

**RPM Plus Site
Visit to Quang
Ninh Provincial
General Hospital,
Halong, Vietnam,
October 7, 2005:**

Report

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RPM Plus Site Visit to Quang Ninh Provincial General Hospital, Halong, Vietnam, October 7, 2005: Report

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About RPM Plus

RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen pharmaceutical and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

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ACRONYMS

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
CDC	U.S. Centers for Disease Control and Prevention
CPC	Central Pharmaceutical Company
FDC	fixed-dose combination
GoV	Government of Vietnam
HIV	human immunodeficiency virus
LIFE-GAP	Leadership and Investment in Fighting an Epidemic-Global AIDS Program [Vietnam MOH]
MSH	Management Sciences for Health
OI	opportunistic infection
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
RPM Plus	Rational Pharmaceutical Management Plus [Program]
SOP	standard operating procedure
USG	U.S. Government

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LIFE-GAP/CDC

- Dr. Nhan
- Ms. Hoa

Quang Ninh Provincial General Hospital

- Mr. Nguyen Van Dang, Chief of Pharmacy
- Mr. Nguyen Qui Hung, Pharmacist
- Dr. Hai, ART prescriber

EXECUTIVE SUMMARY

Management Sciences for Health’s (MSH) Rational Pharmaceutical Management (RPM) Plus Program is providing technical assistance to the Government of Vietnam (GoV), U.S. Government (USG), and local partners and stakeholders to procure and distribute antiretroviral (ARV) medicines to USG-supported sites. It is also helping to strengthen pharmaceutical management capacity to ensure continual and adequate availability of ARVs and other HIV/AIDS commodities, promote their appropriate use, and enhance the quality of pharmaceutical antiretroviral therapy (ART) services. Developing and implementing standard operating procedures (SOPs) for pharmaceutical management have been demonstrated to assist in standardizing procedures to ensure quality and consistency of services, foster good dispensing practices, and promote accountability for ART programs.

Key Findings and Recommendations

Topics	Findings	Recommendations
Status of the ART program	<p>ARV dispensing started in September 2005</p> <p>Will shortly have two sources of ARVs—</p> <ul style="list-style-type: none"> • U.S. President’s Emergency Plan for AIDS Relief (PEPFAR)-funded—in stock • GoV-funded—to arrive soon 	<p>RPM Plus to make a follow-up visit after two months and then every six months to assist pharmacy to strengthen procedures and address challenges</p> <p>Harmonize procedures, forms, data collection and reporting systems for all sources of ARVs as far as possible</p>
ARV medicine flow at the facility	<p>ARVs are delivered to, stored by, and dispensed by the pharmacy</p> <p>Stocks held in two areas but share same set of records</p>	<p>Establish separate inventory records for ARV storage area and dispensary</p>
Receiving ARVs at the site	<p>Central Pharmaceutical Company (CPC) No. 1 delivers directly to site; not consistent in notifying site before delivering ARVs</p> <p>Financial receiving note is prepared by hospital finance department from delivery note</p>	<p>CPC No. 1 to notify site before delivering ARVs</p>
Inventory management and record-keeping at the ARV storage area	<p>Official inventory record book used</p> <p>Receipts are recorded in book; issues (to patients) to be recorded at end of month</p> <p>Balance not updated; physical count planned at end of each month</p>	<p>Record batch number and expiry date when receiving ARVs</p> <p>Separate record-keeping for ARV storage area from Dispensary</p> <p>Check balance with physical stock once a month or when issuing or receiving ARVs</p> <p>Monitor temperatures of storage area and refrigerator routinely</p>

Topics	Findings	Recommendations
Internal distribution of ARVs	Inventory records are shared so no system in place for internal distribution	Use a double copy requisition book to track movement of ARVs from the ARV storage area to the dispensary Document the unique requisition number when recording issues at the ARV storage area and receipts at the dispensary
ARV storage and dispensing area at the dispensary	No air-conditioning Space for storage and dispensing adequate for now, but limited for scale-up	Do not keep more than two weeks' supply of ARVs at the dispensary to minimize exposure to high temperatures Additional storage space and a larger dispensing area will be needed for scale-up Monitor temperatures of storage area and refrigerator routinely
Record-keeping at the dispensary	Official prescription form in use Inventory records shared with dispensing area No longitudinal patient dispensing record seen Interim forms in use to assist in aggregating consumption data for scale-up No software in use	When more than one source of ARVs are in use, stamp prescription with source to be dispensed Separate inventory record and record issues daily, or preferably at time of issue; record patient name or number for each issue; check the balance with physical stock at least once a week Establish a patient-centered record to track dispensing by patient and to cross-check prescription as an interim measure Interim forms need to be replaced by a software that uses one entry at time of dispensing to collect data for inventory management, cross-checking prescriptions, and forecasting Software should be capable of aggregating and presenting data for monthly reporting for all sources of ARVs Installing the software is a priority to minimize workload due to record-keeping and catch up data entry—an interim stand-alone software package can be used while integrated systems are being developed and tested

Topics	Findings	Recommendations
Dispensing and medication counseling at the dispensary	<p>Few ART reference materials seen</p> <p>Pill boxes used—filled by pharmacy staff; no gloves, tablet counters, dispensing aids seen</p> <p>Refilling of pill boxes is perceived by pharmacy to be an infection risk; not all patients bring pill box for refilling</p> <p>Labels not used</p> <p>Staffing and workload constrain role of pharmacist in medication counseling</p> <p>No patient information leaflets seen at dispensary</p>	<p>Provide standard set of guidelines and reference materials</p> <p>Minimize handling of ARV products by using gloves, tablet counters, or tweezers</p> <p>Consider teaching patients to refill and clean pill boxes themselves to minimize workload and handling of boxes by the pharmacy</p> <p>Consider costs and benefits of using labels</p> <p>Pharmacist could use time saved by not filling boxes to counsel patient; consider costs and benefits of expanding role of pharmacist in medication counseling and potentially adherence monitoring</p> <p>Make leaflets available at the dispensing point in addition to clinic</p>
Pharmacy reporting for the ART program	<p>Interim reporting forms not yet used at time of visit</p> <p>Workload implications of reporting and timeliness of forms reaching RPM Plus are potential concerns</p>	<p>RPM Plus and Leadership and Investment in Fighting an Epidemic-Global AIDS Program (LIFE-GAP)/CDC to monitor and assist pharmacy to address problems in completing and submitting the reporting forms to RPM Plus</p>
Other issues	<p>Chief of Pharmacy estimates that one full time member of staff will be needed by pharmacy to support ART scale-up</p> <p>Procedures to dispose of expired medicines and for monitoring and reporting adverse drug reactions exist</p>	<p>Staffing needs to be discussed with Quang Ninh Health Services</p> <p>Existing procedures can be adapted for ARVs</p>

BACKGROUND

MSH/RPM Plus is providing technical assistance to the GoV and USG partners to procure and distribute ARVs to USG-supported sites. In addition, RPM Plus is working collaboratively with GoV, USG, and local partners and stakeholders to strengthen the pharmaceutical management capacity of referral, provincial, district, and other USG-supported sites to ensure continual and adequate availability of ARVs and other HIV/AIDS commodities, promote their appropriate use and enhance the quality of pharmaceutical ART services. Developing and implementing standard operating procedures (SOPs) for pharmaceutical management have been demonstrated to assist in standardizing procedures to ensure quality and consistency of services, to foster good dispensing practices, and to promote accountability for ART programs.

Site Visit Objectives

In preparation for providing technical assistance to GoV to draft SOPs for ART pharmaceutical management, the RPM Plus team visited Quang Ninh Provincial General Hospital to—

- Understand the roles and responsibilities of the pharmacy staff in supporting the ART program
- Understand ARV medicine flow at the facility and identify forms and procedures used by the pharmacy staff for ordering, receiving, storing, internal distribution, record-keeping, and dispensing ARVs
- Solicit feedback on any problems or issues related to pharmaceutical management identified by Quang Ninh Provincial General Hospital clinical and pharmacy staff during the start-up period of the ART program
- Explore staff concerns on the robustness of the current pharmaceutical management systems and procedures to support the ART program scale-up

Methodology

The RPM Plus team conducted semi structured interviews with key informants, observed operations, and reviewed some records to prepare this report.

The members of the RPM Plus Team were—

- Helena Walkowiak, Senior Program Associate, RPM Plus, U.S. Office
- David Kuhl, Senior Technical Advisor, RPM Plus Vietnam Office
- Nguyen Anh Dao, Program Associate, RPM Plus Vietnam Office
- Nguyen Viet Hung, RPM Plus Information Technology Consultant, RPM Plus Vietnam Office

Caveats and Limitations

The information on which this report is based very often came from one source. Due to the limited time available for the visit and for interviews, RPM Plus staff did not have the opportunity to cross-check information. In addition, as the ART program is new to Quang Ninh Provincial General Hospital, systems and forms are evolving and very often the staff interviewed were still uncertain about the final processes that would be put in place.

The mandate of RPM Plus was to understand and not assess the existing forms and systems although the team did solicit input from implementing staff on problems and issues that need to be addressed. As a result, the team observed and inventoried processes used and records kept, but did not assess the quality of operations and record-keeping. For example, we looked at whether a running balance was documented in stock records, but did not perform a physical count to check if the balance was correct.

FINDINGS AND RECOMMENDATIONS

1. Status of ART Program

Findings

Source of ARV Medicines	Client Type	Program Status	Number of Clients on ART	Target
PEPFAR	Adult	<ul style="list-style-type: none"> • Medicines received • Dispensing began September 2005 	15 on October 7, 2005	150 at end of March 2006
	Pediatric	<ul style="list-style-type: none"> • Medicines received • Dispensing not started 	0 on October 7, 2005	15 at end of March 2006
GoV	Adult	<ul style="list-style-type: none"> • Supply for 40 patients planned • Medicines not received by pharmacy yet—probably at Quang Ninh Health Services 	0 on October 7, 2005	Not known

- ARV dispensing commenced in September 2005.
- Two sources of ARV medicines expected—
 - PEPFAR-funded ARVs—single-medicine branded products
 - GoV-funded ARVs—fixed-dose combination (FDC) locally produced generic products
- Chief of Pharmacy is a member of the ART Selection Committee and is able to report on stock status of each source of ARVs to the committee and report back to the pharmacy which source of ARVs a new patient is to receive.
- Prescriptions are currently not endorsed with source of ARVs to be dispensed as only one source in stock at the moment.
- Medicines to prevent and treat opportunistic infections (OI medicines)—
 - Some donations received from local donors
 - May receive OI medicines purchased with funds from the Global Fund for AIDS, Tuberculosis and Malaria

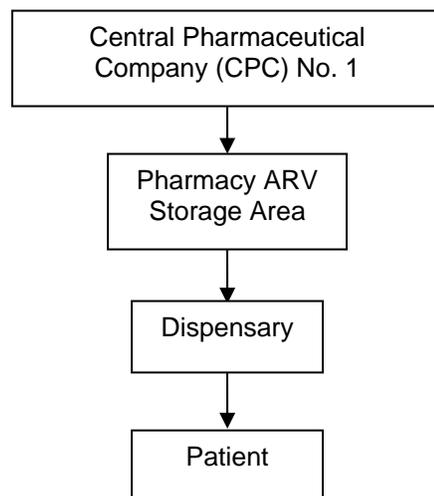
Recommendations

- As the ART program has just recently been introduced at Quang Ninh, a follow-up visit/contact should be made after two months and then every six months to assist the site to develop/strengthen procedures, address challenges, and monitor the impact of the ART program on the pharmacy.
- The impact of managing two sources of different brands of ARV medicines on the pharmacy department can be minimized by—
 - Harmonizing procedures and forms/software used to receive, manage, issue/dispense, and report on ARVs as far as possible.
 - Establishing one record-keeping/software system that is able to track receipt, inventory, and consumption of ARVs by source.
 - Maintaining good communication between clinical and pharmacy services to ensure that the pharmacy staff know which source of ARVs a patient is selected to start on and should receive at each visit—
 - Chief of Pharmacy or his representative to continue to attend ART Selection Committee meetings and share minutes with ART dispensing staff.
 - Stamps can be used by the prescriber to endorse the ART prescriptions with source of medicines to be dispensed—can be used as a cross-check with pharmacy records.

2. ARV Medicine Flow at the Facility

Findings

Flow of PEPFAR-funded ARVs at Quanh Ninh Provincial General Hospital—



- ARVs are delivered to, held by, and dispensed by pharmacy.
- ARVs are held in two storage areas but one set of records used to track receipt and issue of ARVs for both.
- Flow of GoV-funded ARVs not yet known.

Recommendations

- As the pharmacy ARV storage area and the Dispensary are in two separate departments and buildings, establishing separate inventory records for each storage area will facilitate checking of stock balances and tracking the movement of ARVs.
- Use existing procedures and forms for GoV-funded medicines when they arrive.

3. Receiving ARVs at the Site

Findings

- Procedure—
 - CPC No. 1 delivers PEPFAR-funded ARVs directly to the pharmacy with—
 - One original and two copies of the CPC No. 1 Delivery Note
 - Copy of the Ministry of Health-approved Distribution Plan
 - Pharmacist checks the order received against the delivery note and inspects the items for damage and expired stock
 - If everything is in order the pharmacist endorses the delivery notes and takes them to the Director of the Hospital for a signature and stamp
 - CPC No. 1 driver waits for the delivery to be inspected and the documents to be signed. One signed and stamped delivery note is given to the CPC No. 1 driver
 - One copy of the delivery note is forwarded to finance who prepare a financial receiving note (Phieu Nhap Kho) and returns one copy to the pharmacy
 - One copy of the delivery note is filed in the pharmacy with the relevant financial receiving note
 - ARV medicines are put into the cupboards in the ARV storage area and receipt recorded in inventory records
- No procedure for handling damaged, expired, or delivery discrepancies of ARVs has been developed as yet. So far no damaged or expired ARVs have been received but the pharmacy

plans to use the system that exists for returning other medicines for ARVs, should the need arise.

- The pharmacy department was informed when the first delivery from CPC No. 1 was scheduled but not for the second. The pharmacy asked that they be notified so they can be ready to receive, inspect, and obtain the necessary signatures and stamps.

Recommendations

- RPM Plus to request CPC No. 1 to notify sites of date and time of ARV deliveries.
- Review procedures after six months when ARV orders become larger to check if revisions are needed, e.g., CPC No. 1 driver waiting during what may become a lengthy receiving process.
- Consider using a standard form to facilitate the reporting of shipment discrepancies.

4. Inventory Management and Record-keeping at the ARV Storage Area

Findings

Pharmacy ARV Storage Area		
Topics	For Current ART Patient Numbers/Stock	For ART Scale-Up
Organization	<ul style="list-style-type: none"> • Very neat and tidy • Organized with first expiry to front 	NA
Space	<ul style="list-style-type: none"> • Adequate cupboard space with room for expansion 	<ul style="list-style-type: none"> • New facility planned
Security	<ul style="list-style-type: none"> • Adequate • Locked cupboards in secured room 	<ul style="list-style-type: none"> • New facility planned
Air conditioning	<ul style="list-style-type: none"> • Adequate 	<ul style="list-style-type: none"> • New facility planned
Temperature monitoring of storage area	<ul style="list-style-type: none"> • Thermometer seen but no chart monitoring temperature observed 	NA
Refrigerator	<ul style="list-style-type: none"> • Seen 	<ul style="list-style-type: none"> • Probably adequate
Temperature monitoring of refrigerator	<ul style="list-style-type: none"> • Not seen 	NA

- Currently using a temporary storage area—new pharmacy department under construction at time of visit. Move to new department expected at end of 2005.
- Record-Keeping

- Official inventory records in use—*Monitoring ARV Category* book issued by Quang Ninh Health Services
- Records observed to be neat, legible, and well kept
- One inventory record shared between ARV storage area and dispensary
- Receipts—in sample of ARV records observed
 - Only one order received for most medicines
 - Date, received from, invoice number, quantity received, balance recorded
 - Batch number and expiry date of medicines received not recorded
- Issues—in sample of ARV records observed
 - No issues recorded
 - Pharmacist responsible for dispensing ARVs plans to enter issues at the end of the month as it is a new program with very few patients
- Balance—in sample of ARV records observed
 - Balance not up-to-date as issues not entered
 - Physical count planned at end of each month

Recommendations

- As mentioned previously, establish separate inventory records for each storage area to facilitate checking of stock balances and tracking the movement of ARV.
- For receipts—
 - Record the batch number and expiry date to facilitate tracking and implementation of product recalls
- For issues—
 - Make the entries at the time of issuing stock to the dispensary
 - Record the date, internal requisition number (see below), quantity issued, and recalculate the balance
- The balance—
 - Can be checked with the physical stock once a month or at the time of receipt or issue
 - Making a notation in the record that the balance is correct can help staff to look for errors if they know the last date when the balance was correct

- A stock discrepancy form can be used to facilitate the recording and reporting of stock discrepancies that cannot be resolved
- Temperature charts can be used to monitor if the routine temperature in the storage area and the refrigerator is appropriate for the products held.
- A chart to monitor expiry date of ARV products may be useful.
- Use existing procedures and forms for GoV-funded medicines when they arrive.

5. Internal Distribution of ARVs

Findings

- No mechanism is currently in place for tracking the movement of ARVs from the ARV storage area in the pharmacy to the Dispensary. One inventory record is shared between the two areas.

Recommendations

- When the two stocks are separated, identify an appropriate requisition book that can be used by the dispensary to requisition ARVs from the ARV store. The internal requisition book used by the pharmacy department at Viet Tiep Hospital can be used as a model.
- Each requisition should have a unique number and a copy. Generally, the department requisitioning ARVs keeps the book (and the requisition copy that remains in the book) and the department issuing ARVs retains the original which is detached from the book when the transaction is complete.
- Suggested procedure—
 - The pharmacist responsible for dispensing ARVs completes a requisition with name, strength, formulation, and quantity of each ARV needed, signs and dates the requisition
 - The pharmacy staff responsible for issuing ARVs from the ARV storage area endorses the requisition with quantities issued, signs, and dates the requisition
 - The receiving pharmacy staff checks the ARVs received for discrepancies, signs and dates the requisition if all is correct
- The unique requisition number should be documented when recording the issue at the pharmacy ARV storage area and the receipt at the dispensary.
- Use the same procedure for GoV-funded medicines when they arrive.

6. ARV Storage and Dispensing Area at the Dispensary

Findings

Dispensary ARV Storage and Dispensing Area		
Topics	For Current ART Patient Numbers/Stock	For ART Scale-Up
Organization	<ul style="list-style-type: none"> • Very neat and tidy • Organized with first expiry to front • Opened bottles marked with date of opening 	NA
Space	<ul style="list-style-type: none"> • Adequate cupboard space with some room for expansion for ARVs • Dispensing space is shared with staff dispensing for patients with insurance • Space for dispensing ARVs is limited 	<ul style="list-style-type: none"> • Not adequate • Plan to take over more space after renovation
Security	<ul style="list-style-type: none"> • Adequate • Locked cupboards in secured room 	<ul style="list-style-type: none"> • Probably adequate
Air conditioning	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • May need to plan for upgrade in future
Temperature monitoring of storage area	<ul style="list-style-type: none"> • Not seen 	NA
Refrigerator	<ul style="list-style-type: none"> • Not seen 	<ul style="list-style-type: none"> • Probably needed for scale-up
Temperature monitoring of refrigerator	<ul style="list-style-type: none"> • Not seen 	NA

- Chief of Pharmacy reports that he hopes to expand dispensing area after the current renovations at the hospital are completed.

Recommendations

- Additional storage space and a larger dispensing area will be needed for scale-up.
- Because air conditioning the dispensary is difficult, it is recommended that the dispensary keeps no more than two weeks supply of ARV stocks to minimize exposure to higher than recommended temperatures.
- Access to a refrigerator will probably be needed for scale-up.
- Temperature charts can be used to monitor if the routine temperature in the storage area and the refrigerator is appropriate for the products held.

7. Record-Keeping at the Dispensary

Findings

- Prescription—
 - Official prescription form in use
 - Only once source of ARVs available at present so prescription is not stamped/marked with source at present
- Inventory records—
 - Purpose—to track consumption by product and monitor losses and wastage
 - Share inventory records with the ARV storage area
 - No issues made in records so far
- Longitudinal patient dispensing record—
 - Purpose—to facilitate pharmaceutical care to patient; to cross-check medicines and doses prescribed and to identify source of medicines to be issued
 - None seen
- Record to assist in aggregating consumption data by regimen and product dispensed—
 - Purpose—to forecast needs, the pharmacy will need to look at consumption patterns by regimen and also by product dispensed; for example, to distinguish between consumption of 30 mg and 40 mg stavudine capsules for adults and between solid preparations and liquids for pediatrics
 - Interim forms prepared by RPM Plus are available and staff have been trained to use them but not yet in use—
 - Daily ART Service Register for adult patients
 - Daily ART Service Register for pediatric patients
 - Daily ART Service Register for prevention of mother-to-child transmission
- Software—
 - No software is in use at the moment to facilitate the collection and analysis of dispensing data for ARVs
 - The pharmacy uses a computerized inventory system for other products (Excel program); ARVs are not recorded in this program
 - Chief of Pharmacy requested software to facilitate record-keeping at the dispensary

Recommendations

- Prescription—
 - When more than one source of ARVs become available, stamps can be used by the prescriber to endorse the ART prescriptions with source of medicines to be dispensed— can be used as a cross-check with pharmacy records
 - File the ART prescriptions separately to facilitate auditing of issues
- Inventory records—
 - As mentioned previously, establish separate inventory records for each storage area to facilitate checking of stock balances and tracking the movement of ARVs
 - For receipts at the dispensary—
 - Record the date, internal requisition number, batch number and expiry date of product received to facilitate tracking and implementation of product recalls. Recalculate the balance
 - For issues at the dispensary—
 - Ideally the entries should be made at the time of dispensing stock to the patient, but should at a minimum be done daily as the program scales up
 - Record the date, the patient name or number, quantity issued and recalculate the balance. Including the patient's name or number will create an audit trail
 - Checking the balance—
 - Can be checked with the physical stock once a week (increase to daily as patient numbers increase) or at the time of receipt of ARVs from the ARV storage area
 - Making a notation in the record that the balance is correct can help staff to look for errors if they know the last date when the balance was correct
 - A stock discrepancy form can be used to facilitate the recording and reporting of stock discrepancies that cannot be resolved
- Longitudinal patient dispensing record—
 - A patient-centered form can be used to track ARV dispensing by patient as an interim measure. However, software will be needed before the facility reaches its March 2006 target of 150 adult plus 15 pediatric patients
- Record to assist in aggregating consumption data by regimen and product dispensed—

- Interim RPM Plus forms will need to be replaced by a software before the facility reaches its March 2006 target of 150 adult plus 15 pediatric patients.
- Software—
 - A software package that allows staff to enter data for inventory management, pharmaceutical care, and forecasting all at time of dispensing is needed to reduce the impact of ART record-keeping on the workload of the pharmacy
 - The software should aggregate and report data in a format that facilitates reporting for all sources of ARV medicines for the purposes of reporting workload, consumption, and data for forecasting
 - Installing the software is a priority to minimize workload due to record-keeping and catch up data entry; an interim stand-alone software package can be used while integrated systems are being developed and tested
- Use existing procedures and forms for GoV-funded medicines when they arrive.

8. Dispensing and Medication Counseling for ARVs at the Dispensary

Findings

Topics	Observations/Information Reported
Reference materials on ART	<ul style="list-style-type: none">● Pharmacist seen to use materials provided during RPM Plus training● Information is kept in main pharmacy and brought over for clinic● Pharmacist requested more reference materials
Container	<ul style="list-style-type: none">● Pill boxes used for solid preparations● Pharmacy staff member fills pill box● Previously issued pill boxes are discarded—pharmacy staff perceive the washing and reuse of pill boxes as an infection risk● Not all patients return pill boxes—some forget● Chief of Pharmacy requested suggestions on dispensing and reuse of pill boxes● Not dispensing for pediatrics as yet
Labels	<ul style="list-style-type: none">● None used
Dispensing process	<ul style="list-style-type: none">● Dispense on Thursday afternoons and Friday mornings at present● Prescription received and checked● No patient-centered record observed to be available for cross-checking prescription● No tablet/capsule counters seen● Uses fingers to place capsules into pill box● Records made later

Topics	Observations/Information Reported
Patient flow	<ul style="list-style-type: none">• Patient observed to be seen by—<ol style="list-style-type: none">(1) Receptionist at clinic(2) ART doctor(3) Pharmacy staff(4) Reported to return for further medication counseling after collecting medicines (could just be for first and second visit)
Medication counseling area at the dispensary	<ul style="list-style-type: none">• One of two adjacent windows in dispensary used to issue medicines to and counsel patient• Encounter is not confidential• Chief of Pharmacy hopes to have a private space for medication counseling after renovations are complete
Content of medication counseling at the dispensary	<ul style="list-style-type: none">• Chief of Pharmacy would like to expand the role of the pharmacist to provide medication counseling on ART but existing workload does not allow• Some counseling given during two encounters observed. Pharmacist—<ul style="list-style-type: none">○ Asked if patient was experiencing side effects○ Explained which medicines to take in the morning and which in the evening○ Asked if the patient had any questions• Adherence monitoring by pharmacy staff not formalized yet
Patient information leaflets	<ul style="list-style-type: none">• None seen at dispensary

Recommendations

- Reference materials—
 - Provide a standard set of reference materials and clinical guidelines for the dispensing pharmacist
 - Identify a mechanism to keep the materials updated
- Container—
 - Pill boxes—
 - Consider adopting the procedure used at Binh Thanh, Ho Chi Minh City, where patients are taught to fill the pill box themselves and given instructions on how to clean it. Pharmacy could then dispense the medicines in plastic bags and allow the patient to fill the pill box themselves. This procedure would address the pharmacy concerns on infection control and also reduce the time taken to dispense per patient.
 - For liquids—
 - Plan for start up of dispensing to pediatric clients; decide if original bottles will be dispensed or if medicine bottles will be needed to allow the pharmacy to dispense precise quantities to facilitate adherence monitoring

- Labels—
 - Consider cost implications and benefits of labeling medicines with name and dose to be taken to facilitate adherence
 - Labels will be needed for pediatrics if medicine bottles are used to dispense precise quantities
- Dispensing process—
 - Tablet counters and using tweezers/gloves to load the pill boxes can minimize contamination during dispensing
- Medication counseling—
 - Consider the cost implications and benefits of expanding the role of the highly trained pharmacist to play a greater role in medication counseling and possibly adherence monitoring for ART
- Patient information leaflets—
 - Make information leaflets available at the dispensing point in addition to the clinic
- Use existing procedures and forms for GoV-funded medicines when they arrive. Identify a mechanism to make pill boxes available for all clients receiving ART regardless of source.

9. Pharmacy Reporting for the ART Program

Findings

- Each facility receiving PEPFAR-funded ARVs completes two report forms to facilitate forecasting of ARV medicine needs and one order form at the end of each month. The three interim forms are—
 - ARV Patient Reporting Form
 - ARV Stock/Usage Reporting Form for health facility
 - ARV Ordering and Receipt Form for health facility
- The forms need to reach RPM Plus by the tenth of each month to ensure that orders are dispatched promptly.
- LIFE-GAP/CDC have requested that the forms pass through their office.
- The pharmacy had yet to complete the forms for the first time at the time of the site visit so the procedures had not been tested.

- Concerns/issues reported by the pharmacy staff—
 - The time needed to aggregate the data for completing the form for forecasting could be considerable; the Chief of Pharmacy requested that software to assist in the process be made available as soon as possible
 - Producing the estimates of new patients two months in advance should not be difficult as the Chief Pharmacy is a member of the ART selection committee and can work with the clinical team if he has the data on current prescribing patterns available.
 - Sending the report forms through the LIFE-GAP office may delay the form reaching RPM Plus by the tenth of each month.

Recommendations

- The RPM Plus team to work with LIFE-GAP/CDC to monitor and if necessary, address site problems in completing the reports and delays in the reports reaching RPM Plus by the tenth of each month.
- As mentioned previously, software to aggregate and report data in a format that facilitates reporting for ARV medicines will reduce the workload for the pharmacy considerably.
- The software will be needed before the facility reaches its March 2006 target of 150 adult plus 15 pediatric patients.
- One software program should be used to collect and aggregate data and facilitate reporting for all sources of ARV medicines. Ideally, the same procedure and form should be used for reporting for all sources of ARV medicines held at the facility.

10. Other Issues Discussed

Human Resources

The Chief of Pharmacy reported that pharmacy department will need one full-time member of staff to support ART scale up and asked where the funding will come from for this post. The LIFE-GAP representatives indicated that this issue needs to be raised with Quang Ninh Health Services.

Procedures for Disposing of Expired or Unusable ARVs

Quang Ninh Provincial General Hospital has a procedure in place for destroying other expired medicines. The same procedure can be used for ARVs.

Adverse Drug Reaction Monitoring and Reporting

Quang Ninh Provincial General Hospital reports into a national system. Reports are submitted by prescribers to the pharmacy who follows up on the outcome for every report submitted. The pharmacy is responsible for reporting adverse drug reactions into the national system every three months—26 reports were submitted in the last quarter. The same procedure can be used for ARVs.

NEXT STEPS

- The site visit report will be shared with the staff from the pharmacy department at Quang Ninh Provincial General Hospital and LIFE-GAP/CDC for review and comments.
- The findings and recommendations in this report will be aggregated with the reports from the other seven ART sites visited by the RPM Plus team in October 2005 and shared with site staff, implementing agencies and stakeholders.
- RPM Plus will work with site staff, implementing agencies and key stakeholders to identify how current procedures and tools could be harmonized to facilitate the development of standard operating procedures for pharmaceutical ART services. Lessons learned and best practices identified from the sites visited can be used to improve current practices.

