



District Health Management Information System (DHMIS)

Standard Operating Procedures: Sub-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 sub-district level present basic and practical steps to be followed by sub-district health information management personnel, programme/line managers and clinic supervisors at sub-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.

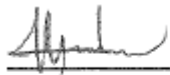
The long-term vision of the National DoH is the creation of a national integrated patient-based information system, which will require implementation of electronic systems for data management at all levels of the health system. This will eliminate most of the challenges that emanate from manual data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

All Sub-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 districts; 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.



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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
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
SOP	Standard Operating Procedure

DEFINITIONS

TERMINOLOGY	OPERATIONAL DEFINITION
Accuracy	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

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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 are mandatory and shall be implemented by all employees and contractors when engaging in health information related activities at Department of Health Sub-District level. These SOPs must be used in conjunction with the following:

- DHMIS Policy 2011
- National Indicator Dataset (NIDS)
- Reference Documents as listed in Section 3

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.

Ensure that team members sign that they have read and understand this SOP.

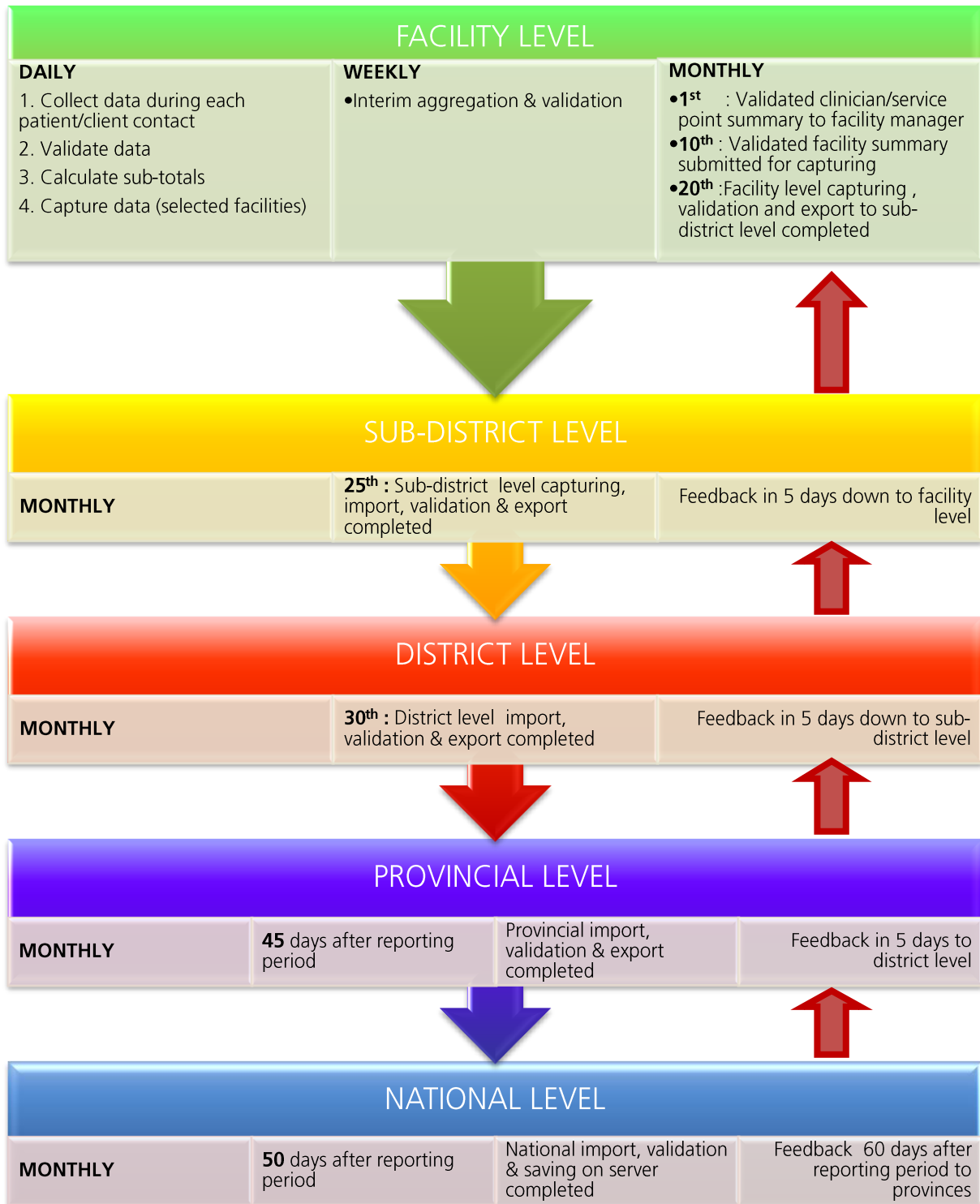
1.4 Background

In terms of the National Health Act (Act 61 of 2003) the Department of Health (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 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.



2.1 Responsibility

2.1.1 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.

2.1.1.1 Procedure: Data Capturer

Step	Action
1	CAPTURING OF DATA INTO DHIS
1.1	<i>Obtain validated monthly input forms on all data sets on the 10th of each month if data is provided on hard copies (paper based):</i> • 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 <i>If there is no health information officer at this level the data capturer must also:</i> • 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 facility managers by sending back the data input form for correction and keep record of follow up date and person. Corrections should be done within 3 days • Ensure that facility managers made the appropriate corrections on the data input form. 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. The entire data trail back to the initial collection point must be corrected • On receiving the corrected data input form from the facility manager, correct the values in DHIS and send updated reports and pivot tables to the facility manager to sign off the data • 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 full export to Data Mart and then refresh the

	standard pivot tables • Obtain sign-off from Sub-District Manager, PHC coordinator and program managers of the data • 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 - o Pivot table of raw data for last 12 months with reporting month as last month • Export data on all NIDS data elements and send export file to district level before date • Ensure that back-ups of the data are made every time it is changed • File records needed to meet monitoring and audit requirements and store safely in a locked facility
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2.1.2 Health information officer responsibilities

Health information officer at Sub-District level 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.

2.1.2.1 Procedure: Health Information Officer

Step	Action
1	Data/Information Management
1.1	Provide DHIS generated data collection tools (Tick register) and collation/monthly data input forms for different types of facilities to optimise data quality and minimise the use of zero (0)
1.2	STANDARDISED USE OF ZERO (0) • Only NIDS (and standardised province or district-specific) data elements, for which services/interventions are provided routinely at a specific facility, should be activated for capturing into the DHIS. DHIS auto-generated Tick Registers and Monthly Summary forms will then contain only the relevant data elements for collection, collation and capturing. For example, the data element delivery in facility should not be activated for mobile and satellite clinics and should therefore not appear on the data collection and collation forms for these types of facilities.

Step	Action
	- o Allocation of elements to facilities should be standardised as far as possible - o Only information officers/managers with administrative rights should be allowed to activate/change activation of elements for capturing - o Allocation/activation of data elements should be exported to district, provincial and national levels • A 0 (zero) should be captured for all activated elements if no activities/interventions for the specific element took place during the reporting month. • If a specific routine activity did not take place due to a specific reason (for example children were not weighed because the scale was broken) capture a 0 (zero) with a comment. • If a PHC facility has not functioned at all during a specific month, capture a 0 (zero) for <i>PHC headcount</i> and add a comment explaining the reason why no services were provided (for example mobile broken, the only professional nurse was sick etc.) • If a delivery facility has not functioned at all during a specific month, capture a 0 (zero) for <i>delivery in facility</i> and add a comment explaining the reason why no services were provided (for example renovation etc.) • NO BLANKS should be left on the monthly summary form or data capturing screen without a tick/check it and a comment. • Information officers must monitor data elements to be de-activated to minimise the capturing of 0 (zero) • Inappropriate 0 (zero) must be corrected at data capturing level like all other data value changes. • If a hospital is not doing caesarean sections temporarily (for example if there were no doctors for a specific month or the theatre is renovated) a 0 should be captured with a comment indicating the reasons.
	Data elements that should not be activated for capturing The following data elements should not be activated for capturing because services are not routinely provided and/or specific incidences (such as deaths) do not occur in these facilities regularly. • <i>Mobiles, Satellite clinics and health posts</i> - o Delivery-related - o Mortality/death-related - o Inpatient and OPD-related - o ART treatment-related EXCEPT if the facility is an approved ART site - o Doctor clinical work days EXCEPT if the facility is routinely visited by a doctor at least once a month • <i>Clinics</i> - o Delivery-related EXCEPT if the clinic provides daily delivery services - o Mortality/death-related - o Inpatient and OPD-related - o ART treatment-related EXCEPT if the facility is an approved ART site - o Doctor clinical work days EXCEPT if the facility is routinely visited by a doctor

Step	Action
	at least once a month • Community Health Centres - o Mortality/death-related EXCEPT: ▪ Still births, early and late neonatal deaths, deaths under 1 and deaths under 5 ▪ Maternal deaths, if they do more than 100 deliveries a month. Because small delivery facilities do not often have maternal deaths, the element should only be activated when a maternal death occurred - o ART treatment-related EXCEPT if the facility is an approved ART site • Hospitals It should be kept in mind that most OPDs provide ambulatory services similar to PHC facilities and must report on most PHC/ambulatory NIDS elements. Data elements that may cause confusion Supervisor visit this month – capture only a 1 if one or more documented supervisor visits took place during the reporting month (which means yes) or a 0 (zero) in case of no documented visits (which means no)
1.3	Recalculate min/max values after the last month of the financial year's data is in the DHIS system to establish the values relevant for the next financial year in consultation with sub-district manager and program managers Ensure that each facility manager receives a data input form with revised min/max values to enable them to identify outliers to comment on with submission of monthly data
1.4	Import DHIS files from lower levels on relevant d-date according to data flow diagram (15th of month) • 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 level • 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 facility managers and keep record of follow up date and person • Ensure that facility managers made the appropriate corrections on the data input form. A line should be drawn through the incorrect value and the new value should

Step	Action
	be written. Changes are to be initialled and dated. No correction fluid is to be used. The entire data trail back to the initial collection point must be corrected • On receiving feedback from the facility manager, correct the values in DHIS and send updated reports and pivot tables to the facility manager to sign off the data • 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 full export to Data Mart and then refresh the standard pivot tables • Obtain sign-off from Sub-District Manager of the sub-district's data. A copy of the sign-off form should be send to the District 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 - o Pivot table of raw data for 12 months with the reporting month the last month • Export data on all NIDS data elements and send export file to district level before d-date • Ensure that back-ups of the data are made every time it is changed • File records needed to meet monitoring and audit requirements and store safely in a locked facility
1.5	Make pivot tables available to relevant line and program managers at facility and sub-district level by means of hard copies, emails or intranet.
1.6	Prepare Data Quality Pivot tables and reports on quarterly basis and make available to relevant line and program managers at sub-district and facility level
1.7	Keep submission logs for monitoring adherence to reporting timeframes and identification of bottlenecks for remedial action
1.8	Do annual data quality pre-audit assessments to ensure audit readiness: • Record all discrepancies found • Ensure that corrections are done
1.9	Analyze DHIS data and provide feedback: • monthly feedback within 5 days after the export date to lower reporting levels, line and program managers (data flow diagram) by means of updated graphs on selected indicators • quarterly input to sub-district review meetings on data quality (emphasising timeliness and completeness) and program performance with recommendations

Step	Action
	- 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 sub-district office
1.10	Update antivirus software daily or at least weekly (crucial for data security purposes)

2.1.3 Line and Program manager responsibilities

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

- optimise patient care
- 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

2.1.3.1 Procedure: Line Manager

Step	Action
1	Data Management
1.1	Provide sufficient resources for routine health information management: • Stationery such pens, rulers, carbon paper, calculators and staplers • Filing cabinets, files and an effective filing system • Telephones and fax machines • Up-to-date pivot tables, graphs and reports on data quality and program performance • Definitions of data elements and indicators • Data collection tools (tick sheets, standardised registers, summary forms and Data Input 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

1.3	Ensure training 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 Sub-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 sub-district and facility challenges for follow up and support. These spot checks must be conducted by means of desktop reviews (monthly) and visits to facilities (quarterly) • Including DHIS data as standing item on monthly and quarterly sub-district 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. • Participate in the development of the District Health Plan and linked subsidiary plans
1.6	Participate in PIDS reviews
1.7	Monitor the implementation of the Information Management component of the PHC Supervision Manual

2.1.3.2 Procedure: Program Manager

In addition to the procedures for the Line Manager as above, the Program Manager is responsible to:

Step	Action
1.1	Ensure that program specific standard registers are completed correctly in facilities
1.2	Provide leadership, guidance and support with development of and building capacity around program specific NIDS at their respective levels
1.3	Compile program specific inputs for reports

3 REFERENCE DOCUMENTS

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

- 3.1 DHMIS Policy, National Department of Health, 2011.
- 3.2 National Health Act (Act 61 of 2003): Commencement Section 53 of the National Health Act, 2003.
- 3.3 PHC Supervisory Manual, National Department of Health, October 2009
- 3.4 Promotion of Access to Information Act (Act 2 of 2000): GN 585, Government Gazette 26332, 14 May 2004.
- 3.5 Public Audit Act of 2004 (Act 25 of 2004): Government Gazette Vol 474, Cape Town, 20 December 2004 No. 27121.
- 3.6 Public Finance Management Act (Act 1 of 1999): Public Finance Management Amendment Act (Act No. 29 of 1999).
- 3.7 Statistics Act (Act 6 of 1999): Government Gazette Vol. 406, Cape Town 21 April 1999. No. 19957.
- 3.8 Treasury Regulations: Government Gazette, Vol. 500, Pretoria, 20 February 2008, No. 29644.



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