system shall be locked for users with no password (such users will be asked to add a password).
- (c) Users no longer involved with capturing or editing DHIS data shall be de-activated, and *de-activated* users shall be treated like users with no password (all system functionality locked).
- (d) The standard “admin” password of “district” shall be replaced by another password known to the relevant managers and information officers.
- (e) **The National DoH shall fully enable the national data dictionary** as a tool for standardising DHIS data files (indicators, data elements, validation rules) and as a tool for assisting other stakeholders in designing their own compatible data sets.
- (f) **The National DoH shall establish a consistent framework for internet access to published data and information** that can be used at all levels, including a standardised data user’s agreement form that can be submitted electronically.
- (g) **An access control system for external stakeholders with special privileges is hereby established. External stakeholders with special privileges** in terms of web-based data access shall apply to the Director-General to obtain a written and explicit authorisation to access DHIS data.

#### **5.4.2. Enforced separation of duties**

- (a) The National DoH shall ensure that **indicators, data elements, and validation rules records are “locked” through an encrypted password known only to the designated National Managers and Information Officers**.
- (b) Provincial DoHs shall ensure that similar encrypted passwords are used for provincial indicators; data elements and validation rules, as well as district indicators; data elements; and validation rules. Lower level users of the DHIS are unable to edit such

- records without the password.
- (c) The Web-based National Data Dictionary will be installed on a national server and used to distribute future updated versions of the NIDS and other relevant indicator/data sets.

#### **5.4.3. Implementation of effective backup practices**

- (a) The **National DoH shall ensure that all servers in the DHIS data exchange network have functional backup systems and that incremental daily and weekly backup procedures are in place.**
- (b) The DHIS automated backup of data files shall be compulsory at least on a monthly basis, with the data file being a compulsory part and data mart and pivot tables (which only contain derived data) being optional parts.
- (c) The backup up process shall be followed by the relevant log entry into the DHIS audit log - a new function created to track whether users are actually performing critical actions outlined in the SOPs - and that audit log will be included with the standard export files.
- (d) This policy must read in conjunction with the DHIS Standard Operating Procedures (SOPs), which will provide systematic guidance on this.

#### **5.5. DATA ANALYSIS AND INFORMATION PRODUCTS**

- (a) **Provincial HODs shall be required to conduct an analysis of the data reported by their Provinces for each reporting period.** The Provincial HOD shall ensure that the Province produces two types of reports:
  - (i) A standardised quality report for the reporting period (disaggregated by district), which lists the number of gaps, unverified outliers, and validation rule violations for the reporting period and a proposed plan with indicators of success and timelines of how the data quality issues would be addressed.
  - (ii) A standardised performance report (disaggregated by district) which details successes and challenges and plans to improve performance with set timelines and targets.
- (b) **This practice shall be cascaded down the health system with district managers, sub-district managers and health facility managers carrying out similar analyses for each reporting period.**
- (c) **The National DoH shall implement the DHIS web pivot reporting system,** to enable easy access for national managers to all DHIS data over the departmental intranet. This will be done in *addition* to making pivot table files and standard reports available for offline analysis and interpretation.
- (d) **The provincial department shall at minimum implement the DHIS web pivot reporting system,** to enable provincial and district managers' easy access to all DHIS data over the departmental intranet. This will be done in *addition* to making pivot table files and standard reports available for offline analysis and interpretation.
- (e) All information products generated by internal and external users must be shared with the

DOH in electronic format.

## 5.6. DATA DISSEMINATION AND USE

Treasury Regulation of February 2007, issued in terms of the Public Finance Management Act of 1999 (as amended) stipulate that: “The Accounting Office of an institution must establish procedures for quarterly reporting to the Executive Authority to facilitate effective performance monitoring, evaluation and corrective action.” Use of information from the DHMIS is pivotal for monitoring the performance of the health system.

- (a) **Data shall be used at the point of collection, prior to being sent up to the next level of the health system.**
- (b) **All facility managers** shall ensure that data collected by their respective facilities are reviewed during their monthly management meetings, and that remedial interventions are implemented to improve service delivery where the data shows inadequate performance.
- (c) **All District Health Managers** shall ensure that data collected in their respective districts are reviewed during their monthly **District Management Team meetings**, and that remedial interventions are implemented to improve service delivery where the data shows inadequate performance.
- (d) **Provincial HoDs** shall ensure that each Province convenes a quarterly performance review session, where the performance of all districts is reviewed, and remedial interventions are implemented to improve service delivery where the data shows inadequate performance.
- (e) **The Director-General** shall ensure that the Department convenes a quarterly performance review session, where the performance of the entire health system is reviewed and remedial interventions are implemented to improve service delivery where the data shows inadequate performance.
- (f) Data from the DHMIS shall be used in the development of all legislated plans of the health sector namely: District Health Plans; Provincial Strategic Plans; Provincial Annual Performance Plans; National Strategic Plans and National Annual Performance Plans.
- (g) Data from the DHMIS shall also be used in monitoring and reporting on performance against these plans.

## 5.7. DHMIS RESOURCE REQUIREMENTS

### 5.7.1. HUMAN RESOURCE REQUIREMENTS

The DHMIS requires different types of HIS staff, who shall be appointed at different levels of the health system. These officials shall have uniform job descriptions irrespective of where they work.

#### Facility level

- (a) **Data Capturer** (also called data officer). These are officers responsible for capturing the data at all fixed facilities, sub-district or higher levels and then forwarding the data to the next level. These personnel should be at levels 5 to 7 based on knowledge, skills and experience.
- (b) **Progressively, and as resources permit, an Information Manager shall be appointed** at all fixed facilities (Clinics, CHCs and sections within hospitals). Such an officer will be responsible for data quality assurance and for encouraging local use of information.

#### Sub-District and District level

- (c) **Each sub-district and district shall have three categories of information personnel:**
  - (i) Data Capturer
  - (ii) Information Officer
  - (iii) Health Information Manager;

#### Provincial level

- (d) **Each Provincial Office shall have at least eight categories of information personnel:**
  1. Information Officer;
  2. Health Information Manager
  3. Monitoring and Evaluation manager
  4. Database Manager
  5. Statistician/ Demographer/ Bio-statistician
  6. Epidemiologist
  7. GIS expert with health sector experience
  8. DHIS help-desk staff

#### National level

- (e) **The National DoH shall also have as a minimum, at least eight categories of information personnel:**
  1. Information Officer;
  2. Monitoring and Evaluation Manager
  3. Health Information Manager

- 4. Database Manager
  - 5. Statistician/ Demographer/ Bio-statistician
  - 6. Epidemiologist
  - 7. GIS expert with health sector experience
  - 8. DHIS help-desk staff
- (f) Each Province shall include the positions of data capturers; health information officers and health information managers in the list of critical posts.

### **5.7.2. ESTABLISHMENT OF DHMIS HELP DESKS**

- (a) **The National DoH shall establish a Helpdesk to provide support to Provincial DoHs with key DHMIS issues.**
- (b) **Provincials DoHs shall establish Helpdesks to provide support to Health Districts with key DHMIS issues.**
- (c) **The Helpdesks shall be staffed by adequate numbers of appropriately skilled officials, and equipped appropriately to provide both remote and on-site support.**

### **5.7.3. HARDWARE**

- (a) **The (ICT) Units in the National and Provincial DoHs shall have primary responsibility for acquisition of hardware, software, and for data storage.**
- (b) **National and Provincial ICT Units** shall recommend computer equipment specifications for all categories of DHIS users, with specific performance criteria and benchmarks that can be used to assess when renewal or upgrades are required.
- (c) **National and Provincial ICT Units** shall maintain **version control** for all key software applications to be used based on the monthly update release commonly used in the industry.
- (d) **Minimum skills requirements for each major type of DHIS user** shall be determined, covering basic computer literacy (e.g. using Windows/Linux), skills in using MS Office for analysis and reporting, and skills in using the DHIS database system for capturing, validating, and processing data.
- (e) **All DHIS users shall have internet and intranet access as a right**, not a privilege, with the infrastructure providing sufficient reliability and bandwidth to be used for all aspects of DHIS operation. The ICT infrastructure shall be gradually expanded until it can reliably support web-based access to the DHIS and other web-enabled systems within the department.

- (f) The National and Provincial DoHs shall gradually shift towards using **more server-and web-based solutions** as capacity and reliability of the infrastructure permits.
- (g) **The network of servers used for the electronic submission of data will also be utilised as the basic DHIS data repositories** at the provincial and national levels, in order to ensure data synchronisation between the different levels and to ensure regular backups.

#### **5.7.4. INTERFACING WITH OTHER INFORMATION SYSTEMS**

- (a) **The National DOH** shall finalise the “matching” of BAS and DHIS reporting units and establish a focused set of financial data elements that can be imported from BAS on a monthly or quarterly basis.
- (b) The **National DOH** shall enforce synchronisation of organisational hierarchies between the different information systems within the DOH, and where possible also between DOH systems and systems run by StatsSA and other Departments.
- (c) The **National DOH** shall work with the National Health Laboratory System, StatsSA and other custodians of health related data to define and implement a system for permanent health establishment codes in South Africa. This will make interfacing and data exchange easier.
- (d) The **National DOH** shall complete **geo-referencing of public health establishments without co-ordinates**.

### **6. SCOPE OF THE DHMIS POLICY**

This policy is applicable to all levels of the public health sector in South Africa, national, provincial, district, sub-district and health facilities. It is not yet applicable to the private health sector. The next iteration of the policy will encompass this sector.

### **7. DATE OF IMPLEMENTATION**

This policy comes into effect on the 01<sup>st</sup> October 2011

### **8. CONCLUSION**

A strengthened DHMIS will become a vital component of a comprehensive and integrated Health Management Information System (HMIS), providing evidence for tracking the performance of the national health system and the impact on the health status of South Africans. The National DoH will provide leadership to ensure implementation of the provisions of this policy. The Department will also work with Provincial DOHs to mobilise resources to strengthen pertinent aspects of the DHMIS.

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