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**Philippine Pharmaceutical Management
Assessment**

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Robert Timmons, Senior Fellow
David Lee, Deputy Director, Drug Management Program
James Rankin, Director, Drug Management Program
Florante Magboo, National Monitoring Advisor, PMTAT
Elvira Beracochea, Deputy Director, PMTAT
Maria Miralles, Drug Management Program

Management Sciences for Health
Drug Management Program
1515 Wilson Blvd. Suite 710
Arlington, VA 22209 USA

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List of Acronyms

AusAID	Australian Agency for International Development
BFAD	Bureau of Food and Drugs
BHS	Barangay Health Station
CDLMIS	Contraceptive Distribution and Logistics Management Information System
COA	Commission on Audit
DIRFO	DOH-Integrated Regional Field Office
EDD	Essential Drug Distribution
DOH	Department of Health
FOFLSA	Financial Operations and Frontline Service Audit
FPLM	Family Planning and Logistics Management
GNP	Gross National Product
IFPMHP	Integrated Family Planning and Maternal Health Program
INRUD	International Network for Rational Use of Drugs
JSI	John Snow, Inc.
LGEDDS	Local Government Essential Drugs Distribution System
LGU	Local Government Unit
LPP	Local Government Performance Program
MCH	Maternal Child Health
MIS	Management Information System
MSH	Management Sciences for Health
NCR	National Capital Region
NDC	National Drug Committee
NDHS	National Demographic and Health Survey
NSO	National Statistics Office
OLA	Office for Legal Affairs
PBAC	Pre-qualification, Bids, and Awards Committee
PLS	Procurement and Logistics Service
PMO	Project Management Office
PMTAT	Program Management Technical Advisors Team
PNDF	Philippine National Drug Formulary
PNDP	Philippine National Drug Policy
RHU	Rural Health Unit
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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EXECUTIVE SUMMARY

Over the past ten years, several studies of the DOH drug supply system have reported problems with the availability of drugs essential to primary health care in government health facilities in most areas of the country. In 1998, the newly appointed Secretary of Health, Dr. Romualdez, Jr., requested help from the United States Agency for International Development (USAID) to assist DOH in assessing the system and recommending ways to improve the DOH's procurement and logistics system. USAID asked Management Sciences for Health (MSH) to conduct a structured assessment under the auspices of the Integrated Family Planning and Maternal Health Program (IFPMHP), and the MSH component, the Local Government Performance Program (LGPP). The purpose of the assessment was to identify needs for improved public sector drug management, identify data requirements for monitoring public sector drug management performance, and analyze options for reforming the drug supply system, considering options for public and private sector collaboration.

This report presents the results of the assessment, conducted in the first quarter of 1999. A structured, indicator-based assessment approach was taken to collect information on drug management in both the public and private sectors. Questionnaires were adapted from previous country assessment for interviews at health facilities, regional and local government offices, and retail drug outlets. Surveys were conducted of pharmaceutical manufacturers, importers and distributors, and interviews were conducted to assess private sector interest, willingness and capacity to participate in alternative options to improve public sector drug procurement and distribution. Key findings include:

- The DOH has taken important steps toward improving the availability and access to safe, effective and acceptable quality essential drugs (especially the development and implementation of a national drug policy, generic drugs legislation, and a national drug formulary). However, essential availability is still problematic in health facilities, and management problems remain in the procurement and logistics system.
- Essential inventory management practices, especially stock record keeping, are not standardized and often incomplete or inaccurate.
- Although the DOH has focused on improving procurement procedures, the process is still cumbersome and lengthy, and payment to vendors is frequently problematic.
- It is not clear whether the current distribution system based on central and regional warehousing by DOH can be significantly improved. However, given existing capacity in the private sector, and given the potential for overcoming basic concerns on the part of both the private sector and the DOH, there may be viable options for private sector participation that are worth considering.

The problems in the DOH internal drug supply system are longstanding. It is unclear that DOH can realistically solve all of the problems and commit the necessary management and financial resources needed to sustain an internally operated logistics system over an extended period. The LGEDDS initiative, supported by the WB financed Women's Health and Safe Motherhood Project, has proposed a centrally managed "push" style

logistics model, similar to the one developed to vertically distribute family planning supplies. It is unclear that this model is consistent with DOH's decision to devolve purchasing authority for core essential drugs to the regions (and eventually to the LGU level). Moreover, the recurrent and capital costs must be considered. The DOH does not currently have the systems to track operating costs for the current dysfunctional system, and it is unclear how much would be needed to operate an efficient internal system. It is certain that substantial recurrent resources would be required, and there would be continual need to commit capital to bring the internal logistics infrastructure up to a proper standard and keep it there. Meanwhile, in the Philippines there is an established private pharmaceutical sector with several firms that have demonstrable capacity to distribute pharmaceuticals nationally. At least two of these firms expressed strong interest during the assessment in contracting with DOH to provide warehousing and distribution, and others will likely become interested if DOH appears serious about implementing such a program (and if they believe DOH will be able to reliably pay for the services).

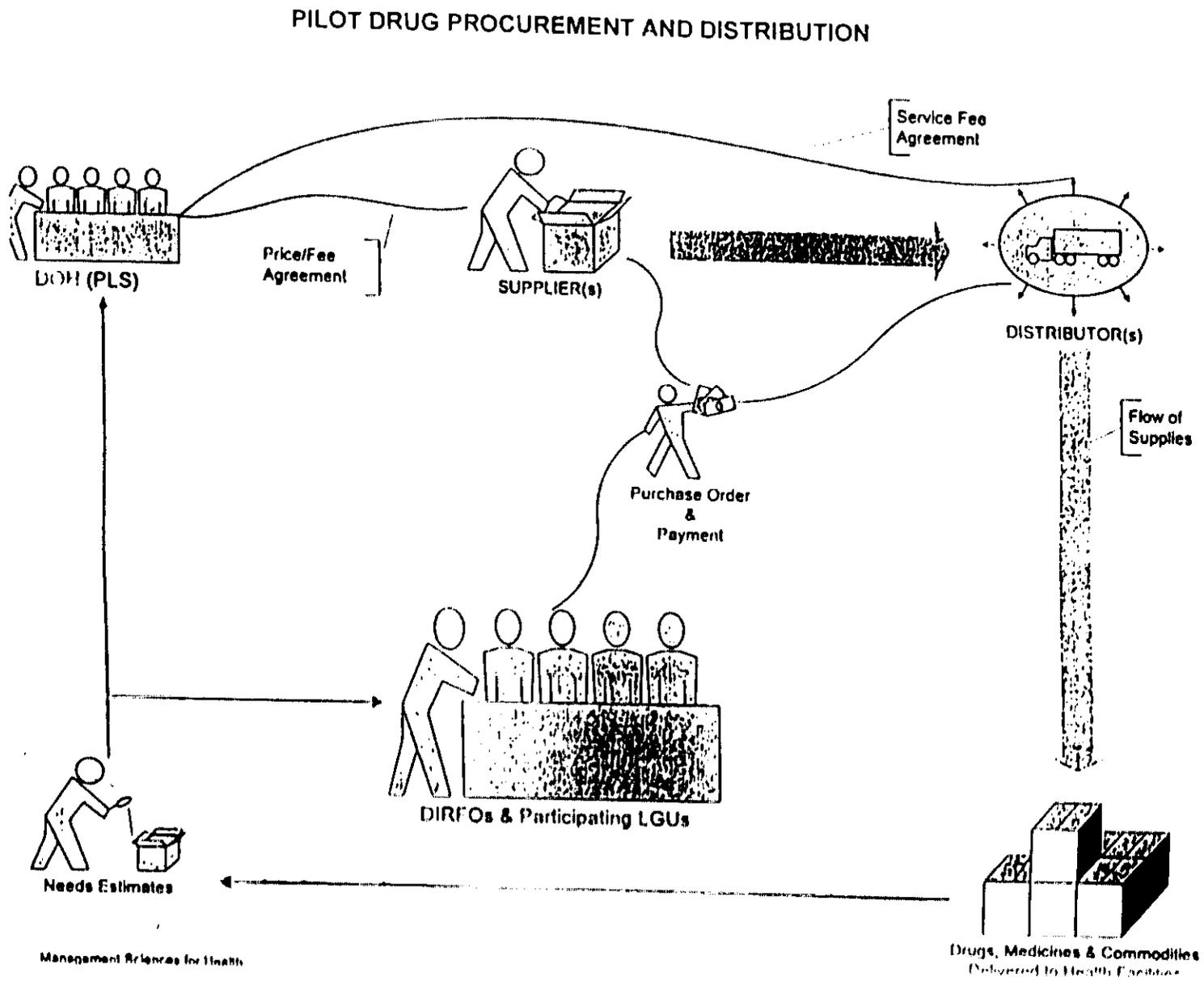
Given this context, six alternative models for drug supply are examined: the medical store model, the autonomous supply agency, direct delivery system, prime vendor system, fully private supply system, and a mixed model supply system. Based on the realities of the Philippine situation, four basic options emerge for the DOH to consider in restructuring its drug logistics system:

- A. Contract out for prescription services from private pharmacies for essential drugs.
- B. Abdicate all responsibility for procurement and logistics, transferring responsibility for core essential drugs and supplies to the LGU's.
- C. Continue to manage an internal DOH logistics system for the core essential drugs; revising the plan developed through the LGEDDS initiative, but shift responsibility away from the central level. This would involve redesigning the system; transferring responsibility for purchasing of priority program drugs to the DIRFOs; and strengthening the storage and distribution system at the regions and/or provinces.
- D. Pilot test an alternative supply system model, retaining central control of price negotiations with regional/LGU purchasing authority, and contracting out for logistics (warehousing and distribution) service from the private sector.

Based on a critical review of these alternatives, this report recommends that DOH conduct a pilot test in three regions of a contract logistics system adapted from the Prime Vendor model. The policy issues and planning implications of this pilot program are identified and discussed in the report. If basic policy issues can be addressed, involving management commitment and support, reliable payment systems, overcoming distrust of privatization, and selection of appropriate regions for the test, and if the pilot program is carefully planned, it appears likely that the proposed model can succeed. A list of key activities needed to implement the pilot program is provided in the report. It is suggested that DOH can obtain technical assistance for planning and implementation from both MSH (through the LGPP) and from the WHSMP.

Figure. Recommended Procurement and Distribution Model (diagram)

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1. INTRODUCTION

Studies conducted over the past five years have consistently reported that drugs essential to primary health care have not been readily available in government health facilities throughout the Philippines. Government procurement of drugs and medicines has been plagued by poor business practices leading to lengthy procurement processes, high prices and poor quality, and breakdowns in distribution to warehouses nationwide. Suspected corruption has led to the suspension of drug procurement by the DOH in the recent past.

The Philippine government determined to devolve all procurement responsibility away from the central level to Local Government Units, in part to make sure that Local Government Units (LGUs) could arrange for access to essential drugs. Under the policy of devolution, LGUs are responsible for purchasing and managing most types of pharmaceuticals. There have been a number of problems observed with drug procurement strategies employed by LGUs since devolution, perhaps some of them due to lack of training and capacity at the LGU level. However, because it is not clear that all LGUs will give high priority to public health programs, the DOH has retained responsibility for providing certain drugs and supplies that are deemed essential public health goods (core essential drugs).

Unfortunately, the DOH central logistics and procurement processes have been afflicted with a variety of management problems for many years, including cumbersome procedures, delays in payment to vendors, and major corruption scandals. The DOH has also suffered from inefficient distribution systems, lack of management information on drug purchases, deliveries and ultimate utilization, and in general a lack of capacity to effectively manage its internal drug logistics system. As one of his highest priorities upon assuming office in 1998, the current Secretary of Health, Dr. Alberto G. Romualdez Jr. made a commitment to solve the chronic problems with the drug supply system.

A logistics improvement initiative (LGEDDS) had been started under the World Bank-supported Women's Health and Safe Motherhood Project (WHSMP) in early 1998, to implement a centrally managed logistics system based on the "push" system used to distribute family planning supplies. However, the DOH was not certain that this initiative alone would produce desired results in a climate of increasing decentralization of procurement responsibility.

As one of his highest priorities upon assuming office, Dr. Romualdez, Jr., requested the assistance of the United States Agency for International Development (USAID) to assess ways to improve the Department of Health's (DOH) drug supply management, particularly procurement. USAID asked Management Sciences for Health (MSH) to conduct an assessment to: identify needs for improved public sector drug management; identify data requirements for monitoring public sector drug management performance; and, analyze options for public and private sector collaboration.

During a preliminary visit in January, 1999, the Secretary met with Dr. Ron O'Connor (MSH). During this visit, the Secretary expressed the support for the following:

- The assessment of all major options for effective drug management;
- The National Drug Policy as the basis for action;
- Decentralization of responsibility and authority to the local government unit (LGU) and provincial levels;
- Transparency and standard, clear procedures;
- Monitoring and quality assurance;
- Combinations of strategies utilizing the capacities of the public and private sectors can be considered; and
- Action plans to create tools, documentation of procedures, software and training that will reach the LGU level.

This report presents the results of the assessment, conducted in the first quarter of 1999. The methodology used to conduct this assessment is described in Section 2. Included is the description of the study design and instruments, sample, and data collection techniques. Section 3 presents the main findings from the assessment, and the following section discusses options for reforming the DOH drug supply systems and the critical issues related to these. Section 5 presents the recommended action. Section 6 lists the key references reviewed.

2. METHODOLOGY

Rapid Pharmaceutical Assessment

Although selection of drugs, poor quality control and inefficient supply systems pose significant problems for many developing countries, until recently there were no standard methods for assessing drug management systems. Contributions to standardizing an indicator-based approach to assessing pharmaceutical management have been made in recent years by the WHO Action Program on Essential Drugs, MSH's Drug Management Program, the Harvard Drug Policy Research Group, the WHO Action Programme on Essential Drugs, the International Network for Rational Use of Drugs (INRUD), and the Pan American Health Organization. The USAID-funded Latin America/Caribbean Health and Nutrition Sustainability Project (LA/C-HNS) managed by University Research Corporation and the Rational Pharmaceutical Management Project managed by MSH, have provided support, guidance, and field testing of the indicators and structured survey methods used in this study in the Philippines. The approach requires that a sample of different sites be visited to obtain qualitative and quantitative data from facilities, processes, officials, the private sector, and potential suppliers.

The willing and conscientious involvement of local officials in collecting data (after receiving appropriate training) is crucial to conducting the assessment. Active local participation lowers the cost and requirement for outside assistance, and increases the probability that the findings will be credible. Recorded information on drug utilization, purchasing and inventory management may be time consuming to retrieve from officials and health facility staff because of dissimilar record keeping among regions, provinces, cities, and municipalities. Past studies help to explain where and why there are gaps in data collection. Drug retail outlet and pharmacy owners are likely to find some assessment activities to be intrusive. Therefore, data collectors may need to limit their inquiries to availability and prices of selected drugs and not investigate sales of antibiotics without prescriptions or generic substitutions, for example. However, the active participation of suppliers and distributors is elemental to the assessment.

Timetable and Resources

MSH consultants and PMTAT completed the design, work planning, scheduling, training, and fieldwork for this analysis process in about six weeks. The activity required identification of a senior-level DOH liaison, as well as the additional assistance of senior and experienced advisors to guide the analysis team and ensure that the results were of use to DOH leadership.

Study design activities involving adaptation of questionnaires for interviews at health facilities, regional and LGU offices, and drug retail outlets/pharmacies began in early November. Training of 23 data collectors and four PMTAT technical advisors was conducted over three days beginning on November 11. The survey began the following week in six regions and the NCR with guidance from the PMTAT advisors. Regional

work plans and budgets prepared by data collectors during training predicted data collection to end by December 4, with one exception where travel is very difficult.

Concurrent with the survey of public-sector health facilities and private-sector drug outlets and pharmacies, Mr. Paul Lalvani, an MSH consultant, conducted a survey of pharmaceutical manufacturers, importers and distributors. He used interviews to assess private-sector interest, willingness and capacity to participate in alternative options to improve public-sector drug procurement and distribution (for instance, a prime vendor system or pooled procurements with delivery directly to health facilities, etc.).

This analysis was completed in January. PMTAT consultants met with PLS staff to discuss the procurement process and analyze the feasibility of different approaches to improve procurement and distribution. MSH consultants also made presentations of the study results and recommendations to the Secretary and DOH leadership in February

List of Indicator Drugs

Seven of the 46 indicators for this assessment are measured on the basis of a list of tracer or indicator drugs. It is necessary to limit this list of drugs because it would not be practical to collect the required data on all drugs in the Formulary or on an essential drugs list as rapidly as is needed. The indicator drug list should include drugs that are commonly used, cover a range of therapeutic categories, are available at all levels of health care system, include a range of dosage forms, and include products used by vertical programs that are important to the study.

The 1996 Philippine National Drug Formulary¹ and the manual, *Drug Supply Management and Quantification of Drug Needs*,² guided selection of drugs for the study's indicator drug list. The list of indicator drugs first included drugs used to treat the most common health problems based on treatment guidelines and estimated drug requirements to treat leading causes of morbidity in the Philippines. Second, selected primary medical care drugs for all RHUs and for RHUs with physicians were included. Next, the lists of vital, essential, and less essential drugs and all drugs in the PNDF were considered. Last, selected drugs, medicines, and contraceptives that are important to vertical programs were included. The resulting list included 55 items. From this list a shorter list that would be practical to use in the assessment was formed. This list of 25 items (20 unique items) by therapeutic category, drug name, strength, and form is presented in the table.

List of Indicator Drugs, Philippines 1998

Therapeutic Category	Drug	Strength	Form
16.1	Oral Rehydration Salts		Powder
1.6	Paracetamol	125 mg/5mL	Syrup
1.6	Paracetamol	500 mg	Tablet

¹ *Philippine National Drug Formulary*, Volume 1, 4th Edition. The National Drug Committee, Philippine National Drug Policy Program, Department of Health (Manila: 1996).

² *Drug Supply Management and Quantification of Drug Needs for Primary Health Care Facilities* (Manila: The Philippine National Drug Policy, Department of Health), December 1997.

Therapeutic Category	Drug	Strength	Form
3.1.13	Cotrimoxazole	200 mg SMX + 40 mg TMP/5mL	Syrup/suspension
3.1.13	Cotrimoxazole	400 mg SMX + 80 TMP	Tablet/Capsule
3.1.16	Isoniazid	100 mg/5mL	Syrup
3.1.16	Rifampicin	100 mg/5mL	Suspension
3.1.16	Short-Course Chemotherapy – TB (Intensive)	Blister Pack	Tablet
3.1.16	Short-Course Chemotherapy – TB (Maintenance)	Blister Pack	Tablet
3.3.2.2	Chloroquine	250 mg	Tablet
3.3.2.2	Quinine	325 mg	Tablet
3.3.2.1	Metronidazole	250 mg	Tablet
3.3.1.1	Pyrantel	125 mg/5mL	Suspension
3.3.1.1	Pyrantel	250 mg	Tablet
3.3.1.1	Mebendazole	100 mg	Tablet
10.1	Ferrous Sulfate	(Iron 60 mg) 200-300 mg	Tablet
	Oral Contraceptives		
	Condoms		
18.1.3	Benzyl Benzoate	25%, 120 mL bottle	Lotion
5.2.4	Nifedipine	5 mg	Tablet/capsule
3.1.11, 13.6	Amoxicillin	125 mg/5mL	Powder
3.1.11, 13.6	Amoxicillin	500 mg	Capsule
7.1.1, 7.1.2	Salbutamol	2 mg/5mL	Tablet
15.1	Ergometrine maleate	125 mg	Tablet
15.1	Ergometrine maleate	200 mg/mL	Injectable (IM, IV)

Sample Design

The list of government health facilities and drug retail outlets sampled as part of this assessment is presented in Annex 1. The Philippines is geographically and culturally divided into the three major island groups of Luzon, Visayas, and Mindanao. In the 1980s the country was further divided into 16 Regions, including the NCR, to decentralize central government activities, and in 1991 health care was devolved to Local Government Units (LGUs). Currently, there are 78 provinces, 68 cities, 1,541 municipalities, and 39,998 barangays, all of which are LGUs.³

There is considerable diversity of health care delivery in the Philippines so the sample for the drug assessment in health facilities and drug retail outlets was determined in three stages. In the first stage, two Regions were randomly selected in each of the three major island groups. The capital city of Manila and Quezon City in the NCR were deliberately included. In the second stage, one province was randomly selected in each of the eight Regions. Then 10 health facilities were selected in each province or city in the third stage. The provincial hospital was included in each of the selected provinces as were the general hospitals of Manila and Quezon City. A district hospital and eight RHUs were randomly selected in each province and another hospital and eight health centers were

³ 1995 Philippine Population Census, National Statistics Office.

randomly selected in Manila and Quezon City. In addition, the regional hospitals of the eight sampled regions were added to the sample for a total of 88 government health facilities. A drug retail outlet paired to each of the 88 health facilities was randomly selected.

Remote, hard to reach municipalities on small islands were excluded from the selection process. Highly urbanized cities that operate autonomously and therefore procure and manage drugs as LGUs independent of the province were also excluded from selection of health facilities. For example, Cebu Province's capital city, Cebu, is also an LGU that procures and manages drugs independently of the province, unlike all other cities or municipalities in the province. It also includes about one-third of the province's population and maintains many of the province's health facilities. Health facilities in Cebu City were therefore excluded from selection to avoid oversampling urban areas. Health facilities in Cagayan de Oro were also excluded from selection in Misamis Oriental Province for the same reason. However, NCR was included in the sample to represent highly urbanized cities.

The province of Ilocos Norte was deliberately selected because of drug procurement problems that were brought to the attention of the Secretary of Health. However, health facilities and drug retail outlets within Ilocos Norte were randomly selected. Barangay Health Stations (BHSs) were excluded from the sample because barangays rarely procure drugs, and when they do it is for very small sums. Also, midwives at BHSs do not prescribe drugs except for cotrimoxazole for the national Acute Respiratory Infections program.

To complement the study sample, the LGU Performance Program (LPP) asked each of the remaining nine Regions and all of the remaining provinces and cities currently participating in the LPP to provide the same information requested of regional, provincial, city, and municipal offices prior to the survey.

Training of Interviewers/Data Collectors

In a three-day workshop held in Manila, 23 data collectors from six Regions and the NCR, and four MSH staff (regional technical advisors from the USAID-funded LPP) were trained. Questionnaires for staff at health facilities, health offices, and pharmacies, and data collection forms were reviewed in detail and revisions were made based on consensus. Discussions lasted for a half-hour on some questions. On the last day, each regional team prepared a work plan and budget to complete data collection over the three weeks to follow.

Each Regional Health Office and the NCR sent three data collectors except Region 7, which sent two health care staff. One person from each team was designated as the team leader responsible for completing the survey and for maintaining communications with MSH's assigned regional representative. A list of the interviewers/data collectors is attached as Annex 2.

3. ASSESSMENT FINDINGS

A summary table of the assessment findings is presented in Annex 3. Data obtained from other country studies are also presented. However, caution must be employed with interpretations and comparisons of these data. The indicators reflect the performance of particular aspects of a system of interrelated components and therefore they should be considered in relation to each other. Furthermore, in the absence of any "gold standard" for optimal performance, these indicators must be interpreted within the context of each country.

3.1 NATIONAL PROFILE

The Philippines is the third most populated country in Southeast Asia with 75.3 million people in 1998. While the regional average annual growth rate is 1.6%, the Philippines population is growing at an annual rate of 2.3%. The Philippine Gross National Product (GNP) per capita was also among the highest in the region in 1998 at US\$1,160 billion per capita (the average for the region was US\$1,580 billion).

Population Reference Bureau and National Demographic and Health Survey Results⁴

Population mid-1998 (millions)	75.3
Births per 1,000 population	30
Deaths per 1,000 population	7
Natural Increase (annual %)	2.3
Doubling time in years at Current Rate	30
Projected Population (millions) year 2010	94.1
Projected Population (millions) year 2025	116.8
Infant Mortality Rate	34
Total Fertility Rate	3.7
Percent of Population of Age <15	38
Percent of Population of Age 65+	4
Life Expectancy at Birth (years) Total	66
Life Expectancy at Birth (years) Male	63
Life Expectancy at Birth (years) Female	69
Percent Urban	^a 47
Percent of Women Ages 15-19 Giving Birth Each Year	5
Percent of Married Women Using Contraception (All Methods)	^b 48
Percent of Married Women Using Contraception (Modern Methods)	^c 30

^a Preliminary results from the 1998 National Demographic and Health Survey (NDHS) estimate the urban population at 56.6%.

^b 1998 NDHS estimates currently married women using any method of contraception at 46.1%.

^c 1998 NDHS estimates currently married women using a modern method of contraception at 27.8%.

⁴ Population Reference Bureau, 1998.

In 1999, the Philippines government dedicated 2.41% of its total recurrent budget to the DOH. Compared to other countries where similar assessments have been conducted, where results varied between three percent to 15 percent, the Philippines figure would appear to be low.⁵

Summary of DOH Budget as a Percent of the Total Government Recurrent Budget

	1997	1998	1999
Total government budget	433,817,543,000	546,743,816,000	467,752,645,000
DOH budget	10,937,857,000	12,943,217,000	11,274,838,000
DOH budget as % of total	2.52	2.37	2.41

The Pharmaceutical Market

In 1996 the Philippine pharmaceutical market, at US\$1.29 billion was about 28 % the size of the Korean market and was the third largest market in Southeast Asia. Pharmaceutical markets in Taiwan, Indonesia, and Thailand are also between US\$1 and US\$2 billion dollars whereas Singapore, Malaysia, and Hong Kong have much smaller markets. On a per capita basis, however, Korea and Taiwan lead the region by spending \$93 and \$75 per capita, respectively, but are followed by Singapore and Hong Kong, each at about \$50 per capita. The Philippines, Thailand, and Malaysia spent between \$13 and \$17 per capita, whereas Indonesia only spent \$5 per capita.⁶

Almost 75 % of the pharmaceutical market in the Philippines is in Luzon, followed by 14 % in the Visayas, and 13 % in Mindanao. Luzon has a larger population with greater purchasing power, and the best access to pharmaceutical products. Sales in Metro Manila comprise almost 50 % of the total pharmaceutical market in the Philippines. Ethical drugs made up 78 % of the market and branded drugs represented 95 % of market in 1996. More than 75 % of the drug sales are from retail outlets. The most widely used drugs in the Philippines are systemic anti-infectives, alimentary tract and metabolism, respiratory system, or cardiovascular systems.⁷

There are 2,310 pharmaceutical and medical device firms operating in the Philippines (see Table). The top 20 drug manufacturers control 75 % of the market, and the top five distributors control 80 % of the distribution market. The largest drugstore chain, Mercury Drugs, serves 40 to 50 % of the drug retail market.⁸

⁵ *Rapid Pharmaceutical Management Assessment: An Indicator-based Approach*, July 1995. Studies were conducted between 1992 and 1994 in Mozambique, Ghana, Ecuador (in 1992 and 1994), El Salvador, Guatemala, Nicaragua, Jamaica, the Organization of Eastern Caribbean States (OECS), and Nepal

⁶ IMS, Philippines, 1996; and Lalvani, Paul S, *Assessment of Private Sector's Capability and Interest in Distributing Drugs for the Public Sector & Overview of the Philippine Pharmaceutical Market*, January 1999.

⁷ IMS, Philippines, 1996; and Lalvani, January 1999.

⁸ IMS, Philippines, 1996; and Lalvani, January 1999

Number of Pharmaceutical Establishments, 1996

Drug Manufacturers	244
Drug Traders	386
Drug and Medical Device Distributors	1633
Medical Device Manufacturers	36
Medical Device Traders	11

Source: Bureau of Food and Drugs, 1996 Philippine Statistical Yearbook

Pharmaceuticals may be sold in drugstores, the most numerous class of outlet, followed by hospital pharmacies (public and private), and retail outlets where only non-prescription drugs are sold.

Type of Outlet	NCR	All Other Regions	Total
Drugstore	2,453	9,164	11,617
Hospital pharmacy	123	705	828
Retail outlet (non-prescription drugs only)	70	13	83
Totals	2,646	9,882	12,528

The value of the private-sector pharmaceutical sector sales per capita was P410.36 in 1996 or US\$16.41 at the current exchange rate of 25 Pesos per US\$1. Retail drug outlets and private hospitals account for the bulk of sales over the years, with for sales of P28,800 million in 1996. There are 2,900 DOH facilities that stock and dispense drugs (645 hospitals and 2,255 RHUs and health centers) and there are 11,617 licensed retail drug stores. Drugstores and private hospitals accounted for 86% of drug sales in 1996.

Market Size at Manufacturers' Price and Channels for Sale of Drugs

(In Pesos, millions)	1985	1992	1993	1994	1995	1996
Drugstore	5,700	18,000	18,900	21,500	25,800	28,800
Hospital-Private	494	1,754	1,961	2,216	2,545	3,040
Hospital-Government	180	1,125	1,215	1,383	1,424	1,634
Others	700	2,300	2,400	2,800	3,300	3,700
Total	7,074	23,179	24,476	27,899	33,069	37,174
Growth Rate		228%	6%	14%	19%	12%

Source: IMS, 1996.

3.2 HEALTH SECTOR INITIATIVES AND PROJECTS

The Philippines has received support over the years for various initiatives and projects aimed at improving the health sector. Two of these projects that have had a recent role or a stake in the development and performance of the pharmaceutical supply system are discussed here. Potential roles for these initiatives in the options are presented in the discussion section.

Local Government Essential Drugs Distribution System (LGEDDS) and the Women's Health and Safe Motherhood Project (WHSMP)

The Local Government Essential Drugs Distribution System (LGEDDS) is an initiative supported by the World Bank (WB) financed Women's Health and Safe Motherhood Project (WHSMP). It has been on the drawing board since 1994, but final project design was approved in 1997. The initiative involves three broad elements - technical assistance to develop an internally operated nationwide distribution system for core essential drugs and supplies, development of a logistics management information system to support procurement and logistics, and technical assistance and training to rationalize DOH procurement procedures. It was originally assumed that the DOH central level would continue to play a primary role in managing the system. A contract with John Snow Incorporated (JSI) was signed in May of 1998, providing for technical assistance to the LGEDDS initiative.

By the time of the WB's mid-term review of the WHSMP in December 1998, the LGEDDS unit had been established, and had developed a proposed logistics system design. Some procedure manuals were developed, an ambitious training plan was prepared, and training curricula were developed. A design for a new management scheme and logistics management information system was produced, with some work on the actual software programming started. The basic tenets of the monitoring program and the management information system were based on the former system for managing USAID-financed contraceptives, CLMIS, although JSI has proposed introducing features such as hand held computers for data recording by logistics teams.

The basic logistics system was to rely on regular visits by LGU-based logistics teams to all health facilities. The teams would inventory stock, record consumption data and determine requirements for the next shipment. This data would be sent to the central level LGEDDS office, which would make decisions on stock allocations to each LGU. Transport from the central level warehouse (or provincial warehouses) to LGUs would be contracted out to a private transporter. The role of DIRFOs would be limited to monitoring and training, and the procurement and distribution of one product (cotrimoxazole). The DIRFO would have no management authority over the procurement or the logistics system, as this would basically be a centrally managed "push" system (like the former contraceptive supply system).

Pursuant to Philippine devolution policy and redefining the role of the DOH, under the new DOH administration, it was determined in mid-1998 that the PLS would no longer have central management responsibility, even for the essential public health drugs. The DOH decided to transfer responsibility for procuring core essential drugs to the DIRFOs effective in 1999, with possible further decentralization to LGU's by 2000.

LGEDDS was effectively in hiatus during and after the transition period in mid-1998, and in December, a WB review mission assessed the status and future of the initiative. The team pointed out that the shift in management responsibility from central DOH to the regions created dilemmas for all three LGEDDS elements: (1) the national LGEDDS planning and management office would lose its principal function and at least for an interim period, 16 regional coordinating offices would be needed. And, if the regional focus is temporary, these offices would have only an interim role. Further, the shift in

focus to regional and potentially then to LGU management of the logistics system implied a change in the system for allocating stock, potentially a change from "push" allocations to a "pull" system with requisitions from users. (2) the monitoring and management system and model for data capture by logistics team would need to be redesigned to accommodate the change in management responsibilities. The basic functionality of the LMIS would need to change with the change in management responsibility for procurement and logistics management. (3) The mid-term review team suggested in December that LGEDDS would not likely be in a position to help with strengthening regional procurement capacity, and thus this element of the initiative would be redundant.

The team made the following recommendations:

1. LGEDDS implementation activities should be put on hold, pending the current study by MSH and DOH, and that future activities should reflect a modification in structure and system that would be consistent with whatever supply system structure is selected by DOH for the future. In the interim, the team advocated continued developmental work, continued work on the LMIS design, and technical support to the CDLMIS as needed. The team noted the likely need to revise the technical assistance contract with JSI to correspond with whatever changes might be made in the LGEDDS design.
2. Work on designing the total DOH logistics management information system should recommence once decisions are made regarding the future supply system structure.
3. Technical assistance for central level procurement would be dropped, assuming that it has no further relevance if procurement is totally decentralized. Regional level TA would be hard to justify, but the project might consider providing TA to the LGU level if needed and justifiable in the eventual supply system structure.
4. The WHSMP could consider additional assistance to DOH in implementing supply system reforms in the June 1999 WB mission to the Philippines.

Local Government Performance Program (LPP)

Since 1995, MSH has implemented a \$10.4 million contract providing management and technical assistance services to USAID's major bilateral health assistance program to the Philippines, the Integrated Family Planning and Maternal Health Program (IFPMHP). Under this program, MSH provides technical assistance in population, family planning, maternal health, and selected child survival programs. At the national level, MSH is assisting the DOH to improve and expand national programs that are responsive to the needs of devolved health service delivery. At the local level, MSH is working to strengthen the capabilities of individual LGUs to plan, monitor and implement sustainable family planning and Maternal and Child Health services.

LGU assistance is managed through the LGU Performance Program (LPP). Under the LPP, MSH is working in partnership with the DOH Office of Public Health Services and Regional Health Offices to provide a comprehensive package of technical and financial assistance to participating LGU provinces and cities. LGUs receive annual performance-based grants to plan and implement comprehensive population, family planning, and child survival programs. MSH is now working with the DOH and LGUs to further expand and refine the grant mechanism to include additional performance incentives and add a matching grant program for large municipalities.

In addition to financial assistance, the LPP program delivers a comprehensive package of technical assistance to LGUs in planning, training, information-education-communication (IEC), monitoring and evaluation, and program management. The MSH Program Management Technical Assistance Team (PMTAT) has put in place the systems and procedures needed to run this national program, and is now focused on institutionalizing the LPP program components and strengthening the capabilities of the Regional Health Offices to provide technical assistance to the LGUs. In 1998, 85 LGUs were already participating in the LPP (66 continuing and 19 new invitees), representing a combined population of over 55 million people—over 80% of the Philippine population.

The Secretary of Health requested in 1998 that PMTAT and the MSH Drug Management Program assist DOH in evaluating the drug supply system and making reform recommendations. That was the impetus for the current study. It is likely that PMTAT and MSH will be able to provide technical assistance to implement recommendations from this study of the DOH requests such support.

3.3 DRUG SELECTION

The Philippine National Drug Policy and the National Drug Formulary

The Philippine National Drug Policy (PNDP) reflects the government's commitment to the population to assure the supply of essential pharmaceuticals. Formulated in 1987, the policy is based on WHO guidelines, broadly stating the goal of the availability of essential drugs that are safe, efficacious, affordable, and of good quality. The policy also is concerned with the rational use of medicines. One year following the adoption of the PNDP, the Republic Act 6675 of 1988, known as the Generics Act, provided the essential legal framework for the implementation of the PNDP. However, it was Administrative Order 51 s. (1988) that actually provided the guidelines and instructions for the DOH to comply with the Generics Act of 1988 and to implement its provisions.

The *Philippine National Drug Formulary* (PNDF) is an integral element for the implementation of the National Drug Policy, and was first published in 1989. The fourth edition of the PNDP, compiled in 1996 by the National Drug Committee, lists 553 products, of which 290 are in the core list and 263 are in the complementary list. There are 517 unique drug products in the formulary. Volume II of the PNDP includes essential drug monographs with relevant pharmacological information for all the drugs in volume I and was published in 1997. Six years after the adoption of the PNDP and five years after

the Generics Act, Executive Order 49 (1993) mandated the Philippines National Drug Formulary (PNDF) as the basis for procurement of drug products by the government.

The PNDP lists essential drugs for primary medical care. These include 78 drugs, 30 of which are for use in all RHUs and 48 for use in RHUs with physicians in addition to other health workers. The 78 drugs are also classified as vital, essential, or less essential. Classification is based on 1) frequency of occurrence of target conditions; 2) severity of target conditions; 3) therapeutic effects of the drug, whether preventive, curative or just symptomatic relief; and 4) cost of therapy.

Philippine National Drug Formulary Statistics

No. of Sections on different Therapeutic Categories	22
No. of Active Ingredients	517
Core	290
Complementary	263
No. of Drugs Deleted	49
No. of Drugs Added	28
No. of drugs not available in the market but considered essential	54
Total no. of active ingredients	34
Core	15
Complementary	19
Total no. of drug products not available, but active ingredient available in another formulation	75
No. of new drugs which the National Drug Committee (NDC) and the Bureau of food and Drugs (BFAD) requests that all Adverse Drug Events/Experiences (ADEs) be reported	24
Core	4
Complementary	21
No. of Prohibited Drugs	3
No. of Regulated Drugs	3
No. of Exempt Regulated Drugs	13
No. of drugs requiring specific expertise, diagnostic precision, or special equipment for proper use	112
No. of drugs with limited indications or narrow spectrum of activity	76
No. of drugs requiring strict precaution in prescribing, dispensing and use because of narrow margin of safety/bioavailability problems and availability in Philippine market in several brands/manufacturers; prescription must be filled according to the specified International Non-proprietary Name (INN) and brand names	32
No. of Medicinal Plant Products listed with BFAD	4

The current study found that most of the facilities surveyed (98%) reported having a copy of the 1996 PNDF. This is an improvement over the results from a 1995 study by Pugeda and Carandang in which it was found that only a small percentage of the facilities surveyed (63% of RHUs, 44% of government hospitals, and 22% of private hospitals) had a copy of the PNDF available.⁹

3.4 PROCUREMENT

The public sector procurement process in the Philippines has long been viewed as inefficient and lacking transparency, and has been under particular scrutiny following recent scandals. In 1994 Clark et al. conducted an assessment of the logistics component of the Women Health and Safe Motherhood Project (WHSMP).¹⁰ Among the main findings and recommendations for the procurement process in this report were:

1. In order to demonstrate ability to complete orders, supplier accreditation (akin to pre-qualification) requested information on net worth. However, suppliers were probably bidding for orders that were beyond their net worth. The recommendation was to set a minimum net worth for bidding participants for large orders.
2. The accreditation process was lengthy and generally exceeded the announced processing time of three weeks, mostly due to competing priorities of those conducting the inspections and evaluations. The recommendation was to augment the Committee for Supplier Accreditation (CSA) staff with full time inspectors and accountants.
3. There was no system to measure or monitor supplier performance. A computerized database with critical supplier information system was proposed as part of a Logistics Information System (LIS).
4. Funds (represented by the Advice of Allotment, or AA) were released late in the first quarter or sometimes even later, which for some programs was too late for submission of the RIV. To avoid delays in the bidding and awards of bids, Clark et al. recommended by-passing the requirement of submission of the AA with the RIV, making it a prerequisite for the approval of the Purchase Order (PO) only, and require that the procurement process be initiated by the Annual Procurement Plan (APP);
5. To avoid delays resulting from an overburdened quality assurance and inspection system, Clark et al. recommended amending DOH requirements to effect a random testing scheme for drug supplies prior to distribution, and augment BFAD field inspection teams, and exploring the possibility of utilizing private testing laboratories to help absorb BFAD backlogs was also raised.

⁹ Pugeda, M.L.B., and E.D. Carandang, *Indicators to Assess Rational Drug Use (RDU) in the Philippines*, Philippines Department of Health, 1995.

¹⁰ Clark, M. B. Alano, H. Khajehpour, R. Gutteridge. *Philippines: Women's Health and Safe Motherhood Project Logistics Report*. (Submitted to the World Bank). July 1994.

This report also proposed a timetable for procurement that, with guarded optimism, suggested a delivery date advance of about four and a half months to end-users, with modified roles for the Procurement Service and the Commission on Audit.

A series of Executive and Administrative Orders followed this report and the Modified Procurement System that was to reflect the DOH policy of devolution started to take shape. A Review Committee on Procurement Systems and Procedures was created to formulate specific standards and initiate measures to improve the DOH's procurement system and procedures. The report was submitted to the DOH in April, 1996. The Committee's report described the existing system as being very centralized yet lacking sufficient control mechanisms, having numerous bidding committees yet no clear lines of authority for members, lacking a DOH-wide procurement plan to guide procurement, not having an adequate information system, and from poor planning in general.

Administrative Order 29 s. (1996) delegated the procurement function for foodstuffs, drugs and medicines, and contractual services to DOH retained hospitals. These hospitals were directed to create committees for Suppliers' Accreditation; Pre-qualification, Bids, and Awards. Administrative Order 35 s. (1996), later enhanced by AO 14-B.s (1997) stipulates the structure, terms and conditions, and function and responsibility of the DOH Modified Procurement System under devolution.

In 1997, 49.6% of the value of total drug purchases was made centrally by the PLS, and 50.4% by the regions. In general, centralized procurement systems, when operated efficiently, can contain drug costs by taking advantage of competitive forces in the market and by achieving economies of scale. In addition, competitive tenders are among the best ways to minimize the costs of drug purchases. This is illustrated by the case of Guatemala, where in 1994 competitive tenders were done for only 10% of the drugs purchased, only 27% of the drug purchases were done through a central procurement system, and drug prices did not compare favorably with international average prices. In 1996, Amadini conducted a price comparison analysis in the Philippines, where there are no local government price controls, that would appear to support this.¹¹ Comparing prices obtained from local competitive bidding with average international prices for 37 drugs, Amadini found that most of them (33) were more expensive than the average international prices, 19 items at least 100% more expensive. In contrast, the current study found that in 1997, the PLS paid 84% of the average international price for the set of 10 indicator drugs purchased centrally.

Unfortunately, another scandal in 1998, following the implementation of the new system, demonstrated that there were still serious weaknesses. In response, the new Secretary of Health, Dr. Romualdez, suspended drug procurement shortly after taking office and requested a committee be formed and chaired by past Under Secretary, Dr. Manuel G. Roxas, to investigate pharmaceutical management and procurement. The report, hereafter referred to as the Roxas report, identified problems at each step of the process:

¹¹ Amadini, March 1996.

1. The process begins with the end-user (e.g. hospital) submitting a Requisition and Issue Voucher (RIV), which must conform to an Annual Procurement Plan (APP). Problems encountered included end-user units not considering the RIV in the APP. APPs were either incomplete or not available because the APP was submitted after the deadline. Other problems with RIVs included the listing of products not on the PNDF or listing brand name products, incomplete or incorrect specifications.
2. Requested drugs must have a current and valid Certificate of Product Registration (CPR) from the BFAD. Registration is valid for two or five years (the applicant's choice), and renewal is required every five years. Renewal requires evaluation and laboratory testing. If the registration is not renewed, the product is de-listed and the manufacturer, health facilities, and retailers should be advised accordingly. Many problems arise from having a system that is not able to cope with the demands placed on it, especially in the absence of clear guidelines on when to require CPR or BFAD testing, a limitation that remains. For example, this current study found that as of December 1, 1998 there were 17,576 registered drugs in the Philippines. Registration checks for expired products are should be carried out monthly. However, a sample printout showed that at the time of this study there were 1,247 different registered forms and strengths of paracetamol, alone, some of which had expired (see discussion on Quality Assurance).
3. The RIV is submitted to the Procurement and Logistics Service (PLS), which should then cross-check the RIV against the APP, consolidate the RIVs and endorse them to PBAC. The Roxas report found that counter checks were not being conducted regularly. The PBAC must then approve of the mode of procurement (according to PLS estimates, 90% of the drugs (by value) procured by the DOH in 1997 and 1998 were purchased through competitive tender).
4. The PLS is responsible for the preparation of the bid documents and the PBAC chairperson approves the invitation to bid (ITB). However, the Roxas report found that bid documents were poorly prepared and there was no adequate mechanism in place to review bid documents prior to release. Examples included: the absence of bid evaluation criteria, ungrouped bidding packages, lack of specific guidelines.
5. Following approval from the PBAC, the PLS is responsible for reproducing and issuing the bid documents, including the list of items for bidding, and for conducting price monitoring. The Roxas report notes that there were several problems, some of which may be do to low skill level or unfamiliarity with procurement guidelines and unclear guidelines. Other problems documented included advance copies of the ITB being sold to suppliers, selective distribution of the ITB, and irregular price monitoring by the PLS.
6. Following the issue of the ITB to suppliers, the PBAC coordinates and conducts a pre-bid conference and prepares bid updates. Two problems noted in the Roxas

study were that suppliers were often given the bid bulletin on short notice, and that there were modifications of the specifications with the bid bulletin, in part due to inadequate administrative support from the PLS and other services concerned.

7. Bidders are pre-qualified by the PBAC and Technical Evaluation Committee (TEC). To be eligible to participate in public procurement suppliers must be accredited by the Committee for Supplier Accreditation (CSA). Accreditation is issued through the DOH at the central office and regionally for regional procurement. Clark et al. (1994) observed that the accreditation process was lengthy, usually exceeding the programmed three weeks to complete. Also noted by Clark et al. (1994) was that although being in "good standing" is a prerequisite for accreditation renewal, in the absence of a comprehensive information system, it was virtually impossible to monitor the performance of suppliers.
6. Bidding is conducted by the PBAC, beginning with the opening of all bids submitted. The procedure is well documented and witnessed, taking about one month. The TEC receives and evaluated the documentation. Meanwhile, the Price Monitoring Committee conducts a comparative study of the market prices of the bidden items and submits the results and recommendations to the PBAC as supporting documentation. The Roxas report identified this as a lengthy process with various irregularities, particularly in the price monitoring.
7. Upon receipt of the report from the TEC, the PBAC convenes with the various committees' representatives for the final decision. The Roxas report suggests that the large number of committees, the ad hoc nature of some of them, and the lack of understanding of and commitment to the process among the members, contributed to delays and failures in this step.
8. Given the final decision, the PLS must prepare various documents, including the Notice of the Bid Award (NOA) and the Purchase Order (PO) and a stock position sheet. Suppliers must sign and promptly return the NOA to the PLS and they must post a performance bond with the Government Service Insurance System (GSIS) so as to certify the availability of funds. Delays in the reporting of balances to the Budgeting and Accounting Office contributed to delays in processing the certification.
9. Further problems resulted from irregularities such as unmatched supplier financial and production capability and capacity to meet the terms of the award, documentation falsification, connivance/rigging, misrepresentation, and delayed payment. Accumulated delays throughout the process can result in diminishing expiry times. Indeed, about half (53%) of the facilities included in this current study returned drugs in 1997, because they had expired or were near expiry.

The committee headed by Roxas made several recommendations:

- Strengthen performance evaluation of suppliers and accreditation system. Suppliers should be categorized according to production capacity, financial capability, and track record. Lodge the system in a permanent department;
- Purchase only from manufacturers that are categorized by demonstrated financial and production capability and good track record;
- Use WHO or UNICEF as a procuring agent for certain products;
- Conduct annual procurement of drugs and medicines with ONE purchase order and different delivery dates;
- Decentralize funding and bidding to Regional Health Offices, but centralize and re-organize the price monitoring body;
- Inspect deliveries of drugs and medicines by the BFAD;
- Facilitate payments by setting time frames and deadlines for officials;
- Professionalize the procurement function: conduct work and performance audits for the PLS, FOFLSA and OLA staff, re-organize the PLS and redefine FOFLSA function issue GOP and lender guidelines, conduct training and assign one legal official to review contracts, have OLA prepare generic contracts, and establish permanent PBAC committees;
- Establish strict accountability: redefine the involvement of Services and Offices in planning, procuring, delivery and distribution and revise the delegation of authority to give more responsibility to Services and Offices, and require the approval of Undersecretary concerned.

The findings and recommendations were not out of line with those of another study recently conducted by the Nutrition Services, Department of Health, with technical assistance from Opportunities for Micronutrient Interventions (OMNI) and Helen Keller International, and support from USAID. The *Exploratory Study of the LGU Procurement of Micronutrient Supplements* described and analyzed LGU and supplier procedures to procure iron, vitamin A, and iodized oil.¹² The study found that LGUs now use a variety of procurement procedures that are different from the DOH central office, and do not adhere to the Commission on Audits (COA) requirement that procurement be undertaken by a bids and awards committee. Differences among procurement practices usually lie in the number of steps followed in the processing and approval of key documents. LGUs follow different procurement schedules precluding bulk purchases from UNICEF, for example, and some LGUs do not require a procurement plan. The following was reported as the usual purchasing procedure in LGUs:

¹² *Exploratory Study on the LGU Procurement of Micronutrient Supplements*, The Department of Health, OMNI, and Helen Keller International, 1998. Funded by USAID

- A municipal supply officer prepares requests for micronutrient procurement, or a procurement officer prepares a purchase order (PO). The PO, together with a Requisition of Obligation and Allotment, an inventory of drugs and medicines, a request form and specifications, are submitted to the budget officer, municipal treasurer, municipal accountant, and to the mayor for final approval.
- There are two types of purchases, routine and emergency. Emergency purchases follow DOH's central office procurement system pertaining to purchases below 50,000 Pesos. Routine purchases include direct purchases and purchases through public bidding. Direct purchases usually means the awarding a contract to a supplier with the lowest price among three suppliers, whereas purchases through public bidding require submission of bids to Pre-qualification, Bids and Awards Committees (PBAC) by qualified suppliers and awarding the bid that is most advantageous to the LGU.
- Purchases of over 500,000.00 Pesos require advertising of the items to be procured in a newspaper. Among the eight cities or municipalities studied, budget allocations from micronutrients ranged from 1.1 to 19.7% of their total health budgets

The study suggested that considerable savings could be realized by procuring micronutrients through UNICEF. The study cites film-coated iron tablets from UNICEF at 0.10 Pesos compared with plain tablets purchased locally at 3.80 Pesos in 1998; and the cost of vitamin A capsules from UNICEF at 0.75 Pesos compared with 3.75 Pesos if procured locally in 1998.

Guidelines were developed and revised, based in large part on the Roxas Committee's recommendations and are being pilot tested with the purchase of about 94 million Pesos worth of anti-tuberculosis drugs.¹³ Six accredited drug manufacturers participated in a decentralized bidding for the anti-TB drugs to RHOs as a step towards full decentralization to LGUs. The manufacturers, AM Euro Pharmaceuticals, Danlex, Compact, Hizon laboratories, Interphil and United Laboratories, are all long-time suppliers to the DOH. Under the new guidelines, only accredited drug manufacturers will be allowed to join simultaneous bidding in the RHOs. Bidding results are supposed to be announced on the same day and submitted to the Secretary for review. Dr. Romualdez informed this study investigators that the bidding results would be carefully reviewed to detect irregularities or collusion among the bidders.

Under the new procurement system, the winning bidder must deliver within 180 days of awarding the contract. Manufacturers are required to delivery 20 % of the products during the first 60 days and 30 % in the 60 days, and full delivery within six months. Suppliers are also barred from bidding for another project until they have completed their deliveries. Should a drug manufacturer fail to comply, it faces a warning for the first

¹³ *The Philippine STAR*, Saturday, November 28, 1998. page 17.

offense, a two-year suspension from any bidding for the second offense, and perpetual ban from bidding for the third offense.

Financing Drug Procurement

In the 1997 fiscal year, the DOH recurrent budget was P8,502,828,000 (personnel and MOOE), of which 12.9% was dedicated to pharmaceuticals. The percentage dipped slightly to 10.2% in 1998, or 96.5% of the 1997 budget, yet remains well within the broad range reported in other drug studies conducted, where recurrent budgets allocated to pharmaceuticals ranged from 1% in Ecuador to 26% in Guatemala.

Summary of DOH Budget as a Percent of the Total Government Recurrent Budget

	1997	1998
Total DOH budget	8,502,828,000	10,403,936,000
DOH budget allocated to pharmaceuticals	1,097,677,000	1,059,285,000
Percentage	12.9	10.2

At the central level, actual expenditure for pharmaceuticals for 1997 was P114,280,170, or 10.4% of the budget allocations, and expenditure at the central level increased in 1998 to 14.6% of the total budget allocation. The DOH pharmaceutical expenditure for 1997, including regional expenditure but excluding donations, or P226,960,819, about P3.16 (or US\$0.083) per capita.

The allocation of funds and expenditures for drugs and medicines for 1997 and 1998 are as follows:

Program / Project	1997	1998
DOH (central level)	11,000,000	25,686,000
Regions	285,849,000	275,746,000
DOH Retained Hospitals	379,757,000	358,957,000
Provincial and Municipal Hospitals	45,000,000	48,813,000
Other Sources (Grants and Loans)	376,071,000	350,083,000
Total expenditure (central level only)	114,280,170	154,619,094
Total expenditure (excluding donations)	226,960,819	N/A

The table below shows that the value of drugs procured and distributed by the regions is greater than the value of drugs received from DOH and distributed. This reflects the greater number of drugs that regions purchase. It is unclear how this relates to volumes or quantities, since prices paid by the regions tend to be higher than those for same drugs purchased centrally.¹⁴ National and regional hospitals also have separate budgets for emergency procurements.

¹⁴ Amadini, L. *Philippines Women's Health and Safe Motherhood Project*, March 1996.

Cost of Drugs and Medicines Distributed by the DOH Integrated Regional Field Offices (DIRFO) to Provinces, 1997 (Pesos)

Regional Health Office	Cost of Distributed Drugs Purchased by the DIRFO	Cost of Distributed Drugs Received from DOH	Total Cost of Drugs Distributed by DIRFO
DIRFO 1	24,811,928.71	7,824,331.81	32,636,260.52
DIRFO 2	4,635,983.73	6,440,200.12	11,076,183.85
DIRFO 3			
DIRFO 4	12,124,605.72	13,258,641.01	25,383,246.73
DIRFO 5	3,979,442.40	6,069,042.05	10,048,484.45
DIRFO 6	3,424,439.12	3,543,923.94	6,968,363.06
DIRFO 7			
DIRFO 8	4,373,472.02	4,581,062.02	8,954,536.02
DIRFO 9	8,957,665.96	7,157,991.45	16,115,657.41
DIRFO 10	5,839,839.32	7,131,644.19	12,971,483.51
DIRFO 11	7,247,364.00	3,986,149.00	11,233,513.00
DIRFO 12	11,311,245.52	4,071,907.05	15,383,152.57
CAR	20,909,764.41	6,810,912.11	27,720,687.41
NCR	9,700,881.72	3,090,454.09	12,791,335.81
CARAGA			
ARMM			
TOTAL	117,316,634.61	73,966,269.73	191,282,904.34

Excludes drugs and medicines donated to the DOH and distributed to DIRFOs.

Source: DIRFOs, December 1998

From the sample of LGUs, the table below reveals significant disparity among LGU budget allocations for pharmaceuticals in 1997. In Paombong and Bulacan, about 4 % of the health budget is allocated to pharmaceuticals, whereas in Sta. Maria it is 41 %. All three are LGUs in Region 3. In Opol in Region 10, 82 % of the health budget is allocated to drugs and medicines.

Provincial/City/Municipal Budget for Health and Pharmaceuticals (Drugs and Medicines), 1997

Province, City, or Municipality	LGU Health Budget	LGU Pharmaceutical Budget	Percent of Health Budget (%)
Ilocos Norte (Region 1)			
Bangui	773,790	100,000	12.92
Pasauquin	1,541,495	121,389	7.87
Badoc	1,763,867	261,865	14.85
Batac		194,254	
Paoay	961,608	201,439	20.95
Pinili	970,093	171,872	17.72
Dingras			
Laoag City			
Bulacan (Region 3)			
Balagtas	126,808,552	5,691,790 (7,301,936)	8.89
Paombong	1,413,444	125,625	8.89
Sta. Maria	2,063,893	89,968	4.36
Malolos	7,352,234	2,998,199	40.78
Baliwag	11,079,609	1,930,416	17.42
	5,915,706	599,975	10.14

Province, City, or Municipality	LGU Health Budget	LGU Pharmaceutical Budget	Percent of Health Budget (%)
Bulacan	2,451,974	106,830	4.36
San Jose Del Monte	7,525,053	936,832	12.45
Obando	1,886,893	210,000	11.13
Cebu Province (Region 7)	14,800,000	4,286,649	28.96
Minglanilla	3,552,925	400,000	11.26
Tuburan	3,965,294	420,854	10.61
Bogo	1,870,959	450,000	10.61
Oslob	1,199,960	325,000	27.08
Argao	4,000,000	350,000	8.75
Lapu-lapu City	34,171,097	7,275,426	21.29
Carcar	5,245,218	391,404	7.46
Bantayan	3,189,065	280,000	8.78
San Francisco	1,937,890	300,000	15.48
Western Samar (Region 8)	35,523,150	2,597,732	7.31
Basey	2,819,655	460,636	16.34
Caibalogan City		823,470	
Gandara			
Calbayog City		582,407	
Paranas			
Sta. Margarita	1,311,514	150,000	11.44
Marabut	853,022	225,000	
Motiong			
Misamis Oriental (Region 10)	8,493,000	962,000	11.33
Gingoog City	15,566,424	4,750,000	30.51
Medina	2,060,259	252,254	12.24
Claveria	2,686,635	625,588	23.29
Balingoan	832,222	160,000	19.23
Salay	1,436,913	213,553	14.86
Opol	800,000	657,434	82.18
Manticao	1,350,948	204,722	15.15
Villanueva	1,491,641	66,808	4.48
Lanao del Norte (Region 12)			
Bacolod	1,172,553	210,000	17.91
Tubod	2,324,227	190,043	8.18
Kauswagan	1,461,305	137,607	9.42
Maigo	1,146,916	100,000	8.72
Linamon	1,060,122	70,219	6.62
Kolambugan	1,108,779	130,000	11.72
Kapatagan	1,463,397	205,178	14.02
Baloi	1,284,457	252,500	19.66
City of Manila	29,559,374		
Quezon City			

Province, City, or Municipality	LGU Health Budget	LGU Pharmaceutical Budget	Percent of Health Budget (%)

Source: LGUs, 1999

Drug Cost Recovery

Cost recovery schemes operate in all of the government hospitals, but not in health centers or RHUs. Currently there is no management information system in place that is able to track goods and their costs. For this reason, cost information on drugs, as well as other costs associated with the warehousing and distribution activities, are not readily available. Although there is no documentation, however, it is clear that the objective of the cost recovery program is partial cost recovery, or cost sharing, and not total cost recovery. No receipts or expenditure records were being kept in seven out of 37 (19%) facilities with revolving drug funds visited as part of this current study. Other facilities had some other form of record: cash receipts (19%), patient records (5%), dispensing records (8%), etc. However, records were being regularly reconciled only in three hospitals and only half of hospitals sampled were able to report total revenue collected and the balance of their revolving drug funds. For those that were able to provide data, the average value of the RDFs increased on average in 1997, and the value of exemptions averaged 43% of hospital revenues.

Financial performance of Revolving Drug Funds (Pesos)

Average value of revolving drug fund (beginning 1997)	2,447,000
Average value of revolving drug fund (end 1997)	3,129,000
Average revenue per hospital (1998)	2,000,000
Average value of exemptions per hospital (1998)	866,467

The sampled facilities reported that on average 17% of the patients pay the full price, 20% get a discount, 37% get formally exempted, and 22% are informally exempted. Drug dispensing was observed in 19 government health facilities. Out of 546 patients observed, 177 (32 %) paid a charge for the drugs they received.

3.5 DISTRIBUTION

In 1994, Clark et al. (1994) described the DOH system for distributing drugs, and medical supplies. At the time, the DOH was responsible for transporting supplies to the Regional Health warehouses. The DOH contracted out the distribution by tender on an annual basis, and the award was usually split between four distributors. Provincial governments had to make their own arrangements to pick up their supplies and bring them back to their provincial warehouses. In their study of the distribution system, Clark et al. (1994) concluded that this system was unreliable and often resulted in delays. The investigators recommended a direct delivery system, eliminating the need for the central warehouse. It was also suggested that the LGUs commit to arranging and paying for the final delivery from their local stores to the health units within the provinces.

Since 1995, the DOH has held discussions with private-sector firms to explore ways to improve the logistics system of the public sector, but no agreements with distributors have yet been formalized. At present, the DOH continues to use forwarders and transportation firms to distribute drugs and contraceptives to Regions and LGUs.

Four types of firms—supermarkets, drug distributors, retail drug chains, and freight forwarders—were identified during the current assessment as having the potential to assist the DOH in distributing drugs nationally. Each was evaluated based on the following criteria:

- **Distribution**: ability to distribute, own warehouses, own or contract transport companies.
- **National coverage**: ability to cover at least 75% of the country.
- **Information management**: ability to generate management reports, plan and project demand, identify problem areas and disease areas based on drug utilization review.
- **Returns**: ability to collect goods from clients and return to suppliers.
- **Payment collection**: able to keep accounts for funds collection.
- **Pick 'n pack**: able to deliver small packs to deliver to health units.

Firms of each type have the capability to distribute drugs and cover the country. However, only retail drug chains and drug distributors have appropriate information management, the capability to return goods, maintain accounts, and make small deliveries as needed to government health facilities. There is only one retail drug chain, Mercury Drugs, that has these capabilities. Mercury Drugs currently commands about 40 to 50% of market share and is expanding aggressively. At the time of the current assessment, Mercury Drugs was not interested in distributing drugs for the DOH.

Supermarket chains were not interested either. They perceived the government procedures as too highly bureaucratic and slow, which often translated to late and/or unpredictable payments. There was also a concern about inventory space because drugs are slow moving items relative to other consumer goods, and the level of management required with returns, expired goods, and payment collection (if needed) is much greater relative to other consumer goods. Moreover, no single supermarket chain covers entire country (usually 7-8 outlets).¹⁵

On the other hand, a number of drug distributors claim to have both the capability and the interest in contracting with the government to distribute a set of essential drugs nationally. Three major drug distributors, Zuellig Pharma, Metro Drug Inc., and United Laboratories (Unilab) command nearly 80% of the market share. Zuellig Pharma and Metro Drug are distributors and marketers, and Unilab is a manufacturer and distributor. To date, Unilab has not expressed interest in working with the government because the opportunity cost would be too high. Unilab has relatively little spare capacity and needs to expand distribution to meet its own needs, and Unilab cannot afford what is likely to

¹⁵ Lalvani, January 1999.

be a time consuming business venture. However, The Vice President for Sales and Distribution added that if the DOH is serious about privatizing its distribution operations, Unilab will reconsider its position.¹⁶

The following table illustrates the capacities of Zuellig Pharma and Metro Drugs Inc. to respond to the DOH. Both of these belong to one parent firm. However, as discussed, there are likely to be other firms capable of responding to the DOH and interested in becoming a partner in supplying and distributing drugs, medicines, and contraceptives to health facilities nationwide.¹⁷

Comparison of Two Drug Distributors Interested in Providing Service to DOH

Zuellig Pharma	Metro Drugs Inc.
<ul style="list-style-type: none"> • 1 central warehouse • 12 regional/provincial warehouses 	<ul style="list-style-type: none"> • 3 central warehouses
<ul style="list-style-type: none"> • Sales of US\$500 million 	<ul style="list-style-type: none"> • Sales of US\$185 million
<ul style="list-style-type: none"> • Discount of 2% for prompt payment in cash (normal payment terms, 60 days) 	<ul style="list-style-type: none"> • Discount for cash payments: 2%
<ul style="list-style-type: none"> • Quoted 4.25% - 5.5% of cost of goods, based on services provided 	<ul style="list-style-type: none"> • Quoted 6.0% of cost of goods, declining to 5.0% over a period of 4 years
<ul style="list-style-type: none"> • Average lead time (order to delivery): 2 days • Average number of deliveries: 3,000/day • Annual inventory turnover: 4-5 	<ul style="list-style-type: none"> • Average lead time: 2 days (may take up to 4) • Average number of deliveries: 2,450/day • Annual inventory turnover: 6

Source: Lalvani, January 1999.

3.6 INVENTORY MANAGEMENT

3.6.1 Stock Record Keeping Systems

Government facilities in the sample use a variety of record keeping tools: drug record (40%), purchasing log books (27%), ledgers (16%), tally card (9%), stock card (6%), medicine sheet (6%), improvised form (2%). However, few use bin cards or stock cards, which are the standard means for maintaining inventory. No health centers or RHUs have computerized record keeping and only one (a regional training medical center) of 21 hospitals surveyed had computerized records.

Stock record keeping systems that are inaccurate are of limited use for monitoring the status of inventory, estimating future needs, and for controlling leakage and wastage of stock. After adjusting for issues and receipts not yet entered in the records, the average percentage of inventory variation between the record keeping system and the physical count (also known as average piece variation) for the set of 25 indicator drugs was 21%. As a measure, it indicates the overall correspondence between records and real stock

¹⁶ Lalvani, January 1999.

¹⁷ Lalvani, January 1999.

levels when the assumption that significant variation means sloppy record keeping at best and potential leakage at worst.

Average variation between stock records and the actual physical count can be greatly inflated by a small number of items so it is also useful to measure the average percentage of stock records that corresponds with physical counts for a set of indicator drugs in government storage and health facilities. After adjusting for issue tickets not yet entered in the records, the percentage of records for 25 indicator drugs that corresponded exactly with physical counts was 82%.

3.6.2 Availability

The survey found that only 31% of indicator drugs were available at government facilities at the time of the study. Amoxicillin, paracetamol, and cotrimoxazole were the drugs most commonly out of stock at government health facilities. Availability of the drugs was more of a problem at hospitals (24%) than at health centers and RHUs (41%). In the corresponding sample of private retail drug outlets, availability of the same set of indicator drugs was greater, 58%. It should be noted, however, that the drugs on the tracer list may not be normally stocked by retailers because they are low-price generic products. Even so, these findings are comparable with those of the Carandang 1995 NDP study, showing only marginal improvement in three years.¹⁸ Availability of five indicator drugs in RHUs was 53.7% in the 1995, and although the health facilities in the samples were different, the availability of the same five drugs in the current survey was 57.3%. For these five drugs, availability at private retail drug outlets was 70.7% in 1995 and 84.2% in 1998.

A complementary indicator of availability measures the likelihood of drugs being out of stock during a period of time. Over a 12-month period, the indicator drugs were out of stock an average of more than half of the time (56% of the time, or 204 days) at sampled facilities. Hospitals reported having a greater problem with stocks, with indicator drugs out of stock for 72.8% of the time over the 12-month period, whereas they were out of stock 51.5% of the time at health centers and RHUs.

Regional trends were noted in stock availability. For example, in Region 1 there are only 27 items in inventory on average, whereas in Region 3 there are 119 items. Rural facilities were twice as likely to experience stock-outs of the set of indicator drugs than urban facilities. More exchanges of drugs in case of stock-outs took place between facilities in regions with highly urbanized areas (NCR and Region 7).

3.7 DRUG USE

Most consultations at government health facilities result in a prescription. In the sample it varies from 53% in Quezon City to 84% in Region 8. The national estimate is about 70%. More prescriptions are written at district hospitals (95%) than at provincial (90%) and

¹⁸ Carandang, E.D. *National Drug Policy Program: An Assessment Report*. Manila: Philippine National Drug Program, Department of Health, 1995.

regional hospitals (81%) during consultations. However, this study suggests that regional hospitals dispense a higher percentage of prescribed drugs than district or provincial hospitals. Consultations at rural health facilities result in more prescriptions than urban facilities (69% compared to 53%).

The survey found the average number of drugs prescribed per curative outpatient encounter in DOH health facilities to be 1.13, somewhat lower than the finding of 1.48 cited in the 1995 NDP study. The finding of 1.13 is unexpectedly low and may in part be the result of only recording prescriptions that are dispensed at the facility and the shortage of drugs at government facilities in general. The average as reported by the International Network for Rational Use of Drugs (INRUD) and based on studies in eleven countries between 1989 and 1992 is 2.1.

3.7.1 Prescribing according to the PNDF

Although the formulary is reportedly available at nearly all government health facilities, only 86.2% of all the drugs prescribed in the current survey sample were listed in the PNDF. Nearly all (92%) of the prescriptions examined at the government drug outlets and 75% of those at private outlets were for drugs on the PNDF. The 1995 drug study showed similar results of 91.2 and 84.6% at RHUs and government hospitals, respectively.

Most drugs (88.1%) were prescribed by generic name in government facilities in 1997. The study in 1995 reported similar results with 88.2% of drugs prescribed by generic name in RHUs and 81.3% in government hospitals. Only 41.2% of drugs were prescribed by generic name in private hospitals in 1995.

3.7.2 Prescribing injections and antibiotics

Compared to the findings from the 1995 NDP study, the findings from this study suggest that there has been a reduction in the percentage of outpatients prescribed antibiotics at government health facilities (42.5% compared to an average of 53%). However, because non-pneumonia upper respiratory tract infections and acute diarrhea are reported among the most common infectious disease-related diagnoses, it is highly likely that there is still overprescribing of antibiotics.¹⁹

The percentage of outpatients that were prescribed injections at government health facilities was relatively low (8.4) in the current sample. The INRUD-reported averages for outpatients prescribed injection and antibiotics are 25 and 43% respectively. Injection prescriptions from the nine studies between 1992 and 1994 range widely from 2% in the Organization of Eastern Caribbean States (OECS) to 56% in Ghana. On the other hand, the percentages of outpatients prescribed antibiotics from these countries are not widely dispersed and fall between 27 and 52%. Wherever more detailed studies are carried out, these inevitably document inappropriate antibiotic prescribing.

¹⁹ Emmanuel Edwin R. Dy. Inappropriate antibiotic use in the Philippines. *The Santo Tomas Journal of Medicine* 1997;46(1):18-27.

3.7.3 Dispensing Drugs at Health Facilities

A little more than half (55.1%) of the drugs prescribed in the sample were actually dispensed at government health facilities. This finding is lower than the average of 77% reported for the INRUD sample, but is consistent with the finding cited above of poor availability of key drugs in the government facilities. This is a disturbing finding because it suggests that patients may have no alternative but to fill their prescriptions in the private sector, therefore more likely to have to pay for brand name products, or to go without treatment.

3.8 DRUG INFORMATION CENTERS

There is one drug information center located at the Pharmacology Department of the University of the Philippines, College of Medicine that provides drug information to public health decision-makers, health care providers, and consumers. The Center has the Micromedex Computerized Clinical Information System (MCCIS), and the IOWA drug information system (IOWA-DIS). The center can also provide information for research and other needs.

A system is being developed for reporting adverse drug reaction that will be linked to the Rational Drug Use Coordinating Unit. The National Adverse Drug Reaction Advisory Committee is receiving assistance from the Australian Agency for International Development (AusAID) for this.

3.9 DRUG QUALITY ASSURANCE AND INSPECTION SERVICES

3.9.1 Quality Assurance

The Philippines is a signatory to the WHO *Certification Scheme for Pharmaceutical Products Moving in International Commerce*. However, as of 1995, it was not used systematically by BFAD or DOH. The Drug and Antibiotic Sections of the Laboratory Services Division of BFAD carry out drug testing for major drug procurements by the government, for drug registration and monitoring purposes, in response to consumer complaints, at the request of private institutions or individuals, and for compliance with COA requirements, including for donated drugs imported by international agencies. The testing is to establish the quality and purity of pharmaceutical products through the analytical determination of its active ingredient(s), which is reported as a percentage of the label claim or percentage potency. At present, BFAD performs all laboratory tests and uses no contract laboratory affiliations for this purpose.

The Drug Section has 16 staff: the Section Head, four senior and six junior analysts, one clerk, three laboratory technicians, and one aide. The Antibiotic Section is led by a Section Head and has two senior and two junior analysts, three laboratory technicians, two clerks, and one utility worker. Analysts test 10 to 15 samples per week depending on the method used, availability of reagents and supplies, the analyst's skills, and equipment

performance. BFAD utilizes state-of-the-art technology, including high-pressure liquid chromatography attached to different detectors, gas chromatography, dissolution test station, ultra-violet spectrophotometer, disintegration machine, Karl Fisher titrator, hardness tester, weighing balance, centrifuge, pH meter, shaker and potentiometer.

In 1997, 21,874 drug samples were submitted to the BFAD Laboratory for testing, and 20,240 drug samples were actually tested. A total of 59,051 tests were performed on these drug samples. Although the Bureau of Food and Drug is mandated to monitor and take action on all product quality complaints, the status of this surveillance system is at best limited. The number of complaints in 1997 is not known and there is no evidence of follow-up action for complaints.

3.9.2 Inspection

The BFAD has 142 (35 in the NCR and 107 in all other regions) officially designated government drug inspectors whose full or part-time responsibilities include inspecting drug retail outlets of all categories. There are 11,617 licensed drugstores. This yields an average of 82 licensed drug retail outlets per inspector (70 and 86 licensed private drug retail outlets per inspector in the NCR and in all other regions, respectively).

4. OPTIONS FOR REFORMING THE DOH DRUG SUPPLY SYSTEM

In the Philippines, under the policy of devolution, Local Government Units are responsible for purchasing and managing most types of pharmaceuticals, but DOH retains responsibility for providing certain drugs and supplies that are deemed essential public health goods (core essential drugs). DOH officials are currently trying to rationalize a system that features DOH internal procurement and logistics systems, currently managed at central and provincial levels, in parallel with the totally decentralized procurement by local government officials.

The DOH has taken important steps in recent years toward improving availability and access to safe, effective and acceptable quality essential drugs through promulgation and implementation of its national drug policy, generic legislation and a national drug formulary. Nevertheless, the current study findings, taken together with data from other recent studies supported by the DOH and the Women's Health and Safe Motherhood Project, demonstrate that there is still much to be done to improve public sector drug supply management.

Indicator data from this study show that availability of core essential drugs at public health facilities has not improved in the past three years (since the WHO study in 1995). As documented in the earlier sections of this report (and in the other recent reports cited) the logistics and procurement processes are still afflicted with delays and management problems. There still are recurring problems with delayed payment to vendors and resulting stock shortages. Although the LGEDDS activity has been initiated under WHSMP, there are still no functional management information systems, and DOH managers do not have the information needed to properly manage the drug supply system. There are recurrent problems with poor quality products provided to the public sector in spite of BFAD's testing program covering all products and a time consuming and administratively cumbersome inspection program.

As mentioned earlier, the problems in the DOH internal drug supply system are longstanding - a 1989 study carried out by the Foundation for Peoples Concern, in cooperation with the DOH, reported most of the same problems and inefficiencies in the public sector drug supply system. It is unclear that DOH can realistically solve all of these problems and commit the necessary management and financial resources needed to sustain an internally operated logistics system over an extended period. Even if the current LGEDDS initiative were to succeed in laying the foundation for an effective "push" distribution system, the recurrent and capital costs must be considered. The DOH does not currently have the systems to track how much is expended on operating costs for the current dysfunctional system, and it is unclear how much would be needed incrementally to operate an efficient internal system. It is certain that substantial recurrent resources would be required to sustain operations, and there would be continual need to commit capital to bring the internal logistics infrastructure up to a proper standard and keep it there.

The Philippines is not alone in this dilemma - most, if not all, countries in the world face financial and/or management problems related to the public sector drug supply system, reducing the ability to provide safe, effective and affordable pharmaceuticals to all people in the country.

It may be time that the Philippines considers alternatives to the traditional internally operated pharmaceutical logistics system. Over the last ten years, more and more countries have begun to move away from total reliance on a state-operated drug procurement and logistics system. One reason is that most state-operated supply systems (even in "developed" countries) have struggled to sustain effective procurement and distribution systems, and the cost to do so is increasingly seen to be excessive. And, in many of the same countries where the public sector supply system has struggled, procurement and logistics in the private sector has become more effective in terms of getting drugs to the end user, and increasingly more cost efficient in terms of the supply system operating cost.

Of course access to private sector services is limited - by the geographic coverage of the private sector and by the ability to pay. Therefore the public sector continues to have a significant role in all countries to assure availability of pharmaceuticals for public health priorities and for patients who cannot access the private sector systems. However, the discrepancy in effectiveness and efficiency between public and private logistics systems has led many countries to investigate alternatives involving public and private collaboration to provide pharmaceutical services to public sector facilities.

Five main supply system models (along with "mixed models") are now being used to serve public sector health systems around the world, that might be considered by the DOH for the Philippines. These alternative models are:

- **The medical store model.** In this model (which is the current system in the Philippines and the legacy system in most developing countries), the public health ministry operates a system of medical stores that warehouse drugs and deliver them to health facilities. The system may feature one level (one central store) or many levels, with regional, provincial and/or district stores. Although many public health systems are moving away from the internal store model, it has been successfully maintained in some small to medium-sized countries such as Bhutan, and in some public health systems in Latin America (for example the Social Security systems in Costa Rica and Mexico). Some countries such as Zimbabwe have decentralized responsibility with increased emphasis on regional medical stores. In many of the countries that retain this basic model certain supply system aspects such as warehouse management and/or transport are contracted out to the private sector, although the basic features of the medical store model are retained. In South Africa, two provinces have contracted out for both medical store management and transport of state-operated stores (with mixed results - in one province, the contract service has produced improved supply at least to hospitals, but results have been less positive in the other province). In Tanzania, donors have supported contract management of the central medical store over a ten year

period, with the intent of turning management over to public sector staff over time, although the turnover had not happened as of the end of 1998.

- The **autonomous supply agency**, whereby a central store is managed as an autonomous agency, either directly reporting to government or as a private firm under contract to government. This has been implemented with varying success in several countries. Benin offers the best-documented success with this model (achieved with significant donor support), but Sudan, Uganda and Zambia have also reported good results (despite experiencing some management difficulties). Other countries such as Ecuador and Guatemala have had less successful experience with this model, although Guatemala has reportedly been able to improve operations of the autonomous store in recent years.
- A **direct delivery system** with decentralized ordering by regional, district or local facilities followed by direct delivery to the ordering facility by the supplier (which may be a primary manufacturer or a wholesaler). Procurement pricing may be negotiated centrally, regionally or locally in such a system. A notable example is the Eastern Caribbean Drug Service (ECDS), serving eight member countries of the Organization of Eastern Caribbean States since 1988. Another example of direct delivery comes from Thailand, where government hospitals have formed purchasing cooperatives featuring negotiation of pricing as a group with individual ordering and direct delivery. Other countries in which direct delivery has been implemented in at least part of the public health system include Chile, Colombia, Indonesia, and Mexico.
- A **"Prime Vendor" system**, with many variations. In this model drug prices are negotiated by a public sector agency (at central, regional or local level), and a separate contract is established with a distributor (the Prime Vendor) to handle warehousing of contract items and transport to user facilities. The Prime Vendor receives a specified fee for handling logistics (usually a percentage of the contract price, applied to each invoice). Group members order as needed from the Prime Vendor, and are charged the contract price plus the agreed percentage fee. This system is used by most public and private sector health systems in the United States, and Prime Vendor fees have fallen below zero for some large health systems (the Prime Vendor provides an additional discount to purchasers, deducted from the contract price). For example, the successful bidder for the a large U.S. public sector contract awarded in late 1998 proposed a fee of -2.75%; it remains to be seen whether service can be sustained with that level of rebated fee. The Prime Vendor is able to offer low distribution fees by achieving prompt payment discounts from the manufacturer by negotiating rebates from some manufacturers, and by a payment time differential (for example, the contract may specify that the health facility must pay within 15 days, while the Prime Vendor has 30 day terms with the manufacturer). In South Africa, a variation of this system is being tested in one province, wherein the Prime Vendor distributor receives a fee that is currently paid by participating manufacturers whose products are distributed.

- **A fully private supply system** in which health services and drug/commodity supply for public sector patients are provided by private providers (for-profit or NGO). The private sector manages all procurement and logistics, and Government takes responsibility for paying private providers for care provided to certain categories of patients, with different options for payment terms (for example, fee for service vs. capitation). In some situations, contracts with local pharmacies may be supplemented by remote services via mail order prescription contracts. A number of European countries, and countries such as Australia and Canada, employ some variation of this model. In developing countries, private practitioners are increasingly pressuring government to use the private sector as service providers. As is well documented in industrialized countries, the challenge with this model is to assure access and uniform quality of care while at the same time avoiding over-utilization and controlling total cost to the health system. The Medicaid program in the U.S. relies on this model (and exemplifies the difficulty in controlling expenditures)
- **A variety of mixed model supply systems** combining features of the five basic models, with various potential roles for Government, private firms and NGO's. In a "mixed" system, different models may be used at different levels of the supply system, or for specific types of patient or drug product. For example, in Zimbabwe, high use drugs on the essential drugs lists are procured and distributed by the medical stores, but for certain high cost/low use items, the facilities are served by direct delivery contracts. In Kenya, some parts of the public health system are left de facto to NGO's, served by the autonomous Mission Essential Drugs Service warehouse which contracts to the private sector for transport. In Ghana, health facilities operate their own "Cash and Carry" revolving fund, and purchase some drugs from government warehouses and some from private suppliers with direct delivery. In Indonesia public sector warehouses distribute some drugs and some are distributed to facilities by wholesalers. In Russia (and in NIS countries), drug supply was formerly provided by a centrally managed internal procurement and logistics system. Now some drugs are still distributed through Russian state systems, but many state warehouses have been converted to semi-private entities, and public health facilities are served by a combination of state managed delivery and direct delivery from manufacturers (and an ever increasing number of private wholesale suppliers). In some Russian hospitals, all out patients get their drugs from a private pharmacy that is situated on the premises of a public health facility, and coverage by third parties for drug services is increasing. In the U.S., the Veteran's Administration provides pharmaceuticals through its hospitals, using a Prime Vendor logistics system, but also contracts with private pharmacies in some locations, and operates a large mail order prescription system for out-patients.

Based on the realities of the Philippine situation, there would seem to be four basic options that the DOH should consider in restructuring its drug logistics system:

- A. Contract out for prescription services from private pharmacies for core essential drugs.
- B. Abdicate all responsibility for procurement and logistics, transferring responsibility for core essential drugs and supplies to the LGU's.
- C. Continue to manage an internal logistics system for the core essential drugs; revising the plan developed through the LGEDDS initiative to shift responsibility away from the central level; transferring responsibility for purchasing of priority program drugs to the DIRFOs; and strengthening the storage and distribution system at the regions and/or provinces.
- D. Pilot test an alternative supply system model, retaining central control of price negotiations with regional/LGU purchasing authority, and contracting out for logistics (warehousing and distribution) service from the private sector.

A. Contracting with private pharmacies for prescription services

Since there is an extensive network of private pharmacies in the Philippines, certainly covering most of the areas where DOH provides public health services, it would be theoretically possible to contract out for prescription services with private pharmacies. It might well be feasible to incorporate contract mail order prescription services to areas where there are no suitable private pharmacies. This model, as noted earlier, is used by many "developed country" public health systems, including most European countries, Canada, Australia, and the Medicaid program in the U.S. The major problems faced by such programs involve controlling product selection, drug cost and patient utilization, while at the same time assuring quality products and services and access to all of the eligible population.

Management and control in these service delivery systems depend heavily on effective management information systems, good communications with various classes of providers (individual pharmacies and chains), and on the presence of a management infrastructure to monitor the programs. Since none of these prerequisites is now in place at DOH, it would be premature to suggest a trial of contracting out for prescription services. However, in the future this may well be an option for the DOH; if this were considered, DOH would want to carefully examine the experience of the various countries that use this model. If this type of program is not carefully managed, it can bankrupt even a relatively rich health system.

B. Transfer responsibility for all drug purchasing and logistics to the LGUs

DOH could expand the current devolution policy to encompass core essential drugs now managed by DOH through its central procurement and distribution network. In principle, this would enable LGUs to purchase the public health core essential products according to their needs, and DOH would be able to avoid trying to resolve the problems with the

internal drug supply system. However, given the current situation this alternative would likely be counterproductive for the several reasons:

- It would be very difficult to monitor the use and availability of core essential drugs at the LGUs, particularly given the current absence of effective management information systems at all levels of the public health system.
- Health expenditure and particularly drug expenditure may not be a high priority among many LGUs. There does not seem to be a sufficiently powerful incentive for local political authorities to use the funds to purchase priority drugs or a mechanism to ensure that transferred budgets/allocations will be used appropriately (on essential pharmaceuticals).
- It would not be possible to benefit from economies of scale in terms of drug pricing, unless LGUs spontaneously pooled their procurement (or a separate initiative to foster pooled procurement were feasible). Even if LGUs increase their individual budgets and expenditures on essential pharmaceuticals, the high unit prices that they pay would reduce the overall benefit of expenditures. It is unlikely that sufficient LGUs would agree to "pooling" their drug procurement in the short to medium-term, as this implies ceding control over purchasing decisions.

For the time being at least, this option is not recommended.

C. Strengthen the DOH Internal Logistics Management System and accommodate regional/LGU purchasing

DOH could choose to continue recent efforts to strengthen the internal logistics management system. This would involve modifying the scope of the LGEDDS initiative cited earlier in the report in order to support an internal logistics system consistent with DOH's determination to shift purchasing authority to the regions (and presumably eventually entirely to LGUs).

The LGEDDS initiative was intended to establish a "push" system for core essential drugs and supplies modeled on the contraceptive logistics system that was established and supported with USAID funding. A "push" system means that a central office has control over deciding what stock allocations should be made to various user facilities. A "pull" system relies on requisitions or orders from users to the warehouse or supplier, with the user facility deciding what items and quantities to order. The push system has been widely used in donor-supported vertical programs where the main concern is getting vital products out to the field, usually in situations where local budgets are inadequate and the local facility staff are not well trained in supply management and/or are not motivated to manage stock properly. Push systems have been used effectively in many countries, in terms of getting supplies out in vertical programs such as contraceptive distribution and essential drugs kit programs. Unfortunately, in most of these countries little capacity for managing stock has been left behind at the local facility level, since

local level managers are basically disempowered in terms of input into purchasing and distribution decisions.

Given the DOH decision to shift purchasing responsibility from central to regional levels and eventually to LGUs, it would seem that the DOH will need to empower local staff to manage their own stock. This suggests that LEGEDDS would need to be re-directed, moving away from the current model under which a central DOH LGEDDS office would make decisions on stock allocation to the regions and LGUs.

With regional or LGU responsibility for purchasing, there are two ways the DOH internal logistics system could be refocused. One variation would retain the proposed "push" model, but get away from central control, with multiple regional and LGU level LGEDDS offices established to manage a decentralized system (substantially increasing the complexity of management and the administrative costs). This would still place stock allocation authority in the hands of special management teams (presumably based at the regional or provincial level), disempowering local facility staff.

The other variation would move from a push to a pull model, and LGEDDS would then need to redesign to support a requisition based distribution system. As noted, if the DOH objective is to empower local government unit staff, a pull system would be preferred, even if that requires substantial effort in training and a development of a viable system for motivating and supervising performance.

In either case, the DOH internal logistics system would need a system of warehouses. Since purchasing will be at least devolved to regions, delivery to a DOH central level warehouse of orders placed by regions for further shipment to regions and LGUs would be silly. This means that funds would be needed to strengthen the current public sector warehouses below central level and to build or renovate warehouses where they are needed but not in place (or not usable). It is not clear how much funding would be needed (or where funding for such infrastructure development would be obtained). A previous study estimated the cost of improving DOH storage and distribution operations at US\$14 million.²⁰ Maintaining infrastructure would mean substantial costs in the future, and failure to maintain the infrastructure would demand a repeat of the capital expense in a few years.

Even assuming that necessary capital is available and affordable to improve warehouses, to upgrade transport capacity at regional and provincial level, and to maintain the infrastructure, it is very doubtful that the regionalized internal logistics system would be efficient in terms of recurrent operating costs. Due to the absence of DOH financial data related to operating costs, it was not possible in this study to determine the direct and indirect operating costs of the current storage and distribution system. Based on experience in other countries, it is likely that costs of an internal system are greater than warehousing/distribution fees that would be charged by a commercial distributor. In our interviews, Philippine national distributors suggested that logistics management fees

²⁰ Alano, B.P. *Private Contractual Arrangements for the Department of Health Logistics System: A Feasibility Study*, August 12, 1994.

might range between 4% and 6% of drug purchase costs; we doubt that the DOH can manage a system for 4%-6% of purchase costs, considering operating and amortized capital costs.

Private-sector distributors in the Philippines already have the distribution capability, management systems, trained staff, and technology to deliver the goods at a reasonable cost to the DOH. We believe that the Philippines should follow the example of most developed countries and move away from an internal logistics system to a system involving contracts with the private sector. It is very likely that the contract logistics option will be more effective and efficient than any internal logistics option, if the private sector contracts are properly structured and managed, and if payment to the vendors can be reliable.

D. The recommended option - Pilot test of contract for logistics support

As discussed above, a number of models involving private/public collaboration for warehousing and distribution are in use worldwide. The two basic models that could most readily be applied in the Philippines are the direct delivery or prime vendor systems.

- Direct Delivery Alternative

This model is theoretically feasible under a regionalized procurement system. The DIRFOs could require that manufacturers provide periodic direct delivery of fixed quantities to health facilities, instead of delivery to regional warehouses. Alternatively, the health facilities could order periodically or as needed from the manufacturer, drawing down from quantities specified in the tender managed by the DIRFO. This eliminates the need for routing drug supplies through regional or provincial warehouses. Although some in DOH might argue that inspection of shipments in DOH warehouses before delivery to facilities is essential, such inspections can be effected at the manufacturer's site prior to shipment, supplemented by a vigorous product problem surveillance system.

This model would be potentially more efficient than the current internal logistics system. The problem with this alternative is that many if not most Philippine manufacturers would be unable or unwilling to provide direct delivery to the facility/LGU level unless they added a significant increment to the tender price to cover the increase in their logistics responsibility. It seems likely that DOH would do better to contract directly with its own choice of distributor to manage all logistics services for the core essential drugs.

- the modified Prime Vendor alternative

As noted, this model involves two separate types of tender and resulting contract. A tender for drug prices would be managed by DOH - this could be done at central, regional or even local level, but it is recommended that best prices and quality control would be obtained with central tenders. A separate tender and contract would be used to select a primary distributor (the *Prime Vendor*) to handle warehousing of contract items and

transport to health care facilities in exchange for a specified fee (presumably based on a percentage of contract price). Regions and participating LGU's would order core essential drugs as needed from the contract manufacturer, who would deliver to the Prime Vendor warehouse. The Prime Vendor would distribute the products to facilities and LGUs according to the order specifications, and bill the region for the distribution services.

This system, if successful, also eliminates the cost of central and regional or provincial warehouses. Again, the inspection program can be modified to focus on the manufacturer's plant and the distributor warehouse, combined with aggressive post-distribution surveillance. Our pharmaceutical distributor interviews and past studies cited in the Annexes suggest that there are distributors in the Philippines with the capacity to manage distribution on a national scale.

It is recommended that DOH pilot test a modified Prime Vendor system, contracting out via tender with a national scale commercial distributor for logistics support in three test regions, as described in the following section of the report.

5. RECOMMENDATION FOR PILOT TEST OF CONTRACT LOGISTICS

It is our recommendation that DOH conduct a pilot test in three regions of a contract logistics system adapted from the Prime Vendor model. This section of the report discusses the key considerations and prerequisites for success, and then presents the critical elements of the pilot program with additional discussion of some of the operational details. There is a list of activities required to implement the pilot test, and a discussion of resources available to assist DOH in design and implementation.

5.1 Policy Considerations and Prerequisites for Success

5.1.1 Political Commitment at DOH, Regional and LGU Levels

The DOH has reportedly considered the possibility of private sector logistics support in the past, but the model was not supported at the time by senior DOH management, for a variety of reasons. The current Secretary of Health does support the concept of testing a private sector logistics management contract to see if this may help to solve the longstanding problems in the public drug supply system.

This level of senior DOH management support is critical to potential success of the pilot program, but similar management commitment will also be needed in the regions and LGUs that participate in the pilot test.

The new system will demand extra effort from managers to participate in planning and implementation activities, and to assure that procedures are followed and to monitor the pilot logistics system to make sure that all parties - suppliers, contract distributor, and public sector staff - carry out their responsibilities. Senior managers as well as operations staff will need to be trained in the new system, which will disrupt ongoing work. New management information systems will need to be installed, and managers will need to pay close attention to the output, making sure that the systems work and that the information produced is valid.

It can be expected that hitches and malfunctions will occur as the pilot program is implemented, and system managers will need to be willing to work together with the contract distributor and with DOH to resolve problems.

It will be especially important that regional directors (and responsible managers for any LGUs) that are chosen for the pilot agree to abide by the sole source commitment to contract suppliers. These authorities must agree to purchase core essential drugs and supplies that are covered by the DOH tender only from the contract suppliers, and they must abide by that commitment. Failure to do so will kill the program.

5.1.2 The Fear of Relying on the Private Sector

Some Philippine public sector officials have expressed the fear that if logistics services are contracted out, a single large distributor would be able to monopolize the DOH

distribution business, and might later choose to dictate excessively high fees or feel free to provide sloppy service to DOH facilities. This is possible but unlikely.

Our survey of private sector manufacturers and distributors showed that there are several firms with the potential to provide national logistics coverage. Only two of these firms (Zuellig and United, both owned by the same parent company) expressed strong interest in competing for a potential DOH contract. However, there were signals from other firms that if DOH is really serious they might be interested. It is unclear how many firms will apply for pre-qualification, but it is likely there will be viable competition for the initial contract. If that first contract is successful, certainly more firms will compete in the future. Moreover, if Philippine national distributors do not offer competitive pricing and service, the DOH market is large enough that large distributors from other countries could enter the Philippine market. Large wholesalers in Europe and the U.S. are actively looking for international opportunity, and at least in the U.S. these large companies are accustomed to operating with high efficiency and low margins.

Another theoretical danger is that DOH would become dependent on the private distribution concept, dismantle its internal logistics system, and then would be in trouble if the distributor determined to cancel services, for whatever reason, and there were no alternative. Again, this is possible but unlikely, as long as DOH proves to be a reliable partner and bills get paid on time.

5.1.3 Payment to Suppliers and the Distributor(s)

In the current DOH procurement and distribution system, there are reportedly recurrent problems due to situations where funds for procurement are not released to DOH when they are needed (even though budgets for the funds have been approved). In our survey of the private sector, some firms expressed skepticism that DOH would be able to resolve these problems and develop a reliable payment system, and cited this as a reason they would not be eager to compete for a logistics management contract.

A real threat associated with the pilot program would surface if the DOH, and the regions and LGUs, are in fact not able to pay suppliers and the distributor(s) according to the terms of the contracts. If this happens it can be expected that the suppliers and distributor(s) will withhold products and services, and shortages of the core essential drugs will be inevitable.

The challenge for the DOH and for the Philippine Government is to develop a fairly bullet proof mechanism for budgeting and release of funds that will support payment for purchases and distribution services. The good news is that as long as a firm schedule for funds release can be established and adhered to, a purchasing and distribution plan can be build around almost any release schedule. If this issue can be resolved, it is probable that other obstacles can be overcome and that the pilot program of contract logistics management with regional purchasing will succeed. If the problem of erratic release of funds and payment delays cannot be solved, the pilot program will be doomed to failure.

5.1.4 Selection of regions for the pilot test

The purpose of the pilot test is to identify conditions that favor as well as conditions that impede successful implementation. Due to the Philippines' regional diversity, three Regions should be purposively selected in Luzon, the Visayas, and Mindanao. Together the three Regions should represent:

- Regions that offer major challenges to improving drug procurement and distribution and DIRFOs that exhibit poor management practices;
- Regions that offer typical challenges and DIRFOs that demonstrate average management practices;
- Regions that are most likely to succeed in improving procurement and distribution and illustrate the best management practices to facilitate interpretation of results and transfer of lessons learned to other regions.

If the pilot test were only conducted in three Regions facing major financial and drug management challenges and it failed, the DOH would never know whether it could have succeeded in more typical Regions. If the test produces positive results in some situations but not others, important lessons can be learned as to how to adapt the system to work better in difficult areas.

5.1.5 Central Tenders and Regional Purchasing

There are real problems with fragmenting total procurement responsibility for the core essential products among the 16 regions. The loss of economies of scale due to fragmentation, resulting in higher drug prices, is an important issue. Also, concern for procurement process management, integrity and transparency would be magnified 16-fold. Finally, it would be much harder to assure that core essential drugs were purchased only from reputable suppliers offering high quality products. For these reasons it would seem preferable to retain central responsibility for negotiating prices for the core essential drugs. That does not mean that procurement would be totally centralized, just that procurement functions should be separated, with drug pricing contracts established through central tenders, with regional authorities (or LGUs) managing actual purchases under the pricing contracts.

However, as documented in the Roxas report, the DOH has determined that the drug procurement process is much too cumbersome and lengthy. Currently it may take longer than a year to complete a tender process, and several tenders are started each year. It is necessary therefore to streamline tenders as much as possible in compliance with government laws and regulations. The proposed pilot program will not function properly unless the tender process is expeditious.

5.2. Summary of key elements of the proposed model

The key elements of the proposed contract logistics model are:

- The DOH and DIRFOs will jointly determine the list of drugs to be procured, based on the short list of core essential drugs.
- The DOH and the DIRFOs will compile estimated quantities for the tender. Tender contracts will call for estimated quantities rather than fixed quantities. Estimated quantities allow the DIRFOs to purchase only quantities that are actually needed as they are needed, rather than fixed amounts that may be excessive. This arrangement also permits purchasing throughout the contract period at the established price, avoiding higher unit prices and delays associated with emergency purchases or ad hoc small volume tenders.
- The DOH will pre-qualify suppliers, modifying current PLS pre-qualification procedures to assure that only qualified firms participate in tenders for core essential drugs, based on documentation submitted and on documented performance. Explicit criteria will be established to assure that pre-qualification is unbiased.
- The DOH will manage tenders for price agreements with pre-qualified suppliers based on estimated quantities of a set of essential drugs, medicines, and other commodities. Secondary contracts will be awarded to take effect if the primary contract supplier is unable to perform.
- Participating regions and LGUs will agree that the DOH price agreements establish a sole source for the contract items. All participating DIRFOs and LGUs will purchase drugs covered by the contracts only from the primary contract supplier, as long as the supplier is able to perform, and from the secondary contract supplier if the primary defaults.
- The DOH will manage tenders for a service fee agreement with a national distributor. The national distributor may be a wholesale supplier, a retail supplier, or even a manufacturer, so long as the firm has the capacity to manage warehousing and distribution to all users in participating regions. If a national distributor cannot be agreed upon, either due to lack of demonstrated capacity for national coverage or due to inability to gain political endorsement for a single contract, service fee agreements may be established with more than one distributor (on a regional basis).
- Participating DIRFOs and LGUs will purchase contract drugs as needed from the sole-source supplier or from the distributor and make payment to the contracted supplier/distributor based on the DOH price agreement (item price and/or distribution fee, as appropriate).
- The distributor will warehouse the contract items and distribute them directly to health facilities in participating regions. The distributor will be paid by the

purchasing region or LGU, based on invoices for service fees corresponding with each shipment.

- The DOH, DIRFOs, and LGUs will monitor supplier performance and effectiveness of the system, using information provided by the contract distributor and by an internal LMIS (redesigned to address the new supply system structure and information from the distributor).

The proposed model has several advantages over alternative supply system models:

- Has greater potential for economies of scale than an individual regional procurement model, as a result of "pooling" the requirements of all health regions;
- Eliminates the need to conduct 16 separate tenders for the same set of drugs;
- Eliminates the need for central and regional warehouses;
- Eliminates an important obstacle to prompt payment (assuming that funds are available as needed in the regions) by enabling payment per shipment delivered to health facilities, rather than upon delivery of the total tender quantities;
- Helps to reduce delays in drug deliveries by focusing quality assurance measures on Good Manufacturing Practices, inspections and random testing procedures, and a product quality reporting program, instead of requiring testing of all lots received as is currently done.
- Takes advantage of current-generation private sector information systems to provide data for monitoring public sector program performance.

The proposed model is compatible with devolution policy. Although it is recommended that the PLS manage the two types of tenders (for drug price and distribution service fees), actual purchasing and paying will be done by the DIRFOs. Although the program will initially address DIRFO-managed drug supply, it is open to participation by LGUs, thereby increasing the market size for suppliers and distributor.

5.3 Operational Details for the Pilot Program

5.3.1 Selection of Drugs

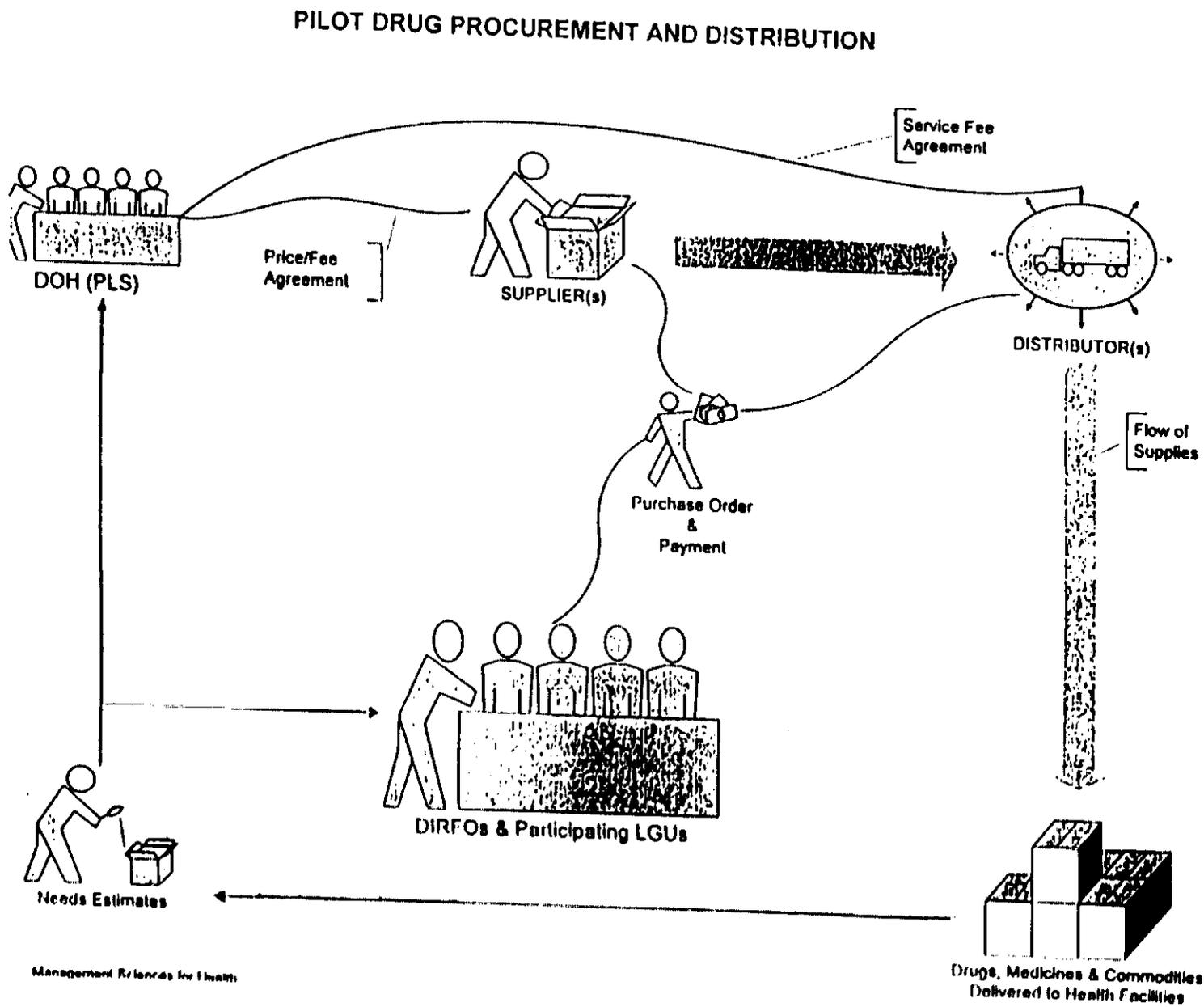
The DOH in concert with DIRFOs will select the set of drugs, medicines, and other commodities to be included in the pilot program. The list should be limited to drugs, medicines, and commodities essential to high-priority national health programs. Administrative Order 5 s. 1997, lists the DOH's core essential drugs. Other essential drugs may be considered. The four contraceptive commodities on the list are currently donated by USAID. Vaccines were not included in the core list, but could be included in the pilot program, as could donated goods, such as contraceptives. However, it may not

be advisable to include either vaccines (which require cold-chain distribution) or contraceptives (which are now stored in the government's central warehouse) in a pilot test. This can be determined by DOH during the planning process for the pilot program.

5.3.2 Needs Estimates from DIRFOs and LGUs

For the DOH to obtain prices most advantageous to the government (lowest prices for items of acceptable quality), suppliers/distributors must offer prices based on reliably estimated quantities to be purchased from the DIRFOs and LGUs. The DOH will prepare forms for DIRFOs and participating LGUs to quantify their needs for drugs, medicines, and other commodities based on consumption data (and as needed using morbidity based methods). Municipal and Provincial Health Officers routinely prepare annual budgets for pharmaceuticals based on consumption data, but have complained that they are not used by mayors' and governors' offices. Estimated tender quantities will be compiled by the DIRFOs and the DOH into a master tender list, and the DOH will cooperate with DIRFOs to correlate tender estimates with available funds.

Figure. Recommended Procurement and Distribution Model (diagram)



5.3.3 Pre-qualification of Suppliers and Distributors

Suppliers will be invited to participate by the DOH and screened by the DOH, BFAD, and DIRFOs to participate in the first tender under the Pharmaceutical Procurement and Distribution Program. Explicit criteria must be used to ensure that the process selects firms that can supply quality pharmaceuticals in required quantities and weeds out firms that cannot. A formalized supplier performance monitoring system must be implemented to determine subsequent eligibility of pre-qualified suppliers. Suppliers that deliver pharmaceuticals that fail to meet specifications should be de-listed, whereas additional suppliers can be invited to submit applications to participate in subsequent tenders and be screened by established criteria.

DOH will survey all potential sources for contract logistics services (warehousing and distribution) and establish a list of pre-qualified suppliers for these services, again developing and using explicit criteria to establish eligibility. Criteria will include capacity to cover all user facilities in participating regions, capacity to manage the proposed volume of distribution effectively, and the capacity to provide management information to DOH concerning receipts and shipments.

5.3.4 DOH Drug Price Agreements

The DOH will conduct a tender with pre-qualified suppliers to establish price agreements based on estimated quantities for a list of essential drugs. Prices will be fixed for a defined period (one year, for example) and could include terms for price escalation (if this is needed to attract good suppliers, due to inflation). Price agreements will also specify ordering intervals for DIRFOs and any participating LGUs.

The DOH will establish secondary awards for each product (according to established DOH procurement procedures), to become the default supply source if the primary contract supplier fails to perform.

5.3.5 Logistics services agreements

The DOH will conduct a tender involving pre-qualified distributors to establish a service agreement with one distributor (*Prime Vendor*) to serve all Regions, if one distributor shows capacity to serve all participating regions and facilities and if political endorsement is gained for a single distributor model. If a single distributor model proves impossible, DOH could establish separate agreements for each region or DIRFOs could establish service agreements directly with distributors in their region.

5.3.6 Product Quality Assurance

BFAD will monitor good manufacturing practices (GMP) of suppliers participating in tenders. For locally manufactured products, BFAD can inspect manufacturing facilities.

For imported products, the DOH, through BFAD, should request certification based on the *WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce*.

As mentioned, delays in payment to suppliers and distributors are one likely cause of failure in this sort of contract logistics program. One major cause of delay in the current DOH system is the mandatory pre-delivery quality assurance testing of products received have been a major roadblock to private/public collaboration between the DOH and private firms. To continue mandatory pre-delivery product testing as a condition of payment would risk the collapse of the pilot program. Effective alternatives to ensure high quality drug products are to weed out known problem suppliers in pre-qualification, to closely monitor supplier performance to determine continued eligibility to participate, and to supplement this with shipment inspections and post-distribution product surveillance.

The DOH will inspect shipments at the distributor's warehouse and certify jointly with the distributor that the shipment corresponds to specifications (at this time samples may be pulled for testing). Random testing will be performed by BFAD, with samples supplied by the DOH, DIRFOs, and participating LGUs. Health facilities will conduct physical inspections of supplies upon receipt of shipments and certify that quantities received match shipping documents (a step in the system designed to expedite payment to distributor not obstruct it).

A revitalized product problem reporting system must be established in which the DOH actively solicits reports from health facilities and follows up all problems reported, including BFAD testing as needed. Supplier contracts should provide for penalties when products fail quality assurance testing, including recall at supplier's expense, financial penalties, and cancellation of price agreement with loss of future eligibility.

5.3.7 Regional Purchasing, Delivery, and Payments

DIRFOs and participating LGUs will sign individual contracts with supplier(s) holding DOH price agreements and with the distributor, and place purchase orders with the supplier(s) or with the distributor according to the schedule defined in supply contracts, with quantities ordered based on actual needs. Participating LGUs and DIRFOs will be responsible for monitoring consumption, managing inventory, and ordering appropriate quantities. This means that staff at the regions and LGUs will need training in stock management procedures and that their performance will need to be monitored.

Suppliers will deliver ordered drugs to the distributor for delivery, and submit invoices to DIRFOs and participating LGUs for payment. The distributor, in turn, will deliver products directly to health facilities and submit invoices to DIRFOs and participating LGUs for delivery services. DIRFOs and participating LGUs will be responsible for managing payments to suppliers and distributors within a time frame defined in the DOH negotiated price agreements. The DOH will monitor adherence to payment schedules by DIRFOs and participating LGUs and act as a facilitator of the payment process and

mediator of disputes between DIRFOs and participating LGUs, and suppliers and distributors.

5.3.8 Performance Monitoring

The contract for distribution services will stipulate management information to be provided by the distributor to the DOH, DIRFOs, and participating LGUs. The current LMIS design produced by the LGEDDS initiative should be modified to accommodate the requirements of this model, taking into consideration the information services to be provided by a contract distributor. The DOH and DIRFOs should define appropriate indicators and management reports from the distributor and from the LMIS necessary for monitoring supplier and distributor performance, as well as DIRFO and LGU performance. Annex 2 lists over 50 quantitative indicators that might be used to monitor drug supply management; indicators should be selected by the DOH for the pilot program based on the data that is likely to be available from the management information systems of the DOH and the contract distributor.

5.3.9 Role of Restructured PLS in the pilot program

The PLS will manage DOH tenders to establish a pricing agreement with a supplier, a service agreement with a distributor, and maintain a register of suppliers and distributors. As DIRFOs and participating LGUs make purchase orders and payments, the PLS will monitor compliance with tender price and service fee agreements, and monitor performance of the supplier, the distributor, and DIRFOs and LGUs. As previously mentioned, the PLS will conduct quality assurance inspections at supplier/distributor warehouses, coordinate a product quality assurance program, and follow up on reported problems with drug product quality and provide feedback to reporting facilities.

5.4 List of Activities Required to Implement the Pilot Test

To launch the pilot test, the following steps must be accomplished:

1. Define a work plan and timeline to implement the proposed pilot program
2. Determine what technical assistance is needed and define funding sources (national and international)
3. Resolve legal/regulatory questions (tender requirements and tender management, estimated vs. fixed tender quantities, payment mechanisms) and determine feasibility and mechanism of legal/regulatory changes (for example, legislation, executive order, or administrative order), if needed
4. Resolve political issues (acceptance of PLS-managed product and distribution service price agreements, DIRFO and LGU interest in participating)
5. Define procedures and schedules for procurement and for obtaining drugs from the distributor. These may vary from manufacturer to manufacturer and region to region.
6. Define how payment mechanisms will work at regional and LGU level to suppliers and to the distributor

7. Define changes to streamline the tender management system within existing legal constraints
8. Determine viability of sole source commitment from regions and LGUs
9. Select regions for pilot test
10. Prior to the pilot, assess manufacturers' and distributors' capacity and intent to participate
 - Solicit manufacturer expressions of intent to participate in estimated quantity tenders
 - Determine capacity of distributors to provide national coverage, to provide management information to provide training and technical assistance in implementation
11. Evaluate potential technical assistance from distributors - it may be sensible to award distribution contract early in the process, to allow the distributor to help with preparing the drug pricing tender
12. Prepare for pricing and distribution service tenders
 - Define the list of drugs for program and compile consumption and price data, at least from pilot regions
 - Pre-qualify manufacturers and distributors for initial tender under new program
 - Adapt contract formats for estimated quantity and distributor service agreements
 - Adapt tender specifications and tender documents for price and service agreements
 - Adapt quantification forms for new program
 - Adapt operations manuals to define responsibilities and procedures at each level
 - Quantify requirements for initial tender
13. Define the quality assurance program
 - Define product reporting system, procedures and reporting forms, adapting from existing systems
 - Define procedures for inspecting distributor warehouses and sampling products for quality assurance testing
14. Define the management information system, monitoring and evaluation system for the pilot procurement and distribution system.
 - Define how LGEDDS and the LMIS can contribute.
 - Establish supplier and distributor performance indicators
 - Define a central and regional monitoring system based on information to be provided by suppliers and distributors, and on redesigned LMIS.
15. Define personnel needs and responsibilities under new program
16. Implement a training program for regions and LGUs
 - Define training requirements and training plan, incorporating input and resources from LGEDDS
 - Develop training materials, adapting from existing resources
 - Provide training to staff, according to plan
17. Conduct initial tender under new program

MSH will work with DOH to develop detailed issues discussions and plans for completing these activities during Dr. David Lee's visit to the Philippines in April.

5.5 Technical Assistance Resources to Assist DOH in Implementing the Pilot Program

5.5.1 The Program Management Technical Assistance Team (PMTAT)

MSH PMTAT can provide assistance to DOH in designing and planning implementation of the pilot program. It is likely that MSH will also be able to provide technical assistance during implementation and evaluation of the program, although this has yet to be worked out. The level of the assistance that can be provided in terms of funds or person months of technical assistance has not been defined, but it is of course limited by the availability of funds. MSH will work with the DOH to determine what sorts of technical assistance are needed from MSH, and will work with USAID to determine what level of funding can be made available to support the work. Dr. David Lee of the MSH Drug Management Program in Washington, and Dr. Elvira Beracochea of the PMTAT, will work with DOH to design the implementation plan and the technical assistance plan as it involves MSH.

As noted, MSH will work with the DOH, and with other resources such as the LGEDDS team, to flesh out the implementation steps cited in the previous section of the report and to define the final implementation and training plan and timeline during the month of April. Future assistance from MSH will be defined in the pilot program workplan, once it is approved by DOH and USAID.

5.5.2 The Women's Health and Safe Motherhood Project (WHSMP)

The LGEDDS initiative and the contract for technical assistance from John Snow Incorporated have been supported by the WHSMP. The mid-term review team recommended in December 1998 that WHSMP and LGEDDS be prepared to provide technical assistance to DOH in planning and implementing whatever revised supply system structure is selected by DOH. The team also recommended that the LMIS should be completed, with the design adapted to the revised needs of regionalized purchasing.

The proposed LMIS and the implementation and training plan that have been designed for the LGEDDS initiative will need to be rethought in light of the shift of procurement responsibility to the regions (and LGUs) and the pilot test of a contract logistics program.

The basic thesis of LEGEDDS - a centrally managed internal "push" distribution system - would be negated by a system involving a private sector contract for logistics support. And, the private sector distributor will bring substantial management information capacity to DOH as part of the contract. However, there will still be a need to develop an internal logistics management information system to assist DOH in accurately quantifying tender estimates and to monitor the performance of the suppliers, the contract distributor and the participating regions and LGUs.

DOH should work with the LGEDDS unit to review current LMIS design features and functionality and to determine how the design should be modified to meet revised DOH needs. MSH can assist the DOH in working with LGEDDS to establish a revised LMIS design and implementation plan, if this is deemed appropriate.

LGEDDS has been working on development of procedure manuals and training plans for the push system that was planned. It seems logical that LGEDDS staff could provide valuable input into the processes of designing new procedure manuals and forms to correspond with the pilot program, and designing and implementing training programs for managers and staff at DOH central level and at regional and LGU levels. However, it will be up to the DOH to determine what sorts of input would be most useful from the existing LGEDDS unit and from the WHSMP.

DOH should determine what types of technical assistance will be needed in the future from WHSMP, and present this proposal to the World Bank's review mission in June 1999. It is likely that the World Bank will be prepared to assist the DOH in implementing the pilot program, and will be willing to support technical assistance to assist in implementation.

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ANNEX 1 Sample of Government Health Facilities and Drug Retail Outlets

Region	Province	Regional / Provincial / District Hospitals & Rural Health Units / Main Health Centers	Drug Retail Outlets (Paired)
Region I	Ilocos Norte	Ilocos Training and Research Medical Center, San Fernando, La Union Gov. Roque R. Ablan Sr. Memorial provincial Hospital, Laoag City Dingras District Hospital, Dingras, Ilocos Norte Bangui RHU Pasuquin RHU Badoc RHU Batac RHU I Paoay RHU Pinili RHU Dingras RHU Brgy. 2 Health Center	Torado Drug Mart Dermdrug Pharmacy Farmacia San Jose Farmacia flores St. Rita's Pharmacy Badoc Pharmacy Divine Mercy Drug Store Ellysee Drug Store Farmacia Franco Baguiran Drug Dermdrug Pharmacy
Region III	Bulacan Province	Jose B. Lingad Memorial Regional Hospital, San Fernando, Pampanga Bulacan Provincial Hospital, Malolos, Bulacan Calumpit District Hospital, Calumpit, Bulacan Balagtas MHC I Paombong MHC I Sta. Maria MHC I Malolos MHC III Baliwag MHC II Bulacan RHU II San Jose del Monte MHC I Obando MHC	St. Clare Drug Save More Drug St. John's Drugstore Merced Drug House Miranova Drug Botica de Catalina Botica Nacional Baliuag Drug Store Botica Sto. Tomas Farmacia Oro Farmacia Sta. Teresita
Region VII	Cebu Province	Don Vicente Sotto Memorial Medical Center, Cebu City Isidro Kintanar District Hospital Minglanilla MHC II Tuburan MHC Tabogon MHC Oslob MHC Argao MHC II Lapu-Lapu MHC I Carcar MHC I Tudela MHC	Farmacia Ester Skylight Pharmacy Botica Perpetuo Socorro Royal Pharmacy Oslob Pharmacy Higida Pharmacy Farmacia Ester Br. III Escobido Pharmacy Benz Pharmacy
Region VIII	Western Samar	Eastern Visayas Regional Medical Center, Tacloban City Western Samar Provincial Hospital, Catbalogan, Western Samar Calbayog District Hospital, Calbayog City, Western Samar Basey RHU Catbalogan RHU Gandara RHU Calbayog RHU	Farmacia Consuelo Botica Uno Our Lady of Lourdes Drug Store

Region	Province	Regional / Provincial / District Hospitals & Rural Health Units / Main Health Centers	Drug Retail Outlets (Paired)
		Wright RHU Almagro RHU Talalora RHU Motions RHU	
Region X	Misamis Oriental	Northern Mindanao Medical Center, Cagayan de Oro City, Misamis Oriental Gingoog District Hospital, Gingoog City, Misamis Oriental (designated provincial hospital) Initao District Hospital Gingoog City MHC Medina MHC Claveria MHC Balingoan MHC Salay MHC Opol MHC Manticao MHC Villanueva MHC	Foremost Drug Center Perl's Pharmacy Botica Concepcion Gingoog Pharmacy Farmacia Purisima Obedencio Pharmacy Matilde Mondejar Pharmacy T. S. Pharmacy
Region XII	Lanao del Norte	Cotabato Regional Hospital, Cotabato City Lanao del Norte Provincial Hospital, Baroy, Lanao del Norte Kolambugan District Hospital, Kolambugan, Lanao del Norte Nunungan MHC Tubod MHC Kauswagan MHC Magsaysay MHC Tagoloan MHC Kolambugan MHC Kapatagan MHC Matungao MHC	Cotabato Botica Nueva Baroy's People Pharmacy Farmacia Herminia Jojo Pharmacy Kauswagan Drug Store Grace Pharmacy Botica San Antonio

Region	City	Hospitals / Health Centers	Drug Retail Outlets (Paired)
NCR	Manila	Ospital ng Maynila (City Hospital) Tondo General Hospital Atang de la Rama HC Aurora Quezon HC Dagupan HC F. Lanuza HC Dapital HC M. Icasiano HC San Miguel HC Ma. Clara HC	Santos Drugstore Mercury Drug Trustworthy Drug Sto. Nino Drugstore AR Ramirez Drug Mercury Drug Farmacia Juel Kurt's Pharmacy
	Quezon City	Quezon City General Hospital (City Hospital) East Ave Medical Center Kamuning HC Bago Bantay HC Holy Spirit HC Culiat HC Murphy HC Cubao HC M. De Joya HC Escopa HC	K-Marc Drug Richie Drugstore Perzan Drug Priceless Drug United Pharmacy Arianas Drugstore Silver Drug One-line Pharmacy

Mercury Drug Outlets were replaced because permission from headquarters was required to participate in survey.

ANNEX 2 LIST OF INTERVIEWERS AND DATA COLLECTORS

Region I (for Ilocos Norte)

- Ms. Editha Gamao – PHN, Provincial Health Office, Ilocos Norte
- Ms. Fe Guerrero – PHN, RHU, San Nicolas, Ilocos Norte
- Ms. Fortunelia Timbreza – Pharmacist III, MMMC, Batac, Ilocos Norte

Region III (for Bulacan)

- Dr. Jocelyn Gomez – DOH Representative, PHO, Bulacan
- Dr. Amelito Nicolas – DOH Representative, PHO, Bulacan
- Ms. Gracia Samia – Management Audit Analyst II, DIRFO III

Region VII (Cebu Province)

- Ms. Merlyn Coloma – DOH Representative, Bohol
- Mr. Pedro Robledo – DOH Representative/Regional PIO, DIRFO VII

Region VIII (Western Samar)

- Ms. Jocelyn Nabong – Nurse IV, DOH Representative, PHO, Western Samar
- Ms. Alma Bandoy – Nurse III, DOH Representative, Basey District Hospital, Western Samar
- Ms. Teofreda Goyone – FDRO II, Region VIII

Region X (for Misamis Oriental)

- Dr. Gracebel Angeles – MS IV, PHO, Misamis Oriental
- Mrs. Monina Lim FDRO II, DIRFO X
- Mr. Camilo Cabresos, Hospital Licensing Officer II, DIRFO X

Region XII (for Lanao del Norte)

- Ms. Leda Tejam – Planning Officer III, DIRFO XII
- Ms. Lilia Milanes – FDRO III, DIRFO XII
- Ms. Nicanora Rabara – FDRO II, DIRFO XII

National Capital Region

Quezon City:

- Dr. Victorina Luy – MS III, HMDTD – NCR
- Dr. Alexander Alberto – Dentist III, District Health Office II – NCR
- Dr. Lourdes Nogoy – Dentist III - NCR

Manila:

- Dr. Ma. Marissa Ricardo – MS II, District Health Office III - NCR
- Mrs. Ma. Socorro Baluyot – Nurse IV, District Health Office III – NCR
- Ms. Yolanda Victoria – Administrative Officer, District III – NCR

ANNEX 3 SUMMARY LIST OF PHARMACEUTICAL MANAGEMENT INDICATORS

SUMMARY OF PHARMACEUTICAL MANAGEMENT PERFORMANCE INDICATORS:

	PHILIPPINES 1990	GHANA 1993	ECUADOR 1994	EL SALVADOR 1993	GUATEMALA 1992	NICARAGUA 1994 (A)	OECB 1993 (B)	NEPAL 1993
A. POLICY, LEGISLATION AND REGULATION								
1. Existence of a national drug policy approved by the government	Yes, WHO	No	Yes	No	Yes	No	No	No
2. Existence of comprehensive drug control legislation, regulations and enforcement agencies	Yes	Yes	Yes	No	Yes		No	Yes
3. % of unregistered drug products in a sample of private sector drug retail outlets	70% (1995)	N/A	N/A	23%	7.3%		No	Yes
4. Type of drug registration information system	partially computerized	Manual	Mixed	Manual	Computerized		100%	
5. Number of drugs registered	17,578	1,574		19,700	7,006		None	Manual
6. Law permitting generic substitution by pharmacists	Yes, 1988	No	No	No	No	No	No	11,000+
7. Practice of generic substitution	N/A						No	No
B. FORMULARY/ESSENTIAL DRUGS LIST AND DRUG INFORMATION								
1. Number of unique drug products on National Drug Formulary List	617	222	436	284	428	234	388	261
2. Existence of an official manual, based on the NDFL, providing basic drug information to prescribers, revised and published within last 5 years	Yes, 1988	No	Yes	Yes	Yes	No	Yes	Yes
3. % of MOH health facilities visited with the most current edition of an official manual based on the NDFL	98%	45%	70%	0%	0%	7%	100%	N/A
4. Existence of drug information centers that provide unbiased and current information to public health decision makers, health care providers and consumers	1	No	No	Yes	Yes	Yes	No	No
C. MINISTRY OF HEALTH BUDGET AND FINANCE								
1. MOH budget or expenditure on pharmaceuticals, US\$ per capita	\$0.083	\$0.46 (C)	\$0.26	\$4.98	\$3.93	\$1.13	\$5.50	
2. Existence of a system for recovering the costs of drugs dispensed in health facilities	Yes, hospitals only	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. % of patients who pay a charge for drugs they receive in MOH health facilities	32.0%			N/A	N/A	0%		
4. % of total government recurrent budget used for MOH	2.5%	14%		18%	18%		12%	4%
5. % of total MOH recurrent budget allocated to pharmaceuticals	12.8%	No budget		4%	26%	16%	6%	

SUMMARY OF PHARMACEUTICAL MANAGEMENT PERFORMANCE INDICATORS:

	PHILIPPINES 1996	GHANA 1993	ECUADOR 1994	EL SALVADOR 1993	GUATEMALA 1992	NICARAGUA 1994 (A)	OECS 1993 (B)	NEPAL 1993
D. MINISTRY OF HEALTH PHARMACEUTICAL PROCUREMENT								
1. Existence of a policy limiting MOH pharmaceutical procurement to drugs on NDFL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. % by value of MOH drugs purchased through a central procurement	49.6%	N/A	<50%	60%	27%		100%	N/A
3. % of average international price paid for last regular procurement of a set of indicator drugs	83.7%	79%		114%	184-371%		147%	83%
4. % by value of MOH drugs purchased through competitive tender	80% (opinion)	45% (D)	28%	80%	10%		100%	50%
E. MINISTRY OF HEALTH PHARMACEUTICAL LOGISTICS								
1. Weighted average % of inventory variation for a set of indicator drugs in health facilities	20.8%	18%	38%					
2. Average % of individual variation for a set of indicator drugs in health facilities	6.5%							
3. Average % of stock records that corresponds with physical counts for a set of indicator drugs	81.8%							
4. Average % of a set of unexpired indicator drugs available in health	30.8%	80%	46%	78%	60%	72%		
5. Average % of time out of stock for a set of indicator drugs	58.2%	11%	12%			13%		
F. PATIENT ACCESS AND DRUG UTILIZATION								
1. Population per functional MOH health facility that dispenses drugs	24,771	35,253	8,307	14,430	6,529	6,622	3,945	18,600
2. Population per licensed pharmacist or pharmacy technician in the public sector	N/A							
3. Population per authorized prescriber in the public sector	N/A							
4. Average # of drugs prescribed per curative outpatient encounter in MOH health facilities	1.13	4.3	2.0	2.2	1.4	2.1	2.0	2.1
5. % of drugs prescribed by generic name in health facilities	86.1%	59%	39%	72%	71%	88%	49%	44%
6. % of drugs prescribed from the NDFL in health facilities	86.2%							
7. % of outpatients prescribed injections at health facilities	8.4%	58%	19%	7%	13%	10%	2%	5%
8. % of outpatients prescribed antibiotics at health facilities	42.8%	47%	42%	32%	27%	34%	39%	43%
9. % of prescribed drugs presented for dispensing that are actually in health facilities	55.1%	68%				61%	84%	83%
G. PRODUCT QUALITY ASSURANCE								
1. MOH drug product quality laboratory tests during the past year:								
(a) number of drug products tested	20,240	<10	N/A	N/A	0		43	N/A
(b) total number of drug product quality tests	59,051	N/A	N/A	3,042	0		N/A	900
2. Use of WHO Certification Scheme	Yes, limited		Yes	No	No	No	No	N/A
3. Existence of formal systems for reporting:								
(a) product quality complaints	Yes	None	None	None	Limited	None	Functional	None
(b) adverse drug reactions (ADRs)	Yes	No	Yes	Yes	No	No	Yes	No

SUMMARY OF PHARMACEUTICAL MANAGEMENT PERFORMANCE INDICATORS:

	PHILIPPINES	GHANA	ECUADOR	EL SALVADOR	GUATEMALA	NICARAGUA	OECB	NEPAL
	1999	1993	1994	1993	1992	1994 (A)	1993 (B)	1993
H. PRIVATE SECTOR PHARMACEUTICAL ACTIVITY								
1. Population per licensed private sector drug retail outlet	8,184	3,438	3,569	4,835	4,805		8,178	
2. Number of licensed or registered drug retail outlets per government drug inspector	82	282		no inspectors	947			
3. % of drug manufacturers, distributors, and drug retail outlets inspected during a one-year period	N/A						† Grenada inspect (F)	
4. Total value of private sector retail pharmaceutical sales, US\$ per capita	\$14.88	N/A	\$18.98	\$11.00	\$10.98		N/A	
5. Combined value of public sector pharmaceutical expenditures & private sector retail sales, US\$ per capita	N/A	N/A	\$19.23	\$18.05	\$14.91		N/A	
6. % of products on NDPL which are currently manufactured or co-manufactured within the country	N/A	70%		50%	71%		0%	7%
7. Average of median private sector drug retail prices as a % of MOH acquisition prices for a set of indicator drugs	N/A							
8. Existence of price controls for drugs in the private sector	No	Yes	Yes				Yes	No
9. % of licensed drug retail outlets where an antibiotic was available without a prescription	N/A	85%	95%	100%	100%		N/A	

All dollar amounts are in U.S. dollars; N/A indicates that information was not available despite attempts to collect it; Blank indicates that these indicators were not part of the original studies
Grey shading indicates that the indicator is new or has been changed since the assessment, as a result of field tests. For some indicators, data is available from information already collected.

(A) Nicaragua results are based on data collected for the USAID-funded Decentralized Health Services Project. They include two regional/intermediate medical stores and 20 health facilities.

(B) OECB is the Organization of Eastern Caribbean States. The countries studied included: Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines.

(C) Ghana CMS purchases only; there were also substantial direct purchases by regional stores and health facilities.

(D) 87% of the Ghana central procurement was done competitively; about 82% of drugs purchased by regional stores came through the central agency. Thus, 45% of the MOH drugs were purchased competitively.

(E) INRUD Average is based on data collected by the International Network for Rational Use of Drugs in eleven countries from 1989 to 1992.

(F) Grenada has one inspector. The other OECB countries do not have any inspectors.

ANNEX 4 SUGGESTED QUANTITATIVE INDICATORS FOR MONITORING SUPPLY SYSTEMS

The starred items are recommended as the most significant for comparing operations and monitoring progress. Note that the time period covered by data collected should be specified; indicators could be collected monthly, quarterly or annually. For some indicators, data can be collected for a set of tracer drugs, instead of all drugs, as part of a special survey. In fact, most of the inventory management and financial information should be available from a standard management information system. In the Philippines, this would involve a combination of DOH and distributor information systems.

Drug Selection and Use, Formulary Management and Drug Information

1. * Top 20 drugs by value of purchases, with (a) the value of purchases and (b) the percentage of total purchases for the time period represented by each drug
2. * Top 20 drugs by value of drugs distributed, with (a) the value of quantities distributed and (b) the percentage of total quantities distributed for the time period represented by each drug
3. * Number of items purchased that are not on the national formulary (if regional or provincial formularies are established, number of items purchased that are not on the regional or provincial formularies)
4. Number of requests received for items not on the regular stock list in the time period
5. Number of non-standard items that were purchased, and number of orders that were placed
6. Percentage of health facilities with a copy of the most recent edition of the Philippine National Drug Formulary
7. * Number of price lists/price change updates distributed to health facilities during time period

Tender Management

8. Number of tender procedures in time period
9. Number of tender contracts awarded in time period
10. Number of split tender awards in time period
11. Average time needed to complete tender procedure

Drug Estimations and Procurement Procedures

12. * Actual quantities purchased as a percentage of quantity forecast, during the time period (tracer drugs)
13. Number of orders placed to tender suppliers for standard items and value of those orders
14. Number of orders placed for non-standard items and value of orders
15. Number of orders for tender items placed to non-tender suppliers, and value of orders at actual price and at tender price
16. * Average lead time from tender suppliers (tracer drugs or all drugs); if feasible, for each supplier
17. Average lead time from non-tender suppliers (tracer drugs or all drugs); if feasible, each supplier
18. * Average service level from tender suppliers (tracer drugs or all drugs); if feasible, each supplier
19. Average service level from non-tender suppliers (tracer drugs or all drugs); if feasible, each supplier
20. * Average time between receipt of drugs and payment to supplier (for tracer drugs or all drugs)

Product Quality Assurance

21. Number of products rejected and returned by the warehouse due to problems detected in receiving process
22. * Number of product quality complaints received by the warehouse
23. * Number of products sent for testing
24. * Number of products sent for testing that failed Quality Assurance tests
25. * Number of products recalled by or through warehouse

Drug Stock and Inventory Management

26. * Average variation between records and physical stock (bin cards, stock card, computer, etc.) for a set of indicator drugs or for all items in stock; the distributor MIS may produce variance report for all items in stock

27. * Percentage of unexpired tracer drugs currently in stock
28. * Inventory turnover (average inventory value divided by value of drugs distributed)
29. Average number of months worth of stock in inventory at average consumption rates (for a set of tracer drugs or average for all drugs)
30. Average number of stock out incidences for tracer drugs
31. * Average stock out duration for tracer drugs during past fiscal year
32. * Percentage of items with expired stock (for a set of tracer drugs)
33. Total number of different expired products in stock, and value of that stock
34. Number of items and value of stock at risk of expiry
35. Number of items and value (at cost) of expired/junk items awaiting disposal
36. Number and value (at cost) of items destroyed during time period

Management Information System (MIS) Support to Regions and Facilities

37. Number of visits to regions/facilities by contractor during time period
38. * Cost to regions/facilities for MIS support

Drug Distribution

39. Total number of regular orders filled by distributor; (a) global and (b) by facility
40. Total number of supplementary orders filled by distributor: (a) global and (b) by facility
41. * Average lead time from distributor to facilities for regular orders (tracer drugs or all orders); (a) global and (b) by facility
42. * Average lead time from distributor to facilities for supplementary orders (tracer drugs or all orders); (a) global and (b) by facility
43. * Average service level from distributor to facilities (tracer drugs or all drugs); (a) global and (b) by facility

Transport services

44. Number of shipments to health facilities during time period
45. Total value of drug transport costs divided by total value of drugs distributed

Financial Information

46. * Value of purchases from tender suppliers during time period
47. * Value of purchases for non-tender orders during time period
48. * Average inventory value for time period
49. * Inventory shrinkage (beginning inventory value plus purchases, minus the sum of the ending inventory value and the cost of goods distributed)
50. * Value of drugs distributed during time period (Jim, I deleted "cost of goods sold during time period, when adapted to the Philippine context, how would it differ from this one?")
51. * Total operating costs of central or regional depot charged against budget during time period (including drug transport costs)
52. Average inventory holding cost (inventory opportunity cost + value of inventory loss + warehouse supplies + storage operating costs + drug transport costs, divided by average inventory value)
53. * Value of accounts payable to suppliers and distributor (aged if possible)
54. Value of accounts receivable from clients (aged if possible), if regions sell products to LGUs or facilities
55. * Current balance in regional drug budgets and funds on hand for procurement