

Preservice Curriculum Reform on Pharmaceutical Supply Management at the Hanoi University of Pharmacy: Technical Assistance for Curriculum Review and Competency Assessment

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The SIAPS logo consists of the acronym "SIAPS" in a bold, green, sans-serif font. To the right of the text is a stylized blue graphic of a person with arms raised, symbolizing achievement or progress.

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve 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.

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Key Words

Pharmaceutical supply management, supply chain management, preservice curriculum, curriculum reform, health system strengthening, human resource capacity, Vietnam

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ACRONYMS

ARV	antiretroviral
DAV	Drug Administration of Vietnam
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
HSS	Health System Strengthening
HUP	Hanoi University of Pharmacy
IR	intermediate result
LMIS	logistics management information system
MDR-TB	multidrug-resistant tuberculosis
NTP	National Tuberculosis Program
PG	postgraduate
PSM	pharmaceutical supply management
PV	pharmacovigilance
SIAPS	Systems for Improved Access to Pharmaceuticals and Services [Program]
SPS	Strengthening Pharmaceutical Systems [program]
UG	undergraduate
USAID	US Agency for International Development
VAAC	Vietnam Administration of AIDS Control
WHO	World Health Organization

EXECUTIVE SUMMARY

Preservice curriculum reform followed by sound implementation is a cost-effective and sustainable intervention that leads to broader health system strengthening. Effective preservice training reduces the need for future large-scale and expensive in-service trainings. The Hanoi University of Pharmacy (HUP) in Vietnam is currently reforming their preservice curriculum on pharmaceutical supply management (PSM), which is an important pharmacy-related task. The US Agency for International Development-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is currently providing technical assistance to the University in this reform initiative.

A systematic process is being adopted to ensure that the resulting curriculum is tailored to suit Vietnam's specific needs. Major steps in the process include (1) mapping the existing gaps and the required competencies; (2) developing a draft of the curriculum including the topic areas, instructional plans, and content summaries; and (3) finalizing the draft of the curriculum through a wide review and consultative process. This technical report describes the progress made so far, including the in-country technical assistance visit made by a SIAPS technical staff member in March 2012. During the in-country visit, the SIAPS staff member worked closely with HUP stakeholders to review the existing curriculum and assess expected competencies relating to PSM using a questionnaire survey tool and discussions with local stakeholders. The assessment's findings were used to develop a curriculum outline that was agreed by HUP along with time allocations for both undergraduate and postgraduate training. The report also lists the next steps in the curriculum development process.

INTRODUCTION

Over the last three years, the US Agency for International Development-funded Strengthening Pharmaceutical System (SPS) Program has collaborated with the Ministry of Health of Vietnam, the Hanoi University of Pharmacy (HUP), the Vietnam Administration of AIDS Control (VAAC), the National Tuberculosis Program (NTP), and other stakeholders to carry out pharmacovigilance training and curriculum development, active surveillance pharmacovigilance within the Antiretroviral Therapy Program, and establishing a pilot program on tuberculosis (TB) laboratory specimens referral system for diagnosis and management of multidrug-resistant (MDR) TB.

In the context of SPS's working relation with HUP, including that for curriculum reform, the USAID Mission in Vietnam asked the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, which is a follow-on program to SPS, to continue supporting the curriculum development efforts in 2011–2012 focusing on pharmaceutical supply management (PSM). The SIAPS Program aims to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Its central objective is to promote and use a systems-strengthening approach consistent with the Global Health Initiative that will result in positive and sustainable health impact. The SIAPS Intermediate Results (IRs) listed below show that the primary results focus directed by USAID for this Program is health system strengthening (HSS).

- IR1: Pharmaceutical sector governance strengthened
- IR2: Capacity for pharmaceutical supply management and services increased and enhanced
- IR3: Information for decision-making challenge in the pharmaceutical sector addressed
- IR4: Financing strategies and mechanisms strengthened to improve access to medicines
- IR5: Pharmaceutical services improved to achieve desired health outcomes

SIAPS Vietnam's objective is to "strengthen in-country human resource capacity for pharmaceutical services leading to improved patient outcomes." This country-specific objective directly supports the following SIAPS IRs and sub-IRs for USAID.

- IR2: Capacity for pharmaceutical supply management and services increased and enhanced
 - IR 2.1 Pharmaceutical management capacity of individuals, institutions, organizations and networks strengthened
- IR5: Pharmaceutical services improved to achieve desired health outcomes
 - IR 5.1 Availability of pharmaceuticals improved

In the recent changing environments for pharmacy practice, including huge increases in the supply of essential medicines for priority public health programs such as HIV/AIDS, TB, and malaria, a pharmacy taskforce is expected to have sound knowledge and competencies relating to pharmaceutical supply management (PSM). Preservice learning is a sustainable intervention which provides a critical foundation of knowledge and skills to students, developing their competency for practice in the real world after graduation. Effectively designed and implemented preservice training reduces the future need for large-scale and expensive in-service trainings. HUP's current initiative to reform PSM preservice curriculum will help their students graduate with both theoretical and practical competencies for this important pharmacy-related task.

ACTIVITIES

To support the curriculum reform process, SIAPS initially conducted a desk-top review to gather relevant information regarding the existing PSM curricula available on the Internet and through contacts. Annex A provides a comparative table showing the main content areas on PSM that are covered by different preservice and in-service curricula from various parts of the world. Based on the findings of this review and additional scanning of literature on PSM, SIAPS developed a curriculum review and competency assessment tool prior to visiting Vietnam for in-country work. The tool is included in this report as Annex B.

Following this preparatory work, SIAPS Principal Technical Advisor and Technical Cluster Lead for Pharmaceutical Services conducted a technical assistance visit to Vietnam from March 10 to 27, 2012 to work with the national HUP counterparts to help perform curricular analysis and competency mapping for PSM curriculum reform. In addition to the PSM curriculum work, the SIAPS technical staff also helped complete the development and delivery of instructor's guide for pharmacovigilance (PV) curriculum to HUP. The PV curriculum-related technical assistance was supported through SPS Program. A separate detailed report exists on this SPS-supported work on PV instructors guide.¹ The trip agenda and scope of work pertaining to the PSM curriculum development work appear as annexes C and D.

The main HUP counterparts for PSM curriculum reform work during the visit were the teaching faculty members of the Department of Pharmaceutical Management and Economics. The SIAPS Principal Technical Advisor closely collaborated with the department teaching staff to help achieve the following efforts—

- Reviewed the existing curriculum document of HUP to identify the PSM topics that are currently covered.
- Using a structured questionnaire (annex B) administered to the HUP teaching faculty members and the students who have already undergone exposure to PSM-topics, identified the details of the topics covered along with allocated times and teaching-learning methods.
- Using the method of a structured questionnaire (annex B) and discussions with the various key informant groups, helped identify the PSM-related competencies expected of today's pharmacy graduates at both undergraduate (UG) and postgraduate (PG) levels. The key informant groups consulted were Drug Administration of Vietnam (DAV), Medical Services Administration, chief pharmacists of six public sector hospitals, private sector pharmaceutical enterprises, and HUP's Department of Pharmaceutical Management and Economics.

¹ Garb, M. and Joshi, M. 2012. *Technical Assistance for the Development of Instructor's Guides for Implementing Preservice and In-service Curricula on Pharmacovigilance in Vietnam*. Submitted to the U.S. Agency for International Development by the Strengthening Pharmaceutical Systems (SPS) Program. Arlington, VA: Management Sciences for Health.

- Based on the findings of the questionnaire survey and discussions with stakeholders, summarized the existing curriculum contents and expected competencies relating to the various aspects of PSM (annex E).
- Used the findings of the existing situation and expected competency analysis exercise to identify the existing strengths and areas requiring strengthening relating to PSM topics.
- Drafted, discussed, and agreed on an outline of the PSM curricula for both under- and postgraduate levels, including contact times for both theory and practical exposures in key topic areas. These areas included introduction and contextualization of PSM/governance, product selection, forecasting/quantification and supply planning, procurement and quality assurance, storage and distribution, inventory management, logistics management information system (LMIS), and rational medicines use.

On March 26, the SIAPS Principal Technical Advisor presented the findings of the curriculum review and competency assessment during a meeting with the teaching faculty members and HUP's Vice-Rector Prof. Nguyễn Thanh Bình (annex F). As indicated in the presentation, the in-country assessment showed that the current preservice pharmacy education in Vietnam does not adequately expose pharmacy students to the expected theoretical and practical aspects of pharmaceutical supply management. The gap is especially wide at the PG level as the curriculum for this level does not include any formal content on PSM. The consequence is that the graduates often are not adequately ready to effectively manage the supply chain functions, and require long and laborious in-service orientation and training to gain competence in PSM functions. The SIAPS-supported curriculum reform will address this gap and help local pharmacy graduates matriculate with appropriate competencies to manage pharmaceutical supply chain in a standardized and uniform manner.

Since the general principles and steps in PSM are similar for all disease areas, a sound preservice exposure to the PSM generic course should prepare the degree candidates in the areas of antiretroviral (ARV) supply management as well. However, relevant HIV/AIDS examples and experiences relating to PSM will also be included in the curriculum. This will help support the context of the high burden of HIV/AIDS and the ongoing rapid scale-up of antiretroviral therapy programs in Vietnam. The current PEPFAR/USAID-supported PSM curriculum reform at HUP through SIAPS technical assistance will strengthen the HIV/AIDS supply chain system while at the same time contributing to broader health system strengthening by reforming and strengthening the general pharmacy education.

Following the SIAPS Principal Technical Advisor presentation and extensive discussions during the March 26 meeting, the HUP counterparts agreed on the PSM curriculum outline as shown in figure 1, and time allocations for both UG and PG courses as shown in table 1.

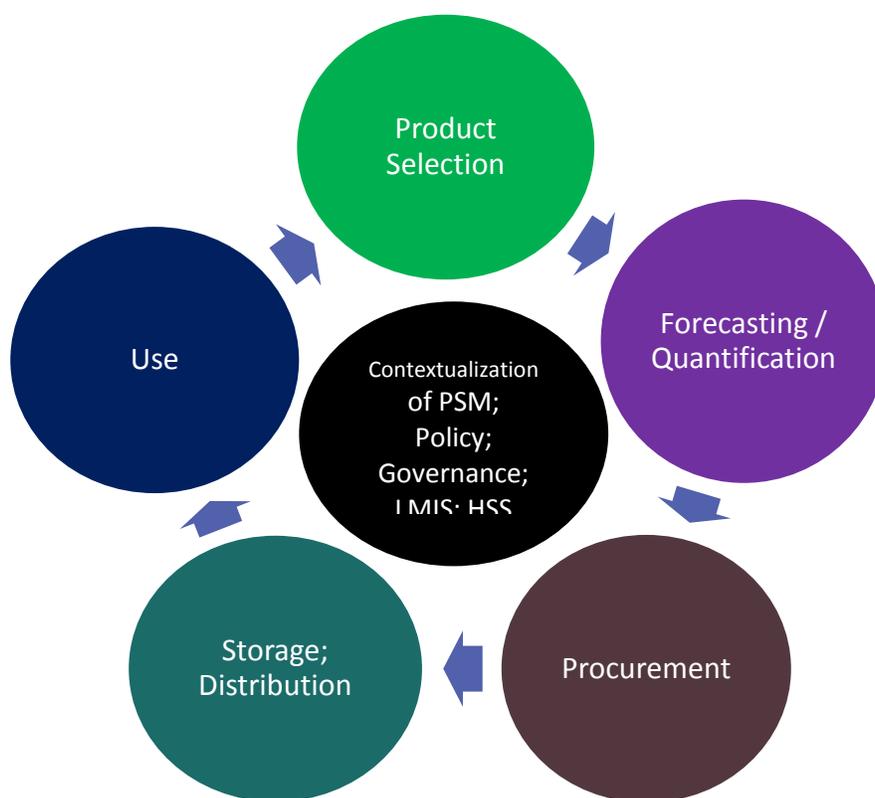


Figure1. Outline of the new PSM curriculum

Table 1. Suggested Time Allocation for PSM in the PG and UG Course Curriculum

PSM Curriculum Heading	PG Pharmacy Course at HUP		UG Pharmacy Course at HUP	
	Theory (hours)	Practical (hours)	Theory (hours)	Practical (hours)
Introduction/contextualization of PSM/governance	2	–	2	–
Product selection	2	2	2	2
Forecasting /quantification and supply planning	3	2	3	–
Procurement and quality assurance	4	3	4	2
Storage and distribution	3	3	3	3
Inventory management	4	4	4	4
Logistics Management Information System (LMIS)	4	4	4	2
Rational medicines use	3	2	3	2
Total number of hours	25	20	25	15

NEXT STEPS

The following are the next steps agreed by HUP and SIAPS.

- Closely collaborating with the HUP/Department of Pharmaceutical Management and Economics, SIAPS will help put together detailed drafts of both PG and UG curricula based on the agreed curriculum outline and the suggested time allocations. The curricular documents will contain key topic areas for each session and outline the detailed contents within each topic area, along with learners' objectives, contact time, and instructional or teaching-learning methods. Suggestions and feedback obtained from local stakeholders during the curriculum review and competency assessment in March 2012 (annex F) will be taken into account while developing the draft curriculums.
- The curriculum drafts will be distributed for review by relevant national stakeholders, including those consulted during the March 2012 competency analysis.
- HUP and SIAPS will collaborate to conduct a curriculum review and consensus workshop in September/October 2012 in Hanoi that will be attended by all the key national stakeholders.
- HUP/Department of Pharmaceutical Management and Economics and SIAPS will revise and finalize the curriculum and submit to the HUP academic authorities for final approval.

ANNEX A. ITEMIZED COMPARATIVE ANALYSIS OF PSM COMPONENTS IN VARIOUS TEACHING CURRICULA/GUIDEBOOKS *

Curriculum component	University of Namibia (UG curriculum)	Muhimbili University, Tanzania (PG course based on the Commonwealth Pharmaceutical Association Program)	University Limpopo, South Africa (Administers the course on behalf of the Commonwealth Pharmaceutical Association)	U. P. Technical University, Lucknow (UG curriculum)	AIDS Campaign Team for Africa (ACTAfrica) (Handbook on Supply Chain Management for HIV/AIDS Medical Commodities)	York University, Canada (Masters certificate in Supply Chain and Logistics Management)	DELIVER PROJECT (The Logistics Handbook: A Practical Guide for the Supply Chain Management of Health Commodities)
1. Introduction					✓	✓	
Overview of the world medicine situation		✓	✓		✓	✓	✓
Role of medicines in health care and commodity security		✓	✓		✓	✓	✓
2. Drug Policy and Regulation	✓						
Need for a drug policy		✓	✓		✓		
Content of drug policy		✓	✓				
Effect of a drug policy		✓	✓				
3. Health Care and Management							
Health care structure and management		✓					
4. Financing Drug Supply				✓	✓	✓	
Health costs —the need for financing		✓	✓				
The local health financing situation		✓	✓				
Principles of local health funding		✓	✓				

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5. Selection							
Purpose of product selection	✓	✓	✓				✓
National Essential Medicines List (EML)		✓	✓				✓
Criteria used in the selection of drugs	✓	✓	✓				
Procedure for the selection of medicines		✓	✓				
Registration of pharmaceutical products		✓	✓				✓
Standard Treatment Guidelines (STGs)							
Guidelines for receiving medicine donations	✓				✓		✓
6. Quantification							
The need for quantification	✓	✓	✓				✓
Methods of quantification	✓	✓	✓		✓		✓
Choosing and using a quantification method		✓	✓				✓
7. Procurement and Quality Testing							
Why procurement is important		✓	✓				✓
The procurement process	✓	✓	✓	✓		✓	✓
Donations and role of donors					✓		

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Procurement by purchase		✓	✓		✓	✓	
Quality assurance during procurement			✓			✓	
Key Challenges in the procurement process		✓			✓		
8. Stock Management							
Assessing stock status		✓	✓	✓	✓		✓
Good stock management	✓			✓			✓
Ideal storage conditions		✓	✓		✓		✓
Maintenance of quality during storage	✓	✓	✓		✓		✓
Issuing procedures in a medical store		✓	✓				
Information entered on records and its interpretation		✓	✓				
Using information entered on records	✓				✓		
Stock for emergencies and disasters							
Waste disposal	✓				✓		✓
9. Inventory Control							
Purpose of inventory control	✓	✓	✓	✓			
Types of maximum-minimum	✓	✓	✓	✓	✓	✓	

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inventory control							
Determining when to place an order		✓	✓	✓	✓	✓	
Setting maximum-minimum levels	✓						
9. Distribution					✓		
Distribution systems	✓	✓	✓			✓	✓
Stock levels and distribution		✓	✓				✓
Special areas of distribution		✓	✓				
Records and evaluation of distribution		✓	✓			✓	
Transportation – maximizing transportation methods for effective distribution				✓		✓	
10. Regulation and Medicines Liable to Abuse							
The need to control medicines	✓	✓	✓				
Narcotic and Psychotropic medicines		✓	✓				
Medicines control—general and special		✓	✓				
11. Monitoring and Evaluation (M&E)							
Concept of monitoring and					✓	✓	✓

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relevance							
Developing an M&E plan					✓	✓	✓
Indicators for M&E of supply chain						✓	✓

* This comparative table was created by SIAPS consultant Professor Mahama Duwiejua, BPharm, PhD, Executive Secretary, National Council for Tertiary Education, Ghana



ANNEX B. QUESTIONNAIRE TOOL FOR CURRICULUM REVIEW AND COMPETENCY ASSESSMENT ON PHARMACEUTICAL SUPPLY MANAGEMENT

Stakeholder Interviewed or Document Reviewed:

UG = undergraduate; PG = Post-graduate; T-L = Teaching learning; Y = Yes; N = No; EC = Essential Competency; DC = Desirable Competency; NEC = Non-essential Competency

Headings and Sub-headings	PG Curriculum					UG Curriculum				
	PG THEORY (Y or N); Approx. time allocated if Yes (min) T-L Method	Competency (EC, DC, NEC)	PG PRACTICAL (Y or N); Approx. time allocated if Yes (min) T-L Method	Competency (EC, DC, NEC)	Other comments (PG)	UG THEORY (Y or N); Approx. time allocated if Yes (min) T-L Method	Competency (EC, DC, NEC)	UG PRACTICAL (Y or N); Approx. time allocated if Yes (min) T-L Method	Competency (EC, DC, NEC)	Other comments (UG)
1 Introduction										
1.1 Purpose of supply chain management (SCM) system for pharmaceuticals and other commodities										
1.2 The SCM context: Definition, SCM alignment into the health system, the SCM environment, financing and human resources for SCM, performance measures and its key components.										More relevant for PG
1.3 Importance of uninterrupted product availability as a										

prerequisite for rational use of medicines

1.4 Overview of the various elements of the SCM system (e.g., selection, forecasting, procuring/ordering, warehousing/storing, managing inventory, recording/reporting) and how they are interlinked

1.5 Governance in SCM (policy and legal framework, regulations and acts, fraud, etc.)

2 Product Selection

2.1 Importance of selection of the right products as a key initial step for subsequent actions of quantification, procurement, distribution and use

2.2 Concept of developing Essential Medicines List (EML) at national/facility level

2.3 Concept of standard treatment guidelines (STG) at national/facility level

2.4 Importance of using international nonproprietary name (INN) or generic names in the EML and STG

2.5 Choosing medicines for different levels of facility, e.g., primary care, secondary care, tertiary care

3 Forecasting / Quantification and Supply Planning

3.1 Importance of carefully quantifying medicine requirements

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3.2	Use of various quantification methods such as consumption and morbidity methods	
3.3	The concept of supply planning, resources mobilization, including financing	Relevant for PG only
3.4	Factors to consider during quantification	
4 Procurement and Quality Assurance		
4.1	Relevance of good pharmaceutical procurement practices	
4.2	Selecting procurement methods	
4.3	Managing tenders	
4.4	The processes for selecting suppliers (prequalification)	
4.5	Managing contracts (contract negotiation, management, importance of understanding procurement/contract implementation)	Relevant for PG
4.6	Managing procurement/supplies relationship (good procurement practice context)	Relevant for PG
4.7	Various purchasing methods (e.g., annual purchasing, scheduled purchasing, perpetual purchasing)	
4.8	Consequences of poor medicine quality	
4.9	Selecting good quality products and suppliers	
4.10	Ensuring quality adherence	

to contract terms

- 4.11 Problems with medicine donations and need for national donations policy

5 Storage and Distribution

- 5.1 Understanding of the objectives and scope of warehousing/storage, distribution and the link between the two

- 5.2 Organizing warehouse or storage facility (e.g., stacking supplies properly, organizing commodities, preventing expiration, temperature control, ventilation, dryness, workspace, lighting, cleanliness, orderliness, pests control, security and safety, authorized access)

- 5.3 Guidelines, planning, managing and the role of technology, tools and software in warehousing and distribution

Relevant for PG

- 5.4 Commodity controlling, handling, and safety/protection

- 5.5 Managing transport: planning distribution routes, fleet management, delivery schedules and transport options

6 Inventory Management

- 6.1 Assessing stock status, determining safety stock levels, avoiding stock-outs, and determining quantities to order for resupply
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6.2 Lead time, maximum and minimum stock levels

6.3 Data needed to assess stock status (e.g., stock on hand, and rate of consumption)

6.4 Types of inventory management systems, e.g., push or pull

6.5 Maintaining accurate stock records, e.g., up-to-date and accurate stock card and bin card; conducting physical inventories

6.6 Value of ABC and vital, essential and nonessential analysis in inventory management

6.7 Issuing and receiving procedures in a medical store

6.8 Accounting for and minimizing losses through expiry, spoilage, fraud

7 Logistics Management Information System (LMIS)

7.1 Purpose of LMIS

7.2 Key records and data needed for LMIS

7.3 Various types of logistics records (storekeeping records, transaction records, consumption records)

7.4 Logistics reporting (summary reporting and feedback reporting)

7.5 Using LMIS for decision-making

ANNEX C. SPS AND SIAPS TECHNICAL TEAM'S IN-COUNTRY VISIT PROGRAM AGENDA

Dr. Mohan P. Joshi and Ms. Marcy Garb's Visit to Vietnam (12 – 27 March 2012)

Date	Activity schedule	Content	Participants	Remarks
March 12 (Monday)	Morning	<ul style="list-style-type: none"> Meet with Juanita Folmsbee and Dr. Giang Nguyen, and work at MSH office 	<ul style="list-style-type: none"> Ms. Folmsbee, Dr. Giang Nguyen, Dr. Mohan Joshi 	
	14.00–17.00	<ul style="list-style-type: none"> Review existing training contents Discussion 	<ul style="list-style-type: none"> Dept. of Pharmaceutical Management & Economics (PM & E) faculty members; Dr. Joshi 	HUP will be in charge for translation (Mr. Nam or Mrs. H. Van)
March 13 (Tuesday)	9.0 0–11.30	<ul style="list-style-type: none"> Planning for the afternoon meeting 	Dr. Joshi	
	14.00 –16.30	<ul style="list-style-type: none"> Meeting with UG and PG students 	<ul style="list-style-type: none"> Dept. of PM & E faculty members; Dr. Joshi Dr. Giang Nguyen 	HUP will be in charge for translation (Mr. Nam or Mrs. H. Van)
March 14 (Wednesday)	8.30–11.00	<ul style="list-style-type: none"> Visit Bach Mai hospital 	<ul style="list-style-type: none"> Dept. of PE & P. faculty members; Dr. Joshi 	HUP will be in charge of Translation (Mr. Nam or Mrs. H. Van)
	14.00–16.30	<ul style="list-style-type: none"> Planning for stakeholder meeting in the morning of Thursday, March 15 	Dr. Joshi	
March 15 (Thursday)	9.00–11.30	<ul style="list-style-type: none"> Stakeholder meeting: Chief pharmacist, MoH staff 	<ul style="list-style-type: none"> Prof. Binh, Vice-Rector, HUP Ms. Dinh Hien Van, Head of Int'l Relations, HUP MoH staff Chief hospital pharmacists Dept. of PM & E faculty members Dr. Joshi 	MSH/SCMS will be in charge of translation

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			<ul style="list-style-type: none"> • Dr. Giang Nguyen 	
	15.00 – 17.00	<ul style="list-style-type: none"> • Visit Dong Da Hospital 	<ul style="list-style-type: none"> • Dr. Huong • Mr. Nam • Mrs. Van • Dr. Joshi 	HUP will be in charge of translation (Mr. Nam or Mrs. H. Van)
March 16 (Friday)	9.00 – 11.30 14.00 – 17.00	<ul style="list-style-type: none"> • Work with HUP on the development of pharmaceutical supply management curriculum 	<ul style="list-style-type: none"> • Dept. of PM & E • Department of Training • Department of Postgraduate Training • Department of International Relations • Dr. Joshi 	SCMS will be in charge of translation
March 19 (Monday)	9.00 – 11.30	<ul style="list-style-type: none"> • Work with HUP leader (Prof. Nguyen Dang Hoa): Present about the agreed PV curriculum developed in 2011. 	<ul style="list-style-type: none"> • Prof. Hoa (Vice Rector) • National DI & ADR center • Department of Training. • Department of clinical Pharmacy • Department of Post Training • Department of International Relations • Dr. Joshi and Ms. Marcy Garb (SPS Consultant) 	SCMS will be in charge of translation
	14.0 – 17.00	<ul style="list-style-type: none"> • Work on the Instructor’s Guide for the PV curriculum developed in 2011 for continuous training. 	<ul style="list-style-type: none"> • National DI & ADR center. • Dr. Joshi, Ms. Garb 	HUP will be in charge of translation (National DI and ADR Centre)
March 20 (Tuesday)	9.00–9.15	<ul style="list-style-type: none"> • Phone briefing with World Health Organization Country Office technical staff 	<ul style="list-style-type: none"> • Phone interaction between Dr. Joshi and Soc Escalante, WHO Office in Vietnam 	
	9.00–11.30	<ul style="list-style-type: none"> • Work on the Instructor’s Guide for the PV curriculum developed in 2011 for continuous training. 	<ul style="list-style-type: none"> • National DI & ADR center. • Dr. Joshi, Ms. Garb 	HUP will be in charge of translation (National DI and ADR Centre)

Pre-Service Curriculum Reform on Pharmaceutical Supply Management at the Hanoi University of Pharmacy: Technical Assistance for Curriculum Review and Competency Assessment

	14.00–17.00			
March 21 (Wednesday)	14.00–17.00	<ul style="list-style-type: none"> Work on the Instructor’s Guide for the PV curriculum developed in 2011 for PG training 	<ul style="list-style-type: none"> Clinical Pharmacy Dept. Dr. Joshi, Ms. Garb 	HUP will be in charge of translation
March 22 (Thursday)	9.00–11.30 14.00 –17.00	<ul style="list-style-type: none"> Work on the Instructor’s Guide for the PV curriculum developed in 2011 for PG training 	<ul style="list-style-type: none"> Clinical Pharmacy Dept. Dr. Joshi, Ms. Garb 	HUP will be in charge of translation
March 23 (Friday)	9.00–10.00	<ul style="list-style-type: none"> - Conclusion meeting regarding PV-related work 	<ul style="list-style-type: none"> HUP leader (Prof. Hoa) Department of Postgraduate training Department of Training Department of Clinical Pharmacy Department of PM & E National DI & ADR center Department of International Relations Dr. Joshi, Ms. Garb . 	SCMS will be in charge of translation
	14.00–15.00	<ul style="list-style-type: none"> Discussion with VAAC Global Fund team 	<ul style="list-style-type: none"> Dr. Le Thi Huong Dr. Joshi Nguyen Thuy, MSH 	Briefing to the GF team about the current PSM curriculum reform work, and soliciting information and inputs regarding ARV supply chain efforts in Vietnam
	15.30–17.00	<ul style="list-style-type: none"> Continue work with HUP on the development of pharmaceutical supply management curriculum 	<ul style="list-style-type: none"> Dept. of PM & E Dept. of Training Dept. of Postgraduate Training 	HUP will be in charge of translation (Mr. Nam or Ms. H.Van)
March 26 (Monday)	9.00–11.30	<ul style="list-style-type: none"> Continue work with HUP on the development of pharmaceutical supply management curriculum 	<ul style="list-style-type: none"> Dept. of PM & E Department of Training Department of Postgraduate Training 	HUP will be in charge of translation (Mr. Nam or Mrs. Hanh Van)

Pre-Service Curriculum Reform on Pharmaceutical Supply Management at the Hanoi University of Pharmacy: Technical Assistance for Curriculum Review and Competency Assessment

	14.00 –16.00	<ul style="list-style-type: none"> • Conclusion Meeting regarding Pharmaceutical Supply Management Curriculum-related work 	<ul style="list-style-type: none"> • HUP leader (Prof. Binh) • Department of post training • Department of Training • Dept. of PM & E • Representative from some Hospitals in Hanoi • Dr. Joshi 	SCMS will be in charge of translation
March 27 (Tuesday)	9.30–10.30	<ul style="list-style-type: none"> • USAID debriefing 	<ul style="list-style-type: none"> • Ms. Folmsbee, Dr. Giang Nguyen, Dr. Joshi 	
	13.30	<ul style="list-style-type: none"> • Dr. Joshi to Airport for Departure from Vietnam 		

ANNEX D. SCOPE OF WORK PERTAINING TO PSM CURRICULUM DEVELOPMENT DURING VISIT TO VIETNAM IN MARCH 2012

- Carry out structured interactions with various related national stakeholders (HUP academic authorities, PG training department, teaching faculty members, students, and relevant MOH authorities) to identify what the “intended” and actually “taught” curricula are at both postgraduate and undergraduate levels within HUP relating to PSM.
- Carry out structured interactions with various related national stakeholders (HUP academic authorities, post-graduate training department, teaching faculty members, and relevant pharmaceutical supply management personnel within MOH and other relevant bodies) to identify what the expected PSM competencies and job descriptions are for under- and post-graduate pharmacy students after they complete their studies and join the pharmacy workforce at the respective levels.
- Triangulate information on what’s currently covered (and what is not covered) with what the expected competencies are. This key initial activity will pave the way for evidence-based identification of the existing gaps and deficiencies that will facilitate action delineated in the next bullet.
- Present the findings to the key HUP counterparts and discuss together to identify key content topics that need to be added or deleted or modified in the curriculum at both post- and under-graduate levels of training in terms of both ‘theoretical’ and ‘practical’ exposures.
- Hold in-brief and debrief meetings with the USAID mission as requested
- Write and disseminate a technical report on this PSM-related in-country activity.

ANNEX E. FINDINGS ON EXISTING CURRICULUM CONTENTS AND EXPECTED COMPETENCIES RELATING TO PSM OBTAINED THROUGH QUESTIONNAIRE SURVEY AND OPEN DISCUSSIONS WITH STAKEHOLDERS



UG = undergraduate; PG = postgraduate; Y = Yes; N = No; EC = Essential Competency; DC = Desirable Competency; NEC = Non-essential Competency, NS = Not sure

Headings and Sub-headings		Existing Curriculum Facility staff members (red characters) Undergraduate students Postgraduate students								Expected Curriculum Administration Group (A) Hospital Group (H) Private Suppliers Group (P)					
		PG THEORY and duration	Competency	PG PRACTICAL And duration	Competency	UG THEORY and duration	Competency	UG PRACTICAL And duration	Competency	Other comment s	Competency				Other comments
											EC	DC	NEC	NS	
1. Introduction															
1.1	Purpose of supply chain management (SCM) system for pharmaceuticals and other commodities	N	EC	N	NEC	Y10 N	EC	N N	NEC		3				
1.2	The supply chain management context: Definition, SCM alignment into the health system, the SCM environment, financing and human resources for SCM, performance measures and its key components.	N	EC	N	NEC	N N	DC	N N	NEC		2	1 A			
1.3	Importance of uninterrupted product availability as a prerequisite for rational use of medicines	N	EC	N	NEC	N N	DC	N	NEC	This topic will be repeated again for the 5 th year	2	1 H			

Preservice Curriculum Reform on Pharmaceutical Supply Management at the Hanoi University of Pharmacy: Technical Assistance for Curriculum Review and Competency Assessment

										students in the subject called Social Pharmacy (delivered by our department, duration: 90')					
1.4	Overview of the various elements of the SCM system (e.g., selection, forecasting, procuring/ordering, warehousing/storing, managing inventory, recording/reporting) and how they are interlinked	N	EC	N	NEC	Y45 Y90	EC	Y45	NEC		2	1 A			
1.5	Governance in SCM (policy and legal framework, regulations and acts, fraud, etc.)	N	EC	N	NEC	N N	DC	N	NEC	This topic will be repeated again in the subject Social Pharmacy (duration: 8 hour')	1 P	2			
2. Product Selection															
2.1	Importance of selection of the right products as a key initial step for subsequent actions of quantification, procurement, distribution and use	N	DC	N	NEC	Y10 Y	EC	Y20 N	NEC	The total amount of theory hours is 3 hours for these topics (except for the 2.3)	1 H	1 A	1 P		P thinks that this is impacted by many sensitive factors, so it's hard to cover this topic by a general theory
2.2	Concept of developing a essential medicines list at national/facility level (EML)	N	EC	N	EC	N Y	EC	Y5 Y	EC		1 H	1 A	1 P		H states that the governance is not fully reflected what is happening in reality
2.3	Concept of standard treatment guidelines at national/facility level (STG)	N	DC	N		N N	DC	N N	NEC		1 H	1 A	1 P		P thinks that these are only important for

Preservice Curriculum Reform on Pharmaceutical Supply Management at the Hanoi University of Pharmacy: Technical Assistance for Curriculum Review and Competency Assessment

														hospital staffs A think it should cover SOPs
2.4	Importance of using international nonproprietary name or generic names in the EML and STG	N	DC	N	NEC	N Y	DC	N N	NEC			3		It is only important for general drugs. For ARVs, because of there are limited number of drugs, managing based on brand products is acceptable
2.5	Choosing medicines for different levels of facility, e.g. primary care, secondary care, tertiary care	N	EC	N	EC	Y5 Y	DC	Y10 N	NEC			3		
3. Forecasting / Quantification and Supply Planning														
3.1	Importance of carefully quantifying medicine requirements	N	EC	N	NEC	N Y	EC	Y5 N	NEC	The total amount of theory hours is 30 minutes	1 H	1 A	1 P	H suggests that a national guideline to control unethical pharmaceutical promotion activities of industry should be added to prevent confounding in quantifying the number of drugs used
3.2	Use of various quantification methods such as consumption and morbidity methods	N	DC	N	EC	Y45 Y	EC	Y30 N	NEC		1 H	1 A	1 P	P believes that it is not really important in Vietnamese conditions
3.3	The concept of supply planning, resources mobilization, including	N	EC	N	EC	N Y	EC	Y45 N	NEC		1 H	1 A	1 P	

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	financing														
3.4	Factors to consider during quantification	N	EC	N	NEC	Y30 Y	EC	Y30 N	NEC		2	1 A			
4. Procurement and Quality Assurance															
4.1	Relevance of good pharmaceutical procurement practices	N	EC	N	NEC	N N	EC	N N	NEC	The total amount of theory hours is 3 hours for these topics (except for 4.1, 4.6, 4.8, and 4.11) and the total amount of practical hours is half day.	1 P	2			P emphasizes that it is really important for drugs needed to be stored in special conditions (low temperature)
4.2	Selecting procurement methods	N	DC	N	NEC	Y45 Y	EC	Y30 Y	DC			2	1 P		H thinks that it is covered in regulations on GPs
4.3	Managing tenders	N	DC	N	NEC	Y45 Y	EC	Y30 Y	DC			2	1 P		P thinks that it is only important for hospital staff
4.4	The processes for selecting suppliers (prequalification)	N	DC	N	NEC	Y45 Y	EC	Y30 Y	DC			1 P	2		P emphasizes that this is essential for suppliers
4.5	Managing contracts (contract negotiation, management, importance of understanding procurement/contract implementation)	N	EC	N	EC	Y1 Y	DC	Y5 Y	EC				3		P thinks it may be an interesting topic because Vietnamese suppliers often make mistakes in contracts
4.6	Managing procurement/supplies relationship (good procurement practice context)	N	EC	N	EC	N N	DC	N Y	EC				3		
4.7	Various purchasing methods (e.g. annual purchasing, scheduled purchasing, perpetual purchasing)	N	DC	N	NEC	Y15 Y	DC	Y30 N	NEC				1 H	2	
4.8	Consequences of poor drug quality	N	DC	N		N N	NEC	N N	NEC			3			
4.9	Selecting good quality products	N	EC	N	EC	N	EC	Y45	EC			3			

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	and suppliers					Y		Y							
4.10	Ensuring quality adherence to contract terms	N	DC	N	NEC	N Y	NEC	Y10 N	NEC		2	1 H			
4.11	Problems with drug donations and need for national donations policy	N	DC	N	NEC	N N	NEC	N N	NEC			2	1 P		P thinks that it is not important for Private sector at all because it is always taken care by State Suppliers, they has been never included in this mission
5. Storage and Distribution															
5.1	Understanding of the objectives and scope of warehousing/storage, distribution and the link between the two	N	EC	N	NEC	N Y	DC	Y5 Y	EC	The total amount of theory hours is 3 hours for 3 of 5 these topics (except for 5.4 and 5.5) and the total amount of practical hours is half day.		3			P thinks that although this part is very important, future workers can easily learn from their experiences and maybe it is easier than studying at university
5.2	Organizing warehouse or storage facility (e.g. stacking supplies properly, organizing commodities, preventing expiration, temperature control, ventilation, dryness, workspace, lighting, cleanliness, orderliness, pests control, security and safety, authorized access)	N	EC	N	EC	N Y	DC	Y Y	EC		1 A	2			
5.3	Guidelines, Planning, managing and the role of technology, tools and software in warehousing and distribution	N	EC	N	EC	N Y	EC	N Y	EC		1 H	2			
5.4	Commodity controlling, handling and safety/protection	N	DC	N	DC	N N	NEC	N N	NEC			3			
5.5	Managing transport: planning distribution routes, flirt management, delivery schedules and transport options	N	EC	N	EC	N N	NEC	N N	NEC			3			
6. Inventory Management															
6.1	Assessing stock status, determining safety stock levels,	N	EC	N	EC	N N	EC	Y5 N	EC		1 H	2			

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	avoiding stock-outs, and determining quantities to order for resupply														
6.2	Lead time, maximum and minimum stock levels	N	EC	N	EC	N N	EC	N N	EC		2	1 A			
6.3	Data needed to assess stock status (e.g. stock on hand, and rate of consumption)	N	EC	N	EC	N N	EC	N N	EC			3			
6.4	Types of inventory management systems e.g. push or pull	N	EC	N	EC	N N	EC	N N	EC			2	1 P		
6.5	Maintaining accurate stock records (e.g., up-to-date and accurate stock card and bin card; conducting physical inventories)	N	EC	N	EC	N N	EC	N N	EC			3			
6.6	Value of ABC and VEN analysis in inventory management	N	EC	N	EC	Y45 N	EC	Y15 N	EC			2	1 P		Bach Mai hospital thinks these topics are extremely important in big hospitals whose huge volume of drugs must be managed by up-to-date tools
6.7	Issuing and receiving procedures in a medical store	N	EC	N	EC	N N	EC	N N	EC			3			
6.8	Accounting for and minimizing losses through expiry, spoilage, fraud	N	EC	N	EC	N N	EC	Y15 N	EC		2	1 A			
7. Logistics Management Information System (LMIS)															
7.1	Purpose of LMIS	N	EC	N	EC	N N	DC	N N	EC		1 H	1 A			P emphasizes that there is no general answer for these subjects (for small ones, it's not really important; for
7.2	Key records and data needed for LMIS	N	EC	N	EC	N N	DC	N N	EC		1 H	1 A			
7.3	Various types of logistics records (storekeeping records, transaction records, consumption records)	N	EC	N	EC	N N	DC	N N	EC		2 H A				

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7.4	Logistics reporting (summary reporting and feedback reporting)	N	EC	N	EC	N N	DC	N N	EC		1 H	1 A			big ones, it is very important)
7.5	Using LMIS for decision-making	N	EC	N	EC	N N	DC	N N	EC		1 H	1 A			

ANNEX F. POWERPOINT PRESENTATION MADE BY SIAPS TECHNICAL STAFF DR. MOHAN P. JOSHI ON THE FINDINGS OF CURRICULUM REVIEW AND COMPETENCY ASSESSMENT, 26 MARCH 2012, HANOI, VIETNAM

**Pharmaceutical Supply Management
Curriculum Reform at HUP:
Existing Situation Analysis, Competency Assessment
and Outline of the Suggested New Curriculum**

**Department of Pharmaceutical Management and Economics,
Hanoi University of Pharmacy (HUP)**

Lê Viết Hùng, Nguyễn Thị Thái Hằng, Nguyễn Thanh Bình, Nguyễn Thị Song Hà, Nguyễn Thị Thanh Hương, Trần Thị Lan Anh, Phạm Nữ Hạnh Vân, Lê Thị Quỳnh Liên, Nguyễn Vĩnh Nam, Nguyễn Phương Chi, Bùi Thị Bích Thủy, Vũ Thị Ánh

MSH/SIAPS
Mohan P. Joshi

Conclusion Interaction between HUP Academic Leadership, Staff of the Department of Pharmaceutical Management and Economics, and SIAPS Technical Consultant
Hanoi, March 26, 2012



Curriculum: A Nerve-Center

Curriculum is a blueprint for teaching-learning experience and it

is a dynamic and living document	needs periodic review and revision	requires continuous improvement
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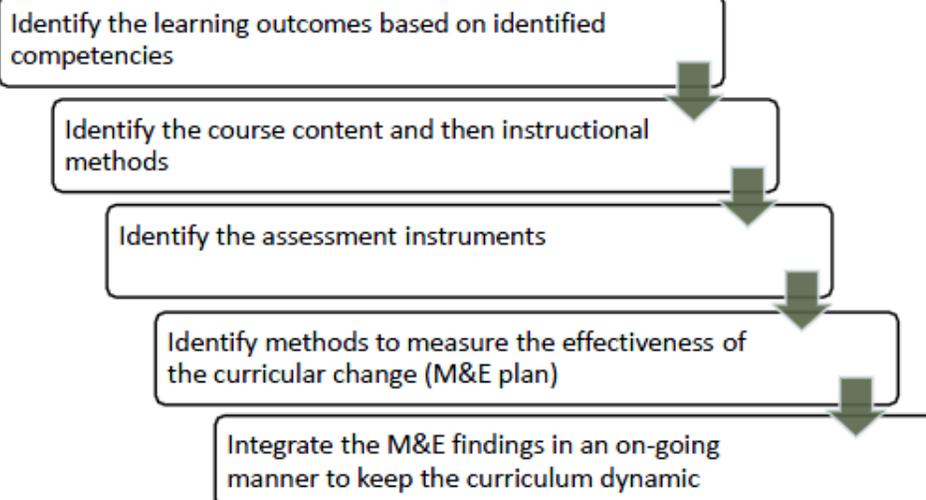


The Process of Curriculum Review and Revision

- What are the **learning outcomes** ? (What the students or trainees will be able to do in real world practice, as a result of this training)
- What is currently being done ? (**curriculum mapping** or course stocktaking)
- Review, analyze **gaps and deficiencies**, and revise followed by further refinement based on **wider consultations** (curriculum reform)
- Implement, review and revise cyclically (**continuous curriculum improvement**)



Backward Design: Making the End the Beginning



Cost-benefit of a Good Curriculum Design



- Better reputation for the Department and University
- Better applicants to the Department and University
- Better and happier teaching faculty and students
- Students graduating as a better health workforce
- Better and safer service delivery and health outcomes
- No gaps, no overlaps in teaching-learning experiences
- Good rating during internal and external inspections



Adapted from: Dr. Kieran Walsh.
Curriculum Design. BMJ Group

Pre-service Education on PSM

- Education on pharmaceutical supply management (PSM) is a key investment for strengthening pharmacy practice
- However, PSM-related topics are often poorly covered during pre-service education
- HUP/Dept. of Pharmaceutical Management and Economics is currently taking steps to strengthen the PSM components in both under- and post-graduate training courses as part of the University's ongoing 2011-2014 curriculum revision efforts



HUP = Hanoi University of Pharmacy

Current Curriculum Content Review and Competency Assessment: **Methods**

- Conducted from March 12 to 16
- **Methods**
 - Curriculum document review
 - Consultation with key stakeholders
- **Methods of consultation with stakeholders:**
 - Questionnaire to elicit responses on *PSM topics currently covered* and the teaching learning methods (students and teaching faculty members)
 - Questionnaire to elicit responses regarding *PSM-related competencies* (relevant MOH units, public sector hospital pharmacists, public & private sector pharmaceutical manufacturer)
 - Open discussion to solicit further inputs



Methods: **Details of the Stakeholders Consulted**

Sector/organization (# of stakeholders)	Position
Drug Administration of Vietnam (DAV) (2)	1 Head of Division, 1 Deputy Head of Division
Medical Services Administration (MSA) (1)	Staff (1)
Vietnam Administration of AIDS Control—Global Fund (1)	Chief of Care & Treatment of GF (1)
Public Sector Hospitals (6) (Bach Mai hospital, Ha Noi cardiology hospital, Thanh Nhan hospital, Dong da hospital, 108 Hosp., E hospital)	Heads of the Dept. of Pharmacy (5), Deputy head of Dept. Phar. (1)
Private Sector Pharmaceutical Enterprises (5)	CEO (3), Sales Director (1), Branch Director (1)
Department of Pharmaceutical Management and Economics (10)	Deputy Heads, Lecturers, and Technicians
Students (7) (those who have already had exposure to PSM topics)	Undergraduate Students



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Department of Pharmaceutical Management and Economics (10)	Deputy Heads, Lecturers, and Technicians
Students (7) (those who have already had exposure to PSM topics)	Undergraduate Students



Methods: Details of the Questionnaire (1)

- Structured and self-administered
- Respondents representing similar organizations or units (e.g. chief pharmacists from different public hospitals) worked as one group and provided a single combined response
- The questionnaire contained the following headings relating to PSM topics
 1. Introduction
 2. Product Selection
 3. Forecasting / Quantification
 4. Procurement / QA
 5. Storage & Distribution
 6. Inventory Management
 7. LMIS
- Each of these headings contained several subheadings (*see slides 10 through 16*)



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FROM THE AMERICAN PEOPLE

SIAPS



QA = Quality assurance;
LMIS = Logistics Management Information System

Methods: Details of the Questionnaire (2)

1. Introduction

1.1. Purpose of supply chain management (SCM) or logistics system for pharmaceuticals and other commodities

1.2. The supply chain management context: Definition, SCM alignment into the health system, the SCM environment, financing, and human resources for SCM, performance measures and its key components

1.3. Importance of interrupted product availability as a prerequisite for rational use of medicines

1.4. Overview of the various elements of the SCM system (e.g. selection, forecasting, procuring/ordering) warehousing/storing, managing inventory, recording/reporting) and how they are interlinked

1.5. Governance in SCM [policy and legal framework, regulations and acts, fraud, etc.]



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FROM THE AMERICAN PEOPLE

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Methods: Details of the Questionnaire (3)

2. Product selection

- 2.1. Importance of selection of the right products as a key initial step for subsequent actions of quantification, procurement, distribution and use
- 2.2. Concept of developing a essential medicines list at national/facility level (EML)
- 2.3. Concept of standard treatment guidelines at national/ facility level (STG)
- 2.4. Importance of using international nonproprietary name (INN) or generic names in the EML and STG
- 2.5. Choosing medicines for different levels of facility, e.g. primary care, secondary care, tertiary care



Methods: Details of the Questionnaire (4)

3. Forecasting / Quantification

- 3.1. Importance of carefully quantifying medicine requirements
- 3.2. Use of various quantification methods such as consumption and morbidity methods
- 3.3. Concept of supply planning, resources mobilization, including financing
- 3.4. Factors to consider during quantification



Methods: Details of the Questionnaire (5)

4. Procurement and Quality Assurance

- 4.1. Relevance of good pharmaceutical procurement practices
- 4.2. Selecting procurement methods
- 4.3. Managing tenders
- 4.4. The processes for selecting suppliers (prequalification)
- 4.5. Managing contracts (contract negotiation, management, importance of understanding procurement/contract implementation)
- 4.6. Managing procurement/supplies relationship (good procurement practice context)
- 4.7. Various purchasing methods (e.g. annual purchasing, scheduled purchasing, perpetual purchasing)
- 4.8. Consequences of poor drug quality
- 4.9. Selecting good quality products and suppliers
- 4.10. Ensuring quality adherence to contract terms
- 4.11. Problems with drug donations and need for national donations policy



Methods: Details of the Questionnaire (6)

5. Storage and Distribution

- 5.1. Understanding of the objectives and scope of warehousing/storage, distribution and the link between the two
- 5.2. Organizing warehouse or storage facility (e.g. stacking supplies properly, organizing commodities, preventing expiration, temperature control, ventilation, dryness, workspace, lighting, cleanliness, orderliness access)
- 5.3. Guidelines, Planning, managing and the role of technology, tools and software in warehousing and distribution
- 5.4. Commodity controlling, handling and safety/protection
- 5.5. Managing transport: planning distribution routes, delivery schedules and transport options



Methods: Details of the Questionnaire (7)

6. Inventory Management

- 6.1. Assessing stock status, determining safety stock levels, avoiding stock-outs, and determining quantities to order for resupply
- 6.2. Lead time, maximum and minimum stock levels
- 6.3. Data needed to assess stock status (e.g. stock on hand, and rate of consumption)
- 6.4. Types of inventory management systems e.g. push or pull
- 6.5. Maintaining accurate stock records (e.g., up-to-date and accurate stock card and bin card; conducting physical inventories)
- 6.6. Value of ABC and VEN analysis in inventory management
- 6.7. Issuing procedures in a medical store
- 6.8. Accounting for and minimizing losses through expiry, spoilage, fraud



Methods: Details of the Questionnaire (8)

7. Logistics Management Information System (LMIS)

- 7.1. Purpose of LMIS
- 7.2. Key records and data needed for LMIS
- 7.3. Various types of logistics records (storekeeping records, transaction records, consumption records)
- 7.4. Logistics reporting (summary reporting and feedback reporting)
- 7.5. Using LMIS for decision-making



Findings: Current Coverage of PSM Topics at HUP

Description	Under-graduate (UG) Course	Post-graduate (PG) Course
Course duration	5-year course	2-year, fulltime (Master's Course) OR 3-year, part-time (Special Level 1 Course)
Training center	HUP, Hanoi	1 in Hanoi, 2 class in HCMC, 1 in Quang Ninh, 1 Khanh Hoa
No. of students (studying Pharma. Mgmt. & Economics)	50 to 60	About 100 (about 20 in each training site)
PSM topics currently taught	Yes	No
PSM topics taught when	4 th year of the course	-
Total time for PSM topics	15 hrs of classroom lectures + 3 half-day observational hospital visits followed by PPT in Dept.	-
Pharmacy "stream" teaching PSM topics	Pharmaceutical Management and Economics	Pharmaceutical Management (proposed for future inclusion)
No. of teachers	10	5



Findings: PSM topics included in the curriculum document

Theory

(Classroom Teaching)

- Concept and factor influencing pharmaceutical demand
- Methods of quantification
- Pharmaceutical distribution system
- The methods of drug procurement
- The methods/indicators to assess drug use

Practical

(Observational Hospital Pharmacy Visit)

- Operational procedures of building hospital medicines lists
- Operational procedures of hospital medicine procurement activities
- Process of issuing medicines and dispensing activities at the hospital pharmacy



Findings: Questionnaire Responses by Students and Teachers regarding topics currently covered in UG course

Topics Currently Covered in UG	
Theory	Practical
1.1, 1.4, 2.1, 2.2, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 4.2, 4.3, 4.4, 4.5, 4.7, 4.9, 4.10, 5.1, 5.2, 5.3, 6.6	1.4, 2.2, 4.2, 4.3, 4.4, 4.5, 4.6, 4.9, 5.1, 5.2, 5.3

- **Comments**
 - In the majority of the instances, the responses of the students and teachers matched.
 - But in some instances the responses did not tally. The current non-availability of a detailed and objectively defined curriculum might have contributed to these differences in perceptions, interpretations, and responses.
 - Where the students said “no” and teachers said “yes”, the teachers’ responses were taken into account while listing the topic numbers in the above table
 - Regarding current teaching-learning methods, all theory exposures are based on “classroom lectures” and all practical exposure are based on “hospital observational visits followed by seminar”



Interpretation of Findings on the Existing Level of Coverage of PSM Topics

Existing Strengths

- Product selection, forecasting/quantification, procurement, and storage related topics are covered to some extent
- At least some degree of practical exposure through hospital field visits

Areas that Require Strengthening

- Topics relating to inventory management, transportation, LMIS, and policy/regulation/governance and connection to rational use poorly covered
- Time allocated insufficient even for the topics that are covered
- Inadequate variety of teaching-learning methods: Theory teaching is based only on classroom lectures and practical exposure is only “observational” hospital visit. No hands-on exposure. No case studies/problem-based learning.



Teaching Faculty Staff at HUP/Dept. of Pharmaceutical Management and Economics

Full name	Title	Position	Remarks
Lê Viết Hùng	Ass.Prof.	Rector- Head of Dept.	
Nguyễn Thị Thái Hằng	Ass.Prof.	Former Head of Dept.	
Nguyễn Thanh Bình	Ass.Prof.	Vice-rector	
Nguyễn Thị Song Hà	Dr. (PhD)	Deputy Head of Dept.	
Nguyễn Thị Thanh Hương	Dr. (PhD)	Deputy Head of Dept.	
Đỗ Xuân Thắng	PhD candidate	Lecturer	Studying abroad
Nguyễn Tuấn Anh	Dr. (PhD)	Lecturer	Studying abroad
Trần Thị Lan Anh	PhD student	Lecturer	
Phạm Nữ Hạnh Vân	M.Sc	Lecturer	
Bùi Thúy Vân	PhD student	Lecturer	Studying abroad
Nguyễn Thị Phương Nhung	PhD student	Lecturer	Studying abroad
Nguyễn Thị Hà	M.Sc student	Lecturer	Studying abroad
Lê Thị Quỳnh Liên	M.Sc	Lecturer	
Nguyễn Vĩnh Nam	Pharmacist	Lecturer	
Nguyễn Phương Chi	Pharmacist	Lecturer	
Bùi Thị Bích Thủy	Pharmacist	Technician	
Vũ Thị Ánh	Pharmacist	Technician	



Summary of Stakeholder Responses Regarding Expected Competencies (1)

- The majority of the respondents said that all the “theory” topics listed under each of all the 7 headings are essential/desirable exposure areas for PSM competencies at both UG and PG levels
- These responses clearly indicate that all the key PSM-related functions listed in the questionnaire are locally required competencies for not only PG but also UG level pharmacy graduates in Vietnam



Summary of Stakeholder Responses Regarding Expected Competencies (2)

- Regarding “practical sessions”, the following were identified as key exposure areas for acquiring practical skills:

Suggested Practicals for PG	Suggested Practicals for UG
<ul style="list-style-type: none"> EML, and its division based on the level of care Quantification methods Supply planning and resource mobilization Managing contracts; good procurement practice; selecting quality products and suppliers Organizing warehouse and storage facility; managing transport; Role of technology, tools and software in warehousing and distribution Inventory management LMIS 	<ul style="list-style-type: none"> EML Procurement methods; managing tenders; managing contracts; good procurement practice; selecting quality products and suppliers Organizing warehouse and storage facility; role of technology, tools and software in warehousing and distribution Inventory management LMIS



Additional Key Suggestions by Stakeholders (1)

- Provide a good exposure on those pharmaceutical laws and regulations of the country that are directly relevant to PSM-related practice
- Also connect with the current DAV initiative towards establishing a system-based quantification and procurement policies and regulations
- Emphasize the importance of health systems strengthening (HSS) for effective PSM
- # 1.5 (governance) is important – give a good exposure. Connect with WHO’s initiative on GGM. Provide exposures relating to pharmaceutical policies, guidelines, transparency, accountability, conflict of interest (COI), and standard operating procedures (SOPs)



MSA = Medical Services Administration;
GGM = Good governance on medicines

Additional Key Suggestions by Stakeholders (2)

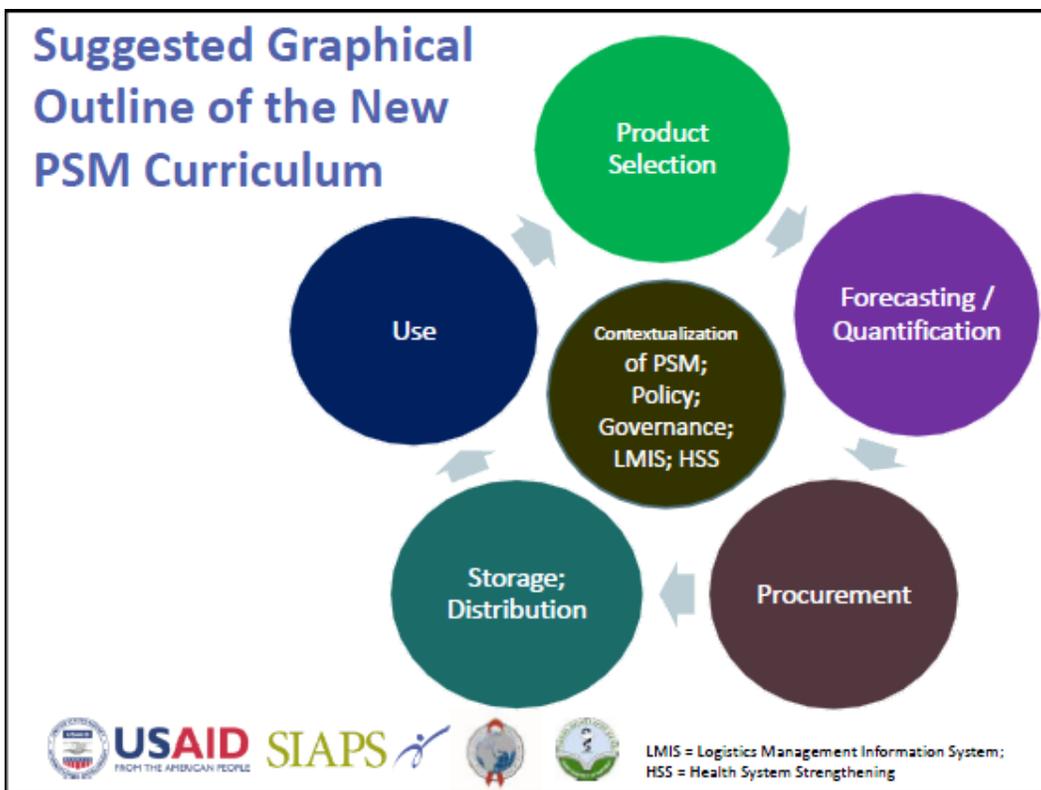
- Include some key topics relating to rational medicine use (RMU), avoiding overlaps with topics that are covered in other modules or years. Contribute to an adequate and complete RMU curriculum. Reinforce and say that supply and use are 2 integral and complementary components of pharmaceutical management.
- Include PSM-related case-stories and examples from the HIV/AIDS public health program in Vietnam
- Give a strong focus on 2.5 (choosing medicines for different levels of facility), especially in the PG curriculum
- Include communication skills. Put as a part of the RMU connection.
- Add a little bit on international perspectives (situation in the int'l arena) regarding PSM



Overall Objective of the Proposed New PSM curriculum

- Ensure an adequate, effective, and interesting teaching-learning experience for HUP students in order to prepare them to graduate out as highly motivated and competent pharmacy workforce with practical managerial and technical skills to support the management of the various interlinked components of pharmaceutical supply management (PSM) functions as an integrated whole





Suggested Time Allocation for PSM in the PG Course Curriculum

PSM Curriculum Heading	Theory (hours)	Practical (hours)
Introduction/Contextualization of PSM/Governance	2	
Product Selection	2	2
Forecasting / Quantification and Supply Planning	3	2
Procurement and Quality Assurance	4	3
Storage and Distribution	3	3
Inventory Management	4	4
Logistics Management Information System (LMIS)	4	4
Rational Use of Medicines	3	2
Total # of hours	25	20

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Suggested Time Allocation for PSM in the UG Course Curriculum

PSM Curriculum Heading	Theory (hours)	Practical (hours)
Introduction/Contextualization of PSM/Governance	2	
Product Selection	2	2
Forecasting / Quantification and Supply Planning	3	
Procurement and Quality Assurance	4	2
Storage and Distribution	3	3
Inventory Management	4	4
Logistics Management Information System (LMIS)	4	2
Rational Use of Medicines	3	2
Total # of hours	25	15



Other Practical Suggestions

- Teaching-learning to be less didactic and more participatory with a good blend of theory and practice
- Although the approximate time allocated for both UG and PG in the proposed curriculum are about the same, the PG curriculum should be designed to deal the topics at a deeper level, building on the fundamentals covered during the UG course
- The PG level graduates should be exposed to more complex management, communication and problem-solving situations
- Practical sessions should include problem-based learning, discussion of case studies and real examples, field visits including hospital pharmacies and local firms, demonstration of tools and software, etc



Suggested Next Steps

- Take further suggestions from HUP academic leadership group and agree on the suggested outline of the PSM curriculum for both UG and PG levels
- HUP/Dept. of Pharmaceutical Management and Economics and SIAPS to put together detailed drafts of both PG and UG curricula including detailed content areas for both “theory” and “practicals” along with contact hours and teaching-learning methods
- Send the draft for review by relevant stakeholders, including those consulted during the March 2012 competency analysis
- Conduct a widely participated stakeholder consensus workshop in Sept. 2012 in Hanoi to review, revise and finalize the curriculum
- Submit the finalized curriculum to the HUP academic authorities for final approval

