

PN-ABZ-028

91375

**ORGANIZATION OF
EASTERN CARIBBEAN STATES
RATIONAL PHARMACEUTICAL
MANAGEMENT PROJECT
PHARMACEUTICAL SECTOR ASSESSMENT
FINAL REPORT (DRAFT)**

Jean-Pierre Sallet
Richard Laing
David Housley

Rational Pharmaceutical Management Project
C.A. No. HRN-5974-A-00-2059-00
Washington, D.C.
January 21, 1994

Table of Contents

Summary of Eastern Caribbean Regional Pharmaceutical Systems Assessment	v
I. INTRODUCTION	1
SECTION ONE	3
II. RPM ASSESSMENT STRATEGY AND METHODOLOGY	5
A. Assessment Objectives	5
B. Assessment Dates and Places Worked	5
C. Assessment Team	5
D. Data Collection Tools and Tracer Drugs	6
E. Survey Methodology	6
F. Description of Assessment Process	7
III. AID ACTIVITIES AND CONCERN	9
A. Background	9
B. Current Programs	9
C. AID Concerns	10
D. Summary	10
IV. THE ORGANIZATION OF EASTERN CARIBBEAN STATES (OECS)	11
A. Background	11
B. Major Activities of Some OECS Institutions	12
C. OECS Interest in RPM Assistance	13
V. ACTIVITIES OF DONORS AND INTERNATIONAL AGENCIES	15
VI. DEMOGRAPHIC AND HEALTH STATUS	17
A. Health and Demographic Data	17
B. Economic Development Indicators	19
C. Health Care Financing Data	20
D. Conclusion	21
VII. SUMMARY OF POSSIBLE RPM ACTIVITIES	23
A. Policy and Legislation	23
B. Procurement, Inventory Control and Store Management	24
C. Drug Information and Rational Use	26
D. Contraceptive Supplies Provision Within the Region	28

SECTION TWO	33
VIII. ECDS DRUG SUPPLY SYSTEM	35
A. Background, Structure and Organization of Drug Supply System	35
IX. PHARMACEUTICAL INDICATORS FOR THE OECS REGION	39
A. Policy, Legislation, and Regulation	39
B. Formularies and Essential Drug Lists	40
C. Public Sector Pharmaceutical Procurement	41
D. Product Quality Assurance	42
E. Public Sector Pharmaceutical Logistics	42
F. Public Sector Budget and Finance	43
G. Patient Access and Drug Utilization	45
H. Private Sector Pharmaceutical Activity	46
SECTION THREE	47
X. COUNTRY PUBLIC SECTOR DRUG SUPPLY SYSTEM	49
A. Structure and Organization of Drug Supply System	49
B. Finance and Cost Recovery	50
C. Procurement	50
D. Distribution	54
E. General Management Issues	54
F. MIS, Reporting and Computers	56
XI. CONTRACEPTIVE PROCUREMENT AND DISTRIBUTION	59
XII. POLICY, LEGISLATION, AND REGULATION	61
A. Overview	61
B. Regional Drug Legislation	61
C. Revision of Country Drug Regulations	63
XIII. FORMULARY/ESSENTIAL DRUGS LIST	65
A. ECDS Regional Formulary and Therapeutic Drugs Manual	65
XIV. DRUG INFORMATION AND DRUG UTILIZATION	67
A. ECDS Drug Information Resources	67
B. Consumer Information	68
C. Rational Use	69
XV. PRODUCT QUALITY ASSURANCE	73
A. Quality Assurance Concepts	73
B. Descriptive Information	73
XVI. PRIVATE SECTOR	75

XVII. ANNEXES	77
A. Tracer Drug List	79
B. Country Reports	83
C. Acronyms	101
D. Documents Consulted	105
E. Persons Met	109
F. Organizational Structure of ECDS	113

List of Tables

Demographic Data for OECS Countries	18
Economic Development Indicators	19
Health Care Financing Data	20
Distribution of Hospital Expenditures	20
Budget and Operating Expenses for ECDS	36
Financial Information for Drug Procurement, OECS	49
Number of Items in Stock	51
Average Stock Variation in ECDS Countries	51

Summary of Eastern Caribbean Regional Pharmaceutical Systems Assessment

The Rational Pharmaceutical Management (RPM) project, a USAID supported activity, is in the process of undertaking a number of country assessments to decide which countries or regions could be most effectively assisted over the next four years within the aims of the project. Based on the past success of the Eastern Caribbean Drug Service (ECDS) activity and the involvement of Management Sciences for Health (MSH) in that project, an assessment was planned of Organization of Eastern Caribbean States (OECS) countries, with the active support of the USAID Mission in Barbados.

The assessment was undertaken in six phases.

1. Initial meetings were held in Barbados with USAID and Pan American Health Organization (PAHO) officials.
2. Detailed discussions with ECDS and OECS staff and review of documents were held in St. Lucia.
3. Staff from six of the ECDS countries were then trained in St. Lucia as to how to carry out a detailed pharmaceutical sector survey.
4. The survey was then carried out in six countries by country nationals with assistance from external team members which included ECDS staff.
5. The survey was reviewed by representatives from each country and recommendations were prepared.
6. A draft report was prepared for presentation at a meeting attended by OECS, ECDS, RPM and USAID staff members.

This report presented findings from the survey and recommendations in four main subject areas:

- Policy and legislation, including registration
- Procurement, inventory and store management
- Drug information and rational drug use
- Contraceptive supplies

Based on this report and comments received, a decision will be made as to whether the Eastern Caribbean countries will be included as long term assistance countries within the RPM project.

The assessment was undertaken in collaboration with ECDS and country staff members. Their active involvement and support was greatly appreciated by assessment team members.

I. INTRODUCTION

The Rational Pharmaceutical Management (RPM) Project is composed of two cooperative agreements that are centrally funded by USAID R&D Health; one is with Management Sciences for Health (MSH) and the other with the United States Pharmacopeia (USP). RPM has core funding to work in three major technical areas:

- Strengthening and automating drug registration procedures
- Rationalizing drug procurement and inventory management
- Promoting rational drug use/strengthening drug information

This work will emphasize skills transfer and training, including computerization, and close collaboration with counterparts and local organizations. RPM is now in the process of selecting a limited set of countries where the core resources can best be applied, given the fit between RPM capabilities and country needs. In order to do this, formal pharmaceutical sector assessments are to be done in 5-6 countries which seem most promising, based on responses from USAID Missions. The countries which have been scheduled (in addition to the Organization of Eastern Caribbean States) include Ghana, El Salvador, Nepal and Ukraine. Other countries that may be assessed using core funds include Bolivia and Ecuador. Mozambique, as well as Russia and an undetermined country in central Asia, will be assessed with add-on funding.

Management Sciences for Health has worked previously in the Eastern Caribbean islands, participating in the establishment of the Eastern Caribbean Drug Service (ECDS). Close contacts have been maintained with the ECDS and the opportunity to work with the organization was welcomed, due to the high quality of cooperation seen during the Eastern Caribbean Regional Pharmaceutical Management Project.

The assessment commenced on 13 September 1993, and the field phase ended on 30 September 1993, with a report meeting held at ECDS headquarters on 1 October 1993. The assessment produced a large quantity of raw data on stock management, procurement, pricing practices, drug information and drug use practices. The data has been collated and analyzed by RPM staff, and the results are presented in this final assessment report, which has been reviewed and approved by ECDS and OECS officials.

The contents of the report are presented immediately following this introduction; the report is divided into two major sections, with annexes following. Section One discusses the assessment purpose and methodology, and the actual process and constraints. It also covers USAID activities and those of other donors and agencies related to pharmaceutical management. The final part of Section One presents a summary of gaps which may be amenable to RPM interventions, with issues and constraints, and prioritized recommendations for RPM activity. This is followed by a summary of all recommendations by the assessment team. Section Two offers a summary of findings in the context of a matrix of pharmaceutical and development indicators. Section Three presents detailed findings and recommendations related to seven aspects of the pharmaceutical system. There are annexes including a list of acronyms, documents reviewed, persons met, blank forms used for data collection, and the complete set of quantitative data which was collected.

We wish to express our appreciation for the cooperation and openness of local counterparts in sharing information with the assessment team; this made our task much easier and made it possible to collect most of the information envisioned in our study design. A list of persons who contributed to the assessment is found in the annexes; special recognition is extended to Ms. Sherita Gregoire and her staff at the ECDS who worked closely with the RPM team throughout the assessment. Staff from all the islands participated in the survey work and in developing the recommendations in this report. They should be recognized and commended for their extraordinary efforts.

3-

SECTION ONE

II. RPM ASSESSMENT STRATEGY AND METHODOLOGY

A. Assessment Objectives

The ECDS assessment had two primary objectives:

1. RPM wanted to evaluate the opportunity for work in OECS countries over the next four years using core funds. In addition, this assessment provided an opportunity to test and further revise assessment tools.
2. For the USAID Mission, the study would assess how well prepared the ECDS and OECS countries were to meet their own contraceptive procurement needs when USAID withdraws from supplying contraceptives in July 1994.

B. Assessment Dates and Places Worked

The assessment was carried out during the period from 13 September to 1 October 1993, starting in Barbados and ending in St. Lucia for initial and final meetings with representatives from the regional USAID mission. Most work was undertaken in St. Lucia although all OECS islands except the British Virgin Islands were visited by external or internal assessment team members.

C. Assessment Team

RPM Team:

Mr. Jean Pierre Sallet	MIS Coordinator, MSH-DMP and RPM
Dr. Richard Laing	Drug Use and Training Coordinator, MSH
Mr. David Housley	Research Associate, USP

Counterparts:

Ms. Sherita Gregoire	Managing Director, ECDS
Mr. Francis Burnett	Assistant Managing Director, ECDS
Mr. Sylvester Louis	Procurement Officer, ECDS

In addition, one or two representatives from each island were involved in revising the survey collection instruments, field testing the instrument, and collecting data on their islands.

One representative from each island participated in a final meeting at which the data was consolidated, analyzed, and discussed. Recommendations were made regarding potential areas of work for the RPM project and the ECDS. The team was assisted by ECDS staff who provided invaluable logistic and secretarial support, and by RPM support staff based in Washington.

Previous Page Blank

D. Data Collection Tools and Tracer Drugs

Two questionnaire instruments and six data collection forms were prepared by the assessment team and local collaborators, with input from country representatives. One questionnaire was prepared for central level data collection, and the other for facility level use. These instruments were based on the RPM Diagnostic Assessment outline, and were designed to minimize "essay" responses by providing yes/no or multiple choice answers, with space provided to elaborate when the situation could not be summarized through these choices.

Twenty-two drugs commonly used in the public sector were selected as "tracer" drugs to evaluate stock status and procurement and pricing practices. Finally, three family planning items were added to assess the status of the family planning distribution system. Based on the ECDS procurement records, the twenty-two tracer drugs (exclusive of contraceptives) represented about 30% of 1992-93 purchases (EC\$5,128,386.56 = US\$1,899,402.43). See Annex A for tracer drug list.

Standardized data collection forms were prepared to collect data on tracer drugs at the central and regional level, and to collect data on prescribing and dispensing practices in the sample health facilities. The data on prescribing and dispensing were collected according to the standard WHO/INRUD methodology, as described in the 1993 WHO publication, "How to investigate drug use in health facilities: drug use indicators." This publication was provided to all participants in the field work.

The structured survey forms for central and facility use contain more than one hundred pages, copies are not provided in this report. They are available from RPM on request.

E. Survey Methodology

The assessment methodology called for two main surveys in each country, a Central Survey and a Facility Survey. In addition, relevant parts of the survey instrument were applied to staff at ECDS. The format of the two surveys is presented below.

1. Central Survey

Central level information was obtained at the Ministry of Health and Central Medical Stores through:

- interviews, using the structured survey instrument
- assessment of conditions and equipment at selected institutions
- data collection from documents, records and stock checks

The data for this survey were collected by the RPM Team and the country representatives, who were trained in a two day meeting during the first week of the assessment.

2. Facility Survey

Country representatives were asked to collect data from the hospital in the capital, the major health center in the capital, and from two rural health facilities. In some of the smaller islands it was necessary to make compromises in the sample size.

Hospital and health facility level information was obtained through:

- interviews of responsible officials
- assessment of conditions and equipment
- data collection from records and actual stocks
- observation of health worker-patient interaction

The country survey was carried out by the respective country representatives. The countries included in the study were:

- Dominica
- Grenada
- Montserrat
- St. Kitts and Nevis
- St. Lucia
- St. Vincent and the Grenadines

Due to their lack of active participation in the ECDS, Antigua and Barbuda, and the British Virgin Islands were not included in the full survey, but Antigua was visited by Jean-Pierre Sallet to discuss issues relating to family planning.

F. Description of Assessment Process

The general outline of the survey areas was discussed at a meeting with USAID officials in Barbados at the beginning of the assessment. The importance of including contraceptive logistics in the data collected was stressed. The following day was spent at the ECDS offices reviewing the data collection instruments and logistic arrangements for the survey. On Wednesday, 15 September country representatives and assessment team members conducted a detailed review of the two questionnaires and the forms. There was also a discussion as to how the data would be collected. On the following day a pilot field test was undertaken at the Central Medical Store (CMS), the Victoria Hospital, and at the Castries Health Center in St. Lucia. Following this field test, minor amendments were made to the questionnaires and further discussion was held relating to the methods of data collection. Country representatives then returned to their islands to undertake their surveys.

On 17, 20, and 21 September, data were collected at the ECDS and OECS offices. During the period of 22-25 September, members of the assessment team provided support and assistance to country members involved in data collection. This included field work, data entry, and discussions with Ministry of Health officials and the country representatives. To assist in analyzing the data Mr. Sallet developed a database tool, "ECDSRPM," for data input.

On 26 September, assessment team members and a country representative returned to St. Lucia for a one day data consolidation and analysis meeting. At that time the general recommendations for country and ECDS activities either within the RPM project or without were discussed. These recommendations were incorporated into a draft report which was presented at a meeting at the ECDS offices. The meeting was attended by the assessment team, Mr. Sam Dowding of the USAID regional office in Barbados; Dr. Vaughan A. Lewis, Director General, OECS; Sherita Gregoire, Director of ECDS; and Francis Burnett, Assistant Director of ECDS.

Following these consultative meetings, the draft report was produced for review and discussion in Washington and the EC region.

III. AID ACTIVITIES AND CONCERNS

A. Background

The USAID General Development Office (GDO) at the Regional Development Office for the Caribbean (RDO/C) is located in Barbados. The GDO was established on 1 December 1992 as a result of the consolidation of the Offices formerly responsible for health, population, education, and infrastructure.

In the area of public health, the GDO has had success in several programs. The *Regional Pharmaceuticals Development* project established the Eastern Caribbean Drug Service (ECDS). Through the *Epidemiological Surveillance and Training* project, the GDO assisted the Caribbean Epidemiology Center (CAREC) to increase its capability to assist member countries in laboratory and surveillance activities. CAREC also upgraded its own virological laboratory capabilities and institutionalized its capacity to produce periodic statistical reports in the technical areas that it covers. The *Basic Health Management Training Program* provided training for health managers in basic management, team-building, and program design and implementation. Participating countries were also assisted in developing health policy statements, and two countries developed comprehensive health plans.

B. Current Programs

The GDO has developed and implemented several ongoing programs and activities to support public health in the OECS.

The *Health Care Policy Planning and Management* project is devoted to the achievement of more efficient and equitable generation, distribution, and use of health sector resources. The project will assist participating countries to assess the need for health care reform, to undertake and evaluate those reforms, and to improve the management of health sectors to assure that resources are efficiently provided and utilized. The implementing agency for this project is the Organization of Eastern Caribbean States.

The *Drug Abuse Prevention and Education Pilot* program has begun work in seven OECS countries to strengthen the ability of community-oriented organizations to carry out youth-targeted drug abuse prevention and education activities, and also to focus greater public attention on drug abuse issues through public education programs. A needs assessment has been completed in participating countries. The implementing agency for this project is Partners for the Americas, Inc., and the Florida Association of Voluntary Agencies for Caribbean Action is a participating agency.

The *AIDS Communication and Technical Services* project is devoted to assisting several Caribbean countries to develop and implement cost-effective surveillance, information, education, and intervention strategies to project future trends and reduce the transmission of HIV infection and AIDS. The project has completed four operations research activities with high risk groups, established four hotlines (two more are planned), and trained health care workers (currently focused upon improving strategic planning and management at the national level). The implementing agency for this project is CAREC, with the Caribbean Family Planning Affiliation and the Centers for Disease Control also participating.

The *Contraceptives Logistics Management Project* supplies Ministries of Health in OECS countries (through the Caribbean Family Planning Association) with a range of USAID supplied contraceptives. This project will end in July 1994. The GDO has produced a report (*Usage of Contraceptives Through Ministries of Health Family Planning Programs: Forecasting Needs for 1993/94*) designed to expedite the smooth transference of contraceptive procurement duties to the Ministries of Health in affected countries.

C. AID Concerns

In the pharmaceutical health and management area, the GDO is primarily concerned with the area of contraceptives. This concern stems from the closure of the *Contraceptives Logistics Management Project*. Arrangements for ECDS to begin the procurement of contraceptives has been initiated, and a smooth transition is expected. As a result of this impending transition and AID concerns, contraceptive-related areas of the RPM assessment tool were strengthened. Information on procurement, storage, and drug information for contraceptives was gathered in country assessments.

The GDO recognizes the success of the Eastern Caribbean Regional Pharmaceutical Management Project, and supports, in principal, possible RPM activities.

D. Summary

Due to the very possible closure of the GDO within the next two years, there is no possibility of obtaining Mission "add-on" funds for RPM activities. However, the Mission appears interested in and supportive of potential RPM Project activities in the region (provided it includes contraceptive procurement).

IV. THE ORGANIZATION OF EASTERN CARIBBEAN STATES (OECS)

A. Background

The spirit of regional co-operation and integration remained alive among the countries forming the Leeward and Windward Islands after the collapse of the Federation of the West Indies in 1962, and a proposed federal scheme with Barbados. In 1966 the countries grouped themselves in a caretaker administrative arrangement - The West Indies Associated States Council for Ministers (WIAS)- "to administer such common services of the participating territories and to perform such other functions as may be agreed upon from time to time."

The Treaty establishing the Organization of Eastern Caribbean States (OECS) was signed in Basseterre, St. Kitts on June 18, 1981. Built on the solid foundation of WIAS and the East Caribbean Common Market (ECCM), the Organization came into operation on 2 July 1981.

The countries which form the OECS are Antigua & Barbuda, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines.

The institutions and agencies which function within the framework of the OECS are the Central Secretariat, the Eastern Caribbean Drug Service (ECDS) and the Natural Resources Management Unit (NRMU) in St. Lucia; the Eastern Caribbean Central Bank (ECCB) in St. Kitts and Nevis; the Economic Affairs Secretariat (EAS) and the Directorate of Civil Aviation (DCA) and OECS AERADIO in Antigua and Barbuda; the Agricultural Diversification Coordinating Unit (ADCU) and the Eastern Caribbean States Export Development Agency (ECSEDA) in Dominica; the Fisheries Unit in St. Vincent; and the Eastern Caribbean Investment Promotion Service (ECIPS) in Washington D.C..

Within the Central Secretariat there is a Legal Unit, a Sports Desk and an information network system. Matters relating to joint overseas representation at the High Commissions in London and Ottawa are also dealt with through the Central Secretariat.

These institutions bear testimony to the extent to which the governments have felt that close cooperation, joint effort and collectively organized activities are prime means of enhancing economic, political and cultural development and security.

B. Major Activities of Some OECS Institutions

1. Economic Affairs Secretariat

Promotes the economic development of member states in a framework of co-operation and joint action; assists individual countries in specific areas of economic policy advice and projects; conducts annual reviews of the state of the OECS sub-regional economy concentrating on significant economic trends and changes which are likely to affect the States; assesses the impact on the economies that may be caused by shifts in global economic conditions and trading relationships which are outside the region; evaluates the effect of national policies on the sub-regional economies.

2. Eastern Caribbean Central Bank

The Eastern Caribbean Central Bank (ECCB), established on 1 October 1983 processes payments for pharmaceuticals and medical supplies purchased through the ECDS. The main purpose of the bank is to facilitate and promote, within the territories of participating governments, economic stability and growth through the maintenance of a sound monetary, credit and banking system which is conducive to balanced growth and development.

3. Natural Resources Management Unit

Promotes improved management of the region's environmental resources; assists countries in strengthening their capabilities for natural resource management; provides specialist technical services and coordinates regional programs and projects. The Unit has encouraged greater recognition of environmental and natural considerations in economic and financial planning - a computer simulation model and a resource assessment methodology have been developed in Montserrat and a resource evaluation in Dominica and St. Lucia. Harmonized legislation and regulations for development in the coastal zone have been prepared; an approach for reviewing development options for mangrove areas has been implemented in the British Virgin Islands.

4. Fisheries Unit

Promotes harmonization of fisheries legislation in the OECS; formulation of fisheries plans and programs; education and training; funding of small fisheries development projects, a data management and information program, and development of a regional seafood marketing strategy.

5. Civil Aviation

Promotes safe, orderly and efficient air transportation and regulates civil aviation activities; developed the Uniform Civil Aviation Statutory legislation and registrations for enactment; licenses aircraft personnel; investigates aircraft accidents; registers aircraft; erects terminal buildings; resurfaces runways.

6. Agricultural Diversification Coordinating Unit

Increases awareness of producers and exporters of quality standards required by international markets; implements a mango improvement program and an irrigation and water management program; trains producers, exporters or associations in post-harvest operations, packhouse technologies and market requirements; and provides cold storage facilities and storage sheds, which are critical in reducing post-harvest losses.

7. Eastern Caribbean States Export Development Agency

Organized the OECS-Caribbean Expo '91 where 153 companies displayed products and services in 131 booths - more than 300 regional and extra-regional buyers attended; responsible for market development, trade promotion, private sector training, trade information and providing direct assistance to exporters. The focus for assistance has been in the areas of advertising and promotion, market research, trade missions/exhibitions, packaging/labelling development, identifying sources of raw material, product development and export credit/financial advice.

Heads of Governments of OECS Member States represent their respective countries at the bi-annual meetings where policy is formulated for implementation. With the exception of the Eastern Caribbean Drug Service which is self-financing, the Central Secretariat and other OECS institutions and projects are financed mainly from government contributions and grants from friendly agencies.

C. OECS Interest in RPM Assistance

The Drug Management Program (DMP) of MSH provided technical assistance during the implementation of the Eastern Caribbean Drug Service. From the beginning of this project DMP has developed and maintained an excellent working relationship with the ECDS managerial staff. This should facilitate any further technical assistance which could be provided by the RPM project.

During our discussion with the ECDS managerial staff, the following were identified as potential areas for technical assistance:

- Review and drafting of pharmacy legislation
- Implementation of a Central Drug Registration Unit and a registration system for the ECDS
- Drug information and utilization
- Training in the areas of:
 - Management of the CMS
 - Drug use
 - INVEC management
 - Conducting Drug Utilization Reviews
- Review of MIS systems - ECPRO & INVEC
- Review of ECDS Formulary Manual
- Cost recovery feasibility studies
- Revolving drug funds at national level

V. ACTIVITIES OF DONORS AND INTERNATIONAL AGENCIES

The *Health Management Information System (HMIS) for Community Health Services of Barbados and the Eastern Caribbean Countries* project is jointly funded by the Pan American Health Organization (PAHO), the Inter-American Development Bank (IDB), and the Caribbean Development Bank (CDB). The project is designed to strengthen the capabilities of the participating countries to provide primary health in an efficient manner. All ECDS region countries will be participating in the project. During the first technical PAHO Workshop on Drugs and Medical Supplies for the Community Health Information System meeting in May this year INVEC was demonstrated to the participants. It was agreed by all participating countries that INVEC should be the inventory management software used in the project.

PAHO is also currently developing a project to facilitate the development of legislation to support registration of pharmaceutical products in Grenada (and perhaps all other ECDS countries).

Other bilateral funding agencies, such as CIDA and French Technical Cooperation, have health-related projects which range from providing technical assistance to the primary and secondary care sector to the renovation or building of infrastructure. For instance, donor-funded health-related activities are currently underway in Dominica in construction of health facilities, AIDS prevention, mental health, and health education.

VI. DEMOGRAPHIC AND HEALTH STATUS OF OECS COUNTRIES

A. Health and Demographic Data

The OECS countries are comprised of Grenada, St. Vincent and the Grenadines, St. Lucia, Dominica, Montserrat, Antigua and Barbuda, St. Kitts and Nevis, and the British Virgin Islands.

The individual countries can be classified as middle developing countries, though because of their small size they are not included in the World Bank World Development Report.

Comparative demographic and health data are available for all of the islands.

These data show that the OECS countries are well advanced in their demographic transition. This is the process whereby countries change from having high birth and death rates to lower birth rates with death rates remaining high. This period is followed by one of low birth and death rates, reaching the final stage when the population ages when birth and infant mortality rates (IMR) continue to decrease while the death rate may increase. During this transition there is a shift from acute often infectious diseases to chronic diseases. This pattern of health transition is usually associated with economic development and an increase in per capita income.

Data Sources:

1. Comparative Health Financing in St. Lucia, Grenada and Dominica. Zschock, D.K., Gwynne, G., Wint, B., Robayo, J.C.. State University of New York at Stonybrook and PAHO 1991.
2. Population Projections for Eight Caribbean Countries 1980-2015 ECLAC/CELADE Demography Unit UNECLAC/CDCC, Port of Spain, Trinidad 1990.
3. OECS 10th Anniversary Commemorative magazine OECS (no date).

Demographic Data for OECS Countries

	Grenada	Montserrat	St. Kitts & Nevis	St. Lucia
Area Km. ²	344.5	102	269.3	616
Population	98,000	11,900	44,380	151,290
Density Km. ²	284.5	116.3	164.8	245
Birth Rate	24.7	16.5	21.3	24.5
Death Rate	7.8	10.5	10.5	5.6
Life Expectancy	71.9 yrs	67.8 yrs	67.8 yrs	71.6 yrs
IMR per 1,000	31.7	31.6	31.6	19.3
Hospital Beds	329	67	268	548
Population/MD	26,496	1,700	1,530	2,522
	St. Vincent & Grenadines	British Virgin Islands	Antigua & Barbuda	Dominica
Area Km. ²	388	153	440	750
Population	114,422	14,898	80,786	78,770
Density Km. ²	294.5	97.4	183.5	105
Birth Rate	22.4	19.3	13.9	20.7
Death Rate	6.3	5.5	5.6	7.7
Life Expectancy	70.6 yrs	71.4 yrs		67.8 yrs
IMR per 1,000	34.6	18.6	21.2	31.7
Hospital Beds	515	56	220	215
Population/MD	1,846	876	2,308	1,875

B. Economic Development Indicators

Economic Development Indicators

	Grenada	Montserrat	St. Kitts & Nevis	St. Lucia
GDP US\$ Millions	\$156	\$42	\$126	\$202
GDP per Capita	\$1,736	\$4,814	\$3,020	\$1,774
GDP Growth Rate	5.2%	11.5%	2.5%	4.0%
	St. Vincent & Grenadines	British Virgin Islands	Antigua & Barbuda	Dominica
GDP US\$ Millions	\$160	\$133	\$341	\$141
GDP per Capita	\$1,519	\$8,667	\$4,511	\$1,881
GDP Growth Rate	7.0%	8.6%	2.8%	6.2%

While there is considerable variation between islands in terms of GDP per capita, the generally impressive growth rates promote an improvement in health status. As always occurs within such aggregated statistics, there are inequalities within countries. Travelling around the islands, it is obvious that pockets of poverty remain and that these areas are likely to suffer from high levels of ill health related to poverty. Thus, diseases such as diarrhea and acute respiratory infections (ARI) will coexist with hypertension, diabetes, heart disease and cancer.

C. Health Care Financing Data

Health care financing data were readily available for St. Lucia, Grenada, and Dominica in a review written by Zschock, Gwynne, Wint and Robayo (1991).

Health Care Financing Data

	St. Lucia	Grenada	Dominica
Total Health Expenditures US\$	\$9.5m	\$9.8m	\$6.6m
Public Health Share %	86.4%	88.7%	82.2%
Health Expenditure Per Capita US\$	\$63	\$98	\$81
Total Health Expenditures/GDP	5.0%	7.0%	5.3%
Public Health Expen./Total Govt. Expen.	11.4%	14.6%	13.3%

These figures show that a substantial portion of total GDP and government expenditures are invested in health services. Of particular interest is the large proportion of health care expenditure spent within the public sector. In countries as economically developed as those described above, it would be normal to have a larger private sector. This reflects the stage of transition of the countries, and probably a level of satisfaction with the quality of service within the public sector.

The distribution of the public health sector budgets are also easily available for the three countries.

Distribution of Hospital Expenditures

	St. Lucia	Grenada	Dominica
Central Administration	8%	12%	8%
Medical Stores	11%	8%	8%
Hospital Services	51%	51%	49%
Primary Health Care	25%	14%	22%
Environmental Health	5%	15%	13%

As would be expected, personnel costs account for the major portion (79%-82%) of hospital expenditures while "supplies" account for 10%-17% of hospital budgets.

D. Conclusion

The OECS countries spend a significant portion of the GDP on health services, with the public sector at present being the major consumer of the resources. Overall, the level of expenditure is consistent with that of similar developing countries. Thus, in relation to the overall economy, the level of health expenditure seems appropriate and increases in funding are likely to relate to the overall growth of the economy.

VII. SUMMARY OF POSSIBLE RPM ACTIVITIES

Based on the analysis of the survey results, OECS and USAID interests, here follows a summary of potential activities which could be conducted by RPM. These focus on RPM priorities areas.

A. Policy and Legislation

1. Policy Issues

Within the Eastern Caribbean countries drug registration does not occur. The individual country legislation which regulates the pharmaceutical sector is generally outdated and needs to be updated and harmonized. Since the current systems in place in each country are similar it might be more effective to set up a regional drug registration unit and model Act which would be implemented at country level. There would be many advantages to establishing a regional drug registration unit based in ECDS with harmonized legislation to enforce the registration decisions. Such legislation could allow free movement of registered drugs and pharmacy professionals within the different OECS countries in both the public and private sectors, but could limit the range of products available in the region.

2. Government Action Needed

A statement of intent to harmonize legislation and to improve drug registration has already been made at the ECDS policy board meeting. Individual countries, including Grenada and Dominica have already undertaken preliminary work to update their pharmaceutical acts, but nothing has been done for drug registration.

A commitment from the OECS countries for the implementation and enforcement of such legislation would be necessary.

3. Opportunities for Collaboration with International Agencies

Two separate activities already undertaken by PAHO/WHO will complement this proposal. In addition, PAHO, with WHO Geneva, has been actively developing a software package which can be used for registration. PAHO/WHO has expressed strong interest in installing such a package in the region.

4. AID Concurrence and Local Support

AID supported the establishment of the ECDS. The placing of a regional Drug Registration Unit within the ECDS builds on the existing strengths and experiences within the unit. This proposal is in line with AID's support for regional initiatives. Within the OECS, the legal department has considerable experience in harmonizing legislation and regulations.

Previous Page Blank

5. Recommended RPM Activities in Order of Priority

- (a) An Eastern Caribbean Drug Registration Unit (ECDRU) could be established within ECDS. A computerized drug registration system with procedures and policies consistent with resources available should be developed and implemented as a part of the ECDRU. Enforcement of drug registration would be done on a country level. Collaboration with the ongoing PAHO/WHO project in developing drug registration software should be possible.
- (b) The OECS could facilitate the development of a regional Drug Control Act. This Act would expedite the development and/or updating of legislation to support drug registration in individual countries. This again could be undertaken in collaboration with PAHO. RPM could help support development of a Drug Control Act through technical assistance.
- (c) RPM could assist in training staff to implement the new systems and regulations, and in implementing the drug registration software.
- (d) RPM could assist in the enhancement and maintenance of a drug information resource center at ECDS to support the drug registration process. This would include more training of appropriate staff in drug information retrieval and assessment.

B. Procurement, Inventory Control and Store Management

1. Policy Issues

During the ECDS implementation two software packages were developed by MSH for use in the region:

- ECPRO - Eastern Caribbean Procurement - is used solely at the ECDS office in St. Lucia. This system supports the whole bidding process (needs requirements, bid analysis, contract awards, purchase order and payments to suppliers) and generates all the reports and forms needed.
- INVEC - Inventory Control - has been installed in three OECS countries (Dominica, Grenada and St. Vincent and the Grenadines) during the last year of the ECDS implementation. This system is used at the Central Medical Store level to process all transactions (issues, purchase orders and receipts) and automatically provides historical data on use and stock outs, recommends quantities to order and generates over twenty standard management reports.

Within ECDS, the ECPRO program and the systems in place efficiently process country requirements and adjudicate tenders. However the monitoring system of orders and payments, and the reporting systems to compare estimates with consumption and to compare costs over time needs to be improved. There is also a need to link ECPRO with the OECS financial and accounting systems.

Implementation of INVEC occurred at a later stage of the ECDS project and ECDS was supposed to follow up on these installations and provide support. However ECDS was not able to provide the level of support needed. The RPM project could provide an additional opportunity to train and support staff to fully utilize the capabilities of INVEC. In countries where INVEC is installed, training of appointed staff to fully utilize this system's capabilities is required. Where INVEC is not installed this could be done or support could be given to countries to utilize their existing systems better.

Every year before they process the request for quotes, each member country has to submit to ECDS its needs for the next procurement cycle. These figures are then compiled and used to inform the suppliers on the quantities requested. Many times these quantities are inaccurate and the ECDS staff has to visit each country to get more valuable data. Despite these efforts there have been significant variations between forecasted quantities and actual quantities. More training is needed in the area of quantification.

System support for the installed computers is required within the region. Such support could best be coordinated by ECDS on a regional basis. There is also a need to improve communications between Central Medical Stores with ECDS and with each other by provision of modems. Some of these activities could be undertaken in collaboration with the PAHO/Health Management Information System project.

2. Government Action Needed

The ECDS policy board would be required to approve the upgrading of the ECPRO program and the provision of system support within the region coordinated by ECDS. Individual country governments would need to decide to upgrade INVEC or to improve their existing inventory control systems and quantification methods.

3. Opportunities for Collaboration with International Agencies

PAHO Barbados has already begun to implement a World Bank-supported comprehensive Management Information System which will include inventory control systems and will provide in-country technical and system support. RPM has been in contact with them for the last few months and hopes to collaborate in the computerization of procurement and distribution. The same PAHO project will be providing each country with a new computer for use at the CMS and training at the regional and national levels. They are also developing local and regional expertise and establishing links between the headquarters in each country via modem to ensure system support.

4. AID Concurrence and Local Support

AID supported the original installation of ECPRO seven years ago and would support the upgrading of the program. Local support for computer upgrading exists within the countries and the region. During a recent meeting organized by PAHO it was decided by country representatives that INVEC should be the only inventory control software to be used within the countries' CMSs. Therefore this gives the RPM project an excellent opportunity to cooperate with the regional project.

5. Recommended RPM Activities in Order of Priority

- (a) The ECPRO system in ECDS should be upgraded, with particular reference to monitoring of orders and payments, report generation and linking to the accounting system to produce timely financial reports. RPM could provide technical assistance in this effort.
- (b) RPM could assist in upgrading the INVEC program to the newest version in countries where it is being utilized. Where it is not being used, the need for such a program should be evaluated, and INVEC installed if it is needed.
- (c) RPM could assist in the development of regional (ECDS-based) and national expertise for computerized system support (spreadsheet or INVEC).
- (d) RPM could provide training of staff to fully utilize the capabilities of the inventory control systems. This is particularly needed to improve the quantification of the estimates of annual requirements.

C. Drug Information and Rational Use

1. Policy Issues

Since a functional procurement and distribution system is in place, the importance of ensuring rational drug use becomes more significant. Within the ECDS the structure for an adequate drug information service was established during the Eastern Caribbean Regional Pharmaceutical Management project (ECRPM) (the Iowa drug information system), however because of a lack of interest/demands by the region, ECDS has stopped subscribing to this service. Therefore access to current information no longer exists. If any interest is again expressed by member countries this could be provided electronically either through modem connection to a modern library or through the use of CD-ROM technology. Within countries information is available but not utilized due to the relative lack of local drug information in the form of bulletins or updates. In terms of rational use activities little has been done. Surveys have been undertaken recently and these results were circulated. However, standard treatment guidelines exist in only a few countries for a few conditions. Thus there is a need to develop standard treatment guidelines for the ECDS region which can be adapted by each country. The skills to undertake systematic work in the area of improving drug use do not exist at present within the region. People are very interested but lack the basic knowledge and skills to be active in this area.

2. Government Action Needed

Within ECDS and in the OECS recognition that promoting rational drug use is a critical component of drug management exists. Commitment of staff within both ECDS and in the OECS will be required to address the problems existing in drug misuse. An investment in building staff capability will be required.

3. Opportunities for Collaboration with International Agencies

Both PAHO and the Drug Action Program in WHO Geneva are becoming more active in the area of promoting rational drug use. The International Network for the Rational Use of Drugs (INRUD) would be willing to collaborate with ECDS in providing materials and advice.

4. Recommended RPM Activities in Order of Priority

- (a) Two persons, one a pharmacist from ECDS and one influential and interested clinician should attend the next "Promoting Rational Drug Use" course organized by Management Sciences for Health, WHO and INRUD to be held in Ghana in March 1994. RPM could support the participation of these personnel, or help ECDS locate other opportunities for funding.
- (b) A regional "Promoting Rational Drug Use" course Could be organized in the region in mid-1994, with support and technical assistance from RPM.
- (c) Following the regional course RPM could help ECDS and each country undertake quantitative and qualitative surveys to document the drug use situation in each country and to identify priority problems.
- (d) Based on the priority problems identified in the surveys, joint ECDS/RMP intervention activities could be undertaken to address these problems. These interventions could be thoroughly evaluated to assess which were most effective to guide future actions.
- (e) RPM could assist ECDS to develop regional recommended treatment guidelines for priority common conditions. Diseases that have easily standardized treatments could be targeted for initial development (e.g., tuberculosis, leprosy, sexually transmitted diseases, epilepsy, etc.). These guidelines should be developed either by a working group composed of experienced physicians with the support of expert advice; or through a week long workshop or series of smaller workshops. The meeting(s) could either be attached to the ECDS Technical Advisory Committee annual meeting or another group or association meeting. Individual countries would be encouraged to adapt the regional guidelines to their specific situations. Each country would develop systems to monitor adherence to these treatment guidelines.
- (f) The drug information service within ECDS could be supported through the provision of a CD-ROM data retrieval system or through electronic links to a modern library. Resources at the service should continue to be enhanced, as could access to and awareness of the service within OECS countries.
- (g) RPM could provide technical assistance in the development and implementation of ECDS and country specific drug information bulletins or materials, such as monographs or leaflets.
- (h) Personnel from ECDS and participating islands could be trained in accessing and evaluating drug information with RPM assistance.

- (i) To improve patient information, the USP could stage a patient counseling workshop and/or competition in conjunction with a regional meeting of the Caribbean Pharmaceuticals Association. This would include lectures and exercises on both patient counseling and teaching patient counseling skills.

D. Contraceptive Supplies Provision Within the Region

1. Policy Issues

From July, 1994, USAID will no longer provide contraceptive supplies to countries within the region. This will mean that Ministries of Health in each country will be responsible for estimating, ordering, storing and distributing contraceptives. This was previously managed by the Family Planning Department within the Ministry. The ECDS is prepared for this change and is planning to prepare a special tender for these items. A problem remains however in estimating quantities and budget required and in organizing the transfer of responsibility from the Ministry FP department to the CMS. The Planned Parenthood organization in each country is also involved in the provision of services and will need to be involved in discussions. Not all CMS store contraceptives and storage space will need to be organized.

During our visit to the CFPA Ltd. office in Antigua, we met with Dr. Turbani P. Jagdeo, on Wednesday, 22 September. With its current staff this office has been managing the storage and the distribution of contraceptives to the OECS and Barbados. The procurement tasks are undertaken by the Washington USAID office based on the quarterly reports submitted by the member countries to the CFPA office. When ECDS takes over the procurement of contraceptives CFPA will be relieved of the warehousing and distribution tasks. Dr. Jagdeo strongly believes that if a smooth transition between the two systems cannot be achieved all the efforts made during the past years in promoting the use of the contraceptives in the region will be jeopardized. He also mentioned that other associations representing UNFPA could play an important role in providing these products to an increased number of people during the transition phase if necessary.

When USAID stops the procurement of contraceptives in July 94 the two key issues to be addressed are:

- Needs Estimation
- Financing

(a) Needs Estimation

A report on the status of contraceptives logistic management and use has been prepared by Mr. Dorbrene O'Marde upon a request made by the CFPD Ltd. It includes a first estimation of contraceptive requirements for the OECS and Barbados. Three contraceptives products have been included in this RPM survey (condoms, Lo-Femenal and Depo-Provera). Out of the six countries surveyed, only three CMS, Dominica, Grenada and St. Lucia, are currently responsible for the distribution and the storage of contraceptives. Only one, Grenada, is stocking Depo-Provera, and had only eight vials in stock at the time of this survey. Here follows the stock status for condoms and Lo-Femenal at the CMS in Dominica, Grenada and St. Lucia at the time of our visit:

Condom	Dominica	St. Lucia	Grenada
Stock (Units)	118,300	236,400	70,000
Avg./Month	7,034	N/A	5,000
Level (Months)	17	N/A	14

Lo-Femenal	Dominica	St. Lucia	Grenada
Stock (Cycles)	1,700	2,469	13,976
Avg./Month	1,037	N/A	333
Level (Months)	2	N/A	42

The stock of condoms (over a year) seems adequate in all three islands. Assuming that the reported consumption figures are accurate, Dominica has a low stock of Lo-Femenal and Grenada seems overstocked; if necessary a transfer of goods among the various islands might be organized through the ECDS channel. This might be done before the last shipment of contraceptives from Antigua.

Only three of the six countries surveyed store contraceptives at the CMS on a regular basis. Ideally the contraceptive items should be physically moved to the CMS storeroom and the distribution should be organized accordingly. Whenever the CMS storage facilities are inadequate to store these products (particularly condoms, which are bulky) the management of the dedicated contraceptive storeroom should be transferred to the CMS manager.

By the end of 1993 or early next year, ECDS is planning a meeting to bring together the CMS and Family Planning Program managers in OECS countries. This meeting should clarify the responsibilities of each party and complete the quantification of contraceptive needs for the upcoming procurement cycle ('94-'95). This exercise should take in consideration the stock available for distribution at the CPA warehouse in Antigua and for each country:

- the current stock
- the last twelve months' consumption and stock-out
- the quantities to be received from Antigua

Each CMS manager will have to be introduced to the concept of couple year protection (CYP) which is specific to contraceptive products.

The preselection of suppliers could take place during this meeting. This will speed up the tender process, since ECDS plans to process a separate tender for contraceptives.

(b) Financing

Some preliminary figures are given in the O'Marde report and might have to be modified, taking into consideration the following factors:

- the new quantities estimated during the ECDS meeting
- the 15% services charges to be added by ECDS
- the estimated cost of contraceptives in the region

The O'Marde report uses the current IPPF cost and it might not be possible to get such low prices for the region, bearing in mind that quantities to be procured will be less than the one IPPF purchase world-wide, and that shipment will not be done to a central point like Antigua but will have to be done directly to each member country.

Once the estimated cost is obtained ECDS, together with each country representative, will play a key role in ensuring that the estimated amount is budgeted and that at least 50% of the total amount is transferred to the ECCB country account.

2. Government Action Needed

Governments are aware of the impending change and will need to establish new systems to ensure a smooth transition. This will require improved communication between the FP Department, the CMS and the local Planned Parenthood organization. Governments will need to provide finances to purchase the contraceptives through the ECDS procurement system. ECDS will need to identify potential suppliers. The Ministries of Health should ensure the support of the current supply system, which would include storage and distribution.

3. Opportunities for Collaboration with International Agencies

Planned Parenthood International and UNFPA are the organizations most likely to be involved in the changes which are coming in 1994.

4. AID Concurrence and Local Support

The AID office in Barbados has expressed considerable interest on this topic and can be expected to support efforts to ensure a smooth transition.

5. Recommended RPM Activities in Order of Priority

- (a) If requested or required, RPM could facilitate a meeting at ECDS attended by country FP staff, CMS staff, Planned Parenthood staff and ECDS staff. Whether or not RPM staff are involved in this meeting, it should be organized quickly to allow adequate plans to be made.
- (b) RPM could facilitate a regional quantification exercise, the results of which could be used as the basis for requesting bids.

SECTION TWO

33

Previous Page Blank

VIII. ECDS DRUG SUPPLY SYSTEM

A. Background, Structure and Organization of Drug Supply System

1. Background

In 1981 the Organization of Eastern Caribbean States (OECS) was established to promote the social, economic and political development of the peoples and countries of the Eastern Caribbean through joint action and the pooling of their limited resources for protecting and advancing common interests.

In keeping with this commitment, the OECS established the Eastern Caribbean Drug Service (ECDS) as a semi-autonomous agency in 1985 with substantial assistance from USAID through the Regional Pharmaceuticals Management Project. Technical assistance was provided by Management Sciences for Health, a non-profit organization from Boston. Beginning in September 1990, OECS governments assumed full financing responsibility for the ECDS.

ECDS's goal was to improve procurement, management and use of pharmaceuticals and medical supplies, and to achieve a reduction of the unit cost of these services while working closely with a network of Ministries of Health and other health related organizations.

When ECDS was formed the drug supply systems of OECS member countries were beset with problems of short supply of drugs; disorganized warehouses which were inadequately equipped with shelving and secure storage places; untrained staff and unreliable transport facilities impeding the timely delivery of supplies to peripheral areas. The countries also faced fiscal constraints which further disrupted the supply process. Suppliers commonly added a large surcharge when dealing with countries which took several months to make payments. As a result of both irregular and small order volumes from countries with limited populations, prices charged to OECS states ranged upward of 30% or more above those paid by the more developed countries of the Caribbean.

OECS Ministers of Health therefore agreed that the collective resources allocated for drug procurement services could be harnessed to achieve not only price economies through bulk purchasing but also to ensure that the procurement system was generally enhanced in terms of improved price, quality and service.

2. Structure of Drug Supply System

In order to ensure that the ECDS remains responsive to the needs of participating countries, all policy and strategic decisions are made by the Ministers of Health who constitute the ECDS Policy Board, which meets annually. A Technical Advisory Committee (Tenders and Formulary and Therapeutics Sub-Committees) assists the Policy Board.

The Tenders Sub-Committee, which is comprised of the Purchasing Officers of participating countries (guided by the criteria of quality, service and prices) annually selects the products and awards contracts to approved suppliers.

The Formulary and Therapeutics Sub-Committee, which is comprised of a senior physician from each country, is responsible for both the regional and country formulary processes - developing standards for implementation and maintenance of the formulary system. They meet annually to review the drug list.

The Director General and ECDS senior staff serve as advisors to the Board and its sub-committees. They have no voting status. All decisions are made by the country representatives for implementation by ECDS staff.

An organizational structure is attached as Annex F.

3. Finance

The Eastern Caribbean Central Bank (ECCB) manages payments for pharmaceuticals and medical supplies purchased through the ECDS.

Each OECS participating country established at ECCB a special revolving drug account to ensure that financial commitments made to suppliers are honored. This financing mechanism relieves Ministries of Health from the difficulties associated with foreign exchange and assures suppliers of payment.

After notification of receipt and acceptance of goods at country level, ECDS instructs ECCB to pay the supplier the value of the accepted goods. An administrative fee of 15% of the said payment is made to the ECDS account. This fee is used to meet the operating expenses of the ECDS Unit. Prudent financial management of revenues has ensured that ECDS remains a self-supporting institution.

ECDS budget allocation and administrative fees for the past two years have been as follows:

Budget and Operating Expenses for ECDS

YEAR	APPROVED BUDGET	OPERATING EXPENSES	ADMIN FEE
91/92	EC\$742,415	EC\$704,091	EC\$744,167
92/93	EC\$724,614	EC\$674,128	EC\$704,900

ECCB submits monthly statements to participating countries and ECDS concerning activities of the accounts and requests reimbursements by Ministries of Health for amounts withdrawn from the respective drug accounts. The ECCB is reimbursed from national health budget allocations.

4. Procurement Policies & Practices

(a) ECDS procurement policies and practices

The following policies were implemented from the very first ECDS year.

- Sole Source Commitment - Items listed in ECDS contracts should be purchased for the public drug supply system, solely through the ECDS, from contracted suppliers. No country should purchase contracted items from non-contracted suppliers as this would destroy the buying cartel.
- Pooled tendering of Regional Formulary items based on cumulative national estimates. ECDS is not bound by these estimates.
- Pre-qualification of Suppliers (manufacturers and distributors) through a structured questionnaire submitted by suppliers and approved by the Tenders Sub-Committee.
- The products selection criteria are not only cost but also the product quality and the quality of the service provided by the suppliers.
- Each product is awarded to a primary and secondary supplier. The secondary will automatically become the primary if the primary one does not perform according to ECDS standards, avoiding the need for a new adjudication session.
- All OECS member states are charged the same unit cost regardless of volume of annual estimates through annual fixed price contract, prices are offered by air or by sea.
- Orders should be processed by three scheduled batches of orders per cycle of generic selections mainly.

Since the initial policies, a few other policy decisions have been taken, based on recommendations from the ECDS advisory boards:

1991:

- ECDS should study the need and feasibility of establishing a Pharmacy Practice Sub-Committee to complement the work of the Formulary Sub-Committee.

1992:

- Purchase orders should be processed only if a country's balance in the ECCB drug account is at least 50% of the value of the requisition .
- ECDS should seek the Board's approval every two years for the printing of the Regional Formulary Manual.
- ECDS should explore the possibilities for further diversifying the range of items it purchases, to include laboratory supplies and other consumables.
- OECS governments, through the ECDS, should urgently put in place a mechanism to establish and/or strengthen Pharmacy Legislation to facilitate enforcement of a harmonized system of Drug Regulation and Registration.

1993:

- Centralization of purchases with the addition of family planning supplies in 1994.

(b) Country Level Policies and Practices

- Purchasing Officers may purchase non-ECDS items including Specially Authorized Drugs (SAD) from the supplier of their choice. In the interest of greater effectiveness, the national procurement committee should include the Chairman of the National Formulary Committee, the Chief Pharmacist, the Purchasing Officer, the Accounting Officer, and the Storekeeper (1992).
- Participating countries, in collaboration with Ministries of Finance, examine ways and means of introducing cost-recovery measures which could assist in improving the levels of financing available for paying for purchases (1992).

5. Logistics and Distribution

Suppliers consign and ship goods directly to the countries' Central Medical Stores. Copies of invoices are sent by suppliers to ECDS. Goods Receiving Notes (GRN) are submitted to ECDS by the Purchasing Officers. ECDS then instructs ECCB to pay suppliers.

ECDS staff provide logistics support to the drug supply system, particularly in the areas of preparation of annual estimates, formulary development, inventory management, budgeting, and computer training.

IX. PHARMACEUTICAL INDICATORS FOR THE OECS REGION

Note: Due to the context in which the survey was conducted, two levels were considered:

- the regional level (ECDS/OECS)
- the national level (specific to each country)

A. Policy, Legislation, and Regulation**1. Existence of a national drug policy**

There is no written national drug policy in place in the region or in individual countries.

The establishment of the Eastern Caribbean Drug Service in 1986, was a major political decision at the regional level. With the implementation of a pooled tendering and procurement process, more effective and efficient use of limited public sector health resources has been achieved. Through the ECDS policy board many decisions have been taken and enforced.

2. Existence of components of drug control legislation

There is no modern drug control legislation. Only Grenada has an official pharmacist inspector. Granada's pharmacy act was revised in 1987, and this island has started further work in the area of drug control legislation with the assistance of PAHO.

Most of the countries visited are using the old "colonial" laws and regulation (circa 1930). Some islands, like Dominica and St. Vincent and the Grenadines have started the drafting of a Pharmacy Act but none have been approved or implemented yet. During our discussion with the OECS legal department and the ECDS officials we learned that one of the recent ECDS Policy Board decisions was to develop a regional (OECS level) policy regarding drug control legislation. Once this legislation is developed and approved by each island's attorney, it will be implemented and enforced in each island. Once a product is registered at the regional level it will be allowed for import or sale within each country.

3. Proportion of pharmaceutical products on the market currently registered

Since there are no laws or regulations governing this topic, none of the pharmaceutical products currently available on the market are registered.

4. Type of drug registration information system

There is no current information system on drug registration.

5. Whether generic substitution is allowed

In the public sector prescribers are encouraged to use generic names. However there is no law or regulation which authorizes generic substitution. Substitution is a common practice in both public and private sectors in the OECS countries.

B. Formularies and Essential Drug Lists

1. Number of drugs on the National Formulary List

The third edition of the "Regional Formulary and Therapeutics Manual" contains 250 drug entities and 388 drug products.

Before the establishment of ECDS, Dominica, St. Lucia and St. Vincent and the Grenadines had their own formulary lists. Since this third edition of the ECDS formulary, every OECS country uses this publication as their reference for procurement and prescribing. The ECDS Therapeutic Committee, composed of influential prescribers from each island, meets every year to determine deletions/additions to be made.

2. Number of drugs on each country's Essential Drug List

As mentioned above, each country relies on the ECDS formulary for its own formulary. Therefore at each country level the number of drugs which are on the national list but not on the regional formulary is very limited and has decreased gradually since the implementation of ECDS. The non-ECDS drugs procured are very limited. However, Dominica reported 102 drugs which are not on the ECDS formulary and Montserrat 41 drugs. In Dominica these drugs primarily include a wide range of cytotoxic drugs and pharmaceutical preparations which are compounded locally.

3. Existence of a National Formulary Manual providing basic drug information for prescribers revised within the last 5 years

Every two years ECDS publishes the Regional Formulary and Therapeutics Manual. The third and latest edition, published in 1991, contains 250 chemical entities and 388 drug products.

2500 copies are printed and it is widely distributed in the region. This manual contains the following:

- List of Additions/Deletions to Formulary*
- Index of Generic & Brand Names, Diseases & Symptoms*
- Index of Pharmacologic/Therapeutic heading*

For each product listed within its own therapeutic category:

- Indications*
- Cautions (Contraindications, Precautions and Adverse reactions)*
- Advice to the Patient*
- Dosage and Administration*
- Preparations*
- Common Brand Names Available in the Region*

This publication uses the American Hospital Formulary therapeutic classification. Some classes are introduced by a general statement of the various treatment protocols, cost comparison charts and specific therapeutic recommendations.

4. Presence of a National Formulary Manual or Essential Drug List Manual, revised within the past 5 years at public sector facilities

Among the health facilities surveyed (a maximum of four for each country), all had the Regional Formulary and Therapeutics Manual, with the exception of Montserrat where it was available only at the Hospital level (one out of four facilities in this country).

C. Public Sector Pharmaceutical Procurement

1. Policy exists to limit public sector pharmaceutical procurement to items on the national public sector drug list

It is a national policy in each island to limit the procurement of drugs to the ones approved by the Ministry of Health, that is, the ECDS list plus a few other items in some cases.

ECDS has a sole source commitment policy which provides that whenever a country orders drugs which are on the ECDS list it should be done through ECDS only. This sole source commitment policy has been the backbone of ECDS achievements.

2. Coverage by a centralized system for routine procurement of public sector drugs

The procurement of drugs is centralized, and a country's Central Medical Stores is the sole provider for each Ministry of Health.

Although this is true for drugs, it is done in a different ways in many countries for other types of items such as medical supplies or sundries, where these items are bought directly by the main hospital. In Dominica, the centralized role of CMS has even been extended; patients can get cytotoxic drugs directly from CMS with a prescription and on receipt of payment.

3. Percentage of average international price paid for the last regular procurement

The percentage of average international price paid for the last regular procurement is 147.18% for the 17 tracer drugs for which we could compare prices.

This figure could be considered as high for an efficient system like ECDS. This explained by the fact that ECDS is buying the brand name products for two of the tracer drugs - digoxin and phenytoin tablets. This is an exception in ECDS procurement practice. Their bioavailability is a very critical factor and it can be affected by the formulation. Therefore ECDS has chosen to stick to the brand name products for these two drugs for several years now. If we do not consider these two drugs the percentage would be 92.77%, which means that ECDS prices are well within range of the average international price.

4. Percentage of Ministry of Health drugs purchased through competitive methods

All of the drugs listed on the ECDS formulary are purchased through competitive methods and this represents at least 90% of the countries' drug purchases. St. Kitts and Nevis has reported that it purchased 95% of its drugs from ECDS, St. Lucia, 93%, and Montserrat and Dominica, 90%.

When the drug needed is not available from ECDS, it is common practice for the Supplies Manager to submit a request for quotes to several regional or international suppliers before processing a purchase order.

D. Product Quality Assurance

1. Use of the WHO Certification Scheme

The OECS countries are members of the WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce.

It is used only on a limited basis in procurement. During the preselection suppliers are required to submit a free sale certificate and a Good Manufacturing Practice certificate. They also could be asked to provide a certificate of analysis for each lot provided but this is rarely done.

2. Existence of a functioning system for reporting product quality complaints

ECDS has in place a reporting system using a specific form designed to that effect. ECDS is using the Caribbean Drug Testing Regional Laboratory (CDTRL) in Jamaica to do routine tests or to perform a test after a complaint has been submitted. In some cases a second series of tests is performed in Canada.

The CDRTL role is to perform various quality assurance tests on drugs for the whole Caribbean Community region (CARICOM). This is done upon country requests. The operation of the laboratory depends mainly on financial contributions from each CARICOM member country. Unfortunately these contributions are not always made, slowing the turn around time of some tests. Therefore, the CRDTL does not provide optimum services for the region.

E. Public Sector Pharmaceutical Logistics

1. Functionality of information system for inventory management

Each island maintains a manual system using stock cards, a Kardex or a ledger and a computerized system using either Lotus 1-2-3 spreadsheets or, in Dominica, Grenada and St. Vincent and the Grenadines, INVEC - an inventory database program developed by MSH. These systems are the backbone of inventory management and provide information on stock on hand, pending orders, consumption, issues and receipts, etc.. Some islands have implemented a bin card system at the health facility level to optimize the requisition process.

Despite the systems in place, ECDS faces some difficulties in getting from each island accurate annual drugs requirements for bidding purposes. Every year it has to make country visits to adjust or compile this information. Countries are not doing a good job of using the reporting functions of INVEC.

2. Variation between inventory records and physical stock count (CMS)

Average Stock Variation in ECDS countries

	DOM	MONT	GREN	KITT	LUC	VINC
Avg Var.	1.7%	4.4%	0%	3.2%	42.4%	62.4%

3. Availability in public sector health facilities of a set of tracer drugs used to treat common diseases

The count is done over 24 tracers as Depo-Provera is not provided in a regular basis.

	DOM	MONT	GREN	KITT	LUC	VINC
Avg/Facil	72%	75%	37%	60%	53%	51%
CMS	87%	58%	91%	75%	83%	78%

4. Stockout incidence and percentage of time out of stock for a set of tracer drugs

The number of days the tracer drugs were out of stock during the last procurement period was:

	DOM	MONT	GREN	KITT	LUC	VINC
# of Days	94	900	540	0	11	1484
% / Year	1.07%	10.27%	6.16%	0%	0.13%	75%

F. Public Sector Budget and Finance

1. Public sector expenditures on pharmaceuticals, US\$ per capita

	DOM	MONT	GREN	KITT	LUC	VINC
Exp/Capita	\$4	\$8	\$4	\$6	\$2	\$9

2. Public sector revenue from pharmaceutical cost recovery, US\$ per curative encounter

In the few countries where cost recovery systems have been implemented, the revenue is considered negligible.

3. Percentage of total government expenditures used for health budget, EC\$

	DOM	MONT	GREN	KITT	LUC	VINC
Tot Natl Budget	188m	40m	225m	117m	295m	181m
MOH Budget	\$21m	\$5.9m	\$22.5m	\$12.7m	\$38m	\$25.8m
%	11.2%	14.7%	9.9%	10.8%	12.9%	14.3%

4. Percentage of total government health expenditures used for pharmaceuticals, EC\$

	DOM	MONT	GREN	KITT	LUC	VINC
RX Budget	1.6m	282,368	1.25m	710,000	1.2m	2.9m
%	3.6%	4.7%	5.56%	5.59%	3.16%	11.09%

G. Patient Access and Drug Utilization

1. Population per public health facility

	DOM	MONT	GREN	KITT	LUC	VINC
Population	78,770	11,900	98,000	44,380	151,290	114,422
Facility	48	4	36	5	37	34
Pop/Fac.	1641	2975	2722	8876	4088	3365

2. Average number of drugs prescribed per encounter

Based on a survey of 22 clinical facilities and 725 prescriptions, the average number of drugs prescribed per encounter is 1.95, with the range among facilities being from 1.33 to 2.37.

3. Percentage of drugs prescribed by generic name

Based on a survey of 22 clinical facilities and 725 prescriptions, the average percentage of drugs prescribed by generic name is 49%, with the range among facilities being from 23% to 100%.

4. Percentage of patients receiving injections

Based on a survey of 22 clinical facilities and 725 prescriptions, the average percentage of patients receiving injectable drugs is 1.5%, with the range among facilities being from 0% to 7.5%.

5. Percentage of patients receiving antibiotics

Based on a survey of 22 clinical facilities and 725 prescriptions, the average percentage of patients receiving antibiotic drugs is 39%, with the range among facilities being from 10.8% to 63%.

H. Private Sector Pharmaceutical Activity

In this region, the public sector still remains the main provider of health care, particularly in the rural areas, a recent study shows that at least 80% of the health care is provided by the public sector. The private sector is generally concentrated in and around the country's capital.

1. Population per registered drug outlet and drug outlets per government drug inspector

	DOM	MONT	GREN	KITT	LUC	VINC
Population	78,770	11,900	98,000	44,380	151,290	114,422
Priv. Rx.	8	3	13	8	16	9
Pop/Out.	9,846	3,966	7,538	5,547	9,455	12,713

As mentioned earlier there is only one inspector in Grenada, in the other countries the Chief Pharmacist plays the role of inspector but mainly for the public sector.

2. Value of total private sector pharmaceutical sales, US\$ per capita

This information was not available during our survey.

3. Total value of drug market, public and private sector, US\$ per capita

This information was not available during our survey.

4. Percentage of products on National Formulary List currently manufactured or co-manufactured locally

There is no extended manufacturing or co-manufacturing of pharmaceutical products in the OECS region, but there are a few manufacturers in the Caribbean region.

The Central Medical Stores in Dominica has a compounding section which produces locally about 50 magistral preparations (ointments, internally and externally used liquids) for distribution through the Primary Health Care network.

5. Availability of antibiotics without a prescription

This indicator was not collected during our survey. However, in Dominica one of the study team attempted to purchase an antibiotic in a private drugstore without a prescription and was refused the sale.

SECTION THREE

X. COUNTRY PUBLIC SECTOR DRUG SUPPLY SYSTEM

A. Structure and Organization of Drug Supply System

In each country a similar public sector drug supply system exists. It is based on a Central Medical Stores (CMS) located in the capital and often within the main hospital compound or close to it. The CMS's infrastructures range from newly built stores (e.g. Grenada) to less adequate facilities in some countries. However, renovation or rebuilding is planned in a number of countries (e.g. St. Vincent) with the help of bilateral funding agencies. Drugs and medical supplies for use by the primary health care staff are distributed to the hospitals and main health centers throughout the country from the Central Medical Store. The main health centers then provide a limited range of items to their satellite clinics.

The financial systems in place vary and a limited amount of data is available. The total value of purchases and the value of purchases from both ECDS and non-ECDS sources are known. Of all the countries surveyed, only Dominica could provide its budget for pharmaceutical procurement.

Financial Information for Drug Procurement, OECS Countries. Last Procurement Cycle: July '92 - June '93 (Source - ECDS & Survey Forms) All values are expressed in EC\$.

Purchases	DOM	VIN	GRE	LUC	KITT	MONT
Total	1,845,395	1,340,557	1,375,752	1,332,032	n/a	228,847
From ECDS	826,413	1,163,549	986,349	1,226,142	478,895	207,949
Non ECDS	1,018,982	177,008	389,403	105,890	n/a	14,898

In the case of Dominica the high figure of non-ECDS purchases can be explained because the CMS purchases not only drugs and medical supplies but also galenicals, sutures, instruments, laboratory reagents and X-ray products.

Only St. Kitts was able to provide the value of their inventory at the end and the beginning of the procurement cycle. Most of the drugs are purchased through the ECDS service. Non-ECDS purchases are handled by the supplies officer on a case by case basis. This may result in overstocking of expensive drugs demanded by a clinician who fails to use the drugs or leaves the island.

B. Finance and Cost Recovery

All countries depend on a central allocation of funds for the purchase of drugs. Dominica has a system of district planning and budgeting. Some other countries record expenditure by facility or even ward but facility budgets are generally not used. Only in Dominica are facilities billed for the drugs and medical supplies received against their budget. The Dominica CMS adds a 15% service markup to the cost. Although a small fee is usually required for outpatients, only in St. Lucia, Montserrat and Grenada are patients charged for their drugs with differing fee schedules (up to EC\$ 5.00 per drug in Montserrat), however in most cases the amount collected is negligible. When funds are collected they are generally paid into the central Treasury fund and not credited to the CMS or the Ministry of Health account. Country revolving drug funds do not exist in the region except in Dominica. Each country understands the need for the implementation of a cost recovery scheme, particularly at a time when the future of the banana industry, the main source of revenue for many islands, is uncertain. This still remains a very political decision which is generally postponed from year to year.

Recommendations

1. Each facility should keep an expenditure record, with the goal of eventually maintaining a facility budget.
2. The Health Care Policy Planning and Management project, which is starting at the end of this year, will focus on dealing with health financing issues. RPM and ECDS should work closely with this project on any procurement and any other drug-related matters.

C. Procurement

Only St. Vincent has a formal procurement committee which meets three times per year. The ECDS policy board has already made the recommendation that every member country should have one. Our survey shows that quantities ordered are based on the general experience of staff and by reviewing past consumption. Morbidity data is rarely used. Percentages ranging from 5% to 20% are used to adjust past consumption for future needs. Various sources of data on past consumption such as bin cards, ledgers, bank account balances, and computerized records are used. The results are still questionable since there is a rather large discrepancy between quantities estimated and quantities actually ordered from ECDS. The ultimate responsibility for purchase quantity and source rests with either the Supplies Officer, the Chief Pharmacist or even the Chief Medical Officer. Large drug purchases are made by CMS usually two or three times a year though individual purchases are made more frequently. All countries have a record system for keeping track of purchase orders. All countries have made preparations for procuring contraceptives in 1994.

RPMP helped establish standard formulas for calculating reorder quantity. These formulas are not being used.

Stock information was available for five countries at the time of the survey.

Number of Items in Stock

	Dominica	St. Vinc.	St. Lucia	St. Kitts	Mont.
Drugs	604	265	367	350	187
Med. Sups.	441	100	33	20	0
Other	975	45	0	0	0

Stock records in different CMS are kept on bin cards or ledgers, and sometimes on computer. In Dominica, St. Vincent and the Grenadines, and Grenada both the INVEC data base program and Lotus 1-2-3 spreadsheets are regularly used. The same data is often kept on both systems.

Physical stock counts are undertaken quarterly in Dominica, Grenada, and St. Kitts. Montserrat does a physical count twice a year. St. Vincent and St. Lucia do stock counts on an ad hoc basis. Shortages and stock outs were reported from all countries. The involvement of auditors in check ups on CMS varies considerably from country to country. There appears to be a direct relationship between the adequacy of record keeping and the frequency of audit inspections.

The average variation between the physical count and the main record of the 24 tracer drugs (Depo-Provera is not supplied on a regular basis) is listed below:

Average Stock Variation in ECDS Countries

	Gren.	Domin.	St. Kitts	Mont.	St. Lucia	St. Vin.
Abs. Variat.	0%	1.7%	3.2%	4.4%	42.4%	62.4%
Avail./Tracer	22/24	21/24	18/24	14/24	20/24	19/24

When there are discrepancies between the physical count and the record cards, the physical count is greater than the recorded stock because the goods are in the stores but they have not been accounted for.

Small scale production at CMS is undertaken only in Dominica. About 50 products are produced and distributed. The bottles and the ointment jars are returned, washed and reused. The preparations are not subject to quality control testing, but batch records are kept.

The average time for getting an order approved by the Ministry ranges from two to 14 days. The average time between approval of an order and receipt of drugs from the ECDS suppliers ranges from 21 days to 60 days. The average time between receipt of the ECDS purchase orders and payment to ECCB account varies between 10 and 42 days. The port clearing time varied from two to 14 days in the case of St. Lucia because it is using a government customs broker to process the clearing documents. The number of orders sent to ECDS ranged from 52 to 79 for the surveyed countries in one procurement cycle.

Non-requested items were obtained from ECDS and non-governmental organizations. St. Vincent and St. Lucia returned drugs during the last procurement period because of damage, near expiry or unsatisfactory quality. Examples of unsatisfactory quality included discoloration, unsatisfactory appearance or physical flaws on inspection. These items were replaced by the supplier.

These complaints were forwarded either as a verbal report to the supplier, a verbal or written report to the Ministry of Health, or by sending a report to ECDS.

Drugs are distributed to health facilities by government vehicles. The main problems experienced by countries dealing with ECDS are mainly related to supplier's performance or the enforcement of contract terms and include:

- Supplier is without the ordered drug at the time the order is placed
- Partial shipments by suppliers
- Delay in processing the order if the country's ECCB account does not have 50% (which is considered high by most countries) of the order value at the time the order is placed
- Poor packaging
- Extended lead times
- Poor monitoring of back orders by ECDS

When asked what suggestions CMS staff had for how ECDS could develop or improve its services, suggestions were made that the ECDS should:

- Extend the range of the products supplied (medical supplies, lab reagents, X-ray products, sutures)
- Closely monitor purchase orders and outstanding orders
- Enforce contracts terms with the suppliers
- Visit the countries and provide technical assistance in specific areas more frequently
- Support computerized systems
- Provide training to supplies manager and store personnel
- Provide skills required to conduct drug utilization review

All countries purchase non-ECDS items directly from the private sector. ECDS items are purchased directly from suppliers only upon special request in case of emergency. The average time to get approval ranges from 0 to 25 days. The average delivery time ranges from 1 to 50 days. Payment is made immediately or up to 60 days later. In Dominica these terms are negotiated with suppliers. During the last procurement period, Dominica placed 86 orders and St. Lucia placed 48 orders outside ECDS. The main problems reported in obtaining goods from the private sector were:

- Supplier is out of stock at the time the order is placed
- Partial shipment
- Lack of documents while stores are at the port of arrival
- Suppliers demanding advance payment
- Poor packaging
- Unavailability of certain items
- Extended lead time
- Lack of direct telephone or fax in CMS
- Deal sometimes with unknown supplier
- Higher cost
- Unexpected long lead times

Payments are done by letter of credit, bank or sight draft, prepaid or by credit.

Recommendations for Procurement

1. Each country should establish an active procurement committee that would be responsible for all aspects of ECDS and non-ECDS procurement.
2. Country representatives should investigate problems in communication between their MoH and CMS regarding ECDS orders and the balance in ECCB accounts.
3. The value of country estimates and requisitions should be totaled and compared to country budgets before they are submitted to ECDS.
4. CMS representatives should maintain regular contact with Pam Osborne at the Central Bank in St. Kitts regarding the balance in their accounts (465-2537). At the end of every month, ECDS should contact each CMS regarding the balance in its ECCB account. ECPRO should be used to provide more financial reports for each country on a regular basis; if adaptation of the system is needed this should be done.
5. Individual countries are encouraged to use VEN and ABC lists in procurement estimates. Those countries which use INVEC can generate ABC analyses automatically.
6. ECDS should compare estimated quantities with actual purchases in individual countries. Information on past procurement practices (estimates versus actual quantities procured) by country should be maintained by ECDS per procurement period and cumulatively.

D. Distribution

Drugs are delivered to the CMS by its own or Ministry of Health transport. In Dominica, St. Vincent and Grenada transport may be shared with other vertical programs such as family planning and the EPI program.

In most countries distribution is done according to a delivery schedule; CMS delivers directly to the facilities or prepacked goods are picked up by a facility/district CMS vehicle. Through the ECRPM project each CMS received a vehicle. Because of the lack of maintenance and utilization under bad conditions some of them now need to be replaced or repaired.

In all countries the CMS requires a requisition with information on stock balance before supplying drugs to facilities. The average lead time between receiving a requisition and providing the drugs to the facility ranged from two to 20 days.

Recommendations for Distribution

1. A vehicle should be allocated to all central medical stores exclusively for the distribution of drugs and pick-up of goods from port of entry.
2. The CMS vehicles in St. Lucia and St. Kitts should be repaired.

E. General Management Issues

Management Roles and Responsibilities

Within CMS and health facilities most pharmaceutical management is done by pharmacists and the Supplies Officer. Most pharmacists have been trained in the region and lack formal management training though many of them spend much of their time working in managing public sector pharmacies. Some pharmacists have suggested that maintaining stock records at a health center dispensary is clerical work and that clerks should be provided to do this work. Unfortunately in these settings it is difficult to justify the need for a full time clerk just to keep these records; as a result the records are often inaccurately kept and requisitions are based on "guesstimates".

Human Resources in Public Pharmaceutical Sector

All countries in the OECS have pharmacists or supply officers managing the CMS services. The reporting system in place between the facilities and the CMS or between the CMS and the Ministry of Health is poor. In St. Lucia a form has been developed to report supervisory visits but it is not regularly used. Job descriptions do exist in some countries but these are reported to be outdated. The roles of pharmacists in particular have changed over the past few years. Very few of the staff have received any training in the last two years, in addition there has been considerable staff turnover.

The larger countries have individuals who are responsible for supervising facility level pharmacy practice. A drugs inspector in Grenada or the Chief Pharmacist in Dominica, St. Vincent and St. Lucia assume this duty. The frequency of visits ranges from 1 to 12 visits per year. In Grenada and Dominica an annual forum exists to discuss the results of monitoring visits, requests made by facilities and make recommendations on how the system could be improved. This does not exist in the other countries.

Recommendations for Manpower and Human Resources

1. A standardized quarterly supervisory report form (similar to the one already used in St. Lucia) should be used by all regional facilities. This form is completed by facility staff and forwarded to the Chief Pharmacist. Facility accountability and measures for enforcement of report procedures/schedules must be built into the report system.
2. A comparative review of the job descriptions for Chief Pharmacists and staff pharmacists in all of the OECS countries should be undertaken. This should include a survey of the job descriptions versus the duties that are actually performed. From this study, model job descriptions and standard guidelines (with standard monitoring indicators) would be developed for jobs in the region.
3. Existing country policies and procedures that pertain to pharmacy monitoring should be reviewed; the Barbados Drug Inspecting System should also be examined as a possible model for ECDS systems.
4. All Ministries of Health should make it mandatory that CMS stock records are kept up-to-date. These should be implemented where they are not currently used (especially in district pharmacies). The use and maintenance of stock records should be enforced.
5. The maintenance of stock records at the peripheral level should be officially identified as an essential and necessary part of the pharmacist's regular duties.
6. There should be regular monitoring of inventory systems in facilities and central medical stores. This should include reconciliation of stock records with physical stock in health facilities; and reconciliation of bin cards/computer with physical stock, as well as a random stock check system in Central Medical Stores.
7. Standard prescription register books (including the name of the patient, age, drugs prescribed, dosage, prescriber, date, and diagnosis [if possible]) should be maintained in all facilities.
8. Transfers of drugs between facilities should be documented.
9. Each CMS should have an external (overseas) direct phone line and a fax machine. If only one is feasible, the fax is preferable to the direct line. The main pharmacy in each country should have an internal (in-country) direct phone line.

F. MIS, Reporting and Computers

The Management Information System in use in most CMS combines bin cards, ledgers and a computer system. Lotus 1-2-3 spreadsheets and INVEC are the primary software packages. INVEC is an inventory control database program which was developed by MSH during the last year of the ECDS project implementation; it is operational in Grenada, Dominica and St. Vincent; the other countries are using a Lotus spreadsheet to compile their stock and distribution data. A computer is available in all CMS though they are not all utilized fully.

The computer in St. Vincent has a hard disk with 25% bad sectors that urgently needs replacement and upgrading. Most of these machines have been provided by the ECDS project more than six years ago and need to be upgraded at least in the country where they are used. At the end of the ECRPM project, ECDS agreed to follow-up and provide support for the computerization of CMS in the region. Unfortunately the support given during this period has been very limited.

Due to the lack of training, available support and understanding of the INVEC system capabilities, many countries have been maintaining a spreadsheet with the same data contained in INVEC but without the capacity for report generation. It is essential for the region and the countries to develop local expertise in using and maintaining computer hardware and/or software. The PAHO/HMIS is developing such an expertise.

In all countries there are local firms which sell and maintain computers, therefore hardware support could be provided; the main issue is to get funds allocated to repair or upgrade equipment when needed.

Recommendations for MIS, Reporting and Computers

1. Develop regional/local expertise in the maintenance of the automated systems in countries. This could be done in collaboration with the PAHO/HMIS project.
2. ECDS should also play a major role in providing or coordinating support to the INVEC users in the OECS. ECDS or OECS should consider creating a Computer Assistance and Support Specialist position.
3. Regional INVEC users should receive more training in the use of and possibilities inherent in using INVEC.
4. Provide more training to Supplies Manager in how to retrieve and analyze the information provided by the automated systems, particularly INVEC.
5. Upgrade obsolete equipment. Each CMS should have at least one 80386 microprocessor computer with a 100 MB hard drive, at minimum.

6. Relational database software programs like INVEC, once properly installed and once the users receives adequate training, are much easier to use than spreadsheets and reports can be customized. For inventory and accounting purposes this is a better choice than a spreadsheet. In collaboration with the PAHO regional health information project, INVEC should be installed in the OECS countries which request it. Training, hardware and follow-up support could be provided by this project.

XI. CONTRACEPTIVE PROCUREMENT AND DISTRIBUTION

The Caribbean Family Planning Affiliation (CFPA) currently provides Ministries of Health of OECS member states with a range of USAID supplied contraceptive devices through its Contraceptive Logistics Management Project.

At the Policy Board meeting held in Dominica in 1990, ECDS placed on its agenda its proposal to explore the feasibility of pooled procurement of contraceptives since the USAID arrangement for the supply of these commodities was scheduled to be terminated in 1992. By letter dated 16 May 1991, ECDS approached Ministries of Health with the idea of collecting the data necessary to forecast future needs.

ECDS experienced great difficulty in obtaining the information since purchasing and distribution of commodities were not centralized in most countries. Funding had largely been undertaken by the International Planned Parenthood Foundation, USAID and PAHO; record keeping methods were inadequate; and separate records were maintained, in the case of condoms, for the Family Planning and HIV/AIDS programs.

CFPA Ltd. in Antigua commissioned Mr. Dorbrene E. O'Marde BSc, DHA, MPH, to prepare a report on the "Usage of Contraceptives through Ministries of Health Family Planning Programs of the OECS countries and Barbados and Forecasting Needs for 1993/1994." The aim of the study was to provide CFPA with information pertaining to the smooth transference of the responsibility for contraceptive procurement to Ministries of Health. The report was intended to form the basis of a seminar scheduled for April 19, 1993 to plan alternative strategies for the future procurement activities.

On April 23, 1993 Dr. Turbani P. Jagdeo Ph.D, Chief Executive Officer, CFPA Ltd submitted a report which highlights the major agreements and concerns addressed by participants attending the seminar.

In May, 1993 ECDS again reminded Ministers of Health of the imminent transfer of the financial responsibility for purchasing contraceptives to Ministries of Health effective July 1994. ECDS was authorized by the Policy Board to put the mechanism in place for purchasing the necessary supplies.

ECDS intends to hold discussions with the managers of the family planning programs of all countries to review country plans and estimates with a view to standardization of devices, identification of needs, centralization of purchasing and development of strategies to increasing the efficiency and effectiveness of the system.

Suppliers of family planning devices will be selected through the standard competitive bid process, conducted by ECDS staff and the ECDS's Tenders Sub-Committee.

Recommendations

1. Family planning and Central Medical Store staff from each country should be brought together to discuss issues relating to family planning and the procurement of contraceptives. Techniques used to estimate contraceptive requirements are quite different from the ones used for pharmaceuticals, therefore Supplies Officers should be aware of these techniques. This meeting should be an opportunity to clarify the tasks of the Supplies Officers and the family planning program manager in relation to contraceptive procurement. AID should be requested to fund an urgent meeting of these staff persons, to be coordinated by ECDS and convened in St. Lucia.

2. ECDS Tender Committee members should find out whether provisions are currently underway to begin procuring contraceptives when AID ceases to procure.

XII. POLICY, LEGISLATION, AND REGULATION

A. Overview

Prior to 1956, all of the OECS members were part of a British colony, the Leeward Islands. At this time pharmaceutical regulation was based on British laws and practices. Since independence some countries have revised and updated the regulations while some have continued to utilize the old regulations.

In most countries, public sector pharmacists are not meant to work in the private sector, though this does occur. Conversely public sector physicians usually do have private practices. Importation of pharmaceuticals is usually limited to pharmacists, physicians and dentists. No drug registration is required at present. Doctors and pharmacists require a license to practice in all the countries except for Dominica. Pharmacy shops are required to have a registered pharmacist on their premises. Public sector drugs are imported duty free and some categories of drugs are imported duty free for the private sector. In all countries physicians are the main prescribers. In some countries Family Nurse Practitioners (FNP), midwives and dentists also prescribe. Recently in St. Lucia regulations have been promulgated granting FNPs the right to prescribe a wide range of drugs.

B. Regional Drug Legislation

There is no national or regional drug policy document. However, as mentioned above, different islands do have some Acts which regulate aspects of drug policy. These, however, are generally outdated and require revision. While these regulations include a provision for drug registration, this is generally not enforced.

At the regional level, the ECDS holds Annual Policy Board meetings. While these initially dealt primarily with procurement issues, they more recently have addressed a broad range of issues which would be included in a national or regional drug policy. For example, discussion at the sixth board meeting ranged from procurement and budget issues to cost containment, training, evaluation, formulary development, drug regulation and registration, quality assurance, and management information systems. Thus, the basis for a regional drug policy document exists based on the decisions of the ECDS board.

At the sixth board meeting the members recommended that:

OECS governments urgently put in place a mechanism to establish and/or strengthen Pharmacy Legislation with a view to enforcing Drug Regulation and Registration.

There are two main areas that will need to be addressed to accomplish the recommendation above. These are drug registration and revision of the national Acts or regulations to enable a regional drug control policy and agency.

Within the OECS there is a legal department headed by Judge Barrymore Renwick, who provided useful advice as to how these tasks could be accomplished. The suggestions below are based on his advice. If they were to be implemented, it would be critical for the OECS legal unit to be involved at every step of the way. In addition, it was emphasized that extensive consultation with the individual country authorities would be necessary for successful implementation.

The individual countries lack the human and financial resources to undertake drug registration efficiently. The ECDS, however, has acquired considerable experience in its procurement activities. These skills and experiences would help them to establish a Eastern Caribbean Drug Registration Unit (DRU) within ECDS which could provide a central drug registration service for the ECDS member countries. Enforcement would be a national responsibility, but this would be based on the principle that only drugs registered with the ECDS Drug Registration Unit would be allowed for import or sale within the country.

To establish such a unit would require a detailed document which would define the necessary procedures, technical criteria, board membership, appeal mechanisms, fee structures, etc.. Such a document would need to be circulated and discussed with OECS member countries. Once agreement was reached, the members of OECS would sign an agreement setting up the Drug Registration Unit and undertaking to enact legislation on a country basis to enforce the registration decisions. Such legislation could be a relatively simple enabling Act, which would include the agreement as a schedule to the Act.

Drafting the technical document and agreement would require specialized skills and a sensitivity to the differing requirements and capabilities of the different islands. Judge Renwick assured us that this process has been successfully used before to achieve harmonization of regulations in other fields, such as custom tariffs. He also advised that it would probably take about a year for all the countries to pass the legislation required to enforce such a Registration Unit's decisions. The involvement of private sector representatives would be important as the registration procedures would relate to the private as well as the public sector.

Such a Drug Registration Unit could be self supporting through charging fees for initial registration and maintenance of registration. This would be attractive to the OECS member countries as the current financial difficulties of the regional drug testing laboratory points out the problems of depending on country contributions. This Drug Registration Unit would synergistically overlap with other proposed activities related to quality assurance and Drug Utilization research activities.

C. Revision of Country Drug Regulations

This process would be difficult and time consuming. This would require a detailed assessment of each country's relevant laws and regulations. Following this, a decision would need to be made as to how to bring these laws and regulations up to date. Two options exist:

1. Produce an entirely new Act with new regulations
2. Amend the existing Act with new regulations

The option that is chosen would depend on the state of the Act and regulations and what is deemed achievable in each country. Such an assessment would require technical and legal advice and would require consultations on each island. If the first option is selected, it is possible that drafting a model Act and regulations could serve as a basis for each country to modify its own situation.

Policy and Legislation Recommendations

1. An Eastern Caribbean Drug Registration Unit should be established within ECDS. A computerized drug registration system should be developed (based upon the WHO or MSH/INVEC system) and implemented as a part of the ECDRU. Enforcement of drug registration would be done on a country level basis. Possible collaboration with the ongoing PAHO project in Grenada should be explored.
2. The OECS should facilitate the development of a regional Pharmacy Act. This Act would facilitate the development and/or updating of legislation to support drug registration in individual countries.
3. Staff who will be responsible for running the registration system would benefit from a regional study tour to examine the registration procedures and practices utilized in countries such as Jamaica or Trinidad.
4. Within the existing ECDS offices there is a shortage of office and storage space. If a registration unit were to be established within ECDS, additional office and storage space would be required.
5. A detailed assessment of each country's legislation and regulations that relate to pharmaceuticals would need to be undertaken before a decision as to what method of harmonization and updating would be used.
6. A drug information resource center at ECDS is needed to support the drug registration process. This would include training of appropriate staff in drug information retrieval and assessment.

XIII. FORMULARY/ESSENTIAL DRUGS LIST

A. ECDS Regional Formulary and Therapeutic Drugs Manual

The current third edition of the ECDS Regional Formulary and Therapeutics Drugs Manual was published in 1991, and applies only to public sector health institutions. The Formulary was first published in 1988, with a second edition in 1989. Since 1991, the formulary has been updated annually, but due to relatively insubstantial annual changes, and taking into account printing costs, the decision has been made to publish the Formulary every three years. The fourth edition of the Formulary will be published and distributed in 1994. 2500 copies of the Formulary have been printed for past editions. The majority of these are donated to ECDS countries.

The current edition of the Formulary contains 250 drug entities and 388 drug products.

The ECDS regional formulary is produced through the Formulary and Therapeutics Sub-committee, which is composed of one member from each participating country. Members are usually senior medical officers, and are characteristically selected by the Ministry of Health; there is no formal procedure for designation of members. Changes in the membership of the Committee occur often. The Managing Director and Assistant Director of ECDS also serve as members of the Committee. The Committee meets annually and minutes are kept of each meeting.

The Formulary and Therapeutics Sub-committee mandate includes drug selection and drug information/education. In the past year, Committee actions and discussions pertained to drug selection, drug utilization studies/review, quality assurance, and drug information/education.

Changes in the Formulary are discussed and voted upon at the annual meeting of the Formulary Committee. Suggestions for changes can be made by country representatives or the ECDS Committee members. Although country representatives are encouraged to alert ECDS staff of any changes that will be proposed, first mention of such changes is often made at the annual meeting. ECDS staff make suggestions for changes based upon research articles/reference materials and drug company publications. Both country representatives and ECDS staff are often approached by pharmaceutical representatives who wish to add their products to the formulary list.

Changes to Formulary monographs and the development of new monographs are done by ECDS staff, based upon review of reference materials and research articles. Draft monographs are reviewed by three Honorary Consultants, who are experts in specific fields. The Assistant Director is also in close communication with the Barbados Drug Service regarding drug information issues.

Procedures for obtaining non-formulary drugs vary among ECDS countries. Prescribing and stocking of non-formulary drugs do occur in the public sector in all countries. Generic prescribing is not obligatory in the public sector. There is no legislation either mandating or prohibiting generic substitution, and it is practiced often in the public sector.

There is also no legislation regarding therapeutic substitution, and it is also practiced often in the public sector. The ECDS Formulary contains information to support therapeutic substitution of certain drugs. Examples of therapeutic substitution that are known to occur in the public sector are mebendazole-albendazole, ACE inhibitors, multivitamins, H₂O Antagonists, and the Imidazoles.

ECDS Formulary drugs are classified according to American Hospital Formulary Service (AHFS) classification. The Formulary includes general information on the therapeutic classes, brief monographs on each therapeutic agent, comparative daily cost of therapy (where appropriate) for therapeutic groups, a section about rational prescribing, information on poisoning, a glossary of terms, a conversion table, and an index. Each therapeutic drug monograph includes information on indications, adult and pediatric doses, adverse reactions, drug interactions, contraindications, precautions, advice to the patient, and common brand names. The Formulary does not include information on medical supplies.

The ECDS formulary was available in all facilities visited. Updates to the Formulary are made annually but these updates do not appear to be widely disseminated in each country.

Formulary/Essential Drugs List Recommendations

1. The process for updating the ECDS Formulary should be better defined and formalized. Only suggestions (for changes/additions) that are submitted at least one month in advance should be considered by the Formulary Committee.
2. Annual revisions/updates to the ECDS Formulary should be disseminated in a format that will facilitate greater use and awareness among health care professionals. The practice of sending this information to two country representatives should be modified to include more people in each country. ECDS should also explore the possibility of including a feature that would accommodate the adding of annual updates (a pocket for storing updates, for instance) to the printed Formulary.
3. Prescribers in the ECDS region should be encouraged to use generic, rather than brand names. ECDS should consider developing a pocket-size booklet that would list generic and brand names for all products on the ECDS Formulary.
4. ECDS should conduct a study of those products that countries are using in addition to ECDS Formulary products (including medical supplies), to identify whether the Formulary should be expanded.
5. ECDS should coordinate a feasibility study on compounding (including relative cost, quality control, etc.); compounding practices and examples in Dominica could be the focal point of the study.

XIV. DRUG INFORMATION AND DRUG UTILIZATION

A. ECDS Drug Information Resources

The ECDS office in Saint Lucia serves as the central drug information office for the ECDS Formulary. A large majority of the resources available to ECDS staff are donated by international organizations (particularly the USAID supported ECRPM Project). References include:

- USP DI (1993, 1992)
- AMA Drug Evaluations
- AHFS Drug Information (1992)
- Martindale The Extra Pharmacopeia (29th Edition)
- British National Formulary (1992)
- Physician's Desk Reference (1991)
- MIMS Caribbean
- APHA Guide to Nonprescription Drugs (1986)

Among these references, the Assistant Director identified AHFS Drug Information, British National Formulary, Martindale, and APHA's Guide to Nonprescription Drugs as those consulted most often in preparation of the ECDS Formulary and other drug information requests.

The ECDS also receives several medical/drug information journals/newsletters, including the *Caribbean Pharmacy Journal* (published by the Caribbean Pharmacy Association), the *Medical Letter*, the *Prescriber* (UNICEF), *USP DI Update*, the *INRUD News*, and the *WHO Newsletter* and *Essential Drugs Monitor*. Most of these publications arrive irregularly. Until recently, ECDS also subscribed to the Iowa Drug Information Service. This subscription has been canceled, and ECDS will likely use the funds to subscribe to two pharmacology journals.

The ECDS Drug Information Service is also available to all ECDS countries for assistance in resolving drug information issues or problems. However, the Service is seldom consulted by health care professionals (the Assistant Director estimates that they receive an average of only three calls per month). The general level of health care professional's awareness about the Service is not known. The consultation is not documented.

Other than the ECDS Regional Formulary and Therapeutics Manual and yearly updates, and the accompanying price list, ECDS has no official and consistent means for disseminating drug information. ECDS does co-sponsor conferences regarding specific therapeutic drug classes. One or two of these conferences are held annually. On 26 June 1993, ECDS held a Drug Utilization Review Seminar on High Blood Pressure and Diabetes Mellitus. The Caribbean Pharmacy Association holds similar conferences.

Prescribers in the public and private sector are invited to these conferences. However, the majority of drug information (especially regarding new products) is communicated to prescribers by pharmaceutical company representatives. Dispensers in the public and private sector also receive information from seminars (ECDS-sponsored and pharmaceutical company-sponsored) and pharmaceutical representatives. Communications between prescriber groups/associations and dispenser groups/associations are ineffective.

ECDS informs country representatives about relative costs of therapy yearly, through the publication and circulation of a price list and Formulary updates. This information is circulated to two country representatives. The availability of this information to prescribers, however, is uncertain.

Drug Information Recommendations

1. All Central Medical Stores and hospital pharmacies should have available up-to-date drug information. A core set of drug information resources should be maintained at the central pharmacy in each country. This should include: ECDS Regional Formulary, BNF, AHFS, AMA Drug Evaluations, Martindale and USP DI.
2. Each country is encouraged to produce a short, concise newsletter, including stock information, three or four times a year.
3. ECDS should produce a newsletter two times per year. This newsletter should include results of prescriber surveys and other appropriate features. Relevant articles and news from the individual country newsletters could also be adapted for publication in the ECDS newsletter.
4. Computerized drug information should be available at ECDS. Other resources at ECDS should continue to be enhanced. Prescribers and dispensers should be made more aware of the ECDS Drug Information Service.
5. Efforts to educate and inform health care professionals, such as the ECDS Drug Utilization Review Seminar on High Blood Pressure and Diabetes Mellitus, should be replicated in all ECDS countries.
6. Efforts to educate consumers/patients, such as Asthma Open Day in St. Lucia, should be replicated in all ECDS countries.

B. Consumer Information

The consumer of medications must have a certain base of information/education if proper use of prescribed drugs is to be expected. This is true for both general aspects of therapy and drug-specific information.

In most of the ECDS countries, the standard practice is to include basic directions for use on the label of a medication when it is dispensed to the patient. For purposes of the facility survey, the following elements were considered to be essential for a properly labeled prescription drug:

- Patient name
- Date
- Name/Strength of Drug
- Instructions for Use
- Legible Handwriting on Label

ECDS typically undertakes one major consumer information project a year. In 1992, ECDS co-sponsored a very well attended "Asthma Open Day" for consumer/patient education. The agenda included lectures about asthma and proper use of asthma medications, demonstrations of inhaler use, and video presentations. A similar "Diabetes/Hypertension Open Day" is currently being planned for 1993.

Recommendations

A USP patient counseling workshop and/or competition should be held in conjunction with a regional meeting at the Caribbean Pharmaceutical Association. The workshop would include both patient counseling and teaching patient counseling skills.

1. Efforts to educate and inform consumers, such as the Asthma Open Day in St. Lucia, should also be continued. These programs should be duplicated and publicized in all ECDS countries. The effects of these seminars on consumer/patient awareness and practice should be evaluated. In addition to therapeutic categories of drugs, an Open Day regarding general guidelines for proper use of medications should also be considered.
2. The use of pictogram labels in pharmacies should also be evaluated. These are currently used in the Victoria Hospital in St. Lucia, and offer a cheap and simple way to reinforce proper use and dispenser's instructions. The use of pictograms is also an excellent way to reinforce instructions in the non-English speaking sector in certain islands.

C. Rational Use

In 1992-93, ECDS undertook one major drug utilization review project. ECDS Assistant Managing Director Francis Burnett directed a study of local prescribing practices with regard to anti-hypertensive and anti-diabetes drugs. The pilot study was done from October to December of 1991; prescriptions were collected from the public and private sectors, 709 from each category. Prescriptions were taken from a sample of pharmacies in the various regions in St. Lucia. All prescriptions written for drugs that were identified as anti-hypertensive (bendrofluothiazide, methyldopa, propranolol) or anti-diabetics (chlorpropamide, insulin syringes) were collected.

The study of anti-hypertensive therapy revealed that methyldopa is often prescribed at a frequency that can exceed the recommended frequency - once a day - by two to four times per day. The anti-diabetic study detected a problem area in the prescribing of syringes. The current practice of prescribing one syringe a day for patients who self-administer could be adjusted to encourage the re-use of one syringe for at least three days. If this practice were instituted, individual Ministries of Health could save substantially in their purchases of insulin syringes. The results of the study were presented at the ECDS co-sponsored Drug Utilization Review Seminar on High Blood Pressure and Diabetes Mellitus. The accompanying handout of the findings was also distributed to health care professionals in St. Lucia.

Survey Results

During this assessment survey data was collected on drug prescribing/dispensing indicators. The results of the survey are compared with results from other countries in the following table. See table on the next page.

The average number of drugs prescribed was 1.95 with a range from 1.22 to 2.5. This is within the commonly found range, though it is higher than usually found in other developing countries. The percentage of prescriptions that contained antibiotics was 39% with a range from 10.8% to 63%. These are high figures particularly when recognizing that the pattern of illness has changed away from infective diseases towards chronic disorders. Dominica and Montserrat had particularly high figures while St. Vincent and the Grenadines was low for this indicator. Injection use for outpatients was uniformly low for all patients. Generic names were used in less than half the prescriptions; the exception was Dominica. The low figures in most islands can be contrasted with the high figures found in Dominica. As most doctors work in both the public and private sectors there would be many benefits of promoting generic usage. Ninety four percent of the drugs prescribed were on the Regional Formulary, which shows that the list is respected at least in the public sector.

Dispensing indicators show that the average dispensing time was 184 seconds which is longer than usually found in other surveys. Eighty six percent of prescribed drugs were dispensed which reflects a satisfactory level of drug availability. The rate of adequate labelling was only 68% with particularly low figures found in Dominica. Seventy six percent of patients were aware of how they should take their drugs. This is a matter of concern as the expected consequence of noncompliance by patients could have serious medical and financial implications for the country.

The OECS situation is conducive to further drug utilization review activity. The availability of centralized purchasing statistics, coupled with the relatively small numbers of prescribers and dispensers on each island, could make the OECS countries an ideal place for DUR studies and interventions. ECDS staff are eager to expand the range of such studies in the future. Interventions would result in improved quality of care for patients and reduced expenditures in irrational drug use such as excessive antibiotics.

Drug utilization review studies can typically be divided into four essential parts. The initial stage is the situation analysis, which is a general survey of routine information, such as consumption and morbidity data. The results of the general survey will result in a more focused survey that includes active data collection. At this point, quantitative data regarding prescribing practices at different facilities is collected.

The study examines general indicators (number of drugs prescribed, number of antibiotics prescribed, etc.) that can in turn lead to the identification of specific indicators. Study of these specific indicators can identify specific problems in prescribing. When these areas are identified, qualitative data is gathered regarding possible reasons that these problems exist. When the reasons for irrational prescribing are discovered, the intervention is designed so that both the enabling factors (those that cause the problem) and the opposing factors (those that can relieve the problem) are addressed.

Recommendations for Rational Use/Prescribing Activities

1. At least two ECDS regional representatives (preferably the ECDS Assistant Managing Director, and a prominent prescriber with an interest in rational drug use/formulary development) should attend the WHO/INRUD MSH Rational Drug Use course to be held in Ghana in March 1994. This would sensitize the participants to the multinational situation. They would then be able to act as trainers for the course recommended below.
2. A training course in rational use of drugs should be conducted. Two to four representatives from each country should attend. This course would serve to establish a core group of people, both prescribers and drug supply staff who could work together to systematically undertake DUR (Drug Utilization Review) activities in each country.
3. Following the course, an expanded indicators survey and qualitative activities should occur in those countries where sufficient interest exists. These surveys would identify the priority DUR problems and motivations for prescribing behaviors.
4. Based on these surveys, it would be possible to undertake targeted interventions at the priority DUR problems identified during the survey and qualitative activities undertaken in recommendation three.
5. Where sufficient local interest exists, the ECDS survey on anti-diabetic and anti-hypertensive prescribing patterns should be replicated in other islands. Results of these surveys should be disseminated to all countries.

6. ECDS should develop recommended standard treatment guidelines for priority common conditions. Diseases that have easily standardized treatments could be targeted for initial development (e.g., tuberculosis, leprosy, sexually transmitted diseases, epilepsy, etc.). These should be developed either by a working group composed of experienced physicians with the support of expert advice; or through a week long workshop or series of smaller workshops. The meeting(s) could either be attached to the ECDS Technical Advisory Committee annual meeting or another group or association meeting. Individual countries would be encouraged to adapt the regional guidelines to their specific situations.

XV. PRODUCT QUALITY ASSURANCE

A. Quality Assurance Concepts

Quality assurance is often regarded as synonymous with a quality control or a quality testing laboratory. In fact, quality assurance is related to every aspect of drug management. In particular, efficient procurement from a limited list of suppliers with close monitoring of performance does a great deal to ensure that good quality drugs are available. Laboratory testing has an important part to play in ensuring that only good quality drugs are available, but it is only one part of a complex process.

B. Descriptive Information

The responsibility for quality assurance in procurement rests with the ECDS for products procured through the ECDS program. For countries, the old Pharmacy Act may provide for drug registration but in practice very little is done on a national basis in drug control.

The ECDS does not employ a Drug Inspector, but the two pharmacists employed by ECDS collect drugs on their country visits. Grenada is the only country to employ a drug inspector.

There is no significant production of pharmaceutical products in the islands apart from some small scale formulation in hospitals or CMS. These products are not tested and there is now less production of such items as eye drops.

Quality assurance testing has been done at the Caribbean Regional Drug Testing Laboratory in Jamaica. This is a laboratory that provides a free service for member countries who fund the laboratory through a levy. The laboratory is reported to be facing financial shortfalls and on occasion the tests cannot be done due to a shortage of standards or reagents. Forty three samples were sent for testing during the last procurement period. The drugs were selected from a priority surveillance list of 13 drugs, as a result of complaints and on an ad hoc basis. Suspicions of defective products are reported by dispensers to ECDS directly.

A sample reporting form is included in the Regional Formulary and Therapeutic Manual, but reporting by countries is usually done orally, then samples of the defective product are sent through ECDS to the CRDTL in Jamaica for testing. A recent example of this has been a batch of hydralazine which was discolored. The testing of samples usually takes about four months from the time of submission to receipt of results. An independent quality control laboratory test has been undertaken on products which are widely used in the different islands (such as Ampicillin). Some pre-tender testing is undertaken for new products or new suppliers. No routine sampling of each product or each shipment is undertaken.

When samples are tested the results are communicated to the CMS in each country, as well as to the manufacturers and distributors of products. Most suppliers have replaced defective products when they have been detected. On one occasion a decision was made not to procure some items from a specific supplier due to repeated quality problems with specific items. Staff at ECDS do not think there are counterfeit pharmaceuticals in the region. Staff feel that counterfeit drugs are very unlikely in the public sector due to effective procurement methods. However, quality control measures are absent in the private sector. Expressions of concern about drug quality are occasionally expressed by public health authorities. Such reports are based on anecdotal reports. However there appears to be a general acceptance that ECDS drugs are of good quality.

Storage conditions for ECDS drugs are generally of a good standard and thus do not significantly contribute to product deterioration. Dispensing practices, however, may contribute to product deterioration due to poor containers being used for dispensing.

Staff at ECDS are interested in the new Layloff simple Thin Layer Chromatography system when it becomes available.

Recommendations for Product Quality Assurance

1. The Caribbean Regional Drug Testing Laboratory should be utilized to a greater extent than at present. Despite the long delay in processing, this laboratory does provide a useful service and a safety net to check on product quality.
2. Continued efforts should be made to encourage notification of suspicious products. This could be fostered by rapid feedback and updates on progress of investigations.
3. When the Layloff Thin Layer Chromatography system becomes available the ECDS countries would be an excellent site to test the system. The drugs likely to be a priority for testing would include chronic disease medications such as Chlorpropamide and Phenytoin.

XVI. PRIVATE SECTOR

There are approximately 61 pharmacists and 53 pharmacies in the private sector in ECDS region countries.

In most ECDS countries, pharmacists working in the public sector cannot own or work in private sector pharmacies. This rarely occurs in most countries. Physicians, however, are usually allowed to work in both the public and private sector. Many physicians split their time between public and private practices. Dispensing of drugs by private sector physicians is believed to be widespread in all ECDS countries. Many have their own pharmacy attached to their clinic with or without a pharmacist. Several country pharmacists expressed concern that this should be regulated in some manner.

Policies and practices regarding the filling of private sector-written prescriptions in public pharmacies vary from country to country. In most countries policies are in place that prohibit the filling of private prescriptions, but in practice it happens often. Grenada had a similar policy, which may be reinstated by the new Minister of Health. In Dominica and St. Lucia, members of the Police Force get their drugs free of charge from the public pharmacy even if they have a prescription from a private physician.

St. Lucia is the only country in which public sector physicians charge for visits (ten EC dollars). In ECDS countries fees for private sector physicians range from EC\$25 to EC\$45, and specialists charge from EC\$40 to EC\$60 per visit.

There are no manufacturing plants on these islands. There are some local distributors in each country who supply mainly to private pharmacies. Their impact on the public sector is negligible. The public sector buys from them only in case of emergency or when small quantities are needed. When they do not purchase through ECDS, CMS get their drugs and medical supplies from overseas. The closest main source is Barbados, where most of the multinational laboratories have a distributor which stocks the commonly requested items (particularly if they are on the current Barbados Drug Service list). In selected cases, CMS get their drugs directly from the U.S. and Europe.

The public sector remains the main source of drug supply for these countries.

In St. Lucia some efforts have been made to use the local medical association to promote rational drug use. The Dominica Pharmaceutical Society hosted the joint Caribbean Pharmaceutical Association/Commonwealth Association of Pharmacists meeting this year.

XVII. ANNEXES

97

Previous Page Blank

A. Tracer Drug List

A. Tracer Drug List

DESCRIPTION	STRENGTH	RTE	FORM	U/I
AMOXICILLIN (100ML)	125MG/5ML	PO	POW	BOTTLE
AMOXYCILLIN	250MG	PO	TAB	TABLET
AMPICILLIN	500MG	INJ	POW	VIAL
ANTACID (AL+MAG.OH) (360ML)		PO	SUSP	BOTTLE
BACITRACIN (15GM)		TOP	OINT	TUBE
CAPTOPRIL	25MG	ORAL	TAB	TABLET
CEPHRADINE	500MG	PO	TAB	TABLET
CHLORPROPAMIDE	250MG	PO	TAB	TABLET
COUGH EXPECTORANT (2000ML)		PO	SYRUP	BOTTLE
DEXTROSE (1000ML)	5%	IV	VIAL	VIAL
DIAGNOSTIC URINE, GLUCOSE-PROTEIN (50)			STRIPS	BOTTLE
DIGOXIN	0.25MG	PO	TAB	TABLET
ERYTHROMYCIN	250MG	PO	TAB	TABLET
IBUPROFEN	400MG	PO	TAB	TABLET
IMIDAZOLE		VAG	PESS	PESS
ISOPHANE INSULIN (10ML)	100U/ML	INJ	VIAL	VIAL
METHYLDOPA	500MG	PO	TAB	TABLET
ORAL REHYDRATION SALT	BP	PO	POW	SACHET
PARACETAMOL	500MG	PO	TAB	TABLET
PARACETAMOL (150ML)	120MG/5ML	PO	SUSP	BOTTLE
PHENYTOIN	100MG	PO	TAB	TABLET
TIMOLOL MALEATE (5ML)	0.5%	OPT	DROPS	BOTTLE
DEPO-PROVERA		INJ	LIQ	VIAL
CONDOM			DISP.	EACH
LO-FEMENAL		PO	PIL	CYCLE

B. Country Reports

B. Country Reports

St. Vincent and Grenadines

Public Sector Drug Supply System

In St. Vincent and the Grenadines most drugs are procured through ECDS, though the national drug list includes some items in addition to the ECDS list. Frequent drug shortages occur partly because of the long list of drugs procured, partly because of inadequate funds, partly because of high demand due to free services being available and finally because most doctors and pharmacists are unaware of drug prices. The storage facilities in the CMS are old and inadequate though there are plans for the CMS to be fully renovated by next year. The INVEC system was installed on an AT class computer with a 20 megabyte hard disc which now has 2.5 megabyte bad sectors which cause data losses. However, given a new computer and a minimum of technical support and assistance the INVEC system could be productively used. Lotus 1-2-3 V2.01 is regularly used to generate data for reports. Another constraint in maintaining the computerized system up-to-date is the poor coordination which exists at the CMS for the transmission of documents among the various sections. Requisitions or purchase orders are transmitted to the computer operator irregularly.

Finance and Cost Recovery

In St. Vincent and the Grenadines the government spends about 17% of government recurrent expenditure on health, second only to education. In 1989/90 this amounted to EC\$21.68 million. About EC\$3.5 million are allocated for drugs and medical supplies. This amounts to EC\$30 per person or US\$11.25 per person. This substantial investment would appear adequate to ensure that essential drugs are available on the islands. However as mentioned above shortages and stockouts are common.

At present, some private doctors' prescriptions are often filled by government pharmacists.

Cost recovery was practiced in the past but the amount charged was so low (36 cents) that collection ceased. There is widespread acceptance that some cost recovery is necessary but to date little detailed thought has been given to the mechanics of such a scheme. A suggestion has been made for a stamp scheme, but this would only result in money flowing back to the central exchequer without any guarantee that the funds generated would be available for drug purchases. To introduce fees without improving drug availability (with the current frequent shortages) might be fraught with political dangers.

Distribution

In St. Vincent and the Grenadines drugs are distributed from the CMS on the basis of requisitions. However information underlying these requisitions is suspect as health centers generally do not use bin cards or other such records. Thus it is difficult for the pharmacists to calculate rates of consumption. Drugs are distributed fairly quickly after a requisition is received (+/- 2 weeks). However there are many shortages and stock outs at the facility level.

General Management Issues

In St. Vincent and the Grenadines there are 19 pharmacists actually in government posts though there is considerable turnover. The salaries of pharmacists were pegged during a salary review in a 1991 exercise at a low level relative to other professions and the Ministry is attempting to redress this problem. Limited training of staff has occurred and there is a strong desire for additional training particularly in drug management and in rational drug use areas for pharmacists. Limited monitoring and supervision of pharmacists occurs.

Contraceptive Procurement and Distribution

In St. Vincent and the Grenadines contraceptives are procured for the public sector from the USAID project. These are distributed through the Family Planning Department in the Ministry which has its own transport. The St. Vincent Family Planning Association runs a clinic at an office with an obstetrician/gynecologist and nurses providing advice and supplies. In addition there are community-based distributors. Condoms are widely sold in shops and stores. The family planning department in the Ministry is aware of the coming change in contraceptive supplies and preliminary meetings have been held to prepare for all public sector contraceptives to be procured and distributed through the CMS.

Drug Policy, Legislation and Regulation

In St. Vincent and the Grenadines there is limited interest per se in the development of a National Drug Policy. However work is well advanced in drafting a Pharmacy Act which would regulate and control the dispensing of prescription drugs within the public and private sectors. This draft Act was not examined but in conversations with the Permanent Secretary and the Chief Health Planner it was their impression that the Act would deal primarily with regulating the pharmacy profession and not with the details of drug registration. Thus it would appear that the proposal for the development of a Drug Registration Unit housed within the ECDS would be compatible with the new proposed laws. The draft Act is with the Attorney General's office at present.

Formulary and Essential Drugs List

In St. Vincent and the Grenadines a formulary committee exists which develops a national formulary, based on the ECDS formulary but larger than it. The committee has a broad membership but does not consider cost as a significant criteria in selecting drugs. There appears to be widespread ignorance of relative drug costs in the country. Except in CMS no pharmacist or doctor could give correct cost comparisons.

Drug Information and Drug Utilization

In St. Vincent and the Grenadines drug reference materials are widely distributed. The British National Formulary is the most widely used reference but the USP DI and even Martindale are available in hospitals, stores and some health centers. With the practice of a pharmacist attending doctor's clinics on a regular basis, up to date drug information is available. Sometimes advice on drug interactions, e.g. thiazide and diabetes, given by pharmacists are reported to be ignored by prescribers.

In terms of drug utilization much needs to be done. There are no Standard Treatment Guidelines, and any prescriber can prescribe as he/she chooses. In reviewing patient records, there are frequent examples of outdated modes of therapy prescribed, e.g. use of anti-epileptic medications three times a day rather than nightly, and use of low dose combinations rather than a single drug in adequate dosage, etc.. The district doctors who provide most of the primary care services feel the need for relevant continuing education but this is difficult to provide as they are scattered and in the afternoons are busy with private practices.

Product Quality Assurance

In St. Vincent and the Grenadines in practice there is no quality control testing of locally prepared products. A considerable quantity of raw materials has been procured but has not been utilized.

Private Sector

The private sector is relatively small in St. Vincent and the Grenadines and is not seen to be growing at an alarming rate. Most government doctors do practice privately outside of their normal working hours. There are five full time private doctors and seven private pharmacists. There are nine private pharmacies. In such a small community there are close links between the public and private sectors and it would not be difficult to involve the private sector in activities that might affect them.

Dominica

Public Sector Drug Supply System

Dominica, like other OECS countries, purchases most drugs and a limited number of medical supplies through ECDS. The national drug list contains non-ECDS contracted items which are purchased by the Supplies Manager. The centralized system of procurement and distribution has resulted in fewer shortages than in the past. Shortages occur mainly as a result of extended supplier lead times and, to a lesser extent, financial constraints. The fact that facilities are not maintaining the Bin Cards may be a contributory factor. (If requests from the facilities are not accurate this could easily jeopardize the procurement system.) The storage facilities are adequate and well maintained. The Supplies Manager meets annually with the Permanent Secretary, Chief Medical Officer and other officials to review the financial trends and the status of the account. Private sector prescriptions are not filled in the public sector.

Finance and Cost Recovery

The concept of a Revolving Drug Fund (RDF) exists in Dominica, but it is not based on the sale of drugs to patients. Rather, it is based on paper transfers of funds at the treasury level. When a facility orders some drugs, the value of the shipment is transferred from the facility vote/budget to the CMS account. Drug prices are circulated regularly and each request is costed. Although the system requires that reimbursements be made in accordance with monthly reimbursement requests from ECCB, the Supplies Manager ensures that ED\$50,000 is deposited each month in the country's drug account at ECCB to ensure availability of funds for payment to suppliers and ECDS. In the past, limited cost recovery was practiced in relation to patient days, laboratory work and X-rays. The government is in the process of introducing and/or increasing user fees initially for patient days, out-patients, physiotherapy, X-rays, and laboratory services. The Dominica Social Security Scheme has given a substantial grant to the Ministry of Health for purchasing much needed medical equipment for the Princess Margaret Hospital.

Distribution

Dominica's health service is divided into seven health districts with responsibility for efficient use of its resources. All goods consigned to health districts are costed and the amount deducted from their budget allocations. Payment Vouchers are sent to the Treasury which in turn reimburses the CMS. CMS uses a distribution schedule with a lead-time of two days to receive goods at facilities. Vehicles are attached to health districts and each district is responsible for picking up their orders from CMS.

General Management Issues

CMS experiences a high turnover of staff and no training program is in place to orient new staff to the operations of the system. Drug Supplies Management, Management of the Central Medical Stores to include financial management, industrial relations and personnel management as well as Rational Drug Use were articulated as priority training needs. Monitoring and supervision by the Chief Pharmacist has been focussed on the hospital level, but plans are being formulated to ensure health facility supervision.

Contraceptive Procurement and Distribution

Since 1983, the central supply system has included procurement and distribution of contraceptives as part of its responsibilities. Currently devices are procured for the public sector from the USAID project and are distributed to the various health districts. Family Planning clinics are part of the services offered to out-patients. Condoms and other devices are also sold in private sector pharmacies. The Dominica Planned Parenthood Association also distributes condoms and offers counselling and other services. The Ministry of Health, and in particular, the Supplies Officer is aware of the imminent change in responsibility for procurement of contraceptives. The first year's requirement for purchasing contraceptives through ECDS after July 1994 has been estimated at EC\$50,000.

Drug Policy, Legislation and Regulation

A draft Pharmacy Act has been with the Attorney General's office for over five years. There is no National Drug Policy document developed, but all persons believe that it is a tool. The decision making responsibility of the Policy Board can facilitate its development.

Formulary and Essential Drugs List

Dominica has adopted the ECDS Regional Formulary as its Formulary, however a supplementary list provides opportunities to purchase items outside the system. Some problems are being experienced in purchasing non-listed items, as directives from the Chief Medical Officer to purchase additional items requested by Medical Officers do not consider cost or the alternatives already in stock in large quantities.

Drug Information and Drug Utilization

Drug reference material is widely distributed in Dominica. The British National Formulary (BNF), USP DI and Martindale are available. A large quantity of the journal, *On-Continuing Practice* is received free of charge from the Ontario College of Pharmacy. Only the mailing cost is met locally. Drug information is disseminated on a regular basis by the Chief Pharmacist during his monthly meeting with all the government pharmacists. CMS is planning to publish a monthly newsletter to keep health case personnel informed of current events in the system, information on Drug Utilization Reviews and drug costs, among other things.

Product Quality Assurance

Dominica relies on the services of the Caribbean Regional Drug Testing Laboratory (CRDTL) located in Jamaica for testing of drug products. Raw materials are purchased and stored for local manufacturing of approximately 40 products. There are no quality control mechanisms in place to ensure that products manufactured meet approved standards.

Private Sector

Citizens of Dominica rely very heavily on the public sector for services. The main activities of private sector services are centered in the capital. There are eight private pharmacies including two which are attached to doctors' offices. Since most public sector physicians also provide services in the private sector, it would not be difficult to involve the private sector in public sector activities.

Grenada

Drug Policy, Legislation, and Registration

Current Policy and Legislation

The Grenada Pharmacy Act was revised in 1987. The most significant part of the new legislation is the establishment of the Pharmacy Council. The Council is composed of the Chief Medical Officer, the Chief Pharmacist, one medical practitioner appointed by the Minister after consultation with the Grenada Medical Association, two medical practitioners appointed by the Minister at his discretion, two pharmacists appointed by the Minister after consultation with the Pharmacy Association, one pharmacist appointed by the Minister after consultation with the Grenada Chamber of Industry and Commerce, and one agricultural officer appointed by the Minister after consultation with the Ministry of Agriculture. The Act also establishes regulations for the registering and licensing of pharmacies and pharmacists, and created the position of Pharmacy Inspector.

Drug Registration

Drug registration is the main pharmaceutical/health related issue that authorities in the Ministry of Health would like to resolve. MoH officials stressed the need for registration (and legislation to support it) and are very anxious to establish a system. There is currently no registration of pharmaceuticals in Grenada.

PAHO has begun efforts to establish a registration system in Grenada and the rest of the Eastern Caribbean region. This may offer an excellent opportunity for collaborative work between PAHO and RPM/ECDS.

Pharmacy Inspector

Grenada has one Pharmacy Inspector for surveillance of all pharmacies (public and private). He is able to check each of the 36 public and 13 private pharmacies an average of two times per year. The Inspector checks that the pharmacy and pharmacist are registered, the physical facility, the expiration dates on randomly selected products, and the controlled substance records that are to be kept in all pharmacies. There is no official checklist that he follows. Problems at a facility are reported to the Chief Pharmacist, and also to the head of that facility. If the problems have not been resolved by the time of the Inspectors follow-up visit, the Pharmacy Council is alerted to the problem. This has not been necessary in the brief history of this position. Whether or not the Pharmacy Council would have legal power to impose disciplinary action is unknown.

87

Drug Information

Availability of Drug Information

The main source of drug information for health facilities in Grenada is the British National Formulary. Most facilities have a copy that is at least five years old (1988 is the most prevalent; the hospital has a 1990 copy that the Senior Pharmacist bought himself, as well as a Martindale 28th edition that he bought). Secondary sources in most centers were very out-of-date (Martindale from 1954 and 1934). Both of Grenada's RPM survey collectors expressed concern about the sources that were available to their peers. This problem also extends to the prescribers, whose first source of drug information is the pharmacist.

Private Sector

Pharmacy Association

The Grenada Pharmaceutical Association consists of all registered pharmacists in the public and private sectors of the Grenada health care system. The Association serves as a liaison between public and private systems. It is generally believed that the private sector has been positively influenced by involvement in the Association, and that the Association could play a key role in the implementation of registration legislation in Grenada. There are 25 public and 20 private pharmacists, and 36 public and 13 private pharmacies in Grenada. A similar Association exists for physicians in Grenada.

St. Kitts and Nevis

Public Sector Drug Supply System

The vast majority (95%) of drugs purchased in St. Kitts and Nevis are procured through ECDS. Only in exceptional cases, specially authorized drugs (SAD) are obtained outside the ECDS procurement system. Drug shortages are uncommon; stockouts may be due to extended delivery times and/or sudden increases in drug consumption. Neither INVEC nor Bin Cards are used in St. Kitts. The inventory control system includes Lotus 1-2-3 spreadsheets supported by a ledger.

This system functions well and provides the necessary reports for good stock control. The Central Medical Stores (CMS) manager utilizes his basic training in Lotus 1-2-3 to manage the system.

The air conditioned store room at CMS is clean and neatly arranged according to pharmaceutical dosage forms. The facility is equipped with modern shelving which provides adequate ventilation. Nevertheless the dangerous drugs (narcotics) are kept on open shelves rather than the recommended locked cupboards. It is our understanding that the CMS may soon be relocated to another area.

Finance and Cost Recovery

The current health budget is EC\$11 million of which EC\$710,000 was spent on drugs (6.45%). This figure of 6.45% is favorable when compared to figures in excess of 15% in many developing countries. CMS procures a very narrow range of medical supplies which is primarily purchased by other health departments.

There is absolutely no cost recovery in St. Kitts and Nevis. All patients receive drugs at public institutions free of charge. Cost recovery does not appear to be a priority issue with the present administration and it is unlikely that this matter will receive serious consideration in the near future.

Distribution

There seems to be an adequate distribution of drugs from CMS to the five (5) government pharmacies. Due to the proximity of CMS to many pharmacies, some pharmacists often pick up their supplies with their personal vehicles. In addition, a special van is designated to CMS for the sole purpose to delivering supplies. Consequently, requisitions from pharmacists are filled on an average of two days lead time. Pharmacists are very satisfied with the performance of CMS with regards to filling of requisition orders.

General Management Issues

The Ministry of Health has a complement of seven (7) pharmacists to manage the five (5) government pharmacies. Most of the pharmacists were trained at the Barbados Community College. This situation has resulted in uniform dispensing practices especially in the area of prescription labelling. The pharmacists complained of the absence of continuing education with respect to pharmacology and drug supply management.

Drug Policy, Legislation and Regulation

A national drug policy does not exist in the twin-island state. The Pharmacy Act is embodied in the medical practice act which is outdated. No discussions were held with senior health officials on the topic but the chief pharmacist would welcome the introduction of a modern pharmacy act. The country would benefit from the proposed ECDS Drug Registration Board.

Formulary & Essential Drug List

The National Formulary Committee meets only once per year for the sole purpose of proposing modifications to the ECDS Regional Formulary list. The country has essentially adopted the ECDS Regional Formulary as its national standard. Very few non-ECDS drug products are purchased. The CMS manager, a central member of the formulary committee, is extremely cost-conscious.

Drug Information & Drug Utilization

Drug reference texts are limited. Some pharmacies have copies of texts such as Facts and Comparisons, and USPDI. However, in many cases the texts are out-of-date. The BNF is available in a few clinics.

Drug utilization review is not done in St. Kitts and Nevis. Discussion with the CMO on treatment guidelines/protocols reveals that prescribers are not aware of any written policies. Caribbean Epidemiological Center (CAREC) has produced guidelines on STD but this information is not general disseminated and hence not adhered to by prescribers.

Product Quality Assurance

Drug product quality is largely performed through the ECDS which performs routine surveillance on priority and problem drugs. Drug analyses are conducted at the Caribbean Regional Drug Testing Laboratory.

Private Sector

There are eight private pharmacists to service the six private pharmacies. Of the six pharmacies, two of these are located in Nevis.

St. Lucia

Public Sector Drug Supply System

The biggest member of the Eastern Caribbean Drug Service, St. Lucia, spends over EC\$1.5 million on drugs and medical supplies annually. Of this total, 93% is procured through ECDS.

The Central Medical Stores caters to the needs of the major hospitals, that is Victoria Hospital, and the Mental Hospital, as well as two other small hospitals in the district and thirty-five health centers. The system seems to be working well with stock levels adequate, except for a few shortages, which resulted from supplier extended lead times. The stock records at CMS comprise bin cards and a Lotus 1-2-3 spreadsheet. However, the stock balances on the computer did not always match the figures on the bin cards because of a delay in posting the requisition or a receipt.

Finance and Cost Recovery

Annually, about EC\$1.2 million is allocated for medicines and medical supplies. The funds are made available in quarterly allocations to ECCB for the ECDS orders through the local treasury. Recently, a very stringent cost-recovery program was implemented in which the majority of patients have to pay for their medications, except policemen, firemen, school children and those classified as paupers.

This payment system varies slightly from the previous system in which a minimum of EC\$45.00 was charged per prescription or EC\$2.00 per item on the prescription. With the present system, there is a price tag on each individual item. This system, though not very popular with the general public, has been generating a fair amount of revenue for the government to defray some of the expenses incurred by the health sector.

Distribution

The CMS distribution network covers facilities throughout the country. In the past the CMS transport would travel to the out-district to make deliveries monthly; however, this transport is no longer available (it has been used by other MoH departments and now is out of order) and so CMS has to depend on the hospital or the Ministry of Health transport to help out with the deliveries. In other cases the pharmacists help out by picking up the supplies for their facilities in their private vehicles. There is no costing on the drugs supplied to the health facilities.

General Management Issues

From interviews with the pharmacist and the charge nurse in the different facilities, there is a need for some management training to be conducted for the workers in these facilities. At the Central Medical Stores there is need for the workers to undergo some basic management training exercises so that they can become more organized and thereby increase the efficiency of the CMS.

Contraceptives Procurement and Distribution

The Ministry of Health presently has an arrangement with the Caribbean Family Planning Association (CFPA) which supplies Conceptral, condoms and Lo-Femenal tablets to St. Lucia. These are stored and distributed to the health facility by the Central Medical Stores. The St. Lucia Planned Parenthood Association clinic, which runs as a semi-private institution, also supplies the general public with contraceptives and general information on family planning at a small charge.

Drug Policy Legislation and Regulation

St. Lucia has a drug act which dates back to the 1940's and is in dire need of reviewing.

Formulary and Essential Drug List

St. Lucia has adopted the ECDS Formulary as its official formulary. However, there is an additional list of about forty items which are not on the ECDS Formulary; these are procured outside the system. These items comprise primarily medical supplies, along with a few drugs procured as SADs.

Drug Information and Drug Utilization

At present, drug information to the pharmacists is literally non-existent. There was a newsletter which was prepared by the Chief Pharmacist and distributed to the public sector pharmacists, but because of lack of support from other pharmacists the newsletter was discontinued. However, plans are under way to revitalize the newsletter and to subscribe to a pharmacy journal to assist in providing continuing education for the pharmacists.

Last year, the first part of a drug utilization review was conducted in St. Lucia by ECDS, to determine the prescribing patterns for the two prevalent disease states of hypertension and diabetes.

Following the survey, a seminar was convened for the major prescribers/dispensers: doctors, family nurse practitioners, senior nurses and pharmacists. The seminar was led by two experts in the field of hypertension and diabetes.

Product Quality Assurance

St. Lucia relies on the surveillance of the Eastern Caribbean Drug Service to monitor drug quality. ECDS sends drug samples regularly to the CRDTL in Jamaica for routine analysis. Drugs with a low therapeutic index are usually targeted as well as drugs that have a history of quality assurance problems.

Private Sector

St. Lucia has sixteen private pharmacies, which are staffed by about twenty pharmacists. In addition, there are several doctors offices with mini-pharmacies, with a receptionist providing the pharmacy services.

Montserrat

Public Sector Drug Supply System

The majority of drugs (about 90%) purchased in Montserrat are procured through ECDS. An additional short list of items is procured from non-ECDS sources and some others are obtained through donations. Delays in reimbursement of the country's ECCB drug account have caused occasional stockouts since the purchase orders are held back at ECDS until funds are sufficient.

INVEC is not used in Montserrat. The Inventory Control System includes Lotus 1-2-3 spreadsheets and bin cards. The system appears to be working well and in most cases the computer stock balance was in agreement with the bin card stock levels.

Recently, ECDS provided Central Medical Stores (CMS) with one thousand (1000) new cards which were intended to replace the old bin cards. The new bin cards, once maintained, will improve stock control at CMS. The air-conditioned storeroom is arranged in alphabetical order by generic name. However, CMS needs to discard obsolete stock and other deteriorated miscellaneous articles. Glendon Hospital is currently being repaired and there are plans to relocate CMS.

Finance and Cost Recovery

The present drug budget is EC\$250,000.00 whereas EC\$273,000.00 was actually spent on pharmaceuticals for the last Tender Cycle. There is need therefore to increase the budgetary allocation for drugs or, conversely, to decrease expenditure. The pharmacists at the main hospital expressed the view that there is significant wastage through patient non-compliance with instructions of dispensed medication. Perhaps prescribing/dispensing protocols for self-limiting illnesses can be explored by the Ministry of Health (i.e., restricting the amount of antacids, analgesics, and multivitamins dispensed). Central Medical Stores does not procure medical supplies through ECDS.

The most frequent users of the health care system are exempted from paying for medicines. These include school children, the elderly (over 60 years), patients with chronic diseases such as hypertension, diabetes etc.. Hence, there is minimal cost-recovery in the country.

Distribution

The government pharmaceutical system is very small and many patients are serviced at the main hospital pharmacy. However, the hospital pharmacy distributes pre-packs of certain items to the district nurses for dispensing in the out-districts on a weekly basis.

94

General Management Issues

A total of three government pharmacists manages the public pharmaceutical system. All are based at the main facility, Glendon Hospital. One of the pharmacists was trained at the College of Arts, Science and Technology (CAST) and the other two are graduates of the Barbados Community College (BCC). There is no form of continuing education for the pharmacists on the island. The government pharmacists are contemplating the possibility of forming a National Pharmaceutical Association which could initiate some form of continuing education.

Drug Policy, Legislation and Regulation

A National Drug Policy does not exist. The Pharmacy Act is incorporated into the Medical Practice Act which is long out-dated. The government pharmacists would welcome the introduction of a revised Pharmacy Act.

Formulary & Essential Drug List

The Formulary Committee is not active. One reason put forward for this inactivity is the rapid turnover of physicians. However, the Chief Pharmacist, who is the Secretary of the Committee, is optimistic that the body will be rejuvenated in the near future. The country has essentially adopted the ECDS Regional Formulary as its national standard. A limited range of non-ECDS drugs are purchased.

Drug Information & Drug Utilization

The main hospital pharmacy has an acceptable range of drug reference texts including AHFS, USP DI, AMA Drug Evaluation, and BNF. However, some of these are out-of-date.

Drug Utilization Reviews (DUR) are not conducted in Montserrat. Treatment guidelines/protocols are available and strictly adhered to for immunization for certain diseases (e.g., the EPI program). CAREC has produced guidelines on STD but these are not enforced by the Ministry of Health.

Product Quality Assurance

Drug product quality is largely performed through ECDS which performs routine surveillance on priority and problem drugs. Drug analyses are performed at the Caribbean Regional Drug Testing Laboratory (CRDTL) in Jamaica.

Private Sector

There are three private pharmacists to service the two private pharmacies.

95

C. Acronyms

C. Acronyms

ADCU	Agricultural Diversification Coordinating Unit
AID	Agency for International Development
ARI	Acute Respiratory Infections
BNF	British National Formulary
CAREC	Caribbean Epidemiology Center
CFPA	Caribbean Family Planning Affiliation
CMO	Chief Medical Officer
CMS	Central Medical Stores
CRDTL	Caribbean Regional Drug Testing Laboratory
DCA	Directorate of Civil Aviation
DMO	District Medical Officer
DRU	Drug Registration Unit
EAS	Economic Affairs Secretariat
ECCB	Eastern Caribbean Central Bank
ECCM	East Caribbean Common Market
ECDS	Eastern Caribbean Drug Service
ECPRO	Eastern Caribbean Procurement Program
ECSEDA	Eastern Caribbean States Export Development Agency
GDO	General Development Office
IMR	Infant Mortality Rate
INRUD	International Network for the Rational Use of Drugs
INVEC	MSH-developed Inventory Control Program
IPPF	International Planned Parenthood Foundation
MoH	Ministry of Health
MSH	Management Sciences for Health
NRMU	Natural Resources Management Unit
OECS	Organization of Eastern Caribbean States
PAHO	Pan American Health Organization
RDO/C	Regional Development Office for the Caribbean
RPM	Rational Pharmaceutical Management project
RPMP	Regional Pharmaceutical Management Project
SAD	Specially Authorized Drug
UNICEF	United Nations International Children Emergency Fund
USAID	United States Agency for International Development
USP	United States Pharmacopeia
USP DI	United States Pharmacopeia Drug Information
WHO	World Health Organization
WIAS	West Indies Associated States Council for Ministers

D. Documents Consulted

D. Documents Consulted

1. Report of the first meeting of the ECDS Policy Board December 8-9, 1986.
2. Report of the second meeting of the ECDS Policy Board April 14-15, 1988.
3. Report of the third meeting of the ECDS Policy Board April 27-28, 1989.
4. ECDS Policy Board meeting No. 5, Fort Young Hotel, Dominica, April 25-26, 1991 Report.
5. ECDS Policy Board meeting No. 6 Sunset Shores Beach Hotel, St. Vincent and the Grenadines June 4-5 1992 Report.
6. Eastern Caribbean Drug Service Annual Report April 1, 1991 - March, 1992.
7. Evaluation of Eastern Caribbean Drug Service produced by George Theophilus and Maurice Minvielle, Financial Investment and Consultancy Services, Ltd., April 29, 1992.
8. OECS 10th Anniversary Commemorative Magazine produced by INFONET OECS (undated).
9. Comparative Health Care Financing in St. Lucia, Grenada and Dominica by Dieter K. Zschock, Gretchen Gwynne, Barry Wint, and Jorge Castellanos Robayo, State University of New York at Stony Brook and PAHO, published by Ginn Press, Needham, MA, 1991.
10. Population Projections for Eight Caribbean Countries 1980-2015, ECLAC/CELADE Demography Unit, Port of Spain, 1990.
11. Health Sector Plan 1991 - 1995, Ministry of Health and Environment, St. Vincent and the Grenadines.
12. Operational Plan 1993, Ministry of Health and Environment, St. Vincent and the Grenadines, approved February 1993.
13. Eastern Caribbean Drug Service, ECDS brochure, August 1989.
14. Treaty Establishing the Organization of Eastern Caribbean States (Undated).
15. The Eastern Caribbean Central Bank - Its responsibilities in the financial system (Undated).

- 99'

E. Persons Met

E. Persons Met

St. Vincent

Mr. A. De Silva	Pharmacist, Mesopotamia District
Dr. M. D. Maddiah	DMO, Mesopotamia District
Mr. A. Bowman	Supplies Officer, CMS
Mr. A. Marshall	Computer Operator, CMS
Mr. K. Lewis	Senior Pharmacist, Kingstown General Hospital
Dr. M. Sheridan	DMO, Enhams Clinic
Mr. T. Jack	Pharmacist, Enhams Clinic
Mr. O. Cuffy	Permanent Secretary, Ministry of Health
Mr. C. Brown	Health Planner, Ministry of Health
Ms. J. Jack	Senior Pharmacist, Kingstown General Hospital
Ms. I. Martin	Senior Pharmacist, CMS

Dominica

Ms. Jeanne Jacobs	Ag. Permanent Secretary
Mr. Hilary St. Claire	Supplies Manager
Mr. Peterson Sabaroche	Ag. Supplies Officer
Mr. Lyndell Williams	Storekeeper
Mr. Bryan Larocque	Clerk
Ms. Dorothy Francis	Clerk
Mr. Curtis John	Pharmacist
Mr. Hilroy Fingal	Ag. Chief Pharmacist
Dr. Edward Watty	Pathologist

Grenada

Mr. Eugene C. Laurent	Chief Medical Officer, Ministry of Health
Mr. Phinsley St. Louis	Minister of Health, Ministry of Health
Mr. Kennedy F. Roberts	Economist/Health Planner, Ministry of Health
Mr. O'Carrol Thomas	Chief Supplies Officer, Central Medical Store
Ms. Corine Alexis	Assistant Supplies Officer, Central Medical Store
Mr. Rupert John	Chief Pharmacist, Ministry of Health
Ms. Cherylyn Charles	Acting Senior Pharmacist, St. George's Government Dispensary
Ms. Marcelle Belsar	Pharmacist, Snug Corner Medical Center
Mr. Keith Pierre	Pharmacist, Petit-Esperance Health Center
Ms. Yvette Andrews	District Nurse, Petit-Esperance Health Center
Ms. Denise Thomas	Family Nurse Practitioner, Petit-Esperance Health Center
Ms. Ellen Gabriel	Ward Pharmacist, General Hospital
Ms. Joan Latouche	Clerical Officer, General Hospital
Mr. Kester Cyrus	Senior Pharmacist, General Hospital
Mr. Benedict Newton	Pharmacy Inspector, Ministry of Health

F. Organizational Structure of ECDS

DIAGRAM II

ORGANIZATION OF EAST CARIBBEAN STATES
EASTERN CARIBBEAN DRUG SERVICE

ORGANIZATION CHART

