

Ministry of Health



Republic of Uganda

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# **Annual Pharmaceutical Sector Performance Report**

2014-2015

**June 2016**

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## FOREWORD

The *Annual Pharmaceutical Sector Performance Report* provides us with a valuable picture of the progress made over the five years of implementing the National Pharmaceutical Sector Strategic Plan (2010/11–2014/15). The report is disseminated to all stakeholders within the health sector and discussed in a number of meetings from the Medicines Procurement Management Technical Working Group (MPMTWG) at central level, Regional and District logistics meetings in order to guide decision making.

The pharmaceutical sector will use these findings as a starting point to assess the implementation of the National Medicines Policy and National Pharmaceutical Sector Strategic Plan 2015. I therefore, urge all stakeholders to use this information to focus their efforts in achieving sustainable improvements in the pharmaceutical sector.

I wish to thank all those who have contributed to the preparation of this report and supported the pharmaceutical sector: the dedicated staff of the Pharmacy Division, National Medical Stores, Joint Medical Store, the schools of pharmacy, National Drug Authority, registrars of health professional councils, district health officers, health workers, and health development partners.



Director General Health Services

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## ACRONYMS

ACT	Artemisinin-based combination therapy
ADR	Adverse Drug Reactions
ARV	Antiretroviral
CTX	Cotrimoxazole
DHIS	District Health Information System
EMHS	Essential Medicines and Health Supplies
EMHSLU	Essential Medicines And Health Supplies List Uganda
FY	Financial Year
GF	Global Fund
GH	General Hospital
GoU	Government of Uganda
HMIS	Health Management Information System
HSSIP	Health Sector Strategic Investment Plan
ITN	Insecticide Treated Nets
IRS	Indoor Residual Spraying
JMS	Joint Medical Store
MAUL	Medical Access Uganda Limited
M&E	Monitoring and Evaluation
MoH	Ministry of Health
MOS	Months of Stock
NDA	National Drug Authority
NDP	National Drug Policy
NGO	nongovernmental organization
NHP	National Health Policy
NMS	National Medical Store
NMP	National Medicines Policy
NPSSP	National Pharmaceutical Sector Strategic Plan
NRH	National Referral Hospital
OI	Opportunistic Infections
ORS	Oral Rehydration Solution
PFSCMS	Partnership for Supply Chain Management Systems
PHP	Private Health Practitioners
PNFP	Private Not-For Profit
QCL	Quality Chemicals Limited
RRH	Regional Referral Hospital
SP	Sulfadoxine/Pyrimethamine
SPARS	Supervision, Performance Assessment, and Recognition Strategy
STGs	Standard Treatment Guidelines
TB	Tuberculosis
UCG	Uganda Clinical Guidelines
UGX	Uganda Shilling
URTI	Upper Respiratory Tract Infection
USAID	United States Agency for International Development
USD	U.S. Dollar
WHO	World Health Organization

## EXECUTIVE SUMMARY

The MoH Pharmacy Division tracks performance of the pharmaceutical sector using a wide range of information that includes published government reports, monthly reports submitted through the national health information management system, as well as data collected through routine supervision visits to health facilities. A set of standardized indicators have been measured for the past five years (2010/11 to 2014/15) to assess progress made towards achieving the objectives and targets set out in the *National Pharmaceutical Sector Strategic Plan (NPSSP) II (2010-2015)*.

This report presents results for the final year (2014/15) of the NPSSP II and looks at the trends over the five year period to identify successes and the areas requiring further efforts to achieve set targets. The following are highlights from the five years of implementing the NPSSP II.

**Availability of EMHS:** The availability of six vital tracer medicines improved significantly over the last five years, with *Health Management Information Systems (HMIS)* data showing that 64% of health facilities not having a stock out of any the tracer products in the previous six months, up from 43% in 2010/11. The NMS lead time from order receipt to delivery to public health facilities decreased from 59 days to 41 days, and orders placed that are fully filled at NMS increased from 66% to 72% over the five year period. Throughout the period, close to 90% of hospitals and HCIV facilities submitted their orders on time to NMS. Following *Supervision Performance Assessment and Recognition Strategy (SPARS)* implementation, the districts witnessed a significant improvement in medicines management from 45% to 71% measured by assessing performance in the five domains: store management, stock management, recording and reporting, prescribing and dispensing.

**Affordability and financing of EMHS:** Government financing for all EMHS including ARV, TB and Malaria medicines increased from UGX 202 billion in 2010 to UGX 219 billion in 2015, however, factoring the exchange rate depreciation, there was a reduction from US\$87.2 million<sup>1</sup> to US\$ 83.3 million<sup>2</sup> maintaining the per capita expenditure of US\$ 2.3 in the five year period. The percentage of GoU allocated EMHS funds actually delivered to health facilities increased from 75% in 2010/11 to 103%. However, the proportion of the annual EMHS budget delivered to HCII-HCIV facilities was well below the 66% target set by the HSSIP. Both NMS and JMS continued to perform very well in obtaining competitive prices of generic products at 40% lower than international reference pricing. Donor partners now contribute more than 70% of the total estimated expenditure on EMHS, posing a risk in the event of funding uncertainties.

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<sup>1</sup> Background to the budget (BTTB) exchange rate at Ugx 2315 -Table 41 (Appendix 60)

<sup>2</sup> Bank of Uganda (BoU) exchange rate at Ugx 2623

**Safety, efficacy and quality of EMHS:** The percentage of medicines failing NDA quality tests fell from 11% to 6%. However, NDA only tested 118 medicines in 2014/15, compared to 793 tested in 2013/14.

**Appropriate use of EMHS:** Adherence to the Uganda Clinical Guidelines (UCG) in prescribing medicines for treatment of three common conditions—malaria, diarrhea and upper tract respiratory infections—have improved dramatically since 2010/11, where only 5-10% of cases were treated appropriately till now 79, 59 and 42% being in accordance with the national UCG.

**Human resources in the pharmaceutical sector:** The ratio of pharmacist-to-population improved from 1.1 in 2010 to 1.5 per 100,000 in 2015. However, only 8% of the pharmacist positions and 55% of pharmacy technician posts are filled in the public sector. Data available from pharmacy schools indicate that the numbers of enrolled and graduating pharmacy students have increased slightly.



## INTRODUCTION

The Annual Pharmaceutical Sector Performance Report 2014/15 reviews the progress made towards achieving the targets set in the National Pharmaceutical Sector Strategic Plan (NPSSP) II 2010/11 - 2014/15. Progress is assessed by examining the trends in the selected 31 indicators over time and comparing them to targets set for 2015.

The report covers the five result areas of the NPSSP II and in line with the objectives in the National Medicines Policy 2016:

1. Increased Availability of Essential Medicines and Health Supplies (EMHS)
2. Increased Affordability and Financing of EMHS
3. Increased Safety, Efficacy and Quality of EMHS
4. Improved Appropriate Use of EMHS
5. Strengthened Human Resources in the Pharmaceutical Sector

## METHODOLOGY

**Data collection.** The data collection process follows standardized methods, tools and procedures outlined in the monitoring and evaluation plan for the NPSSP II. The data sources include routine sources of data from the District Health Information System version 2 (DHIS2) using the national data collection tools of the health management information system (HMIS), the national Supervision, Performance Assessment and Recognition Strategy (SPARS) indicators reported through the pharmaceutical information portal (PIP), document review, observations, and patient interviews from sentinel sites, annual reports and records from National Medical Store, Joint Medical Store and National Drug Authority, and other reports. The data are collected on an annual basis, analyzed and reported by Pharmacy Division M&E specialists.

**Table 1: Annual Pharmaceutical Sector Performance Report Data Sources**

Result Area	Data sources
1. Availability of EMHS	NMS and JMS issues and stock on hand reports, HMIS 105 reports, SPARS reports
2. Affordability and Financing	Ministerial Policy Statement and Budget framework paper, NMS vote 116 health facility resource allocations
3. Safety, Efficacy, Quality	NDA annual performance and activity reports, Pharmacovigilance quarterly bulletins
4. Appropriate Use	SPARS report
5. Human Resources	New registration and graduating students register, Human Resource register, PSU and Allied Health licensed pharmacist and pharmacy technician registers

The selection of indicators was based on the priority strategies outlined in the NPSSP 2010/15. To ensure standardized measurements, operational definitions are clearly defined for each indicator, with the data source, collection and calculation method, and data limitations described in the M&E plan. Where indicators can be measured through more than one source of data these are presented together for the purpose of comparison and validation.

**Data Analysis.** Data are entered into different excel workbooks and cleaned to ensure errors are corrected. Descriptive statistics for each indicator generated using Excel 2013 are presented. The focus during analysis is trend analysis over time against set targets.

**Reporting.** This report is disseminated through the MoH website and other public channels.

## RESULTS AND DISCUSSION

Data on pharmaceutical sector performance in the five result areas are presented below. In each section, a summary of the targets and achievements for FY 2014/15 is provided for all of the Result Area indicators, followed by a more detailed presentation and discussion of the individual indicators. Data from the previous four years (2010-2013) are also shown to illustrate the progress made since the baseline year 2010/11.

### Increased availability of essential medicines and health supplies

The NPSSP II emphasizes the importance of efficient and appropriate procurement, storage, distribution and good management of EMHS at all levels of the system as the foundation for ensuring consistent availability of EMHS for the effective nationwide delivery of the Universal Health Care Package.<sup>3</sup> Result Area I has three components: 1) availability of EMHS, 2) procurement and delivery and 3) medicines management. Each of the components has a set of indicators to measure progress.

#### Component 1: Availability of EMHS

Four indicators measure the availability of six priority essential medicines and health supplies at central and health facility level. The six tracer products include:

- artemether 20mg+lumefantrine 120mg, strip of 24 tablets (ACT)
- co-packaged oral rehydration solution and zinc tablets (ORS/zinc)

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<sup>3</sup> *The National Medicines Policy (NMP) 2015*, aims to contribute to the attainment of the highest standard of health by the population of Uganda, through ensuring the availability, accessibility affordability and appropriate use of essential pharmaceutical products of appropriate quality, safety and efficacy at all times

- cotrimoxazole 480mg tablet (CTX)
- pyrimethamine 25mg+sulfadoxine 500mg tablet (SP)
- medroxyprogesterone acetate 150mg/MI w/syringe (Depo)
- measles vaccine 10 dose vial.

A summary of the targets and achievements of availability indicators is presented in Table 2.

**Table 2: Availability of EMHS indicators – FY 2014/15 Performance**

Indicator	FY14/15 Target	FY 14/15 Achieved
1. Average percent availability of six tracer vital medicines measured over a period of three months at NMS	100%	63%
2. Average percent availability of a basket of six individual tracer vital medicines at health facilities on the day of visit	100%	81%
3. Percentage of health facilities with all six tracer vital medicines available on the day of visit, by level of care	80%	36%
4. Percentage of health facilities without monthly stock outs of any tracer medicines in the previous six months	60%	64%

*Note: Data source. NMS stock status data, SPARS data and DHIS2 data*

**Indicator 1: Average percent availability of six tracer medicines measured over a period of three months at NMS**

This indicator measures how many months out of each quarter of the year the quantity of the product at NMS is equal to or more than an estimated two months of stock. The indicator is calculated as an average percentage for all the six tracer drugs. If data for a month are not available, that month is dropped from the calculation. It is assumed here that NMS inventory data are accurate.

The average percent availability achieved in 2014/15 was 63%, well below the 100% target. Performance on this indicator was low because the supply of ORS/zinc and SP fell below two months of stock for three out of four quarters of the year and quarters (see table 2). The supply of ACTs and measles vaccine was also sub-optimal during the first half of the year. Depo was the only tracer product with two or more months of stock throughout the year; the supply of CTX was close, only one month fell below the level of two months of stock.

NMS explained that for the ACTs, ORS and SP, which are procured locally, the warehouse considers one month of stock as sufficient because they use “just in time”<sup>4</sup>

<sup>4</sup> Just in time (JIT) is a management system where products are produced and acquired only as demand requires.

procurement procedures to avoid holding large volumes of stock. It is worth noting, however, that both ORS and SP fell below one month of stock for six and four months, respectively.

**Table 3: Months of stock of six tracer medicines at NMS, July 2014 to June 2015**

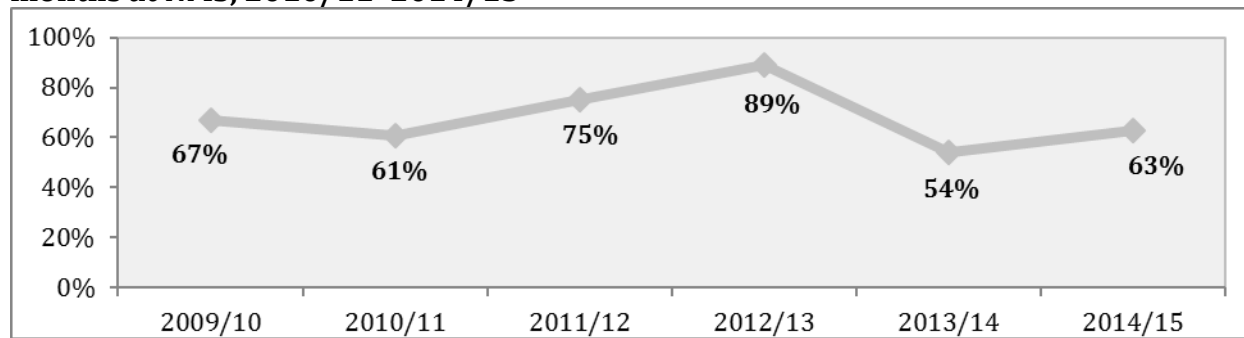
Product Description	Average Monthly Issues	Jul '14	Aug '14	Sep '14	Oct '14	Nov '14	Dec '14	Jan '15	Feb '15	Mar '15	Apr '15	May '15	Jun '15
Artemether 20mg + lumefantrine 120mg (strip of 24 tabs)	46,569	1.6	2.1	1.1	0.6	1.4	NR	1.9	2.3	2.8	3.5	3.8	4.5
Cotrimoxazole 480mg tablet	20,790	1.7	2.0	4.0	4.7	NR	NR	3.9	4.5	5.3	7.9	7.6	9.6
Co-packaged ors and zinc tablets	102,463	1.5	0.9	0.0	0.1	NR	NR	1.1	0.5	0.7	0.5	1.7	1.2
Pyrimethamine 25mg + sulfadoxine 500mg tablet	1,055	2.7	2.2	0.3	0.0	NR	NR	0.5	1.7	1.7	0.4	1.5	2.7
Medroxyprogesterone acetate 150mg/ml w/syringe	1,140	7.1	1521.6	22.5	21.9	10.2	NR	9.3	8.5	7.5	6.6	6.1	5.9
Measles vaccine 10 dose vial	14,122	0.3	0.0	0.0	2.1	4.0	NR	5.8	4.1	2.6	6.6	6.5	4.9

*Note: NR- not recorded*

Figure 1 shows the average availability of the six tracer medicines at NMS over the past five years. From the baseline of 61% in 2010/11, we can see a substantial improvement over the next two years, reaching 89% in 2012/13. This was followed by a sharp drop to 54% of the days (out of 90) where all six tracer medicines were available (had two months of stock) in 2013/14, and then again improvement to 63% in 2014/15.

In the initial consecutive years the transfer of funds for procurement of EMHS from district PHC funds to NMS Vote 116 and benefits gained from ARV and ACT prices increased the availability of funds for procurement of medicines however after 2012/13, there were delays in Global Fund procurements of ACTs, availability of Depo-Provera and ORS was sub optimal in addition to the new procurement procedures at NMS of the “just in time” method that considers one month of stock as sufficient. The tracer product availability at NMS averaged at 68% in the five year period.

**Figure 1: Average availability of the six tracer medicines over a period of three months at NMS, 2010/11–2014/15**



**Indicator 2: Average percent availability of a basket of six individual tracer vital medicines at health facilities on the day of visit**

This indicator is an average of the percentage of facilities that were reported as having the six tracer products in stock on the day of visit. Data for this indicator are collected and reported electronically by district staff trained as Medicine Management Supervisors (MMS) who conduct routine supervision visits to public and private-not-for-profit facilities as part of the Supervision, Performance Assessment and Recognition Strategy (SPARS). The visits are conducted throughout the year; as such the indicator represents a picture of availability across the year.

In 2014/15, data for this indicator came from 2,353 health facilities, the majority government owned, a very robust sample size. The overall average percent availability across the six tracer products was 81%, below the annual target of 100%.

Figure 2 shows the average percent of facilities that had the individual tracer products in stock over the year. CTX, ACTs and Depo were the most consistently available, with 88% to 90% of facilities having them in stock on the day of visit. Measles vaccine, SP and ORS/zinc were considerably lower, with an average availability of 72%-74% in facilities during the year.

These figures mirror to some degree the availability of the tracer products at NMS, but there are exceptions. The availability of ACTs at facility level is much higher than what would be expected, given that NMS uses the “just in time” method that allowed for appropriate fulfilment without rationing. Measles vaccine was available in 74% of facilities, yet NMS had two months of stock for much of the year. Depo was over-stocked at NMS throughout the year, yet on average the product was available in only 88% of the facilities. These differences underline the fact that the months of stock calculation at facility level might not be accurate and rationing of medicines at NMS. However, there are many factors, both within and between, the central and facility level that determine the end result of product availability in facilities.

**Figure 2: Average percent of facilities that had six tracer products available on the day of visit, 2014/15**

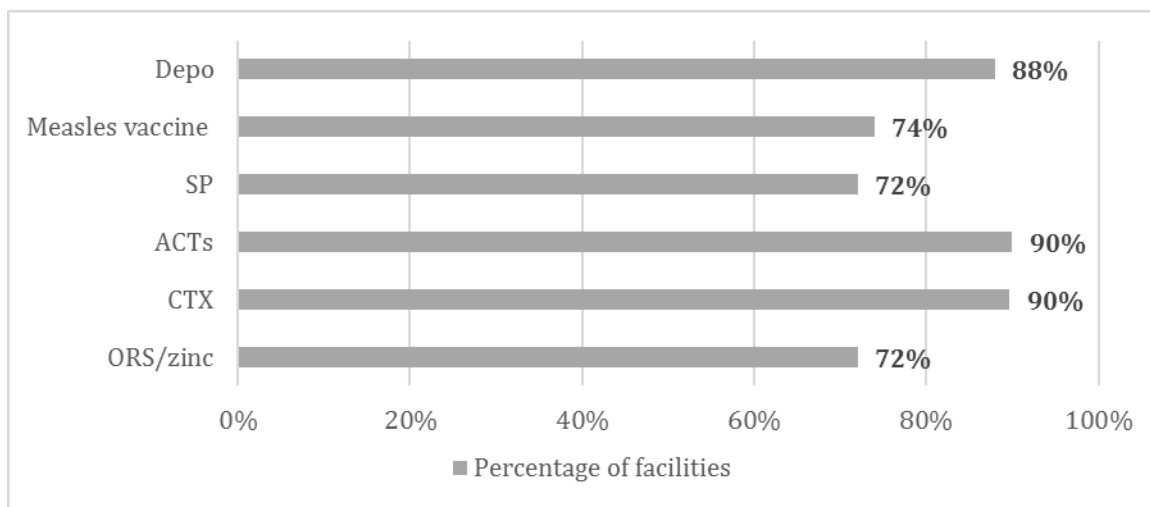
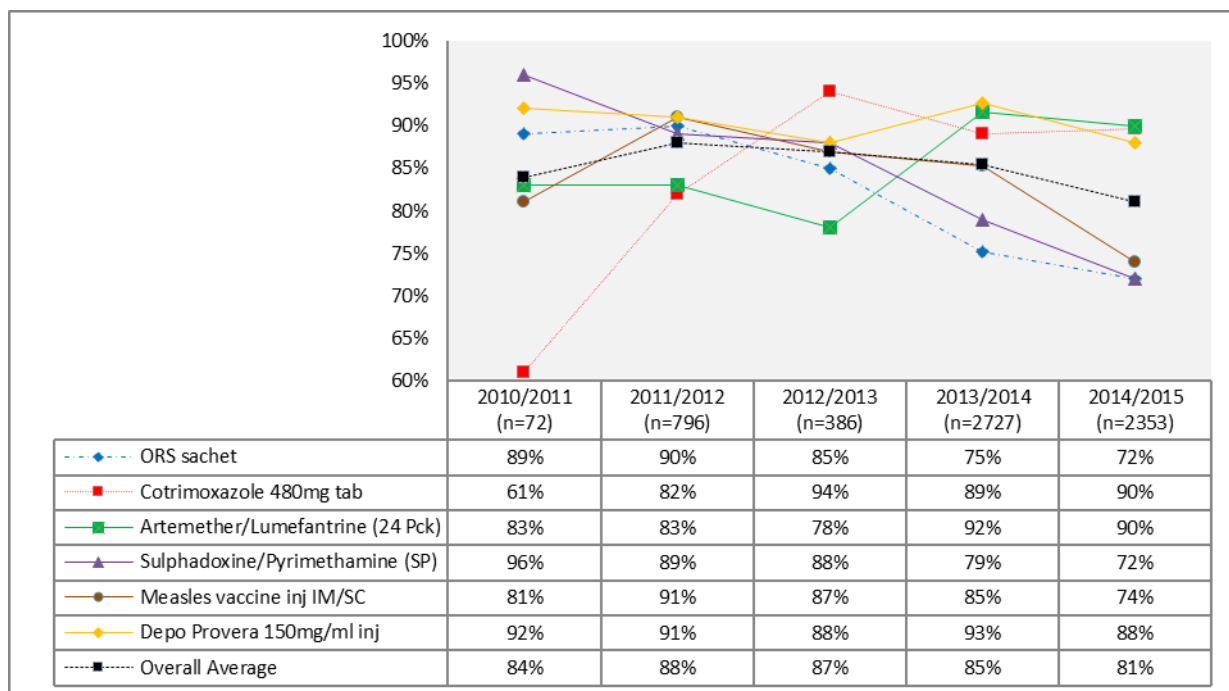


Figure 3 shows data for this same indicator for the years 2010 to 2015. Note that the number of facilities providing data varies widely across years; in 2010/11 where SPARS was initiated there were only 72 facilities compared to 2,353 facilities in 2014/15 where SPARS is rolled out to almost all districts. The most notable trends are the decline in availability of ORS and SP over the five years; in 2010/11, 90% or more of facilities had both available but this drops to 72% in 2014/15. The availability of CTX improves and is maintained during the period.

**Figure 3: Availability of the six individual tracer medicines at health facilities on the day of visit, 2010-2015**



**Indicator 3: Percentage of health facilities with all six tracer medicines available on the day of the visit, by level of care**

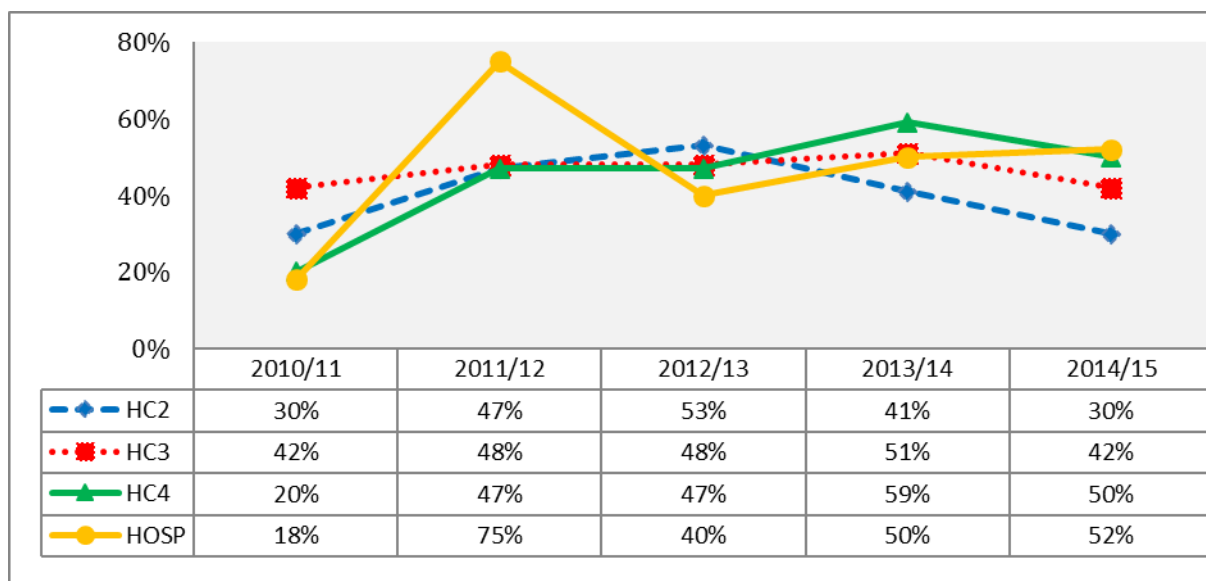
This indicator measures the percentage of facilities with all six medicines available on the day of visit, by level of care. Performance was poor at all levels of care against the 2014/15 annual target of 100% particularly at the lowest levels. Only 30% and 42% of HCII and HCIII facilities had all six products available on the day of visit, respectively, while 50% of HCIVs and 52% of hospitals had all six products. This poor performance is indicative of a number of challenges with funding, fulfilment rate and the supply chain system that has significant weaknesses in one or more areas.

The difference in performance between lower and higher levels is due to the two different ordering systems that are used by government facilities: a 'push' system for lower levels and a "pull" system for higher level facilities. Under the pull system, the higher level facilities are able to determine what they order and how they prioritize spending their EMHS budget to best meet their needs, unlike HCII and HCIIIs which receive pre-determined standardized kits irrespective of their client volumes or needs. The kits were introduced in 2010/11 at the lower level facilities to improve product availability where staff logistics management skills were very weak.

Figure 4 presents data for this indicator over the last five years. HCII, HCIII and HCIVs all showed around a ten percentage point decrease over the last two years in the availability of all six tracer products. Some improvement was seen after the 2010/11 baseline, but both HCII and HCIIIs have dropped back to baseline performance. Hospitals had the widest variability in tracer product availability across the years; from 18% in 2010/11, a high of 75% in 2011/12 to around 50% in the last two years. Availability in HCIVs improved from 20% in the baseline year but availability values were little different from the lower levels in the following years. Improvements are possible at higher levels but at lower levels there are constraints to how far they can improve the situation because a 'one fit for all' kit approach with a fixed budget does not address individual facility requirements<sup>5</sup>.

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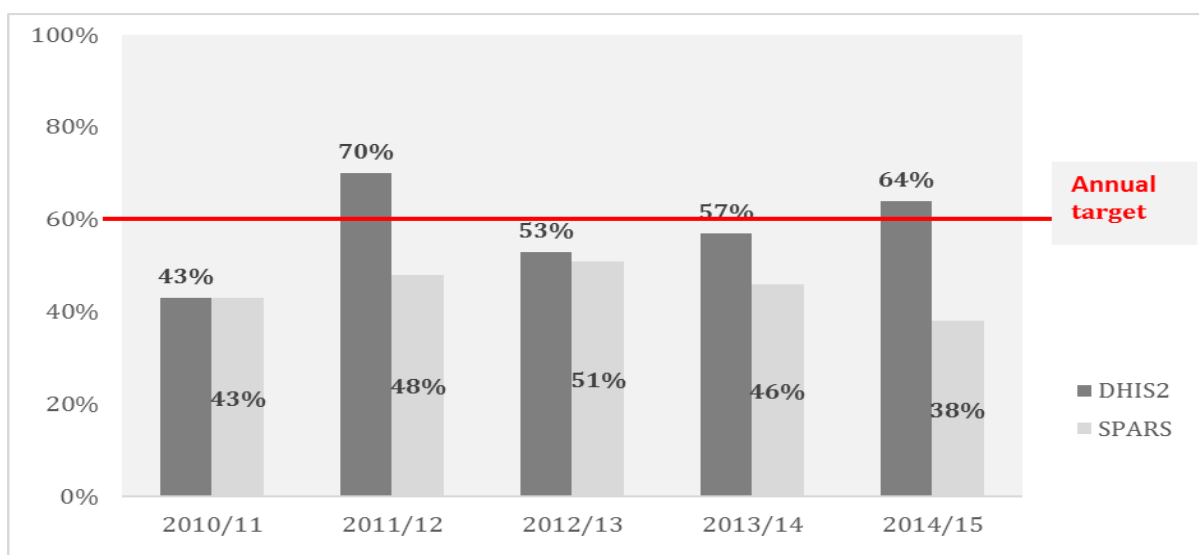
<sup>5</sup> Annual comprehensive evaluations of the kit system have been conducted. The 2013 evaluation showed that most items are still either under or over supplied. Only 20% of the items appear to be adequately supplied- Kit Survey 2013.

**Figure 4: Percentage of facilities with all six tracer medicines available by level of care****Indicator 4: Percentage of health facilities without monthly stock outs of any tracer medicines in the previous six months**

This indicator measures longer term availability of the six vital tracer medicines. The indicator calculates the proportion of reporting facilities that did not have a stock out of any of the six products in the previous six months. The indicator is measured every month by health facility staff who record the stock out days for the individual tracer medicines in the HMIS 105 form reported through DHIS2. SPARS reports from MMS facility visits are a second data source for this indicator. Both data sources are shown here to provide a comparison.

Since 2010/11, the target for this indicator has been 60%. HMIS data show steady progress over the past few years in reducing stock outs of the tracer products (see Figure 5). In 2014/15, HMIS data showed that 64% of facilities did not have stock outs of tracer medicines in the previous six months surpassing the set target. The SPARS data, however, showed a more mixed picture, with improvements in the first three years then declines in 2012/13 and 2014/15. SPARS data source shows that still an unacceptably high percentage of health facilities experiencing stock outs of one or more of the tracer medicines over a six month period. This is a difficult target to achieve but nonetheless an important indicator of how well the supply chain system is performing and the basic package of essential health services being delivered. In addition are the MMS efforts to improve data quality for the HMIS and SPARS data sets that will narrow the gap in the results.



**Figure 5: Percentage of facilities without stock outs of any tracer medicines in previous six months**

## Component 2. Procurement and Delivery

NMS procures and distributes EMHS to all government health facilities on a bi-monthly schedule. Supplying more than 2,800 government health facilities is challenging. Facilities need to know the appropriate products to order as per the national guidelines, and schedules for ordering and delivery have to be adhered to by health facilities and NMS. NMS must also have the items in stock to deliver.

Four indicators are used to measure Procurement, Order fulfilment, lead time and Delivery. Table 3 provides a summary of performance in FY 2014/15.

**Table 4: Procurement and Delivery – FY 2014/15 Performance**

Indicator	FY14/15 Target	FY 14/15 Achieved
5. Percent of health facility orders placed that are fully filled at NMS	No target	Order fill: 72% Nil lines: 28%
6. Average lead-time (days) from ordering by the facility to delivery to the facility	Max. 60 days	41 days(8-74)
7. Percentage of health facility orders submitted on time as per NMS delivery schedule	100%	77%
8. Percentage of deliveries made by NMS to the facilities within the scheduled delivery date	No target	63%

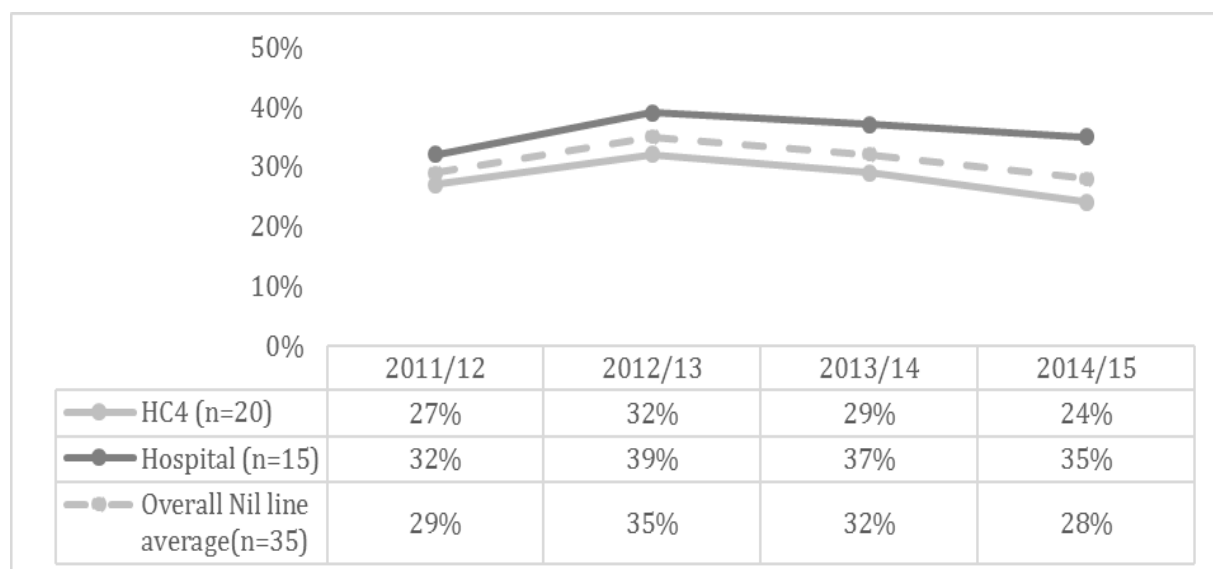
**Indicator 5: Percent of health facility orders placed that are fully filled at NMS**

Ideally, all orders should be fully filled. Order fulfillment<sup>6</sup> depends on the sufficient availability of the items ordered at NMS, as well as having strong systems in place for correctly processing orders including inventory management, picking and packing of items. There are many reasons why a facility’s order may not be fully filled: the item is out of stock or being rationed because of a shortage; insufficient facility budget balance; the item order was not properly logged or; the item was missed in the packing process.

This indicator is calculated for only HCIV and hospitals that make orders. A sample of 35 hospitals and HCIV facilities is used to calculate the order ‘nil lines’ which is a measure of how many items in an order that were not supplied. Information is obtained from facility orders submitted to NMS and compared to NMS delivery notes for the sampled facilities. In 2014/15, an average of 28% of the items ordered by the sampled facilities were not supplied in any quantity by NMS. The average order ‘nil line’ rate was 24% for HCIVs and 35% for hospitals.

Average nil line rates have decreased over the past three years, however the FY 2014/15 average percentage of nil lines for hospitals is still higher than at baseline and more than 1 out of every 4 ordered EMHS are not filled equivalent to 28% unavailability (see Figure 6).

**Figure 6: Percentage of items ordered by facilities not filled by NMS, 2010/11-2014/15**



*Note: The hospital category includes 12 general hospitals and 3 regional referral hospitals*

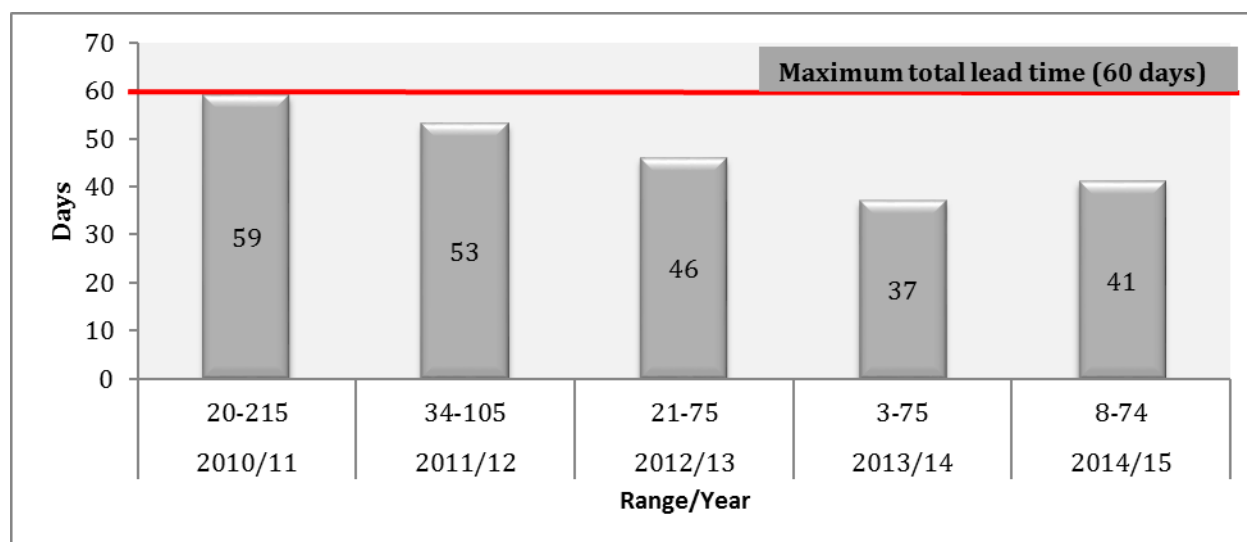
<sup>6</sup> This is a measure of how many items in a given order have been supplied. An order can be filled, not filled, or adjusted so that items are supplied in excess (upward variation) or shortage (downward variation) of the order.

**Indicator 6: Average lead-time from ordering to delivery to the facility**

The system has set the maximum lead time from receipt of facility order to delivery at the facility as 60 days. Health facilities are supposed to maintain a minimum stock level of two months and maximum of five months for essential medicines. It is important for the facility to receive their fresh supplies before they run out of stock. Therefore, minimum stock is 2 month or 60 days and thus new supplies should reach within 60 days that is the maximum lead-time allowed. Any lead-time > 60 might lead to out of stock situation.

The data on average lead time and range shown in Figure 7 were obtained from NMS order records and delivery notes for a sample of 35 hospitals and HCIVs across the country. The average lead time of 41 days in 2014/15 is well under the NMS maximum of 60 days. The range of lead time days was a minimum of 8 days (this might have been an emergency order) and a maximum of 74 days. There is little difference in average lead times over the past few years, but what has improved dramatically is the maximum lead time: in 2010/11 the maximum lead time was 215 days (7 months), compared to a maximum now of 2.4 months.

**Figure 7: Average lead time (in days) and range from ordering to delivery to the health facility, 2010-2015**



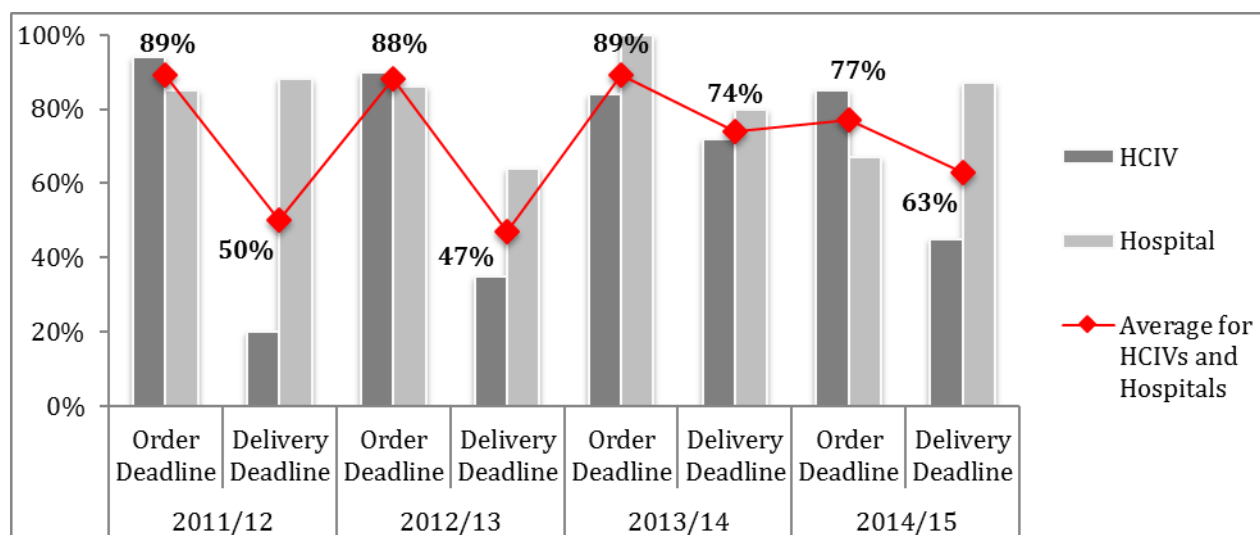
**Indicator 7: Percentage of health facility orders submitted on time as per NMS delivery schedule and Indicator 8: Percentage of deliveries made by NMS to the facilities within the scheduled delivery date are presented together.**

Indicator 7 is an average across the year of the percentage of hospitals and HCIVs that submitted their bimonthly order on time as per the NMS order schedule. Indicator 8 is the percentage of those orders that NMS delivered on time as per their delivery

schedule. It is helpful to review these two indicators together since NMS cannot deliver to a facility on schedule unless the facility submits their order on schedule. Measurements of these two indicators began in FY 2011/12.

Figure 8 shows that for three of the last four years, 88% of facilities submitted their orders on time. In 2014/15, this dropped to only 77% of facilities, well below the desired target of 100%. The reason for this is unknown. NMS delivery performance also declined over the past two years, from a high of 74% in 2013/14 to only 63% in 2014/15. This is a reversal in the trend of improved NMS delivery performance from the 50% in the baseline year. Delivery to hospitals, which are located in major town areas, is consistently much better than delivery to HCIVs that are more and less accessible than hospitals.

**Figure 8: Average percentage of facilities submitting their orders on time and NMS deliveries on time, 2011-2015**



### Component 3. Medicines Management

National SPARS coverage is currently 98%, with 110 districts out of 112 having implemented SPARS to varying degrees. A total of 1783 public and 570 PNFP facilities have had at least one SPARS supervisory visit. Trained MMS assess facility performance using 25 indicators in five areas: stock and storage management, ordering and reporting, prescribing and dispensing quality.

**Table 5: Medicines Stock Management – FY 2014/15 Performance**

Indicator	FY14/15 Target	FY 14/15 Achieved
9. Percentage of facilities with stock cards correctly filled	100%	52%
10. Percentage of facilities with stock book correctly used	100%	63%

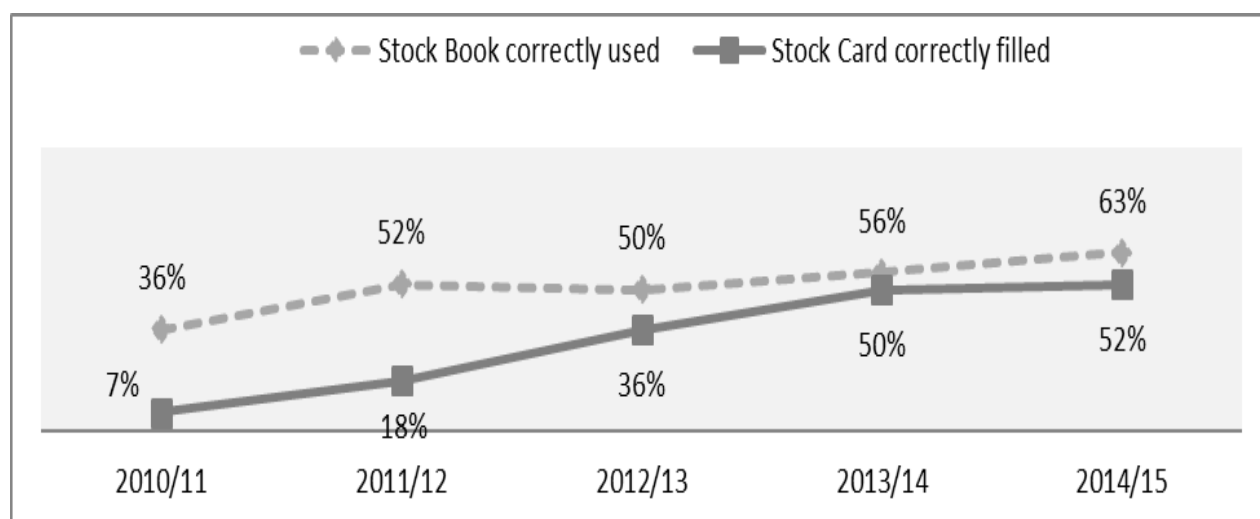
Indicator	FY14/15 Target	FY 14/15 Achieved
11. Average percent facility performance on 25 SPARS indicators	No target	72%
12. Accuracy of the HMIS report on stock outs of tracer medicines	100%	82%

**Indicator 9: Percentage of facilities with stock cards correctly filled and Indicator 10: Percentage of facilities with stock book correctly used**

The proper filling and updating of stock cards and books helps health workers to easily track the inventory levels and account for stock movements. At the end of each month, key data from the stock cards of all products are supposed to be entered into the stock book. Correctly filling and using the stock book helps health workers to calculate average monthly consumption rates and calculate the quantities they need to order each cycle. Data for these two indicators were obtained from SPARS reports on 2,353 facilities that were supervised by MMS throughout the year. The stock cards for the 15 SPARS tracer products and the stock book are reviewed by the MMS who determine whether the filling and usage meet the SPARS standards.

In FY 2014/15, 52% of the assessed facilities had filled their sampled stock cards correctly and 63% of them were using the stock book correctly. This performance is well below the annual targets of 100%. However, this is a notable improvement over the low baseline figures, 7% and 36%, respectively (see Fig. 9). Since 2010/11, health workers have slowly but steadily improved the use of both stock cards and stock books over the past five years.

**Figure 9: Percentage of facilities correctly filling stock cards and using stock books, 2011-2015**

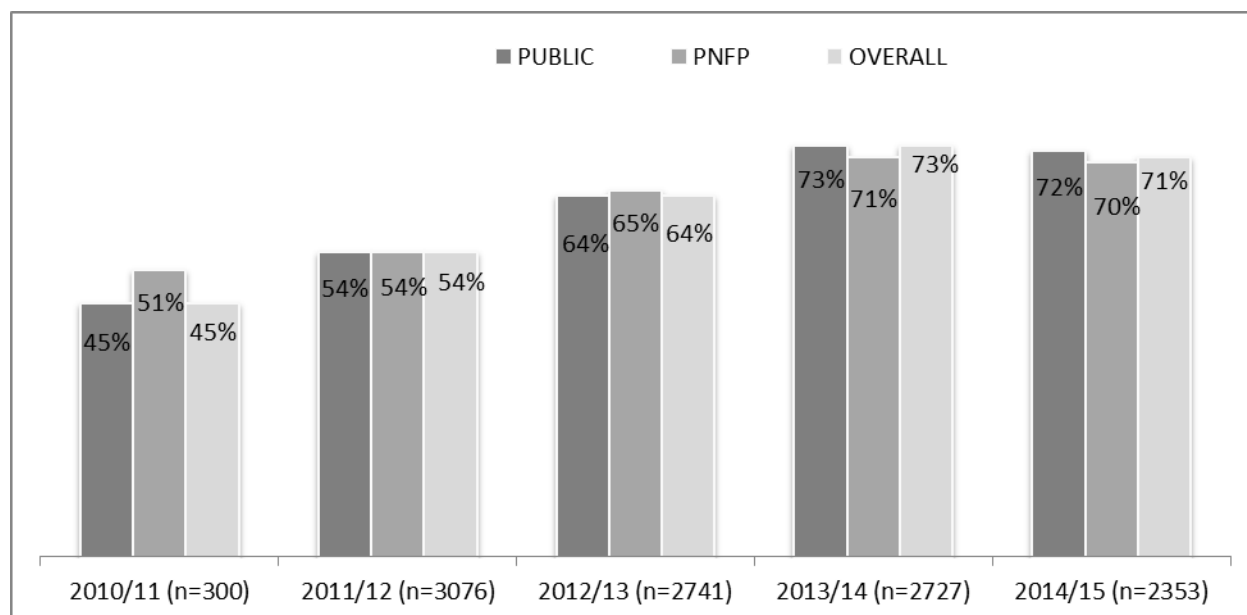


### Indicator 10: Facility performance on 25 SPARS indicators

This indicator measures the overall medicines management performance in government and PNFP facilities measured in the five domains storage management, stock management, ordering and reporting, prescribing and dispensing that are assessed and scored by MMS as part of SPARS. The maximum facility score is 25 (five points in each of the five domains). The indicator is calculated by averaging the scores of all facilities assessed during the year and dividing it by 25. No annual target was set for this indicator. The closer to 100%, the better the facility performance is. Facilities that started SPARS in 2014/15 will have a lower score than mature facilities and skew the average overall score towards a lower average.

In 2014/15, the average facility performance was 72%, with an average facility score of 18 out of a possible 25. The slight drop in average performance from the previous year (minus two percentage points) is because of the large intake of new facilities with the addition of 16 districts into the SPARS program in 2013/14. There is no difference in the SPARS scores between public and PNFP facilities.

**Figure 10: Average percent of facility performance on 25 SPARS indicators, 2011-2015**



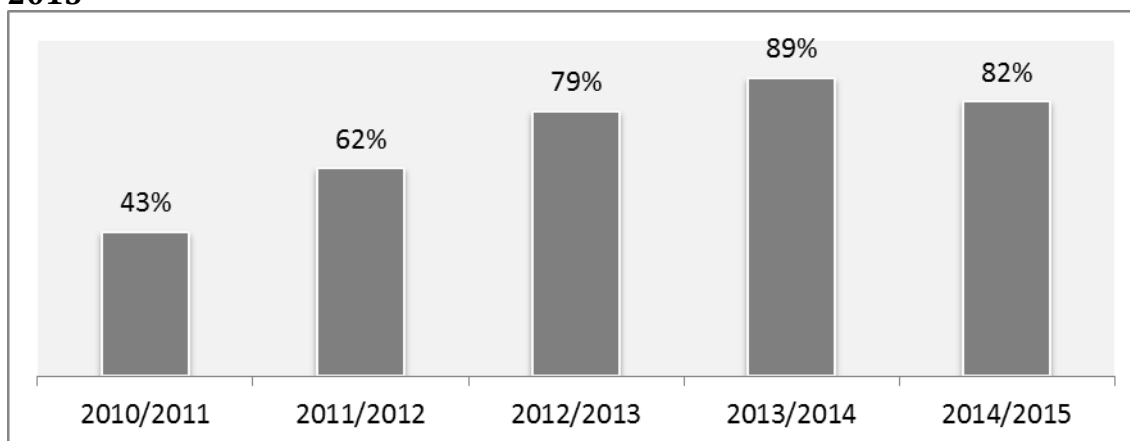
### Indicator 11: Accuracy of the HMIS 105 report on stock outs of tracer medicines

Facilities are required to report the number of days of stock out of tracer EMHS in the monthly HMIS 105 report. It is important that this information is accurate to be useful for central level monitoring. MMS compare the number of stock out days recorded on the stock cards for the tracer medicines and compare to the data submitted in the HMIS facility reports (accuracy). In 2014/15, the average accuracy of HMIS reports was 82%.

The result is a slight reduction from the previous year. Again, this is likely to be related to the addition of the new districts into SPARS.

Figure 11 shows the marked improvement each year in the accuracy of the stock out data reported in HMIS 105 monthly reports: from just 43% in 2010/11 to now over 80%

**Figure 11: Accuracy of the HMIS 105 Report on tracer medicine stock outs, 2011-2015**



### Increased Affordability and Financing of EMHS

According to the National Medicines Policy 2015, an important aim is to ensure medicines are affordable to the individual and community through the provision of cheap medicines that are of good quality achieved through pooled procurement from NMS and JMS, affordability in the PNFP and private sector where patients pay for their medicines and sustainable financing i.e. Minimum donor dependency. Health financing refers to “adequate financing of required quantities for the people of Uganda with equitable provisions of the poor and vulnerable, as well as cost effective use of available resources”.<sup>7</sup>

Six indicators are used to assess performance in Result Area 2 Increased Affordability and Financing of EMHS. The annual targets and achievements for 2014/15 are shown in Table 6.

<sup>7</sup> Source: National Medicines Policy 2015

**Table 6: Affordability and Financing indicators – FY 2014/15 Performance**

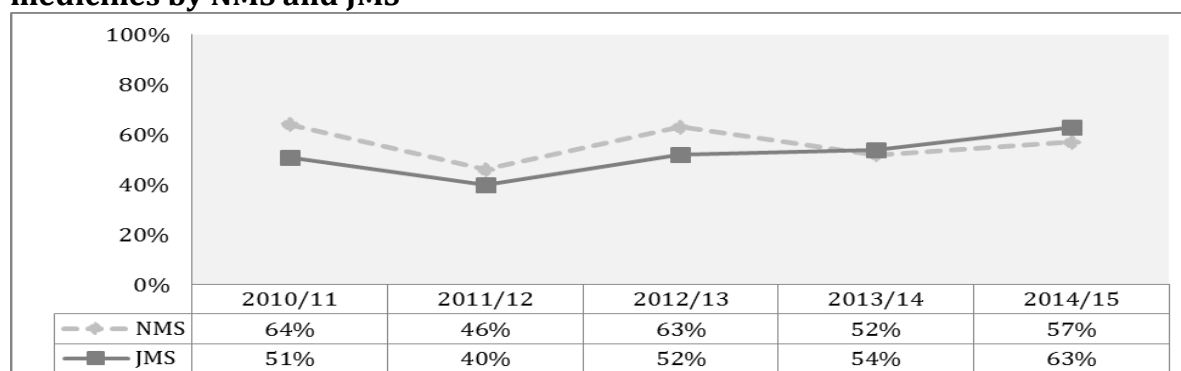
Indicator	FY14/15 Target	FY 14/15 Achieved
13. Percentage of average international price paid by the central warehouses for procured essential medicines	<100%	NMS: 57% JMS: 63%
14. Percentage of GoU funds allocated for credit line EMHS distributed to health facilities (excluding ARVs, ACTs, TB supplies, and vaccines)	95%	103%
15. Percentage of GoU funds released for EMHS out of the total health sector spending	No target	17%
16. Per capita GoU expenditure on all EMHS including ARVs, ACTs, TB supplies, and vaccines	No target	USD\$ 2.3
17. Per capita GoU expenditure on EMHS excluding ARVs, ACTs, TB supplies, and vaccines	No target	USD\$ 0.97
18. Government vs. donor vs. funding contribution for EMHS	No target	GoU: 28% Donor: 72%

### Indicator 13: Average international price paid by the central warehouses for procured essential medicines

NMS and JMS are the primary procurement agencies for public facilities and PNF facilities respectively. To ensure greater value for money, the central warehouses should strive to achieve optimal and competitive prices through a transparent tendering process and using pooled procurement. Data for this indicator are obtained from NMS and JMS reported procurement prices for a basket of 51 EMHS. The procurement prices are compared to the median international buying prices listed in the Management Sciences for Health International Drug Price Guide. Performance is considered good if the procurement agencies are below 100% of the international price.

In 2014/15, both NMS and JMS average procurement prices for the basket of essential medicines were considerably below the average international prices, 57% and 63%, respectively, a very good achievement (Figure 12).

**Figure 12: Percent of average international price paid for procured essential medicines by NMS and JMS**

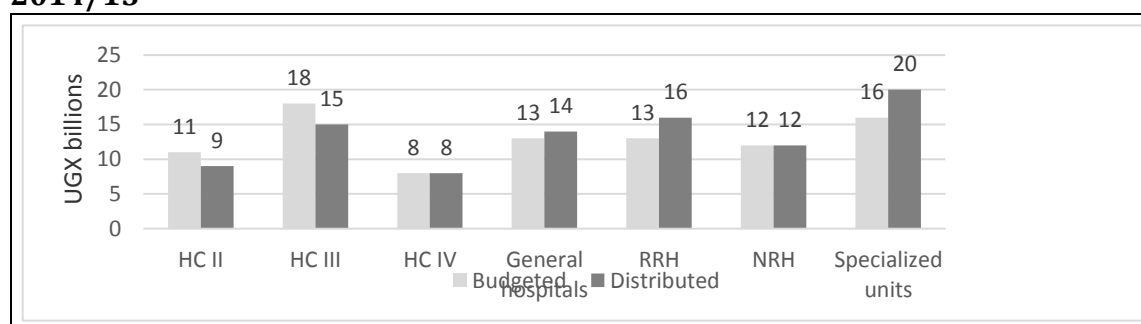




### Indicator 14: Percentage of GoU funds allocated for credit line EMHS distributed to health facilities (excluding ARVs, ACTs, TB supplies, and vaccines)

In 2014/15, the GoU allocated 91 billion UGX for procurement and delivery of essential medicines and health supplies, excluding ARVs, ACTs, TB supplies, and vaccines; 94 billion UGX in product value were distributed, or 103% of the total funds utilized by NMS. Only 83% of the GoU funding allocated to HCII and HCIIIs was distributed, and regional referral hospitals and specialized units increased their allocation with 7 billion UGX (Fig. 13).

**Figure 13: GoU allocation and actual distribution of funding by level of care, 2014/15**



In 2014/15, allocated funds to HCII-HCIV levels of care were reduced from 41% to 34%, this is half of the 66% mandated by the HSSIP 2010-2015. The mandate was intended to promote primary health care at the entry points for the majority of patients where uncomplicated cases can be treated more cost effectively. The GoU allocation and expenditure data for EMHS over the last five years is shown in Table 7.

**Table 7: Government funds allocated for credit line EMHS distributed to health facilities (excluding ARVs, ACTs, vaccines, TB supplies, and RH commodities), 2010-2015**

Level of care	2011/12		2012/13		2013/14		2014/15	
	Budget	Expenditure	Budget	Expenditure	Budget	Expenditure	Budget	Expenditure
Districts	39	35	37	HC2-11 HC3-18 HC4-8	HC2-11 HC3-18 HC4-10	HC2-11 HC3-18 HC4-9	HC2-11 HC3-18 HC4-8	HC2-9 HC3-15 HC4-8
General hospitals	15	11	13	15	18	13	13	14
Regional referral hospitals	14	13	17	15	13	12	13	16
National referral hospitals	17	22	12	14	14	14	12	12
Specialized units	-	-	22	22	16	16	16	20
<b>Total</b>	<b>85</b>	<b>81</b>	<b>101</b>	<b>103</b>	<b>100</b>	<b>93</b>	<b>91</b>	<b>94</b>

**Indicator 15. Percentage of GoU funds released for EMHS out of the total health sector spending and Indicator 16: Per capita GoU expenditure on all EMHS - including ARVs, ACTs, TB supplies, and vaccines and Indicator 17: Per capita GoU expenditure on EMHS - excluding ARVs, ACTs, TB supplies, and vaccines**

Challenges persist in sustaining resource mobilization for the health sector. The proportion of the government budget allocated to the health sector in FY 2014/15 is the lowest in over a decade, at 6.9%, down from 8.9% in FY2010/11. While the resources allocated to the health sector in absolute terms has increased twofold, from UGX 660 billion in 2010/11 to UGX 1,281 billion in 2014/15, recurrent expenditure by the government on EMHS remained almost unchanged, growing from UGX 202 billion (FY 2010/11) to UGX 218 billion (FY 2014/15). The EMHS expenditure has not grown to reflect increase in need and exchange rate depreciation that has been observed within this period. Per capita expenditure for all EMHS has not changed in the past five years (see Table 8). GoU expenditure remains well below the estimated requirement of US \$12<sup>8</sup>. It is critical to note that even the funds available for medicines are disproportionately allocated towards HIV/AIDS, TB and malaria, with only around US\$1 of the US\$2.3 for medicines spent on general medicines.

**Table 8: Per capita GoU expenditure on EMHS, in US\$, 2010-2015**

	2010/11	2011/12	2012/13	2013/14	2014/15
Including ARVs, ACTs, TB supplies, and vaccines	2.4	2.3	2.4	2.4	2.3
Excluding ARVs, ACTs, TB supplies, and vaccines	0.5	0.96	0.94	0.99	0.97

<sup>‡</sup> Bank of Uganda dollar rate of July 2014 was 2623. The figures above do not include off budget support.

**Indicator 16: Government vs. donor funding contribution for EMHS**

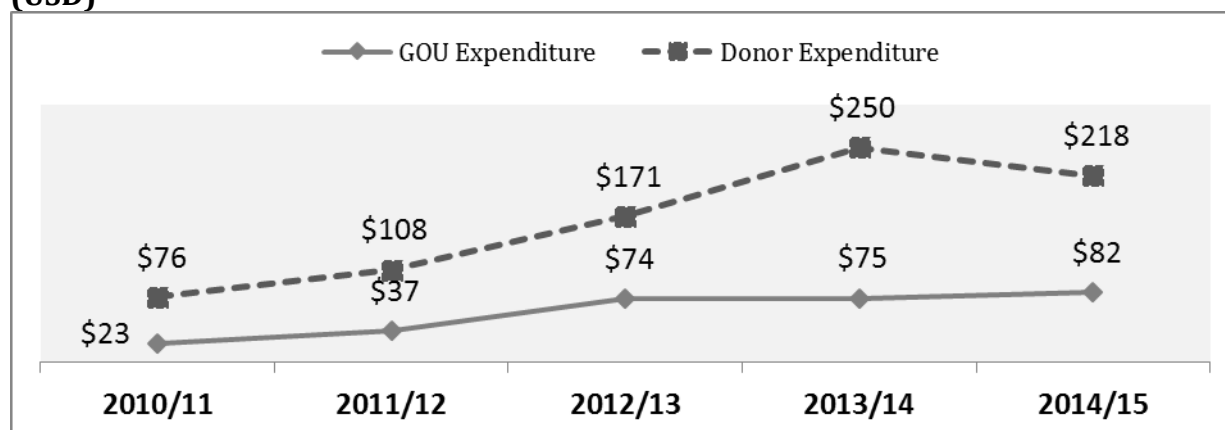
While the contribution of donors as a proportion of the overall government budget has decreased, from 25% in FY 2010/11 to 18% in FY2014/15, within the health sector the donor contribution to the health budget increased from 14% to 42% within the same period (Figure 15). This dependence puts Uganda's health sector in a very vulnerable position. The sector also still faces challenges of ensuring effective coordination and harmonization of the donor resources to direct them towards providing the essential health care package.

In 2014/15, an estimated \$300 million was expended on all EMHS, of which \$82 million was contributed by the GoU and \$218 million from donor partners. Donor funding accounted for over two-thirds of the total expenditures. The largest share of the expenditures was on ARVs and medicines for opportunistic infections (38%), followed

<sup>8</sup> MoH 2010. Health Sector Strategic and Investment Plan 2010 – 2015

by laboratory supplies and consumables, many of which are HIV-and TB-related (19%), essential medicines (13%), ACTs (4%) and vaccines (12%). Essential medicines are almost exclusively financed by the government (94%).

**Figure 14: Government vs donor expenditures on EMHS, 2010- 2015, in million (USD)**



### Increased Safety, Efficacy, and Quality of Medicines and Health Supplies

Since 1993, NDA has been responsible for assessing the quality, safety, and efficacy of medicines; inspecting and licensing all pharmaceutical outlets in Uganda; and conducting sensitization on pharmacovigilance. Table 9 shows the achievements in FY2014/15 for the three indicators used to measure Result Area 3. There are no annual targets for this area.

**Table 9: Safety, Efficacy and Quality of EMHS indicators – FY 2014/15 Performance**

Indicator	FY14/15 Target	FY 14/15 Achieved
19. Number of reports submitted on pharmacovigilance	No target	471
20. Percentage of sampled medicines failing pharmaceutical, chemical or microbiological NDA quality tests	No target	6%
21. Number of private sector drug shops and pharmacies inspected annually	No target	Drug shops: 7,534 Pharmacies: 943

**Indicator 19. Number of reports submitted on pharmacovigilance**

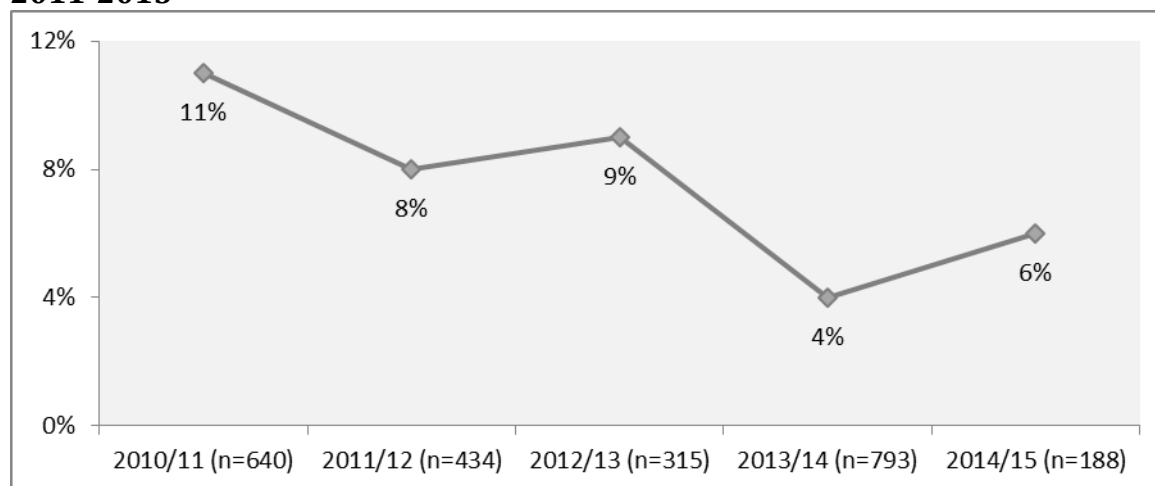
Pharmacovigilance is the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other medicine related problems. In order to enhance patient care and safety in relation to the use of medicines, information of cases of adverse drug reactions and other medicines related issues are captured through the 11 NDA regional pharmacovigilance centers. The reports submitted indicate the functioning of the reporting and surveillance system. In 2014/15, a total of 471 ADR reports were submitted, more than any year since 2010/11 (see table 7). The reported ADRs included a large spectrum of clinical manifestations, which are summarized based on WHO Adverse Reaction Terminology (WHO-ART), System-Organ Class (SOC).

**Table 10: Number of adverse drug reaction reports submitted to NDA, 2010-2015**

	2010/11	2011/12	2012/13	2013/14	2014/15
Number of reports submitted	268	396	238	273	471

**Indicator 20. Percentage of sampled medicines failing pharmaceutical, chemical or microbiological NDA quality tests**

NDA's National Drug Quality Control Laboratory (NDQCL) tests medicines on a regular basis, some upon entry into the country and others through post-market surveillance, to detect counterfeit and/or poor quality drugs. In 2014/15, only 11 of the 188 medicines (6%) tested by the NDQCL failed to comply with pharmacopeia and chemical standards. The failure rate has fallen each year since 2010/11, when 11% of sampled products failed to meet quality standards. The numbers of tests conducted in 2014/15 also fell sharply, from 793 tests in the previous year (see Fig. 16).

**Figure 15: Percentage of sampled medicines tested and failing NDA quality test, 2011-2015**

**Indicator 23. Number of drug shops and pharmacies inspected annually and Indicator 24. Number of private pharmacies passing inspection**

NDA conducts inspections of all facilities in the country that handle pharmaceutical products to ensure adherence to standard practices, such as availability of qualified personnel, suitability of premises and good pharmacy practices. In 2012/13, NDA expanded their inspections from private sector outlets to include pharmacies in government and PNFP health facilities. Health facility pharmacies that pass inspection are certified that they meet good pharmacy practice standards. (Note: NDA inspections of the latter were not carried out in 2014/15 because of a lack of funds.)

**Table 11: Pharmacies and drug shops inspected annually, 2010-2015**

Year	Drug shops	Private pharmacies	Health facility pharmacies
2010/11	11,785	747	-
2011/12	6,925	709	-
2012/13	6,140	976	605
2013/14	5,984	901	1,002
2014/15	7,534	943	-

Almost 8,500 drug shops and private pharmacies were inspected last year by NDA. Only five of the 943 private pharmacies inspected failed the inspection

### Improved Appropriate Use of Medicines and Health Supplies

Improving medicines use through proper prescribing and dispensing practices ensures the best use of limited resources and optimal patient care. Three indicators are used to assess appropriate medicines use in Result Area 4. The annual targets and achievements for 2014/15 are shown in Table 12.

**Table 12: Appropriate Medicines Use indicators- FY14/15 Performance**

Indicator	FY14/15 Target	FY 14/15 Achieved
25. Adherence to UCG for malaria, diarrhea, upper respiratory tract infection	100%	Malaria: 79% Diarrhea: 59% URTI: 42%
26. Percentage of patients knowledgeable about the dosage and duration of taking medicines dispensed	100%	62%
27. Percentage of medicines dispensed that are	100%	Medicine name and dose: 89%

Indicator	FY14/15 Target	FY 14/15 Achieved
adequately labeled		Complete label correct: 26%

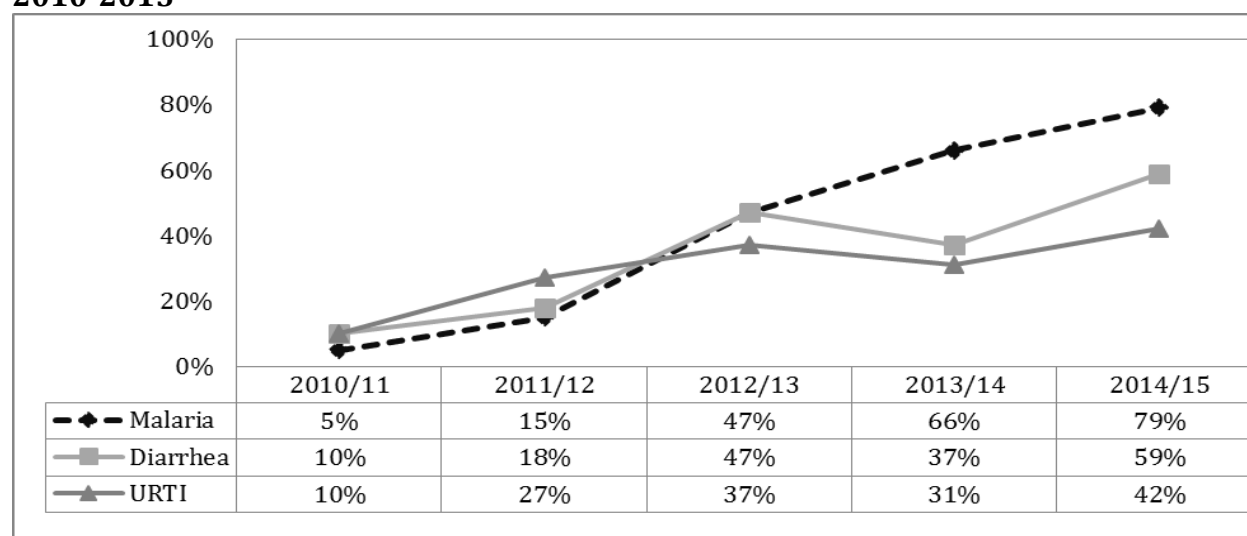
Data for indicators 25-27 are obtained from SPARS reports on MMS visits to facilities conducted throughout the year. In each facility, MMS sample the last ten prescriptions of patients diagnosed within the past three months with malaria, diarrhea and URTI. The case files are reviewed to assess if the treatment given was in compliance with the *2012 Uganda Clinical Guidelines*. MMS interview five patients in the dispensing area to assess the medicines they have received and prescriptions. One patient is assessed on their knowledge of the dosage and duration for taking their medicines. For labeling, MMS check for the dose, medicine name, patient name, strength, quantity, date, and facility name.

### Indicator 25. Adherence to Uganda Clinical Guidelines

In the 2,353 facilities assessed by MMS in 2014/15, 79% of the malaria cases reviewed were tested and given ACTs and paracetamol; 59% of the cases with non-bloody diarrhea were appropriately treated with ORS, zinc and vitamin and anti-helminthic (no antibiotics given), and; 42% of the cases of URTI, that were not pneumonia, were not prescribed antibiotics.

The SPARS data shows that adherence to the UCG for all three diseases has improved greatly over the past five years, most markedly for malaria (Fig. 17). Baseline figures in 2010/11 show that only 5% of malaria cases were treated appropriately and just 10% of patients with non-bloody diarrhea and URTI received the correct medicines. This is a huge waste of resources and inappropriate use of antibiotics will contribute to the serious problem of increasing resistance.

**Figure 16: Percent of cases treated in accordance to Uganda Clinical Guidelines, 2010-2015**

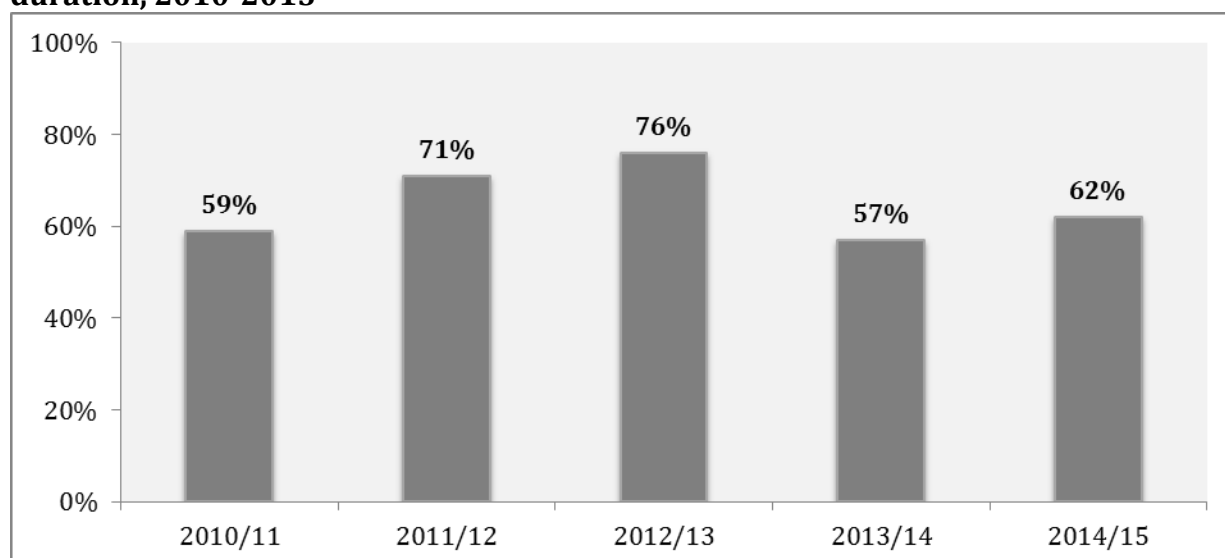


**Indicator 26: Percent of patients knowledgeable about dosage and duration of medicines dispensed**

This indicator is from the WHO/International Network for Rational Use of Drug. Assessing patient knowledge about the dose, frequency and length of time they must take their medicines indicates how clearly and thoroughly dispensing staff communicate with patients. Correct and complete labeling on dispensing bottles or envelopes is important for good patient care.

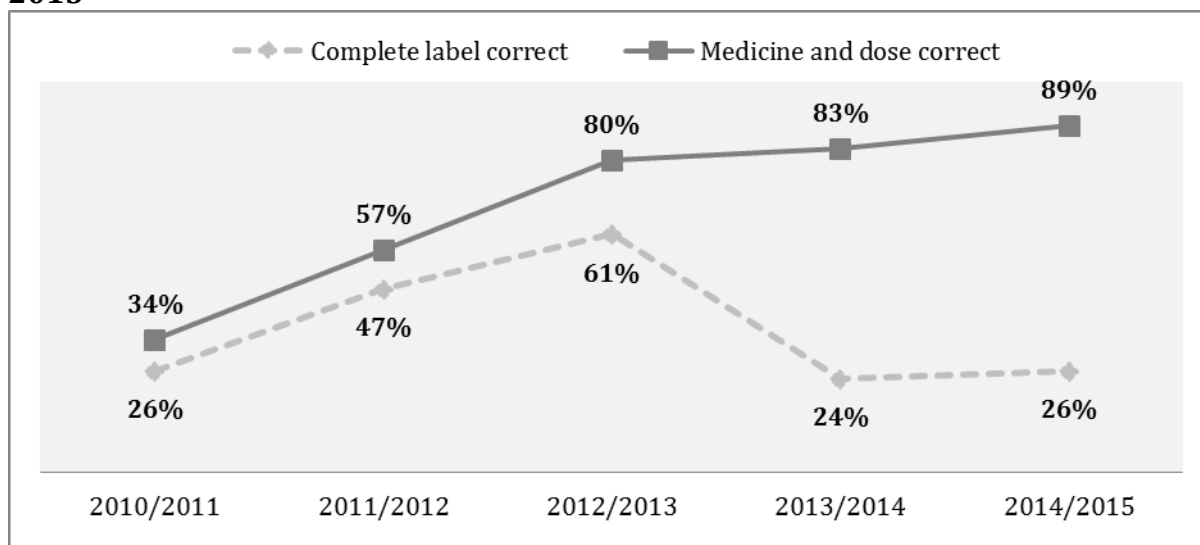
In 2014/15, only 62% of the patients surveyed during SPARS visits could correctly state the dosage, frequency and duration of time they should take their medicines. This is a slight increase from the previous year, where 57% of patients knew about their medicines.

**Figure 17: Percent of patients knowledgeable about medicine dose, frequency and duration, 2010-2015**



**Indicator 27: Percentage of medicines dispensed that are correctly labeled**

A correct label on a medicine should indicate the dose, medicine name, patient name, strength, quantity, date and facility name. MMS examine medicine labels to assess if all these elements are included. Figure 10 shows that steady improvements were achieved each year between 2010/11 to 2012/13 on both indicators, but then we see a big drop in the percentage with complete label correct while patient knowledge continues to improve; the reason for this is not known.

**Figure 18: Percentage of Medicines Dispensed That Are Correctly Labeled, 2010-2015**

### Strengthened Human Resources in the Pharmaceutical Sector

The shortage of pharmacy professionals in Uganda, and their inequitable distribution in the country, have negatively affected quality of health care, particularly in rural areas. This has led to task shifting of pharmaceutical services to other health workers. A global overview on pharmacist's density reveals that pharmacist to population ratio varies widely from less than 5 pharmacists per 100,000 population to high over 200 pharmacists per 100,000 population in some countries<sup>9</sup>. In 2010, Uganda had 1.1 pharmacists per 100,000 people, the same ratio in the majority of other sub-Saharan African countries.

The MoH is committed to attaining and maintaining an adequate workforce in the pharmaceutical sector that is equitably distributed, appropriately skilled, motivated and productive. A comprehensive human resources for health policy and strategy is in place and training of pharmaceutical and other health workers has improved in recent years. Over the past five years, the MoH human resource budget increased by 73%, from UGX

<sup>9</sup> Global Pharmacy Workforce and Migration Report

For every 100,000 citizens there are only 8 physicians, 55 nurses, 1.3 pharmacists, and 16 midwives, who are mainly concentrated in urban areas, World Health Organization. Statistical Information. Geneva: WHO, 2007.

Elish et al (2008) concluded that the human resource problem in the health sector in sub-Saharan Africa has reached crisis proportions in many countries, though the gravity of the problem varies across the region. The health personnel to population ratio in Africa has always lagged behind the rest of the world, particularly for pharmacists and pharmacy technicians. Thirty-seven out of 47 sub-Saharan African countries had 1.1 pharmacists per 100,000 people in 2002.



124 billion in 2010/11 to UGX 251 billion in 2014/15, and determined steps taken to recruit additional health workers, including pharmaceutical staff.

Three indicators have been used to track progress in building a workforce for the pharmaceutical sector. Data for the indicators is obtained from the pharmaceutical society and allied health records, Pharmacy school register and MoH Human Resource Information System, however accessibility to this data can be challenging and not readily available or updated. The annual targets and achievements for 2014/15 are shown in Table 9.

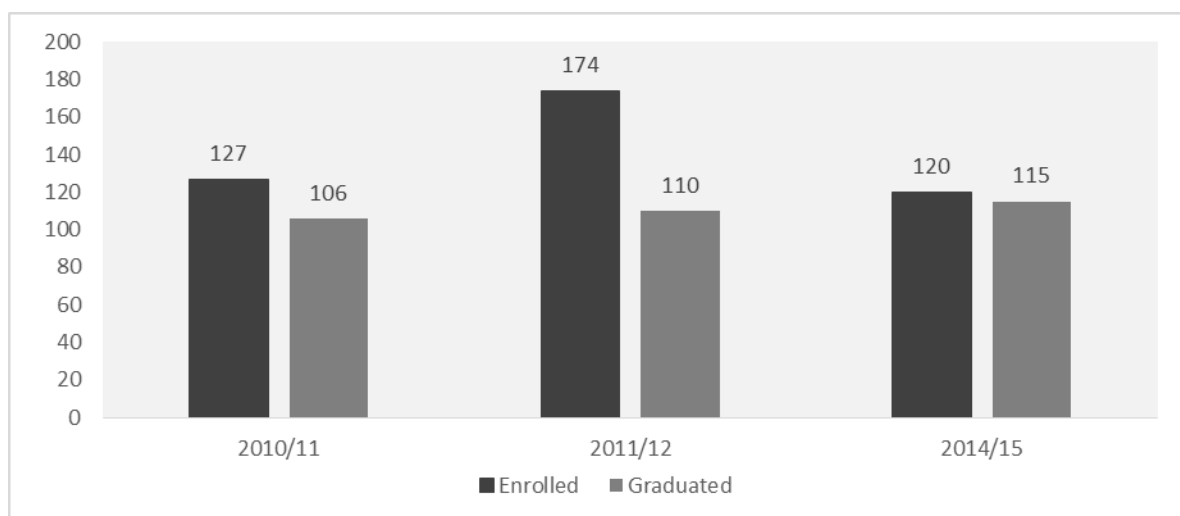
**Table 13: Pharmacy Human Resources indicators - FY14/15 Performance**

<b>Indicator</b>	<b>FY14/15 Target</b>	<b>FY 14/15 Achieved</b>
28. Number of pharmacy students and pharmacy technicians enrolled and graduating per year	No target	Enrolled: 120 Graduating: 115
29. Pharmacists per 100,000 population ratio	No target	1.5
30. Percentage of pharmacist and pharmacy technician positions filled in the public sector	75%	Pharmacist: 8% Pharmacy technician: 55%

**Indicator 28. Number of pharmacy students and pharmacy technicians enrolled and graduating per year**

Information on pharmacy school enrollment and graduation was obtained from three of the country's pharmacy schools: Makerere University, Mbarara University of Science and Technology (MUST) and Kampala University International. In 2014/15, a total of 120 students enrolled in pharmacy school and 115 graduated. The number of enrollees has increased since the baseline year but the number of graduates did not increase until last year (Figure 19). Data were not available for 2013/14 because there is no central database to collect the information that is manually captured and filed and records not readily accessible.

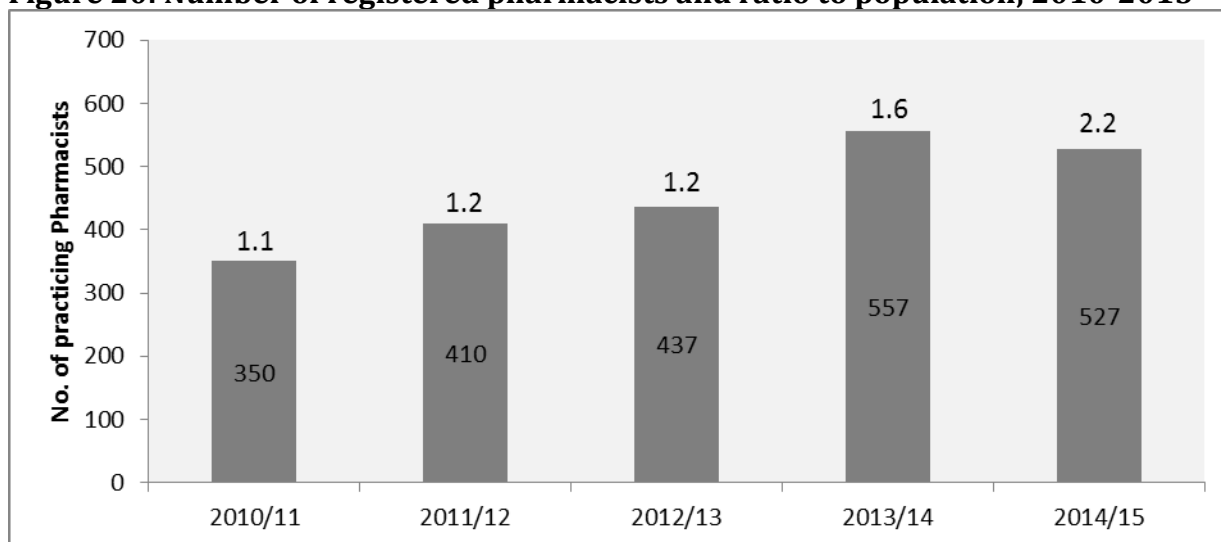
**Figure 19: Number of pharmacy students enrolled and graduated, 2010 – 2015**



**Indicator 29. Pharmacists per 100,000 population ratio**

According to the Pharmaceutical Society Uganda records, there were 527 licensed pharmacists practicing in the public and private sector in 2014/15, producing a ratio of 1.5 pharmacists to 100,000 people. This is somewhat lower than 1.6 in the previous year, but still well below the international standard.

**Figure 20: Number of registered pharmacists and ratio to population, 2010-2015**



Note: Ratio is computed as pharmacist per 100,000 population

**Indicator 30. Percentage of pharmacist and pharmacy technician positions filled in the public sector**

The number of public sector posts for pharmacists and pharmacy technicians (dispensers) has increased significantly since 2011, from a total of 148 to 796 posts in 2014/15. The fill rate for pharmacist posts has not increased in the last two years,

remaining at a very low 8%, with only 31 of the 376 posts filled. Slightly more than half (55%) of pharmacy technician posts were filled in 2014/15; while the number of filled posts has not changed since the previous year, the percentage fell from 61% to 55% because another 51 posts were created.

**Table 14: Pharmacist (P) and pharmacy technician (PT) positions filled in the public sector**

Year	2011/12		2012/13		2013/14		2014/15	
	P	PT	P	PT	P	PT	P	PT
<b>Total no. of posts</b>	77	71	86	369	376	369	376	420
<b>Number of posts filled</b>	42	42	22	137	31	233	31	232
<b>% filled</b>	<b>55%</b>	<b>59%</b>	<b>26%</b>	<b>37%</b>	<b>8%</b>	<b>61%</b>	<b>8%</b>	<b>55%</b>

## ANNEX

## Summary of key performance indicators from 2010-2015

	Key Pharmaceutical Indicators	Overall Progress	Baseline 2010/2011	Achievement 2012/2013	Achievement 2013/2014	Target 2014/2015	Achievement 2014/2015
Availability	Average % availability of six tracer medicines measured over a period of three months at NMS		61%	88%	54%	100%	63%
	Average % availability of basket of six individual tracer medicines at health facilities on the day of the visit		84%	87%	85% ORS - 75% Cotrimoxazole- 89% ACT - 92% SP - 79% Measles vaccine-85% Depo Provera - 93%	100%	81% ORS - 72% Cotrimoxazole - 90% ACT - 89% SP - 72% Measles vaccine-74% Depo Provera - 88%
	% of health facilities with <b>all six</b> tracer medicines available on the day of the visit		43%	50%	46%	80%	<b>36%</b>
	% of health facilities without monthly stock outs of any tracer medicines in the previous six months		43%	53%	57%	60%	<b>64%</b>
Procurement and Delivery	% of facilities with the current EMHSLU and UCG available		14% – EMLU 48% – UCG	30% EMHSLU 40% UCG	No data	100%	No data
	% of vital, essential and necessary items issued at NMS ( <i>by value</i> )		No data	No data	V- 60% E- 17% N- 23% <b>(n- 1358) items</b> <b>Total sales- 320 billion shillings</b>		V- 72% E- 13% N- 16% <b>(n- 1651 items)</b> <b>Total sales- 472 billion shillings</b>
	% of health facility orders placed that are fully filled at NMS		Order fill – 66% Nil Line – 25% Adjustment – 9%	Order fill – 65% Nil Line – 35% Adjustments – 1%	Order fill- 68% Nil line- 32% Adjustment- 14%		Order fill- 72% Nil line- 28%
	Average NMS lead-time (days) from ordering to delivery at the facility		59 days (range 20 – 215)	40 days (range 15 – 91)	39 days (range 0 – 111)	Max 60	41 days (range 8 – 74)

Annual Pharmaceutical Sector Performance Report

	<b>Key Pharmaceutical Indicators</b>	<b>Overall Progress</b>	<b>Baseline 2010/2011</b>	<b>Achievement 2012/2013</b>	<b>Achievement 2013/2014</b>	<b>Target 2014/2015</b>	<b>Achievement 2014/2015</b>
	% of deliveries made by NMS to the facilities within the scheduled date		42% (2009/2010)	47%	74%		63%
	% of health facility orders submitted on time as per NMS delivery schedule		78%	88%	89%	100%	77%
	Compliance of major suppliers to agreed delivery schedule (GF, UNITAID, QCL)		-	QCL - 1.3 months delay GF ARVs - 0.7 months delay, UNITAID - 1.3 months delay	No data	+14 days	No data
<b>Medicines Management</b>	% of facilities with stock book correctly used		36%	50%	56%	100%	63%
	% of facilities with (sampled) stock cards correctly filled		7%	36%	50%	100%	52%
	% Performance on 25 SPARS indicators for public and PNFP facilities		45%	64%	73%		72% Public -72% PNFP -70%
	Accuracy of the HMIS 105 report on stock outs of tracer medicines		43%	79%	89%	100%	82%
<b>Affordability</b>	% of average international price paid by the central warehouses for procured basket of essential medicines		NMS - 64% JMS - 51%	NMS - 63% JMS - 52%	NMS- 52% JMS- 54%	<100%	NMS- 57% JMS- 63%
<b>Financing</b>	% of GoU funds allocated for credit line EMHS distributed to health facilities (excluding ARVs, ACTs, TB supplies, and vaccines)		75%	103%	101%	95%	103%
	% of GoU funds released for EMHS out of the total health sector (including ARVs, ACTs, TB supplies, and vaccines)		31% (2011/2012)	29%	19%		17%

Annual Pharmaceutical Sector Performance Report

	Key Pharmaceutical Indicators	Overall Progress	Baseline 2010/2011	Achievement 2012/2013	Achievement 2013/2014	Target 2014/2015	Achievement 2014/2015
	Per capita expenditure on EMHS (including ARVs, ACTs, TB supplies, and vaccines)		USD \$2.18 (2011/2012)	USD \$2.09	USD \$ 2.40		USD \$ 2.3
	Per capita expenditure on EMHS (excluding ARVs, ACTs, TB supplies, and vaccines)		USD \$0.50	USD \$0.90	USD \$ 0.92		USD \$ 0.97
	Donor vs. Government funding contribution for EMHS		GoU – 23% Donor – 77%	GoU –30% Donor – 70%	GoU- 23% Donor- 77%		GoU- 28% Donor- 72%
<b>Safety, Efficacy and Quality of Medicines &amp; Health Supplies</b>	Number of reports submitted on pharmacovigilance		268 ADR	238 ADR	273 ADR		471 ADR
	% of sampled essential medicines failing pharmaceutical, chemical or microbiological NDA quality tests		11%	9%	4%		6%
	Number of drug outlets/pharmacies inspected annually		<b>Private:</b> Pharmacies – 747 Drug outlets – 11,785	<b>Private:</b> Pharmacies – 976 Drug outlets – 6,140 <b>Public:</b> Pharmacies – 605	<b>Private:</b> Pharmacies – 901 Drug outlets – 5,984 <b>Public:</b> Pharmacies – 1002		<b>Private:</b> Pharmacies – 943 Drug outlets – 7,534
	Number of drug outlets/pharmacies passing inspection			<b>Private:</b> No data <b>Public:</b> 347	<b>Private:</b> 884 (98%) <b>Public:</b> 486 (49%)		<b>Private:</b> 938(99%)

Annual Pharmaceutical Sector Performance Report

	<b>Key Pharmaceutical Indicators</b>	<b>Overall Progress</b>	<b>Baseline 2010/2011</b>	<b>Achievement 2012/2013</b>	<b>Achievement 2013/2014</b>	<b>Target 2014/2015</b>	<b>Achievement 2014/2015</b>
<b>Appropriate Use of Medicines and Health Supplies</b>	% of medicines dispensed that are adequately labeled		34%	64% (medicine name and dose correct)  20% (Complete label correct)	83% (medicine name and dose correct)  24% (Complete label correct)	100%	89% (medicine name and dose correct)  26% (Complete label correct)
	% of patients knowledgeable about the dosage and duration of taking medicines dispensed		59%	76%	57%	100%	62%
	Adherence to UCGs for treatment of malaria, diarrhea, URTI		Malaria - 5% Diarrhea - 10% URTI - 10%	Malaria - 47% Diarrhea - 47% URTI - 37%	Malaria - 66% Diarrhea - 37% URTI - 31%	100%	Malaria - <b>79%</b> Diarrhea - <b>59%</b> URTI - <b>42%</b>
<b>Human Resource</b>	Number of pharmacy students and pharmacy technicians enrolled and graduating per year		<b>Pharmacy Students</b> Enrolled - 85 Graduating - 78 <b>Pharmacy Technician</b> Enrolled - 42 Graduating - 25	<b>Pharmacy Students</b> Enrolled - 120 Graduating - 76 <b>Pharmacy Technician</b> Enrolled - 54 Graduating - 34	<b>Data not available</b>		<b>MUK</b> Enrolled - 43 Graduating - 41 <b>MUST</b> Enrolled - 38 Graduating - 66 <b>KIU</b> Enrolled - 39 Graduating - 8
	Pharmacists per 100,000 population		1.1	1.2	1.6		<b>1.5</b>
	% of pharmacist and pharmacy technician positions fully filled in the public sector		<b>Pharmacists</b> 55% <b>Pharmacy Technician/Dispenser</b> 59%  (2011/2012)	<b>Pharmacists</b> 26% <b>Pharmacy Technician/Dispensers</b> 37%	<b>Pharmacists</b> 11% <b>Pharmacy Technician/Dispenser</b> 62%	75%	<b>Pharmacists</b> 8% <b>Pharmacy Technician/Dispenser</b> 55%