Strengthening TB Pharmaceutical Management in Region IV-A Through Partnership and Capacity Building

November 2016

USAID
FROM THE AMERICAN PEOPLE

SIAPS
Systems for Improved Access to Pharmaceuticals and Services

Strengthening TB Pharmaceutical Management in Region IV-A Through Partnership and Capacity Building

November 2016

This report is made possible by the generous support of the American through an interagency agreement between the US Food and Drug Administration (FDA) and the US Agency for International Development (USAID), under the terms of cooperative agreement number AID-OAA-A-11-00021. The combined support enabled the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program to conduct the assessment. The contents are the responsibility of Management Sciences for Health and do not necessarily reflect the views of FDA, USAID or the United States Government.

About SIAPS

The goal of the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program implemented by Management Sciences for Health is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve the desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

Recommended Citation

This report may be reproduced if credit is given to SIAPS. Please use the following citation:

SIAPS. 2016. *Strengthening TB Pharmaceutical Management in Region IV-A through Partnership and Capacity Building.* Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health.

Key Words

TB, NTP, drugs and commodities, drug supply management, drug supply management assessment, supply chain, supply chain management

Systems for Improved Access to Pharmaceuticals and Services
Pharmaceuticals & Health Technologies Group
Management Sciences for Health
4301 North Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Telephone: 703.524.6575
Fax: 703.524.7898
E-mail: siaps@msh.org
Web: www.siapsprogram.org

CONTENTS

ABBREVIATIONS AND ACRONYMS

ADR	adverse drug reaction
CAT	category
CHD	child health and development
CHO	City Health Office
DSM	drug supply management
FDA	US Food and Drug Administration
FEFO	first expiry, first out
FIFO	first in, first out
IMPACT	Innovations and Multi-sectoral Partnerships to Achieve Control of Tuberculosis
JPR	Joint Program Review
LGU	local government unit
NTP	national tuberculosis program
PHO	provincial health office
PPMD	public-private mix DOTS
RHU	regional health unit
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOP	standard operating procedure
TB	tuberculosis
TOT	training of trainers
USAID	US Agency for International Development

EXECUTIVE SUMMARY

In the Philippines, tuberculosis (TB) is the sixth leading cause of death, mostly affecting the poor and vulnerable populations. Stock-outs of TB medicines in public health facilities compromise treatment of patients with TB because of limited access and additional burden of out-of-pocket expenses for medicines. If left unaddressed, this will further contribute to the challenge of controlling and eliminating TB in the country.

The results of the 2013 National TB Control Program (NTP) Joint Program Review (JPR) and other monitoring findings show there are gaps in the knowledge, attitude, and practices of health workers to ensure safety and uninterrupted supply of TB medicines and other required commodities for the program.

As part of the improvement of the overall supply chain of the TB program, the USAID-funded SIAPS Program has been working with the Department of Health central office through the NTP, Logistics Management Division (LMD), and FDA among others, with focus on quantification, procurement, storage, distribution, and pharmacovigilance. In addition, NTP requested SIAPS to develop an action-oriented practical guide for TB pharmaceutical management.

Practical Guide for TB Pharmaceutical Management

The *Practical Guide for the Management of Pharmaceuticals and Health-Related Commodities* (Practical Guide), as jointly prepared with the Department of Health NTP, provides an action-oriented reference that outlines guidelines on the management of TB supplies and is targeted for all health care workers managing and handling pharmaceutical supplies in public health and storage facilities. The document also includes a catalog of TB medicines and supplies and standard operating procedure (SOP) in the management of TB supply chain. SIAPS in collaboration with NTP and the USAID-funded Innovations and Multi-sectoral Partnerships to Achieve Control of Tuberculosis (IMPACT) developed a capacity-building intervention to be implemented supplementary to the guideline. The program consisted of identifying gaps in the supply management of the local government units (LGUs) and health facilities in one region by conducting an assessment, capacity building of health staff in the overall system of supply chain management, and identifying and implementing other interventions to build organizational and supportive capacity of the system. A focused approach was opted for the intervention, where one region was selected for close assessment, capacity building, and monitoring. Region IV-A was selected based on the following:

- It is the most populated region in the country.
- It is one of the big three regions with high burden of TB.
- The majority of the facilities are accessible by land transport.
- The regional office and warehouse are accessible.
- All provinces are covered by the USAID-IMPACT project.

Approach

The assessment was conducted between March 11 and April 21, 2014, to conceptualize the training strategies for the Practical Guide. The said baseline assessment of selected 20 facilities in Region IV-A identified both individual and institutional challenges in supply chain management. The assessment included 15 provincial health office warehouses and 5 health facilities in different locations such as the province of Cavite, Batangas, Laguna, Rizal and Quezon.

SIAPS conducted a training of trainers (TOT) in March 2014 and had 25 participants from NTP, the Child Health and Development (CHD) Region IV-A, provincial health offices (PHOs), and IMPACT. In collaboration with IMPACT, a roll-out training of the Practical Guide was planned for Region IV-A. The objective of this training is to build the capacity in the overall pharmaceutical management and improve the practices of distribution, storage, and rational use of the regional, provincial, and health-facility staff. The Practical Guide has been rolled out to 206 provincial and local health staff in Region IV-A.

Results

Post-training monitoring of health facilities was conducted in 2015 and 2016 to document improvements and practices that were sustained. Overall supply management functions of health facilities and warehouses were categorized, and information per each key indicator was collected and analyzed. Results showed that some key areas improved during the period, and others initially improved but had some gradual decrease due to various reasons.

Inventory Management

Health facilities and warehouses should have good inventory management in place. Inventory records are very important to keep a good system running. Maintaining a good inventory record also facilitates the observance of the first expiry, first out (FEFO) principle hence minimizing wastage from product expiration. Accurate and current stock records are essential to good inventory management. They are the source of information used to calculate needs, and inaccurate records produce inaccurate needs estimation.

Data showed an increase in the practice of keeping stock records by health facilities and warehouses. The practice of keeping stock records has been sustained, even though the intervention was provided two years ago. Currently, facilities still have difficulty in updating stock cards and maintaining accurate inventory information due to factors such as heavy staff workload, new staff not being oriented, irregular updating of stock cards, errors in computations, and forgetfulness.

Prevention of Medicine Wastage

Standards should be in place to prevent and minimize wastage of medicines and supplies due to expiration. Practicing the system of FEFO is important to ensure that stocks are always fresh and that the expiration of each is properly monitored. It is also crucial to determine if facilities have medicines and supplies that are nearly expiring or expired, so appropriate management can be done.

Data showed that facilities still experience problems in managing expiration of medicines and commodities. A decline was observed in the percentage of PHOs storing medicines, which are arranged following the FEFO/FIFO principle. Further during the visit, it was observed that both PHO warehouses and health facilities have items stored that are expiring within six months. PHO warehouses were able to decrease their stock expiry to nearly 0% in 2016, but health facilities experienced an increase in volume of expiring stocks. Most of the expiring stocks are loose items used to manage adverse drug reactions (ADRs) of patients under fixed-dose combination therapies.

Storage Practices

Storage is an important aspect of the distribution cycle to ensure that medicines and commodities are handled properly before dispensing to the patients. This is the responsibility of warehouse personnel and health facility staff. A well-built storage facility, security, availability of storage equipment and fixtures, orderly arrangement, and knowledgeable staff are just some aspects that should be taken into consideration for proper storage management.

Data showed that the majority of facilities and warehouses have improved storage practices noted in 2015 and 2016. This includes practices such as ensuring protection from sunlight, maintaining a safe and secure space for storage, and using pallets. Current problems encountered by facilities include insufficient space for storage, ongoing storage space renovations, and having to use improvised materials as pallets.

Rational Use

The role of health care providers in terms of observing rational use of medicines is to ensure that proper prescribing and information are given to the patients regarding their treatment. Health facility staff should then dispense medicines to the patients in a secure and sanitary manner together with drug education or counseling if needed. If adverse drug reactions (ADRs) occur, health facility staff should be able to attend to the patient for proper care and management. Recording and reporting of ADRs are also vital for patient safety monitoring.

Data showed that, by 2016, all facilities were allocating one kit per patient, which facilitates the rational use of anti-TB medicines. Further, recording of ADR data improved in 2015 and 2016 for the majority of health facilities.

Stock Availability

To ensure uninterrupted supply is one of the elements of the TB program. Hence, it is particularly important that stocks are always available at all levels of the service delivery network to warrant continuous treatment services and ultimately contribute to TB control and elimination.

Data showed that there are still stock availability problems experienced by both facilities and PHO warehouses. In 2016, 40% of PHO warehouses and 7% of health facilities experienced stock-outs from the previously reported 0% in 2015 for CAT 1 adult kits. Reasons cited include problems with the courier delivery service from the central level. Stock-outs were also experienced at health facilities for pediatric anti-TB medicines, which is attributed to the nationwide shortage for these products. Lastly, in 2016, the majority of PHOs and health

facilities experienced stock-outs of CAT 2 adult kits due to quality issues and bid failures experienced during procurement.

Requisition

Order planning and requisition is an integral part in ensuring there is uninterrupted supply of medicines and commodities. Regular requisition should be done in a systematic way to ensure that the flow of medicines will run smoothly given the ideal circumstances. Stock-out and overstock is prevented when a well-planned and accurate request is made.

Data showed an overall improvement in the know-how of facilities to compute and send requisition data from the peripheral levels to the central level.. However, some facilities still do not submit their requests, despite constant reminders.

Conclusion

Overall, Region IV-A made great strides in improving their supply management practices. Improved performace indicators showed better knowledge and appreciation of supply management among health facilities and PHO warehouses. External factors such as shortages, stockouts, and overstock at the higher level have a huge effect on their current operations, and unless these issues will be resolved, a fully functional supply management system will not work. Therefore, more effort needs to be exerted at the central and regional level to ensure there will be uninterrupted supply of medicines and health commodities at the service delivery points. The peripheral level should maintain the good practices they have started despite the supply challenges being faced and continue to coordinate with the higher level to further strenghthen the supply management system.

Recommendations

- NTP to explore possibility of rolling out Practical Guide training to other regions
- Regional level to establish leadership and governance structure to sustain and strenghten good drug supply management (DSM) practices at the provincial, city, and health facilities
- Regional level to provide supportive mechanisms to all facilities and recognition to facilities with outstanding performance on DSM for motivation and encouragement
- PHOs, CHOs, and health facilities to sustain the practice of regular submission of a quarterly report on drug and supply inventory and requirement to the higher level
- PHO warehouses and health facilities to develop a plan to maintain proper storage condition of stocks if renovation is anticipated in the facility
- PHO warehouses and health facilities to provide orientation on supply management to new staff who will be assigned to manage the stocks so that knowledge and skills will be passed on

- PHO warehouses and health facilities to update stock inventory every movement if possible to ensure that the current record will match the actual stock on hand

- PHO warehouses and health facilities to provide stock cards and include stocks procured by LGUs in their inventory report to avoid overstocking

BACKGROUND

In the Philippines, TB is the sixth leading cause of death, mostly affecting the poor and vulnerable populations. Stock-outs of TB medicines in public health facilities compromise the treatment of patients with TB due to limited access and additional burden of out-of-pocket expenses for medicines. If unaddressed, this will further contribute to the challenge of controlling and eliminating TB in the country.

The results of the 2013 NTP JPR and other monitoring findings show there are gaps in the knowledge, attitude, and practices of health workers to ensure safety and uninterrupted supply of TB medicines and other required commodities for the program. Further, stock-outs are still experienced in many LGUs, particularly for streptomycin, CAT 2 adult kits, and pediatric anti-TB drugs. Monitoring of inventory stock levels remains weak at different levels of the supply chain.

As part of the improvement of the overall supply chain of the TB program, SIAPS, a USAID-funded program, has been working with the Department of Health central office through the NTP, Materials Management Division (MMD), and FDA, among others, with focus on quantification, procurement, storage, distribution, and pharmacovigilance. In addition, NTP requested SIAPS to develop an action-oriented practical guide for TB pharmaceutical management.

DESCRIPTION OF THE PRACTICAL GUIDE AND DSM INTERVENTION

The *Practical Guide for the Management of Pharmaceuticals and Health-Related Commodities*, as jointly prepared with the Department of Health NTP provides an action-oriented reference that outlines guidelines on the management of TB supplies and is targeted for all health care workers managing and handling pharmaceutical supplies in the local health units and storage facilities. The document also includes a catalog of TB medicines and supplies and SOP in the management of TB supply chain. SIAPS in collaboration with NTP and the USAID-funded IMPACT developed a capacity-building intervention to be implemented supplementary to the guideline. The program consisted of identifying gaps in the supply management of LGUs and health facilities in one region by conducting an assessment, capacitating the health staff in the overall system of supply chain management, and identifying and implementing other interventions to build organizational and supportive capacity of the system. A focused approach was opted for the intervention, where one region was selected for close assessment, capacity building, and monitoring. Region IV-A was selected based on the following:

- It is the most populated region in the country.
- It is one of the big three regions with high burden of TB.
- The majority of the facilities are accessible by land transport.
- The regional office and warehouse are accessible.
- All provinces are covered by the USAID-IMPACT project.

BASELINE ASSESSMENT

The assessment was conducted between March 11 and April 21, 2014, to conceptualize the training strategies for the Practical Guide. Table 1 shows the number and distribution of facilities included in the assessment. The said baseline assessment of selected 20 facilities in Region IV-A identified both individual and institutional challenges in supply chain management. Issues in performance capacity showed that health workers do not maintain inventory records, do not know how to calculate the needs of the facility, do not submit drug requirement reports, and do not document adverse drug events. Problems in facility capacity include insufficient storage space, storage areas not complying with requirements, lack of equipment to store medicines, shortages in medicine supply from the central level, human resource issues, and unavailability of stock forms.

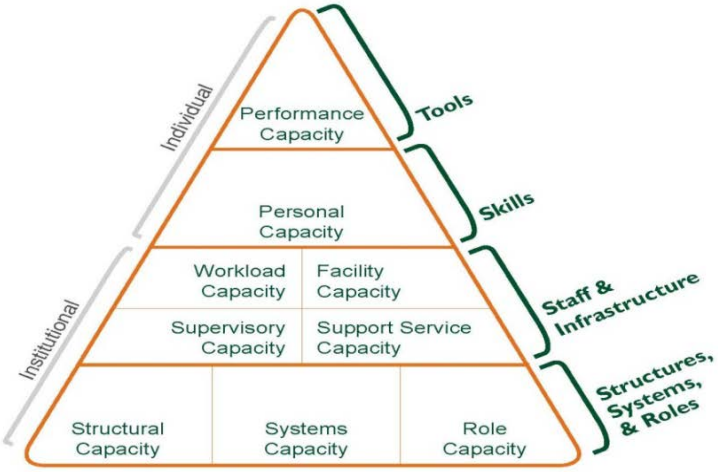
Table 1. Number and distribution of PHO warehouses and facilities assessed

Variables	Baseline	Sept 2015	June 2016
No of PHO warehouses assessed	5	5	4
No. of health facilities assessed	15	14	15
No. of health facilities per province			
• Cavite	3	3	3
• Batangas	3	3	3
• Laguna	3	2	3
• Rizal	3	3	3
• Quezon	3	3	3

The result of the baseline assessment was shared with partners and was utilized to enhance the training program to focus on aspects that needed more attention and intervention.

CAPACITY BUILDING

Moving toward addressing the gaps identified in the assessment, a TOT was conducted by SIAPS in March 2014 and was attended by 25 participants from NTP, CHD Region IV-A, PHOs, and IMPACT. For capacity building, SIAPS utilizes the approach of improving the knowledge, attitudes, and practices of health staff based on systems context (figure 1).



Adapted from Potter C, Brough R. 2004. Systemic Capacity Building: A Hierarchy of Needs. Health Policy and Planning. 19(5):336-345

Figure 1. SIAPS approach in capacity building

In collaboration with IMPACT, a rollout training of the Practical Guide was planned for Region IV-A. The objective of this training is to build the capacity in the overall pharmaceutical management and improve the practices of distribution, storage, and rational use of the regional, provincial, and health facility staff.

The Practical Guide has been rolled out to 206 provincial and local health staff in Region IV-A. Table 2 shows the frequency distribution of the number of participants trained per province and the corresponding number of actual TB cases per category. The capacity-building activities on supply chain management on Region IV-A had indirectly benefited TB cases for 6681 CAT 1 adults, 853 CAT 2 adults, and 1284 CAT 1 children.

The outputs of the training included an action plan per health facility to improve their current practices and a validated TB drug requisition for the succeeding quarter. Particularly, with the roll-out of the Practical Guide, each health unit should determine the quantities of supplies and commodities needed based on actual consumption and stock on hand.

Table 2. Frequency distribution of number of participants trained and number of active TB cases (CAT 1 adult, CAT 2 adults, CAT 1 children) per province

Province	No. of participants trained	CAT 1 adult	CAT 2 adult	CAT 1 children
Cavite	65	1,974	171	228
Batangas	34	1,188	139	381
Laguna	38	1,306	178	307
Quezon	38	897	176	155
Rizal	31	1,316	189	213
Total	206	6,681	853	1,284

RESULTS

Post-training monitoring of health facilities was conducted in 2015 and 2016 to document improvements and practices that were sustained. Overall supply management functions of health facilities and warehouses were categorized, and information per each key indicator was collected and analyzed. Results showed that some key areas improved during the period, and others initially improved but had some gradual decrease. Discussion on key indicators and their results are categorized in each aspect of supply management.

Inventory Management

Health facilities and warehouses should have a good inventory management in place. Inventory records are very important to keep a good system running. Maintaining a good inventory record also facilitates the observance of FEFO principle hence minimizing wastage from product expiration. Accurate and current stock records are essential to good inventory management. They are the source of information used to calculate needs, and inaccurate records produce inaccurate needs estimation.

Table 3. Status of use of stock cards

Indicator	RHUs			PHO		
% of facilities/warehouses with	March 2014 (n=15)	Sept 2015 (n=14)	June 2016 (n=15)	Baseline (n=5)	Sept 2015 (n=5)	June 2016 (n=4)
Available stock cards	33	93	93	80	100	100
Complete and updated stock cards	20	36	67	60	40	75
Stock cards that correspond to actual physical count	13	29	27	40	20	50

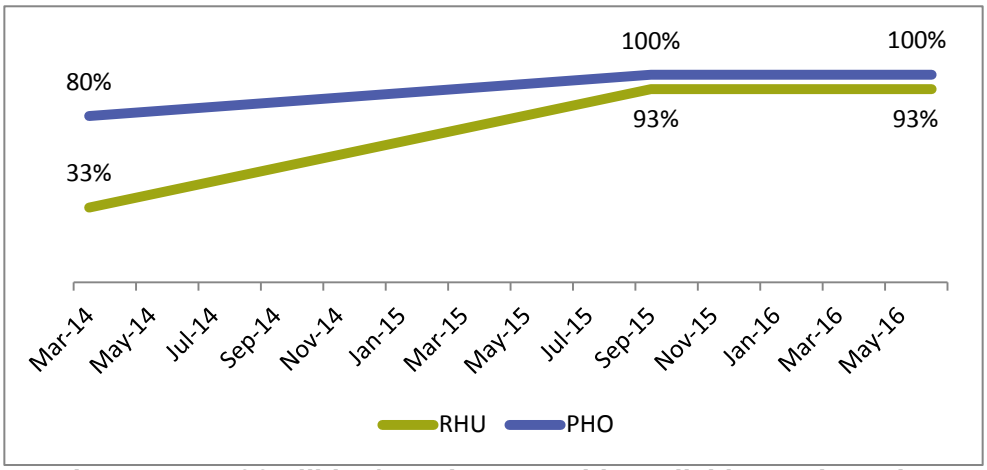


Figure 2. % of facilities/warehouses with available stock cards

Table 3 shows the status of stock card use at the facilities and warehouses. Baseline data showed that some health facilities and the majority of warehouses maintain stock cards at

their level. After the training, the practice of keeping stock records increased and was maintained after two years (figure 2). At one health facility, stock cards are available; however, the stock record for the TB kits for children could not be located at the time of the visit. One intervention done at the regional level to address the availability of stock cards was to reproduce copies and distribute this to all PHOs. PHOs were tasked to distribute the copies to the health facilities.

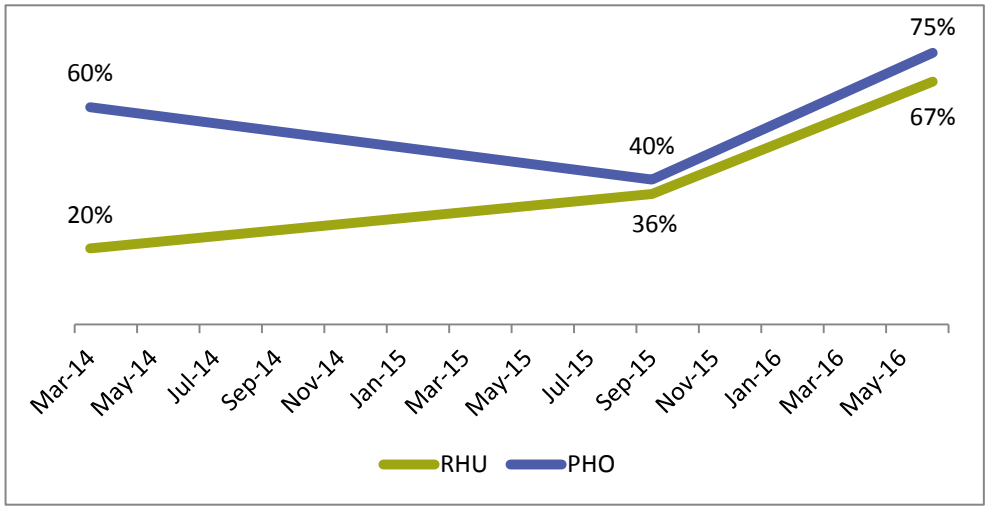


Figure 3. % of facilities/warehouses with complete and available stock cards

The stock records were also reviewed to see if the information was complete and up to date (figure 3). Baseline results showed that out of 80% of PHO warehouses that maintained stock records, only 60% have complete and updated records, and out of 36% of health facilities that maintained stock records, only 20% have complete and updated records. In 2015, the performance of PHO warehouses decreased by 20%, but the health facilities improved by 16%. Both increased their performance in 2016 by 35% and 31%, respectively. Several factors were identified why facilities have difficulties maintaining complete and updated stock cards such as:

- Heavy workload of staff
- New designated staff not oriented
- Updating of stock cards performed weekly or monthly and not every stock movement
- Errors in computing the remaining balance
- Staff forgetfulness to update stock cards

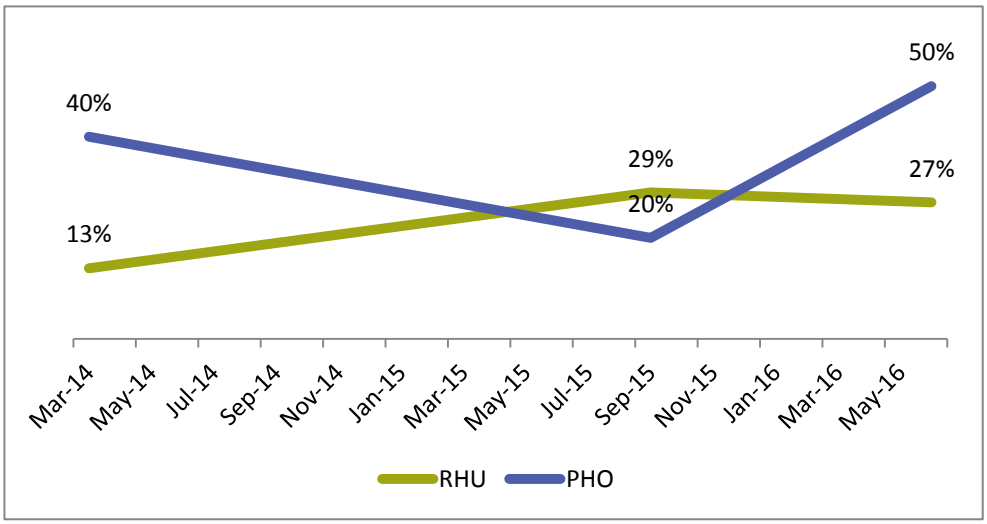


Figure 4. % of facilities/warehouses with stock cards that correspond to actual physical count

Actual physical count was taken during the visits to see whether the recent information found in the stock records matched the actual stock on hand of the facility (figure 4). Baseline data showed that 40% of PHO warehouses and 13% of health facilities have consistent stock data. The following year, the performance of the PHO warehouses decreased by 20%, but health facilities improved by 16%. In 2016 both PHO warehouses and health facilities resulted to to 50% and 27%, respectively. Noted reasons why records do not match the actual count were that there were wrong entries on the number of kits received and primarily because the records were not updated due to the factors stated above.

Prevention of Medicine Wastage

Standards should be in place to prevent and minimize wastage of medicines and supplies due to expiration. Practicing the system of FEFO is important to ensure that stocks are always fresh and that the expiration of each is properly monitored. It is also crucial to determine if facilities have medicines and supplies that are nearly expiring or expired, so appropriate management can be done.

Table 4. FEFO/FIFO and medicine expiry status

Indicator	RHUs			PHO		
% of facilities/warehouses	March 2014 (n=15)	Sept 2015 (n=14)	June 2016 (n=15)	Baseline (n=5)	Sept 2015 (n=5)	June 2016 (n=4)
That observe FEFO/FIFO	87	93	87	100	100	100
With expired medicines	7	14	13	20	0	0
With medicines expiring within 6 months	13	21	27	20	0	0

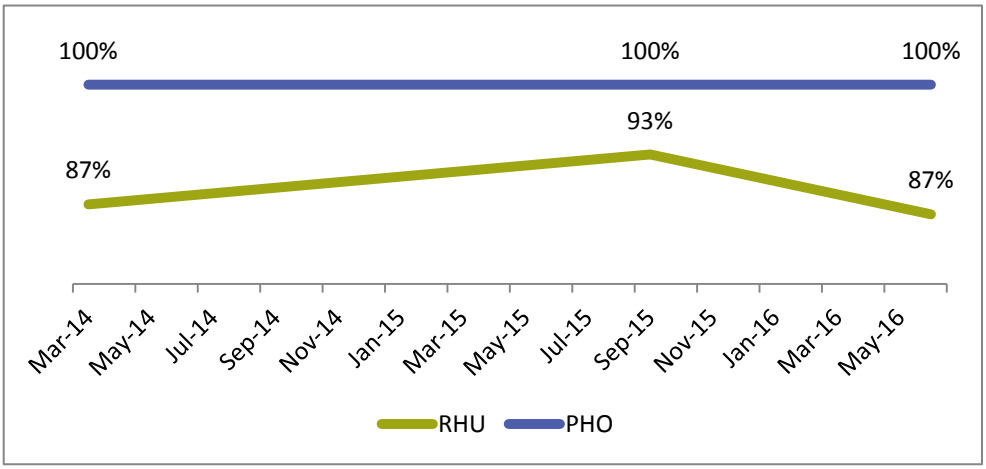


Figure 5. % of facilities/warehouses that observe FEFO/FIFO

Facilities were assessed if they practice FEFO and first in, first out (FIFO) principle in order to minimize and prevent wastage (figure 5). Table 4 shows the status of FEFO/FIFO practice and medicine expiry in the facilities and warehouses. Baseline results showed that all PHO warehouses already practice the FEFO/FIFO principle and were able to sustain the practice. For health facilities, baseline performance increased during the first year; however, it declined during the recent visit. Based from the findings, stocks of medicines with different expiration dates are stored together in one health facility, and it is not monitored if stocks with earlier expiration are dispensed first. In another health facility, the physical arrangement of stocks does not facilitate FEFO/FIFO, as newly delivered stocks with later expiration date are placed on top of stocks with earlier expiration dates.

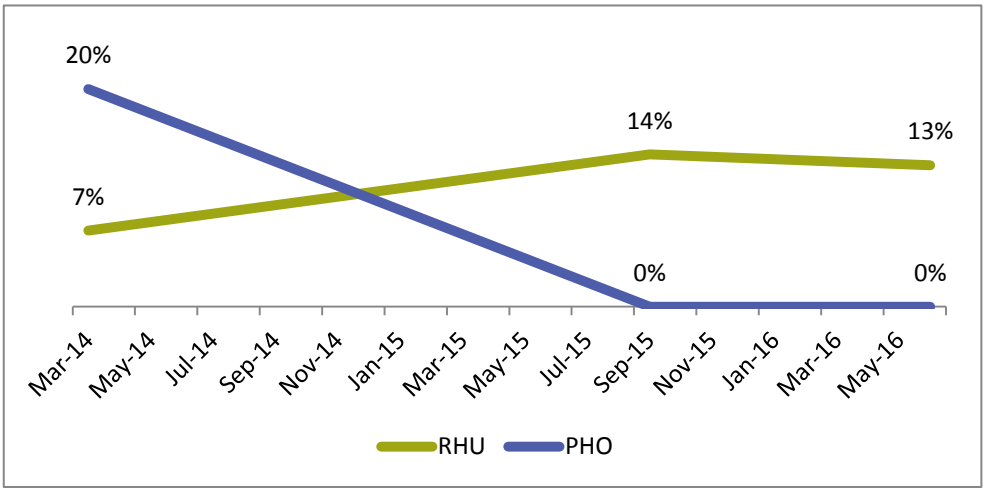


Figure 6. % of facilities/warehouses with expired medicines and supplies

As much as possible, expiration of medicines and supplies should be averted in warehouses and health facilities (figure 6). During the assessment, 20% of PHO warehouses were found to have expired medicines, but their performance improved and expiration was lowered to 0% in the following years. For the health facilities, baseline results showed that there were 7% of health facilities that had expired medicines. This increased to 14% in 2015 and 13% in 2016.

It was noted that expired medicines found at the health facilities were procured by the LGUs and medicines allocated for interrupters.

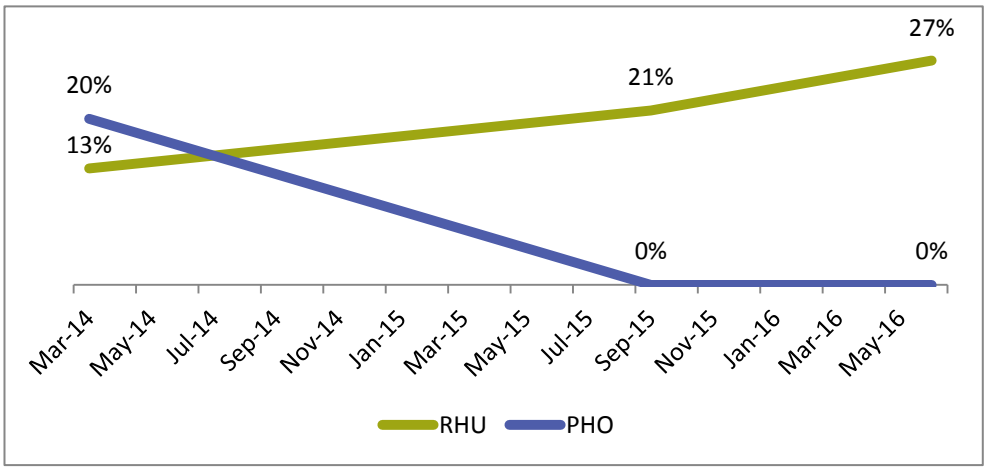


Figure 7. % of facilities/warehouses with medicines and supplies expiring within 6 months

Near-expiring medicines and supplies should be well monitored to ensure that stocks can be consumed before expiration date, and if not, they should be managed properly. During the baseline assessment, both health facilities and PHO warehouses had stocks of medicines and supplies that are expiring within 6 months (figure 7). Although the PHO warehouses decreased their near-expiring stocks to 0% in the next periods, health facilities had increased volume of near-expiring stocks. Based on the findings, these stocks are loose medicines that were procured by LGUs to augment the CAT 2 stock-outs and used for patients who will experience ADRs with the fixed-dose combination. As CAT 1 kits were delivered and used for CAT 2 treatment together with ethambutol tablets and streptomycin vials, there were very few cases of ADRs, thus the loose medicines were not consumed. As a result, health facilities through the help of the PHOs redistributed stocks to other facilities for patients who will be able to consume them.

Storage Practices

Storage is an important aspect of the distribution cycle to ensure that medicines and commodities are handled properly before dispensing to the patients. This is the responsibility of warehouse personnel and health facility staff. A well-built storage facility, security, availability of storage equipment and fixtures, orderly arrangement, and knowledgeable staff are just some aspects that should be taken into consideration for proper storage management.

Table 5. Status of storage practices

Indicator	RHUs			PHO		
% of facilities/warehouses	March 2014 (n=15)	Sept 2015 (n=14)	June 2016 (n=15)	Baseline (n=5)	Sept 2015 (n=5)	June 2016 (n=4)
Without direct exposure to sunlight	87	93	100	100	100	100
That store medicines in secured location	80	86	87	100	100	100
With pallets or shelves that keep stocks away from the floor	53	79	67	80	100	100

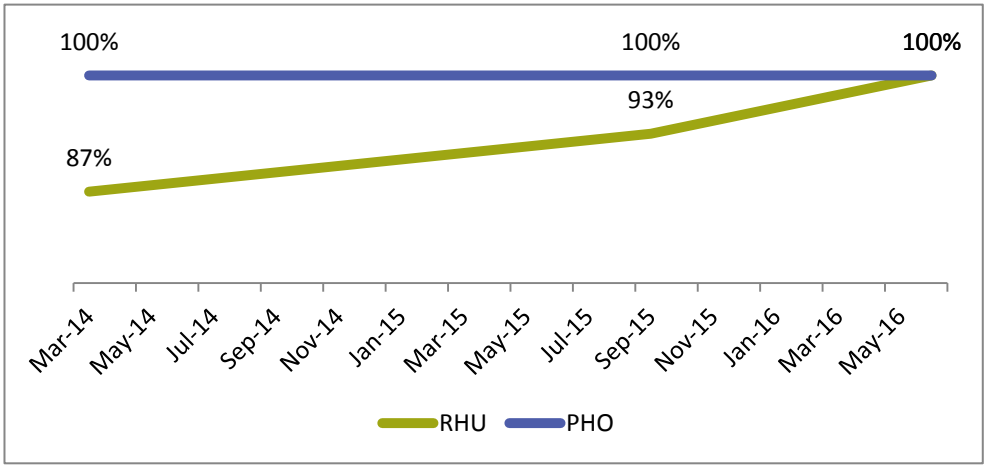


Figure 8. % of facilities/warehouses without direct exposure to sunlight

Table 5 shows the status of storage practices at facilities and warehouses. One key activity to preserve the quality of products related to storage is to ensure stocks are not exposed to direct sunlight (figure 8). It was found that all PHO warehouses and 87% of health facilities implement mechanisms to store their stocks away from direct sunlight. Improvement was noted for health facilities, with all facilities keeping their stocks from direct sunlight by 2016 as PHO warehouses sustained their good practice.

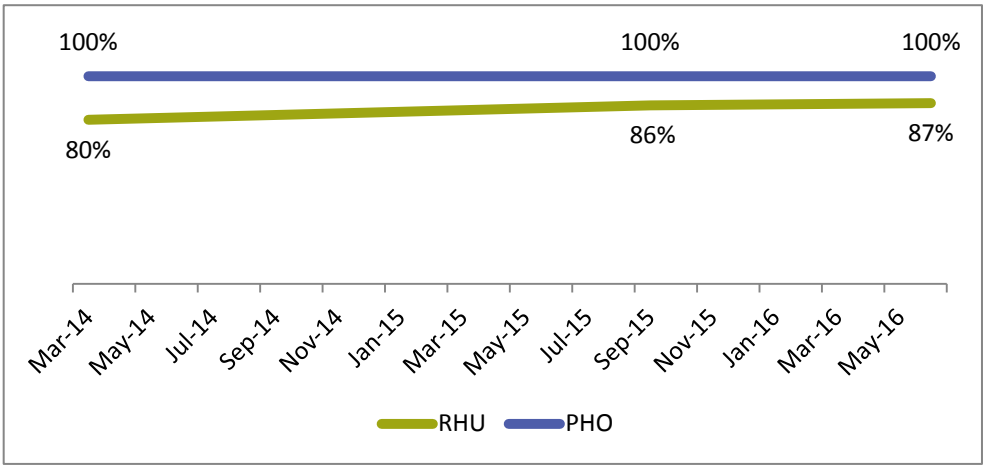


Figure 9. % of facilities/warehouses that store medicines and supplies in secured location

Storing medicines and supplies in a secured location is important to prevent pilferage and other unwanted circumstances relative to the safety of medicines and supplies (figure 9). During the assessment, it was discovered that practices to ensure security of stocks were already in place in all PHO warehouses and 80% of health facilities. Improvement in the security of stocks at the health facilities were noted in 2015 and 2016; however, there were still some health facilities that had unsecured storage due to broken locks, insufficient storage, and ongoing renovation, forcing them to store medicines in hallways and different rooms accessible to other personnel.

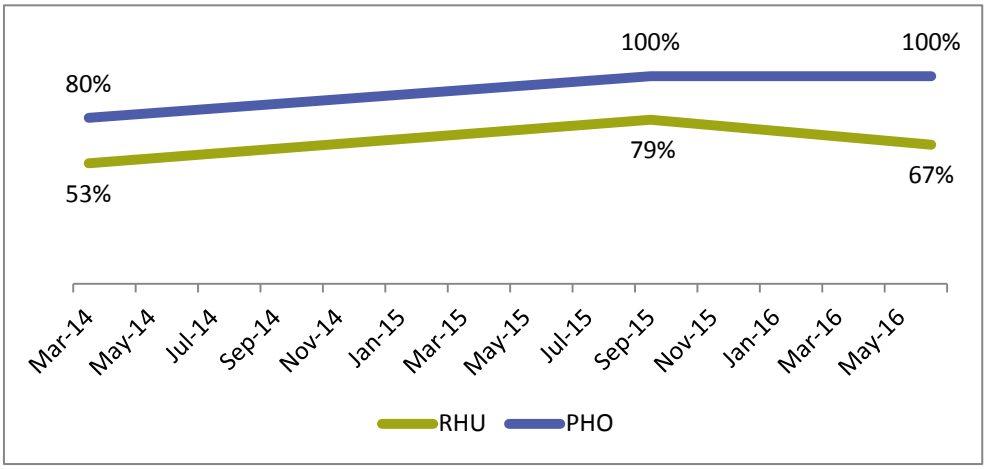


Figure 10. % of facilities/warehouses with pallets of shelves that keep stocks away from the floor

Storing stocks away from the floor is a way to keep it safe from spillage and moisture (figure 10). At the PHO warehouses, initial findings showed that 80% uses pallets and shelves to keep stocks away from the floor. At the health facility level, an improvement was noted from the baseline of 53% to 79%. Although no pallets of shelves were purchased and distributed from the higher level, health facilities were able to improvise to make their own pallets to improve their storage. In 2016, 10 out of 15 facilities or 67% of health facilities were able to maintain using pallets or shelves to keep their stocks away from the floor because of ongoing renovation, increased volume of stocks and insufficient storage capacity.

Rational Use

The role of health care providers in terms of observing rational use of medicines is to ensure that proper prescribing and information are given to the patients regarding their treatment. Health facility staff should then dispense medicines to the patients in a secure and sanitary manner together with drug education or counseling if needed. If ADRs occur, health facility staff should be able to attend to the patient for proper care and management. Recording and reporting of ADRs are also vital for patient safety monitoring.

Table 6. Status of patient kit use and ADR reporting

Indicator	RHUs		
% of health facilities	March 2014 (n=15)	Sept 2015 (n=14)	June 2016 (n=15)
Where patients are allocated with one kit	100	93	100
With record of ADRs	80	93	93

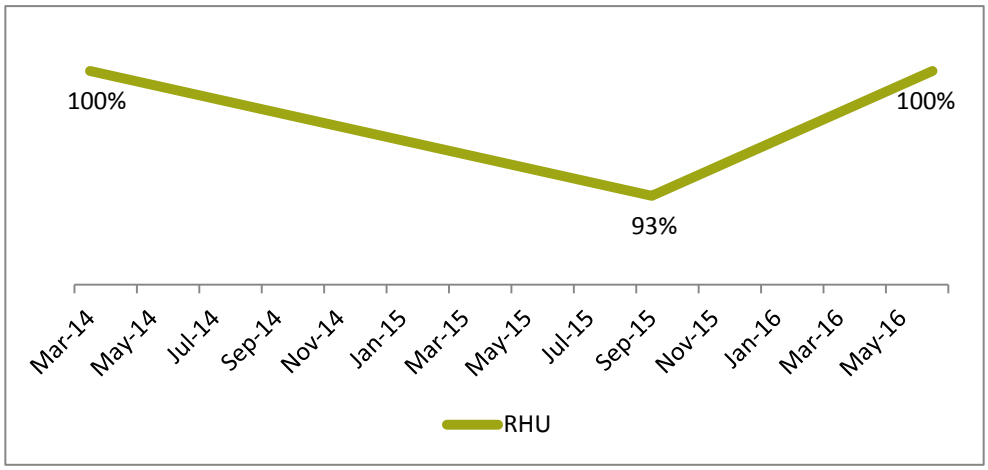


Figure 11. % of health facilities where patients are allocated with one kit

Table 6 shows the status of patient kit use and ADR reporting at the facilities. Medicines prescribed should be allocated properly by issuing one kit per patient, which ensures the full coverage of their treatment and also facilitates easier stock management (figure 11). It was noted during the baseline assessment that all health facilities do allocate one kit per patient; however, in 2015 one facility was not able to do so because the designated staff was not oriented on the said procedure. In 2016, all facilities were allocating one kit per patient.

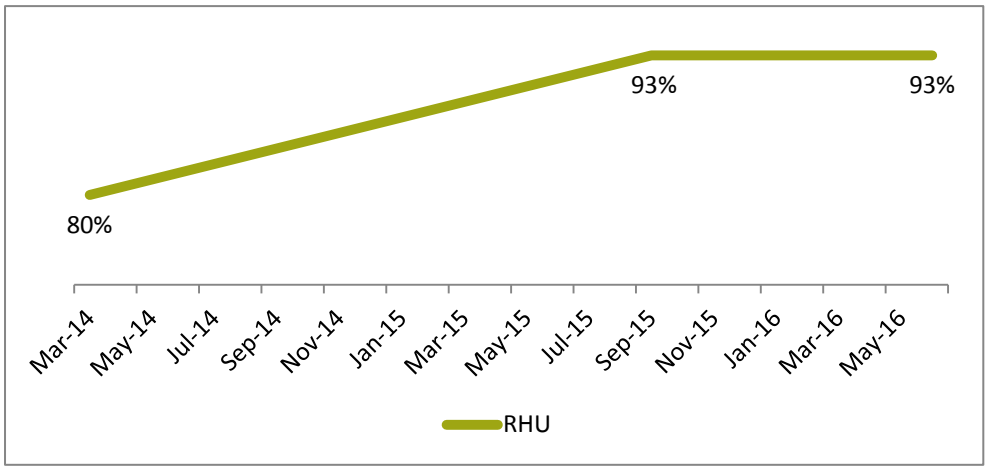


Figure 12. % of health facilities with record of ADRs

To promote rational and safe use of medicines, ADRs of patients should be well managed, recorded, and reported. Baseline data showed that 80% of facilities record the ADRs of their

patients, and this improved to 93% in 2015 and 2016 (figure 12). Health facilities use patient progress reports and ADR logbook to record any ADRs experienced by their patients.

Stock Availability

To ensure uninterrupted supply is one of the elements of the TB program. Hence, it is particularly important that stocks are always available at all levels of the service delivery to warrant continuous treatment services and ultimately contribute to TB control and elimination.

Table 7. Stock availability of anti-TB medicines for CAT 1 adults, CAT 1 pediatric, and CAT 2

Indicator	RHUs			PHO		
% of facilities/warehouses with stock-outs of	March 2014 (n=15)	Sept 2015 (n=14)	June 2016 (n=15)	Baseline (n=5)	Sept 2015 (n=5)	June 2016 (n=4)
CAT 1 TB (adult) at any time in the past three months	No baseline info	0	7	No baseline info	0	25
CAT 1 TB (children) at any time in the past three months		14	0		0	25
CAT 2 TB at any time in the past three months		71	53		100	100

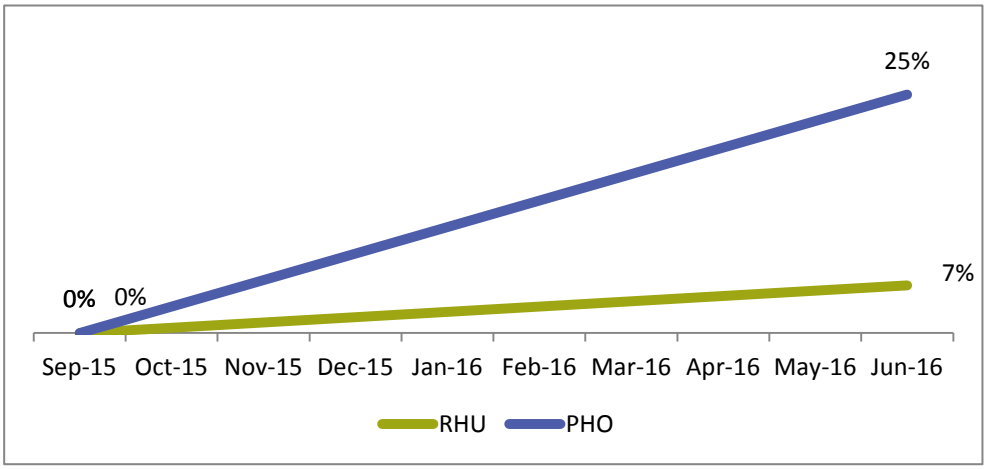


Figure 13. % of health facilities/warehouses with stock-outs of CAT 1 TB (adult) at any time in the past three months

Table 7 shows the status of stock availability for CAT 1 adult, CAT 1 pediatric and CAT 2 anti-TB medicines, No baseline data were collected on the stock-outs of CAT 1 anti-TB kits for adults (figure 13). In 2015 both RHUs and warehouses reported 0% stock-outs; however, 25% of PHO warehouses and 7% of health facilities experienced stock-outs in 2016. At the central level, stocks of CAT 1 adult kits are available and are regularly allocated to the regions and provinces. Reasons stated why two out of five PHO warehouses had stock-outs was that the delivery of the kits from the central level were performed partially and the

second tranche of the stocks were not delivered by the courier service provider promptly despite constant follow-up and inquiry.

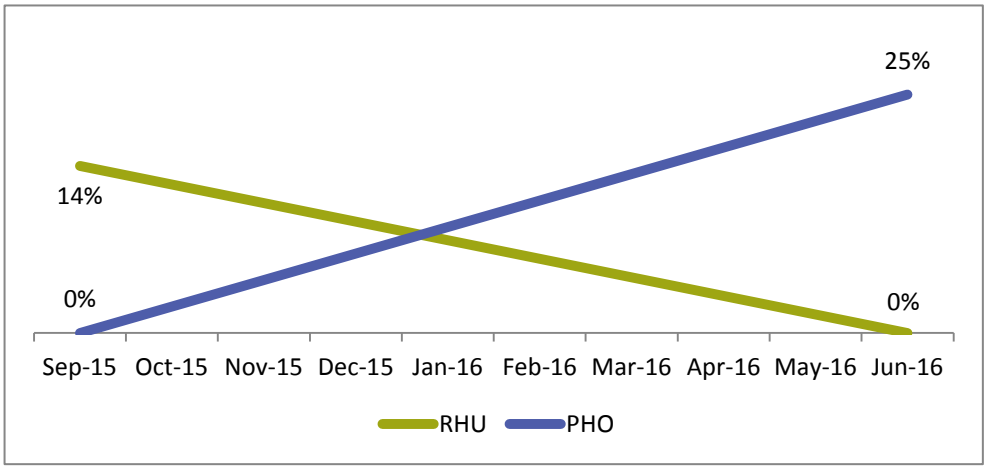


Figure 14. % of health facilities/warehouses with stock-outs of CAT 1 TB (children) at any time in the past three months

There is currently a nationwide shortage of pediatric anti-TB medicines. This prompted the program to issue a memo for the regions and LGUs to procure medicines to alleviate the shortage. Based from the data gathered (figure 14), in 2015, 14% of health facilities experienced stock-out, but 0% of PHO warehouses did. In 2016 no stock-out was noted at the health facilities, but one out of fourPHO warehouses reported stock-out. The regionally and LGU-procured medicines abated the shortage of stocks from the central level.

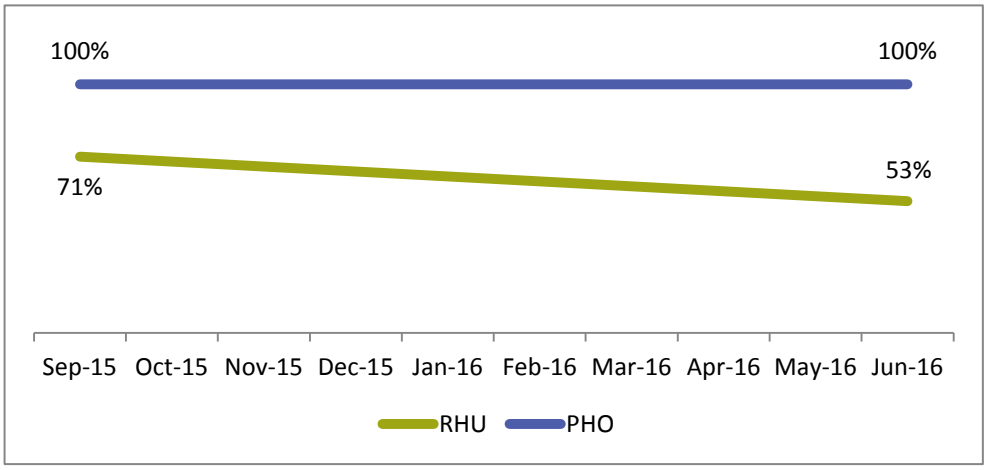


Figure 15. Percentage of health facilities/warehouses with stock-outs of CAT 2 TB (adult) at any time in the past three months

Quality issues and several failed biddings resulted in the stock-out of CAT 2 adult kits (figure 15), and as reflected in the assessment and prior visits, all PHO warehouses and 71% of health facilities were out of stocks in 2015. Some LGUs also procured CAT 2 medicines, decreasing the rate of stockouts of health facilities to 53% in 2016.

Requisition

Order planning and requisition is an integral part in ensuring there is uninterrupted supply of medicines and commodities. Regular requisition should be done in a systematic way to ensure that the flow of medicines will run smoothly given the ideal circumstances. Stock-out and overstock are prevented when a well-planned and accurate request is made.

Table 8. Status of requisition and submission of requests

Indicator	RHUs			PHO		
	March 2014 (n=15)	Sept 2015 (n=14)	June 2016 (n=15)	Baseline (n=5)	Sept 2015 (n=5)	June 2016 (n=4)
% of facilities/warehouses staff who know how to compute requisition	13	100	100	20	100	100
% of facilities that submit requisition on the previous quarter	0	64	80	Not applicable		

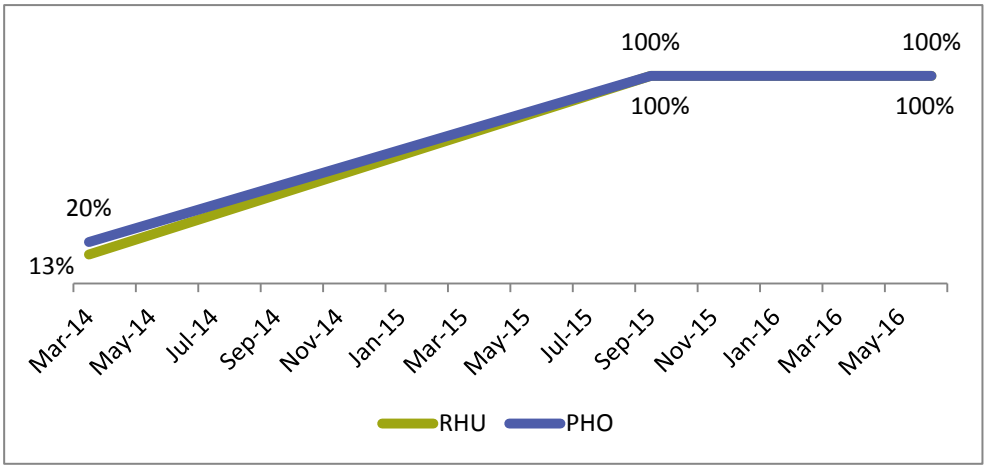


Figure 16. % of health facilities/warehouses who know how to compute requisition

The pull system of distribution, where the service delivery level determines the quantity of stocks needed and forwards this to the higher level for replenishment, is an ideal practice, as actual data of consumption and inventory are used, ensuing accurate requisition data. Table 8 shows that status of requisition of submission of requests by facilities and warehouses. Baseline results showed that only 13% of health facilities and 20% of PHO warehouse personnel knows or remembers how to compute for requisition based on the current guidelines (figure 16). The said practice improved a lot in the next years after the training, as all health facilities and PHO warehouses became knowledgeable on the requisition computation.

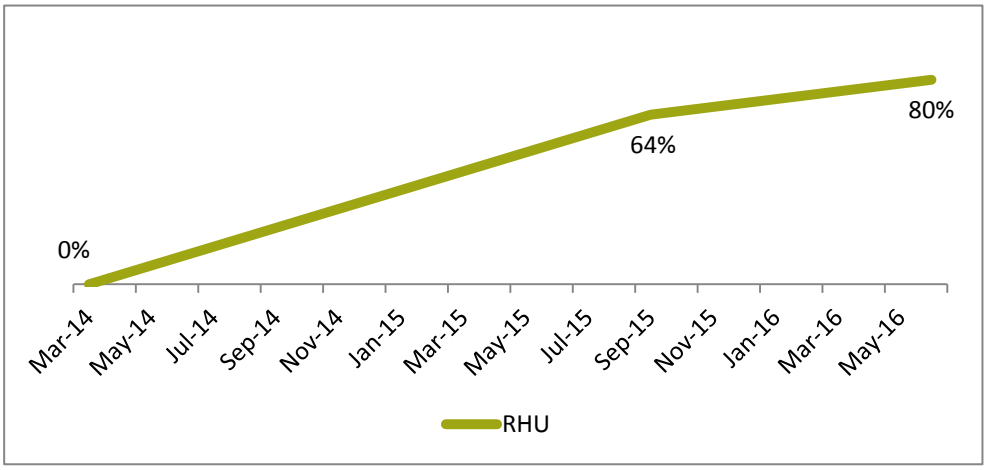


Figure 17. % of health facilities that submit requisition in the previous quarter

To establish the pull system, health facilities need not only know how to properly compute for the needed quantities but also practice submission of requests to the higher level. At baseline, it was found out that none of the health facilities practice submission of requests to the PHOs; however, in 2015 this increased to 64% and further increased to 80% in 2016 (figure 17). Some facilities still fail to submit their requests despite the constant reminders from the PHOs; some facilities only submit the requests when they are in need of stocks and not based on schedule.

CONCLUSION AND RECOMMENDATIONS

Overall, Region IV-A made great strides in improving their supply management practices. Improved performace indicators showed better knowledge and appreciation of supply management among health facilities and PHO warehouses. External factors such as shortages, stock-outs, and overstock at the higher level have a huge impact on their current operations, and unless these issues will be resolved, a fully functional supply management system will not work. Therefore, more effort needs to be exerted at the central and regional level to ensure there will be uninterrupted supply of medicines and health commodities at the service delivery points. The peripheral level should maintain the good practices they have started despite the supply challenges being faced and continue to coordinate with the higher level to further strenghthen the supply management system.

Recommendations

- NTP to explore possibilities to roll out the Practical Guide training for other regions in the country
- Regional level to establish leadership and governance structure to sustain and strenghten good DSM practices at the provincial, city, and health facilities
- Regional level to provide supportive mechanisms to all facilities and recognition to facilities with outstanding performance on DSM for motivation and encouragement
- PHOs, CHOs, and health facilities to sustain the practice of regular submission of a quarterly report on drug and supply inventory and requirement to the higher level
- PHO warehouses and health facilities to develop a plan to maintain proper storage condition of stocks if renovation is anticipated in the facility
- PHO warehouses and health facilities to provide orientation on supply management to new staff who will be assigned to manage the stocks so that knowledge and skills will be passed on
- PHO warehouses and health facilities to update stock inventory every movement if possible to ensure that current records will match actual stock on hand
- PHO warehouses and health facilities to provide stock cards and include stocks procured by LGUs in their inventory reports to avoid overstocking