

# Report on the State of Availability and Delivery of Pharmaceuticals in the Northern Cape Province

October 2008



---

Strengthening Pharmaceutical Systems  
Management Sciences for Health  
Masada Building, 4<sup>th</sup> Floor  
Corner Paul Kruger & Proes Streets  
Pretoria 0001  
South Africa  
Phone: 012.326.4027  
Fax: 012.326.6810  
[www.msh.org](http://www.msh.org)

## TABLE OF CONTENTS

ACKNOWLEDGMENTS .....	3
ACRONYMS .....	4
EXECUTIVE SUMMARY .....	5
1. INTRODUCTION .....	9
2. METHODOLOGY .....	9
3. LIMITATIONS.....	11
4. FINDINGS.....	11
5. DISCUSSION.....	38
CONCLUSIONS.....	42
RECOMMENDATIONS.....	42
Annexure A - Facilities Included in the Northern Cape Survey 2008.....	44
Annexure B – Data Collection Forms.....	45

## **ACKNOWLEDGMENTS**

This report was made possible with the contributions of:

- Head of Department of Health: Dr. Thabo Sibeko
- Head of Pharmaceutical Services: Mr. Gerald Mentoor
- Chief Pharmacist- Pharmaceutical Services: Ms. Josephine Herbert
- Chairman of Provincial Pharmaceutical and Therapeutics Committee: Mr. Farouk Shaikhmag
- Sub-directorate - Pharmaceutical Services
- District Managers
- District Pharmacists
- Pharmacists and Pharmacist's Assistants who collected the data
- Pharmacist's Assistants and Administration Clerk who captured the data
- Staff of Management Sciences for Health/Strengthening Pharmaceutical Systems that provided technical assistance

## **ACRONYMS**

CHC	Community health centre
HOD	Head of Department
HOPS	Head of Pharmaceutical Services
KHC	Kimberley Hospital Complex
MSH	Management Sciences for Health
PHC	Primary health care
PTC	Pharmaceutical and Therapeutics Committee
SOPs	Standard operating procedures
SPS	Strengthening Pharmaceutical Systems

## **EXECUTIVE SUMMARY**

Supply of essential medicines and products is critical to health program success. The availability of these medicines and products is dependent on accurate monitoring of stock levels. Good record-keeping systems are crucial for monitoring stock levels. Pharmaceutical services form an integral and crucial part of the broader health care system in which medicines play a key role.

The perceived shortage of medicines in the province was a matter of concern for health authorities. Hence the urgent need to conduct a study on the availability of medicines at state facilities rendering pharmaceutical services comprising hospitals, community health centres and primary health care centres.

The study was a collaborative effort between the Provincial Department of Health and the Strengthening Pharmaceutical Systems (SPS) Program of Management Sciences for Health (MSH).

### **Approach**

Health facilities to be enrolled in the study as well as key medicines were identified. Two lists of key medicines used in the province based on the disease patterns were compiled to investigate the availability of medicines and record-keeping practices. These lists were different because of the level of care provided at hospitals, community health centres and primary health care clinics which is not the same. Data collection forms were designed and field tested in consultation with pharmaceutical services.

Database was developed and training of data collectors and capturers was conducted in Kimberley from 14 – 16 July 2008. Report writing was the responsibility of SPS with inputs from the province.

This report summarizes the key findings and provides recommendations for the improvement of the gaps identified.

### **Overview of the findings**

The findings relate mainly to human resources, patients and prescriptions statistics, procedures and stock control systems, availability of tracer medicines, medical logistic depot, delivery system and patient care survey/exit interviews.

#### **Human Resources**

The allocation of human resources who can render pharmaceutical services (ordering of medicines, storage, dispensing, pre-packing, small scale compounding, after- hours service, record keeping, etc.) at the 30 health facilities is inappropriate. There is a high vacancy rate with regards to pharmacy personnel. A heavy reliance on nurses and non registered personnel was noticeable at all levels. This situation is having a negative impact on the quality of pharmaceutical services provided (quality of care, shortage of medicines, record-keeping, etc.) and should be addressed.

## Patients and Prescriptions Statistics

Number of patients, prescriptions and medicines dispensed were reviewed in all the 29 hospitals; community health centres (CHCs) and primary health care (PHC) clinics. The purpose was to ascertain the record keeping and, to compare pharmacy personnel in employ versus workload.

Only eleven facilities (38%) had kept proper records during the nine months of the study (October 2007 to June 2008). At these facilities the workload appeared too high as compared to staff allocated. The rest of the facilities did not have up-to-date records for the number of patients, prescriptions and items dispensed. This lack of records can be attributed to shortage of human resources as mentioned above with implications on shortage of medicines due to lack of stock levels monitoring and lack of supervision.

## Procedures and Stock Control Systems

Standards operating procedures (SOPs) as well as inventory monitoring tools play a key role in the availability of medicines. They assist in the process of ordering stock, stock rotation, keeping records of previous orders, loans, disposal of obsolete stock, etc. An investigation was undertaken to ascertain the existence, nature and use of SOPs and inventory monitoring tools in all the facilities. It was found that only fourteen facilities (48%) had SOPs in place for receiving of stock and another 48% (14 facilities) had SOPs for ordering, storage and supply of medicines. The expectation was to find all the facilities with all the SOPs implemented as required by the Good Pharmacy Practice (GPP) rules.

Only 52% of the twenty nine facilities were using stock cards as inventory monitoring tool and none was using computerized system.

The absence of SOPs and basic inventory monitoring tools such as stock cards and computers could explain why some facilities did not have stock. Orders were placed without any reference.

The reason cited by health professionals for the lack of SOPs and poor inventory management practices was inadequate staff and workload.

## Tracer Medicines

The findings contained in section 4.4 can be summarized as follows:

- Six tracer medicines included in the study had supply problems at national level. They include Metoclopramide tablets 10mg (used for nausea and vomiting); Vaccine: Td (for Tetanus and Diphtheria); Aspirin tablets 300mg (for pain and fever); Furosemide tablets 40mg (for hypertension); Nifedipine tablets XL 30mg (for hypertension); Spironolactone tablets 25mg (for hypertension) and Chlorpheniramine tablets 4mg (for allergy)
- Shortage of medicines was noticeable on the day of the assessment (physical stock counted) as shown in table 22

- Key items out of stock on the assessment day were mainly for the treatment of hypertension, epilepsy, infections, pain or fever
- Inaccurate recording of stock was observed (recorded balances were either less or greater than physical counts)
- Manne Dipico hospital (Pixley Ka Seme District) had the highest stock out percentage (31% for the first list and 45% for the second list) among the hospitals. The full lists of items out stock are summarized in tables 25 and 26
- Kagisho community health centre (Kgalagadi District) had the highest percentage (64%) of stock out among the community health centres. The list of the items out of stock is represented in table 23
- Vioolsdrift primary health care clinic (Namakwa District) had the highest percentage (44%) of stock out among primary health care clinics. These items are shown in table 24
- 93% (27 facilities) out of 29 facilities did not keep records of stock for the period of October 2007 to June 2008 which made it difficult to conclude with certainty if these facilities had stock or not during this period. The data collection lists for each facility are contained in document 2 attached to this report

### Medical Logistic Depot

Medical depot was included in the study because of its role in the selection, purchase, storage and distribution of medicines and other medical devices in the province. It was important to ascertain whether tracer medicines under investigation at different health facilities were available at the depot during the review period of October 2007 to June 2008.

Although the depot provided information related to issues to facilities, information pertaining to the availability of tracer medicines was not readily available. Further studies are needed to assess the depot performance.

### Delivery System (Transport)

The transportation of medicines and other devices from the depot to the districts and within the districts to clinics was found to be inadequate. The reliance of the delivery of medicines on the patients transport (ambulance) within the districts needs to be addressed. It affects the availability of medicines at facility level with many consequences on the quality of care.

### Patient Care Survey/Exit Interviews

Patients and their care givers were interviewed at different facilities to assess their experiences. Their complaints as well as suggestions for improvement were around human resources, infrastructure, availability of medicines, quality of care and transport.

## Recommendations

Recommendations are provided at end of this report in more details. The following summary is around the key challenges identified during the study-

## Human Resources

- Address the vacancy rates by creating new posts for pharmacists and support staff
- Allocation of a pharmacist and post basic pharmacist's assistant at community health centres
- Allocation of a post basic pharmacist's assistant at primary health care clinics who should work under indirect personal supervision of a pharmacist
- Development of strategies to recruit and retain pharmacy personnel

## Drug Supply Management

- Install a new computer system at medical depot with links to districts
- Implement a backup system at the depot (stock cards)
- Ensure reliable transportation system
- Strengthen inventory management systems at all hospitals, community health centres and primary health care clinics.
- Training in drug supply management should be provided
- Implement standard operating procedures at all facilities
- Support the activities of the provincial and district pharmaceutical and therapeutics committees (PTCs)
- Develop and implement key performance indicators to routinely assess the delivery of pharmaceutical services at all levels.



## 1. INTRODUCTION

The purpose of the study was to assess the availability of medicines in the Northern Cape province. The request to conduct the study was made by health authorities in the Province further to complaints received by the authorities from members of the community in certain areas within the province about shortages of pharmaceuticals.

## 2. METHODOLOGY

Medicines play an important role in the health care delivery system. They promote trust and participation in health services. Common problem areas in medicine supply programs are the high cost of medicines, the poor quality thereof as well as the lack of availability of medicines.

Availability of essential medicines depends on good management support which aims to make the system work efficiently. A significant advance in the management of the medicine supply chain has been the use of indicators as standardized measures of performance.

A **Retrospective indicator** based approach was used in the study to assess the availability of medicines in hospitals, community health centres and primary health care clinics in the province.

### 2.1. Areas Covered

The following areas were assessed in the study -

- The availability of human resources
- Statistics collected with regard to the number of patients and prescriptions
- Procedures and stock control systems in place
- The availability of tracer medicines
- The experience of patients within the facility by conducting a Patient Care Survey/Exit Interview

### 2.2. Time Period Reviewed

Based on the period during which complaints were received i.e. January to March 2008, it was decided to collect data for the period four months before the complaints arose and for an additional four months after this period. Data was thus collected for the period 1 October 2007 to 25 July 2008. Data collection commenced on 21 July 2008.

### 2.3. Health Facilities

A list of 30 facilities (Annexure A) included in the study was compiled by the district managers and the district pharmacists. These were the institutions identified as not having medical supplies. Institutions were chosen per district. Municipal demarcation was used to classify institutions as either urban or rural. It was agreed that institutions situated in Kimberley (Sol Plaatje municipality) and Upington (Khara Hais municipality) would be classified as urban whilst the rest would be classified as rural. Table 1 below shows the type and number of facilities included in the study per district.

<b>District</b>	<b>Urban</b>	<b>Rural</b>
Frances Baard	6	3
Kgalagadi	-	7
Namakwa	-	5
Pixley Ka Seme	-	2
Siyanda	1	5

The Medical Logistic Centre (Medical Depot) was also included in the study to assess the availability and distribution of medicines to various health care facilities.

## 2.4. Tracer Medicines

Tracer medicines are key medicines which should be available at any given time to provide essential medical services. The selection of these medicines in the study was based on the disease patterns in the province, the top 50 items report in the province which is a replenishment report of issues to the districts. Medicines with which problems relating to supply had been experienced on both national and provincial basis were also included. A list of 39 tracer medicines which are used in all hospitals, community health centres and primary health care clinics was drawn up (Annexure B-form 3A); a similar list of 38 items which are used specifically in hospitals was also compiled (Annexure B-form 3B). Six items restricted to Gordonia Hospital and Kimberley Hospital Complex were added to the hospital list. Two different lists were used because of the difference between the level of care provided at hospitals as opposed to that provided at community health centres and clinics. The restricted items are those which may only be prescribed by specialists and for which a motivation must be received before they can be dispensed. Both lists were compiled by the district pharmacists with the contribution of Pharmaceutical Services and the Chairperson of the “provincial” Pharmaceutical and Therapeutics Committee (PTC).

## 2.5. Database and Data Collection Forms

Four types of data collection forms were designed based on the major areas to be covered. These forms were field tested at two facilities and revised during the training of data collectors/captors. The forms were as follows-

- Form 1: Human Resources and Patients/Prescriptions statistics (Annexure B-form 1). This form was developed with a view to obtain data relating to the staff establishment of the facility in relation to the workload. Data relating to the human resource capacity available in health facilities to provide services; e.g.; ordering of medicines, monitoring inventory management, dispensing to the patients, etc was requested. Questions were included relating to the number of patients served by the facility as well as the number of prescriptions and items dispensed.
- Form 2: Procedures and Stock Control System (Annexure B-form 2). This form was designed to assess the existence, nature and use of standard operating procedures (SOPs) and the system in place for the management of inventory.
- Forms 3A & 3B: Tracer Medicines (Annexure B). These forms were designed to assess the availability of essential medicines and devices during the study period.
- Form 4: Patient Care Survey/Exit Interview (Annexure B-form 4). This form was to be administered to 30 patients at each health facility to assess patient experiences.

## 2.6. Data Collectors and Capturers

A total of 17 data collectors were selected. These included pharmacists, pharmacists performing community service and pharmacist's assistants. Data capture was the responsibility of two pharmacist's assistants (learner basic) and one administration clerk. Both data collectors and data capturers underwent training relating to the study from 14 to 16 July 2008. The training included an overview of the study, the role of data collectors; work to be carried out; start and finish dates; number of sites to be visited by each data collector as well as how to collect the data. A practical session relating to entering data on the designated forms and conducting patient interviews was held. A field practice session followed by a final discussion took place.

The field practice took place on 15 July at Beaconsfield PHC clinic and at Galeshewe Day Hospital. Participants were divided into two groups with each group working at one of the facilities. On 16 July each group presented their findings, experiences from the field practice were reviewed and concerns and questions were addressed.

Data collectors were assigned to teams in pairs. Each team had to collect data from a district other than the one in which they are based (Annexure A). All logistical matters were addressed i.e. accommodation, transport, stationery, communication, etc. Data collection took place from 21 to 25 July, while data capturing commenced in Kimberley on 22 July and ended around 30 July. Data validation continued in Pretoria during the first week of August.

## 3. LIMITATIONS

The following limitations to the study were identified -

- Information on vacant posts and additional posts needed was not easy to obtain at facility level. In some cases facilities did not have the same information as was available at the District Manager's office.
- It was not possible to administer Patient Care Survey/Exit Interviews at four of the facilities participating in the study. Three of the facilities were involved in an immunization campaign on the day of the visit to the facility whilst the fourth did not have adequate infrastructure to provide services to out-patients. The exit interviews were administered to outpatients.
- Lack of proper records including inventory management records.

## 4. FINDINGS

Data presented and analyzed in this report were collected from 30 health facilities including the medical depot (Dr Arthur Letele Medical Logistic Centre). Table 1 above summarizes the number and types of facilities per district. The findings reported here are those related to human resources, patients and prescription statistics, procedures and stock control, tracer medicines, delivery systems and patient care.

### 4.1. Human Resources

The findings in this section relate to human resources hired to render pharmaceutical services. They include pharmacists, pharmacist's assistants (post basic), pharmacist's assistants (basic) and any other pharmacy personnel involved in providing this service. They also include primary health care nurses at the clinic level who are involved in rendering pharmaceutical services such as ordering, storage and dispensing of medicines.

#### 4.1.1. Medical Depot (Dr Arthur Letele Medical Logistic Centre)

Table 2 below indicates the categories of pharmaceutical personnel employed, vacant posts and the vacancy rate as on 24 July 2008 at the Medical Depot.

Category	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Pharmacists	7	2	5	71%
Pharmacist's Assistants (Basic)	19	13	6	32%
Pharmacist's Assistants (Post Basic)	12	1	11	92%

#### 4.1.2. Hospitals

Table 3 indicates the categories of pharmaceutical personnel at Kimberley Hospital Complex as at 21 July 2008. The (-) sign means that the staff establishment is unknown and 13\* represents three (3) people on a learnership program who are not part of the staff establishment and 10 support personnel who are not registered with the South African Pharmacy Council.

Category	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Pharmacists	6	5	1	17%
Pharmacist's Assistants (Basic)	-	4	-	-
Pharmacist's Assistants (Post Basic)	-	2	-	-
Other Pharmacy Personnel	0	13*	0	0

Table 4 indicates the categories of pharmaceutical personnel at Gordonia Hospital on 21 July 2008.

<b>Table 4: Gordonia hospital – No. of Beds = 191</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	5	3	2	40%
Pharmacist's Assistants (Basic)	5	5	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0

Table 5 indicates the categories of pharmaceutical personnel at Manne Dipico hospital on 21 July 2008. One part-time pharmacist works at this facility

<b>Table 5: Manne Dipico hospital – No. of Beds = 34</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	1	1/2	1/2	50%
Pharmacist's Assistants (Basic)	1	1	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0

Table 6 indicates the categories of pharmaceutical personnel at Springbok hospital on 23 July 2008

<b>Table 6: Springbok hospital – No. of Beds = 40</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	2	1	1	50%
Pharmacist's Assistants (Basic)	4	4	0	0
Pharmacist's Assistants (Post Basic)	1	1	0	0
Other Pharmacy Personnel	0	0	0	0

Table 7 below indicates the categories of pharmaceutical personnel at Tshwaragano hospital on 24 July 2008

<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	3	0	3	100%
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	6	0	0

#### 4.1.3. Community Health Centres

##### 4.1.3.1. Frances Baard District

Table 8 shows the categories of personnel employed at Pampierstad CHC on 23 July 2008. There was no vacancy for other pharmacy personnel in the staff establishment. One auxiliary services officer (ASO) was, however, involved in the provision of the pharmaceutical service at this facility.

<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Post Basic Pharmacist's Assistants	0	0	0	0
Other Pharmacy Personnel	0	1	0	0
Primary Health Care Nurses	26	8	18	-

#### 4.1.3.2. Kgalagadi District

Table 9 indicates the number of personnel employed at Lopeng CHC on 22 July 2008.

<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	9	3	6	67%

Table 10 indicates the number of personnel who are able to render pharmaceutical services at Kagisho CHC on 21 July 2008

<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	12	12	0	0

Table 11 indicates the number of personnel employed at Cassel CHC on 22 July 2008 who are able to render pharmaceutical services. There were no posts on the staff establishment for other pharmacy personnel. Two auxiliary services officers were, however, providing pharmaceutical services at the CHC.

<b>Table 11: Cassel CHC – No. of Beds = 1</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	2	0	0
Primary Health Care Nurses	12	9	3	25%

Table 12 indicates the number of personnel employed at Camden CHC on 23 July 2008 who are able to render pharmaceutical services.

<b>Table 12: Camden CHC – No. of Beds = 1</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	10	6	4	40%



Table 13 shows the number of personnel employed at Churchill CHC on 23 July 2008 who are able to render pharmaceutical services

<b>Table 13: Churchill CHC – No. of Beds = 0</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	3	3	0	0

#### 4.1.3.3. Siyanda District

Table 14 indicates the number of personnel employed at Rietfontein CHC on 21 July 2008 who are able to render pharmaceutical services.

<b>Table 14: Rietfontein CHC – No. of Beds = 0</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	7	4	3	43%

Table 15 below indicates the number of personnel employed at Danielskuil CHC on 21 July 2008 who are able to render pharmaceutical services

<b>Table 15: Danielskuil CHC – No. of Beds = 0</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	7	3	4	57%

Table 16 below indicates the number of personnel employed at Groblershoop CHC on 24 July 2008 who are able to render pharmaceutical services.

<b>Table 16: Groblershoop CHC – No. of Beds = 0</b>				
<b>Category</b>	<b>Number of Posts</b>	<b>Posts Filled</b>	<b>Posts Vacant</b>	<b>Vacancy Rate</b>
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	6	3	3	50%

#### 4.1.3.4. Pixley Ka Seme District

Table 17 indicates the number of personnel employed at Griekwastad CHC on 22 July 2008 who are able to render pharmaceutical services.

Category	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Pharmacists	0	0	0	0
Pharmacist's Assistants (Basic)	0	0	0	0
Pharmacist's Assistants (Post Basic)	0	0	0	0
Other Pharmacy Personnel	0	0	0	0
Primary Health Care Nurses	10	4	6	60%

#### 4.1.4. Primary Health Care Clinics

In the case of the primary health care clinics only the availability of primary health care nurses was checked in terms of human resources able to render pharmaceutical services. They are grouped per district in Tables 18 - 21.

##### 4.1.4.1. Frances Baard District

Table 18 indicates the number of primary health care nurses available at each facility during the period 21- 25 July 2008.

Facility	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Delportshoop	3	3	0	0
Windsorton	3	3	0	0
Betty Gaetsiwe	10	10	0	0
Winston Torres	10	10	0	0
Recreation	8	8	0	0
Florianville	6	6	0	0
City	19	19	0	0

##### 4.1.4.2. Kgalagadi District

Table 19 indicates the number of primary health care nurses available at Kuruman primary health care clinic as at 21 July 2008 and who were able to provide pharmaceutical services.

Facility	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Kuruman	7	7	0	0

#### 4.1.4.3. Siyanda District

Table 20 indicates the number of primary health care nurses available at Keimoes and Postmasburg on 21 July, who could render pharmaceutical services.

Facility	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Keimoes	8	3	5	63%
Postmasburg	6	6	0	0

#### 4.1.4.4. Namakwa District

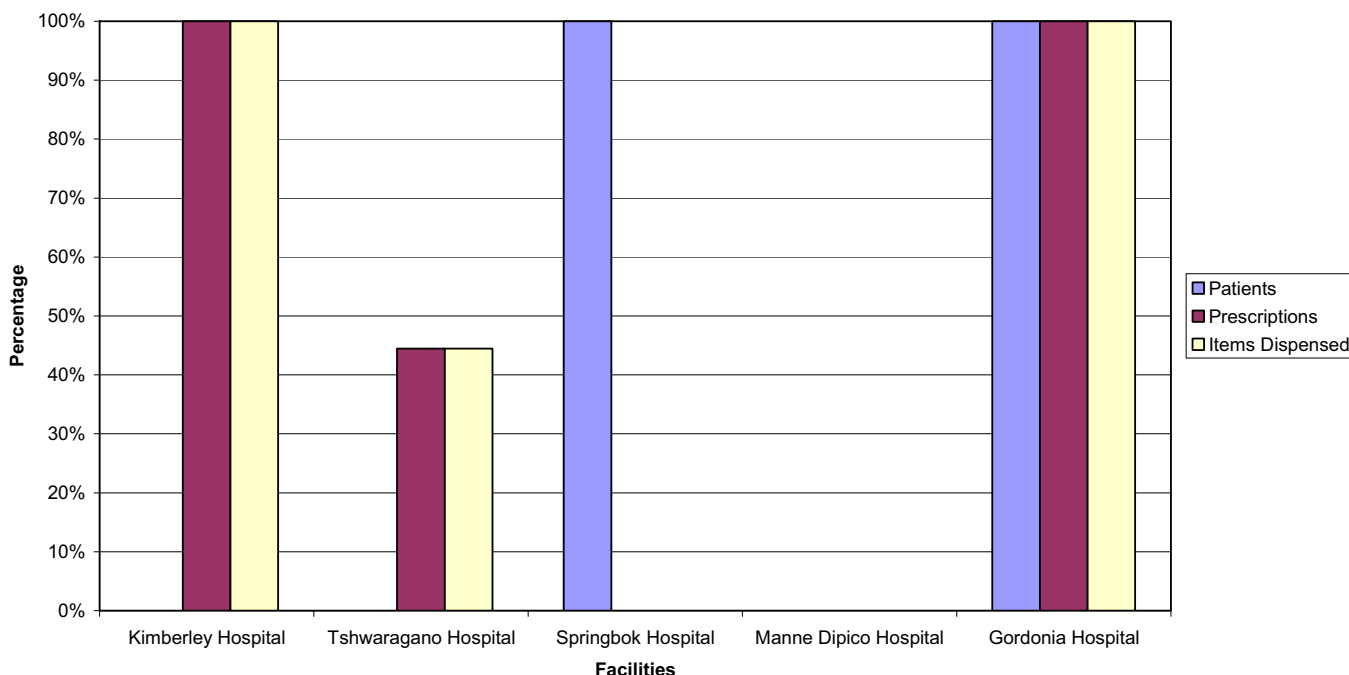
Table 21 indicates the number of primary health care nurses available at clinics in the Namakwa district in July 2008 who could render pharmaceutical services.

Facility	Number of Posts	Posts Filled	Posts Vacant	Vacancy Rate
Vioolsdrift	2	1	1	50%
Pella	5	3	2	40%
Steinkopf	9	5	4	44%
Concordia	4	2	2	50%

## 4.2. Patients and Prescription Statistics

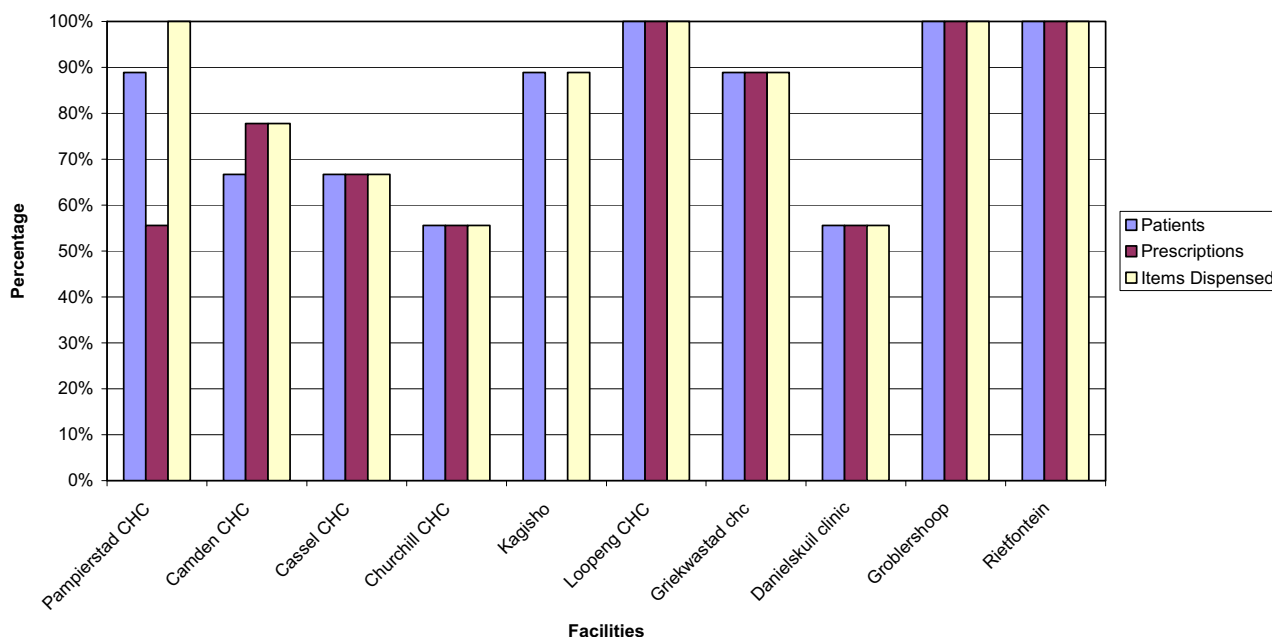
Statistics relating to patients and prescriptions for the period of October 2007 to June 2008 were reviewed at each health facility participating in the study. The purpose was to establish how many facilities were keeping these records and to obtain an idea of the workload per health facility which could have an impact on service delivery. The statistics shown in the following graphs relate to outpatients records.

**Graph 1: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT07 AND JUN08 HOSPITALS - N = 5**



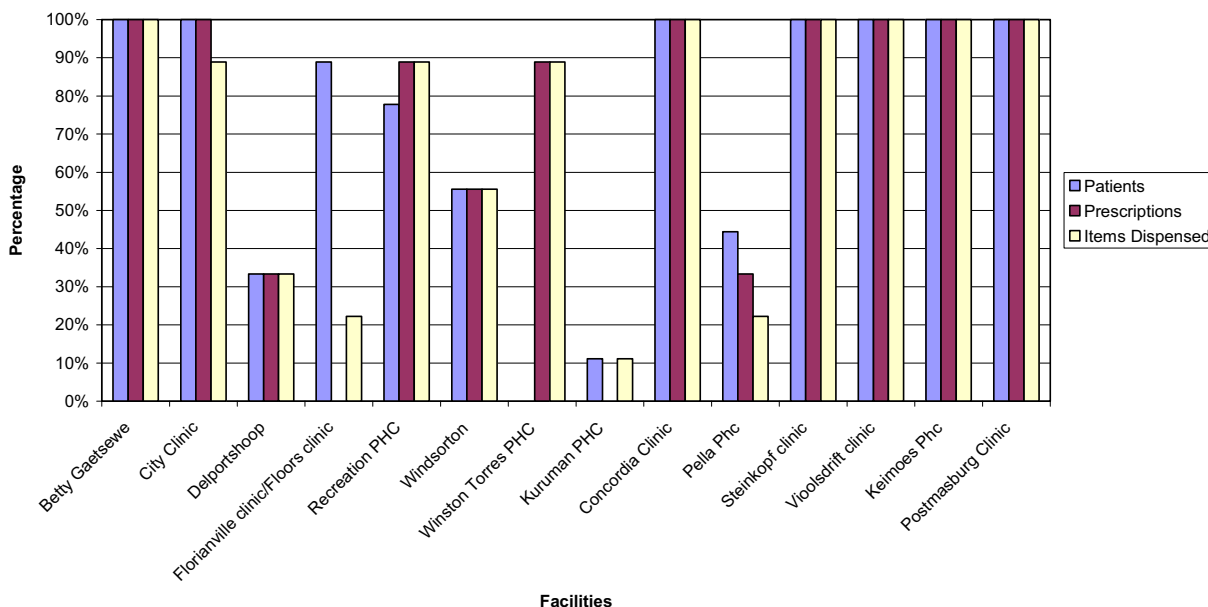
Graph 1 summarizes the trend at the five hospitals in terms of record keeping (number of patients, number of prescriptions and number of items dispensed). Gordonia Hospital had 100% of records of patients, prescriptions and items dispensed which is very positive. It will be easier for the management to motivate for extra manpower because all the data are available. Kimberley Hospital had 100% of records for the number of prescriptions and items dispensed. Their number of patients is equivalent to the number of prescriptions. That is why they are having two bars in the graph. Manne Dipico hospital did not have any outpatient statistics (no bars in the graph). Springbok Hospital had recorded only the patients as TTOs are dispensed from the wards by nursing staff (1 bar in the graph). Tshwaragano hospital had records of the number of prescriptions and items dispensed for 45% of the months of the study period.

**Graph 2: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT07 AND JUN08 COMMUNITY HEALTH CENTERS - N = 10**



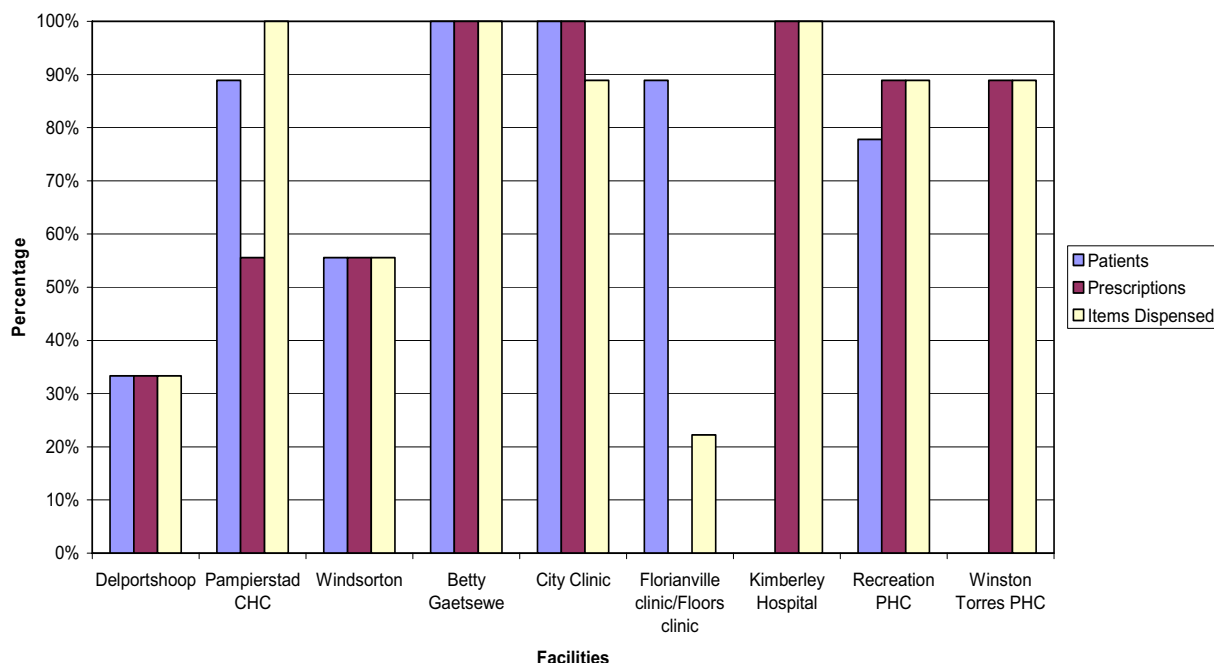
Graph 2 indicates the record keeping at community health centres. Lopeng, Groblershoop and Rietfontein CHCs had records for the number of patients, the number of prescriptions and items dispensed for the whole survey period.

**Graph 3: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT07 AND JUN08 PRIMARY HEALTH CARE - N = 14**



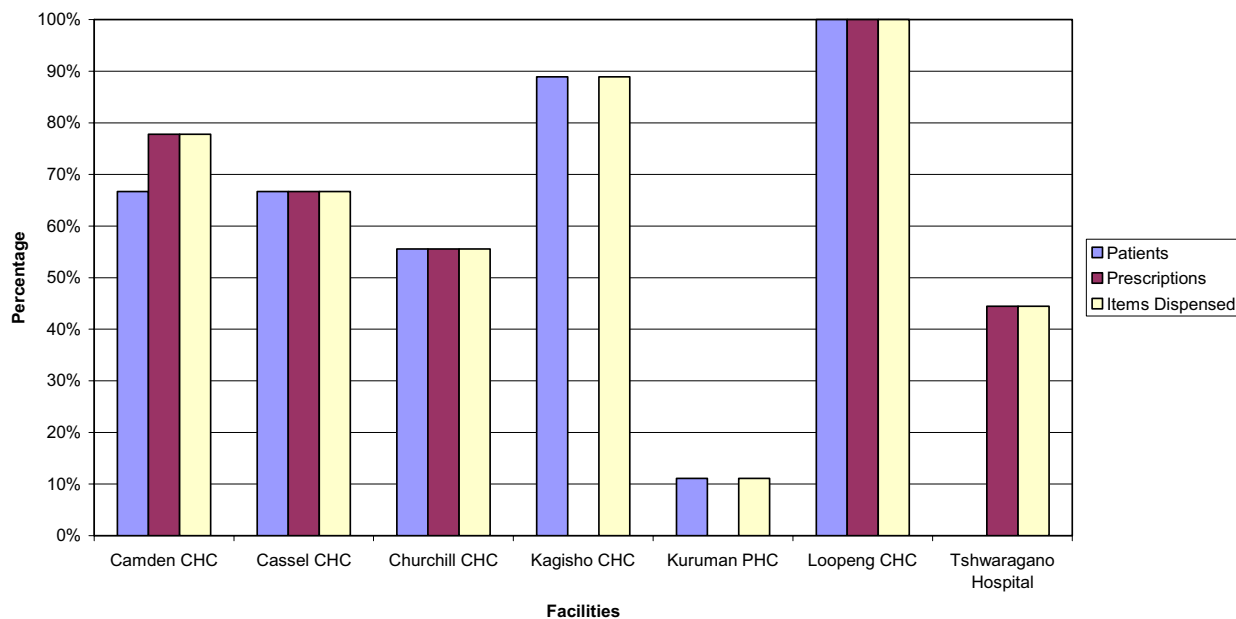
All primary health care clinics are represented in Graph 3 which shows Betty Gaetsiwe; Concordia; Keimoes; Postmasburg; Steinkopf and Violsdrift PHC clinics had records for the number of patients, number of prescriptions and items dispensed throughout the survey period.

**Graph 4: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT 07 AND JUN08  
FRANCES BAARD DISTRICT - N = 9**



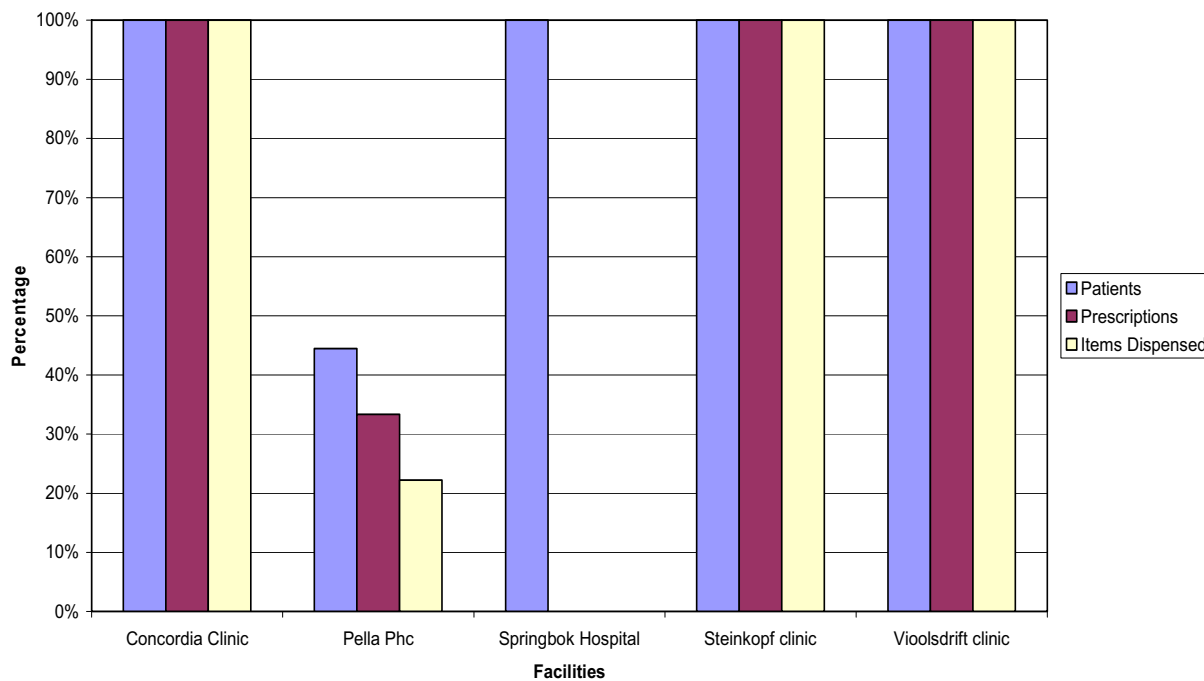
Graph 4 compares all the Frances Baard district facilities including the hospital, community health centres and primary health care clinics with regard to records of patients, prescriptions and items dispensed. Betty Gaetsiwe and City Clinics have the best records in comparison to others in the district.

**Graph 5: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT 07 AND JUN 08  
K GALAGADI DISTRICT - N = 7**



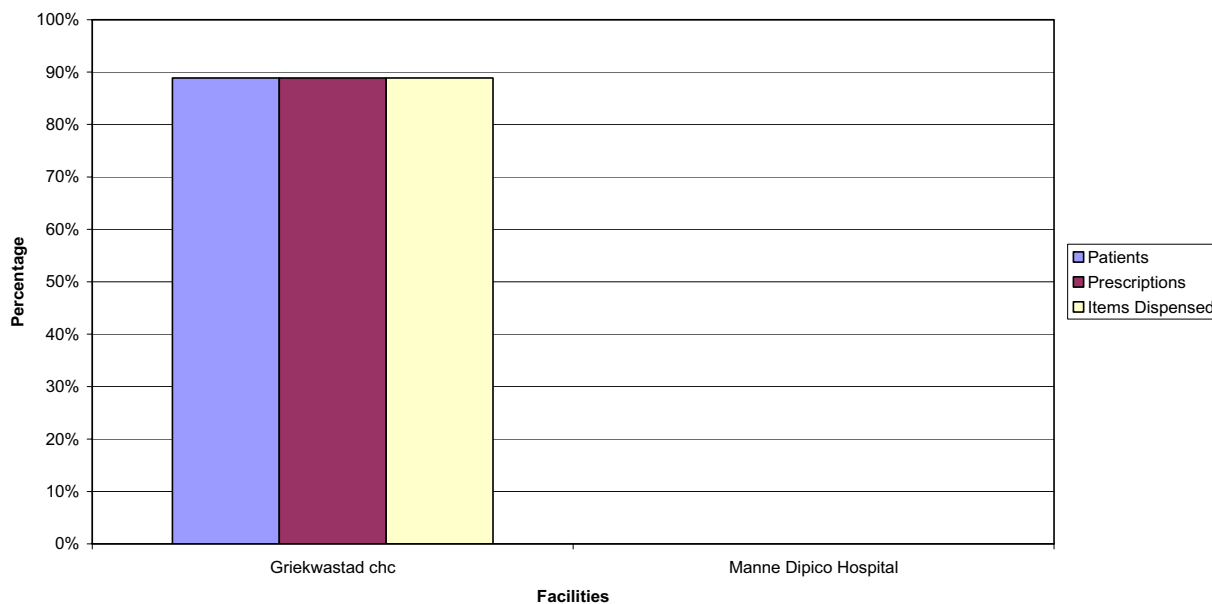
The Kgalagadi district facilities are represented in Graph 5 which shows Lopeng Community Health Centre having the best records. There is definitely a need to address problems relating to record keeping in this district.

**Graph 6: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT 07 AND JUN 08  
NAMAQUA DISTRICT - N = 5**



In the Namakwa district record keeping is very encouraging as summarized in Graph 6. The situation at Springbok Hospital has been explained above in Graph 1 but the pharmacist must be able to keep those records even though TTOs are dispensed by the nursing staff from the wards.

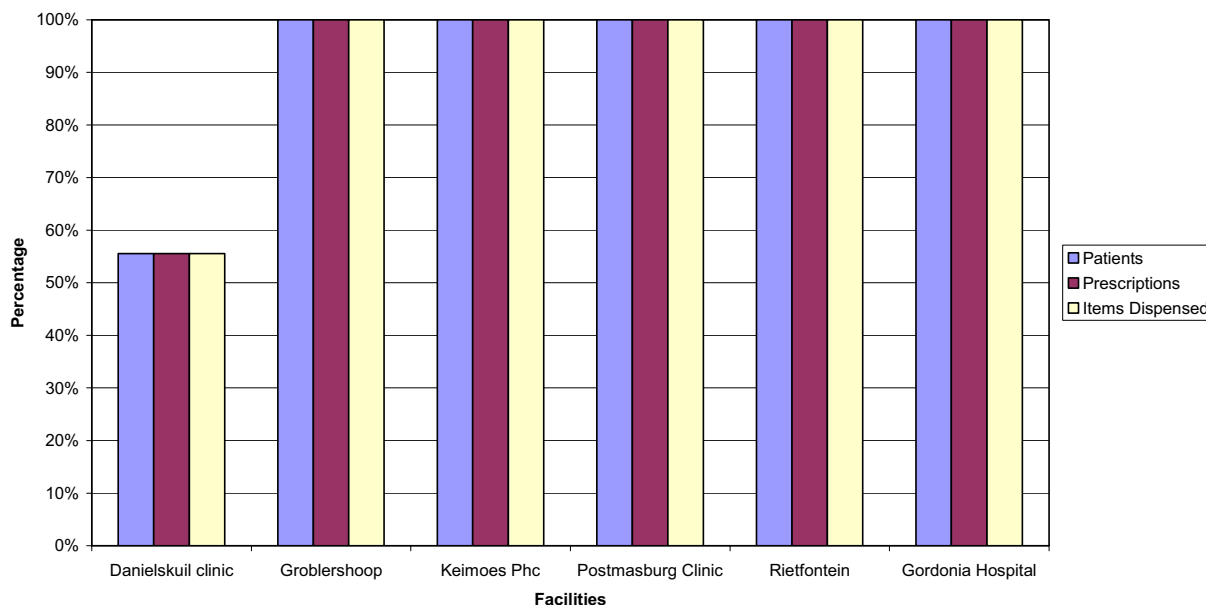
**Graph 7: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT 07 AND JUN 08  
PIXLEY KA SEME DISTRICT - N = 2**





Pixley Ka Seme figures were encouraging as shown in Graph 7 above. Manne Dipico Hospital does not deal with outpatients because of its infrastructure. The lack of infrastructure needs to be addressed where after the facility will obtain a license for the pharmacy from the Department of Health and be recorded with the South African Pharmacy Council.

**Graph 8: % OF MONTHS DURING WHICH PATIENTS, PRESCRIPTIONS AND NUMBER OF ITEMS DISPENSED WERE RECORDED BETWEEN OCT 07 AND JUN 08  
SIYANDA DISTRICT - N = 6**



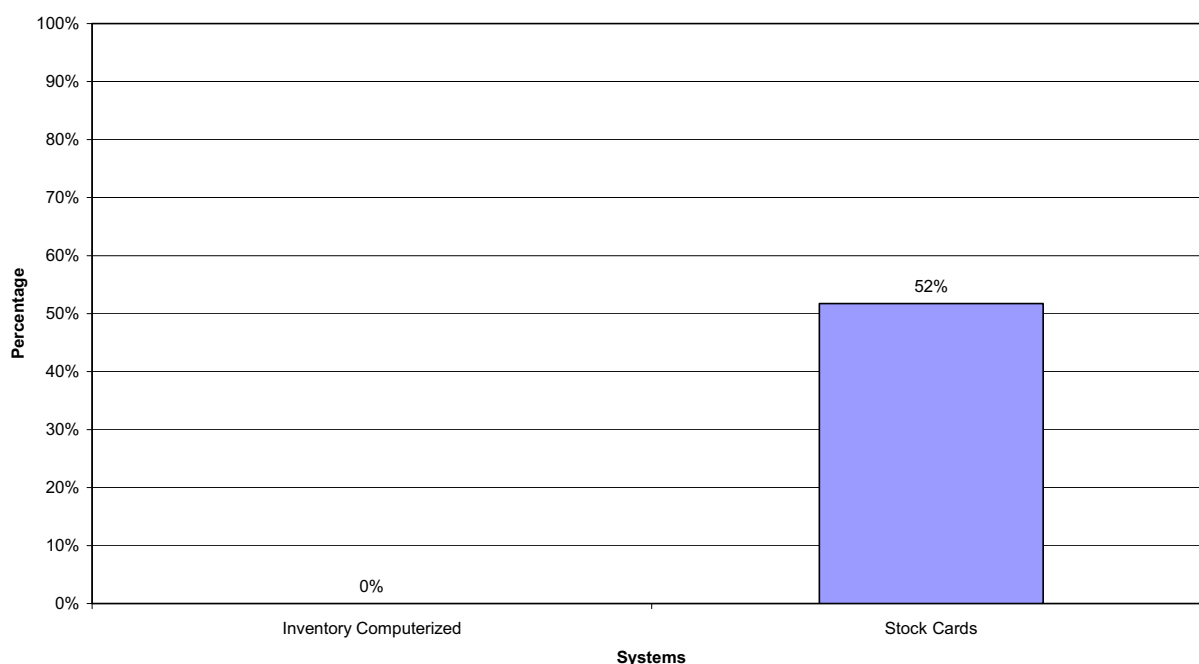
In Siyanda district five facilities (83%) out of six were found to have kept records of patients, prescriptions and items dispensed as represented in Graph 8 above during the whole survey period.

### 4.3. Procedures and Stock Control System

The procedures and stock control system were assessed firstly to determine the existence, nature and use of standard operating procedures (SOPs) as required by the Good Pharmacy Practice (GPP) rules in South Africa and secondly to check the existence and use of inventory management tools such as computer and stock cards which are essential for monitoring stock movement.

It was found that 14 facilities (48%) out of 29 had SOPs for receiving of stock and another 48% of facilities had implemented standard operating procedures for ordering, storage and supply of medicines.

**Graph 9: % of Facilities With Computerized Inventory Systems and/or Stock Cards - N = 29**



Graph 9 shows that only 52% of the facilities had stock cards in place and none of them were using a computer system for stock control.

All the facilities knew about their lead times which varied according to the districts. The ordering interval was between 14 – 28 days. There was no formal roster for stock count or stock taking, as facilities are doing it differently. About 90% of facilities were counting stock every time they placed an order. Only 53% of the facilities were performing a formal stock taking once a year.

#### 4.4. Tracer Medicines

The purpose of the study was to assess the availability of medicines in the province. Two lists of key medicines (tracer medicines) were compiled by the district pharmacists, Provincial Pharmaceutical and Therapeutics Committee (PTC) and the office of the Head of Pharmaceutical Services in the Province. One list (Form 3a) contained 39 tracer medicines used in hospitals, community health centres and primary health care clinics. The second list (Form 3b) had 38 items meant for hospitals only with an additional six items restricted for use at Gordonia and Kimberley Hospitals.

The findings summarized in Table 22 below relate to the physical stock (stock on hand) counted on the day of data collection. These findings include both lists of medicines i.e. Form 3a (39 items for all facilities) and Form 3b (38 medicines meant for hospitals only). Each hospital appears twice in Table 22 because they stock all the medicines from both lists (Forms 3a and 3b) while other facilities (community health centres and primary health care clinics) were assessed using only Form 3a.

Table 22 indicates the number of items out of stock on the day of the assessment; percentage of items out of stock; the percentage of inaccurate records found and the percentage of items expired. Inaccurate records refer to situations where the physical stock on hand differs from the stock recorded on the stock card or obtained from computer print

out. Inaccurate records are an indication of poor record-keeping which can lead to shortage of medicines if stock levels are not monitored.

It was found that for the first list of 39 items (Form 3a) common to all health facilities, the number of items out of stock ranged from 2 to 25 which translated into 5 to 64% on the day of the assessment. The percentage of inaccurate records ranged from 3 to 95 %. For the second list of 38 items (Form 3b) meant for hospitals, the number of items out of stock (in bold) ranged from 1 to 17 with a percentage range of between 3 to 45% for that specific day. The percentage of inaccurate records ranged from 49 to 95% which was very high.

Table 22 shows the number of items out of stock in both lists. Form 3a represents the first list of 39 items and Form 3b represents the second list of 38 items for hospitals only with an additional 6 items restricted to Gordonia and Kimberley Hospitals. Facilities which had the highest stock out were Kagisho CHC with 64%; Camden CHC with 49%, Lopeng CHC with 49% and Churchill CHC with 31%. All of them fall in Kgalagadi district. In Pixley Ka Seme district, Manne Dipico hospital had 31% (in list 3a) and 45% (in list 3b) of stock out; while Griekwastad CHC had 31% of stock out. In the Namakwa district, Vioolsdrift PHC clinic had the highest percentage of stock out (44%); Concordia and Steikopf clinics had each 31% of stock out. In Siyanda district, Danielskuil CHC had the highest percentage of stock out (36%) and Keimoes PHC clinic was next with 33% of stock out.

**Table 22 Tracer Medicines Physical Stock On Hand Per Facility**

No.	Form	District	Facility	Type	No. of Tracer Medicines	On Visit Day			
						No of Items Out of Stock	% Out of Stock	% Inaccurate Records	% Expired
1	3a.	Frances Baard	Betty Gaetsiwe PHC	Urban	39	5	15%	87%	0%
2	3a.	Frances Baard	City PHC	Urban	39	2	5%	87%	0%
3	3a.	Frances Baard	Delportshoop PHC	Rural	39	3	8%	95%	0%
4	3a.	Frances Baard	Florianville PHC	Urban	39	6	15%	79%	0%
5	3a.	Frances Baard	<b>Kimberley Hospital Complex</b>	Urban	39	4	13%	87%	0%
6	3b.	Frances Baard	<b>Kimberley Hospital Complex</b>	Urban	44	2	5%	93%	7%
7	3a.	Frances Baard	Pampierstad CHC	Rural	39	4	10%	36%	0%
8	3a.	Frances Baard	Recreation PHC	Urban	39	6	15%	77%	0%
9	3a.	Frances Baard	Windsorton PHC	Rural	39	11	28%	44%	0%
10	3a.	Frances Baard	Winston Torres PHC	Urban	39	4	10%	90%	0%
11	3a.	Kgalagadi	Camden CHC	Rural	39	19	49%	49%	0%
12	3a.	Kgalagadi	Cassel CHC	Rural	39	10	26%	67%	0%
13	3a.	Kgalagadi	Churchill CHC	Rural	39	12	31%	31%	0%
14	3a.	Kgalagadi	Kagiso CHC	Rural	39	25	64%	3%	3%
15	3a.	Kgalagadi	Kuruman CHC	Rural	39	8	21%	82%	0%
16	3a.	Kgalagadi	Lopeng CHC	Rural	39	19	49%	49%	0%
17	3a.	Kgalagadi	<b>Tswaragano Hospital</b>	Rural	39	9	23%	49%	0%
18	3b.	Kgalagadi	<b>Tswaragano Hospital</b>	Rural	38	10	26%	50%	3%
19	3a.	Namakwa	Concordia PHC	Rural	39	12	31%	72%	3%
20	3a.	Namakwa	Pella PHC	Rural	39	4	10%	90%	0%
21	3a.	Namakwa	<b>Springbok Hospital</b>	Rural	39	6	15%	64%	0%
22	3b.	Namakwa	<b>Springbok Hospital</b>	Rural	38	1	3%	95%	0%
23	3a.	Namakwa	Steikopf PHC	Rural	39	12	31%	69%	0%
24	3a.	Namakwa	Vioolsdrift PHC	Rural	39	17	44%	59%	0%
25	3a.	Pixley Ka Seme	Griekwastad CHC	Rural	39	12	31%	33%	3%
26	3a.	Pixley Ka Seme	<b>Manne Dipico Hospital</b>	Rural	39	12	31%	69%	0%
27	3b.	Pixley Ka Seme	<b>Manne Dipico Hospital</b>	Rural	38	17	45%	58%	0%
28	3a.	Siyanda	Danielskuil CHC	Rural	39	15	36%	64%	3%
29	3a.	Siyanda	<b>Gordonia Hospital</b>	Urban	39	6	15%	85%	3%
30	3b.	Siyanda	<b>Gordonia Hospital</b>	Urban	44	4	9%	80%	3%
31	3a.	Siyanda	Grobiershoop CHC	Rural	39	5	13%	87%	3%
32	3a.	Siyanda	Keimoes PHC	Rural	39	13	33%	62%	0%
33	3a.	Siyanda	Postmasburg PHC	Rural	39	3	8%	64%	3%
34	3a.	Siyanda	Reitfontein CHC	Rural	39	4	10%	90%	3%

Table 23 shows 25 tracer medicines which were out of stock at Kagisho CHC on 21 July 2008. This was the highest percentage of stock out (64%) with serious implications on service delivery.

Aspirin tablets 300mg, Furosemide tablets 40mg, Spironolactone tablets 25mg and Chlorpheniramine tablets 4mg were running short at national level (supplier problems). Items for treating hypertension, epilepsy and pain were the most affected.

<b>Table 23 : Kagisho CHC - Number of Items out of stock = 25 – Percentage Out of Stock = 64%</b>	
<b>Items out of Stock</b>	<b>Indications</b>
Salbutamol inhaler 100 ug/dose inhaler spray	Asthma
Zuclopenthixol 200mg/ml injection, vial	Schizophrenia, Psychosis
Zuclopenthixol 50mg/ml injection, vial	Schizophrenia, Psychosis
Chloramphenicol Eye ointment 1%, tube ophthalmic	Eye infections, Conjunctivitis
Albendazole 100mg/5ml 20ml, oral suspension	Intestinal parasite infestations (worms)
Co-trimoxazole 40/200mg/5ml, Oral suspension	Antibiotic (infections)
Paracetamol 120mg/5ml, Oral syrup	Pain, Fever
Aspirin 300mg, Oral tablet	Pain, Fever,
Atenolol 50mg, Oral tablet	Hypertension
Chlorpheniramine 4mg, Oral tablet	Allergy
Co-trimoxazole 80/400mg, Oral tablet	Antibiotic (infections)
Fluoxetine 20mg, Oral tablet	Depression
Folic Acid 5mg, Oral tablet	Iron deficiency; anaemia, pregnancy and lactation
Furosemide 40mg, Oral tablet	Hypertension
Ibuprofen 200mg oral tablet	Pain, Fever, Inflammation
Metformin 500mg, oral tablet	Diabetes
Nifedipine 10mg oral tablet	Hypertension
Paracetamol 500mg oral tablet	Pain or fever
Phenytoin 100mg oral capsule	Epilepsy
Rifampicin/Isoniazid 300/150mg oral tablet	Tuberculosis
Sodium Valproate 200mg oral tablet	Epilepsy
Sodium Valproate 200mg/5ml oral syrup	Epilepsy
Spironolactone 25mg oral tablet	Hypertension
Vitamin BCo oral tablet	Vitamin B deficiency
Methylsalicylic ointment 25g topical	Pain

Table 24 shows 17 tracer medicines which were out of stock at Vioolsdrift primary health care clinic on 21 July 2008. Three of these items (Aspirin tablet 300mg, Chlorpheniramine table 4mg and Vaccine: Td) were out of stock at national level (suppliers problems). Vioolsdrift clinic had the highest stock out percentage among the other primary health care clinics. Items for the treatment of hypertension and epilepsy were the most affected.

<b>Table 24 : Vioolsdrift PHC - Number of Items out of stock = 17 – Percentage Out of Stock = 44%</b>	
<b>Items out of Stock</b>	<b>Indications</b>
Vaccine: Td injection vial	Tetanus, diphtheria
Zuclopenthixol 200mg/ml injection, vial	Schizophrenia, Psychosis
Zuclopenthixol 50mg/ml injection, vial	Schizophrenia, Psychosis
Chloramphenicol Eye ointment 1%, tube ophthalmic	Eye infections, Conjunctivitis
Albendazole 100mg/5ml 20ml, oral suspension	Intestinal parasite infestations (worms)
Aspirin 300mg, Oral tablet	Pain, Fever
Chlorpheniramine 4mg, Oral tablet	Allergy
Folic Acid 5mg, Oral tablet	Iron deficiency; anaemia, pregnancy and lactation
Hydrochlorothiazide 25mg oral tablet	Hypertension
Ibuprofen 200mg oral tablet	Pain, Fever, Inflammation
Nifedipine 10mg oral tablet	Hypertension
Paracetamol 500mg oral tablet	Pain or fever
Sodium Valproate 200mg oral tablet	Epilepsy
Sodium Valproate 200mg/5ml oral syrup	Epilepsy
First Response HIV test	HIV test
Vitamin BCo oral tablet	Vitamin B deficiency
Methylsalicylic ointment 25g topical	Pain

Table 25 shows 12 tracer medicines which were out of stock at Manne Dipico Hospital on 21 July 2008. This represented 31% of stock out for the list of 39 items common to all health facilities (hospitals, community health centres and primary health care clinics). Manne Dipico had the highest percentage of stock out among the 5 hospitals under investigation

<b>Table 25 : Manne Dipico Hospital - Number of Items out of stock = 12 – Percentage Out of Stock = 31% for list 3A</b>	
<b>Items out of Stock</b>	<b>Indications</b>
Salbutamol inhaler 100 ug/dose inhaler spray	Asthma
Vaccine: Td injection vial	Tetanus, diphtheria
Zuclopenthixol 200mg/ml injection, vial	Schizophrenia, Psychosis
Albendazole 100mg/5ml 20ml, oral suspension	Intestinal parasite infestations (worms)
Aspirin 300mg, Oral tablet	Pain, Fever
Folic Acid 5mg, Oral tablet	Iron deficiency, anaemia, pregnancy and lactation
Nifedipine 30mg XL oral tablet	Hypertension
Perindopril 4mg oral tablet	Hypertension
Rifampicin/Isoniazid 300/150mg oral tablet	Tuberculosis
Sodium Valproate 200mg/5ml oral syrup	Epilepsy
Spironolactone 25mg oral tablet	Hypertension
First Response HIV test	HIV Test

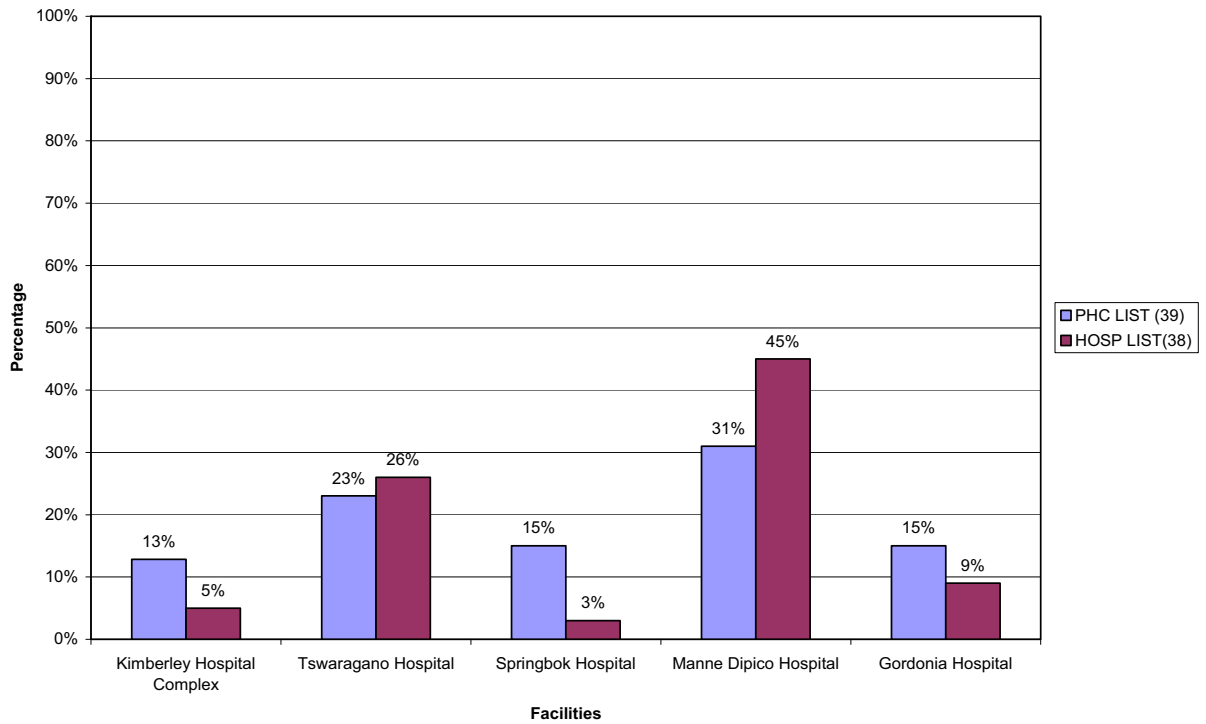
Table 26 shows 17 tracer medicines out of stock at Manne Dipico Hospital on 21 July 2008. This represents 45% of stock out in the list 3B meant for hospitals only. Again Manne Dipico had the highest percentage of stock out among the hospitals in this category.

<b>Table 26 : Manne Dipico Hospital - Number of Items out of stock = 17 – Percentage Out of Stock = 45% for list 3B</b>	
<b>Items out of Stock</b>	<b>Indications</b>
Salbutamol respiratory solution 5mg/ml inhalation	Asthma
Ampicillin 500mg injection vial	Antibiotics (infections)
Calcium Gluconate 10% injection ampoule	Calcium deficiency (supplement)
Cimetidine 100mg/ml injection ampoule	Peptic Ulcer
Cloxacillin 500mg injection vial	Antibiotics (infections)
Gentamycin 20mg/2ml injection ampoule	Antibiotics (infections)
Hydroxyethyl starch 6%/Voluven 500ml injection	Plasma expander, Emergency vacolitre
Labetolol 5mg/ml injection vial	Hypertension
Magnesium Sulphate 50% injection ampoule	Severe Magnesium deficiency (supplement)
Oxytocin 10 IU injection vial	Labour induction; Postpartum haemorrhage, Septic miscarriages
Phenytoin 50mg/ml injection vial	Epilepsy
Rocuronium bromide injection vial	Anaesthesia; Muscle relaxant
Sodium Bicarbonate 8.5% injection vial	Metabolic Acidosis: When acidity of the blood and tissues is abnormally high in conditions such as diabetes, diseases of the liver, heart or kidney, severe diarrhoea
Vaccine: BCG intradermal 20 doses injection vial	Vaccination against tuberculosis
Vaccine: Tetanus 10 doses injection vial	Vaccination against Tetanus
Metoclopramide 10mg oral tablet	Nausea and vomiting in adults
Thyroxine 100ug oral tablet	Hypothyroidism (thyroid)



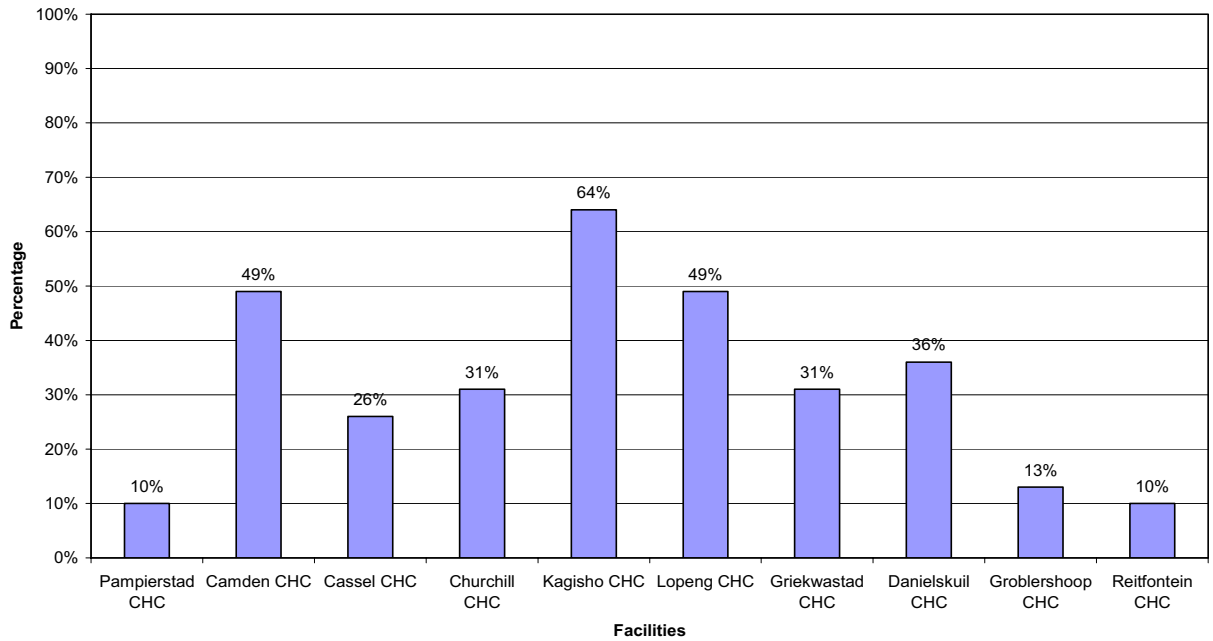


**Graph 10: % of Tracer Medicines Out of Stock - HOSPITALS - N = 5**



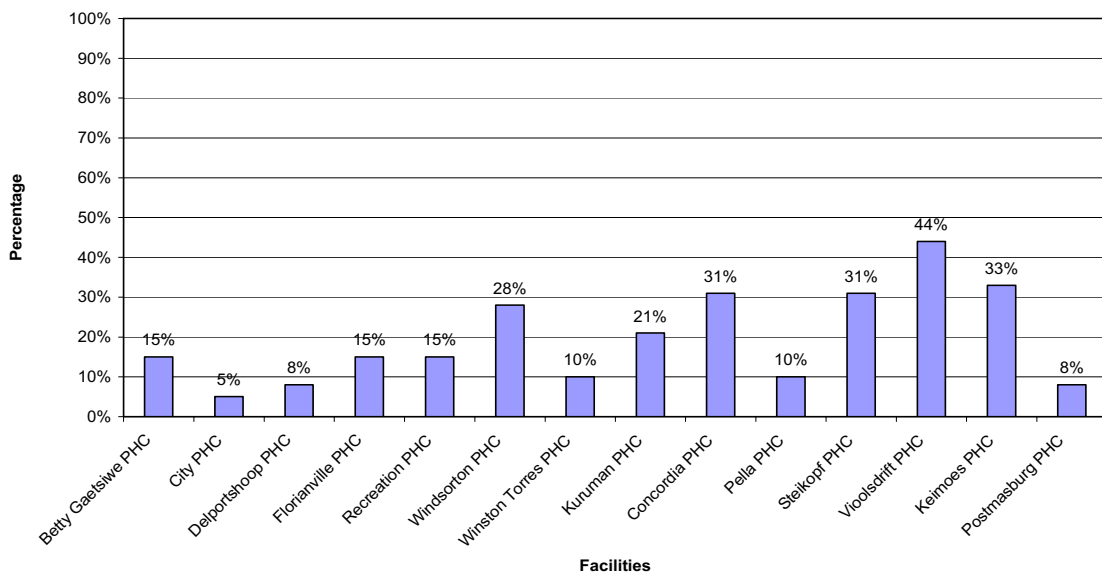
Graph 10 depicts the percentage of tracer medicines found to be out of stock in the five hospitals. These findings relate to physical stock counted on the single visit day and not the full period of the study. Manne Dipico Hospital had the highest percentage of stock out for both lists.

**Graph 11: % of Tracer Medicines (N=39) Out of Stock - Community Health Centres**



Graph 11 summarizes the percentage of stock out (physical stock counted) for the community health centres. Kagisho CHC had 64% stock out which was the highest, followed by Camden and Lopeng CHCs at 49%. These facilities need more attention for improvement.

**Graph 12: % of Tracer Medicines (N=39) Out of Stock Primary Health Care Clinics**



Graph 12 indicates the percentage of stock outs (physical stock count on the assessment day) at different primary health care clinics with Vioolsdrift clinic having the highest percentage of stock out.

The following items, as compiled by the depot and provincial pharmaceutical services, were not readily available at national level due to suppliers' problems. They include Metoclopramide tablets 10mg, Lorazepam injection 4mg, Vaccine: Td, Aspirin tablets 300mg; Furosemide tablets 40mg, Nifedipine tablets XL 30mg, Spironolactone tablets 25mg and Chlorpheniramine tablets 4mg. Seven of these medicines were among the tracer medicines under investigation besides Lorazepam injection.

## **4.5. Medical Depot (Dr Arthur Letele Medical Logistic Centre)**

The purpose for including the depot in the study was to ascertain whether the tracer medicines under investigation at various health facilities were available at the depot during the review period (October 2007 to June 2008). Unfortunately this information could not be obtained from the electronic system in use at the depot. Instead a list of more than 43,777 line items including tracer medicines and many other items ordered by different facilities was provided. Therefore the analysis on the availability of tracer medicines during the period of complaints could not be done.

The budget for the purchase of medicines and medical devices is allocated to health facilities in the province. There was no budget breakdown for the financial year 2007/2008 available at the time of the study.

## **4.6. Delivery System**

The objectives of medicine distribution include (1) the provision of the correct medicine; (2) to the correct location; (3) at the correct time (no stock outs or overstocks) and (4) at the lowest possible cost. For these objectives to be achieved there should be a reliable delivery system in place.

Although there was a delivery roster at the depot, the transport of medicines from the depot to the districts and within the districts to clinics appeared to be a challenge. In the districts there was no dedicated means of transport to deliver medicines from hospitals to clinics. In most instances medicines were delivered through patient transport (ambulance) or staff own transport with serious implications on the lead times.

Lack of communication between the Medical Depot and health facilities especially in terms of stock availability was noticeable. Even within the districts communication was identified as a challenge (lack of telephone, fax, internet, stationery, etc). District pharmacists were also faced with a transport problem making it difficult for them to supervise supplies and pharmaceutical care at health facilities.

## **4.7. Patient Care Survey/Exit Interview**

Patient care survey/exit interviews were administered to 705 patients/patient care givers at 25 facilities with an average of 28 interviews being conducted per facility. The purpose of the interviews was to assess patients'/patient care givers' experiences after attending these facilities. Interviews could not take place at four facilities as three of them (Griekwastad CHC, Delportshoop PHC clinic and Windsorton PHC clinic) were involved in immunization, antenatal, TB and family planning activities during the data collection period. The other facility was Manne Dipico Hospital where only inpatient services are being provided.

The key areas of interest during the interviews included the number of medicines dispensed, counselling regarding medicine use received, waiting times, staff attitude and suggestions for improvement.

Of the 705 people interviewed, 530 (75%) had a positive experience at the facility attended; 170 (24%) were not happy with the kind of service received and 5 (1%) did not know. Those interviewed complained about long waiting times of about 3 hours on average. The main causes for those long waiting times were shortage and attitude of staff.

The suggestions for improvement made by the patients/care givers related to human resources; infrastructure, availability of medicines, quality of care and transport include the following -

- Human resources - increase number of doctors, pharmacists, pharmacist's assistants and nurses. Ensure 24 hour service for pharmacists;

- Infrastructure - enlarge facilities, build a clinic or hospital near home, provide better seating area with air conditioners;
- Medicine availability - avoid shortage of medicines especially for pain and cough mixtures
- Quality of care - treat patients with dignity, respect order of arrival; provide drinking water and TV;
- Transport - provide transport for the elderly and those falling sick at night

## 5. DISCUSSION

The purpose of the study was to determine the availability of medicines in the province following complaints made by the community in certain areas. An internal control review of pharmaceutical services in identified health facilities was therefore undertaken using qualitative and quantitative methods. One of the key indicators used to achieve the objective assigned was to assess the availability of key medicines (tracer medicines). Furthermore other factors such as human resources, procedures and stock control systems which play a role in the availability of medicines were also tested.

### 5.1. Human Resources

The allocation of human resources able to render pharmaceutical services (ordering of medicines, storage, dispensing, pre-packing, small scale compounding, record keeping, etc.) at different facilities appeared to be inappropriate as it can be seen in different tables in the findings section (4.1)

The vacancy rate at the medical depot ranging from 32 to 92% is alarming and should be addressed.

The vacancy rates in the five hospitals (Kimberley, Gordonia, Manne Dipico, Springbok and Tshwaragano) ranging from 0 to 100% are a matter of concern especially relating to the pharmacists posts. In cases where a zero vacancy rate was reported this is not a true reflection of the situation. Reasons for this include that (1) staff establishment is unknown, (2) there are no posts allocated for some categories of professionals such as pharmacist's assistants (basic) and pharmacist's assistants (post-basic), and (3) unqualified and unregistered personnel are occupying posts which do not appear in the staff establishment. The absence or non existence of both a pharmacist and pharmacist's assistant at Tshwaragano Hospital was of great concern. At Manne Dipico Hospital the pharmacist is there on a part-time basis which is not good. The pharmacy should be under continuous and personal supervision of the pharmacist.

Kimberley Hospital is rendering pharmaceutical services due mainly to the presence of community service pharmacists. Since the establishment of this program (community service pharmacists); extra posts for pharmacists have not been created at this institution. This situation should be addressed bearing in mind the workload at this hospital such as having a pharmacist on 24 hour call, oncology admixing, small scale manufacturing and compounding, etc.

Although a full time pharmacist should be available at a community health centre, there was none employed in any of 10 community health centres in the province. The absence of both pharmacist's assistant, basic and post basic, was also unacceptable. The zero vacancy rate for pharmacists and pharmacist's assistants found in these facilities was thus not a true reflection of the staff establishment. Pharmaceutical services in these facilities are provided by nurses who are not licensed to perform this task. The vacancy rate in this category of between 25 to 67% was making things more difficult. Provision should be made to have more posts to be created and filled. Nurses providing pharmaceutical services should also be appropriately authorized.

Pharmaceutical services may be provided at primary health care clinics by a pharmacist's assistant (post basic) who works under the indirect personal supervision of a pharmacist (refer Regulation 12 of the *Regulations relating to the practice of pharmacy* published in terms of the Pharmacy Act

No. 53 of 1974). This is an option which helps to free nurses from duties relating to the provision of medicine and is particularly suitable for larger clinics. No pharmacist's assistants were employed in any of the 14 primary health care clinics under investigation. There were no posts available on the staff establishment for this cadre of health care worker. Pharmaceutical services were performed by nurses. The vacancy rate in this category (nurses) of between 40 to 63% in Siyanda and Namakwa districts was alarming. Provision should be made to have posts for pharmacist's assistants created and filled at all the PHC clinics. The number of nurses should be increased as appropriate.

The shortage of human resources in the different categories of professionals observed at the different levels of health facilities could have had a negative impact on the availability of pharmaceuticals and the provision of services.

## **5.2. Patients and Prescription statistics**

Records of outpatients, number of prescriptions and the number of items dispensed were reviewed during the period October 2007 to June 2008. The purpose was to compare the staff in employ allocated to render pharmaceutical services versus the workload (number of patients and items dispensed). Unfortunately only 11 facilities (38%) out of 29 had all the records in place for the entire nine month period.

The workload appeared to be high at these facilities considering that human resources in place were not only dealing with dispensing of medicines but were involved in many other duties as well. It was difficult to draw a conclusion for the rest of the facilities as all the records were not up-to-date. The implications in both instances could explain the shortage of medicines due to workload and not having enough time to monitor stock. This very same workload could also explain why other facilities were not able to keep statistics for patients, prescriptions and items dispensed.

## **5.3. Procedures and Stock Control System**

The purpose of investigating the procedures and stock control system in place was to check the existence, nature and use of standard operating procedures (SOPs) and inventory management tools which may be computerized or manual (stock cards). The SOPs as well as the inventory management tools play a key role in the availability of medicines.

It was observed that only 14 facilities (48%) of 29 had SOPs in place for receiving of stock and another 48% (14 facilities) had implemented standard operating procedures for ordering, storage, and supply of medicines. It was expected that all facilities should have implemented these SOPs which could have assisted in drug supply management processes.

The Good Pharmacy Practice (GPP) rules require the use of SOPs at all facilities rendering pharmaceutical services. The most common SOPs required by GPP for institutional pharmacies and primary health facilities include those dealing with effective stock rotation; stock-taking; obsolete or unusable stock; separation and handling of returned goods; recall of medicine; delivery of medicines; receiving of medicines; storage of medicines; procurement of medicines and handling product complaints.

With regard to the use of computer or stock cards to monitor stock movements, only 52% were using stock cards or requisition forms. None was using a computer system. The absence of these tools which play a role in ordering and monitoring of stock could explain why some facilities did not have stock because they were ordering without any reference. Orders were placed arbitrarily or based on experience. It was expected of all of them to have either a computer system or non-computerized tools such as stock cards in place. The reason cited for the lack of inventory management tools was inadequate staff and workload.

Although all the 29 facilities knew about their lead times which varied according to the districts and distances, these lead times were not adhered to due to the lack of designated means of transport

within the districts. Non adherence to lead times could also have occasioned shortage of medicines at facility level.

Ordering intervals of between 14 – 28 days allocated to facilities outside Kimberley was affected because of lead times which were not followed due to lack of transport. The ordering interval could be reviewed once the transport problem is resolved.

There was no fixed schedule for stock taking. Facilities were free to count or not count stock. It would be appropriate to draw a roster to this end and instruct facilities to do formal stock taking at least twice a year.

## **5.4. Tracer Medicines**

This study was undertaken mainly to assess the availability of medicines. For this reason two lists of key medicines were compiled, one containing 39 items that should be available at all the facilities and a second list for hospitals with 38 items plus additional 6 items restricted to Gordonia and Kimberley hospitals. The difference between the two lists was due to the level of care. The restricted items are those which must be prescribed by a specialist or head of the department because of their cost and must be motivated for before they can be dispensed.

Table 22 indicates the number of items out of stock on the day of the assessment; percentage out of stock; percentage of inaccurate records and percentage of items expired. Inaccurate records refer to the physical stock on hand versus the stock written (recorded) on the stock card or computer print out.

It was found out that for the first list of 39 items (form 3a) common to all health facilities, the number of items out of stock ranged from 2 to 25 which translated into 5 to 64% in a single day. The percentage of inaccurate records ranged from 3 to 95 %. For this first list of 39 items, Kagisho community health care centre had 25 items out of stock which represented 64% stock out (the highest among all the facilities). Out of these 25 tracer medicines which were out of stock, four of them were not available at national level due to suppliers' problems. They included Aspirin tablets 300mg, Furosemide tablets 40mg, Spironolactone tablets 25mg and Chlorpheniramine tablets 4mg. Items for treating hypertension, epilepsy and pain/fever were the most affected. All the items that were out of stock at this facility on the day of assessment (21 July 2008) are summarized in table 23. Besides Kagisho CHC, Vioolsdrift primary health care clinic was second with 17 tracer medicines out of stock (44% out of stock) as represented in table 24 and Manne Dipico hospital (table 25) had 12 items out of stock (31% out of stock).

For the second list of 44 items (Form 3b) meant for hospitals, the number of items out of stock (in bold) ranged from 1 to 17 with a percentage range of between 3 to 45% for that specific day. The percentage of inaccurate records ranged from 49 to 95% which was very high. Manne Dipico Hospital had the highest shortage of stock in this category (table 26). At this hospital, the number of tracer medicines out of stock was 17 (out of 38) which was equivalent to 45% on the day of the assessment. Antibiotics were the most affected at Manne Dipico Hospital.

The discrepancies between the stock on hand (physical stock) and the stock recorded on stock cards or computer printout were very high as observed in table 22 (Inaccurate records). The percentage of stock records that is accurate indicates the quality of the record-keeping system. Unfortunately, that was not the case in the study. Some facilities did not even have any records.

The findings suggest that stock out was a real problem on the day of the assessment and that record keeping was extremely poor or non existent in most of the facilities. The availability of essential medicines is dependent on accurate monitoring of stock levels. Good record-keeping systems are crucial for monitoring stock levels. The shortage of tracer medicines on the assessment day could legitimate the complaints of the community at a certain extent.



However, for the period of October 2007 to June 2008, 27 facilities (93%) out of 29 did not keep records of stock as it can be seen in different lists attached in a separate document (document 2). Only 2 facilities (7%) namely Gordonia hospital and Groblershoop community health centre had recorded stock for the all nine months.

Due to the lack of records on stock for this specific period (October 07 to June 07), it was therefore very difficult to conclude if these facilities had stock or not.

It is therefore important to ensure the availability and use of inventory monitoring tools at the facilities and address the issue of staffing. The complaints on shortage of staff were advanced in many places as an obstacle for not using the stock cards.

## **5.5. Medical Depot (Dr Arthur Letele Medical Logistic Centre)**

The Medical Depot plays a critical role in the selection; purchase; storage and distribution of medicines and other medical devices in the province. The purpose of including the depot in the study was to ascertain whether the tracer medicines under investigation at various health facilities were available at the depot during the review period (October 2007 to June 2008).

Although information relating to issues to facilities was provided, information relating to the availability of the tracer medicines was not readily available

It would be in the interest of the depot and the province to have an electronic system which can produce data needed to monitor key performance indicators when requested.

The budget for the purchase of medicines and medical devices is allocated to health facilities in the province. There was no budget breakdown available for the financial year 2007/2008 at the time of the study. Therefore it was not possible to do an assessment of budget allocated versus expenditure per health facility. This could have given an idea if the facilities did not have stock due to a lack of financial resources. There appeared to be an administrative problem in this regard which should be addressed.

More analysis needs to be performed to assess the depot performance.

## **5.6. Delivery System (Transport)**

During the study it was found that there was a weekly delivery roster at the depot. The transportation system was, however, found to be inadequate both at the depot and within the districts. There were complaints about drivers from the depot not delivering medicines to all the facilities. The trend was to drop the orders at the hospitals in the districts and the district pharmacists having to organize transport locally. The district pharmacists were relying on patients transport (ambulance) or personal transport to deliver medicines to the clinics. This is not a recommended practice as it causes delays in the supply of medicines (long waiting times) with implications on the availability of medicines.

It is strongly recommended that appropriate transport be allocated in the districts to reduce the long lead times and enable the district pharmacists to supervise supplies and provide pharmaceutical care at health facilities.

Communication about medicines availability and other related matters was also identified as a challenge. Infrastructure must be put in place (telephone, fax, email, etc.) in the districts so that pharmacists and other professionals can communicate with the depot and others within or outside the districts.

## 5.7. Patient Care Survey/Exit Interviews

The purpose of the interviews was to assess patients'/patients' care givers experiences after attending these facilities. This was motivated by the fact that patients were the ones who complained about the shortage of medicines. It was therefore important to do a comprehensive assessment including the availability of medicines.

The suggestions for improvement made by patients and patients' care givers relating to human resources; infrastructure, availability of medicines, quality of care and transport need attention from the top management in the province.

## CONCLUSIONS

The mandate of the study was to assess the availability of medicines in the province as requested by the Health Authorities. The study was conducted using qualitative and quantitative methods to establish the facts. As it was not practical to assess the availability of all medicines, two lists of the most needed and used medicines in the province were compiled by district pharmacists and the Provincial Pharmaceutical and Therapeutics Committee. Only the availability of these tracer medicines in health facilities was assessed.

The period covered by this survey was from October 2007 to June 2008 as the complaints about shortage of medicines arose around the Christmas period in 2007.

It was, however, difficult to conclude with certainty whether the medicines were available or not throughout the survey period because of the following reasons:

- Poor or non existent record keeping in the facilities;
- Poor inventory management systems (non existence or poor use of computer system or stock cards)
- Absence of standard operating procedures (SOPs)

Shortages of medicines were, however, identified while counting the physical stock at different facilities as explained in section 4.4 above under Tracer Medicines Findings. Based on this (stock out on the assessment day), there could have been a possibility of shortage of medicines during the period under investigation (October 2007 to June 2008). Some of the tracer medicines under investigation (six) had supply problems at national level as already explained in section 4.4 at end of graph 12).

The key contributing factor mentioned by health professionals interviewed to explain the lack of inventory monitoring tools was the shortage of human resources.

## RECOMMENDATIONS

The key challenges identified throughout the report are related to human resources and drug management systems. Under the suggestions for improving care the majority of patients/patients' care givers interviewed mentioned increase in the number of staff and ensuring availability of medicines. Some specific recommendations for improvement could include-

### HUMAN RESOURCES:

- The number of pharmacists, pharmacist's assistants and nurses needs to be increased at facility level;
- Create new posts for pharmacists, pharmacist's assistants (post-basic), pharmacist's assistants (basic) and primary health care nurses;
- Allocate a pharmacist; a pharmacist's assistant (post basic) and a pharmacist's assistant (basic) at each community health care centre;

- Allocate a pharmacist's assistant (post basic) at each primary health care clinic to work under indirect personal supervision of a pharmacist
- Strategies should be put in place to recruit and retain these health care providers;
- Reassess the community health centres which do not provide 24 hour services and allocate staff according to workload;
- A formal programme for continuing professional development should be developed and implemented.

#### **DRUG SUPPLY MANAGEMENT**

- Install a new computerized system at the depot with links to the districts to manage pharmaceutical services;
- Implement stock cards system at the depot as a back up system;
- Training on drug supply management for health institutions must be conducted/strengthened;
- Institute/strengthen inventory management system (computerized or stock cards) at all facilities and keep them up to date. Minimum stock levels should be in place to ensure that medicines are available throughout the month;
- Development and implementation of Standard Operating Procedures (SOPs) for ordering, receiving, storage and disposal of medicines;
- Ensure a reliable delivery system for the distribution of stock from medical depot to hospitals and from hospitals to clinics;
- Provide district pharmacists with a reliable means of transport to assist them in the monitoring and strengthening of pharmaceutical care;
- Improve communication between the depot and districts (telephone, fax, email)
- Support the activities of the provincial and district pharmaceutical and therapeutics committees (PTCs)
- Identify key performance indicators for all levels
- Develop and implement a system of monitoring and evaluation of pharmaceutical services in the Northern Cape
- Conduct a more in-depth analysis of the depot procurement and distribution data

The recommendations contained in the *Report of an audit of pharmaceutical services to determine compliance of state hospitals, community health centres and primary health care clinics in the Northern Cape with Legislation relating to the supplies of medicines – 2006* (document 3 attached, pages 72 -79), will be useful to address the gaps identified during this study.

## Annexure A - Facilities Included in the Northern Cape Survey 2008

DISTRICT	No. of SITES	FACILITY	RURAL OR URBAN	DATA COLLECTORS	VISIT DATES : JULY
Frances Baard	Ten ( 10 )	Pampierstad CHC	Rural	J.Louw, N.Coetzee	23
		Delportshoop PHC	Rural	R.Myburgh, J.Selao	23
		Windsorton PHC	Rural	R.Myburgh, J.Selao	24
		Betty Gaetsiwe PHC	Urban	J.Louw, N.Coetzee	24
		Winston Torres PHC	Urban	R.Myburgh, J.Selao	25
		Recreation PHC	Urban	J.Louw, N.Coetzee	25
		Florianville PHC	Urban	L.Roets, M.Makgari	25
		City PHC	Urban	L.Roets, M.Makgari	22
		Dr Arthur Letele Medical Logistic Centre	Urban	Claude Herman	21-22
		Kimberley Hospital Complex	Urban	J.Louw, N.Coetzee,	21-22
Kgalagadi	Seven ( 7 )	Lopeng CHC	Rural	Y.Tasriet, M.Motlatsi	21
		Kagisho CHC	Rural	Y.Tasriet, M.Motlatsi	22
		Churchill CHC	Rural	Y.Tasriet, M.Motlatsi	23
		Cassel CHC	Rural	V.Chibba, A.Macwecwe	21
		Kuruman CHC	Rural	V.Chibba, A.Macwecwe	22
		Camden CHC	Rural	V.Chibba, A.Macwecwe	23
		Tswaragano Hospital	Rural	M.Lloyd, S.Honco	23,24,25
Siyanda	Six ( 6 )	Keimoes PHC	Rural	A.Blom, W.De Bruyn	23
		Rietfontein CHC	Rural	P.Husselman	21
		Grobbershoop CHC	Rural	A.Blom, W.De Bruyn	24
		Danielskuil CHC	Rural	M.Lloyd, S.Honco	22
		Postmasburg PHC	Rural	M.Lloyd, S.Honco	21
		Gordonia Hospital	Urban	A.Blom, W.De Bruyn	21
Namakwa	Five ( 5 )	Vioolsdrift PHC	Rural	J.Herbert, L.Marais	21
		Pella PHC	Rural	P.Husselman	24
		Steinkopf PHC	Rural	J.Herbert, L.Marais	21
		Concordia PHC	Rural	J.Herbert, L.Marais	22
		Springbok Hospital	Rural	J.Herbert, L.Marais	23,24
Pixley Ka Seme	Two ( 2 )	Griekwastad CHC	Rural	R.Myburgh, J.Selao	22
		Manne Dipico Hospital	Rural	R.Myburgh, J.Selao	21

**TOTAL: 30 FACILITIES (22 RURAL AND 8 URBAN FACILITIES)**

## Annexure B – Data Collection Forms

<b>FORM 1 - Human Resources</b>										
Facility Name: .....Urban ( )/Rural ( )										
District: .....Data collector: ..... Date (DD/MM/YYYY): .....										
	<b>Staff Establishment at the Facility</b>	<b>Please insert the total numbers in the spaces below:</b>								
1.	Pharmacists	Employed				1e Posts Vacant	1f Additional posts needed			
		Management		Operational		=	=			
		1a Sessional	1b Full time	1c Sessional	1d Full Time					
		=	=	=	=					
2.	Medical Practitioners in Clinical Practice	2a Full time		2b Concession		2c Posts Vacant	2d Additional posts needed			
		=		=		=	=			
3.	<b>Basic Level</b> Pharmacists' Assistants	3a Registered		3b In training		3c Posts Vacant	3d Additional posts needed			
		=		=		=	=			
4.	<b>Post-basic Level</b> Pharmacists' Assistants	4a Registered		4b In training		4c Posts Vacant	4d Additional posts needed			
		=		=		=	=			
5.	<b>Other Pharmacy Personnel</b>	=								
6.	PHC Nurses	6a Qualified	6b In training		6c Practising without PHC qualification	6d Posts vacant	6e Additional posts needed			
		=	=		=	=	=			
7.	Staff Trained on Drug Supply Management	7a Pharmacy Personnel			7b Non Pharmacy Personnel					
		=			=					
8.	<b>Patients and Prescription Statistics</b>									
<b>Period</b>	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	June-08	
No. of Patients										
No. of Prescriptions										
Number of Items Dispensed										

FORM 2 – Procedures and Stock Control System						
Facility Name: .....Urban ( )/Rural ( )						
District: .....Data collector: ..... Date (DD/MM/YYYY): .....						
1.	Is there an SOP for receipt of stock?	1 – Yes			0 - No	
2.	If Yes, can I see it?	1 – (tick if shown)			0 – (tick if not shown)	
3.	Which of the following receiving procedures apply at this facility? (Please tick as appropriate)					
	3c1 - Check number of boxes and sign driver's note				1 – Yes 0 – No	
	3c2 - Check stock received against delivery note/picking slip/invoice				1 – Yes 0 – No	
	3c3 - No fixed procedure				1 – True 0 – False	
4.	Who is responsible for the receipt of drugs in the facility? (Tick ONE)	1 - Pharmacist	2 - Medical practitioner	3 - Nurse	4 - Store person	5 – Other
5.	(If 5 - Other):	(specify):				
6.	Are cartons sealed in a tamperproof way? (Data collector to check)	1 - Yes			0 - No	
7.	Is there a <u>written</u> discrepancy procedure (SOP), when stock is short/damaged or incorrectly supplied?	1 - Yes			0 - No	
8.	May I see it?	1 – (tick if shown)			0 – (tick if not shown)	
9.	Are there <u>written</u> procedures (SOPs) for (a) ordering, (b), storage and (c) supply of medicines in the facility? (stock control)	1 (a) – Yes 1 (b) – Yes 1 (c) – Yes			0 (a)- No 0 (b) – No 0 (c) - No	
10.	May I see them?	1 – (tick if shown)			0 – (tick if not shown)	
11.	Is a computer used for inventory/stock control purposes?	1 - Yes			0 - No	
12.	If 1 – Yes, check date of last entry	Date:				
13.	Are there any <u>non-computerised</u> stock control measures in use at this facility?	1 - Yes			0 – No	
14.	If 1 – Yes, which <u>non-computerised</u> stock control measures are in use at this facility? (Please tick as appropriate)					
	14b1 – Stock cards				1 – Yes 0 – No	
	14b2 – Ordering cards only/Requisition				1 – Yes 0 – No	
	14b3 - Safety stock				1 – Yes 0 – No	
	14b4 - Minimum stock levels				1 – Yes 0 – No	
	14b5 - Maximum stock levels				1 – Yes 0 – No	
	14b6 - Reorder level				1 – Yes 0 – No	
15.	What is the lead time for orders placed? (number of days = date stock received – date stock ordered) = <i>calendar days</i>					
16.	What is your ordering interval? (number of days = date order 2 placed – date order 1 placed) = <i>calendar days</i>					
17.	How many stock takes are being done per year?					
18.	When last was a formal stock-take done in this facility?					Date:
19.	Number of routine deliveries received from the supplier per month					
20.	Number of emergency deliveries/collections from supplier(s) per month					
21.	Do you sometimes have to borrow or send for stock from other facilities? (Please indicate frequency per month as appropriate)					
	21a Borrow from elsewhere:					
	21b Unscheduled orders <b>delivered</b> by supplier facilities:					
	21c Unscheduled orders <b>collected</b> from supplier facilities:					
22.	Can you buy items out?	1 - Yes			0 – No	
23.	(If Yes)	(Specify)				

Strengthening Pharmaceutical Systems (SPS)/Management Sciences for Health (MSH)

Northern Cape Province - July 2008

FORM 3A - Tracer Medicines For All Facilities

No.	Generic Name	Strength	Route	Form	On Visit Date		Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08
					Recorded Stock	Physical Stock									
Facility Name:		Data Collected by:			On Visit Date		Stock #	Stock #	Stock #	Stock #	Stock #	Stock #	Stock #	Stock #	Stock #
District:		Strength	Route	Form	Recorded Stock	Physical Stock	Year 07	Year 07	Year 07	Year 08	Year 08	Year 08	Year 08	Year 08	Year 08
					Stock	Stock	Year 07	Year 07	Year 07	Year 08	Year 08	Year 08	Year 08	Year 08	Year 08
					Out Days	Out Days	Out Days	Out Days	Out Days	Out Days	Out Days	Out Days	Out Days	Out Days	Out Days
1	Salbutamol inhaler	100 µg /Dose	Inh	Spray											
2	Insulin Sol/Isophane 10ml brown vial (Actraph)	100 IU/mL	Inj	Vial											
3	Streptomycin sulphate	1G	Inj	Vial											
4	Vaccine: Polio	BP	Inj	Vial											
5	Vaccine: Td	BP	Inj	Vial											
6	Zuclophenthixol	200mg/mL	Inj	Vial											
7	Zuclophenthixol	50mg/mL	Inj	Vial											
8	Chloramphenicol Eye Ointment	1%	Oph	Tube											
9	Amoxicillin	125mg/5mL	Oral	Susp											
10	Abendazole	100mg/5mL 20mL	Oral	Susp											
11	Co-trimoxazole	40/200mg/5mL	Oral	Susp											
12	Paracetamol	120mg/5mL	Oral	Syrup											
13	Aspirin	300mg	Oral	Tab											
14	Atenolol	50mg	Oral	Tab											
15	Carbamazepine	200mg	Oral	Tab											
16	Chlorpheniramine tablets	4mg	Oral	Tab											
17	Co-trimoxazole	80/400mg	Oral	Tab											
18	Fluoxetine	20mg	Oral	Cap											
19	Folic acid tablets	5mg	Oral	Tab											
20	Furosemide	40mg	Oral	Tab											
21	Gliclazide	80mg	Oral	Tab											
22	Hydrochlorothiazide	25mg	Oral	Tab											
23	Ibuprofen	200mg	Oral	Tab											
24	Metformin	500mg	Oral	Tab											
25	Metformin	850mg	Oral	Tab											
26	Nifedipine	10mg	Oral	Tab											
27	Nifedipine	30mg XL	Oral	Tab											
28	Paracetamol	500mg	Oral	Tab											
29	Perindopril	4mg	Oral	Tab											
30	Phenylephrine capsules	100mg	Oral	Cap											
31	Rifampicin/Isoniazid	300/150mg	Oral	Tab											
32	Rifampicin/Isoniazid/Ethambutol/Pyrazinamid	150/75/275/400mg	Oral	Tab											
33	Sodium Valproate	200mg	Oral	Tab											
34	Sodium Valproate	200mg/5ml	Oral	Syrup											
35	Spirololactone	25mg	Oral	Tab											
36	Theophylline	250mg	Oral	Tab											
37	Vitamin B Co Tablets	BP	Oral	Tab											
38	First Response HIV test		Test	Test											
39	Methylsalicylate ointment (UMS®)	25G	Top	Oint											

Northern Cape Province - July 2008 FORM 3B - Tracer Medicines Hospital Only

No.	Generic Name	Strength	Route	Form	On Visit Date			Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08
					Recorded Stock	Physical Stock	Qty Expired									
Data Collected by:					Urban/Rural											
1	Salbutamol respiratory solution	5mg/mL	Inh	Sol												
2	Adrenaline	1/1000	Inj	Amp												
3	Ampicillin	500mg	Inj	Vial												
4	Calcium Gluconate	100mg/mL	Inj	Amp												
5	Cimetidine	100mg/mL	Inj	Amp												
6	Cloxacillin	500mg	Inj	Vial												
7	Dextrose	50%	Inj	Vial												
8	Gentamycin	20mg/2mL	Inj	Amp												
9	Gentamycin	80mg/2mL	Inj	Amp												
10	Hydrocortisone	100mg/2mL	Inj	Amp												
11	Hydroxyethyl starch 6 %/Voluven	500mL	Inj	Vial												
12	Hyoscine bromide	20mg/mL	Inj	Amp												
13	Insulin Rapid	100U/ml	Inj	Vial												
14	Labelolol	5mg/mL	Inj	Vial												
15	Lorazepam	4mg/mL	Inj	Amp												
16	Magnesium Sulphate	50%	Inj	Amp												
17	Metronidazole infusion	5mg/mL	Inj	Vial												
18	Oxytocin	10 IU	Inj	Vial												
19	Pethidine	100mg/2mL	Inj	Amp												
20	Pethidine	50mg/mL	Inj	Amp												
21	Phenyoin	50mg/mL	Inj	Vial												
22	Rocuronium bromide	50mg	Inj	Vial												
23	Sodium Bicarbonate	8.5%	Inj	Amp												
24	Streptokinase	1,500,000IU	Inj	Vial												
25	Suxamethonium	50mg/mL	Inj	Amp												
26	Tranexamic acid	100mg/mL	Inj	Vial												
27	Vaccine: BCG intradermal	20 Doses	Inj	Vial												
28	Vaccine: Rabies	Vial	Inj	Vial												
29	Vaccine: Tetanus	10 Doses	Inj	Vial												
30	Water for injection	10mL	Inj	Vial												
31	Activated charcoal	Each	Oral	Powder												
32	Isosorbide Dinitrate	5mg	Oral	Tab												
33	Isosorbide Dinitrate	10mg	Oral	Tab												
34	Isosorbide Dinitrate	40mg	Oral	Tab												
35	Metoclopramide	10mg	Oral	Tab												
36	Thyroxine	100µg	Tab	Tab												
37	Uncheck test strips		Test	Strip												
38	Chlorhexidine gluconate/alcohol	0.5G	Top	Bottle												



<b>FORM 4 – Patient Care Survey/Exit Interview</b> <b>(To be completed for 30 patients)</b>					
Facility Name: .....Urban ( )/Rural ( )					
District: .....Data collector: ..... Date (DD/MM/YYYY): .....					
1.	Age of patient	1 = under 6	2 = 6 - 16	3 = 17-60	4 = 61+
2.	Gender	1 - M		2 - F	
3.	How many medicines were prescribed?	1 =		0 - None	
4.	How many medicines were substituted?	1 =		0 - Don't Know	
5.	How many medicines were dispensed?	1 =		0 - None	
6.	How many medicines were you asked to buy outside this facility?	1 =		0 - None	
7.	May I please see all your medicine? <i>Look at the medicine and ask the following question.</i> What has the provider told you about your medicine?	<i>Tick the appropriate space if the patient gives you any of the following information:</i>			
	<b>7a Illness(main complaint)</b> e.g. bronchitis .....	1 - Yes		0 - No	
	<b>7b Drug advice</b> e.g. for pain, for fever, for dehydration.....	1 - Yes		0 - No	
	<b>7c Non-drug treatment</b> e.g. bed rest, drink a lot of fluids....	1 - Yes		0 - No	
	<b>7d Side effects</b> e.g. nausea, drowsiness.....	1 - Yes		0 - No	
	<b>7e Dose and dosing interval</b> e.g. 2 tablets 6 hourly	1 - Yes		0 - No	
	<b>7f A maximum dose</b> e.g. take maximum 8 tablets/day.....	1 - Yes		0 - No	
	<b>7g Storage</b> e.g. keep medicine out of reach of children.....	1 - Yes		0 - No	
	<b>7h What to do with medicine left over,</b> e.g. discard any solution left over after 24 h....	1 - Yes		0 - No	
8.	Who handed the medicine to you?	1 - Prescriber		2 - Dispenser	
9.	Are you satisfied with the care you have received in this facility today? <i>(Tick ONE)</i>	1 - Satisfied		2 - Dissatisfied	
10.	<i>(If dissatisfied)</i> Please tell me about the things that you are not satisfied with. <i>(Please tick as appropriate)</i>	10a Staff shortages: 1 - Yes 0 - No		10b Staff attitude: 1 - Yes 0 - No	
		10c Medicines supply: 1 - Yes 0 - No		10d Waiting time: 1 - Yes 0 - No	
		10e Waiting area comfort & safety: 1 - Yes 0 - No		10f Other 1 - Yes 0 - No	
	If 10 f – Other: specify				
	How much time have you spent at this facility? (minutes)	1 - Overall =		2 = Don't Know	
	Would you visit this health facility again?	1 - Yes		0 - No	
11.	<i>(If 13 = 0 - Not) Why?</i>				
12.	Is there a facility closer to your home that you could have visited?	1 - Yes		0 - No	
13.	<i>(If 15 = 1 - Yes) Why did you visit this facility rather than the closer one?</i>				
14.	Is transport to this facility difficult for you?	1 - Yes		0 - No	
15.	What are your suggestions for improving care in this facility?				