*Special Report*

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# Integrating Health Services in the Eastern Caribbean States

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## INTRODUCTION AND METHODOLOGY

In 1990 a study was conducted for the Caribbean Program Coordination office of the Pan American Health Organization (PAHO/CPC) and the Central Secretariat of the Organization of Eastern Caribbean States (OECS) to determine the feasibility of establishing systematic linkages among the health services of the OECS member countries. These seven countries are Antigua and Barbuda, Dominica, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines. Analysis of health services demand and capacity led to the conclusion that there is a need for the gradual total integration of health services in these countries. This conclusion was accepted, and a plan for its implementation approved, by the Heads of the Eastern Caribbean States and the Secretariat of the OECS.

Data were compiled on each country's demographic indicators, socioeconomic situation, health profile and health status, health facilities and their utilization, availability of specialists, and the volume and characteristics of medical referrals abroad. Sources of this information included surveys, national health reports, unpublished reports submitted to PAHO/CPC, and information available from other international agencies. In addition, field visits and interviews were conducted with health policy makers in these countries, the OECS Secretariat, and the Inspectorate General of Health for the French Islands in Martinique.

## DEMOGRAPHICS, HEALTH STATUS, AND HEALTH DETERMINANTS

The population size varies greatly among the seven countries, ranging from 12 000 (Montserrat) to 152 000 (Saint Lucia) in 1990. Total fertility and net migration also vary widely, creating current and long-term differences in age structure and population growth. Children under 15 constitute 28%–44% of the total population, and persons over 65 years make up 7%–12% (*1, 2*).

The OECS member countries have a moderate level of income, with a per capita gross national product (GNP) ranging from US$ 1 070 to 3 600 per year in 1990. Other shared characteristics are the steady economic growth rate (averaging 6.5% in the period 1985–1988) and comparable

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inflation and unemployment rates (3). To a variable degree, the economy of the member states is shifting from agriculture to tourism. Employment in agriculture is steadily decreasing, while the growing tourism industry is creating significant numbers of new job opportunities. Expanding public services have made the government civil service a major employer.

Adult literacy rates are high, ranging between 80% and 96% (4). Exposure to education, travel, and foreign visitors is raising the citizens' expectations and awareness of health services, which naturally leads to increased demand for more modern and sophisticated medical care.

The health profile in the OECS member countries is similar to that of industrialized countries. There was a notable drop in the incidence of infectious diseases during the 1980s. Life expectancy at birth is around 70 years or higher. The leading causes of mortality are heart disease, malignant neoplasms, cerebrovascular disease, hypertensive disease, respiratory infections, perinatal conditions, and diabetes. Although their order varies from one country to another, the first three causes listed above are consistently the leading causes of death, indicating a chronic disease pattern.

Infant mortality ranges between 11 and 39 per 1 000 live births, and the main causes of infant deaths are prematurity, respiratory infections, and congenital anomalies. Gastroenteritis is a major cause of postneonatal death in countries with relatively higher infant mortality (Grenada, Saint Kitts, and Saint Vincent). The low birth weight ratio is relatively high, at 8%–12% of total births, and 20%–25% of births are to teenage mothers. On the other hand, immunization coverage against preventable childhood diseases is from 80% to 100% in most of the countries.

Hypertension and diabetes are significant health problems. In some countries these two diseases are responsible for about 25% of primary health care consultations and a significant proportion of adult hospital admissions. Their importance is also illustrated by the high mortality from and incidence of heart and cerebrovascular diseases, and the high incidence of kidney diseases and end-stage renal failure.

The elderly, like their peers in industrial countries, suffer mostly from chronic diseases and their complications, especially cancer, cerebrovascular and heart diseases, hypertension, diabetes, osteoarthritis, and functional disabilities. Some countries report a significant incidence of blindness due to diabetic retinopathy and chronic glaucoma. There are no nursing homes in the Eastern Caribbean; the elderly in need of institutionalization stay in long-term care facilities or general hospitals.

Other health problems of note are an increasing incidence of injuries and mortality from traffic accidents, especially those associated with driving while intoxicated; mental health problems; acquired immunodeficiency syndrome (AIDS); solid waste and sewage disposal and provision of safe water supply, particularly in light of the increasing demand occasioned by urbanization and the growth of the tourism industry; and natural disasters, especially hurricanes, which are recurring causes of economic loss, health problems and injuries, and destruction of health facilities (1, 2, 5).

## HEALTH SERVICES DELIVERY, ORGANIZATION, AND FINANCING

Health services in the OECS countries are mainly provided by the governments through the ministries of health. Services are usually free to all citizens. An exception is care for patients admitted to the

private section of hospitals, but fees for the private room and clinical and surgical services are mostly nominal and far below the actual cost to the government. Revenues from cost sharing in government hospitals are usually less than 5% of the budget of most ministries of health. Although there have been some proposals and research toward developing health insurance plans, no formalized comprehensive scheme exists in any of these countries.

The private sector is mainly confined to providing ambulatory care and treatment during office visits. With the exception of Saint Lucia, where a large (110-bed) private hospital exists, the countries have only small private hospitals or polyclinics. Private physicians constitute a significant proportion of all physicians (15%–30%). They either work full-time in private practice or hold government positions and at the same time have private practice privileges. The private sector normally serves middle- and upper-income persons, who use it to avoid long waits in government facilities and who expect to receive more attention and more personalized service in private offices.

Primary health care is physically available and financially accessible (free of charge) in all countries. The numbers and locations of the health centers are, for the most part, at least adequate. The organization of primary care differs from one country to another, and even from rural to urban areas in the same country. Nurse practitioners or specially trained nurses are most often the firstline providers, and they refer patients to physicians when necessary. The scope of services offered in most primary care programs is comprehensive. Some of the problems that exist in primary care are long waiting times, consumer dissatisfaction, and inadequate integration with secondary care provided in hospitals.

Inpatient facilities in each country mainly consist of one general hospital and a small mental hospital or long-term institution. The design of most of the general hospitals follows the old British open-ward model. The physical condition of most hospital buildings is poor, either because of the buildings' age or because of frequent hurricanes. For example, Hurricane Gilbert in 1988 and Hurricane Hugo in 1989 caused heavy damage to hospitals in several countries, requiring major rehabilitation programs. For these reasons, almost every country has a current project or a plan to renovate, extend, or replace its major hospital (*6*).

Table 1 shows the number of government-operated general hospital beds and the numbers of specialized medical personnel in government service in each country. It can be seen that the bed-to-population ratio in most of the OECS countries ranges between 1.4 and 2.3 beds per 1 000 population. The higher bed ratios in Montserrat and Saint Kitts reflect the presence of mental and long-term care beds in their general hospitals, while such beds exist in separate institutions in the other countries. Staffing by specialists varies widely among the countries, and some specialty services are not available in every country.

## TREATMENT ABROAD

Information on this subject is very limited, especially regarding the number and type of cases seeking treatment abroad and the cost of such treatment. Records of government medical referrals are not adequate and sometimes incomplete, and even where records exist the data are rarely compiled.

The volume of government referrals is largely determined by the allocated budget rather than by medical necessity. This is clearly demonstrated by differences among the member states in the number of pa-

**Table 1.** Governmental specialized medical resources, 1990.

| | Antigua | Dominica | Grenada | Montserrat | Saint Kitts & Nevis | Saint Lucia | Saint Vincent and the Grenadines |
|---|---|---|---|---|---|---|---|
| Total general beds | 156 | 189 | 160 | 67 | 164 | 211 | 204 |
| Beds/1 000 population | 1.8 | 2.3 | 1.5 | 5.5 | 4.1 | 1.4 | 1.6 |
| Consultants and specialists | | | | | | | |
| General surgery | 3 | 2 | 2 | 1 | 2 | 4 | 2 |
| Medicine | 2 | 3 | 2 | — | 2 | 2 | 2 |
| Obstetrics/gynecology | 3 | 2 | 2 | — | 1 | 5 | 3 |
| Pediatrics | 1 | 1 | 2 | — | 1 | 5 | 2 |
| Orthopedics | 1 | — | 1 | — | — | 1 | 1 |
| Dermatology | — | — | — | 1 | — | 1 | 1 |
| Pathology | 1 | 1 | — | — | — | 1 | — |
| Radiology | 2 | 1 | — | — | — | 1 | — |
| Ophthalmology | 1 | 1 | 1 | — | 1 | 1 | 1 |
| Ear, nose, and throat | 1 | 1 | — | — | — | — | 1 |
| Anesthesia | 3 | 2 | 2 | 1 | 2 | 2 | 2 |
| Psychiatry | 1 | 1 | 1 | — | — | 1 | 1 |
| Physical therapy | 1 | — | — | — | — | — | — |
| Total hospital specialists | 20 | 15 | 13 | 3 | 9 | 24 | 16 |

*Source*: Compiled from unpublished data collected for this study, 1990.

tients referred per 10 000 population, as well as differences in the same country from one year to the next. The cost of referrals depends upon where the patient is referred; in some cases treatment is offered free or at a nominal charge by the receiving country.

Table 2 gives available information on numbers and costs of referrals compiled from a USAID consultancy (7) and unpublished data. The table also shows that the countries receiving the most patients were Barbados, Trinidad, and Jamaica. However, there is a recent trend of more referrals to Martinique and Guadeloupe under the French Health Cooperation Program, and fewer referrals to Trinidad and Jamaica.

The major causes of referrals are neoplastic, neurologic, orthopedic, ophthalmic, heart, and kidney diseases. However, the information available on government medical referrals probably represents only the tip of the iceberg. Since all of the countries lack tertiary care services, and some of them lack secondary care specialists in such fields as ophthalmology, ear-nose-and-throat, and orthopedics, high numbers of self-referrals of private patients likely occur. It is well known that patients who can afford it seek health care in neighboring Caribbean countries and sometimes in other Western countries where they might have relatives residing.

After consulting with health policy makers, a pragmatic approach was used to calculate the need for tertiary care. Based on current availability of services and financial capacity of potential users, it is estimated that 4 800–6 000 patients from OECS countries (0.8% to 1.0% of the total population) seek treatment abroad annually, two-thirds of those for inpatient care. The average cost of ambulatory care was estimated to be US$ 800 per patient, including transportation, accommodations, and medical tests, and that of a hospital admission about US$ 3 000. Therefore, the OECS citizens and governments are spending at least US$ 11–14 million per year on treatment abroad.

**Table 2.** Reported governmental medical referrals abroad.

| | All OECS countries[a] | | Saint Vincent[b] | | Saint Lucia[c] | |
|---|---|---|---|---|---|---|
| | 1984 | 1985 | 1988 | 1989 | 1988 | 1989 |
| A. Causes | | | | | | |
| Cancer | 67 | 74 | 19 | 13 | 9 | 19 |
| Neurology | 40 | 23 | 5 | 6 | 4 | 5 |
| Eye | 26 | 27 | 2 | — | 2 | — |
| Orthopedics | 27 | 30 | — | 2 | 13 | 19 |
| Cardiology | 23 | 20 | 5 | 4 | 5 | 5 |
| Kidney | 10 | 13 | 1 | 1 | — | 1 |
| Other conditions | 63 | 65 | 9 | 5 | 7 | 14 |
| Total | 256 | 252 | 41 | 31 | 40 | 63 |
| B. Receiving countries | | | | | | |
| Barbados | 134 | 133 | 33 | 26 | 14 | 7 |
| Trinidad | 50 | 32 | 5 | 5 | — | — |
| Jamaica | 43 | 46 | — | — | — | — |
| French Islands | 4 | 12 | 1 | — | 21 | 45 |
| USA | 10 | 10 | 2 | 1 | 4 | — |
| Canada[d] | — | — | — | — | — | — |
| U.K. | — | — | 1 | — | — | — |
| Other | 15 | 19 | 1 | — | 1 | 11 |
| Total | 256 | 252 | 41 | 31 | 40 | 63 |
| C. Cost (US$) | | | | | | |
| Total | 115 709 | 245 151 | 28 356 | 16 116 | — | — |
| Cost per case | 452 | 973 | 692 | 520 | —[e] | — |

[a]Data compiled from reference 7.
[b]Data submitted to this consultancy from the Ministry of Health in Saint Vincent (unpublished, 1990).
[c]Data submitted from Ministry of Health in Saint Lucia (unpublished, 1990).
[d]Although no patients were referred by governments to Canada in these years, many private patients seek care in that country.
[e]Referrals from Saint Lucia in 1988 were mainly to Martinique at no cost. The cost of other referrals ranged from US$1 000 to US$11 000.

This figure provides a basis for calculating the cost-benefit ratio of strengthening specialty services, which should significantly reduce treatment abroad. Even if the governments are paying a small proportion of this cost, it is still a significant drain on national economies. In addition, in the absence of an organized system for medical referrals, even patients who seek medical care abroad and can afford it may be paying more than they need to or receiving a deficient quality of medical care.

## PROGRAM TO INTEGRATE HEALTH SERVICES

### Feasibility and Rationale

A program to integrate the health services of the OECS countries is highly feasible for the following reasons:

- No individual country has or will have, even by the year 2010, a population size that makes establish-

ment of an independent health care system, especially tertiary care services and medical specialties, a practical solution. (In 1990 the collective population of the member states was 606 000, and it is projected to reach close to 800 000 in the year 2010.) This justifies coordinating health services so that the countries can be self-sufficient in all secondary care and clinical support services, and in many specialties that deal with high-risk and high-volume conditions.

- The shared geographic, cultural, social, and economic characteristics of the member states led to the formation of the OECS and are moving them toward further political unity (*8*).
- The countries have enjoyed success in other joint projects, particularly economic integration (*9*).
- Likewise, the first health project undertaken by these countries, the OECS Drug Service, has been successful. Besides arranging the bulk purchase of pharmaceuticals, it has introduced a regional formulary and therapeutic manual for the member countries (*10*).
- Finally, there is a tradition of voluntary cooperation in health represented by exchange of specialists and medical referrals among the OECS members.

## Proposed Phases and Scope of the Program

Table 3 presents the phases, scope, and activities of the program. These were determined on the basis of priority needs, current service utilization trends in the member countries and in neighboring Caribbean countries such as Barbados and Martinique, and the existing resources (facilities and specialists) in each country.

The proposed program is divided into three phases: health cooperation (1991–1993); health coordination (1994–1996); and health integration (1997–2000). Each phase includes a planning component for the next phase and an evaluation component to assess the current phase's progress and effectiveness. Building of the information system is a task that will go on throughout the whole program to serve the needs of individual countries and the OECS health integration effort. Long-term planning is necessary to carry out such a program, which requires substantial strengthening of infrastructure (facilities, medical equipment) and acquisition of funding. The planning component must also take up the training needed to prepare human resources.

The proposed program, although focused on secondary and tertiary medical care, also covers primary care, health care policy, management, and human resources. Components other than secondary and tertiary care are the least costly components of the program and are requisites for the success of the hospital care component.

## Structure and Organization of the Program

The Health Program Office will become a part of the Central OECS Secretariat. It will be supported by a Health Advisory Council formed of the Ministers and Permanent Secretaries of Health and an Executive Board formed of the Senior Medical Officers. The program will also rely on technical committees for advice on health financing and management, public health programs, hospital development, surgical specialties, medical specialties, and clinical support services. It is appropriate and advantageous to include the existing OECS Drug Service under this office.

**Table 3.** Proposed OECS health program plan, 1991–2000.

| Phases/year | Scope | Major activities |
|---|---|---|
| Phase I: Health cooperation (1991–1993) | 1. Creating health program office | • Obtaining office space; appointing staff, council, and committees; securing funding of Phase I. |
| | 2. Creating health information data base | • Determining guidelines for health information systems and reporting, and periodic collection of data. |
| | 3. Sharing specialist services | • Establishing directory of specialists, arranging terms for referrals and specialist visits, and managing referrals and specialist secondary care services among member countries.<br>• Coordinating referrals of tertiary care from member countries to other centers in the region. |
| | 4. Strengthening health policy & management | • Implementing senior management training programs.<br>• Planning and implementing projects for disaster preparedness and injury control, health promotion, AIDS, primary care, mental health, elderly care, and human resources development. |
| | 5. Program planning | • Strengthening national health planning.<br>• Planning Phase II, Items 1–5.<br>• Exploring external funding of Phases II and III.<br>• Evaluating programs and effectiveness of OECS health plan. |
| Phase II: Health coordination (1994–1996) | 1. Building systems management | • Strengthening programs under Phase I, Item 4.<br>• Building unified health information system.<br>• Training in health planning and management.<br>• Strengthening hospital accounting, quality assurance, information systems, infection control, medical records, materials management, and emergency care.<br>• Establishing programs for diabetes and hypertension. |
| | 2. Self-sufficiency in secondary care specialist services | • Full implementation of the referral program and specialist services.<br>• Strengthening resource clinical departments. |
| | 3. Coordinating tertiary care referrals | • Joint contracting and referral to centers in the Eastern Caribbean region. |
| | 4. Establishing priority referral centers and resource departments | • Establishing centers for major trauma, radiation and oncology, nephrology and renal dialysis, and prosthetics. |
| | 5. Program planning | • Strengthening national planning.<br>• Planning Phase III, Items 1–5.<br>• Evaluation of the OECS health program plan. |
| Phase III: Health integration (1997–2000) | 1. Unifying national managerial systems | • Completing and strengthening the unified systems of Phase I, Item 4, and Phase II, Item 1. |
| | 2. Unifying manpower development | • Developing and implementing a unified human resources plan, including education, training, fellowships, and senior management training. |
| | 3. Unifying facilities planning | • Developing and implementing a facilities master plan for hospitals and regional referral centers for OECS member countries. |
| | 4. Strengthening referral centers | • Completing and operating the centers in Phase II, Item 4, and other centers as feasible. |
| | 5. Planning and management of national systems | • Developing a Regional Health Plan, and assisting the countries in establishing and implementing their National Health Plans.<br>• Evaluating programs and effectiveness of OECS plan. |

## Referral Centers, Resource Clinical Departments, and the OECS Health Program Office

For the purpose of this study, a *referral center* is a comprehensive, fully qualified health facility that provides all the following services:

- Diagnosing, treating, and receiving patients on an ambulatory and inpatient basis from all member countries.
- Conducting training for its staff and potential staff from other member Eastern Caribbean States.
- Conducting applied research in the specialty area that will serve all member countries.

This study concluded that centers were needed for major trauma, radiation and oncology, nephrology and renal dialysis, and prosthetics.

On the other hand, a *resource clinical department* differs from a referral center in that there are usually similar departments in some of the other countries. The resource department serves to support those similar departments by providing technical advice; training junior physicians, nurses, and technicians; receiving referrals of more difficult cases; and providing specialists to the member countries which do not have similar departments.

The resource departments proposed by this study include neurology, cardiology, immunology and AIDS, burns and plastic surgery, ophthalmology, neonatology, and other secondary care and support services.

Sites have been proposed for many of these centers and departments on the basis of several criteria, including the existence of facilities and consultants upon which to build a referral center or service; the existence of support services; the population size of the country; equitable distribution of centers and resources among equally qualified countries; central location and ease of transportation; and the political decision and readiness of the country to host a center.

It was recommended that the Health Program Office be located in the OECS Central Secretariat in Saint Lucia. This recommendation was based on both economic factors and administrative factors, since substantial savings will result if the Health Program Office receives administrative support from the OECS Secretariat and OECS Drug Service Office, especially in the first phase, and since the Health Program Office is part of the Central Secretariat.

## Financing of the Program

The budget of the first phase was roughly estimated at EC$ 509 200 (US$ 188 000) for 1991 and 1992, and EC$ 690 000 (US$ 255 700) for 1993. Although funding has been delayed, these funds are being provided in part by the PAHO Caribbean Program Coordination. PAHO is also negotiating with the World Bank for further funding.

External funding sources for Phases II and III could be international agencies such as the World Health Organization and the French Health Cooperation Program. The United Nations Development Program, UNICEF, and the World Bank may consider providing assistance to build the planning and management infrastructure, establish health information systems, and strengthen primary care. Other international funding agencies that may be solicited include the Inter-American Development Bank, Organization of American States, U.S. Agency for International Development, and Japan International Cooperation Agency.

The following approaches have been suggested to cover operational cost of patient referrals, including the cost of spe-

cialists who travel to other member countries: The country receiving the specialist would pay, directly or through OECS, the cost of his/her transportation and a small per diem (honorarium) to treat patients referred by the Ministry of Health. At the same time, the specialist could receive private patients in the same clinic and charge them a predetermined negotiated fee. Patients referred from the country would share a percentage of the cost on a sliding scale based on financial ability and the seriousness and urgency of the condition. Alternately, the patient may share a portion of total cost, such as transportation or hotel accommodations.

## CONCLUSION

This study shows that regional integration of health services can be most effective if approached practically and planned carefully. The success of such a plan requires the will of the participating countries to act collectively for the purpose of bettering the health of their citizens.

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