District Health Management Information System (DHMIS)

Standard Operating Procedures: District Level

December 2013

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

A Long and Healthy Life for All South Africans

FOREWORD BY THE DIRECTOR GENERAL

In July 2011, I approved the District Health Management Systems (DHMIS) policy for South Africa, which is aimed at ensuring uniformity in the implementation of the DHMIS across the country. I also indicated then, that a need exist for the development of Standard operating Procedures (SOPs), to guide the implementation of the policy.

These Standard Operating Procedures aim to clarify the responsibilities and procedures for effective management of aggregated routine health services.

These Standard Operating Procedures (SOPs) provide standardized procedures to:

- Provide health information coordination and leadership
- Select and review indicators in routine health information systems
- Ensure effective data/information management
- Manage data analysis and information products
- Enhance data dissemination and use

These SOPs for the district level present basic and practical steps to be followed by district health information management personnel, programme/line managers and clinic supervisors at district level, to ensure that data is appropriately handled and used to improve service delivery at local level, prior to submission to next level of the health system, within the specified time frames.

The long-term vision of the National DoH is the creation of a national integrated patient-based information system, which will require implementation of electronic systems for data management at all levels of the health system. This will eliminate most of the challenges that emanate from manual data management systems, including discrepancies. Notwithstanding this, the need for policies and SOPs will exist in an environment of automation and electronic systems.

All District managers in the public health sector should ensure implementation of these SOPs. They must be assisted in this role by information officers from health provinces and the National DoH.

I wish to acknowledge the pivotal role of the Health Information Task Team of the National NDoH, which I established in August 2010, effectively facilitating and coordinating the development of these SOPs. This team consist of officials from the Health Information Monitoring and Evaluation (HIMME) Cluster of the National DoH; Provincial Department of Health, our development partners, as well as no-governmental organisation(NGOs) working in the health sector.

The immense technical support provided by John Snow, Inc. (JSI), MEASURE Evaluation Strategic Information for South Africa (SIFSA) project, Health Information Systems Programme (HISP) and the Health Systems Trust (HST) is acknowledged with gratitude.

I anticipate major improvements in the quality of DHIS data as a result of effective use of these SOPs.

MS. MATSOSO
DIRECTOR GENERAL
NATIONAL DEPARTMENT OF HEALTH
DATE: 12/12/2013

LIST OF ABBREVIATIONS

ART	Antiretroviral Therapy
CHC	Community Health Centre
DG	Director-General
DHER	District Health Expenditure Review
DHIS	District Health Information System
DHMIS	District Health Management Information System
DHP	District Health Plan
DIDS	District Indicator Data Set
DoH	Department of Health
ETR	Electronic Tuberculosis Register
HIS	Health Information System
HOD	Head of Department
ICT	Information and Communication Technology
IT	Information Technology
M&E	Monitoring and Evaluation
NDoH	National Department of Health
NHISSA	National Health Information Systems Committee of South Africa
NIDS	National Indicator Data Set
OPD	Outpatient Department
PHC	Primary Health Care
PIDS	Provincial Indicator Data Set
PQRS	Provincial Quarterly Reporting System
QRS	Quarterly Reporting System
RDQA	Rapid Data Quality Assessment
SOP	Standard Operating Procedure

DEFINITIONS

TERMINOLOGY	OPERATIONAL DEFINITION
Accuracy	Also known as validity. Data is measured against a referenced source and found to be correct. Accurate data minimize error (e.g. transcription error) to a point of being negligible
Baseline	Description of the status quo, usually statistically stated, that provides a point of comparison for future performance
Benchmarks	'Estimated targets'. A benchmark refers to a reference point or standard (the performance achieved in the recent past by other comparable organisations in similar circumstances) against which performance or achievements can be assessed. A benchmark should be the minimum standard that should be aimed for.
Completeness	Data are present and usable and represent the complete list of eligible sources and not just a fraction of it
Confidentiality	Assurance that data will not be disclosed inappropriately and treated with appropriate levels of security
Data collation	The process where data for a data element from various service points are added together. It is very important to ensure that during this process the responsible person add the data correctly together and avoid arithmetic errors
Data input forms	This refers to the final form which will be used to enter the data into the relevant database
Data sign off	Data sign off refers to the process where the person with the required authority agree to the correctness and validity of the data and commits him or herself to submit data in accordance with data flow guidelines
Indicator	A quantitative or qualitative variable that provides a simple and reliable measurement of one aspect of performance, achievement or change in a program or project
Integrity	System used to generate data is protected from deliberate bias or manipulation or loss of

TERMINOLOGY	OPERATIONAL DEFINITION
Interim Targets	Short term steps that must be reached along the way to meet the goals, objectives and final targets (also called milestones).
Line manager	A person with direct managerial responsibility (in a vertical line) for a particular employee focusing on administration of the activities that contribute to specific outputs of an organisation
Precision	Data has sufficient detail and is free as far as possible of error in terms of under and/or over reporting
Reliability	Data generated by an information system is based on protocols and procedures that do not change according to who is using them or how often they are used. Data is measured and collected consistently
Service point	Reporting units within a facility e.g. consultation rooms, services within facility (OrgU6)
Source point	Facility level e.g. hospital, PHC clinic, delivery facility (OrgU5 levels)
Targets	Targets state the desired level of performance that has to be achieved.
Timeliness	Data and information is available on time for meeting budgeting, monitoring, decision making and reporting requirements
Users of data	Stakeholders who are authorised to access and use data in DHIS for monitoring, evaluation, research and reporting purposes
Validity	All reported performance against pre-determined objectives is adequately supported by documentation and did occur. Data element/indicator clearly, directly and completely measure what it intends to measure

CONTENTS

1 INTRODUCTION

1.1 Purpose

These Standard Operating Procedures (SOPs) provide standardized procedures to:

- provide health information coordination and leadership
- select and review indicators in routine health information systems
- ensure effective data/information management
- manage data analysis and information products
- enhance data dissemination and use

1.2 Scope

These Standard Operating Procedures (SOPs) are mandatory and shall be implemented by all employees and contractors when engaging in health information related activities at Department of Health (DoH) District facilities. These SOPs must be used in conjunction with the following:

- DHMIS Policy 2011
- National Indicator Dataset (NIDS)
- Reference Documents as listed in Section 5

1.3 Training

The Health Information Management component is responsible for ensuring that team members who follow this procedure understand the SOP's objectives and other inter-related activities.

District Manager must ensure that team members sign that they have read and understand this SOP.

1.4 Background

In terms of the National Health Act (Act 61 of 2003) the DoH is required to facilitate and coordinate the establishment, implementation and maintenance of health information systems at all levels. The District Health Management Information System (DHMIS) Policy 2011 defines the requirements and expectations to provide comprehensive, timely, reliable and good quality routine evidence for tracking and improving health service delivery. The strategic objectives of the policy are to strengthen monitoring and evaluation (M&E) **through standardization of data management activities** and to **clarify the main roles and responsibilities at each level for each category of staff** to **optimize completeness, quality, use, ownership, security and integrity of data.**

In 2000 the District Health Information System (DHIS) was adopted as the official South African routine health information system for managing aggregated routine health service based information. These Standard Operating Procedures aim to clarify the responsibilities and procedures for effective management of aggregated routine health service.

2 HEALTH INFORMATION COORDINATION AND LEADERSHIP

2.1 Responsibility

The District Manager is accountable for effective and efficient health information management in the district.

2.2 Procedure

Step	Action
1	**MANAGING HEALTH INFORMATION IN THE DISTRICT** The District Manager must:
1.1	Sign-off any additional indicators and data elements to be collected in the District
1.2	Ensure that the DHIS is run and maintained in line with the DHMIS policy
1.3	Mobilise resources and maintain stable relations with local development partners
1.4	Ensure that core human and material resources required to run the DHIS are provided for in the district's staff structure and budget is available at all levels in the district
1.5	Manage a health information management human resource development plan for new and existing staff
1.6	Ensure that progress in DHIS implementation and data/information trends in priority areas is a standing item in District Management meetings at least once every quarter and submit reports on it to provincial DHIS management unit
1.7	Ensure that use and quality of data/information is included in performance agreements of all managers at district and facility level
1.8	Promote accountability and transparency by providing municipal councils, local development partners, community organisations and the public with timely, accessible and accurate information on performance.
1.9	Ensure that information is provided routinely, but capacity must be built to provide data/information on an ad-hoc basis to local municipality or local communities
1.10	Verify and validate data in team comprised of health information officer, district program managers and PHC managers.

1.11	Verify and sign-off data on time prior to its submission to the next level Ensure that a copy of the sign-off form is send to Provincial Information Officer with the following DHIS reports attached as proof of data quality: o Data entry validation report o Min/Max violations o Routine "check it" report o Outstanding input forms
1.12	Ensure that processes are followed to support facilities to be audit ready (as outlined in Standard Operating Procedures for Facility level)

3 INDICATORS

3.1 Responsibility

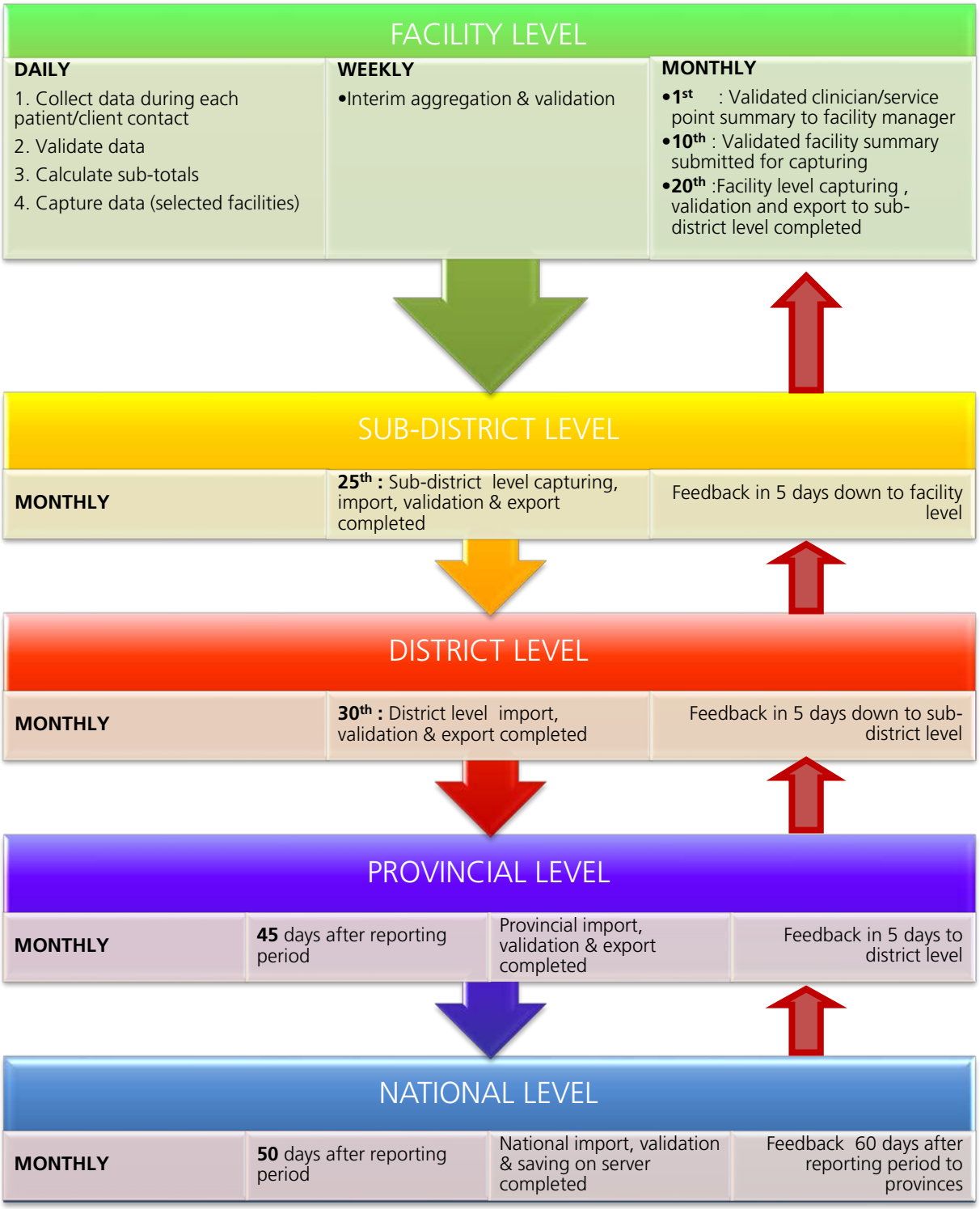
The District Manager is responsible for signing-off on any additional district indicators and data elements additional to the national and provincial indicator data sets.

3.2 Procedure

Step	Action
1	**SELECTING INDICATORS FOR THE DISTRICT** The District Manager must:
1.1	Sign-off any additional indicators and data elements to be collected in the District
1.2	Ensure that a process is in place for selecting and reviewing indicators This process must be completed at least by the end of December to ensure that collection of data on these indicators can commence at beginning of new financial year
1.3	Ensure that the data elements for each indicator are clearly defined for data collectors to have a common understanding of what exactly has to be recorded utilising the standard NDoH template
1.4	Ensure that staff receive adequate training on data elements and indicators
1.5	Ensure that data element definitions and indicator reference sheets are made available to all staff who are expected to record data

4 DATA/INFORMATION MANAGEMENT

This data flow diagram provides the timelines to ensure that the 45 day deadlines for routine data submission to NDoH is met.



4.1 Responsibility

4.1.1 Data Capturers Responsibilities

Data capturers, also referred to as data officers, are responsible for capturing data and then forwarding the data to the next level.

Data capturers must spend 90% of their work time on the data-related responsibilities stipulated below.

4.1.2 Procedure: Data Capturer

Step	Action
1	**CAPTURING OF DATA INTO DHIS**
1.1	*Obtain validated monthly input forms on all data sets on the 10th of each month if data is provided on hard copies (paper based):* • Conduct a rapid data quality assessment of data on data input forms – must be 100% complete and should contain no gaps or outliers without comments • Capture monthly data into the DHIS • Indicate date of capturing on each monthly data input form and sign • Ensure that back-ups of the data are made every time it is changed

4.1.3 Health information officer responsibilities

Health information officer at District is responsible for the import and further management of DHIS data.

Information officers/managers must spend 100% of their time on the data/information-related activities stipulated below.

4.1.4 4.1.2.1 Procedure: Health information officer

Step	Action
1	**DATA/INFORMATION MANAGEMENT**
1.1	Provide HIS related leadership, guidance, capacity building, mentoring and support to sub-district and facility Health Information System staff as well as line and program managers through the following: • Identify health information system, data quality, monitoring and reporting skills needs and build capacity • Conduct at least two visits per sub-district per **year** to do spot checks on aspects such as data quality and implementation of policies and guidelines • Disseminate updated data files (CDs or other agreed upon methods) to sub-districts • Disseminate HIS related policies, guidelines, NIDS and other priority HIS documents to sub-districts • Monitor implementation of policies and guidelines together with line and program managers • Coordinate and monitor data quality assessments and data alignment activities • Provide line and program managers with data for planning, presentations and reports (information officers should not be expected to compile plans, presentations and reports – this is the responsibility of line and program managers) • Support process of verifying facility names, types, coordinates and follow up with relevant managers • Ensure that facilities that closed during the year are also closed in the routine health information system (DHIS)
1.2	*Obtain validated monthly input forms on all data sets on the 15th of each month if data is provided on hard copies (paper based) and captured at district level:* • Conduct a rapid data quality assessment of data on data input forms – must be 100% complete and should contain no gaps or outliers without comments • Capture monthly data into the DHIS if there is no data capturer

	• Indicate date of capturing on each monthly Data Input Form and sign *From this point the procedure to manage DHIS data that was captured or imported is:* • Run Min/Max range violations, Absolute validation and Statistical Validation reports on data • Run Standard Reports on data for outstanding input forms, routine raw data reports and ad hoc reports • Follow up any discrepancies found in data with sub-district managers and keep record of data quality reports drawn, follow up date and contact person • Ensure that sub-district managers facilitate entire data trail correction back to the initial collection point. A line should be drawn through the incorrect value and the new value should be written. Changes are to be initialled and dated. No correction fluid is to be used. • Export data to Data Mart and refresh pivot tables – compare data in pivot tables with that on summary forms. The following is crucial in this process: o Save existing standard pivot tables with a different name(for example add date) before exporting to Data Mart o Empty the Data Mart, do a partial export to Data Mart and then refresh the standard pivot tables export o A full export to Data Mart is done only if new Organisational Units or data elements were added • Obtain sign-off of the data from District Director. A copy of the sign-off form should be send to the Provincial Information Officer • Attach following DHIS reports to sign-off form as proof of data quality: o Data entry validation report o Min/Max violations o Routine "check it" report o Outstanding input forms • Export data on all NIDS data elements and send export file to provincial level before d-date • Ensure that back-ups of the data are made every time it is changed • Provide informal feedback within 5 days after the export date to sub-district, line and program managers and M&E managers • File all records, including original, cancelled forms and resubmitted, corrected forms, needed to meet monitoring and audit requirements and store safely in a locked facility
1.3	*If electronic data is received*: • Import DHIS files from lower levels on relevant due date according to data flow diagram • Check whether all DHIS datasets have been received and follow up outstanding

	export files • Import data from electronic patient-based registers/systems such as ETR.net and TIER.net • Conduct import validations • Ensure that detail is correct when updating existing records, accepting new records and matching records • Ensure that Organisational Unit names, data elements and indicators are changed at relevant higher level and that an export file containing these changes be sent to lower levels • *Follow the procedures for validating and exporting data captured in DHIS as outlined in 1.1*
1.4	Make **pivot tables** available to relevant line and program managers at district and sub-district level by means of hard copies, emails or intranet Inform managers if any data on the shared pivot tables have been changed
1.5	Prepare data quality pivot tables and reports on quarterly basis and make available to relevant line and program managers at district and sub-district level
1.6	Keep submission logs for monitoring adherence to reporting timeframes and identification of bottlenecks for remedial action
1.7	**Analyze DHIS data and provide feedback**: • **monthly feedback within 5 days** after the export date to lower reporting levels, line and program managers as per data flow diagram, by means of updated graphs on selected indicators • **quarterly** input to district review meetings on data quality (emphasising timeliness and completeness) and program performance with recommendations to optimise data quality • Update graphs depicting indicators as identified and based on data signed-off by district manager on a monthly basis and display it in district office
1.8	Update antivirus software **daily** or at least **weekly** (crucial for data security purposes)
1.9	Facilitate the District Indicator Data Set (DIDS) revision process
1.10	Participate in process to ensure that facilities are ready for annual audit of performance Provide support to sub-districts and facilities in actions to address auditor opinion
1.11	Monitor compliance of facility/sub-district compliance to sign- off procedures

4.1.5 Line and Program manager responsibilities

The responsibilities of line managers (which include supervisors) and program managers at district level are similar to that of other data/information users i.e. using DHIS data for evidence based decision making to:

- optimise public health and the health status of the population
- optimise performance of health programs and the healthcare system
- improve data quality
- monitor, evaluate and report on performance against all legislated plans in the health sector

4.1.6 4.1.3.1 Procedure: Line Manager

Step	Action
1	**DATA/INFORMATION MANAGEMENT**
1.1	The District Manager must ensure that sufficient resources for routine health information management are provided: • Stationery such pens, rulers, carbon paper, calculators and staplers • Filing cabinets, files and an effective filing system • Telephones and fax machines • Definitions of data elements and indicators Ensure that facilities have the correct data collection tools (tick sheets, standardised registers and summary forms) Mobilise for further resources (staff, hardware and software, email and internet connections) according to national guidelines as outlined in Generic Standardised Operating Procedures
1.2	Include data management, monitoring and reporting in performance contracts and job descriptions of all managers to optimise data quality
1.3	Ensure that training takes place on data elements, data quality assessment and data use for line and program managers.
1.4	Ensure that data is verified and signed-off on time by the District Manager prior to its submission to next level according to data flow diagram
1.5	**Optimise DHIS data quality and use** by means of: • Spot checks to identify data quality and program as well as district and sub-district challenges for follow up and support. These spot checks must be conducted by means of desktop reviews (**monthly**) and lower level visits (**quarterly**)

	• Including DHIS data as standing item on monthly and quarterly meetings to review data and ensure that remedial interventions are implemented to improve data quality and service delivery where data shows inadequate performance • Conducting performance reviews and compiling quarterly reports. • Use DHIS data for development of the District Health Plan and linked subsidiary plan and monitoring performance against these plans
1.6	Participate in PIDS and DIDS reviews
1.7	Monitor the implementation of the Information Management component of the Supervision Visit Guidelines
1.8	Monitor implementation of DHMIS, NIDS and routine health information management guidelines

4.1.7 4.1.3.2 Procedure: Program Manager

In addition to the roles and responsibilities of the Line Manager as above, the Program Manager is responsible for the following procedures:

Step	Action
1.1	Align program-specific DIDS with NIDS and PIDS
1.2	Provide leadership, guidance and support with development of building capacity around program specific NIDS at their respective levels
1.3	Compile program specific inputs for reports

5 REFERENCE DOCUMENTS

Individuals using these procedures should become familiar with the following documents:

5.1 DHMIS Policy, National Department of Health, 2011.

5.2 National Health Act (Act 61 of 2003): Commencement Section 53 of the National Health Act, 2003.

5.3 PHC Supervisory Manual, National Department of Health, October 2009

5.4 Promotion of Access to Information Act (Act 2 of 2000): GN 585, Government Gazette 26332, 14 May 2004.

5.5 Public Audit Act of 2004 (Act 25 of 2004): Government Gazette Vol 474, Cape Town, 20 December 2004 No. 27121.

5.6 Public Finance Management Act (Act 1 of 1999): Public Finance Management Amendment Act (Act No. 29 of 1999).

5.7 Statistics Act (Act 6 of 1999): Government Gazette Vol. 406, Cape Town 21 April 1999. No. 19957.

5.8 Treasury Regulations: Government Gazette, Vol. 500, Pretoria, 20 February 2008, No. 29644.

Department of Health
Private Bag x 828
Pretoria
0001

Tel: 012 395 8000

website: www.doh.gov.za