Report of the Caribbean Commission on Health and Development

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CARIBBEAN COMMISSION ON HEALTH AND DEVELOPMENT

PAN AMERICAN HEALTH ORGANIZATION
(PAHO/WHO)

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Caribbean Commission on Health and Development

Pan American Health Organization
Regional Office of the World Health Organization

Mr. Edwin Carrington
Secretary-General
Caribbean Community (CARICOM)
Bank of Guyana Building
Georgetown
Guyana

Dear Secretary-General:

Caribbean Commission on Health and Development (CCHD)
Final Report

We have the honour to present through you to the CARICOM Heads of Government, the final Report of the Commission on Health and Development which they mandated.

It has been a rewarding experience for us and we trust that the findings and recommendations will be useful in advancing the role of health in Caribbean development.

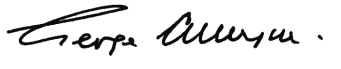
We wish to record our appreciation to the many persons and institutions which helped to make this possible, but particularly to the CARICOM Ministers of Health who reviewed the report in its several stages.

Yours sincerely,

George Alleyne.

George Alleyne. Chair
Caribbean Commission on
Health and Development

COMMISSIONERS



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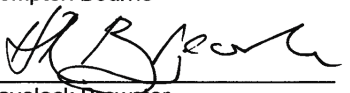

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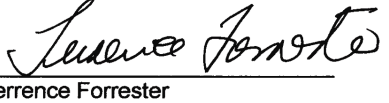

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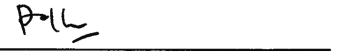

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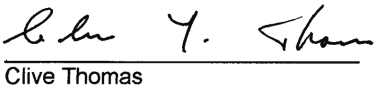

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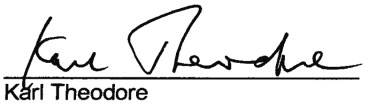

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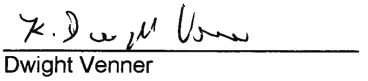

Dwight Venner

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Executive Summary

A healthy population is an essential prerequisite for the economic growth and stability of the Caribbean. This is a statement of reality that cannot be repeated too often. The picture of the Caribbean as an idyllic paradise is an appropriate one for promoting the area to the outside world and one that most nationals in the diaspora retain with fondness and nostalgia. The physical attributes often shown are real, but they sometimes hide the struggle that many citizens must make to acquire the necessities for a decent living against the background of that reality. The Caribbean region appears to be 'developing' when compared with other regions, and the various countries can legitimately pride themselves in how one or another of their development indexes rank on some global scale. There is no gainsaying the tremendous progress that the Caribbean has made over the decades, and there is a real possibility that if it is sustained, the region will achieve or surpass most of the Millennium Development Goals.

Some of the most dramatic advances over the past half-century have been seen in health. At the time of the major social convulsions of the 1930s, the infant mortality rate in Barbados topped 200 deaths per 1,000 live births. Today it is 12 per 1,000 live births. Similar advancements can be seen in all the Caribbean countries and in all the classic indicators of population health. Indeed, the data compare favourably with other countries of the world that are at similar levels of wealth and have similar geographies. This has been caused by government policies that have emphasized water and sanitation, nutrition and the essentials of primary health care.

But the Caribbean countries, though small and in many ways disadvantaged, are convinced that their health horizons should not be limited by some notion of what is the upper bound appropriate for them. Political leaders and populations perceive a moral as well as a political imperative to ensure that health gains continue and are not eroded. Yet, there are several challenges to be faced. First, there are the old vulnerabilities of size and fragility of their economic base that, in turn, limit the resources to be dedicated to one or another sector. Second, there is the vulnerability consequent on the high transactional costs in maintaining a health sector that seeks not only to improve the status quo, but also to respond to the legitimate demands of a population exposed to the influence of information from other cultures and other realities. The people's perception of what is the appropriate standard or approach to their health is often cast in absolute terms and not referenced to the local environment. And thirdly, the Caribbean faces the ever present threat of natural hazards that become full fledged disasters in the face of inadequate preparation.

There are new challenges and opportunities as well. Political arrangements in the Caribbean are changing. The appreciation of the need for functional cooperation among countries is stronger and the free movement of peoples is becoming more of a reality. The development of the Caribbean Single Market and Economy (CSME) also brings with it new challenges. The essence of the thrust of these new arrangements, particularly the CSME, is to enable the region to become more

competitive in the face of new global developments and to seek advantages in areas and fields that were of lesser importance in the past. Moreover, the CSME envisages further elaboration of the Policies for Sectoral Development that constitute Chapter Four of the Revised Treaty of Chaguaramas, in which health must, perforce, be included. The progress to a single economy may be slow and the findings of this Commission may indeed be a welcome fillip to movement in that direction.

During the past half century, at least, there was been an intuitive understanding that education was important, and every country made extraordinary investments in educating its citizens, appreciating as they did that education was a contributor to the human capital — in fact, it was fundamental to the intelligent use of other sources of capital that the region possessed. More recently, the CARICOM Heads of Government have quite properly turned their attention to the other main ingredient of the human capital. In their 2001 Nassau Declaration, they articulated the view that the health of the people is important for the creation of the region's wealth. It is not that Caribbean leaders have been hitherto unappreciative of the value of the human resource: for example, on previous occasions they devoted considerable attention to defining the attributes of the ideal Caribbean person. But this is the first time in recent memory that they have singled out the health of the people as an essential factor for the region's development. They have clearly spelt out that health is a critical input into the human capital the region needs and have intimated that expenditure in health is an investment in human capital. It is no longer offensive to say that health is an instrument of development in its broadest sense, and not solely a consequence thereof.

The growing acceptance of the notion that health is instrumental for that specific aspect of development that revolves around economic growth has been buttressed by recent expansion in the economics literature. The pathways that link health to wealth have been clarified. There are now several studies that deal with the economics not only of the cost of care, but also of the cost and effectiveness of interventions that can lead to improvements in personal and in population health and thus increase the quantity and quality of the human capital.

However, it must be noted that the Heads of Government were not concerned solely about the benefits of good health; they also considered the potential harm that ill health could have on development. Specifically, they mentioned the problems of HIV/AIDS as the modern day scourge that could deplete the wealth of the Caribbean.

This report responds to the mandate of the Heads of Government. It seeks to analyse different dimensions of the health situation in the Caribbean, to present the nature of the problems we face, and offer some possible solutions for consideration. The report synthesizes the material contained in the Working Papers prepared specifically for the Commission and presents some of the arguments for 'propelling health to the centre of development.'

The mandate of the Heads of Government and the formation of the Commission also have to be seen in the context of follow up actions subsequent to the launching of the Report by the Commission on Macroeconomics and Health (CMH) chaired by Professor Jeffrey Sachs. The CMH recommended that national commissions on macroeconomics and health be formed to inform the political discourse on the merits of investing in health. The work of the Caribbean Commission has been supported in part by funding from the World Health Organization as part of its Macrohealth Initiative, which provides follow-up to the recommendations of the CMH.

The Caribbean has experienced modest but uneven economic performance in recent times. The rate of GDP growth is below that seen in the rest of the Americas, and although most of the region's countries have been accorded middle income status, there are persistent problems in achieving and maintaining macroeconomic stability. For one, there is the high volatility that characterizes small economies. The Caribbean has also experienced the debt accumulation that is the sequel of the macroeconomic crises – the Caribbean countries

are among the world's most heavily indebted. Domestic debt tends to be on the rise. Other significant features of the economy include income inequality and a progressive shift towards services. There is persistent poverty in the region, which throws into relief the need for the approaches that target the health of the poor. The challenge will be to face the increasing liberalization of trade at the same time that there is erosion of the traditional preferences for many of the primary products. The reality and prospects of macroeconomic instability do not bode well for the health sector, making it all the more urgent to demonstrate the instrumental value of health, as well as the areas in which there may be increased efficiency.

The Report outlines the health situation of the Caribbean and establishes some trends that reveal new problems it will face. Clearly, a demographic transition is under way, which brings a health transition in its wake. Noncommunicable diseases are still firmly fixed as the major causes of mortality, but the alarming datum is the growth of HIV/AIDS as a cause of death. The region is not free from the reality and the threat of other communicable diseases and the health and economic burden of violence and intentional injuries continue to plague the region.

Arguments are developed for investing in health and reference is made to data drawn from the Caribbean and from elsewhere in the world in support of those arguments. But an intriguing preliminary econometric analysis of the impact of health on foreign direct investment (FDI) and tourism shows that, in Trinidad and Tobago, increased public health expenditures is associated with an increase in FDI. In Barbados, increased public health expenditure is associated with an increase in tourist expenditure and arrivals. The theoretical underpinning of this work needs to be deepened and such factors as the intervening variables and the length of the time series need to be analysed. The preliminary results need to be confirmed and expanded, but they point in the direction of returns from population health to two of the major factors needed for growth of the Caribbean economies. There is a strong case for strengthening the basis for the empirical results of the study and extending it to include other countries of the region.

Caribbean health in general and more specifically the sanitary conditions of the various establishments frequented by tourists are critical for the attractiveness of the tourism product, but attention is drawn again to the possibilities for health tourism. The Report describes some of the barriers to the profitable development of health tourism, but there is optimism that many if not all of these can be overcome and the region can benefit from revenue derived from health services targeted to foreign consumers.

Noncommunicable diseases are major contributors to overall mortality. Cardiovascular disease (hypertension, coronary artery disease, and stroke), diabetes mellitus, and cancer accounted for 51 per cent of the deaths in the latter part of the 1990s. The risk factors for this cluster of diseases have been universally established, and the Caribbean is no different – obesity, hypertension, hypercholesterolemia and tobacco use, among others. The noncommunicable diseases can all be treated once they occur and the schemes for this are all being applied to a greater or lesser degree. There is heartening evidence that the community approach to blood pressure control is as good in Jamaica as elsewhere in the world.

It has not been possible to obtain data for all countries, but an analysis showed that the cost of hypertension and diabetes in Jamaica for one year was approximately US$58 million and this did not include any estimate of the economic value of the lives lost as was done by Barcelo et al. (2003). Multiplied throughout the Caribbean, this cost implies a tremendous drain on the economies. Mental illness, too, is important although it also was difficult to obtain data for all countries. An analysis of direct and indirect cost of the two major mental illnesses in Jamaica, depression and schizophrenia, revealed the astonishing figure of approximately US $600 million for one year.

The astronomical costs of these disorders speak to the need for primary prevention. While this may not be clear in the case of mental illness, it is crystal

clear for noncommunicable diseases. The Caribbean must seriously address the rising epidemic of obesity, which is the common factor associated with an increased risk of chronic, noncommunicable diseases. The Report outlines some of the policy options available. While these may not be equally applicable to every country, the fundamental approach involves modulating the environment to such an extent that it supports and facilitates policies that must include weight reduction or ideal weight maintenance at individual and group levels. There must also be closer regulation of foods, especially the steadily increasing importation of fats. The attention to weight control must begin in schools, focusing on nutrition and the absolute necessity to have physical education as a critical part of the school curriculum along with other 'academic' subjects. But policies must be put in place to increase physical activity for all age groups. There should be licensing laws to ensure that consumers know the content of the foods they eat and agricultural policies must ensure that food security translates into incentives or subsidies for local production of the vegetables, fruits, and whole grains needed for a healthy diet. The policy options for reducing tobacco use include such measures as levying appropriate taxes, banning tobacco advertisement, and forbidding the sale of tobacco products to minors and the sponsorship of events which directly or indirectly induce smoking.

A range of lifestyle or behavioural risks underlie most of the noncommunicable disease as well as injury and violence. Thus it is critical to establish systems for surveillance of these risks at the population level to inform policy as well as public education.

The Caribbean region as a whole (including Hispaniola) is estimated to have about half a million people living with HIV, and the prevalence rate is not only the highest in the Americas, but it is second only to sub-Saharan Africa. The ravages of the epidemic are shown in the remarkable statistic that the mortality rate among young, productive males is increasing, and young women represent the group with the fastest rising prevalence rate. The epidemic is fuelled by the region's sociocultural characteristics: sexual norms expose children to risk at an early age, and people move a great deal, both intraregionally as well as into the region. The stigma and discrimination against vulnerable groups, such as men who have sex with men, female sex workers, and those who live with the disease, help drive the epidemic underground and make the public health approach to control extremely difficult. There is still inadequate access to anti-retroviral therapy and voluntary counselling and testing are not as widely available as they should be.

The models of the economic impact of HIV/AIDS show the region losing much of its work force and contractions in key sectors such as agriculture and manufacturing. Although the actual wealth reduction and the extent to which the rapidly falling costs of therapy will affect projections for the cost of illness may be debated, there is no doubt that there will be an impact on the region's economies if the epidemic goes unchecked. There are positive signs of progress in various countries, with evidence of declining mortality and morbidity, but, overall the numbers of the infected are on the increase.

The elements of a response are well established even if they are not universally applied. There must be good surveillance; a goal of 100 per cent coverage with the appropriate care and treatment regimes must be attained; the problems of stigma and discrimination must be tackled through action at all levels of the society, particularly at the political level; the region must stick to and strengthen established partnerships; education about sexual development must begin at an early age; and the response must be genuinely and operationally intersectoral.

There are other communicable diseases that do not attract the urgency of HIV/AIDS but are critically important, especially in the region which is so dependent on tourism. Dengue still occurs in epidemic form and the food borne diseases can be responsible for serious outbreaks of gastro-intestinal disease. Tuberculosis is still very much

with us, and there is constant concern that new epidemics such as SARS may affect the region.

Violence and injuries are now forcing their way into public health consideration in the region. Homicide and motor vehicle accidents account for 9.3 per cent of the years of productive life lost and together are second only to HIV/AIDS. The picture is similar in all countries: emergency rooms are filled with trauma from interpersonal violence, and accidents and injuries constitute a major cause of mortality especially among young males. Mortality is only the tip of the iceberg and is indicative of the high morbidity from injury and violence. The public health contribution is, first, to provide the epidemiological data to demonstrate the nature of the violence and the sites where it occurs, to organize the services to cope with it and to work with other sectors in prevention. And, although the effects are felt in the health sector, the root causes spread much further. The cost of injuries and violence in Jamaica for 2002 came to 0.7 per cent of GDP.

An analysis of the health systems and services showed that most countries had a health plan, but its execution was often stymied by the lack of a good information system and an organized form of collating data and presenting evidence for decision-making. Effective decentralization is problematic, as is the management of human resources. The region is woefully deficient in public health leadership and the capacity of the public health work force needs to be strengthened. There were deficiencies in the exercise of what are described as essential public health functions and the poverty of quality assurance and public health research were of particular concern. Shared clinical services continue to be a dream, but the region does support some services, such as surveillance, which may be classified as regional public goods.

The problem of management of human resources is evident in the shortages of many categories of health workers, particularly nurses. The drain of nurses from the region's health services is, therefore, of great concern. The Report examines this in the context of trade in health services generally, WTO/GATS regulations that govern such trade, and the export of nursing services in particular. There is a global shortage of nurses, and in the Caribbean a set of push and pull factors have contributed to the exodus. Although there are no specific data on nurses, it is assumed that they contribute to the flow of remittances which help to raise income significantly in the Caribbean. The Ministers of Health have endorsed a programme of managed migration to ameliorate some of the factors that are within the purview and influence of their countries. A clear distinction must be made between the permanent migration which takes place on a voluntary basis and any programme of temporary migration under the GATS Mode 4 form of supply. The programme of managed migration should be reformulated to take account of the possibility of temporary migration under Mode 4. It is remarkable that the shortage of nurses and the migration from the Caribbean take place while there is unused training capacity in the region. The Report suggests a regional approach to and a regional negotiation for the liberalization of health services. It proposes that countries consider expanding training and recovering some of the costs from the trainee. In addition those push factors that can be addressed, such as conditions of work, should receive attention.

The financing of the services is dealt with in some detail. One country analysis points to the institutionalization of a three-tiered system in which the very wealthy opt for overseas care for all but the most minor problems and accidents, the upper middle income groups have health insurance and opt primarily for local private care, and the low middle income groups and the poor resort to the publicly supported health care services. Total health expenditure as a percentage of GDP in 1997–2001 ranged from 4.3 per cent in Saint Lucia and Trinidad and Tobago to 9.8 per cent in Suriname. Government expenditure on health as a percentage of total expenditure over the same period ranged from 83 per cent in Guyana to 45 per cent in Trinidad and Tobago.

One of the fundamental issues uncovered is the growing use of 'user fees' in the public services to compensate for shortfalls in public spending.

The concern is that this practice, although shrouded in uncertainty as to its general impact, may indeed be particularly regressive in that it affects negatively the most vulnerable segments of the population, such as the poor, the elderly, and children. Given the growing number of the elderly and the increase of diseases that require prolonged care, this is a practice that should be evaluated carefully. The Report proposes that public health services should be fully funded from the public purse.

The Report draws attention to what may be a best practice for addressing the health problems of the poor while simultaneously increasing their schooling. This is done through providing cash incentives to attend the appropriate health and educational facilities. After decades of discussion throughout the region, only three countries have national health insurance programmes that offer universal coverage – Antigua and Barbuda, Bermuda and the Cayman Islands. Proposals for national health insurance schemes are under discussion in at least six other countries so perhaps the region would benefit from interchange of experiences in this field given the free movement of people envisaged by the CSME, it may not be too early to consider some form of Caribbean wide health insurance.

MAIN MESSAGES

- **Preserve the gains.** The Caribbean must make every effort to maintain the considerable health gains it has made in the recent past.
- **Situate the work of the Commission and the mandate from the Nassau Declaration in the context of the Caribbean Single Market and Economy (CSME).** The findings of the Commission should be used to begin the work that is necessary to develop the health sector as one that is critical for the implementation of Chapter Four of the Revised Treaty of Chaguaramas.
- **Regard and treat health as a productive asset.** Investment in public health with an appropriate lag time may lead to enhancement of economic growth factors such as Foreign Direct Investment and tourism.
- **Re-examine the business case for development of health services targeted to foreign consumers (for example surgery, rehabilitation, long term care) that is health tourism.** This should involve a careful and urgent analysis especially of the barriers that exist and put in place the mechanisms to overcome them.
- **Face squarely the problem of obesity with its co-morbidities of noncommunicable diseases.** Chronic noncommunicable diseases constitute a major disease threat. Improved case management is essential, but preventive measures must be addressed simultaneously and aggressively. Obesity is recognized as a common risk factor for chronic noncommunicable diseases and regardless of its etiological significance, a public health approach to preventing obesity will support efforts to reduce the burden of the noncommunicable diseases. These disorders must be tackled with a vigour that has so far been absent, placing more emphasis on individual behaviour change through environmental modification that embraces the policy options described in this report. The economic consequence of these diseases is huge.
- **While mental health is recognized as being important, and no doubt must be addressed, the lack of basic epidemiological data makes it difficult to quantify the extent of the problem.**
- **Continue and intensify the actions to control the epidemic of HIV/AIDS, the spread of which is facilitated by the social and economic vulnerabilities of many groups and individuals.** It is especially important to tackle vigorously the stigma and discrimination which impede control of the epidemic and scale up care, prevention and treatment.

- **Recognize that intentional violence and injuries represent a huge burden to the health services and have major economic costs to society as a whole.** Public health has a contribution to make in this area, particularly in terms of surveillance.
- **Strengthen the health systems infrastructure**. The Caribbean must not only maintain or strengthen its health services so that they can respond to major disease threats, but also are ready to cope with the increased movement of people that will follow the growing Caribbean integration. There are several problem areas in the organization of the health systems, especially with regard to effective planning and making decentralization work. There are significant gaps in the ability of public health services to discharge their essential core functions and there is special need to pay attention to quality assurance and research.
- **Strengthen specifically the public health infrastructure.** Public health training is an aspect of human resource needs that is often ignored. There is a compelling and crying need for strong public health leadership and a capable public health work force. The Caribbean must address urgently the need for persons with skills in this field in order to strengthen public health.
- **Invest in better surveillance and health information systems and the institutions for establishing and maintaining them.** All countries should carry out with some periodicity the Living Standards Surveys that are such a rich source of social data. Appropriate health related data should be a part of such surveys. The Caribbean institutions for carrying out such functions must be maintained and strengthened.
- **Address the "export" of health services, particularly nursing services.** The programme of managed migration as proposed by the Ministers of Health must be pursued, with careful attention to the push and pull factors which cause nurses to migrate, but it must be modified to include the potential for trade in nursing services in the context of the negotiations for the trade in services under Mode 4 of the WTO/ GATS agreements. It is essential that the Caribbean decide whether or not it wishes to consider human resources as an exportable commodity, encourage foreign direct investment in this area, and make arrangements to exploit the advantages it has in terms of language and proximity to major markets.
- **Deal with the problem that health financing represents for all countries.** The use of 'user fees' to supplement health budgets or to discourage use of services is regressive and likely to be particularly damaging to the very poor and others who need the services most. However, if 'user fees' are charged, they should be carefully targeted. Comparison with industrialized countries indicates that there are clear opportunities and options for Caribbean countries to enhance public revenue and make greater use of taxes and social security contributions to increase financing to the health sector. Countries should aim for health expenditure of at least six per cent GDP. Information should be exchanged on the various attempts to establish national health insurance schemes. The time is right to examine the feasibility of some form of Caribbean-wide health insurance which will come to the fore with the increased movement of people envisaged by the CSME.
- **Strengthen the Caribbean Cooperation in Health** (CCH). The CCH should be strengthened as one of the mechanisms for carrying forward the recommendations of this Report.
- **Disseminate the findings of this Report.** This Report is directed to the Heads of Government through the Council of Health and Social Development (COHSOD), but there must be a structured effort to

disseminate the findings and conclusions widely so that the main social partners become convinced of the fact that health is, indeed, critical for the Caribbean's development.

Acknowledgements

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Introduction

'The Health of the Region is the Wealth of the Region.' This Declaration of the CARICOM Heads of Government at their meeting in Nassau in 2001 was a major step, in that it was the first time that Heads of Government openly acknowledged the role of health in the region's development. In classic Delphic style, they implied that there was a two-way relationship between health and wealth in the Caribbean (Nassau Declaration, 2001).

The Heads of Government further declared that they were 'cognizant of the critical role of health in the economic development of our people and [were] overawed by the prospect that our current health problems, especially HIV/AIDS, may impede such development through the devastation of our human capital.' The Declaration mentions specifically reorienting and restructuring the health services and the need to emphasize access to them.

This commitment was echoed by the Heads of Government when they met in Montego Bay in 2003, as they reaffirmed their decision 'to promote the health and well-being of the people of the Community in recognition of the principle that the "health of the region is the wealth of the region."' This is taken to indicate that, once again, Caribbean leaders believe that the major social issues of the region must be tackled by collective social action.

The Nassau Declaration and the subsequent statements have to be seen in the context of the other major forces that have shaped and are shaping the Caribbean's social and political environment. The 1980s and 1990s saw the Caribbean countries becoming even more conscious of the impact of globalization on their small economies and more aware of the challenges that they would have to face in order to insert themselves into the global economy. Much attention was paid to the growing volume and importance of global trade and the opening of markets. One result of this new reality was renewed impetus toward regional integration. There was concern that the globalization process which represented an acceleration of the interconnectedness that had been a part of the Caribbean's relations with the world would result in even greater inequalities and possible marginalization of those who were poor to begin with. After major efforts at restructuring their economies in the late 1980s and 1990s, the Caribbean governments appreciated the need to re-examine the capacity of individual national governments to deal with issues that were essentially transnational in scope and impact (ECLAC, 2002).

Thus, in Grand Anse in 1989, the decision was taken to fashion the Caribbean Single Market and Economy (CSME) to improve the ability of the Caribbean Community as a whole to insert itself advantageously into the global economy. The CSME was conceived as providing a single economic space in which there would be unrestricted movement of people, goods, and capital, and it was given force and impetus by the revision of the Treaty of Chaguaramas in 2001. The single market would involve the free movement of goods, the provision of services, the free flow of capital, the establishment of enterprises, and the movement of skills. The main aspects of the single economy would be programmes to harmonize macroeconomic and trade policies and, essentially,

to operationalize the provisions of Chapter Four of the Revised Treaty which dealt with policies for Sectoral Development (CARICOM Revised Treaty of Chaguaramas, 2001).

Health is mentioned in that chapter as one of the sectors to be addressed, but the methods for doing so have not been spelled out with the same clarity as have been the policies in other areas. Although the Nassau Declaration did not allude to health as one of the sectors for development in the context of the Treaty, it is possible to see the call for action in this area as one of the efforts to give substance to Chapter Four and to provide positive movement towards the single economy. For as Mr Owen Arthur, prime minister of Barbados, points out, at this stage the CSME is still a work in evolution and will require 'further intellectual and technical initiatives and much heavy lifting.'

The phenomenon of globalization that was one of the pricks to the development of the CSME affects not only trade and markets, but also health, in a major way. The enhanced interaction and interconnectedness that are the hallmark of globalization facilitate the movement of people and vectors that are responsible for the spread of disease, as the experiences with HIV/AIDS and, more recently, with SARS bear testimony. There is already the perception that the ready movement of people throughout the Caribbean contributes to the spread of HIV/AIDS and has been a major driver for the initiative to create a regional approach to the disease, leading to the formation of the Pan Caribbean Partnership against HIV/AIDS (PANCAP), which has been cited as a best practice in cooperation in the fight against this disease. There is free movement of data and information, which at its worst induces lifestyles that are inimical to the good health of many people. The growth of smoking rates in developing countries and its acceleration among women is one consequence; the rapidly spreading 'epidemic' of obesity with the sequelae that are spelled out later in the Report are another. There may be a positive side to the free movement of information, as manipulation of information technology may enhance the possibility of sharing services and reducing costs to the individual countries.

Globalization as it shows itself in the opening of markets and the widening of the gap between rich and poor countries must affect the Caribbean both in terms of the gap between its constituents and those of the richer north, as well as in the gaps that are widening within the countries themselves, especially the larger ones. Inequality will accentuate the plight of the poor and the need to focus on the necessary measures to improve their health status. It is not possible to eliminate the social gradient that finds some groups and individuals at different levels of the social hierarchy and, thus, with different levels of health. But it will be possible to raise the health status of the poor through carefully focused services, especially ensuring universal coverage of those services with the highest positive externality. In addition, the Caribbean must examine how the health services are organized progressively, so that the poor are not discriminated against by having to pay disproportionate proportions of their income for health care. Inequality, because of protectionism in larger countries, plays itself out in the unfortunate impact on national food and agriculture policies, which lead to a pattern of food importation that provides energy-dense, nutrient-poor diets to citizens, especially the poor whose choices are constrained.

The CSME with its free movement of people will call into question not only the portability of social security, but also the need for the extension of universal health insurance or some similar form of protection to cover all the Caribbean. In the same manner institutions are needed to harmonize policies and actions in areas such as trade and justice, there will be requirements in the area of public health. The Council of Human and Social Development is the organ of the Community charged with oversight of this area, but strong regional institutions are to be responsible for surveillance and data analysis about the region's health. Quite appropriately, CSME is often likened to the effort to create a similar European entity.

Public health is specifically dealt with in the Treaty of Maastricht, which in Article 129 states;

> The Community shall contribute towards ensuring a high level of human health protection by encouraging cooperation between Member States and, if necessary, lending support to their action. Community action shall be directed towards the prevention of diseases, in particular the major health scourges, including drug dependence, by promoting research into their causes and their transmission, as well as health information and education. Health protection requirements shall form a constituent part of the Community's other policies.

Community public health policy comprises three main strands of action:

- Improving information for the development of public health. This involves the development of a comprehensive Community system for collecting, analysing, and disseminating information on population health and trends, as well as on the major health determinants and the health systems of the members.
- Reacting rapidly to threats to health. This involves the creation of an agile surveillance and early warning system as well as rapid reaction mechanisms.
- Tackling health determinants through health promotion and disease prevention. This involves activities at the level of the individual, the community and also in the changes in the social environment (Maastricht Treaty, Title X).

It is more than likely that CSME or one of the Community's organs will look towards similar lines of action for the Caribbean.

Thus, the Nassau Declaration is evidence of recognition at the highest political level of the need to bring health in its different dimensions firmly into the human development agenda, and it is posited here that it must be embedded in the developmental efforts embraced by CSME. The Heads of Government gave instructions for the creation of a Caribbean Regional Task Force on Health and Development within the ambit of the Council of Health and Social Development (COHSOD) to 'advocate, review and help propel health to the centre of the development process and to draw on the body of research and development that provides for evidence-based decision at all levels.' This call for action by the Heads of Government was further discussed and elaborated by COHSOD, and the Task Force was subsequently renamed a Commission on Health and Development. This collective approach was in the tradition of the Caribbean's efforts at cooperative action in health over many years, with some spectacular results, especially in the control of communicable diseases as will be seen later.

Cooperative action in health was also recognized by the Heads of Government in their Nassau Declaration in which they referred to the Caribbean Cooperation in Health (CCH) Initiative, which was introduced by the CARICOM Ministers of Health in 1984, and continues to provide the framework for priority setting in the region. The initiative will complete its second phase in 2003 and the evaluation should have been completed in 2004. COHSOD has determined that Phase III will cover the period 2005-2010.

During the Caribbean Cooperation in Health Phase II (1999–2003) the Member States of the Caribbean Community collectively focused action and resources towards the achievement of agreed objectives in the following priority areas: strengthening health systems, human resource development, family health, food and nutrition, noncommunicable diseases, communicable diseases, mental health and environmental health. Although improvements have been realized in these areas, the real challenge remains the capacity of the countries to translate sub-regional objectives into concrete policy formulation and sustainable programmes at the national level. However, the Expanded Programme on Immunization has been

an example of the successful translation of policy into action. The Caribbean has eliminated poliomyelitis and was the first to eliminate indigenous measles and rubella with consequent considerable social and economic benefit. The goals of the CCH are substantively in accordance with the Millennium Development Goals and the Caribbean has in many cases achieved or exceeded those goals.

A range of socioeconomic, environmental and lifestyle or behavioural factors underlie most of the causes of preventable disease, injury and death and avoidable health costs in the Caribbean. Behaviours may be classified into eight main groups, which represent a final common pathway to most avoidable health, disease and injury problems, and avoidable health care costs. These are:

- habitual diet and physical activity
- alcohol, tobacco and drug abuse
- sexual behaviour
- conflict resolution behaviour, or lack thereof
- road use behaviour (drivers and pedestrians)
- personal hygiene
- environmental sanitation behaviour
- health care seeking behaviour, particularly for preventive services

Many of these behaviours or risk factors are cross cutting and have several adverse health and social impacts. For example, alcohol excess increases the risk of traffic injuries, inter-personal violence, heart disease, ulcers, high blood pressure, cirrhosis, as well as lowered workplace productivity.

Behaviour, in turn, is influenced by four major, socially determined factors:

- knowledge of the risk
- an attitude or realization that the risk is real and that something can be done to reduce it
- skills to practice the healthier behaviour or avoid risky behaviours; and a
- supportive environment that makes the healthy choice the easy choice.

The latter is particularly influenced by healthy public policy, such as alcohol or tobacco taxation; seatbelt laws which are promoted and enforced; dietary policy and labelling laws for fats, salt and sugar in foods; public and school education campaigns on healthy lifestyles; and well organized and resourced health screening and control programmes, for example, for cervical cancer, diabetes and hypertension.

Some of the limitations to action in the areas covered by the CCH as well in reducing the risks detailed above include the human resource base, health leadership capacities and the deficiencies in management systems. These priority areas of concern have also informed the selection of the issues to be addressed by the Commission.

This regional Caribbean initiative is also in step with global developments and is linked to the Report of the Commission on Macroeconomics and Health (CMH), chaired by Professor Jeffrey Sachs, and the subsequent development of the Macrohealth Initiative to carry forward the Commission's recommendations. The CMH recommended 'a bold scaling up of the essential health services' and in addition advocated for establishing Commissions on Macroeconomics and Health at the national levels. The first of the tasks envisaged for such Commissions was 'to identify the priority areas for health interventions and the financing strategies to address those priorities'.

The Caribbean states do not fall into the category of very low income countries that were the major focus of the CMH, but it is clear that many of the arguments used for establishing macroeconomic and health frameworks and for seeking intersectoral synergies for this purpose are of direct relevance to the Caribbean. In addition, it can be argued that the concerns for macroeconomics and health or the economics of health very broadly, as expressed by the CMH and its Working Groups and posited by the Heads of Government, have particular relevance in small economies as exist in the Caribbean, with their peculiar vulnerabilities that stem in part from their

geographic location, and their high infrastructural and transactional costs.

This Report will describe the health situation in the Caribbean, indicate trends, and point out some of the problems which lie ahead. It will examine the nature of the financial mechanisms available to cope with the health problems and show the deficiencies that exist. Several other aspects of the relationship between health and the economic possibilities and potential of the Caribbean will be detailed, and some controversial issues such as the migration of scarce health personnel, and the interaction between health, foreign direct investment, and tourism will be addressed. The positive contribution of health to the various aspects of Caribbean development will be described with special reference to economic growth. Such a report should not be a litany of problems but should propose some solutions. These solutions may be in the nature of technologies or technical fixes, but most attention is given to proposing the policy levers that are at the disposal of governments and their ministers.

The Commissioners, the terms of work of the Commission, and the Working Papers that inform this report are given in Appendices A and B.

Abbreviations and Acronyms

BMI	Body Mass Index
C-DAP	Chronic Disease Assistance Plan
CAREC	Caribbean Epidemiology Centre
CARICOM	Caribbean Community (Secretariat)
CCH	Caribbean Cooperation in Health
CCNAPC	Caribbean Coalition of National AIDS Programme Coordinators
CFNI	Caribbean Food and Nutrition Institute
CHD	Coronary Heart Disease
CMC	CAREC Member Country
CMH	Commission on Macroeconomics and Health
COHSOD	Council on Human and Social Development
CRN+	Caribbean Regional Network of persons with HIV/AIDS
CSME	Caribbean Single Market and Economy
CVD	Cardiovascular Disease
DALY	Disability Adjusted Life Year
DHF	Dengue Hemorrhagic Fever
ECLAC	Economic Commission for Latin America and the Caribbean
EPHF	Essential Public Health Functions
ERH	External Resources for Health
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FSW	Female Sex Workers
FTAA	Free Trade Area of the Americas
GATS	General Agreement on Trade in Services
IDB	Inter-American Development Bank
GDP	Gross Domestic Product
GHE	Government (Public) Health Expenditure
MDD	Major Depressive Disorder
MIND	Management Institute for National Development
MOH	Ministry of Health
MSM	Men who have Sex with Men
MVA	Motor Vehicle Accident
NCD	Noncommunicable Disease
NHF	National Health Fund
NHI	National Health Insurance
OECS	Organization of Eastern Caribbean States
OOP	Out of Pocket Expenditure
PAHO	Pan American Health Organization
PANCAP	Pan Caribbean Partnership against HIV/AIDS
PHC	Primary Health Care
PHE	Private Health Expenditure
PLWHA	Person living with HIV/AIDS
PPP	Purchasing Power Parity
PYLL	Potential Years of Life Lost
RA	Regional Authorities
SAC	Special Advisory Committee
SSHE	Social Security Health Expenditure
THE	Total Health Expenditure
UNDP	United Nations Development Programme
UWI	University of the West Indies
WHO	World Health Organization
WTO	World Trade Organization

CHAPTER 1

Overview of the Health Situation

This section describes the health situation in general terms, concentrating on trends, as many of the details as regards the specific conditions will be found under the relevant subject headings. The selection of areas to be described in more detail is based in part on the Nassau Declaration in which the Heads of Government specifically identified the threats being posed for example by HIV/AIDS and the chronic non-communicable diseases and referred to the priority areas of the Caribbean Cooperation in Health.

1.1. POPULATION AND DEMOGRAPHIC TRENDS

In this situation analysis, the Caribbean (2003 pop. 7.1 million) refers to independent English-speaking countries and Suriname, and the UK and Dutch overseas territories. The Caribbean is multi-lingual and multi-cultural, composed of small island states, multi-island states, and mainland states. Individual country land mass size varies and population ranges from (4,500) in Montserrat to 2,651,000 in Jamaica.

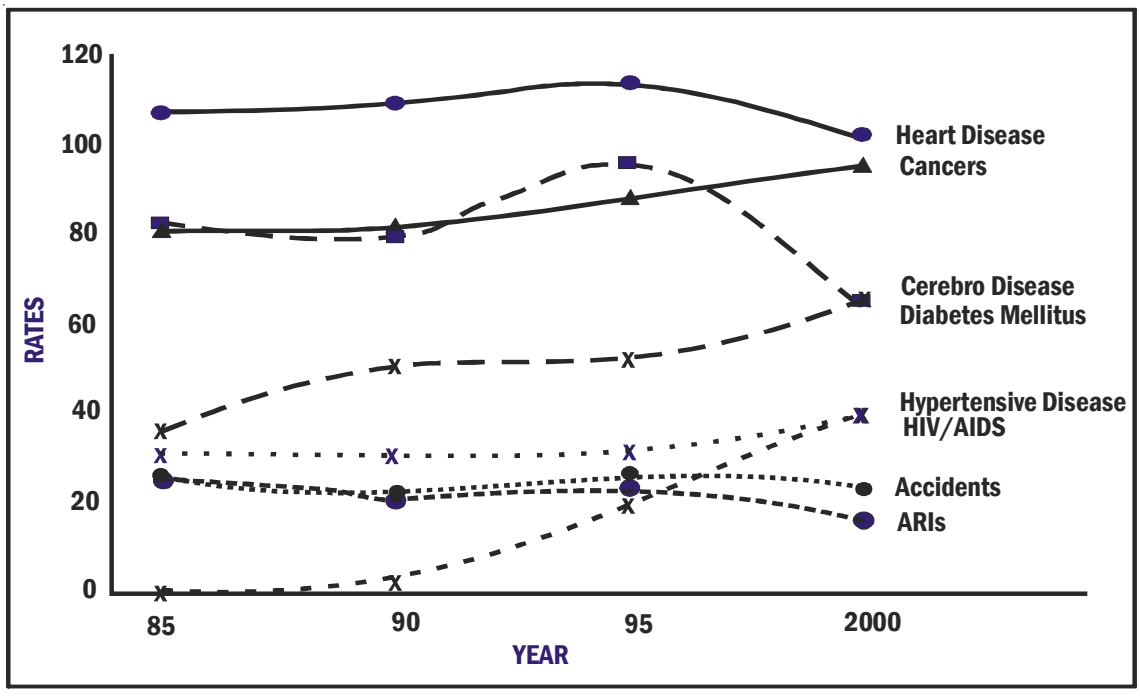
The countries of the Caribbean are undergoing a demographic transition evidenced by a rise in life expectancy and a fall in infant mortality. Life expectancy at birth (males and females) for the region as a whole is 73.9 years, ranging from 62.4 years (Guyana) to 79.2 years (Cayman Islands) and has increased approximately 5 years in the past 2 decades. Over the last 15 years the annual population growth rate has decreased from 1.2 per cent to 0.7 per cent. Declining population growth is due to the consistent reduction of fertility rates as well as migration. The total fertility rate has shown a constant decline over the past two decades and is now 2.3 children per woman. The demographic transition now underway that will be more fully unfolded in 2020, will lead to an increased dependency ratio and it is estimated that by 2025 the elderly (>60yrs) will constitute 17.13 per cent of the population.

1.2. TRENDS IN MORTALITY

A mortality analysis for the years 1985, 1990, 1995 and 2000 showed a consistent trend in which noncommunicable diseases (NCDs) were the commonest cause of death overall over the period, (Figure 1) with heart diseases, cancers, cerebro-vascular diseases, and diabetes mellitus constituting the four leading causes of deaths. Of note is that in 2000, HIV/AIDS climbed to fifth position (from eighth position in 1995).

One other metric used to estimate the impact of ill health is the Potential Years of Life Lost (PYLL) from various disease entities or clusters. A mortality trend analysis for the period 1985–2000 showed that the potential years of working life (15-64 years) lost increased by some 22 per cent, largely due to the effect of HIV/AIDS, and this was observed most notably in males 20–44 years old. Undernutrition is no longer a major problem, but obesity is and as one of the major factors

FIGURE 1:
Crude Mortality Rates for Select Diseases by Year: CAREC Member Countries



contributing to the burden from the NCDs will be discussed in detail separately. The increase in obesity is seen in all ages and in both sexes and it is useful to note here the systematic increase in the rate of obesity in Caribbean children.

1.3. NONCOMMUNICABLE DISEASES (NCDs)

The burden of noncommunicable diseases and injury has escalated in the Caribbean partly as a result of the demographic and epidemiological transitions. The four leading causes of death in the Caribbean in 2000 were all NCDs — heart disease, cancer, stroke, and diabetes. These four conditions accounted for 47 per cent of deaths in 1980 and 51 per cent in 2000, the most recent year for which relatively complete mortality data is available. The major NCDs in the Caribbean share common underlying risk factors, namely unhealthy eating habits, physical inactivity, obesity, tobacco and alcohol use and inadequate utilization of preventive health services.

1.4. COMMUNICABLE DISEASES

HIV/AIDS is the major communicable disease that causes concern and UNAIDS/CAREC estimates that in 2003 there were between 270,000 and 760,000 (average 500,000) people living with HIV/AIDS (PLWHA) in the Caribbean as a whole, which makes it the most severely affected region in the Western hemisphere and in terms of prevalence (1.5 – 4.1 per cent) is second to sub-Saharan Africa. In 2003, there were 109,395 people living with HIV/AIDS in the 21 member countries of CAREC (CMCs) (Table 1).

TABLE 1:
CAREC-CDC Estimates of People Living with HIV/AIDS in CAREC Member Countries

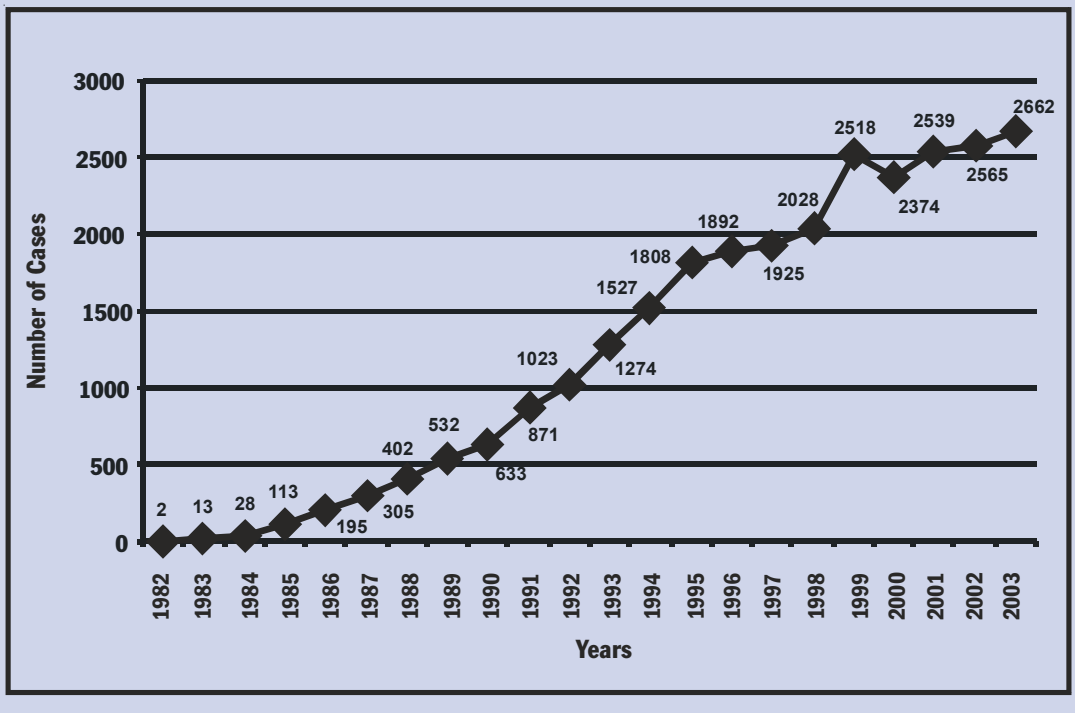
Year	2003
Estimated number of HIV Infected Children	554
Estimated number of Women Living with HIV/AIDS	39,348
Estimated number of Men Living with HIV/AIDS	69,493
Total Estimated Number of People Living with HIV/AIDS	109,395

Total population: 7,013,154. Prevalence Rate: 1.60 per cent

A comparison of PLWHA at the end of 2000 between Brazil (population 172 million) and the wider Caribbean (population 34 million), taking into account the HIV/AIDS prevalence rate, leads to the conclusion that at the end of 2000, for every single individual living with HIV/AIDS in Brazil, there were close to 6 individuals living with the same condition in the Caribbean. By 1990, In the CMCs, AIDS had become the second leading cause of death among men aged 25–34 years and the fifth and fourth leading causes of death among women aged 15–24 and 25–34 years respectively.

Reported AIDS cases grew from 2 in 1982 to 2,662 at the end of 2003 (figure 2). Taking into account the level of under-reporting of AIDS, CAREC estimates that between 30,000 to 36,000 AIDS cases have occurred in the region and young adults ages 25–34 is the group most affected.

FIGURE 2:
AIDS Annual Incidence in CAREC Member Countries, 1982–2003



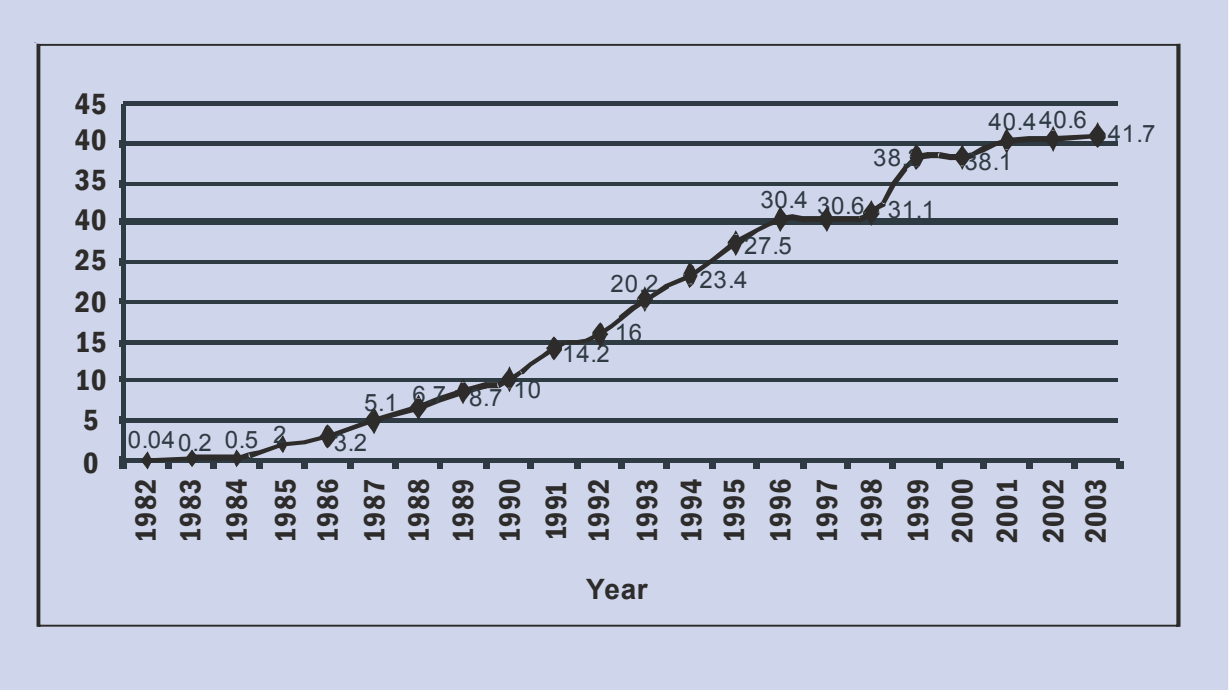
Source: CAREC database

It is estimated that between 21,000 and 24,500 people have died from AIDS since the inception of the epidemic with 50 people dying of AIDS every month in Jamaica between 2001 and 2003 and close to 6,000 people having died of AIDS in Trinidad and Tobago since 1983 when the first cases were reported.

The annual AIDS incidence rate has increased steadily from 0.04 per 100,000 in 1982 to 10 per 100,000 in 1990 doubling in 1993 (20 per 100,000 population), tripling in 1996 (30 per 100,000 population), quadrupling in 2001 (40 per 100,000 population) and reaching 41.7 per 100,000 at the end of 2003. During the period 2000 and 2003, there is a slow increase in the AIDS incidence rate compared with the 90s. (Figure 3).

Although mortality from communicable diseases has declined, problems still remain. For example, tuberculosis cases increased to 852 in 2003 (from 625 in 1980) due to a combination of factors such as poverty, malnutrition, diminished control efforts, the HIV/AIDS epidemic and the emergence of multiple-drug-resistant strains of the causative agent (Mycobacterium tuberculosis). The peak was in 1997(957 reported cases) followed by 1999 and 2001 (947 cases each year). Vector borne diseases, especially dengue, constitute a recurrent problem. In 2001, the Caribbean (English, French, and Dutch Caribbean excluding Haiti for which no data are available) had 11,920 reported cases including 119 cases of dengue hemorrhagic fever (DHF) resulting in 4 deaths. However, in 2002 there was a decline in reported cases but an increase in DHF and deaths from that disease. Malaria is endemic in Belize, Guyana and Suriname and the number of cases has increased alarmingly in the past 20 years.

FIGURE 3:
AIDS Incidence Rates per 100,000 in CAREC Member Countries, 1982–2002



Source: CAREC Population Database,
CAREC-SPSTI (Updated December 2004)

Between 1995 and 2000 a total of over 4,000 cases of food-borne-diseases (FBD) were reported to CAREC. This is reflected in the fact that between 11–58 per cent of tourists visiting Caribbean countries reported Travellers Diarrhoea, with approximately one-third of these having their holiday activities adversely affected, according to data from UK Tour Operators. The majority of these cases were due to contamination of food.

While communicable diseases have declined in importance as causes of death, with the exception of HIV/AIDS, the region cannot be complacent. In an increasingly borderless world and with largely tourism dependent economies, the threat of epidemic communicable disease remains real. The recent epidemic of SARS shows the social and economic disruption that may occur and makes the case for strengthening the regional surveillance and response systems.

1.5. INJURY AND VIOLENCE

During the last two decades, intentional and unintentional injuries have emerged as significant topics of concern in the Caribbean and will be discussed in detail in chapter 7. Despite the interest, challenges of availability, accuracy, classification and timeliness of mortality and morbidity data persist, making aggregate analyses and comparisons between countries difficult. Males in almost every age group are 3–5 times at higher risk of death in all categories of injuries due to external causes, with motor vehicle and homicide/assault ranking as first and third leading causes of death in the 15–24 and 25–44 year age groups for the region as a whole.

TABLE 2:
Immunization Coverage for Caribbean Countries, 1997 and 2003

Country	Proportion of population immunized against poliomyelitis [%] (less than 1 year)		Proportion of population immunized against measles [%] (less than one year)		Proportion of population immunized against diphtheria, pertussis and tetanus [%] (less than one year)	
	1997	2003	1997	2003	1997	2003
Anguilla	99	99	92	96	99	99
Antigua and Barbuda	91	99	93	99	99	99
Aruba	…	79	…	90	…	79
Bahamas, The	86	93	94	90	87	92
Barbados	96	90	92	90	96	89
Belize	85	95	98	96	86	96
British Virgin Islands	96	99	99	99	99	99
Cayman Islands	96	92	93	83	95	92
Dominica	99	99	99	99	99	99
Grenada	95	98	92	99	99	97
Guyana	88	91	82	89	88	90
Jamaica	90	81	88	79	90	81
Montserrat	99	99	99	99	99	99
Saint Kitts and Nevis	99	99	97	98	99	99
Saint Lucia	98	91	95	90	98	90
Saint Vincent and the Grenadines	99	99	99	94	99	99
Suriname	81	74	78	71	85	74
Trinidad and Tobago	91	91	88	98	90	91
Turks and Caicos Islands	99	96	99	91	00	96

Source: Pan American Health Organization, Division of Vaccines and Immunization Expanded Programme on Immunization. Based on Country Information, 2004. Pan American Health Organization, Health Situation in the Americas, Basic Indicators 1998

1.6. HEALTH SERVICES UTILIZATION

Health services utilization, as measured by immunization coverage, is a success story. Childhood infectious diseases such as poliomyelitis and measles have been eradicated due to widespread immunization programmes. The last poliomyelitis outbreak in the Caribbean was in 1982, measles has not been diagnosed since 1991 and rubella since 2002. The Caribbean's impressive immunization coverage is depicted in Table 2.

Another indication of the health services coverage is the percentage of pregnant women attended by trained personnel during pregnancy which is virtually 100 per cent in the Caribbean.

1.7. HEALTH EXPENDITURE

According to PAHO estimates national health expenditure overall (as a percentage of GDP) was 6.3 per cent in 2001 and national health expenditure per capita (current US$) $ 1,069 in the Bahamas to $50 in Guyana, but in terms of PPP$, this range was from $1,124 to $362 for those countries. Public health expenditure (as a proportion of the GDP) ranged from 4.4 per cent in Belize to 1.1 per cent in Guyana.

TABLE 3:
Human Resources by 10,000 population

	Physicians		Nurses		Dentists	
	1997*	c 2002**	1997*	c 2001***	1997*	c 2001***
Anguilla	17.5	9.0	36.3	31.3	1.3	1.3
Antigua & Barbuda	11.4	10.5	32.2	33.2	2.2	2.2
Aruba	12.8	12.8	...	...	2.2	2.2
Bahamas, The	15.2	16.3	23	23.8	2.5	2.5
Barbados	13.7	13.7	51.2	51.2	1.9	1.9
Belize	5.3	10.2	8.0	12.3	1.0	1.3
Bermuda	17.7	17.7	89.6	89.6	4.2	4.2
British Virgin Islands	11.5	11.5	33.0	33.0	2.0	2.0
Cayman Islands	19.4	21.5	53	53.0	3.9	3.9
Dominica	4.9	4.9	41.6	41.6	0.6	0.6
French Guiana	13.9	13.9	86.0	86.0	3.0	3.0
Grenada	8.1	8.1	19.5	19.5	1.1	1.1
Guadeloupe	13.8	13.8	29.9	29.9	3.1	3.1
Guyana	1.8	2.6	8.4	8.6	0.4	0.4
Jamaica	14	8.5	6.5	16.5	0.9	0.8
Martinique	19.7	19.7	56.8	56.8	3.1	3.1
Montserrat	1.8	1.8	29.1	29.1	0.9	0.9
Saint Kitts and Nevis	11.7	11.7	49.8	49.8	2.0	2.0
Saint Lucia	5.8	5.8	22.6	22.6	0.9	0.9
Saint Vincent & the Grenadines	8.8	8.8	23.9	19.8	0.5	1.4
Suriname	2.5	5.0	15.6	22.8	0.1	0.8
Trinidad and Tobago	7.5	7.5	28.7	28.7	1.1	0.9
Turks and Caicos Islands	7.3	7.3	19.3	19.3	0.7	0.7

c = circa
* Pan American Health Organization, Special Programme for Health Analysis (SHA), Health Situation in the Americas: Basic Indicators 1998
** Pan American Health Organization, Area of Health Analysis and Information Systems (AIS), Health Situation in the Americas: Basic Indicators 2003
*** Pan American Health Organization, Area of Health Analysis and Information Systems (AIS), Health Situation in the Americas: Basic Indicators 2004

1.8. HUMAN RESOURCES

Human resource issues remain, especially in the smaller countries, with insufficient personnel, quality of the work force, and problems with retention of trained personnel. Shortages exist in a number of health professions including nurses, epidemiologists, health informatics and the nurses in particular are being aggressively recruited by external agencies.

Human resources (physicians, nurses and dentists per 10,000 population) are shown in table 3. It is important to note the range of resources per unit of population throughout the region, which might in itself make an indirect case for pooling when necessary and with a few exceptions, the relative stability of the situation over the period. Some of the data such as the change in physicians in Jamaica are implausible and indicate the need for better information systems.

The complex health situation of today more than ever demands a public health and population approach, including the capacity to measure needs, advocate and communicate, plan and manage and evaluate health programmes, conduct relevant research, leverage modern information technology, and mount preventive health and educational programmes. In this regard, the UK Faculty of Public Health recommends 25 specialists in public health per million population. The Caribbean is far from this and many countries do not have appropriately qualified chief medical officers, epidemiologists, medical officers of health, health planners, health promotion specialists and investment in strengthening the public health leadership and workforce capacity must soon be an essential part of any health manpower planning.

1.9. ENVIRONMENTAL HEALTH

Although this was not mentioned specifically in the Nassau Declaration, the Caribbean Cooperation in Health identifies Environmental Health as a priority area. According to the UNDP Human Development Report 2003, the percentage of the population with sustainable access to an improved water source in 2000 ranged from 100 per cent in Barbados to 82 per cent in Suriname, while the population with access to improved sanitation in 2000 ranged from 100 per cent (Barbados and The Bahamas) to 50 per cent in Belize. Cases of water-related diseases have been reported (typhoid in Jamaica and cholera in Belize). Ninety per cent of the population in the Caribbean had access to sewerage and excreta disposal services in 1998. However, it is estimated that less than ten per cent of urban sewage is treated before its disposal, and that the proportion of treated sewage from rural communities is probably even lower. The high costs associated with traditional sewage treatment and disposal methods have thus far prohibited broad availability and accessibility to such systems. Management of solid waste shows great disparity between countries. According to the IDB and PAHO, coverage of solid waste collection services in the urban population exceeds 90 per cent in Trinidad and Tobago, ranges between 70 and 90 per cent in Antigua, and between 50 and 70 per cent in Dominica and Grenada.

CHAPTER 2

Overview of the Economic Situation

2.1. INTRODUCTION

Four decades after the first taste of independence in Caribbean countries, they continue to confront the task of strengthening the functioning of their societies in order to address inherent structural weaknesses and vulnerabilities and increase the living standards of the population. With the help of stable political institutions, they have maintained modest, though volatile growth rates on average, achieving middle-income living standards and reasonably good social conditions.

The economic challenges they face fall into two groups. Essentially they are what may be described as short-term macroeconomic stability demands necessary to provide favourable conditions to foster investment and growth on one hand, and the long-term tasks necessary to strengthen the international competitiveness of the region's economic activities and accelerate the momentum of growth and development over the longrun, on the other.

Both macroeconomic stability and long-term development have major implications with respect to health and development. Macroeconomic stability relates to day-to-day public sector financial management aimed at providing the most suitable conditions for private sector-led activity which will generate rising levels of investment, production and employment. When macroeconomic instability occurs, as has frequently been the case in the Caribbean, the allocation of resources to social development may be threatened by the austerity efforts required to restore stability.

2.2. ECONOMIC PERFORMANCE 1970–2002

The economic performance of Caribbean countries as a group has been modest over the period 1970–2002, with real per capita income growth of 1.1 per cent compared with 2.3 per cent for Canada and the USA together, and 1.8 per cent for the Americas as a whole over the same period (see Table 4). However, by 2000, they had all attained middle-income status with per capita GDP, measured in 2000 purchasing-power-parity (PPP) dollars, ranging from $16,875 for The Bahamas to $3,494 for Guyana, and averaging $6,096.

TABLE 4:
Growth of Real Income Per Capita in 2000 PPP$, 1970–2000

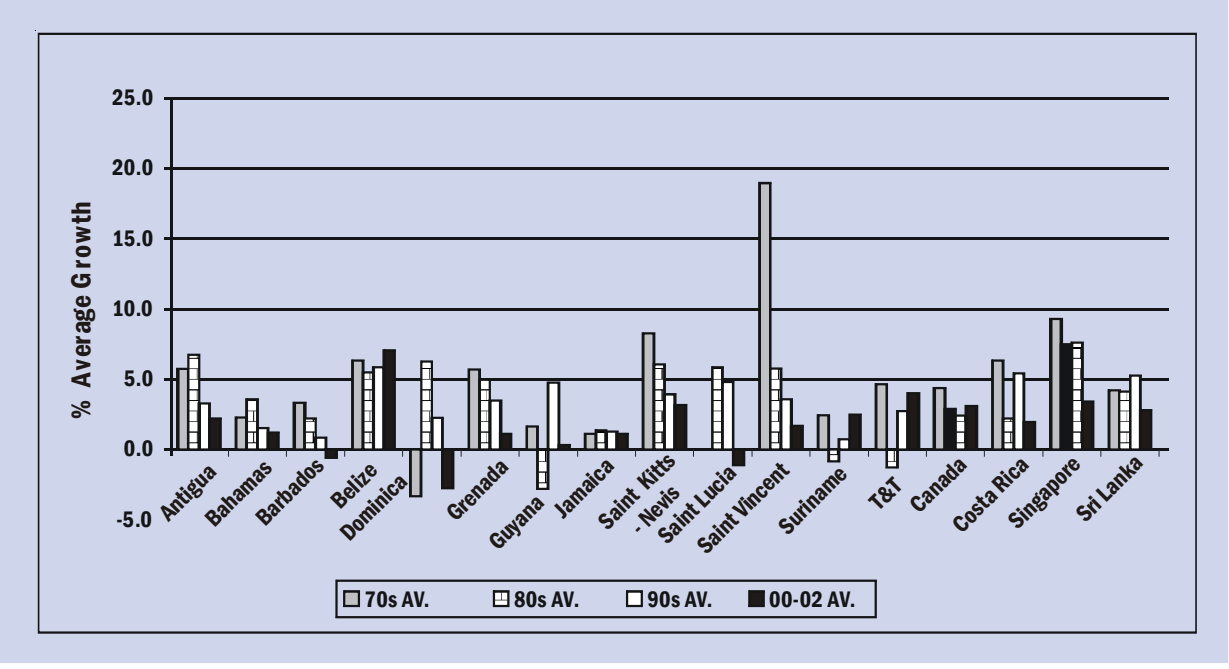
	In 2000 PPP$ Real Income Per Capital Rate of Growth					Rate of Economic Growth		GDP at Current prices US$mn
Countries	1970	1980	1990	2000	1970-2000	2001	2002	2002
Antigua and Barbuda	1,692	2,818	7,667	9,061	5.8	1.5	2.1	721.0
Bahamas, The	12,154	14,658	15,913	16,875	1.1-	2.0	0.7	5,050.0
Barbados	6,507	12,288	13,118	14,770	2.8-	3.4	0.5	2,598.0
Belize	2,556	3,155	4,185	5,056	2.3	4.3	4.4	928.0
Dominica	1,191	2,493	4,282	5,002	4.9-	4.2-	4.6	258.0
Grenada	1,712	2,294	4,370	6,467	4.5-	4.4-	0.4	401.0
Guyana	2,728	2,584	2,258	3,494	0.8	2.3	1.2	722.0
Jamaica	3,220	2,955	3,692	3559	0.3	1.5	1.1	8,365.0
Saint Kitts and Nevis	2,332	3,759	6,863	10,842	5.3	2.3	0.7	356.0
Saint Lucia	2,612	2,615	4,988	5,689	4.3-	4.5	0.2	677.0
Saint Vincent and the Grenadines		2,132	3,835	5,311	5.3-	1.0	1.7	346.0
Suriname				4,178-	0.2			700.0
Trinidad and Tobago	6,931	9,620	6,473	8,438	0.7	2.8	4.6	9,371.0
Americas	10,017	12,656	14,261	17,239	1.8			
Canada and United States	16,985	21,448	26,961	33,850	2.3			
Latin America and the Caribbean	4,170	6,198	5,896	7,035	1.8			
Caribbean Countries	4,386	5,160	5,236	6,096	1.1			

*For the years 1975–1999

Underlying the modest average growth performance of the last three decades was an experience of wide fluctuations in output growth and varying levels of stability in response to commodity price and other changes in international market conditions, domestic policy shocks and natural disasters. High volatility of economic performance is illustrated in Figure 4 by reference to average GDP growth rates during the decades since 1970. As an indication of the volatility of economic performance, GDP growth rates varied between a high of 23.5 per cent (Saint Lucia, 1984) and a low of –15.4 per cent (Suriname, 1987) since the 1980s, and the standard deviation of growth rates for individual Caribbean countries averaged 6.7 per cent, compared with two per cent for Canada and Sri Lanka and four per cent for Costa Rica and Singapore.[1] The high volatility of economic activity reflects the high vulnerabilities and disconcerting uncertainties with which Caribbean economic management has to contend.

Volatility and vulnerability are linked to smallness which is a fundamental characteristic of Caribbean countries. The vulnerability of the countries was brought dramatically into focus by the horrendous hurricane damage suffered by Grenada and other countries in 2004. Also associated with smallness is openness which is measured by the ratio of total trade[2] to GDP, typically over 100 per cent in Caribbean countries. High openness raises the exposure of Caribbean countries to international economic conditions, especially those of North America and Europe with which the region has particularly strong trade and investment ties. This situation is intensified by the high concentration of exports, that is, the tendency for each country's exports to be dominated by one or two products, such as bauxite and alumina,

FIGURE 4:
Decade Growth Averages



petroleum, sugar and bananas, as a result of the inevitably narrow resource base.

This intrinsic integration into the international economy has its counterpart in high historical patterns of emigration from the Caribbean to North America and Europe, and a significant impact in terms of living conditions and aspirations. This, in turn, brings into focus, on one hand, the high remittance flows received by the region, as high as 16 per cent of GDP and rivaling tourism as a source of foreign exchange inflows in the case of Jamaica, and on the other, the severe resource drain in terms of the loss of skilled personnel, including health service providers.

Over the last three decades, almost all the countries in the region, including better-off ones, have at some point been tested by macroeconomic difficulties and even crisis conditions. These difficulties have typically presented themselves in the form of crises of high fiscal deficits, accompanied typically by high, unsustainable debt, high inflation and interest rates that hinder investment and growth and declining international reserves that undermine exchange-rate stability and external stability in general. For most Caribbean countries, an appropriate fiscal target would be a fiscal deficit of 2.5 per cent of GDP or less but, as table 5 indicates, fiscal deficits have continued to be somewhat higher over the last decade and a half. It is clear that maintaining macroeconomic stability will be a continuing challenge for Caribbean countries in their efforts to sustain rising economic performance.

If anything, the countries that have avoided the worst effects of macroeconomic instability are the OECS countries, reputedly because of the collective monetary constraints of the Currency Board arrangements by which they are governed. But even those arrangements have not been sufficient to save Dominica from a severe fiscal crisis, prompted in part by recent shocks to its dominant banana industry.

TABLE 5:
Government Expenditure, Revenues, Deficits and Debt

	Government Expenditures		Government Revenues		Overall Fiscal Balance		Total Public Debt	
	(% of GDP)		(% of GDP)		(% of GDP)		(% of GDP)	
	1990-97	1998-03	1990-97	1998-03	1990-97	1998-03	1997	2003
Antigua and Barbuda		29		21	-5	-8	102	142
Bahamas, The					-2	-2	46	48
Barbados	27	37	24	32	-3	-5	62	84
Belize		32		21	-6	-11	41	100
Dominica	35	41	32	32	-3	-8	61	122
Dominican Republic	16	18	14	15	-3	-3	23	56
Grenada	31	37	28	30	-4	-7	42	113
Guyana	38	44	34	38	-4	-6	211	179
Haiti	9	10	5	7	-4	-4	n.a.	44
Jamaica	28	35	28	27	0	-9	103	142
Saint Kitts and Nevis	30	43	28	32	-2	-11	86	171
Saint Lucia	27	29	26	26	-1	-3	36	69
Saint Vincent and the Grenadines	31	33	30	29	-1	-4	48	73
Suriname		36		30	-4	-6	24	44
Trinidad and Tobago	28	26	28	24	0	-2	52	54
Caribbean Average	27*	32*	25*	27*	-3	-6	67	92

Source: IMF, from World Bank, *A Time To Choose: Caribbean Development In The 21st Century.*
*11 country average. Note: Differences between fiscal balance and revenues minus expenditures reflect rounding.

2.3. DEBT

Stabilization crises have typically been accompanied by unsustainable debt accumulation and external pressures marked by declining reserves and exchange rate depreciation. Indeed, debt levels that put most Caribbean countries among the top 30 most indebted countries in the world is a significant feature of these countries. As table 5 shows, 6 of 15 Caribbean countries have outstanding debt that is well in excess of their total GDPs and 10 of them have debt to GDP ratios above the Maastricht indicative target of 60 per cent.

The heavy burden of debt on Caribbean countries is indicated by high ratios of debt service to GDP and government revenue. Debt service payments as a percentage of total government revenue have been quite high for some countries. In the case of Guyana, for example, debt service obligations averaged about 46 per cent of revenue over the period, despite significant debt relief and recent benefits from the Highly Indebted Poor Countries Initiative, while in one country interest obligations alone have exceeded 60 per cent of revenue in recent years, severely limiting the amount of 'discretionary' funds available to spend on public sector goods and services.

A significant recent development is rising domestic debt stock in some countries, even as external debt appears to be in check. The potential for domestic debt to wreak havoc with respect to economic stability should not be underestimated, as the recent experience shows. In all cases, remedies to the problems have necessitated major adjustment, typically in the form of exchange-rate depreciation and some form of debt restructuring, often with the involvement of international multilateral agencies. A notable exception was Barbados in the early 1990s, where exchange-rate adjustment was warded off partly by nominal wage

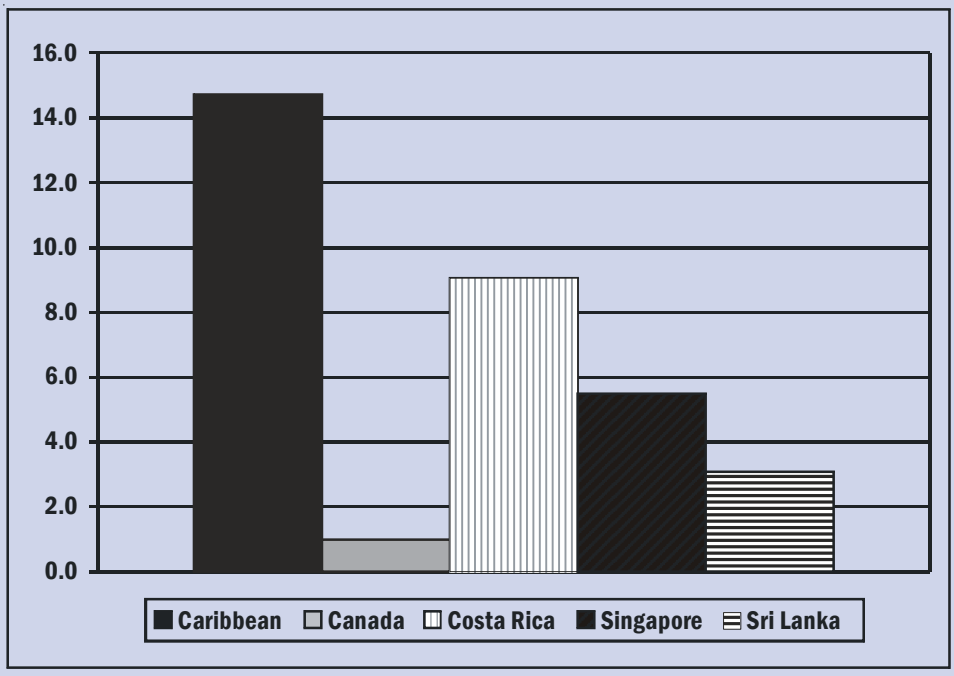
cuts in the public sector, backed by policy consensus among the main social partners; labor, the private sector and government. But the crisis can be associated with a virtual collapse of the financial sector and a huge accumulation of debt.

2.4. EMPLOYMENT

Despite the consistent loss of labor through emigration, high unemployment remains an intractable problem in Caribbean countries. The unemployment rate has been typically in double-digits, sometimes over 25 per cent, and has tended to remain relatively high even during periods of increased growth. The problem of high unemployment therefore represents one of the most pressing problems in the Caribbean, exacerbated by the reality of weak or non-existent safety nets.

Caribbean countries are also characterized by large informal sectors, that is, sections of economic activity, whether legal or illegal, which are not detected for official purposes such as payment of taxes and escape measurement in the GDP. The informal sector varies in size from country to country but has been estimated to be as large as 45 per cent in one Caribbean country. The informal sector is considered to be a hive of economic activity, typically micro and small in scope, but it can also undermine economic stability through significant tax evasion and dereliction of other institutional norms. It is important as a refuge for people who cannot find formal employment and there may be significant exercise of entrepreneurship. Consequently, the informal sector represents both challenge and opportunity in terms of the scope for transformation that raises its productivity and the beneficial impact on the country as a whole.

FIGURE 5:
Comparative Unemployment Performance



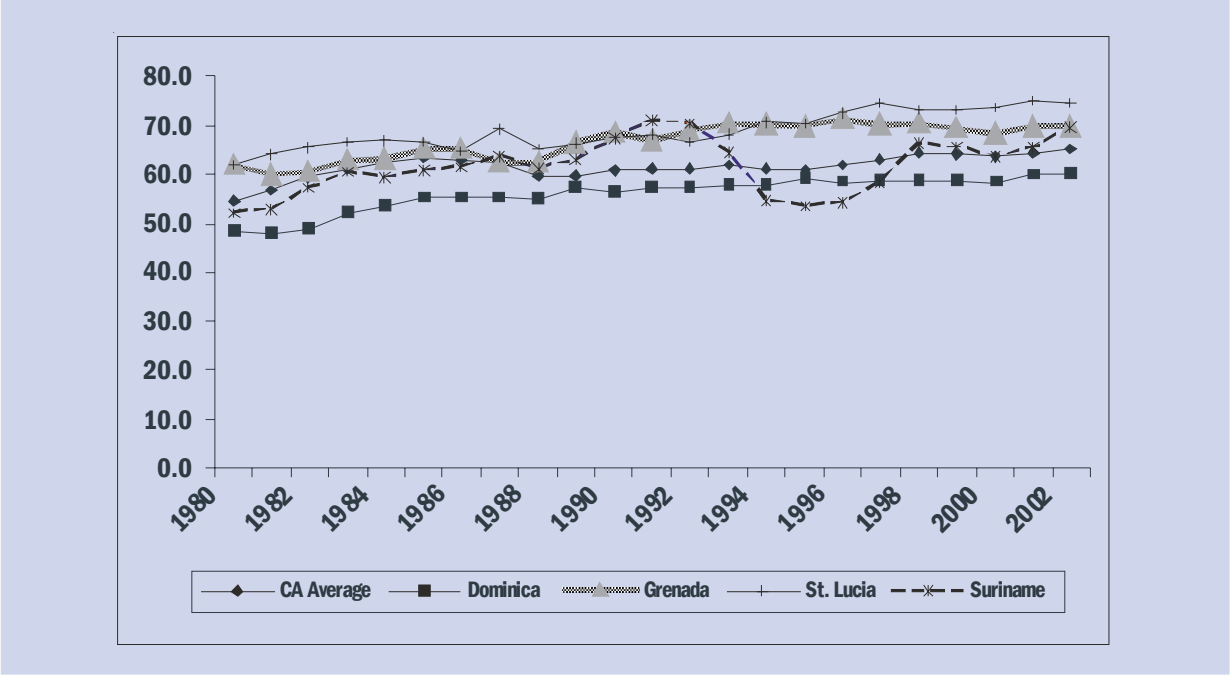
2.5. POVERTY AND INCOME DISTRIBUTION

The data reflect the persistence of high levels of poverty in the region ranging from 14 per cent to 61 per cent. Poverty seems to be concentrated among the young, unskilled, rural and inner-city populations. In addition, relative poverty is also a common feature among many people who can be considered as the 'working poor'. In terms of income distribution, the Gini coefficients cluster in the 0.35 to 0.50 range, indicating relatively high levels of income inequality in the region. Levels of poverty and skewed income distribution directly affect the health status and health-seeking behaviours of the affected persons as well as the magnitude of public resources needed to finance and provide health services in all countries.

2.6. STRUCTURAL CHANGES

Development over recent decades has been reflected not only in the growth of output quantitatively but also in qualitative changes that are transforming the societies and increasing the complexity of the challenges they face. Qualitatively, a significant change has been a gradual structural shift away from goods production towards services in most of the countries. As Figure 6 shows, the average contribution of services to GDP for the region as a whole has risen from 52 per cent to 65 per cent since the 1970s. Indeed, the rise in the value added contribution of services is even more dramatic in the individual countries where it has shown increases of up to 50 per cent. In several countries of the region, tourism and financial services are leading the way in raising the share of services in total output, while the shares of agriculture and manufacture, challenged by rising competitiveness and liberalization pressures, are actually contracting. For example, tourism and financial services contribute 65 per cent of GDP in The Bahamas and around 15 per cent in Barbados and Jamaica. By contrast, the GDP share of agriculture is in single digits for most Caribbean countries with the notable exceptions of Guyana, where it is around 30 per cent, and Belize.

FIGURE 6:
Average Percentage Contribution of Services to GDP for Caribbean Countries



Two countries where the growth of the contribution of services to GDP has been less marked are Guyana and Trinidad and Tobago. This may be attributed to the fact that both countries depend heavily on major mining industries (Trinidad and Tobago with petroleum products, Guyana with bauxite and gold), and besides, agriculture continues to be an extensive activity in Guyana. Retail and wholesale distribution continue to make large contributions to total economic activity and construction has also been significant. Other qualitative changes include structural reforms aimed at strengthening the supervision of financial sectors and the role of the private sector in economic activity.

2.7. CHALLENGES

In spite of the fact that the Caribbean countries have in the main achieved middle-income status, there are considerable problems in achieving and maintaining macroeconomic stability. Current and impending changes in the international economic environment are increasing the urgency of addressing their competitiveness challenges. Over the next few years, they face the challenges of a rising tide of liberalization affecting domestic markets, the dismantling and erosion of traditional trade preferences, the possible introduction of hemispheric integration and increased competition from other countries in key industries such as tourism. At the same time, all countries have to be conscious of the opportunities and perils posed by the rapid advances in information technology. Another significant change affecting these countries is declining flows of official development assistance so that they will have to rely increasingly on private capital markets to support public sector investment. In this regard, macroeconomic stability will play an increasingly important role in ensuring the most favorable credit terms.

With respect to long-term development, the challenge is to foster a climate for business activity that would stimulate continuing improvements in growth of investment, output and employment. Typically, this calls for an on-going agenda of investment, capacity building and institutional strengthening relating to economic management and governance, physical and social infrastructure, labour market conditions, small business development and the fostering of sustainable environmental conditions.

Caribbean countries have been responding to these challenges in several ways. At the country level, the value of keeping a tight rein through fiscal and monetary policy is widely recognized. In addition, different structural reforms are being implemented to modernize the public sector, build capacity, improve its performance, and strengthen its mechanisms of good governance and management. Concurrently, the region is looking to the deepening of regional economic integration, encompassing free movement of capital and labor factors, to provide added stimulus to economic growth.

NOTES

1. To provide frame of reference, data is presented for four countries: Canada, Costa Rica, Singapore and Sri Lanka, which have been arbitrarily selected.
2. That is, the sum of exports and imports of goods and services.

CHAPTER 3

Health Investment and Economic Growth

3.1. RETURNS TO HEALTH AS A PRODUCTIVE ASSET

When the Heads of Government referred to the important link between health and development it was possible to interpret this as a quest to relate health to the economic possibilities of the region. However, it is now clear that the concept of human development embraces much more than economic growth. Human development can be construed as the enhancement of all the human capabilities and in that context must embrace such things as education, environmental concerns, education and a wide spectrum of human rights and freedoms as well as economic growth or plain wealth. Without any of these human beings will not be able to 'develop' and realize their potential fully. (Sen, 1999)

However, the notion of economic growth being coterminous with development has a long history, perhaps because of the perceived primacy of wealth in permitting the human choices needed for development. Although emphasis will be placed here on the relationship of health to wealth, the other aspects of human development must not be ignored.

The impact of wealth on health has been well recognized. The wealthier societies of the world are the healthier societies of the world. Cross country analyses show that there is a relationship between individual wealth and some measure of health such as life expectancy, although the relationship weakens with higher levels of income as shown in the famous curves of Preston (1975). There is good evidence for a gradient in the relationship such that in all social classes, the wealthier are healthier. Thus, there is no clear demarcation between the poor and the rich in terms of health, but the distribution of health is some positive function of wealth. This relationship is seen clearly in children (Case et al., 2002). The poorer children suffer more illnesses, miss more days of school and this differential widens as children age, carrying over into adulthood the health differential which began in childhood and was related to poverty. Wealth also contributes to health in that the wealthier can afford better sanitary conditions and thus are not subject to the environmental hazards that may be a potent cause of ill health.

There is one intriguing fact that appears at the population level. It is clear that income is not the main or sole determinant of population health and there are several poor countries that show remarkable health indicators. Preston (1975) demonstrated that at constant income levels the health situation of countries had improved steadily over the decades and the possible determinant of the change was the introduction of various technologies.

The reverse impact of health on wealth or of health on economic growth has been the subject

of considerable interest more recently and is more important here. It is critical that due emphasis is placed on the intrinsic or constitutive value of health. Good health is important in and of itself and every effort should be made to preserve it. The many international declarations of rights speak to the right of humans to have access to the sanitary and social measures necessary to protect and promote health. But health also has an instrumental value which is of equal importance and this value is one to be stressed when policy decisions are made that impact on the resources allocated to the various sectors of the modern state.

The contribution of health to productivity and wealth is often seen as an expression of the value of human capital. Health contributes to human capital which is an attribute of the person and cannot be separated from him or her to the same extent that physical capital can (Becker, 1993). All persons are born with a certain stock of this capital and various life processes increase or decrease it. The main ingredients of this human capital are the knowledge, skills and values which are engendered and maintained essentially by health and education.

3.2. CHANNELS FOR THE HEALTH TO WEALTH LINK

The economic returns to health come through several channels. Good health enhances labour productivity. There are excellent microeconomic data that show the increase in individual productivity with good health. The best studies have used height as a proxy for the accumulation of health benefits over time and show that taller individuals produce and earn more than shorter ones. (Strauss and Thomas, 1998). The slope of the relationship is less acute in countries where the productivity comes more through the use of knowledge and less through physical labour, but the relationship persists. Conversely, illness decreases productivity, and it must be appreciated that it is not only physical, but mental illness also which decreases productivity.

Ill health will decrease household and ultimately societal income because of the need for the well to take care of the ill, and in many instances the expenditure that accompanies illness causes families to expend those resources on which they depend to generate income. These indirect costs of illness, especially those that are chronic can be a potent cause of individuals or families falling into or failing to escape the poverty trap.

The poor health of the environment, much like epidemic disease, has an economic cost. The classic example in this hemisphere is the impact of malaria and yellow fever on the attempt to construct the Panama Canal. It is only when these diseases were brought under control that the project could proceed to a successful end. The recent SARS epidemic is another example which has brought home clearly the size of the possible losses. It is estimated that the city of Toronto lost $US one billion because of the epidemic.

There are also good macro-economic data on the health to wealth relationship. Barro (1997) on the basis of an inter-country study of differences in growth rates, identified the following variables as the ones most positively correlated with growth:

- Lower initial GDP
- Initial human capital
  - Measured by male secondary (and higher) schooling and,
  - Life expectancy
- Lower fertility rates
- Lower government consumption ratio
- Rule of law
- Terms of trade
- Lower inflation rate

Barro's analysis showed a significant positive effect on growth from initial human capital in the form of health, proxied by life expectancy. His work from a cross country analysis of 138 countries suggested that a five-year advantage in life expectancy would give a country 0.3 per cent to 0.5 per cent higher annual growth of GDP.

The economic historian Robert Fogel (1992, 1997, and 2000) has clarified the relationship

between body size and nutrition and shown that these are critical for long term productivity. He estimates that 30–50 per cent of the economic growth of Europe in the nineteenth century was due to improved health and nutrition. Arora (2001) has also demonstrated by historical analysis that health improvements had an impact on economic growth that was higher than could be attributed to increased use of machinery and technological innovations. He estimated that changes in health increased the economic growth of ten industrialized countries over the course of 100 to 125 years by 30 to 40 per cent. The work of Mayer et al (2000) also showed that health leads to long-term economic growth. They found that health had a greater impact on economic growth than education, but the effect had a lag period of up to between 15 and 20 years. Because of this lengthy lag it will be important to identify indicators which reflect the cumulative impact of investment in health on proximate determinants of growth over much shorter periods.

The impact of nutrition was shown to be critical in Fogel's work, but it can also be observed clearly in the short term. Improvement of childhood nutrition improves cognitive ability and therefore enhances the child's capacity to learn and thereby increases the stock of human capital (Bhargava et al 2001). The impact of nutrition is seen well into adulthood as the caloric intake of children in early life is related to earnings in adulthood (Fuentes et al., 2001).

Bloom, Canning and Jamison (2004) point to additional pathways from health to wealth. With better health and higher life expectancy there is increased tendency to save for retirement and these savings can lead to overall economic growth. They also describe the demographic dividend which occurs when the fall in infant mortality precedes the fall in fertility that accompanies improved health conditions. This leads to a temporary increase in the population of working age, which, in the presence of the appropriate macroeconomic conditions, enhances overall productivity. This demographic dividend occurs only once and the window closes once the mortality and fertility patterns become more synchronous. These authors suggest that one extra year of life expectancy increases steady state GDP by about four per cent.

The OECS Human Development Report, 2002 presents similar findings for the nine countries of that sub-region. Life expectancy had a positive and significant impact on real GDP growth and for every unit change in life expectancy, there was an increase of GDP growth of 0.4 per cent.

3.3. IMPACT OF HEALTH INVESTMENT

Both foreign direct investment and tourism can be seen as proximate determinants of the growth process in a number of Caribbean countries. Foreign direct investment and tourism may also have important socioeconomic impacts, but this analysis will be limited to the growth effects induced by these two sectors and the extent to which health impacts on them.

Government expenditure on health and education in the Caribbean has been maintained at reasonably high levels. In terms of GDP shares, public expenditure on education averages 5.5 per cent and on health 3.4 per cent. In many countries health and education constitute the largest or the second largest (after national security) share of the government's budget.

These public expenditure allocations are normally augmented by private sector expenditure, which means that at national level a considerable amount of resources are being allocated to these two critical sectors. However, even where private expenditure is equal to public expenditure, because of the vast difference in unit cost to the individual, the tenor of the national system is set by the public sector. This is particularly true of the health systems in the region. The assumption here is that population health status in the Caribbean is positively correlated with public health expenditure, which is not far-fetched since it is public expenditure that is mainly responsible for the activities and the infrastructure which impinge most on population health.

3.3.1. HEALTH AND FOREIGN DIRECT INVESTMENT (FDI)

While the literature has succeeded in establishing a credible link between health investment and economic performance, there has been no particular concentration on the impact through foreign direct investment or tourism. Yet this would be one of the important links to make in a region where the dependence of many of the economies on tourism and foreign direct investment is well known.

The argument here is that a healthy and productive work force acts as one of the magnets attracting foreign direct investment. Increasing FDI in a country brings in new capital, new technologies, and management principles, increased international linkages, expanded export opportunities and greater domestic competition and product variety. If health investment attracts more FDI by increasing the quality of human capital as well as improving the quality of the environment within which investors and their agents will have to operate, then this will redound to the economic benefit of the region.

Bora (2002) has argued that most developing countries consider FDI as a vital resource for development. However, he noted that the economic effects of FDI are very difficult, if not impossible, to measure accurately because transnational corporations represent a complex package of attributes that vary over time and from one host country to another. In these circumstances it will be convenient to treat foreign direct investment as an additive component of the country's total investment. The FDI inflows into the Caribbean are shown in table 6.

3.3.2. HEALTH AND TOURISM

Tourism is said to be the largest industry in the world and it is growing in the Caribbean as is shown in table 7. Tourists choose their destinations because of the value of the total package offered. This package comprises the physical quality of the tourist product and also includes the human dimension of the destination. Given the importance of the quality aspect of the tourism product and its labour intensity, the pool of human capital available in a country is a fundamental factor in the development of this industry.

TABLE 6:
Inflows of Foreign Direct Investment in the Caribbean (US$ Millions 1994–2001)

	YEAR							
Country	1994	1995	1996	1997	1998	1999	2000	2001
Antigua and Barbuda	24.81	31.47	18.75	22.94	22.77	30.66	33.11	39.07
Bahamas, The	23.40	106.8	87.80	210.0	146.90	144.60	249.70	100.80
Barbados	13.00	11.80	13.30	14.80	15.80	17.40	19.40	18.60
Belize	15.40	21.10	16.60	12.00	17.70	47.40	17.70	59.90
Dominica	22.63	54.09	17.79	21.11	6.51	17.96	10.82	11.90
Grenada	19.31	19.98	17.90	33.50	48.69	41.55	37.41	48.85
Guyana	106.70	74.40		52.00	44.00	46.00	67.10	56.00
Jamaica	129.70	147.40	183.70	203.30	369.10	523.70	468.30	613.90
Saint Kitts and Nevis	15.34			19.67	31.93	57.74	96.21	88.03
Saint Lucia	32.41	30.31	23.03	47.83	83.40	82.81	54.90	22.37
Saint Vincent and the Grenadines	47.28	30.64	18.20	92.48	88.96	56.07	29.15	21.07
Trinidad and Tobago	516.20	298.90	355.40	999.30	729.80	643.30	679.50	834.90
Suriname	-30.20	-21.30		-9.20	-9.10	-61.50	-148.00	-26.80

TABLE 7:
Visitor Expenditure as a Percentage of GDP

Destination	1996	1997	1998	1999	2000
Anguilla	73.73	79.55	92.03	82.36	83.06
Antigua and Barbuda	57.08	55.28	59.84	64.70	63.36
Bahamas, The	40.11	36.03	32.87		44.03
Barbados	37.42	36.80	35.93	32.15	33.01
Belize	14.68	14.30	17.16	15.86	16.44
Bermuda	25.26	23.80	24.11	22.51	20.25
British Virgin Islands				46.61	48.97
Cayman Islands	67.75	76.09	79.11		
Dominica	18.18	19.15	23.27	29.25	28.18
Grenada	29.66	28.41	27.23	27.65	27.28
Guyana	11.91	9.51	8.96	9.94	14.58
Jamaica	22.38	19.12	19.21	20.65	21.26
Montserrat	23.15	16.92	31.31	38.94	43.17
Saint Kitts and Nevis	32.44	30.30	40.77	36.54	28.09
Saint Lucia	56.31	57.08	69.97	72.19	63.75
Saint Vincent and the Grenadines	27.08	28.63	34.45	35.25	32.94
Suriname	5.68	9.35	5.73	8.88	7.64
Trinidad and Tobago	2.14	3.55	3.39	3.10	3.59
Turks and Caicos Island	101.44	101.27	129.59	158.67	

Source: Central Statistical Office, IBRD and CDB Reports

The health status of a nation therefore affects tourism through its effect on productivity and through image and perception. In addition, the quality of the health services in the region is important, and often affects the decision on selecting a destination. Especially for the older tourist, it is important to be assured that there are good health services available.

Globally and in the Caribbean, tourism industry think tanks in the last five years have consistently pointed to health, safety and security as important factors in profitable and sustainable tourism. Environmental conditions and the degree of 'greening' or environmental consciousness of an establishment and destination are also prominent factors in traveller choice. European Commission directives on tours hold the operator liable if there are health problems or outbreaks among travellers. In this more safety and health conscious environment, with more litigious consumers, the impact of health problems in the industry and therefore on national economies is considerable. CAREC has investigated many large, preventable, health problems in the tourism industry in the Caribbean (including Dominican Republic) in the past eight years and estimates that over US$200 million has been lost by the tourism industry. The quality of the tourism product thus extends beyond the 'front of house' issues of attractiveness of the rooms and beach, to the 'back of house' issues such as food safety and environmental management, and failure to invest in this aspect of product quality and preventive systems causes loss of revenue.

3.3.3. MODELING THE RELATIONSHIP

In linking health to economic growth it will be useful to begin by modelling the relationship between health investment and the presumed growth factors, FDI and tourism. The policy significance of the relationship between investment in health and FDI or tourism arises in a context where there are valid competing investment claims in the development programme of any country. If expenditure on health is seen mainly as a consumption outlay, contributing possibly to

welfare but not to productivity or output, its priority ranking is likely to suffer when investment competition intensifies.

Tourists and investors are not likely to come to the Caribbean if they believe that their health and the health of those connected to them will be in jeopardy in this environment. In the case of FDI as well as tourism, people leave their own environment, including their own health system, in exchange for the Caribbean environment and the Caribbean health system. Also, in both cases there is an expected interaction with local personnel in deriving the investment return or the welfare benefit expected. A reasonable assumption therefore will be that the elements of the health system that will matter to the investor or the tourist will be the public health and primary care sub-system. In other words, it is the good-health propensity of the environment and the ability of the system to respond to minor and major emergencies that will matter. Basic environmental sanitation, insect vector control and the quality of the water supply will also matter. It would be reasonable to assume that the investment in health that matters to our analysis is therefore investment in public health promotion and protection as well as investment in primary care facilities, including facilities for emergency care.

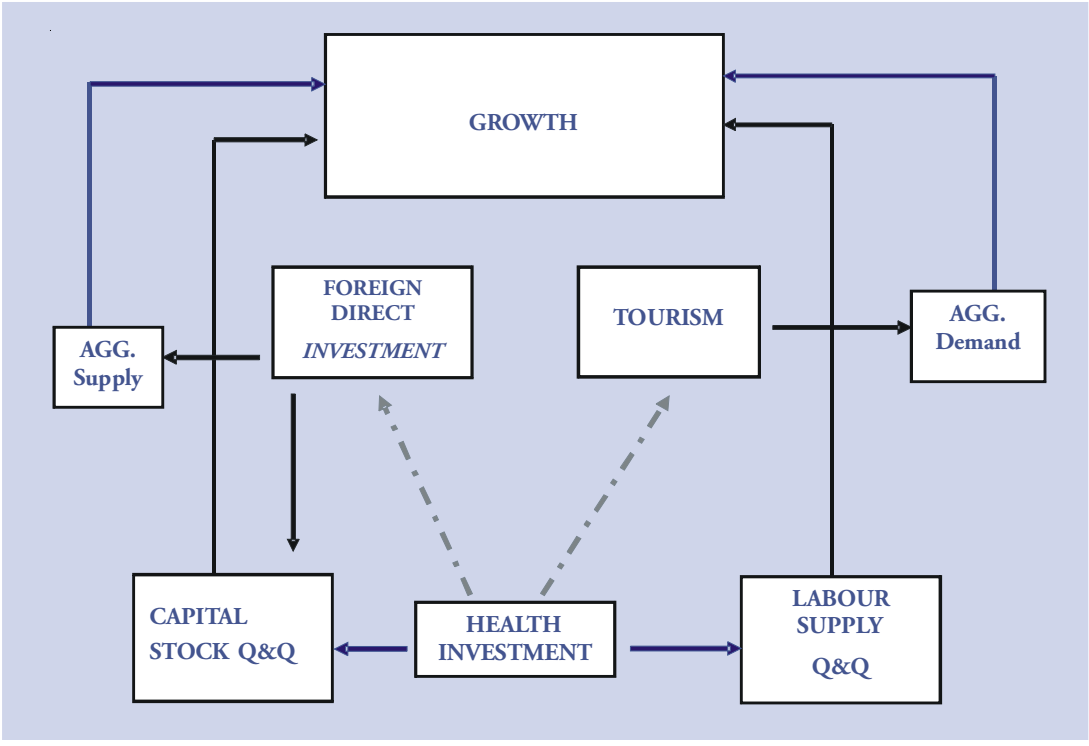
The outline of a framework within which the various assumptions can be accommodated is set out below. It is anchored on the assumption that growth depends on two broad factors: the capital stock and the labour force. However, the growth process is influenced both by the size and the quality of these drivers. Figure 7 represents this by the Q&Q symbol, reflecting quantity and quality. A supporting assumption is that each of these broad factors is affected by the level of health investment. The impact of health investment on the capital stock comes from various sources including the increase in savings as has been postulated above.

The impact on the labour supply comes partly from the health promotion, nutrition and disease prevention activities undertaken. Maintaining the health of the labour force contributes to the productivity of the country as several microeconomic analyses have shown. The labour supply influence is a direct one since it speaks to the health status of the producing agents in the economy. The capital stock influence is less obvious since it is based on the understanding that capital is really accumulated savings.

The second aspect of the framework introduces FDI and tourism and assumes that they both impact on the growth process. The framework portrays the assumption that FDI impacts on growth partly through its contribution to the capital stock of the country and partly through its impact on aggregate supply. Tourism, on the other hand, impacts on growth through its contribution to aggregate demand. What is important for present purposes is the inclusion of the possibility, portrayed by broken arrows that these two phenomena are subject to the influence of health investment.

The framework contains ten (10) identifiable influences which, in principle, could be empirically determined. Of these, two are of immediate concern to us. These are the ones shown as broken arrows, raising the possibility of a significant link between health investment and FDI, one the one hand, and tourism on the other.

FIGURE 7:
Health Investment and Economic Growth



Using aggregate health expenditure as a proxy for health investment it will be important to establish an empirical relationship between aggregate health expenditure and net FDI flows on the one hand and tourist arrivals and tourist expenditure on the other. The details of the econometric analysis are found in the Working Paper 'The impact of health investment on foreign direct investment and tourism in the Caribbean'.

The results lead to the conclusion that in the case of Trinidad and Tobago a one per cent increase in health expenditure is expected to lead a three per cent increase in FDI flows with a lag period of about two years. Admittedly the implied elasticity of FDI is somewhat higher than expected, and no doubt should be subject to further investigation.

The results for Barbados are that a one per cent increase in health expenditure would lead to a 1.1% increase in tourist expenditure and a 0.8 per cent increase in tourist arrivals all other things being equal and suggest that the positive impact of health expenditure on tourism shows up even in the very short run. These results have to be interpreted with much caution, since the use of tourist arrivals and gross tourist expenditure as proxies for the tourism impact may overstate the impact being investigated.

3.3.4. HEALTH TOURISM

Although the thrust of this chapter has been the returns to tourism from investing in health, the possibility of economic returns from tourism for health purposes has been under consideration for some time. (Alleyne, 1991) and there has been considerable interest in the fact that another Caribbean country, Cuba is said to have reported revenues of $US 30 million in 1998 from health tourism. (PAHO, 1999) Huff-Rousselle et al (1995) made a detailed analysis of the prospects for health tourism and identified the main weaknesses and strengths to be considered if the

region was to venture into this area. The major weaknesses were the deficiencies in the public care systems, limited private care capacity, and the problems associated licensing, accreditation and government incentives. The main strengths lay in the low labour costs, physical proximity and easy access to major markets and the physical attractiveness of the region.

A more comprehensive analysis was undertaken more recently (Gonzales 2001) which dealt with the issue also from the point of view of the WTO/ GATS arrangements and the possible trading negotiations that might take place. This study covered possibilities in convalescent care and rehabilitation, health and wellness such as use of spas, drug and alcohol dependency programmes and the use of local health services by tourists. Although it identified with some of the same problems described by Huff-Rouselle et al, its conclusions were more optimistic as to the potential for this area. It established that the main barriers were 'the nature of medical practice, financing of care and insurance coverage, accreditation and standards, immigration and foreign exchange requirements and the competition within the region'. The factors that made it an attractive option for the region were: 'an attractive climate and environment, well trained health practitioners, reliable telecommunications and good transport infrastructure, excellent hotel and tourism services, and educated population and lower labor costs than most developed countries'.

There is already a growing health tourism industry particularly in relation to health and wellness in some countries such as The Bahamas. The portability of insurance related to the accreditation of practitioners and facilities is probably one of the more difficult issues to be addressed, which gives more urgency for the development of Caribbean wide accreditation mechanisms.

None of the problems identified are insuperable and it would seem that there is some urgency for the region to address itself seriously to the barriers that are inhibiting growth in this potentially productive area and overcome them.

3.4. CONCLUSIONS

- The arguments are put for regarding health as a productive asset and not only of value because it is intrinsically good
- The channels of the health to wealth link are explored with emphasis on the importance of human capital
- On the basis of the analysis and in spite of the data limitations it can be concluded that health expenditure has a significant impact on FDI flows, in the case of Trinidad and Tobago, and on activity in the tourism sector of Barbados. These impacts are not only significant but are also positive.
- The empirical analyses presented represent the experience of Trinidad and Tobago and Barbados only. Nevertheless, these results suggest that until the evidence of the similar economies in the Caribbean tells us otherwise, it may be prudent for all policy makers in the region to consider the results as speaking to the entire region.
- The state of health and especially that of the environment is important for the attractiveness of the tourism product.
- The returns to health tourism could be great if the region addresses seriously the barriers that now exist.

3.5. RECOMMENDATIONS

- This line of analysis of the impact of health on the drivers of economic growth such as FDI and tourism must be continued to include other variables. It should be possible to test whether the influence of health on these two sectors is as or more robust than other variables that are traditionally linked to economic growth.
- The analysis must be strengthened both by the use of alternative estimation methods and by an extension to a wider set of Caribbean countries, using a better set of health investment data and longer time series.

- Policy advisers and planners must be more cognizant of the economic returns to health especially in situations where there are competing valid claims for scarce budgetary resources.
- The region must recognize the impact of the health and health safety considerations on the attractiveness of the tourism product and factor these into its design and promotion.
- The region must pay urgent attention to removing the barriers to the growth of health tourism which could represent a significant revenue stream.

CHAPTER 4

Noncommunicable Diseases and Mental Health

4.1. ECONOMIC DEVELOPMENT AND THE EPIDEMIOLOGICAL TRANSITION

The changing pattern of noncommunicable diseases (NCDs) observed in countries across the world has been conceptualized broadly within the framework of the 'epidemiologic transition' (Omran 1971). A process described in a wide range of geographic settings links the decline in under-nutrition and infection and a change in life styles associated with development to the rise of cardiovascular diseases (CVD), cancer and conditions associated specifically with aging. In advanced industrialized countries, CVD and cancer account for just under two-thirds of all deaths; the leading CVD condition is coronary heart disease (CHD), and lung and breast are the dominant cancer sites. Arthritis and depression emerge at the same time as the most important causes of morbidity. This transition is currently the underlying process determining the health of adults in the Caribbean.

Although there is no doubt that the general pattern ascribed to the epidemiologic transition has characterized the public health trajectory of most countries over the course of the 20th century, there is nonetheless the risk that this theory 'over-determines' the result for specific countries. In particular, CHD and lung cancer only become principal causes of death where animal products account for a large proportion of calories in the diet and cigarette smoking is widespread. While virtually all modernized societies have embraced these lifestyle patterns to some degree, significant variation exists, and the evolving structure of illness can be quite distinctive. In many societies, particularly the island nations in the tropics and among indigenous peoples in America and the South Pacific, diabetes — rather than CHD — has emerged as the most significant 'new disease' of the epidemiologic transition. Furthermore, while stroke has fallen to very low levels in countries such as the USA and Australia, it remains a leading cause of death in most of East Asia and the Caribbean. It follows that the interpretation of trends and future projections must be undertaken on the basis of an analysis of original data from the country of interest. An important goal of this analysis is, therefore to determine if a particular 'sub-type' of the epidemiologic transition is currently taking place within the Caribbean, and what new and adaptive strategies might be required to control the resulting epidemics (Forrester et al 1998).

As suggested above, the epidemiologic transition is largely driven by economic development and associated changes in lifestyle patterns. The character of this development, the tempo of change, the resiliency of the underlying cultural traditions and the buffering mechanisms that are in place determine how economic development in turn moulds the public health. The economic imperative to consume – both fossil fuel and electricity and ever increasing amounts of

food, while at the same time reducing physical work as an input into economic production, creates the driving force behind the epidemics of obesity, diabetes, atherosclerosis leading to cardiovascular diseases and cancer.

4.2. NONCOMMUNICABLE DISEASES

Whatever limitations might exist in official data sources, there can be no doubt that the non-communicable diseases (NCDs) are the leading threats to health and well-being in the Caribbean. When summarized for the period of the late 1990s, the percentage of deaths coded to the four leading causes are 35 per cent for CVD, 11 per cent for diabetes mellitus, five per cent for cancer and three per cent for HIV; together these syndromes account for approximately 54 per cent of all deaths. Among the six per cent of deaths that were classified as 'ill defined' might be additional cases resulting from CVD or cancer. (Only cancer deaths from the three major causes — prostate, uterus/cervix and breast — are included; total cancer deaths are likely to be in the range of ten per cent).

4.2.1. CARDIOVASCULAR DISEASES

As noted previously, cardiovascular diseases (CVDs) have become the leading cause of death in all countries that have adopted the 'westernized' or Euro-American lifestyle. Stroke, which is a 'residual disease' of pre-industrialized societies, has generally emerged at the outset of this transition as the major cause of death in the elderly.

Atherosclerotic coronary heart disease (CHD) emerged as a mass phenomenon later in the epidemiologic transition, when agricultural productivity and earning power reached a high enough level that large segments of the population consumed animal products on a regular basis and blood lipids rose substantially. Other less frequent categories of CVDs include hypertensive heart disease and renal failure, which are primarily caused by hypertension and diabetes.

Age-adjusted, gender-specific mortality rates from heart disease, stroke and all CVD for selected countries in the 1990s for the Caribbean region are presented in Table 8.

TABLE 8:

Age-Adjusted Death Rates of Coronary Heart Disease, Stroke and Total Cardiovascular Diseases, Caribbean Countries, Selected Years in the 1990s

Country	CHD			Stroke			Total CVD		
	M	F	Both	M	F	Both	M	F	Both
Antigua and Barbuda (1995)	N/A	N/A	N/A	N/A	N/A	N/A	329.9	218.0	270.1
Bahamas, The (1997)	65.2	44.6	53.3	69.0	65.2	66.8	241.5	202.2	218.7
Barbados (1995)	67.6	51.9	58.1	102.8	79.9	89.1	300.0	230.1	256.6
Belize (1998)	N/A	N/A	N/A	N/A	N/A	N/A	266.6	271.8	266.4
Bermuda (1993)	N/A	N/A	N/A	N/A	N/A	N/A	308.1	204.6	249.9
Br. Virgin Is. (1998)	N/A	N/A	N/A	N/A	N/A	N/A	138.2	214.2	172.1
Cayman Islands (2000)	N/A	N/A	N/A	N/A	N/A	N/A	182.6	152.6	167.3
Dominica (1989)	N/A	N/A	N/A	N/A	N/A	N/A	223.9	171.6	197.1
Grenada (1996)	N/A	N/A	N/A	N/A	N/A	N/A	183.5	160.3	169.6
Guyana (1996)	126.6	71.8	96.6	132.4	96.1	112.2	372.4	272.3	317.1
Jamaica (1991)	27.4	24.3	25.8	75.7	78.3	77.1	186.7	178.4	182.3
Saint Kitts (1996)	210.9	79.4	137.5	246.9	210.1	227.1	849.5	650.7	741.7
Saint Lucia (1990)	N/A	N/A	N/A	N/A	N/A	N/A	200.9	141.4	168.1
Saint Vincent (1999)	N/A	N/A	N/A	N/A	N/A	N/A	285.3	285.8	287.2
Trinidad and Tobago (1998)	176.7	128.7	151.5	95.3	89.0	92.1	366.3	287.6	324.8
Turks and Caicos Is. (2000)	N/A	N/A	N/A	N/A	N/A	N/A	118.2	188.5	152.1
US Virgin Is. (1998)	N/A	N/A	N/A	N/A	N/A	N/A	396.0	327.0	353.7

The reported range (for example, from 742 in Saint Kitts to 142 in Grenada for CVD) is improbably wide, and probably represents instability in estimates of rates when events are few and populations are small. With the exception of Trinidad and Tobago, stroke exceeds CHD in every instance.

To further place the situation in the Caribbean in context, data were abstracted from the most recent PAHO publication on a sample of countries in the Americas. Barbados and Trinidad and Tobago were chosen to represent the English-speaking Caribbean, Cuba and Argentina as Spanish-speaking countries, and Canada and the USA for North America (Table 9)

TABLE 9:
Age-adjusted Death Rates for Selected Cardiovascular Conditions, late 1990s, Per 100,000

Cause	BAR	TRT	CUB	ARG	CAN	USA
Stroke	81.0	94.9	48.1	48.4	24.2	26.9
CHD	55.8	151.2	104.9	44.3	77.6	86.2
HHD	12.1	31.5	7.5	9.0	2.2	8.2

Source: PAHO 2002

Stroke predominates in the Caribbean. CHD is higher than what would be expected, especially in Trinidad and Tobago and this may reflect the increased risk in the population of East Indian origin. These two countries are among the more economically developed in the region, so it is likely that CVD — or at least CHD — is less common in other parts of the Caribbean.

While diabetes is not strictly speaking a vascular disease, it is reasonable from a public health perspective to examine the mortality from stroke, CHD, hypertensive heart disease and diabetes together because deaths associated with diabetes are primarily cardiovascular in nature. When the age adjusted death rates for these conditions are analysed for Barbados, Jamaica and Trinidad and Tobago and comparisons made with Cuba, Argentina, Canada and the USA as was done in table 10, the findings are striking. The death rates for diabetes appear to be ten times higher in Trinidad and Tobago than in the USA. There is considerable cross country variation in the data for the three Caribbean countries and some of this may be due to differences in coding practices, with diabetes being assigned as the underlying cause of death more often in the Caribbean. However, although the importance of the diabetes epidemic is widely acknowledged (Wilks et al., 1999; Hennis et al., 2002, Hennis and Fraser, 2004), based on prevalence estimates, it is still rather implausible that death rates are ten times higher in Trinidad than in the USA, and some of the difference may indeed be due to the difficulties with coding mentioned above. Nonetheless, the message is that diabetes has emerged as a major and growing problem in the Caribbean compared with countries which have fully traversed the epidemiologic transition and whose burden is now dominated by coronary disease.

The data from Tables 8 and 9 also make it reasonable to conclude that for the Caribbean as a whole stroke is the number one cause of death, while CHD has already reached substantial levels in countries with a higher GDP. Historical context would suggest that over the next decade stroke will decline, while CHD will continue to rise. It must be recognized, however, that based on this limited review these conclusions can only be applied to Barbados, Trinidad, and to a lesser extent Jamaica, and that little can be said about present levels of CVD or future trends in Guyana, Belize or most of the smaller islands. Clearly diabetes has declared itself as a formidable health problem for the Caribbean.

4.2.2. CARDIOVASCULAR DISEASE RISKS

Given the tightly linked relationship between CVD risk factors and disease rates in a population, the risk factor burden can predict the rate of CVD in different countries at a given point in time, and trend data on risk factors can even predict the direction of change in CVD occurrence (Cooper et al 2001; Diverse Populations Collaborative Group, 2002). However, there are a few data from the Caribbean with which to carry out these analyses (Miller et al., 1988; Miller et al., 1989).

Specialized CVD surveys can yield important insights into the pattern of risk found in individual populations. Three such surveys have been conducted in the Caribbean. An early survey in Jamaica focused mainly on blood pressure and cardiac abnormalities (the Lawrence Tavern Study). During the 1980s a comprehensive modern survey was completed in Trinidad which also provided longitudinal data (the Saint James CVD Study) (Miller et al. 1996). In Jamaica, a comparable large-scale study is being conducted at the present time in Spanish Town (Forrester et al. 1996, Cooper et al. 1997, Cooper et al. 1997, Wilks et al. 1999). Because the Lawrence Tavern study is now quite old, it contributes little to assessment of current risk and will not be discussed here.

The cardiovascular risk factor profile of participants in the Saint James and Spanish Town Surveys are presented in Table 10. Prevalence rates of diabetes and hypertension are comparable across these population samples. Because these two studies in Trinidad and Jamaica are separated by approximately two decades, comparisons between the populations are complicated by temporal trends, and largely meaningless. What is obvious however is the high rate of obesity, hypertension, hypercholesterolemia and tobacco consumption, all powerful substrates for atherosclerotic vascular diseases.

4.2.2.1. TOBACCO

Tobacco consumption has traditionally been identified as one of the most important contributors to ill-health in modern societies because of its widespread use; high associated relative risk for CVD and cancer, and its isolation as a commodity wholly dependent on artificial market forces and regulation. Among adult populations, 30 per cent of males and five per cent of females smoke in Trinidad and Tobago, and the prevalence of smoking is highest in the lower socioeconomic groups. In Curacao, 17 per cent of adults smoke cigarettes. Data from the Global Youth Tobacco Surveys indicate that smoking ranges from 5.2 per cent to 16.3 per cent among 13–15 year old students. Unlike the situation in most developed countries, more young males than females reported being current smokers. The relative risk of CVD mortality among those who smoke about 1 pack of cigarettes per day regularly is in the range of 1.5. With smoking rates in the range of 20 per cent, the attributable risk for CVD associated with tobacco is therefore approximately eight per cent in the general population, or approximately 10,000 deaths per annum. Tobacco use is a continuing major threat and the Caribbean must be much more aggressive in terms of

TABLE 10:
Cardiovascular Risk Factors in Community Surveys, Means + Standard Deviations

	Saint James, Trinidad and Tobago						Spanish Town, Jamaica					
Variables	Males		Females		Total		Males		Females		Total	
	(n)	$\bar{x}$ $(s.d.)$	(n)	$\bar{x}$ $(s.d.)$	(n)	$\bar{x}$ $(s.d.)$	(n)	$\bar{x}$ $(s.d.)$	(n)	$\bar{x}$ $(s.d.)$	(n)	$\bar{x}$ $(s.d.)$
Age (yrs.)	1416	52.5 (10.1)	1170	54.0 (10.0)	2586	53.1 (10.0)	847	46.4 (14.51)	1246	46.0 (13.52)	2093	46.2 (13.93)
BMI (kg/m^2)	1228	24.0 (4.1)	763	27.3 (5.7)	1991	25.2 (5.0)	841	23.9 (4.42)	1243	28.0 (6.44) 2	2084	26.32 (6.06)
SBP (mmHg)	1345	139.1 (25.0)	1044	138.1 (25.4)	2389	138.7 (25.2)	847	121.0 (20.44)	1247	121.0 (22.33)	2094	121.0 (21.58)
DBP (mmHg)	1345	86.1 (13.3)	1044	84.0 (12.8)	2389	85.2 (13.1)	847	69.8 (14.48)	1247	69.2 (14.11)	2094	69.4 (14.26)
Total Cholest. (mM/l)	1303	5.79 (1.26)	980	6.10 (1.55)	2283	5.92 (1.40)	456	4.6 (1.03)	683	4.8 (1.11)	1139	4.7 (1.09)

Source: Miller et al. 1996; Wilks et al. 1999

programmes to reduce tobacco consumption and follow the approach in those countries in which there has been increase in excise taxes, a ban on cigarette advertising especially related to sports and entertainment, more extensive non-smoking areas and dramatic package warnings. All countries should ratify and adhere to the Global Framework Convention.

4.2.2.2. HYPERTENSION

Hypertension is the most frequent condition in adult populations that leads to cardiovascular complications in virtually all countries in the world and universal control of blood pressure would reduce the death rates from CVD by about 15–20 per cent. The Caribbean is fortunate to have had recent community surveys in three countries that used a standardized procedure to measure blood pressure (Cooper 1997). Comparisons from this study suggest that among people 25–64 years of age hypertension occurs much more frequently in Barbados (27.2 per cent) than in Jamaica (24 per cent) or Saint Lucia (25.9 per cent), and this contrast is consistent with the known patterns of risk factors (Kaufman et al 1996). As seen in the similar data on diabetes presented below, this evidence suggests that continued upward trends in these conditions will occur if the process of economic development which has unfolded in Barbados is followed among other countries that are currently at lower levels of GDP.

On the other hand, considerable progress has been made in the medical treatment and control of hypertension in many Caribbean countries. Despite the relatively limited absolute investment, the proportion of hypertensive people in the general population who are diagnosed and successfully treated compares favorably with industrialized countries (that is, 10–25 per cent), and exceeds what has been accomplished in most European and Latin American countries (that is, 5–10 per cent) (Freeman et al 1996; Wolf-Maier et al 2004). The Jamaican data were drawn from an urban sample (Spanish Town, 20 km from Kingston) and more recent data from Jamaica suggest control rates of approximately 15 per cent in a sample drawn from the island as a whole (Wilks, unpublished data). The relative success demonstrated by these data suggests what can be accomplished when primary care services are made widely available to the population.

4.2.2.3. DIABETES AND OBESITY

Diabetes is a potent risk condition for stroke and CHD and makes a separate contribution to ill health as a cause of renal failure, blindness and peripheral vascular disease. As noted, while virtually all countries that have seen improvements in economic conditions have experienced rapidly increasing rates of diabetes, many tropical island nations have been particularly hard hit (for example, Mauritius, Nauru). Similarly in the Caribbean, a crucial feature of the NCD situation which deviates sharply from the historical experience of Europe and North America is the severity and relatively early occurrence of the diabetes epidemic during the course of the epidemiologic transition (Hennis et al 2002).

Wilks et al (1999) have described the self-reported prevalence of diabetes and obesity for people 25 to 64 years in Barbados, Saint Lucia and Jamaica. Their data combined with reports from other Caribbean countries (Foster et al 1993; Miller 1996; Hennis et al 2002), show that Barbados and Trinidad clearly have the highest rates of diabetes in the Caribbean at the present time. Although clearly a multi-factorial syndrome, diabetes is a result fundamentally of the sedentary lifestyle which arises in the context of widely available energy dense diets, and diabetes risk can be identified by the presence of excess body fat stores. Obesity is usually measured using relative weight for height measures, or body mass index (BMI, weight/ height^2, in kg/m). Based on current standards a BMI of 25 kg/m^2 is considered the threshold for overweight, and 30 for obesity. There is a strong relationship between obesity and diabetes, with increasing risk being observed at values of BMI as low as 22–24. At least 80 per cent of the population burden of diabetes can be

attributed to the presence of overweight/obesity in the population (that is, BMI > 25). Trends in adult obesity are observed throughout the Caribbean but time series are not available with which to measure its rate of development. Data from the surveys of living conditions in Jamaica show increasing obesity in children under five. Although these data do not inform about the highest risk age groups of the population, namely adults, nevertheless they are an indication of the obesity trends in these cohorts when they attain adulthood since adiposity does track from childhood to adulthood. The problem of obesity is detailed in chapter 6.

4.2.2.4. NUTRITION AND LIVING CONDITIONS

Cardio-vascular diseases are rooted in the nutritional patterns of a given society, and this dynamic is equally true of the African diaspora (Luke et al 2001). Diets which include substantial proportions of calories from animal products contain saturated fatty acids and cholesterol in quantities which raise serum lipids above the 'evolutionarily normal' range. Excess intake of sodium, coupled with low intakes of fruits and vitamins and other specific micronutrients, contribute substantially to the development of hypertension (Stamler et al 2000).

One of the most recent nutrition surveys was conducted as part of the Spanish Town Cardiovascular Study referenced above. Participants in the study completed food frequency questionnaires during the late 1990s. These data are placed in context by making a comparison with the dietary patterns observed in the USA. Additional context can be provided by comparisons with intakes from the major food groups among black populations in Africa, the Caribbean and the USA. While intake of animal products is now an important aspect of the contemporary Jamaican diet, fruits and vegetables continue to be consumed at reasonably high levels. In fact, the mean intake of fruits and vegetables among Jamaicans is currently at the level of five servings per day, corresponding to the national goals set for individual intake in the USA population. Of course a mean intake of 'five a day' implies that half of the population consumes at levels below that benchmark. Current intake of sodium ranges from 140–180 mEq/day; current guidelines suggest that levels below 60 mEq will help prevent hypertension. Typically 85 per cent of sodium comes from processed food, leading to the conclusion that changes in manufacturing practices are a major priority in the prevention of hypertension.

4.2.3. CARDIOVASCULAR DISEASES IN THE CARIBBEAN: SUMMARY

A reasonably clear description of the CVD epidemic in the Caribbean emerges from this analysis. Within the Caribbean, there is a wide range of CVD burden, from moderately high levels in Trinidad to much lower (reported) levels in Saint Lucia and Grenada. Structural and social processes have shaped a dietary pattern that results in only moderately elevated levels of serum lipids in the population. Virtually nothing is known about the other side of the energy balance equation, physical activity, or its contribution to cardiovascular disease risk in the Caribbean. Rates of hypertension are similar to those in Europe and North America, and diabetes is substantially more common, at least in the economically more prosperous countries. As a whole the Caribbean appears to suffer from high levels of CVD burden.

On closer examination several distinguishing features of the epidemic emerge which set it apart from other countries. The proportion of deaths which result from stroke remains high, while CHD ranks third among the specific syndromes. Community surveys demonstrate that hypertension has been the leading cause of CVD in the past, but may be rivalled by diabetes in the future. Lifestyle patterns in most countries are also characterized by relatively low to moderate levels of cigarette smoking and moderately high dietary intakes of fruits and vegetables. Hypercholesterolemia is therefore not as frequent as in the northern hemisphere. A central concern

for all health agencies and institutions in the Caribbean must be the rapidly rising rates of diabetes.

4.3. POTENTIAL INTERVENTIONS

Paradoxically, although CVDs have emerged as the health scourge of the modern age, and while virtually every country in the world has experienced increased rates of CHD and total CVD over the last 100 years, the potential for prevention and control is enormous and major advances continue to be introduced with great regularity. The challenge, of course, is to develop effective strategies that can make use of this knowledge in the specific historical and social conditions faced by the individual societies of the Caribbean. Interventions can be undertaken at several steps along the pathway leading to clinical events. It is important, however, not to lose sight of the strategic public health issue — the long-term solution to the problem of CVD requires an aggressive campaign of primary prevention. The principal components of a multi-faceted contemporary approach to primary prevention would involve the policy changes in areas such as nutrition, reduction of tobacco use, increasing physical activity and reorientation of the health services as is called for in all good health promotion strategies. In addition to the efforts at primary prevention, there must be control of established risk factors such as hypercholesterolemia, hypertension and diabetes. Screening programmes for diabetes are an urgent priority since 40 per cent of persons with diabetes are unaware that they have the condition.

4.4. CANCER

The pattern of cancer occurrence also follows a characteristic transition over the course of modernization. The incidence of stomach cancer declines, while that of the colon increases in frequency. Among men, lung and prostate become dominant sites, while for women breast increases at the same time that cervix decreases. Overall, the pattern of cancer deaths is consistent with early stages of modernization. A more detailed analysis encompassing both incidence and mortality is available from Jamaica (Hanchard et al 2001; Blake et al 2002). For men, the ratio of prostate to lung cancer was about 2:1 in Jamaica, compared with 8:1 for the whole Caribbean; among women breast outnumbered cervix in Jamaica. For both genders combined, colon was just as frequent as stomach. This registry documents that an increase in breast and prostate cancer has occurred since the late 1980s. Data over the period 1958–87 confirm the long-term decline in cancer of the stomach and

TABLE 11:
Age-Adjusted Death Rates for Selected Neoplasms, late 1990s, per 100,000

Cause	BAR	TRT	JAM	CUB	ARG	CAN	USA
Prostate	20.8	18.4	12.9	9.4	6.0	6.3	6.4
Uterus/cervix	11.5	9.6	15.8	7.0	5.9	2.2	2.6
Breast	16.2	11.2	13.5	7.7	11.5	11.0	10.4
Lung	8.4	8.9	19.9	25.1	20.3	36.1	37.6
Colo-rectal	13.5	10.0	11.1	10.6	11.1	12.9	12.2
Stomach	10.5	7.3	19.5	4.8	7.0	4.3	2.9
Total [a]	80.9	56.4	92.7	64.6	61.8	72.8	72.1

[a]For the conditions enumerated above.
BAR, Barbados; TRT, Trinidad/Tobago; JAM, Jamaica; CUB, Cuba; CAN, Canada; USA, United States of America.
Source: PAHO, 2004

esophagus (Brooks et al 1991). Underlying causal risk factors for cancer are less clearly lineated than for CVD and the opportunities for primary prevention are therefore more limited. Given the current state of knowledge, the most important preventable causes of cancer death are lung cancer in men and cervical cancer in women. The imperative for tobacco control exists for the Caribbean as for all other countries. Systematic screening for cervical and breast cancer can reduce the occurrence of invasive carcinoma and should continue to be an important priority for the health system. Prostate cancer has clearly emerged as a public health challenge of great importance. Improved methods of detection and treatment of prostate cancer are now being developed, but they are expensive to implement and have only a modest impact at best on overall mortality. Although it continues to be an area of intense debate, at least in terms of the most appropriate policy response, it is generally accepted that diets high in fruits and vegetables reduce the risk of breast and colon cancer.

Similar to the presentation for CVD, in an attempt to place Caribbean countries on a relative scale in the Americas cancer mortality data are summarized for a selected set of countries.

The remarkable consistency between the USA and Canada is again notable. As noted earlier, given concerns about registration and age adjustment, the absolute rates in the Caribbean must be interpreted with caution. Prostate cancer is clearly dominant in parts of the Caribbean, and relatively high rates of cervix and stomach are consistent with the 'early stage transition' character of these societies. Surprisingly, breast cancer is common, even on a comparative scale, and colo-rectal cancers are also more frequent than might be anticipated. For this set of major cancer sites the total rates are comparable with the other four countries as comparison examples; the substantially higher rates of lung cancer in the comparison countries, particularly the US and Canada, demonstrate the devastating effect of the widescale use of tobacco.

4.5. MENTAL HEALTH

There is increasing, worldwide recognition of the magnitude of the problem caused by mental illness. The World Health Report (2001) points out that although neuropsychiatric disorders accounted for only 1.7 per cent of mortality globally, they accounted for 12.3 per cent of the burden of disease as measured by disability, adjusted, life years (DALY's). Infectious and parasitic disease represented 23.1 per cent of the global burden and given the epidemiological profile of the Caribbean today with less communicable disease, it is probable that the neuropsychiatric disorders will account for an even higher percentage of the burden of disease here. Indeed, in the region of the Americas, these disorders now account for 24 per cent of the burden of disease. Unfortunately, it has been difficult to obtain reliable data on the epidemiology of mental illness in the Caribbean, and most of the community or population based data of nearest relevance are for Latin America and the Caribbean. But when isolated studies are done for individual island populations the prevalence rates of the major mental illnesses are not very different from those reported regionally. One of the more comprehensive reviews of mental health in the Caribbean dealt mainly with the policies and trends, the services and some of the critical legal aspects and less with the epidemiology. (Mahy and Barnett 1997). Reference is made here to the situation in Jamaica as that is the population for which the economic analysis has been done. There are many assumptions which have been set out in detail in the Working Paper.

4.5.1. DEPRESSION

The Jamaican Ministry of Health's epidemiological reports for the years 1999–2002 showed that approximately three per cent of individuals attending health centres reported receiving treatment for a psychiatric illness. The Jamaica Lifestyle Survey 2000 showed that 41 per cent of men and 52 per cent of women reported feeling depressed. The Jamaican National Council

of Drug Abuse Island Wide Household Survey that interviewed 2,383 individuals aged 12–55 years found that 19 per cent of the sample met the criteria for major depressive disorder (MDD) as in the DSM IV. The upper age boundary in this study was 55 years, thus the true prevalence in the whole population would probably be higher than 19 per cent, since a significant number of individuals over the age of 55 years who suffer from major depressive disorder would not have been included. There was also a strong relationship between depression and substance abuse in this household survey in Jamaica, and the rate of depression was highest among individuals dependent on alcohol and those who used illicit substances.

In an audit of a primary health care clinic in Jamaica, 22 per cent of individuals attending the diabetes and hypertension clinics were found to have moderate to severe depression. Therefore, the assumption can be made that in Jamaica, as in WHO World Mental Health Survey 2004, depression is widespread, disabling and often goes unrecognized and untreated. This contributes to decreased productivity, increased economic cost, and additional deaths from suicide.

It should be pointed out that this figure of 19 per cent on which this analysis is based is much higher than those reported for unipolar depression in other regional and global studies. Levav et al (2004) describe a one year prevalence rate for major depression of 4.1 per cent with a lifetime prevalence of 8.4 per cent. The World Health Report (2001) describes a wide range for the prevalence of depression in primary health care with a mean value of 10.4 per cent.

4.5.2. SCHIZOPHRENIA

Schizophrenia is a chronic, progressive, severe disorder with a prodromal phase, leading to the presentation of major symptoms in the second and third decade of life. The incidence rate for schizophrenia appears to be stable across countries, cultures and over time with an annual incidence rate about 1 in 10,000 and a prevalence of about one per cent in most countries. A prospective first contact schizophrenia study in Jamaica in 1995 by Hickling and Rodgers-Johnson (1995) found an incidence rate of 1.16 per 10,000, which is in keeping with other international studies. Very few studies on prevalence have been carried out in the Caribbean, but limited data asserts that the prevalence is about one per cent as it is for most populations worldwide. Schizophrenia is one of the most disabling diseases and accounts for 1.1 per cent of the total burden of disease and for 2.8 per cent of the years lived with a disability.

4.5.3. OTHER MENTAL HEALTH PROBLEMS

It is certain that other mental health problems such as general anxiety and panic disorders occur in the Caribbean, but there are no data on their prevalence. Several surveys show that substance abuse is a serious problem and the use among the youth of alcohol, tobacco and marijuana is of special concern. Substance abuse is common in the psychiatric services and in Trinidad a rate of 43.1 per cent of substance abuse was found in first admissions to a psychiatric service, with the commonest substances being alcohol, marijuana and cocaine (Reid et al., 2004). There is an association between substance abuse and HIV/AIDS with male (four per cent) and female (12 per cent) substance abusers in Jamaica having a three and ten fold increase in HIV seroprevalence respectively, compared with a seroprevalence rate of 1.2 per cent in the population. (De La Haye, 2004, unpublished data) Reid (2004) has also found HIV seroprevalence rates in female substance abusers in Trinidad and Tobago to be eight times higher than in the general population. Rates of suicide range from 3 per 100,000 in Jamaica to 12 per 100,000 in Trinidad. The age-standardized suicide rate globally is 15.1 per 100, 000 but there is remarkably wide variation among countries, and a universal finding is that suicide is about thrice as common in males as in females.

The major concern in the Caribbean is the treatment gap which is known to occur. In Latin America and the Caribbean as a whole, over a third of individuals with non-affective psychoses and over

one half of those with the affective or anxiety disorders which include depression do not receive mental health care.

4.6. THE ECONOMIC BURDEN OF CVD AND MENTAL HEALTH

4.6.1. CARDIOVASCULAR DISEASE

Prior to estimating the economic burden of disease for cardiovascular disease the health burden was estimated to provide a sense of the loss of lives due to these conditions. 1092 premature deaths occurred in 1999 in Jamaica due to CVD, resulting in a total of 41,157 YLL. Data for Trinidad and Tobago for 1997 were 1914 deaths and 58,524 YLL.

Prevalence data is most readily available but national data on health services utilization and unit costs are difficult to obtain. Nevertheless, unpublished data were collected for Jamaica to enable the economic burden of diabetes and hypertension to be calculated for 2002. These include both the direct and the indirect cost of illness. The direct cost comprises the cost of clinic visits, laboratory tests, hospitalization, and drugs. The indirect cost represents the productivity loss due to time-off for doctor's visits and hospitalization. The estimates of the economic burden of disease for diabetes and hypertension for Jamaica in 2002 are provided in Table 12.

These figures show that diabetes costs the economy more than J$1.6 billion (approximately US$33 million in current dollars) in the year 2002 while hypertension cost the economy about J$1.25 billion (US$25.6 million) in the same year. The cost of diagnostic and laboratory tests accounted for more than half (54 per cent) of the total economic burden of diabetes. The cost of drugs amounted to seven per cent of the total while the indirect cost of productivity loss accounted for ten per cent of the total. In the case of hypertension, cost of clinic visits accounted for the largest share of economic burden (33 per cent) with the cost of diagnostic and laboratory tests following closely at 29 per cent of the total. The indirect cost of productivity loss accounted for 15 per cent of the total. We observed that the cost of diagnostic and laboratory tests seemed unusually high for diabetes, relative to other cost items. This may be explained by the fact that estimates for costs of laboratory tests were obtained from private laboratories, more closely approximating the true costs, while costs of drugs and hospitalization were obtained from the National Health Fund (NHF) and government hospitals (including UHWI), respectively.

TABLE 12:
Economic Burden of Disease for Jamaica (2002)

Cost Item	Diabetes (J$)	Hypertension (J$)
Direct Cost		
Hospitalization	135,464,269 (8%)	84,753,708 (7%)
Clinic/Doctor's Visits	332,500,000 (21%)	415,652,000 (33%)
Drugs	113, 800,284 (7%)	203,519,628 (16%)
Laboratory/Diagnostic Tests	873,487,154 (54%)	357, 874, 984 (29%)
Indirect Cost		
Productivity Loss	156,291,630 (10%)	186,339,706 (15%)
Total Economic Burden	1,611,543,337	1,248,140,027
Value in US$ (1US$=J$48.73)	33,070,867	25,613,380

On the basis of the current analyses, we asked the question, what could have been the economic savings to the society if an intervention were in place in 2002 that would have reduced clinic visits and hospitalization by ten per cent for both diabetes and hypertension? By these calculations, such an intervention would have resulted in cost savings of about J$161 million (US$3.3 million) for diabetes and J$125 million (US$2.6 million) for hypertension. One may look similarly at interventions aimed at reducing the frequency of laboratory tests (that is, home-based self-administered tests), especially for diabetics.

The cost of dealing with the NCDs appears high now, but it is highly likely that it will be even higher in the future. The cost of technology and the projected increased prevalence of NCDs will represent an intolerable burden for the health services. As much of the cost of this technology will be applied towards the end of life, this will bring the issues of ethics and inequity to the fore.

4.6.2. DEPRESSION AND SCHIZOPHRENIA

DEPRESSION

The calculations follow the standard approach of including the direct and the indirect costs and are given for one year, 2002.

Direct costs can be defined as the value of all the resources used for treatment and are estimated to be about 28 per cent of the total economic burden of depression. These costs represent the treatment in the outpatient primary as well as secondary care settings.

According to the *Survey of Living Conditions* (2002) 12.6 per cent of people will report being ill. Of this amount 64 per cent will seek care in health facilities. It would mean therefore that of the 19 per cent of the population that is expected to be diagnosed as having MDD, 49,244 will report being ill, while 31,516 will actually seek care in one of the public health facilities. The total direct cost for treating people who access care for MDD in public facilities is $489,017,417.22.

The indirect costs calculated here represent solely the loss of productivity due to the illness. The assumptions are that if the total employed labour force is 942,300, then the total number of people in the labour force who will be diagnosed as having MDD is 179,037 (19 per cent of the labour force). By calculating the number of productive days missed by the labour force, the cost of the work time missed and the putative costs derived from the premature deaths of the depressed people who commit suicide, it was possible to estimate the indirect costs of depression as $89,661,028.78.

Individuals aged 10–18 years are not included in the indirect cost estimates as the concepts of indirect cost centers around human capital, and focuses on loss of productive days in the employed labor force. Thus, the final cost/burden of depression to the economy would be

(direct costs + indirect costs)

J$489,017,417.22+$89,661,028.78 =

J$578,678,446.

This is an impressive figure. Even if the prevalence rate were nearer the value of about four per cent that is estimated for Latin America and the Caribbean as a whole and the calculation was based on that estimate, it would still represent a significant economic burden.

SCHIZOPHRENIA

The economic burden of schizophrenia was calculated by estimating the direct and indirect costs as above. The assumptions were that the prevalence rate is one per cent of the population, patients were treated in both primary and secondary care settings and ten per cent of suicides in Jamaica as in many other countries are related to schizophrenia. The costs of the last were included in the indirect costs. Most persons with schizophrenia do not work; therefore, it is not possible to calculate lost days. Instead, the method being used to calculate indirect costs will be 'the missed opportunity to work' (that is, GDP per capita x prevalence). With these assumptions, the

final cost/total burden of schizophrenia to the economy for one year would be

(direct cost + indirect cost)

$299,476,530 + $2,967,953,178 = $3,267,429,708.

There are several limitations which make this estimate a minimal one for MDD and schizophrenia. Support and social costs were not included in the calculation of the indirect costs and public facilities costs were used to represent the entire country although we know that this would represent costs that are much lower than if private services were used, as undoubtedly they are in some cases.

While these figures for the economic cost for two of the most important mental health problems might appear high, it is to be noted that the aggregate yearly cost of mental illness to the USA was estimated to be about two per cent of the GDP (Rice and Miller, 1998)

4.7. CONCLUSIONS

- Based on the data that are available for the Caribbean as a whole, CVD is by far the leading cause of death, with stroke, CHD and diabetes being comparable; in Barbados and Trinidad CHD has become a major problem.
- Although cancer comprises a small proportion of the mortality burden, relative to industrialized countries, the absolute burden is similar.
- Formal cost of illness calculations that capture all major conditions cannot be performed at the present time, but indicative exercises as in this paper are feasible and demonstrate the potentially enormous costs of the NCDs .
- Effective medical therapy for CVD in the primary care setting is feasible and could substantially reduce the CVD burden in the near-term. However, primary prevention through controlling the known risk factors such as hypercholesterolemia and obesity with its co-morbidities has to be the principal approach.
- Current data systems lack adequate precision to serve as measures of overall mortality and cause-specific mortality in most Caribbean countries. Vital statistics by themselves cannot characterize the NCD burden in the smaller countries; substantial biases are known to exist in Jamaica; Barbados and Trinidad appear to have more complete data.
- The data on mental illness for Jamaica show the magnitude of the problem with depression and schizophrenia and the enormous costs of the illnesses.

4.8. RECOMMENDATIONS

- The proposed strategic plan for the control of noncommunicable diseases as was mandated in the Nassau Declaration must be supported and funded.
- There must be improved case management of the NCDs, especially at the primary level.
- The long-term solution to the problem of the NCDs does not lie in more aggressive therapy of established disease, but in primary prevention with changes in the policy environment, placing emphasis on weight control, reduced fat and increased fruits and vegetables in the diet, elimination of tobacco use and increased physical activity. Those countries which have not embraced the health promotion strategies as set out in the Caribbean Charter should do so. They should also ratify and adhere to the Global Framework Convention on Tobacco control. Best practices should be shared.
- Behavioural and environmental change is critical for preventing and controlling non-communicable diseases, therefore the Caribbean must establish systems for surveillance of the behavioural risks at the population level to support planning and

evaluation of the policies that must be introduced.

- The programmes for cancer prevention should focus on the preventable behavioural and environmental factors that account for the majority of cancers of the lung, breast, cervix and colon.
- The paucity of Caribbean data for mental illness indicates the attention to be given to this area of health. It is not possible to suggest recommendations based only on the situation for two conditions in Jamaica, but the mandate of the Heads of Government to develop a regional plan for mental health must be pursued vigorously.

CHAPTER 5

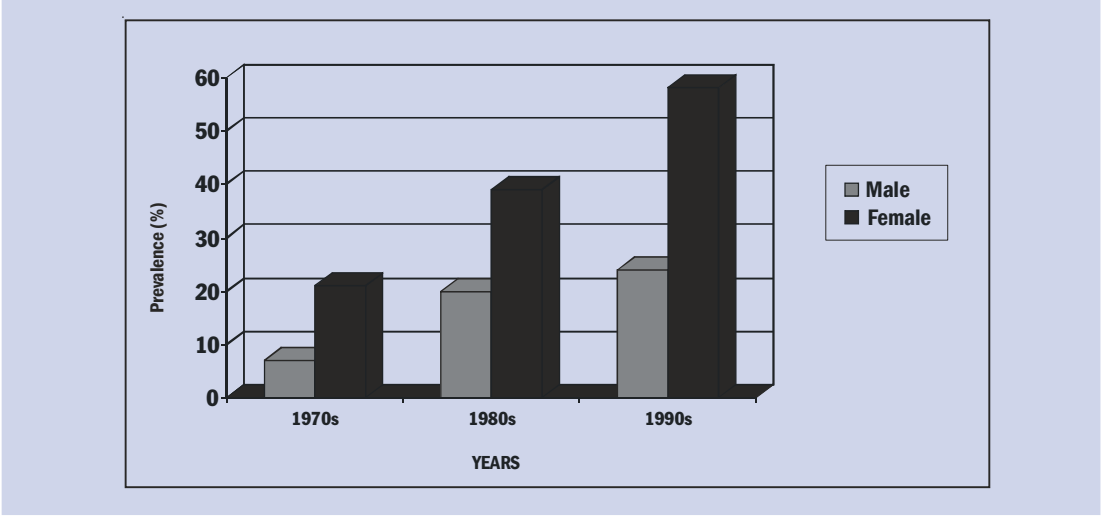
Obesity

5.1. EPIDEMIOLOGY

This is dealt with separately because the epidemic of obesity in the Caribbean today is escalating almost silently. If action is not taken to prevent development of obesity in our younger age cohorts and ameliorate or possibly reverse it in our adult cohorts who are already overweight/obese, the burden of chronic diseases associated with obesity will overwhelm our health systems and ultimately retard our overall health and development. Obesity is not inevitable. It is true that obesity would not be possible if the human genome did not accommodate it. But humans are not biologically destined to become obese (Astrup, 2001). Genes make obesity possible, but positive energy balance over time is necessary to realize that potential (Lev-Ran, 2001). The contribution of genetics to body weight and composition varies widely within a population and across populations. (Bouchard, 1996; Hill, 2000).

The Caribbean peoples are mainly of African and Indian origin and genetic predisposition may well be a factor contributing to obesity. However, the recent dramatic rises in the rates of obesity as shown in Figure 8 have occurred in a short time frame and within the same genetic pool. This suggests that biological factors are not the basis for the escalating problem of obesity in the Caribbean, because our biology has just not

FIGURE 8:
Trends in Adult Overweight/Obesity in the Caribbean



Source: Caribbean Food and Nutrition Institute (CFNI)

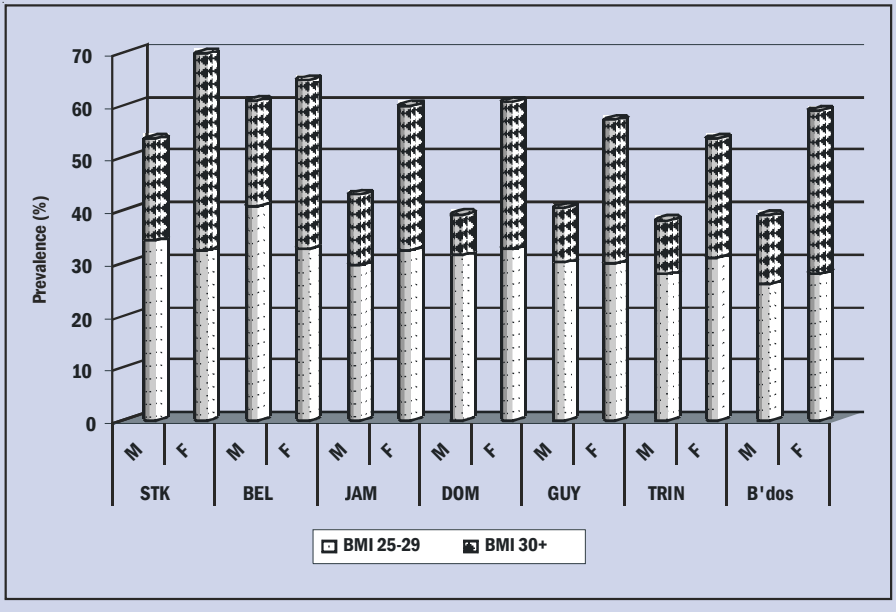
changed sufficiently to explain this rapid weight gain over a relatively short time. Our population weight gain is more likely due to factors within the environment that have influenced our behaviours in such a way as to 'overwhelm' our physiological regulation of body weight (Booth, 2001; CFNI 1995, Sinha 1995).

Figure 9 shows the prevalence of overweight/obesity in some Caribbean countries. The most striking features are (a) the high prevalence of overweight (BMI>25) and obesity (BMI>30) and (b) the consistent gender difference, showing that about 25 per cent of adult Caribbean women are obese, and this is almost twice as many as their male counterparts (CFNI 2001).

The future nutritional state of the Caribbean looks bleak when the figures for obesity in young children and adolescents are reviewed. The global prevalence of overweight among preschool children is estimated at 3.3 per cent, data collected from the region show rates as high as 3.9 per cent for Barbados and 6.0 per cent for Jamaica (de Onis, 2000). Obese children become obese adults and adult obesity is associated with childhood obesity.

The problem of obesity cannot be tackled only at the individual level and efforts must be directed more towards a population and public-health approach to prevention. The observation that almost half of the adult Caribbean population is overweight and many children are at increased risk of obesity strengthens the case for a population approach for obesity control rather than a strategy merely targeting risk individuals and groups. The fundamental causes of obesity are increased food intake and reduced energy expenditure as a result of physical inactivity.

FIGURE 9:
Overweight and Obese Adults by Gender in the Caribbean (1998–2002)



Source: Compiled from data and references in CFNI, 2001

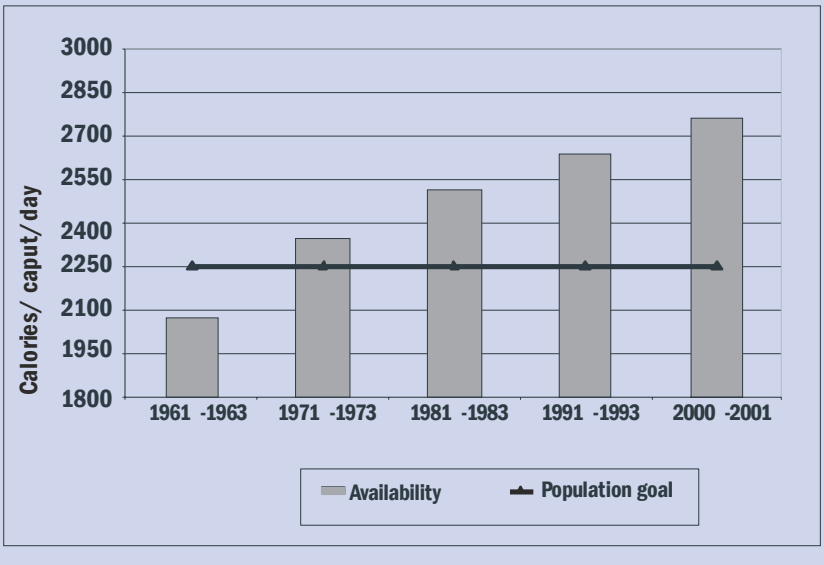
5.2. TRENDS IN FOOD AVAILABILITY/INTAKE

Empirical food consumption data over many time periods is not available for Caribbean countries, but crude estimates of energy intake can be gleaned from analysis of FAO's food disappearance data (FAO 2002). Figure 10 shows the increasing availability of calories per person in the Caribbean and this represents an over-supply of energy to meet nutritional needs. Using a recommended daily allowance of 2250 kcals, we note that during the decade of 1960 there was an overall insufficiency of calories and this was reflected in the high rates of under-nutrition that existed at that time. From the 1970s onwards the average availability of calories per person increased rapidly.

Two major contributors to this over supply of calories are fats and sugars. The region now has available more than 160 per cent of average requirement (population goal) for fats and the excess for sugars is 250 per cent. Both global and local forces drive these excesses in fat and sugar consumption.

There is an inverse relation between energy density and energy cost. Energy dense diets usually represent the lowest–cost option to the consumer (Drewnowski, 2004). It is not often pointed out that this cost factor plays a critical role in food consumption patterns. Consumer food choices are driven by taste, cost and convenience, and to a lesser extent by health and variety considerations (Glanz, 1998). Food prices have a major effect on purchasing habits, with fats and sugars being heavily subsidized. These calorie-laden foods become the cheapest and most appealing to the poor and prudent consumer. The promotion and marketing of these energy dense foods to children lead to adverse health consequences. (Schulze, 2004). Poverty and food insecurity are associated with lower food expenditures, low fruit and vegetable consumption and lower quality diets. In practical terms therefore, diets composed of refined grains, added sugars and added fats are more affordable than the diets based on lean meats, fish, fresh vegetables and fruit. This observation that healthier diets may indeed cost more has one glaring policy implication — our standard advice

FIGURE 10:
Trends in Energy Availability by Decade in the Caribbean



Source: FAO 2002

to consume 'healthier' diets may be hollow to the poor if these diets are unaffordable. Efforts to change dietary practices with an educational focus on nutrient content are unlikely to succeed if the cost of the recommended foods is not considered, particularly for the poor.

The high energy density and palatability of sweets and fats are associated with higher energy intakes. The lower cost diets tend to be higher in refined grains, added sugars and fats. Energy dense foods are not only palatable, but satisfy hunger at the lowest cost. This simply means that diets consumed by poorer sections of populations have concentrated energy from fat, sugar, cereals, potatoes and meat products but very little intake of vegetables, fruit and whole grain (Quan, 2000; Reicks, 1994).

5.3. PHYSICAL ACTIVITY

The protective effect of physical activity against obesity is substantial and well known (Hill, 2000, DHSS, 1996). Unfortunately, a large proportion of the Caribbean population is inactive and performs only sedentary activities. This can be inferred from such data as the dramatic increase in the number of motor cars, the gradual change to occupations that involve less physical activity and for the Caribbean as a whole, the steady drift from rural to urban living. Physical activity is critical in its own right and not only for weight control. It has a protective effect against premature mortality and positively affects all of the co-morbidities associated with obesity. The benefits associated with physical activity are seen on the cardiovascular system, musculoskeletal system, mental health, psychological and emotional well-being and chronic disease prevention. (Koplan et al., 2005). The risk of some cancers is also shown to be less with regular physical activity (WHO 2004).

5.4. THE COST OF OBESITY

Most studies on the economic cost of obesity are conservative estimates because only the direct costs are included (WHO, 2000). Direct costs have been estimated in 1997 in Canada to exceed $1.8 billion that is, 2.4 per cent of the total health care expenditures. Comparable health costs are 2.5 per cent for New Zealand; two per cent for Australia and two per cent for France (Birmingham, 1999; WHO, 2000). The true impact of obesity in terms of personal costs and quality of life (Gorstein, 1994; Kumanyika, 2002) are not known from these studies. The comparable direct cost for the USA in 1995 was 5.7 per cent (Wolf and Colditz, 1999). The USA study also analysed costs independently from co-morbidities and showed that the cost of obesity was similar to the cost of type two diabetes and 1.25 times greater than the cost of heart disease (Colditz, 1999). A more recent estimate from the UK put the cost of overweight and obesity at 6.6 to7.4 billion pounds per year (House of Commons Health Committee 2004). These studies show that obesity and its co-morbidities incur significant economic costs to the individual, the health system and the overall society (Oster 1999).

Obesity-related diabetes is a major co-morbid condition and there are some recent estimates for five Caribbean countries — Bahamas, Barbados, Guyana, Jamaica and Trinidad and Tobago in which the direct and indirect costs were estimated (Barceló et al., 2003). The direct costs were approximately over US$200 million and the indirect costs were approximately US$800 million, giving a total cost of over US$1 billion. Note that the data given here for the total economic costs of diabetes differs from the cost in Jamaica of US$33 million. The data from Barceló et al. were from several countries and included estimates of the value of the lives lost from the disease.

5.5. PUBLIC POLICY OPTIONS

There must be a public health approach to obesity where the focus is shifted away from the factors influencing body fatness of individuals towards strategies dealing with the weight status of the population as a whole. A recent exhaustive analysis of obesity in USA children affirmed

Although the general public has become increasingly aware of the personal health consequences of obesity, what may not yet be generally apparent is the public health nature of the obesity epidemic and the consequent need for population-based approaches to address it.

It went on to stress that prevention of obesity in children and youth should be a national public health priority (Koplan et al., 2005).

The focus has to be on healthier eating, increasing physical activity and decreased sedentary living. Implementation of such environment-based strategies will require a range of integrated public policies encompassing environmental, educational, economic, technical and legislative measures together with a health care system geared to the prevention of obesity. Possible policy options will include the following:

- Incorporate food, nutrition and lifestyle issues into national development plans and align food imports and local production policies in the context of global trade to the recommended population food goals.
- Institute laws, regulations and regulatory practices that will enable people to make healthy dietary choices, restrict advertising of high/sugar fat foods to children, make more food available to support nutritionally desirable diets and promote physical activity in all population groups.
- Ensure that the private sector, the trade unions and the media are fully aware of food, nutrition and health relationships, and participate in the implementation of the dietary recommendations for the improvement of public health.
- Incorporate principles, concepts and skills training about healthy eating and regular physical exercise into all levels of school, from pre-school to tertiary institutions.
- Launch healthy lifestyle programmes at the worksite for employees and their families, both in government and private sectors as well as in the community at large.
- Prepare health care personnel, at the basic and post-basic training levels, in the field of food and nutrition and its relationship to health.
- Orient the health services towards health promotion, particularly with regard to diet and other lifestyle factors in the prevention of chronic diseases.

5.6. CONCLUSIONS

- There are no data for the cost of obesity per se to the Caribbean economy, but the direct and indirect costs of the co-morbid conditions such as diabetes mellitus are likely to be in excess of one billion US dollars annually.
- Unchecked, obesity in the Caribbean will soon reach proportions which are uncontrollable. Rolling back this increase in the Caribbean requires much more than the traditional passive approach that relied almost entirely on education for individual behavioural change. The traditional models of obesity control have generally failed globally and a new public policy approach needs to be instituted to attack this epidemic in a multi-sectoral way.
- Effective control of obesity will require a shift away from the traditional focus on clinical management and individual behaviour change towards strategies which deal with the environment in which such behaviours occur. The successful challenge to obesity therefore lies not in medical interventions at the individual level, but in the public policy domain which can create the environment for individual behaviour change.
- There is growing demand for high calorie energy-dense convenient foods and inappropriate food consumption patterns are linked to inadequate domestic production and marketing of fruits and vegetables.

- The global food market is controlled by a small number of companies that operate a system that delivers cheap food to countries.
- The global food market is controlled by a small number of companies that operate a system that delivers cheap food to countries. This cheap food comes with a hidden cost in terms of the health consequences. Food policy must be applied upstream and cannot ignore issues about food supply because this influences the food chain and the food choices of the individual and communities. Of course the local food market is not blameless as it also promotes the consumption of obesigenic foods.
- There appears to be increased sedentarism with consequent decreased energy expenditure. Physical activity is critical in its own right and not only in terms of weight control.
- The obesity challenge is formidable but the success with other health challenges for example, tobacco, seatbelts and breast-feeding, (Economos, 2001) gives confidence that similar strategies which target environment and population policies can generate the social change needed to establish the multiple approaches to decreasing energy intake and increasing energy output.
- Vital to the success of this approach will be the participation of health officials, educators, legislators, businesses and planners in various health promoting actions. The prevention of obesity will need a concerted effort on the part of policy makers, the private sector, health care workers and the public itself.

5.7. RECOMMENDATIONS

- It is urgent that the Caribbean governments and not only the health sector appreciate the significance of the epidemic of obesity and the magnitude of its consequences in social and economic terms.
- The governments should develop the strategies and activities to implement the policy options set out above, using an approach similar to that adopted for another problem of great magnitude — HIV/AIDS. The consequences are no less severe.
- Particular attention should be paid to the need to reorient agricultural, trade and other relevant policies such that the Caribbean is less exposed to the flood of energy dense obesigenic foods and ensure the intersectoral actions needed to ensure the availability of healthy foods at affordable prices.
- While all the policy options merit consideration, special attention must be paid to facilitating increase in physical activity by all groups. Reintroducing appropriate physical education in schools and designing secure areas for public physical activity are particularly important.

CHAPTER 6

HIV/AIDS

6.1. THE SOCIOCULTURAL ASPECTS

To better understand and describe the Caribbean HIV/AIDS epidemic, it is important to analyse it in sociocultural, behavioural and epidemiological terms. This chapter will focus on the CAREC Member Countries (CMCs). A widerange of sociocultural factors continue to encourage high-risk sexual behaviour, and fuel the spread of the epidemic and perhaps the most paramount are the cultures of sexuality and power imbalance in male-female relationships. Early sexual initiation and multiple partnering are of particular concern.

In the 1997 Reproductive Health Survey in Jamaica of young people 15–17 years of age, 38 per cent of females and 64 per cent of males reported having had sexual intercourse. The average age at first sexual intercourse for boys was 13.2 years (McFarlane et al., 1997). A survey conducted in 2001 among the youth population 15–29 years of age in Barbados disclosed that 25 per cent of young girls had had sex before age 15 (Carter et al., 2001). The persistent pattern is that the younger adolescents are when they begin sexual activity, the less likely they are to practise contraception, thus increasing their risk of pregnancy and infection (Andrews, 1998).

About 35 per cent of young women in the Caribbean have their first child before age 20 and there has been an increase in teenage pregnancy and childbirth. However, according to a recent study in Jamaica by the National Family Planning Board, a 68 per cent increase in the use of contraceptives by adolescents has translated into fewer teen pregnancies over the last 10 years. Twenty one percent of pregnancies in Trinidad occur among women less than nineteen years old (Jones et al., 2004).

The combination of various social norms inspires behaviours and situations that lead to increased HIV/STI risk. These behaviours include (but are not limited to): inability to negotiate condom use, inability to access sexual and reproductive health services, inability to negotiate sexual boundaries and sexual violence. Male-dominated notions of sexuality greatly impede women's ability to practise preventive behaviours. These gender dynamics contribute to women being more infected by HIV through their husbands and long-term partners.

Gender perspectives in the Caribbean are critical in the prevention and control of the epidemic as they prepare males and females to enter into relationships which involve sex, sexuality, roles and expectations. A recent survey conducted in two regions in Trinidad among pregnant women and related to self-protection against HIV transmission has demonstrated that three key predictors should be taken into consideration when national AIDS programmes are addressing gender and HIV/AIDS. These predictors of self-efficacy are education, income, and gender role orientation (Jones et al., 2004).

The increasing numbers of young women among People Living With HIV/AIDS (PLWHA) is evidence not only of physiological vulnerability, but also of both their powerlessness to negotiate safe sexual practice as well as the phenomenon of initiation of careless sexual practice. A cultural practice of relationships between young girls and older men with a long heritage in the Caribbean contributes to increased female risk. The low level among youth (30–40 per cent) of perception of AIDS as a serious health condition is another concern.

Economic and social vulnerability is particularly associated with HIV/AIDS and among the groups identified as especially vulnerable to the impact of the epidemic are those for whom the sociocultural environment provides little or no support. The plight of men-who-have-sex-with-men (MSM), sex workers, and PLWHA in particular is still not fully recognized and acknowledged either in official or informal circles. But it is clear — whether we examine the law or employment opportunities, health care or education, family or community relationships, media images or prevailing values and attitudes — that for these vulnerable groups, the sociocultural environment reinforces social alienation (Camara et al., 2004). Stigma and discrimination associated with HIV are experienced in virtually all social spaces and at all levels and contribute to physical violence and social rejection.

It was clear from the early stages of the AIDS epidemic in the Caribbean that an effective response must recognize that HIV completely disregards language and geopolitical boundaries. Caribbean people travel extensively from country to country and outside the region for work, study and family reasons (Thomas-Hope, 2004). The socioeconomic inequalities between neighbouring countries also create strong pressures for migration and there is extensive movement of commercial sex workers among Caribbean countries (Borland, 2004). In addition to this extensive internal mobility, the region is one of the most popular tourist destinations in the world, receiving more than 20 million visitors each year (Caribbean Tourism Organization, 2003).

6.2. THE EPIDEMIOLOGICAL PROFILE

The HIV/AIDS epidemic started in the early 80s when the first AIDS cases were described in 1981 in Haiti (Pape, 2000) and in Jamaica, Trinidad and Tobago and Bermuda (Bartholomew et al 1983, Bartholomew and Cleghorn, 1989, Narain et al., 1989). With an estimated adult HIV prevalence of 2.3 per cent (range 1.5 per cent – 4.1 per cent) in 2004 (UNAIDS, 2004), the Caribbean is, after sub-Saharan Africa, the second region in the world most affected by HIV. The Caribbean has the highest incidence rate of reported AIDS cases in the Americas with more than 400 cases annually in the last 3 years (Camara et al., 2004) in CAREC Member Countries alone (see figure 2 in chapter 1)

The HIV epidemic is driven mainly through heterosexual transmission. Homosexual or bisexual transmission accounts for 11 per cent of reported cases but is probably higher, since many of the males classified in the unknown category (17 per cent of all reported cases) may be bisexual (de Groulard et al 2000, Camara et al., 2004).

It is estimated that there are about 500,000 people living with HIV/AIDS (range: between 270,000 and 780,000) in the wider Caribbean. Hispaniola (Haiti and Dominican Republic) contributes 80 per cent of this total number of cases. In 2003 alone, there were between 24,000 and 61,000 AIDS-related deaths in the region. Among young people 15–24 years of age, 2.9 per cent of women and 1.2 per cent of men were living with HIV and between 27,000 and 140,000 were newly infected in 2004 (UNAIDS, 2004).

HIV/AIDS estimates in the region and for many of the individual countries are based on surveillance systems that are inadequate because in general they rely on reporting of HIV and AIDS, thus capturing only a portion of all infections. The lack of confidentiality (perceived or real) in health care services is one of the key barriers to getting a clearer picture of the local population infected with HIV. Many people who should seek care avoid contact with the health services and prefer not to be tested for HIV within their local environment.

This is especially true among vulnerable groups, many of whom would prefer to seek testing out of their own country (Camara et al. 2004).

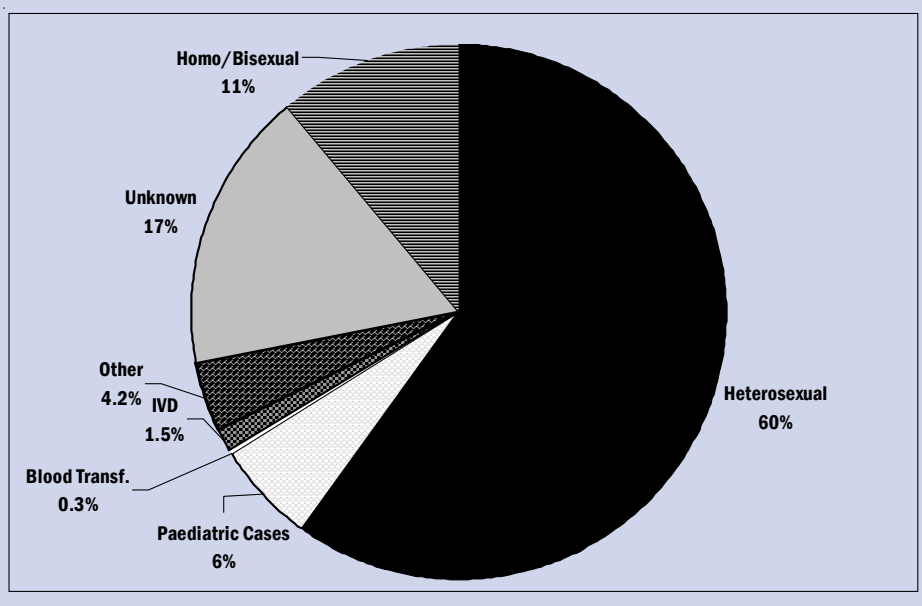
The primary risk exposure for HIV is unprotected sexual intercourse and the main form of transmission is heterosexual, but it is unclear what proportion unprotected men-who-have-sex-with-men (MSM) and bisexual encounters contribute to the overall numbers. It is generally accepted that MSM behaviour occurs, but due to cultural and religious beliefs, homo bi-sexual behaviour, which is illegal in many countries of the region, is neither open nor volunteered in questionnaires or interviews (Russell-Brown, 1998). Prostitution and commercial sex work are largely unorganized as respectively reported from different behavioural surveys in Suriname, Guyana and Jamaica (O'Carroll et al., 1994, Persaud, 1998, Campbell et al., 2001), and concentrated in areas with unattached men and women, whether tourists or migrant workers (Borland, 2004). Injection drug use remains low in the region, although it is an important route of transmission in Bermuda. HIV transmission through blood transfusion does not occur in most countries in the region (figure 11) (Camara et al. 2004).

The ratio of men to women with AIDS in the Caribbean region has narrowed considerably to about 2 to 1 in 2002 as compared with 4 to 1 in 1985. However, the situation in the region is still diverse with the sex ratio of 4:1 in Antigua and Barbuda and 1:1 in Saint Lucia and Dominica. Jamaica, The Bahamas, Belize, Guyana, Suriname and Trinidad and Tobago have 40–50 per cent of reported AIDS cases represented by women. The annual reported HIV case rates are three to six times higher in women 15–24 years old than in men (Camara et al 2004) although it must be noted that these data may reflect the fact that much of the testing takes place in ante-natal clinics.

The severity of the HIV/AIDS epidemic is underlined in the UNAIDS/WHO report which projects that life expectancy at birth will decline by five to ten years at the end of 2010 in several Caribbean countries (UNAIDS/WHO-AIDS Epidemic update, December 2004). These countries include The Bahamas, Barbados, Belize, Dominican Republic, Guyana, Haiti, Suriname, and Trinidad and Tobago (see Figure 12).

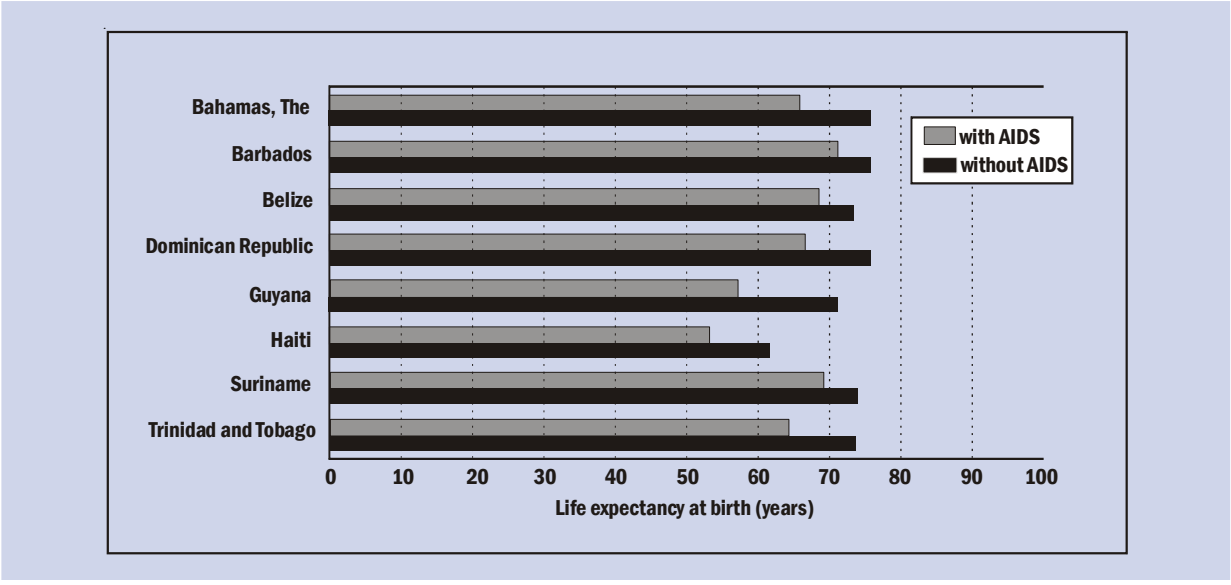
FIGURE 11:

Categories of Transmission in Reported AIDS Cases in CMCs 1982–2003



Source: CAREC-SPSTI

FIGURE 12:
Life Expectancy at Birth with and without AIDS for Selected Caribbean Countries, 2010



Sources: US Census Bureau, International Programs Center, International Data Base and unpublished tables

6.2.1. HIV PREVALENCE AMONG VULNERABLE POPULATIONS

The highest levels of HIV infection in the region are found among MSM, bi-sexuals and female sex workers (FSW). Experts in the region believe that the HIV prevalence among MSM and bi-sexuals is between five per cent and 20 per cent in most capital cities. HIV prevalence among female and male sex workers is still largely unknown but in Montego Bay, Jamaica it reaches levels of 21 per cent in the latter. (Figueroa et al., 1998). Few studies in the region have assessed the HIV situation among other vulnerable populations such as prisoners, mobile populations and street children.

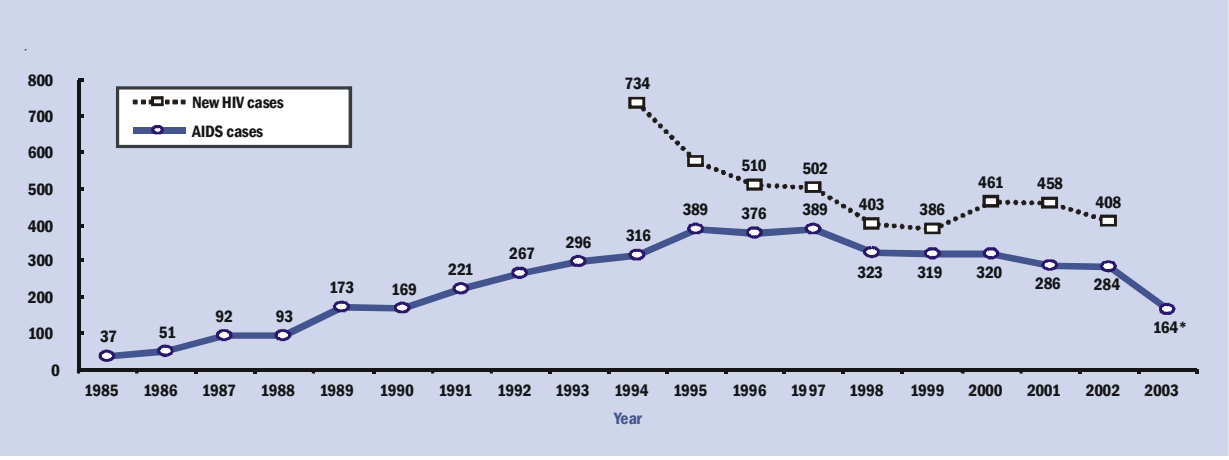
Mobile populations have higher HIV infection rates than those who do not move, independent of the HIV prevalence at the site of departure or the site of destination. HIV prevalence among young males migrating from the coastal area of Guyana to the hinterland to work in the mining industry was six per cent in 2001 (Camara et al -2004). A recent survey conducted in Barbados, Curaçao, the Dominican Republic, Jamaica and Trinidad and Tobago has shown that migration is closely associated with risk taking behaviours such as the sex trade and exposure to HIV transmission (Borland, 2004).

6.3. PROFILE OF THE EPIDEMIC IN SELECTED COUNTRIES

6.3.1. THE BAHAMAS

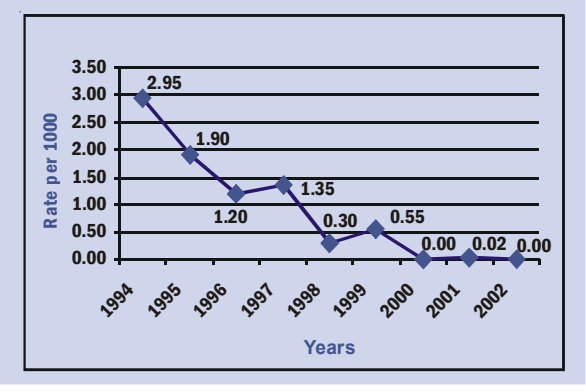
An estimated 5,000 people were living with HIV in the Bahamas at the end of 2003. HIV prevalence among pregnant women fell from 4.8 per cent in 1993 and 3.6 per cent in 1996 to three per cent in 2002. A similar downward trend in HIV levels has been observed among patients at sexually transmitted infection clinics. The decline in the annual number of reported AIDS cases (from 320 in 2000 to 164 in 2003) and AIDS deaths (from 272 in 2000 to 185 in 2003) probably reflects the strength of national control efforts (see figure 13) along with the expansion of antiretroviral treatment access since the turn of the century (Camara et al., 2004).

FIGURE 13:
Declining Trend in Reported AIDS and New HIV Cases in The Bahamas, 1985–2003

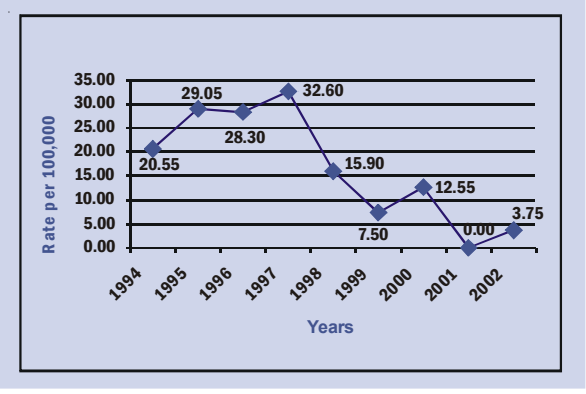


Sources: Caribbean Epidemiology Centre (CAREC), Pan American Health Organization(PAHO), World Health Organization (WHO)
* Provisional

FIGURE 14:
AIDS Cases Among the Less than One Year Old: Rate per 1,000 Live Births, 1994–2002



AIDS Cases Among the One to Four Years Old: Rate per 100,000, 1994–2002



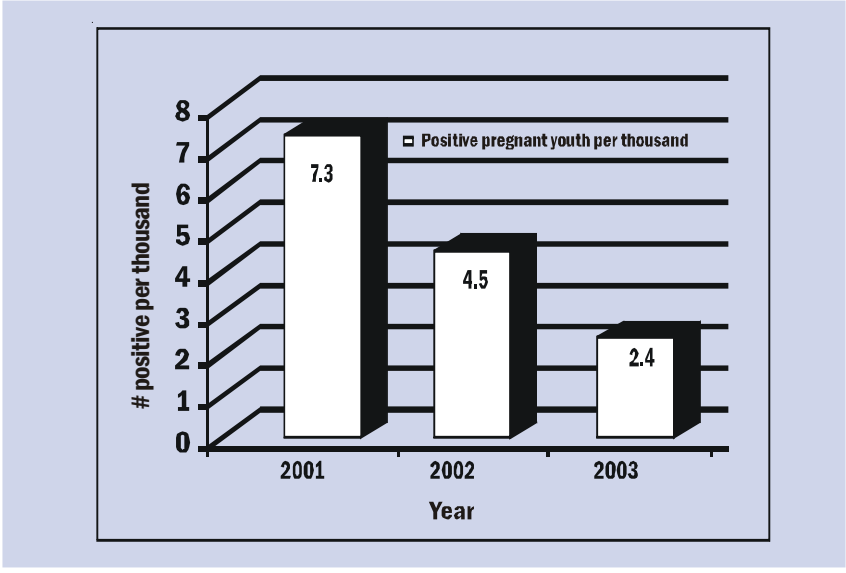
Sources: CAREC, PAHO, WHO

As demonstrated in figure 14, AIDS mortality has declined among infants and children and so too has the case fatality among AIDS patients in general. Because of the successful HIV screening programmes and the universal coverage of programmes aimed at reducing mother-to-child transmission of HIV, this mode of transmission no longer plays an important role in the HIV/AIDS epidemic in The Bahamas.

6.3.2. BARBADOS

The multi-pronged approach towards HIV/AIDS prevention and control in Barbados has been successful. A decline in HIV prevalence is observed, with new HIV diagnoses among pregnant women dropping substantially between 2001 and 2003, from 0.7 per cent to 0.24 per cent (Adamakoh, 2004) (see figure 15).

FIGURE 15:
Prevalence Trends in Pregnant Youth, 15–24 Years Old 2001–2003

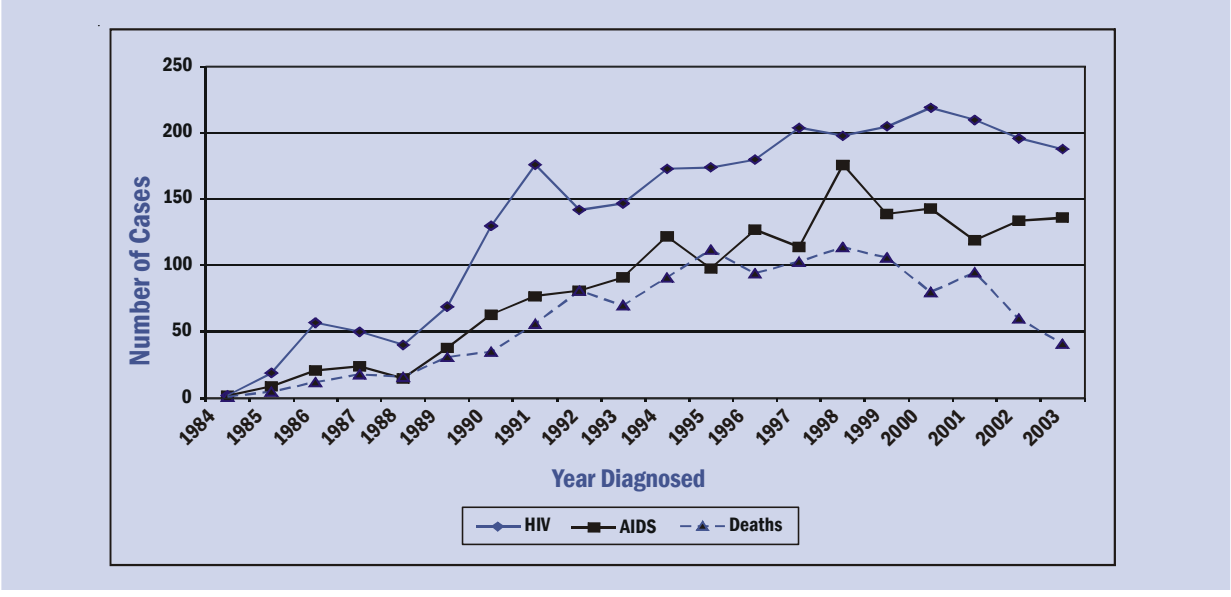


Source : Data from polyclinics

Mother-to-child transmission of HIV has also been reduced since the expansion of voluntary counselling and testing services, and the provision of antiretroviral prevention regimens. As a result, between September 2000 and December 2002, the rate of mother-to-child transmission declined by 69 per cent (St John et al., 2003).

In addition, the introduction in 2001 of antiretroviral treatment has reversed the trend of AIDS mortality. The annual number of AIDS deaths decreased from 114 in 1998 to 41 in 2003, while hospital admissions for treatment of opportunistic infections fell by 42 per cent in the same period (see figure 16) (WHO, 2004).

FIGURE 16
Summary of HIV and AIDS Cases and Deaths: 1984–2003



Source: CAREC

6.4. HIV/AIDS: ECONOMIC PROSPECTS FOR THE CARIBBEAN

HIV/AIDS impacts on economies by interfering negatively with the channels of growth and development. It does so by creating distortions in the various markets and sectors of the economic system, particularly the labor market. Whilst economists differ in approaches to economic growth and development they generally agree on the critical role of accumulation of human and physical capital stock. Any factor which affects investments and the accumulation of human and physical capital impacts directly on the ability of the economy to grow. HIV/AIDS is one such factor.

The increasing incidence of morbidity and mortality from HIV/AIDS and related complications affects the labour force both quantitatively and qualitatively. It is well documented that HIV/AIDS is highly concentrated in the age group 15–44 years (UNAIDS, 2004). Productivity must fall as infected people work fewer hours and with decreased effort. The actual extent of the impact in various countries has been the subject of debate and projected results conflict based on the economic models used and their underlying assumptions. The methodologies used to determine the potential impact of HIV/AIDS falls into two groups.

One group uses the indicative approach and infers the impact based on a range of information about the disease; namely the concentration of PLWHA in the productive adult years, the cost of treatment and the probable effects of the disease on individuals (UNDP 1992; Lyons 1993). The second group bases its conclusions on the use of empirical information and results generated by economic models.

6.4.1. IMPACT, COST AND BENEFIT OF RESPONSE

We know that the incidence of the disease is highest among the group 15–44 years of age and that the incidence among young women is on the increase in many countries. If we add to these the reality of limited access to ARV treatment and care for opportunistic infections, we have a situation in which the core of the labor force of the region is threatened by this disease. The productivity consequence of this direct impact on the health of the working population will be seen in increased absenteeism, and possibly a less than vigorous approach by workers to the tasks confronting them, partly because of the physical effect of the illness and partly for psychological reasons.

Camara et al. (2001) combined the modeling method of Schmitz and Castillo-Chavez (1994) with that of Bos and Bulatao (1992) to incorporate social, cultural and behavioural patterns that influence the spread of the disease in a population. They used what was considered to be conservative (low) country estimates of projected prevalence of HIV/AIDS by 2005, and estimated reductions in the overall labour supply by as much as 5.2 per cent. They also predicted contractions in employment in key sectors such as agriculture and manufacturing by 3.5 and 4.6 per cent respectively by 2005, if HIV/AIDS was left unchecked (Table 13). Analyses carried out for Guyana and Suriname predict similar future impact of HIV/AIDS.

TABLE 13:

Projected Impact of HIV/AIDS on Overall Labour Supply and Employment in Selected Sectors by 2005

Variables	Extent of Impact By 2005 (%)	
	Trinidad and Tobago	Jamaica
Labour Supply	-5.2 %	-7.3
Employment in Agriculture	-3.5 %	-5.2
Employment in Manufacturing	-4.6 %	-4.1
Employment in Services	-6.7 %	-8.2

Source: Camara et al., 2001

These were not unreasonable estimates given what was known of the evolution of the disease in other territories. In the most extreme cases the productivity impact would come from the exit of experienced workers from the labour force either through an advanced stage of illness or through death. The possibility of 'idle resources' being used to replace lost workers is highly unlikely, as there must be mismatches between qualifications, experience and training that could not be rectified in the short or even medium term.

There may also be indirect effects of the disease on population health. First, one would expect changes in the composition of household consumption, with more emphasis on medication and less on food supplies and other health-protecting goods and services. The possible impact on child nutrition could certainly lead to sustained losses across different generations. Another indirect impact of the epidemic on population health would be through the reduction in the time and resources available to care for other sick members of the family. Data from Barbados show significant economic impact at the household level (Adamakoh, unpublished data).

Finally, the indirect impact from the loss of working time which is now absorbed in care-giving has to be considered. There are also workplace effects. Where some colleagues are frequently ill, some frequently absent and others known to have died from HIV/AIDS, it is hardly likely that there will be an atmosphere conducive to productive work. It is yet to be determined if these predictions made in 2001 have been realized.

The projected benefits of a comprehensive program are calculated based on three main assumptions. First, the unit cost of treatment will be the minimum savings accrued from preventing one HIV infection. Second, treatment is assumed to extend the life of PLWHA by five years and finally, we believe that with the programmes contained in the strategic plans as developed by individual countries, the number of infections prevented will reflect those of medium and high case scenarios.

The total benefits accrued projected to 2005 for the Caribbean region came to almost US$2 billion. This was irrespective of the productivity and related economic gains as well as the positive qualitative impacts on quality of life, income, household spending, orphans and so on.

There are essentially four potential sources of financing the HIV/AIDS response:

a) domestic fiscal revenues
b) domestic private incomes
c) external bilateral assistance and
d) external multilateral assistance.

The first two sources would obviously depend on the national income of the respective countries. Taking account of the uncertainty of the cost of drugs, the estimate of the annual cost of a response to the epidemic is between US$275 million and US$550 million which represents less than one per cent of the region's combined income. Given the economic situation of the region as outlined above, it will be extremely difficult to mobilize these resources and it has been suggested that the HIV/AIDS programmes be designated as representing national crises and therefore be protected in terms of budgetary allocations.

6.5. CHALLENGES AND OPPORTUNITIES

These have been spelled out brilliantly in the Report of the Caribbean Technical Expert Group Meeting on HIV and Gender entitled 'Strengthening the Caribbean Regional Response to the HIV Epidemic', and much of the below is taken from that report. Most Caribbean countries have strategic plans which identify the HIV and AIDS priorities, but there is much to be desired in the implementation. As the report states,

> **though national leadership of HIV responses is the stated expectation, reality reveals that some programmes are donor driven. Political and ideological mandates of donor countries often the use of resources and hence, the**

actual implementation experience of national strategies and plans.

The report details many of the technical programmatic issues which have to be addressed for there to be major progress in all the countries.

However, there has been awareness and commitment on the part of Caribbean leaders and this is evidenced in some countries by the decision to seek loans for the programmes. One of the important advances at the regional level has been the increasing degree of collaboration at various levels. The most outstanding example is the formation of the Pan Caribbean Partnership Against HIV/AIDS (PANCAP), a multi-sectoral, multi-level partnership in which over 70 partners seek to collaborate and find common ground in the fight against the epidemic. Many of the resources for regional application have been mobilized through the advocacy of PANCAP.

There are major challenges to be overcome. These include the pervasive stigma and discrimination associated with HIV/AIDS and the gender discrimination which contributes to the increased female vulnerability. The integration of prevention with care and treatment in the national programmes is critical, but the necessary scaling up of these programmes exposes the managerial weakness and lack of the trained human resources at all levels. These are some of the reasons for the problems with implementing the plans and programmes for which there is assured funding. For example, while the first tranche of funds from the Global Fund for Aids, Tuberculosis and Malaria comes without conditionalities, the disbursal of the second will depend on performance.

The commitment of the political leadership must be more proactive and sustained, countries must embrace the PLWHA and such groups as CRN+ and CCNAPC into the planning and programming of activities at all levels. The response must involve the whole range of institutions of civil society as well as the private sector to contribute from its expertise in business. It is obvious that any advances in controlling the epidemic have to be informed by the data that come from surveillance, thus the need for stronger national surveillance systems. But there is a spirit of optimism abroad at the prospect of controlling this epidemic.

6.6. CONCLUSIONS

- The prevalence of HIV/AIDS in the Caribbean is second only to that found in sub-Saharan Africa. There is uncertainty about the exact number of people living with HIV, but the estimated number is about half million in the wider Caribbean and 20 per cent of these are in the CARICOM countries. The annual reported HIV case rates are three to six times higher in women 15–24 years old than in men in the same age group. Men who have sex with men (MSM), female and male sex workers, mobile populations, and young people are the groups that report the highest prevalence rates.
- Many social and cultural factors contribute to the spread of the disease including an environment of stigma and discrimination against people living with HIV/AIDS and other vulnerable groups.
- The most prominent determinants of HIV infection relate to economic and social vulnerability, sexuality, early sexual initiation and multiple partnering. The gender imbalance that exists puts women and particularly young girls at risk.
- The profiles in selected countries demonstrate the success that can be achieved with a well structured programme, but weakness in programme management is a source of concern in many countries.
- Although the precise extent of the impact is debatable, there is agreement that HIV/AIDS impacts negatively on the economies of the Caribbean principally by the reduction in the quantity and quality of the human capital.
- The case is put that the Caribbean economies can sustain and support a

comprehensive programme to control the epidemic, but the current economic climate makes this extremely difficult.
- Political will exists and it is well understood that the expanded response to the epidemic is the recommended approach to prevent its spread and mitigate its impact on individuals and communities.
- PANCAP represents a promising example of multi-agency, multi-level collaboration.

6.7. RECOMMENDATIONS

- The leadership shown so far at the highest levels, especially the political level should be strengthened to ensure that the national response to the epidemic is strong, multi-sectoral and expanded.
- Issues related to human rights and gender are critical in the fight against HIV/AIDS and should be addressed through a range of anti-stigma and anti-discrimination efforts (policies and legislation) and gender equity initiatives at the highest levels in each country through application of a health promotion approach.
- PLWHA and vulnerable groups should be fully incorporated into the planning and programming process at national and regional levels.
- The country level management should be strengthened in order to scale up the programmatic response on prevention and treatment and to monitor the progress made with regards to the commitments made to fight the epidemic, and the impact achieved by national HIV/AIDS prevention and control programmes. Prevention, care and treatment are two sides of the same coin and should be promoted and implemented with the same emphasis if the Caribbean is to reverse the HIV/AIDS epidemic.
- The regional institutional partnerships, especially PANCAP should be supported in their coordinating, policy making, and resource mobilization roles.
- Further economic analysis at the micro and macro levels is needed to measure the impact not only of the epidemic but of prevention and control approaches.
- Success stories documented in the Caribbean and the rest of the world should be adapted locally and replicated.
- Bilateral and multilateral commitment to the battle against HIV/AIDS in the Caribbean should be long term and sustained.

CHAPTER 7

Mortality and Morbidity from External Causes including Injuries

The growing awareness of the high levels of injuries from intentional and unintentional violence throughout the world has prompted calls for their treatment as a public health problem, and as a phenomenon of almost epidemic proportions. The recent WHO Report (2002) on global violence pointed out that although the media focus has tended to be on organised forms of violence, 'suicides and homicides represent a much bigger portion of fatal violence around the world'.

There are a number of ways in which violence and injury could be classified — but the simplest and most commonly used one is that which uses three broad categories: namely, self-directed, interpersonal, and collective. The emphasis here is on intentional injury arising from self-directed and interpersonal violence. Those unintentional injuries resulting from motor vehicle accidents will also be included.

7.1. MORTALITY FROM VIOLENCE AND INJURY

Given the high and rising rates of mortality and morbidity, as well as the enormous economic costs from violence, accidents, and injury these must now be seen as a major public health problem, (Krug et al 2003; Winett 1998; Durant 1999). The WHO report on global violence has estimated that in 2000, 1.6 million people around the world died as a result of violence. The global burden of injuries is expected to increase from 15 per cent of DALYs lost in 1990 to 20 per cent in 2020. Road traffic injuries alone accounted for almost as many DALYs lost as did tuberculosis (WHO 1996). Injuries have become such a public health problem in the USA that they now result in more years of potential life lost than either heart disease or cancer.

PAHO (2002) has also reported on the rising mortality from external causes within the region of the Americas. The crude rate of registered homicides in the Americas of 14 per 100,000 population is one of the highest reported in the different regions of the world and over the 1980-2000 period there have been significant increases. Violence figures prominently as a cause of loss of life as shown in Table 14.

TABLE 14:
Top Ten Causes of Contribution to PYLL, CAREC Member Countries

Disease	% Contribution to PYLL to age 75 yrs.
1. HIV/AIDS	13.24
2. Respiratory disorders in the Perinatal period	6.96
3. Homicide	5.90
4. Diabetes Mellitus	4.99
5. Ischemic Heart Disease	4.29
6. Cerebrovascular Disorders	3.48
7. Motor Vehicle accidents	3.39
8. Congenital Malformations in the Perinatal period	3.31
9. Pulmonary and other Heart Disorders	3.14
10. Infectious diseases	2.61

Source: Holder 2004. Computed from the database held at the Caribbean Epidemiology Centre. Pan American Health Organization. Trinidad and Tobago.

Homicide alone, at 5.9 per cent is now the third most important contributor to PYLL.

Mortality and morbidity from injury when assessed from hospital data for bed days and discharges show a similar picture. In Grenada, for 2001–03, hospital discharges related to injuries and violence tripled, with a concomitant increase in the number of hospital bed days. In Antigua, injury deaths — expressed as a percentage of total deaths — rose from three per cent in 1995 to seven per cent in 2001. In Barbados, between 1995 and 2000 the mortality rate from injury per 100,000 decreased very slightly from 35.8 to 35.7. However, this appears to be largely due to the decrease in the youngest and oldest age groups. Among the 20–24 year olds the rate leapt from 21.9 to 79, while that among the 25–34 year olds went from 59 to 70.8. In other countries the pattern is very similar.

7.2. MORBIDITY FROM VIOLENCE AND INJURY

Mortality from violence and injury probably represents only the tip of the iceberg. Efforts to construct injury pyramids clearly recognize that the total number of injuries that result in hospitalization, or are only reported to a health care provider, far outnumber those resulting in deaths. Male battery tends to be seriously underreported, as males are reluctant and/or ashamed to admit this to anyone.

Table 15 shows that a total of 38,135 cases of injuries were reported in Jamaica in 2003. In that same year the number of incidents of violent crime reported to the police were 6,648 of which 975 were murders, 13 were manslaughter, and 64 were suicides. There were 12,585 motor vehicle accidents in 2003, in which 391 people were killed and 4,041 people injured. Taken together they yield a death: injury ratio of approximately 1:26.

Assessments of the health burden from violence and injury therefore need to look far beyond the picture suggested by a simple focus on mortality data. In Jamaica, violence and injury are responsible for the majority of the workload in casualty departments, and are now the most frequent reasons for presentation at the public hospitals' accident and emergency units (*Economic and Social Surveys*). The recently instituted Injury Surveillance System shows that intentional injuries associated with violent acts and non-intentional injuries are now the leading cause of admission to Jamaican hospitals. An increasing number of countries fear that the necessary attention to injury cases is diverting resources from other areas of health care. In Jamaica, violence and injury accounted for ten per cent of hospitalized patients, and an average length of stay in hospital of 8.3 days (Ward, 1996)

TABLE 15:

Jamaica Injury Surveillance System (January–December, 2003)

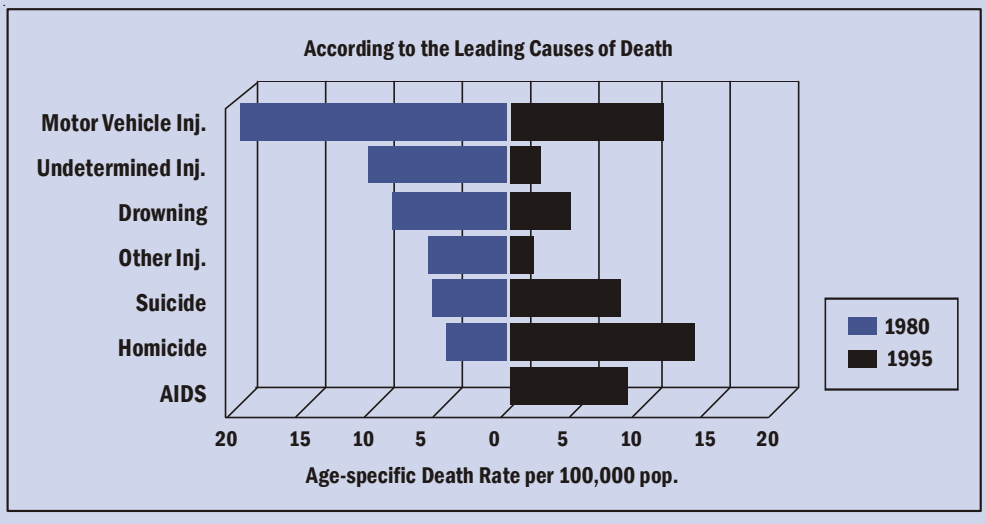
Hospital	Total	Unintentional Injuries		Intentional Injuries		MVAs		Attempted Suicides		Workplace Injuries	
		N	%	N	%	N	%	N	%	N	%
Kingston Public	10343	2760	26.7	5723	55.3	1677	16.2	38	0.4	145	1.4
Cornwall Regional	6792	3095	45.6	2726	40.1	968	14.3	3	0	-	-
Spanish Town	6788	2096	30.9	3188	47	1386	20.4	40	0.6	78	1.1
May Pen	4389	2060	46.9	1454	33.1	806	18.4	7	0.2	62	1.4
Mandeville	3561	1750	49.1	985	27.7	810	22.7	14	0.4	2	0.1
Bustamante Children's	2568	2203	85.8	139	5.4	222	8.6	4	0.2	-	-
Annotto Bay	1606	929	57.8	475	29.6	196	12.2	1	0.1	5	0.3
St. Ann's Bay	1405	342*	24.3	798	56.8	257	18.3	4	0.3	4	0.3
Savanna-la-Mar	683	154	22.5	294	43	234	34.4	1	0.1	-	-
TOTAL	38135	15389	40.4	15782	41.2	6556	17.2	112	0.3	296	0.8

MVA – Motor Vehicle Accident Only information for January - June was available for St Ann's Bay
Source: Jamaica Injury Surveillance System.

The incidence of violence and injury is highest in the main urban centers. In Jamaica (the only country in which disaggregated data are available) the highest number of injuries was treated at the Kingston Public Hospital. A household survey also reported that of those reporting a murder, 57 per cent lived in the Kingston Metropolitan Area, 38 per cent in other towns and four per cent in the rural areas. Violence tends to be perpetrated among persons who knew each other. For example, 50 per cent of injuries were due to an acquaintance, 16.2 per cent of people were injured by their partners, and only 13.9 per cent of injuries were due to strangers. Some 11 per cent of the injuries were due to family members. It is therefore not surprising that some 40.4 per cent of injuries — intentional or unintentional — took place in the home.

FIGURE 17:

Mortality Profile of 15–24 Year Olds, 1980 vs 1995



Source: CAREC. *www.carec.org.*
Accessed September 29, 2004

7.3. VIOLENCE, INJURY AND YOUTH

Violence and injury affect primarily the young and people in their prime working years. Violent and other health risky behaviors often begin at a very early age. In the Americas, 'external causes' is the leading cause of death among people aged 10–19 years of age — accounting for 29 per cent of all deaths (PAHO, Health in the Americas 2002).

Whereas up to 1980, the principal causes of mortality in the 15–25 year old age group, in the Caribbean were from natural causes, by 1995, the major causes of mortality were HIV/AIDS, violence and injury, MVAs, and substance abuse. Recent data show a continuation of these patterns. HIV/AIDS, homicides and MVAs are the top three causes of mortality in the 15–4 year old age group; altogether (and including suicides) they account for 47 per cent and 46 per cent of all cases reported in 15–24 and 25–44 age groups respectively as shown in Table 16.

TABLE 16:

Principal causes of Mortality among 15–44 year olds, 2000. Percentage of Total Cases of Mortality in Age Groups

Cause of death	15-24	25-44
HIV/AIDS	13.6	28.5
MVAs	9.2	4.7
Homicide	19.8	10.2
Suicide	4.5	2.7

Source: Caribbean Epidemiology Centre (CAREC)

With respect to MVAs, safety belts decrease injuries, reduce fatalities and therefore also yield significant savings — if only through a reduction in hospital costs. Seat-belt legislation has been instituted only recently in a few countries in the Caribbean region, but so far the rates of MVAs have shown little downward trend. Any conclusions about the possible benefits of this measure have to be tempered by the apparently low seat-belt utilization levels.

Because of the high levels of violence in the region a number of agencies — some of which focus their effort on prevention — have emerged to help address the problems. Most of the efforts have focused on punishment and correction of the perpetrators and some support and therapy for the victims; but in recent years the number aiming at prevention has grown. The Department of Corrections in Jamaica has activities designed to deal with those who have been incarcerated and includes programmes that offer counselling and forms of community outreach, education programmes, vocational skills training programmes, and a parole programme for the conditional release of prisoners.

There is also a role for government in injury prevention and action can be taken in areas such as the enforcement of laws against drinking and driving, seatbelts, motor vehicle inspections and punishment for traffic violations.

7.4. THE COST OF VIOLENCE AND INJURY

The direct costs of treatment can be very high and threaten adequate attention to other health problems, as hospital, emergency and primary care resources are diverted in the short and longer term. The costs of conflict management — within and outside of the judicial and police systems may also be huge. The effect of violence on tourism has to be significant as safety plays a major role in tourist choice of destination. The indirect costs are also likely to be high and spread over long periods of time: physical disabilities imposed by violent encounters will have lasting consequences; and where mental and reproductive health problems result from these experiences, they may also be expected to occur later or become a long-term burden.

Assessments of the economic burden and impacts of violence and injury are fairly recent; the data are therefore still insufficient and the analyses inadequate — not least because of the major problems associated with accurately identifying, documenting and quantifying the broad spectrum of costs suspected to be associated with the initial incidents of violence and injury. Certainly, efforts to date suggest a very large economic burden. In the USA in 1993, 'it was

estimated that injuries cost about $400 billion, about 4 times as much as cardiovascular disease' (Zwi et al., 2001). In Latin America the cost of treating injuries has been estimated at one to five per cent of GDP (Buvinic et al., 1999).

Francis and Campbell (2001) determined the economic cost of violent crime in Jamaica over the period 1990 to 2000. The range of the loss is between US$11 and US$15 per person annually. Following Harriott et al (2002), a number of distinct direct and indirect costs associated with murder are identified. When an individual is killed, the economy loses potential output that the person would have contributed. But murder victims belong to various occupational groups and since the profile of those murdered suggests that labourers and taxi drivers are most at risk, the average wage of that group was used to reflect loss of income. Thus we multiply the average number of murders by the average wage inflated by the CPI. The 2001 figure for the costs of murder was J$194,066,920 and for 2003 it was J$209,592,274. The direct costs to the public health system as well as the indirect costs of intentional injuries were estimated as J$1,714,378,039. Similar calculations of the costs of road traffic accidents showed a loss of J$384.3 million.

The rough approximation is that overall costs of injuries and accidents is some J$2,308.3 million, which at the 2003 exchange rate is nearly US$38 million annually. In per capita terms, the costs are J$887.81 per person, or US$15.30 per person per year which is 0.7 per cent of GDP.

7.5. CONCLUSIONS

- Increasing concern about the rising levels of intentional violence and injury — globally, as well as in the Caribbean — is very easily justified. When their contribution to premature mortality, the years of potential life lost and the overall disease burden is calculated they appear in the top ten causes of mortality and morbidity and in the Caribbean they emerge as one of the top three causes of mortality and morbidity and must be regarded as a public health problem.
- The groups bearing the biggest burdens are the young; that is, those aged 15–44 years. They make up the largest percentage of the victims, as well as the perpetrators. Since individuals in this age group are also those in the prime working years, it might also be expected that the toll on the society in terms of the losses brought about in the levels of production, and investment will be great.
- Violence is more common in urban areas and tends to be perpetrated among persons who know each other.
- Calculations of the effect of violence and injury on the economy and its development are relatively recent. Analyses have been affected by continuing uncertainties about what is to be measured, how it should be measured, and how best to ensure comparability across time and space. Only one or two Caribbean countries have begun to put in place injury surveillance systems that can permit the monitoring of trends over time.
- Estimates of direct costs plus a limited number of indirect costs in Jamaica have yielded estimates that violence and injury can account for approximately 0.7 per cent of GDP. This must be seen as a very conservative and lower boundary; were it possible to incorporate the full gamut of direct and indirect costs it can be expected that this proportion would significantly increase.

7.6. RECOMMENDATIONS

- Cost-benefit analyses, as well as assessments and evaluations of preventive measures must be conducted in an environment in which there are much better data than those which currently exist. The Caribbean must improve the systems for surveillance of the pattern, distribution and costs of injuries

and the impact of such interventions as are applied. Policies in place that regulate such actions as use of seatbelts should be enforced where they exist or established where they do not. In general, there must be better enforcement of traffic regulations.

- Policies and programmes which improve parenting skills, foster life skills, including conflict and anger management especially in the home and school environments should be implemented or strengthened.

CHAPTER 8

Organization of the Health Systems

8.1. CAPACITY OF THE SERVICES

These analyses are based on examination of secondary sources as well as key informant interviews in Jamaica, Saint Lucia, Saint Vincent and the Grenadines, Dominica, Antigua and Barbuda and Barbados. The organization of the health services and their ability to respond to need depend essentially on the capacity in the areas of health planning (including a plan), management arrangements, financial and budgetary arrangements, physical facilities and human resources. In the respondent countries generally, some health planning or health sector reform planning are in evidence. Some plans have come to the end of a cycle and are being reviewed for implementation in a follow-up period. Others are at various stages of development and implementation. By way of some examples, in Jamaica the current strategic plan comes to an end in March 2005 and its successor was expected to be ready for April 2005. A National Strategic Plan for the Promotion of Healthy Lifestyles, 2004–08, has been developed by the Department of Health Promotion and Protection. Saint Vincent is in the process of preparing a National Strategic Plan and a Health Sector Operations Plan. There is a Strategic Plan of Health in Dominica covering the period 2002 to 2006. In Saint Lucia there is a National Integrated Development Plan (that is, a National Strategic Plan) being formulated, which has already gone through a number of iterations and Barbados is currently working through a Strategic Plan for Health, 2002–12.

In addition, because of its importance and as a requirement for technical cooperation, particularly as regards the care and treatment components, countries have been mandated to develop separate strategic plans for HIV/AIDS, to describe the existing response, the proposed scaling up of services, the proposals forming the basis of funding requests and the proposed measurements of the impact of scaled-up interventions.

The various health plans and reform documents have a number of aspects in common. The need to address cross cutting issues is well recognized. They have all included the determinants of health and the need to work with stakeholders and partners — that is, public and private sectors in interdisciplinary dimensions, non-governmental organizations, civil society and international organizations, is also recognized. One common deficiency in need of urgent solution is in the provision of such data that public policy in health can be based on evidence and another is the concern that countries are not deriving optimal benefit from the current knowledge in information technology.

They all support the health promotion strategy including the Caribbean Charter on Health Promotion. In this regard, Jamaica has a very strong and vibrant Health Promotion and Protection Division in the Ministry of Health with a

formulated strategic plan for the promotion of healthy lifestyles, 2004–08.

The planners, epidemiologists and information specialists recognize, too, the need to get the product of their work on to the policy agenda for consideration and decision-making at the political level and some halting steps have been taken in this direction. Some countries have set up Special Advisory Committees (SACs), as in the case of Saint Lucia, within the Ministry of Health. For the most part, countries rely on the wide sharing and circulation of information in the knowledge (or hope) that the informal system within government and society at large would take the information ultimately to the decision-making loci in the absence of any formal public policy structure. In Jamaica however, a common view has emerged that a formal policy framework that would link the outputs of the planning exercise and the epidemiological information to an identifiable body that has the job of prioritizing and translating these into public policy decisions. The need for a designated national policy unit was identified universally.

8.2. STRUCTURAL ARRANGEMENTS

Structural managerial arrangements for the delivery of health services range from direct central control, across the board, of the management of the services with minimum delegation to sub-units, as in the case of Antigua and Barbuda, through a dual system of decentralization and devolution, as in the case of Saint Lucia, to systems of significant devolution through regionalization as in the case of Jamaica and Trinidad and Tobago. The notion of regions and regional authorities is currently under consideration in Saint Lucia.

Where the centrist system obtains, the responsibility for the day-to-day management of the services rests with the minister, the permanent secretary, and the chief medical officer at Headquarters level. This creates difficulties for the crafting of the Headquarters (HQ) management structure vis-à-vis the field offices. The span of control at the centre is often too unwieldy and the distance between HQ and the field leads to delays and bottlenecks in the implementation process. This wide span of control was seen in the organization charts in the countries where they were available, and the potential for dysfunction appreciated.

A pattern is developing in which, as in Bermuda where this model is seemingly successful and more recently in Barbados, the hospital services are increasingly being placed within the direct control of statutory hospitals boards – devolved units – for their day-to-day management, while the public health and primary health services remain within the direct control of the central ministries. The role of the central ministries is being examined carefully in countries where this development has taken place. This role has included responsibility for policy, regulations, norms and standards, and monitoring operations, which may properly be described as their 'steering role'.

Countries are at different stages in their movement in this general direction with varying mixes, no doubt in response to their individual arrangement and evolutionary transformation. For example, one hospital in a country is managed by a statutory hospital board while another hospital in the same county is managed directly by the central ministry. In another country, there is drafted legislation to devolve the management of the main acute care hospital. In another country a hospital board was established as long ago as in 1999 by an Act of Parliament, to manage the day-to-day activities of the institutions but having been constituted, is yet to become functional. Consequently the management of the services remains very centrist with manifestly dysfunctional results.

In a number of the smaller territories, where devolution is not yet an embraced option, there is significant decentralization in the area of public health services and primary health care (PHC). While there are others which have moved in this direction, Dominica is worthy of mention here. In that country there is a significant degree of delegation to the Primary Health Care units carried out through seven health districts with clearly

defined boundaries that have been allowed since 1980 to make their requests to central government for district funds. Having been given an agreed allocation of funds, the districts are afforded relative flexibility as to their expenditure on drugs, supplies and equipment for the management of the 51 health centres within their jurisdictions.

While Dominica is mentioned for its network of primary care facilities and management arrangements, the successful effort of Barbados to deliver primary health care through eight strategically placed polyclinics and four district clinics is to be noted.

Jamaica's experience with decentralization is also worthy of some consideration as there appear to be lessons arising out of those initiatives that may well benefit other territories as they set out in that direction. The Jamaica Health Policy Reform initiative which was begun in 1997 placed decentralization high on its agenda and was linked to the integration of services, and the restructuring of the Ministry of Health Headquarters. The National Health Services Act was enacted in 1997 in support of decentralization.

Four Regional Health Authorities were established: the South East with a population of 1.2 million, the North East with a population of .355 million, the West with a population of .457 million and the South with a population of .562 million. There are 343 health centres throughout the country, 23 public hospitals, 11 private hospitals and one quasi-government hospital making a total of 35 hospitals. (See Table 17). The profile of these facilities points to the inevitability of decentralization.

TABLE 17:
Regional Health Authorities

Regional Health Authorities	Geographic Area	Population	Hospitals				No. Health Centers
			Public	*Private*	*Quasi-Public*	*Total*	
South East	2387.7 sq.km	1,214,648	10	5	1	16	90
North East	2637.1 sq.km	355,991	4	-	-	4	79
Western	2726.9 sq.km	457,541	4	5	-	9	84
Southern	3238.8 sq.km	562,208	5	1	-	6	90
Total	10990.5 sq.km	2,590,387	23	11	1	35	343

Through the 1997 Act, sweeping powers were therefore given to the regional authorities to manage the parishes and all public health facilities, including hospitals, within their regions, and in addition to manage their own finances, personnel, supplies and equipment. This decentralized arrangement has indeed enhanced the capacity of the health authorities in Jamaica to deliver services to the public. But some difficulties have become manifested in the wake of experience gained during the process of implementation.

In the first place, there was general skepticism regarding the notion of devolution, perhaps born out of feelings of insecurity. There were, and still are, concerns about security of job tenure, about continued benefits enjoyed as civil servants and the notion of secondment to the regional authorities (RAs). Indeed, some 90 per cent of staff opted to remain in the civil service and be merely seconded to the RAs. As a result, the ministry headquarters is currently obliged to manage after decentralization a much larger human resource portfolio than was originally envisaged.

For this and other reasons and with the benefit of experience the roles of the ministry of health headquarters and the regional authorities as regards

certain areas of their respective operations are being reconsidered and studies are being undertaken to rationalize these relationships. It has been submitted that this has come about because in the initial stages, structures were not fully agreed and indeed, the regions were organized before the corresponding and complementary ministry role was fully determined. There is an emerging consensus that the devolution process might not have taken into account the need for one body to manage the critical area of resource allocation, especially of personnel, rather than each RA being discretely responsible for its own personnel recruitment. This has led to skewed outcomes between RAs at times, with some areas reported as being relatively overstaffed while others are understaffed, where there is duplication in some cases and where rationalization by a common body would prove to be less wasteful of resources.

The very care that was taken to have services completely devolved from the centre, in practice may well have resulted in a disconnect from the kernel of central policy. The delimiting factor of the skills base to manage this relatively large network of decentralized units is very apparent.

Within the decentralized areas, the relationship between the regional authority and the parish management is under scrutiny. The regional offices, at least in some cases, have not themselves seemingly extended the decentralized principle to the parish authorities to allow the latter the flexibility necessary to carry out their functions as provided for by statute or in response to local imperatives.

By way of further decentralization for capacity enhancement, Jamaica has bought into the notion of the executive agency. The use of agencies to deliver critical services would leave their parent ministries and departments more time to concentrate on other services and on policy development. There are currently a number of such agencies established and operating in the public service: for example the Management Institute for National Development (MIND), the Registrar General's Department and the Child Development Agency the latter two being associated with the Ministry of Health.

8.3. FUNCTIONAL ARRANGEMENTS

8.3.1. LEVELS OF SERVICE AND LINKAGES

While there is information to support the need to establish and maintain positive relationships between the various levels of care, the candid reaction of some respondents during the country interviews was that the systems and processes of referrals between the levels needed to be strengthened not only in terms of the patient but also in terms of the health staff. Seemingly, some staff tend to limit the extent of their concern merely to the level of service in which they are engaged and fail to see or are somewhat indifferent to the linkage in care that should be maintained between levels of services.

Lamentably, Primary Health Care (PHC) may not be the first port of call and this may be the result of how resources are distributed between primary and secondary care and the public's perception of the quality of care provided at the PHC level. On average the hospitals are allotted 75 per cent of the health budget and PHC 25 per cent. The result is that there are usually too few physicians at the PHC units (and in a doctor centred culture at that), no drugs and so on, all giving support to a drift from primary to secondary care facilities. This is further accentuated by the experience in many of the countries that a significant section of the population prefers the private sector providers for PHC service. To the extent that secondary/tertiary facilities which receive the majority of the recurrent health budget remain and operate as entities discrete from the rest of the health delivery system, the capacity of the services will continue to function sub-optimally and efficiency and effectiveness will be negatively impacted.

For example, the main and usually very expensive diagnostic equipment with the corresponding technical personnel, usually remain in the hospitals. Primary care providers should feel and be encouraged to feel that they can access these services even for patients within the primary care system and not only when there is seeming need

for secondary care. The hospital technical staff should see part of their role as being supportive to primary care.

8.3.2. MANAGEMENT COMPETENCE AND HUMAN RESOURCE DEVELOPMENT

The capacity of the health services cannot be addressed without examining the quality of the personnel appointed to manage them. The formal preparation of the key providers, while no doubt sound technically, should increasingly be required to provide an opportunity for the continued orientation and sensitization to the sociocultural and economic environment in which they are to operate and practice. This is as relevant to physicians as to nurses and other key providers of services.

An abiding personnel problem that may well be mitigated within a decentralized (devolved) arrangement, but which can be quite dysfunctional in a centrist structure, is the service wide movement of staff. In a centrally managed ministry, all established staff are appointed through the Public Service Commission, are service wide appointees and are regarded as common service personnel subject to transfer anywhere within the service. Specially trained health staff is subject to transfer within and out of health to any area where there might be a vacancy that offers upward mobility.

This practice, although based on a facile notion of fairness and equity, has been known to have a deleterious effect on technical ministries such as health when skilled people are moved on a service-wide basis without regard for the negative impact of such transfers on the service. This practice has been lamented in interviews. For example, an epidemiologist or medical records technician in a small country on whom significant training has been expended and who may be the only such skilled person in the ministry, may find themselves having to move to fill senior service-wide vacancies which have little or no bearing on his/her professional preparation and skills and at the same time be lost to health with disastrous effect.

A number of respondents said that there was weakness in the middle management cadre of some ministries and a crying need for strong leadership in public health. They consider that human resource data banks should be strengthened to facilitate HR planning which, itself, should respond to the changing environment, having regard to changing disease patterns, care processes, patient needs, the utilization of new staff groups and the availability of human and financial resources. This, together with adequate staff performance appraisal would facilitate much needed succession planning and appropriate training needs. Unfortunately, this responsibility may not always, and frequently does not, rest with the ministry of health. In many jurisdictions it falls within the purview of the establishment division or department of the central government or the ministry of the public service. Moreover, it was reported that where some form of performance appraisal exists, the tendency is to report on the individual per se and not on any measurable output and thus the granting of merit increments for advancement becomes routine. Suggestions were made for the reintroduction of the nurse-practitioner system which would have a significant impact especially at the primary level.

8.4. BUDGETING

The budgetary systems in the respondent countries are varied. Some have not moved significantly away from the line-item approach while others have been practicing some forms of programme budgeting for several years. But even where this latter has taken root, the countries are constrained by national fiscal problems and the fact that up to 80 per cent of the budget is allocated to personal emoluments. One country reported that its ministry had moved away from 'simple line-item budgeting' to programme budgeting but that they had subsequently moved from programme budgeting to performance budgeting. However, in that country as in many others, the budget is linked and related to a corporate plan and then the approved budget must be supported by an operational plan.

Another country is in its seventh year of programme budgeting. Its national budget is comprised of two volumes. Volume I is the Business Plan for the ministry. In that volume the estimates are broken down into programmes and every programme has a business plan. These plans are further broken down into key results, achievements and so on. Volume II is the estimates of revenue and expenditure broken down into programmes — in effect, the budget document. At the beginning of the year a 'calendarization' exercise is prepared and ministry of finance releases one twelfth of the ministry of health's allocation and there are times when even at this level of release, the funds may not readily be available. Indeed this has prompted one respondent to remark: 'At the end of the day it is still a matter of cash flow management by the Treasury', so that the heralded benefits to be derived from programme budgeting with its emphasis on outputs, measurement and cost-benefit analyses and so on are never fully realized.

In yet another country where programme budgeting is adopted, there is a requirement for a corporate plan to support the annual budget. There is then an operational plan for the year for each department of the ministry, setting out the department's mission statement, theme, planning team, and performance indicators (in broad terms) and ultimately a budget for the department. Barbados has been practicing programme budgeting successfully for some ten years.

In most countries, the move from line-item to some form of programme budgeting has not been translated into effective action. As already indicated, the reason may lie in the recent state of the economies in some of the countries as well as the traditional distribution of the budgets within the sector. It should be noted however, that the health budget as a percentage of the total recurrent expenditure in national estimates of expenditures in many regional administrations ranges from some ten per cent to as high as 15 per cent and is usually the largest or second largest allocation, particularly in the smaller territories but as much as 80 per cent is marked for personal emoluments.

8.5. SHARED SERVICES

There is the tradition of informal sharing of services and for several years the Caribbean has flirted with the concept of formalizing this activity (Banoub, 1993). The idea is based on the recognition that each government cannot muster all the skills and other resources that are required. The cost of specialists and equipment is high and rising and it is beyond the capacity, certainly of the smaller countries acting in isolation to supply these. The practice of sharing has not progressed in the area of clinical services, as most countries attempt to be self-sufficient for a variety of reasons, some eminently political. However there is room for the sharing of those services which fall in the category of regional public goods, the most important of which may be research and development and regional surveillance systems. Support for the Commonwealth Caribbean Health Research Council is an example of sharing for the production of new knowledge.

Research and development, which is manifested in improved knowledge, is a good example of a public good, where externalities extend beyond the national boundary. Knowledge, after it has been generated, is both non-rivalrous and non-excludable (characteristics of public goods). Knowledge generated and used by one state does not reduce the amount available to another state and, once produced, it will be difficult to exclude another state from using it. Support for the Commonwealth Caribbean Health Research Council is an example of sharing for the production of new knowledge.

Regional surveillance systems fall into the same category. Once the surveillance system has been established, it is strengthened by the cooperation of all countries. In addition, the cost to each participant is minimal and the use of the system by other countries does not reduce the benefits to any. This is a core function of the Caribbean Epidemiology Centre.

8.6. LEGISLATIVE FRAMEWORK

It is axiomatic that the presence of a relevant legal framework within which health professionals

operate would greatly facilitate the work of the ministries of health. The absence of such framework causes the reverse.

Some countries are making strides to upgrade their legislative framework but for others this is largely an underserved area. In one case the substantive Public Health Act, with few amendments, dates back to 1957. In others the picture is less bleak. In Barbados, for instance, the need for the review and amendment of several elements of health legislation to reflect current activities and technologies is recognized. Accordingly, there is a Health Services Act that defines the responsibilities of the Ministry of Health for the comprehensive regulation of all public health matters. There is the Drug Service Act as well as legislation to regulate and monitor the operations of private hospitals, nursing homes, senior citizens homes and a Para-Medical Professions Act.

In Trinidad and Tobago there is the Private Hospitals Act regulating functions related to private hospitals and other pieces of legislation governing the operations of various health professions: for example the Pharmacy Board Act, Medical Board Act, Nurses and Midwives Regulation Act and the Dental Act, to name a few. Jamaica appears to have developed a systemic approach to the upgrading of their health and health related legislation which is reviewed periodically. There is a legal officer on the staff of the Ministry of Health and a legislative calendar. Every year, legislation that needs amendment, revision or possibly new enactments, is brought up for consideration, listed and sent to the Cabinet.

8.7. PHYSICAL PLANT

In almost all cases, although there are on-going efforts to maintain the physical plant, the reports on these were not flattering. There was no replacement policy, the plant needed upgrading or renovating and there were unacceptable periods of downtime. The absence of proper maintenance plans and procedures as well as the lack of funds were cited as the major reasons for the situation. There is a chronic dearth of bioengineers and maintenance engineers.

8.8. PERFORMANCE ASSESSMENT OF THE ESSENTIAL PUBLIC HEALTH FUNCTIONS (EPHFs)

There has been a major effort in the Americas as a whole to assess the public health system's capacity to discharge those core functions that are deemed necessary for promoting and preserving the public's health. A set of standards and indicators were developed to characterize those critical elements of public health practice which need to be strengthened. The data on the performance of the Caribbean are extracted from the corpus of data from the Americas in 'Public Health in the Americas: Conceptual Renewal, Performance Assessment and Bases for Action'. (PAHO, 2002) Many of the deficiencies in the health system as described above are reflected in the analysis of the EPHFs.

LIST OF EPHFs

1. Monitoring, Evaluation and Analysis of Health Status
2. Public Health Surveillance, Research and Control of Risks and Threats
3. Health Promotion
4. Social Participation in Health
5. Development of Policies and Institutional Capacity for Planning and Management in Public Health
6. Strengthening of Institutional Capacity for Regulation and Enforcement in Public Health
7. Evaluation and Promotion of Equitable Access to Necessary Health Services
8. Human Resources Development and Training
9. Quality Assurance in Personal and Population-based Health Services
10. Research in Public Health
11. Reduction of the Impact of Emergencies and Disasters on Health

TABLE 18:
Comparative Performance Assessment — the Caribbean and Region of the Americas

EPHF's	Score for Region	Score for Caribbean
EPHF1	0.57	0.56
EPHF2	0.63	0.63
EPHF3	0.54	0.55
EPHF4	0.46	0.46
EPHF5	0.52	0.53
EPHF6	0.44	0.42
EPHF7	0.56	0.63
EPHF8	0.36	0.45
EPHF9	0.21	0.26
EPHF10	0.35	0.38
EPHF11	0.71	0.71

ex. Canada and US (using median values). (**Scoring: …above 0.75—optimal;** 0.51-0.75 — above average; 0.26-0.50 — below average; less than 0.25 — minimal)

- Highlighted rows indicate EPHFs in which the Caribbean attained below average scores and which should receive priority attention (social participation in health; capacity for regulation and enforcement; human resources development; quality assurance; research)
- Other areas (indicators) in which the Caribbean received low scores were:— quality of data; capacity for timely response to control public health threats; development of appropriate public health policies; mechanisms to ensure access to necessary health services by all individuals.
- It is no comfort that the Caribbean scores are in keeping with those from Latin America. It is particularly noteworthy that the lowest scores were in the areas of quality assurance and public health research. The latter is more difficult and as has been noticed before (Alleyne et al., 1995), but it should be perfectly possible to devote attention to the former.

8.9. CONCLUSIONS

- The countries examined had a health plan with varying degrees of specificity, but in many instances there was little evidence that these plans have been elaborated with the participation of a wide range of stakeholders.
- The weakness of information systems and the deployment of information technology is a common feature and there was weakness in the manner in which evidence for policy was organized and brought to the loci of decision making.
- Decentralization is seen as highly desirable, but difficulties, especially in the area of human resource management and clear definition of the steering role of the ministry have not yet been solved in many cases.
- Executive agencies have been created in one country and this approach needs to be followed carefully.
- One of the problems in the decentralization process has been the weakness in the linkages between the levels of care and the lack of resources at the primary level, forcing the public to attend at the secondary level or seek private care. There are however examples of successful, functional primary care units.
- There was frequent if not universal concern with human resource management, with problems in the areas of appropriate performance appraisal systems; movement of technical staff within the public service, often with detriment to the ministry of health and other technical ministries and the lack of career paths and planning. It is recognized that the health ministry functions within a wider central public service arrangement and that solutions for perceived problems in health may be beyond the capacity of health to solve.
- Programme budgeting would appear to be the better system for the countries examined, even given the precarious nature of financial resource flows.

- The services have done well in terms of the prevention of the classical communicable diseases and attending to the basic problems of the child, but with a few exceptions, are not equipped to deal with the changing epidemiological profile of the Caribbean and to focus on wellness and health promotion in addition to disease prevention.
- Several countries lacked an up-to-date legislative framework as a basis for regulating the health sector.
- Equipment and plant maintenance continue to pose serious problems
- There are deficiencies in the exercise of many of the essential public health functions and in particular the areas of quality assurance and public health research and surveillance systems must be added to these latter as the prototypical regional public goods.

8.10. RECOMMENDATIONS

- In any refashioning of the health systems, special attention must be paid to developing simple but adequate information systems that should feed regular reports on the state of health, introducing appropriate information technology and creating sectoral planning units where they do not exist.
- The Caribbean must address seriously the further training in public health and the creation of strong public health leadership as well as examine reintroducing the nurse practitioner category of health worker.
- Programme budgeting should be the norm in the ministries of health.
- Countries need to update their health legislation.
- There should be a mechanism in all countries for collecting and collating evidence for policy formation.
- Linkages between levels of care should be strengthened in order to mitigate the imbalance in resources allocated to them.
- All governments should examine the areas of deficiency in their health systems as shown by the analysis of the essential public health functions, paying special attention to quality assurance, research and development and surveillance, especially strengthening the Caribbean agencies which deal with these.
- Because there is so much similarity in the problems encountered, the countries should establish or be assisted in establishing better mechanisms for sharing experiences and best practices.

CHAPTER 9

The Economics of the 'Export' of Nursing Services

9.1. CONTEXT-TRADE IN SERVICES AND HEALTH SERVICES

Overall, services now account for the major share of global output and employment. In the OECD countries, this has been estimated at 70 per cent of each. Further, trade in services has been growing faster than trade in goods. While initially the focus was on trade in those services that facilitated the growth of trade in goods, today the services trade embraces a considerably wider range, including for our purposes 'basic services' and 'public goods' like health care, where government involvement has been traditionally considerable.

Trade in services is being regulated under the WTO–GATS regime. Under GATS Article XIX:1 all member countries have committed to the progressive liberalization of trade in services. This commitment is outside of any agreement to further liberalization of all trade and trade-related areas under the umbrella of the WTO. The commitment includes both their binding of 'autonomous' liberalization previously undertaken, as well as further liberalization arising from the GATS 'requests' and 'offers' modality used by members to liberalize their services trade. While this regime ostensibly offers a choice of which service sectors to liberalize, its orientation is toward greater liberalization of world trade in all services, including health. Indeed, its negotiation agenda has already embraced this sector, even though there is considerable debate about whether the sector, by the very nature of what it does (the provision of 'public goods' and 'basic services') is suitable for liberalization and full commercialization. Under the present WTO trading regime government provided services are excluded only if they are not supplied on a commercial basis or in competition with other service providers.

In the expansion of global trade in services, health care has become a key component. We can expect therefore, that the influence of the WTO–GATS along with hemispheric and regional trade arrangements will continue to support the expansion of international trade in health care services, while national priorities, policies, and policy space will most likely shrink in their importance, in guiding the provision of these services.

Like other services, the four modes of supply of health services are defined in terms of the territorial location of the supplier and consumer at the time the service is provided. Thus Mode 1 covers the cross-border supply of health services, for example, telemedicine. To date this has been limited in the region. Mode 2 covers people travelling overseas for treatment at a foreign supplier. Because of the high cost involved for CARICOM people travelling abroad this aspect is likely to remain relatively restricted in the region, but be important at higher income levels. Mode 3

covers foreign investment in a country's health sector. This has potential for growth, and there is evidence of intra-CARICOM investment in this area. Mode 4 covers the movement of natural persons associated with the service. Here, despite constraints, significant movement has already taken place, and the presumed benefits and costs are already a matter of considerable public debate and policy consideration. This is the mode of principal concern here.

Trade under Mode 4 entails both the exchange of a service and the movement of a factor of production across borders. It embraces therefore, both the theory of trade and the theory of international factor mobility.

Health care delivery is very human capital intensive and to be properly functional it requires the ready availability of health personnel. Nursing personnel account for up to 70 per cent of health care staffing and provide the majority of direct patient care, in addition to being the backbone of the public health system in the region. Shortage of nurses inevitably leads to deterioration of the capacity of the health services. This in part, explains why governments, employers, the public and the profession are concerned about supply and demand issues. Indeed, the majority of the member states of the World Health Organization report a resource imbalance in the nursing sector. This should not be interpreted as ignoring the important migration of doctors and other categories of health workers which also has a negative impact on the health services.

A number of issues immediately arise in relation to the trade in nursing services which falls under Mode 4.

- The extent to which the regional trade in nursing services and migration of nurses are part of a broader global phenomenon, responding to more fundamental imperatives than is apparent
- The extent to which it might be symptomatic of deeper systemic issues in the socioeconomic situation of the region
- The relative roles of 'push' and 'pull' factors in the migration of nurses
- An assessment of the direct and indirect costs, private and social costs, and both the positive as well as the negative externalities associated with this movement
- The pattern and direction of the trade and future trends
- Issues of standardization, certification, training
- The present level of organization/management/regulation of this trade.

The principal objectives of this exercise therefore must be (1) to determine the extent to which trade in nursing services and the permanent migration of nurses are symptomatic of deeper systemic considerations in the health sector and wider socio-economic situation and (2) to devise a framework for managing/regulating the trade in nursing services in a manner designed to reconcile the interests and expectations of all stakeholders, including the nurses themselves, and which at the same time fulfils the region's obligations under the WTO–GATS, as well as proposed WTO-plus arrangements (Cotonou, FTAA and CSME). Mode 4 issues may well be the most pertinent aspect of the WTO–GATS for the region. Indeed, we would stress that while the migration of nurses is a major segment of the regional trade in health services, Mode 4 issues might more broadly be considered as among the most fundamental concerns of the region in its effort to promote the Doha Development Goals of the WTO. In this respect the study has a wider salience and features of a 'case study' of Mode 4 trade in services for the region.

Initially, we must note three key issues pertaining to Mode 4 trade in nursing services. First, negotiations in relation to Mode 4 have progressed haltingly. The have gone forward where the main beneficiary has been the intra-corporate movement of executives and other high-level specialist personnel and those engaged in 'business visits'. There is a strong demand for these categories coming from international businesses.

Second, two broad classes of factors impede Mode 4 access, namely: (1) immigration requirements, and (2) labour market regulations. The former is obvious since, as presently constituted, the temporary movement of persons into countries is governed principally by immigration/visa requirements and only marginally by trade policy. In the post 9/11 period security considerations add immeasurably to the need for political and not trade control of the temporary movement of people.

Third, there have always been major difficulties in conceptualizing and constructing workable non-discriminatory rules to govern trade in services.

The transnational movement of nurses can be either temporary or permanent and each has differing economic and other considerations for the source and destination economies. Whilst there has been some small degree of temporary migration of CARICOM nurses, there has certainly been a more pronounced movement of nurses migrating permanently. It appears as if several CARICOM countries are not inclined to push Mode 4 because they already have bilateral arrangements in place with the USA, Canada and Britain. If this is brought under the GATS, such arrangements would have to be multilateralized to all WTO member states on a most-favoured- nation (MFN) basis.

Human capital formation is the principal source of creating wealth, preserving and even improving competitiveness in the international market place. (Lewis,1955, Schultz,1961, Romer, 1990) In this context, the migration of skilled labour from developing countries must be carefully observed, as it can adversely impact on the economic growth of an economy. Increasingly, an important attribute of the growth process in many developed economies is that it is skills biased. With skills biased technological change, there is an expansion in the demand for skilled workers, including nurses in the health sector.

Bearing this review in mind we highlight here one of the characteristic differences between developed and developing countries. Developed economies, as mentioned above, are capital abundant and technologically driven, whilst developing countries tend to be comparatively capital starved and technologically backward. For these and other reasons, nurses tend to migrate. One therefore has to project a series of policy proposals linked together as a strategy for managed migration of nurses, which is built on the existing migratory behavioural patterns of nurses, but now hopefully, in a manner that minimizes losers and maximizes winners.

9.2. INTERNATIONAL OVERVIEW OF MIGRATION OF NURSES

Currently, the region still has one of the world's highest net migration rates, coming out of the long historical tradition of heavy migration. There is a growing demand for labour in both the formal/ informal (but legal) sectors as well as black-market/ underground illegal trafficking in people, which has impacted the region considerably.

Table 19 gives some indication of the significant outflow of skilled human capital in developing Caribbean economies, as reflected in the fact that secondary and tertiary education graduates accounted for more than 90 per cent of legal immigrants to the USA from Jamaica, 95 per cent for Trinidad and Tobago and more than 95 per cent for Guyana. In each case tertiary level graduates alone accounted for more than 50 per cent of the outflow of migrants from these more developed CARICOM economies.

TABLE 19:
Number of Immigrants to the United States by Educational Attainment for Selected Developing Economies, 1990

	Total	Primary or less	Secondary	Tertiary Level
Jamaica	159913	3060	90220	66633
TT	65810	1140	34340	30330
Guyana	61936	2260	34440	25236

Nursing staff shortages have been reported in industrial countries since the mid 1990s. International recruitment has increasingly become a solution to this shortage in some of these countries, which has included a large scale active recruitment of nurses and other health care professionals, in addition to natural migration flows of individuals moving across borders for a range of personal reasons.

A number of factors have converged to lead to the global shortage of nurses, including:

1. A decrease in the supply of nurses as a result of other competing careers and a poor image of the profession. With so many more opportunities available to women, they are moving away from the traditionally female dominated professions to more non-traditional areas. Research has shown that on average in the USA although 94.6 per cent of the nursing profession is female, 35 per cent fewer women are choosing nursing as a career option as compared to the 1970s (Spratley et al., 2002).
2. Social and psychological pressures within the profession. As compared with earlier periods, nursing as a career option is being deemed as undesirable. The realities of the job act as a deterrent to potential entrants; some of these being; stressful working hours, exposure to contagious elements, reduced time for patient care, increased workloads, and comparatively unfavourable employer policies.
3. Shortage of qualified training personnel. The current shortage of nurses is directly linked to the shortage of training personnel. The educational network that exists today is unable to facilitate or rather satisfy the current levels of demand because of the size of the faculty. This precipitates a situation where graduate nurses have a wide range of potentially lucrative opportunities in administration, or clinical research positions, which provide higher rewards, and more scope and opportunities than that associated with faculty posts.

Since the USA is potentially the major market for nurses, it is useful to examine the situation there. In the USA there are currently 126,000 vacant nursing positions (12 per cent of the total workforce demand). Since 1995 enrolment into training institutions has fallen by four to six per cent and graduating nurses have declined by 23 percent. More recently, the US Department of Health and Human Services (2002) has predicted the shortfall to reach 800,000 registered nurses by 2020. This is based on a 40 per cent increase in demand but only a six per cent increase in the supply of registered nurses. Worse yet, the Centre for Health Work Force Studies at the University of Albany (2002) has predicted an even higher level shortfall of one million nursing jobs by 2010. The response has been an increase in recruitment efforts internationally.

9.3. PUSH FACTORS FOR MIGRATION OF CARICOM NURSES

The factors, which 'push' nurses from developing economies towards foreign economies, include the following:

Low Pay: In general many nurses have migrated because the entitlements their income capabilities offered them were insufficient for attaining a decent standard of living. Low wages as an explanation for the migrating patterns of nurses has also been corroborated by focus group evidence from nurses in Australia, Ireland and Norway. A similar phenomenon exists as regards urban-rural and public-private sector movement of nurses.

Poor Working Conditions: Human capital, like physical capital requires a certain amount of other factors of production to be available before it can be optimally productive. If for example, an optimal ratio exists between the supply of nursing care and the stock of medicine in a health care centre, then a fall in the stock of medicines would induce a suboptimal utilization of the stock of nurses. For nurses in many developing economies, the typically low government budgets, competing alternative health care demands for health care budgets; and corruption and mismanagement at health care centers mean that they are often left to perform important routine medical procedures with a minimal stock of often obsolete or outdated equipment.

Poor Career Structures: A survey conducted by Kingma (2001) identified that some of the strongest motivational factors for migrating nurses were the availability of learning opportunities, scope for progression and the utilization of the most up to date technologies. The general unavailability of these factors in the home country acts as a strong push factor, especially when the nurses perceive that these factors exist abroad.

Limited Employment Opportunities: According to Hewitt (2004) the nursing structure in CARICOM economies does not offer adequate opportunities for employment in a wide range of areas that utilize professional nursing skills. Related push factors cited in this study are: (i) a general lack of job tenure, and (ii) a lack of involvement in key decision making, especially those affecting nursing staff.

Unstable Economic Conditions: When the growth performance of CARICOM economies is compared across the decades of the 1980s and 1990s, the clear indication is that in every member state with the exception of Suriname and Guyana real average per annum growth rates have fallen. Growth rates have also been unstable and uneven across countries in the region.

9.4. PULL FACTORS FOR MIGRATION OF CARICOM NURSES

The key 'pull' factors which encourage nurses migration include:

Nominal wage differences: Migrant nurses have indicated that differences between salaries at home and those abroad influence their decisions to migrate. Salaries for registered nurses at Washington area hospitals range from about US$38,000 for new graduates to US$62,000 for 15-year veterans, according to one nurse recruiter. Sign-on bonuses average $2,000 to $6,000; some hospitals also offer retention bonuses. Buchan (2004) noted that the salary of a staff nurse in Barbados is US$15000–US$21000. A registered new graduate in the US therefore earns more than double the salary of a registered graduate in Barbados.

Real income: Whilst nominal wages are a useful guide, it is also critical to consider the differences in the inflation rates between the source and destination economies to see how fast the purchasing power of nominal income is being eroded. Nominal wages in CARICOM have lost their purchasing capability faster than similar wages in the USA, UK and Canada ¯ the main destination markets for nurses.

Standard of living: Many nurses migrate from developing countries because they perceive that generally the overall standard of living is higher in developed economies. To explore the difference in the standard of living in some of the more developed economies from those in CARICOM,

the ratio of GDP per capita in the USA and UK was compared with that of several of the more developed CARICOM economies. It is clear that between the decade of the 1990s and the first two years of this decade, there has been an increased divergence. As this gap widens, it creates an even greater pull effect.

Better working conditions: Many nurses migrate because they can get better access to the 'complementary factors' that make their jobs more enjoyable, and purposeful. In the developed world, because of a higher income level and higher levels of per capita health expenditures this is more likely to be forthcoming.

Opportunity to send remittances: When nurses migrate they usually benefit from the opportunity to send financial assistance back home.

9.5. IMPACT OF MIGRATION ON CARICOM ECONOMIES

The cross-border movement of nurses can have both positive and negative impacts on the destination and source countries. The destination country benefits to the extent that the gaps within its own health sector are filled. It also benefits from the investment in education and the training of these professionals that the source economy would have undertaken. The source country however, loses some of the investment on educating and training the nurse, and all of it, if the migration is permanent. However, if the local labour market is unable to provide the migrant with a position that is on par with his/her qualifications, then migration would benefit the individual at a micro level and the economy at a macro level if a large enough fraction of the migrant nurse's earnings are remitted to the source economy.

In trying to ascertain the loss to the CARICOM region as a whole, from migrating nurses, one will have to take note of a number of factors:

(i) the number of migrant nurses,
(ii) the primary school educational cost of the nurse,
(iii) the secondary school educational cost of the nurse,
(iv) the cost of tertiary level education,
(v) the increase in inefficiency in domestic health care systems as a reduced amount of nurses (human capital) is forced to operate given physical capital at health care institutions,
(vi) The cost of using other public amenities.

9.5.1. REMITTANCES

In some CARICOM economies, for example Jamaica, remittances have become a major source of development funds. Data on remittances by nurses as a subgroup are not available, but there is information on worker remittances in general which may give some indication of the picture for nurses. Table 20 shows the ratio of net worker remittances to GDP in those CARICOM countries where consistent data sets for the period 1990–2000 are available. Among the listed member states in 1990, net worker remittances accounted for more than 10.7 per cent of GDP in Saint Kitts and Nevis with Saint Vincent being the only other CARICOM member state for which data are available accruing more than five per cent of its GDP from net worker remittances. For oil rich Trinidad and Tobago, net worker remittances contributed less than 0.6 per cent to GDP. In 1990, the mean ratio of net worker remittances to GDP in CARICOM was 4.8 per cent, but by 2000, the region would have become slightly more dependent on net worker remittances, as the ratio of net worker remittance to GDP increased to 5.03 per cent. By 2000, Jamaica had a net remittance ratio to GDP of 10.7 per cent, with Grenada, Dominica, Saint Kitts and Saint Vincent realizing more than five per cent of their economic activity from net worker remittances.

The ratio of worker remittances to merchandise export earnings averaged 19.8 per cent in 1990 as compared with 28.1 per cent in 2000. Apart from Trinidad and Tobago, all of the listed countries received more than ten per cent of their exports from net worker remittances and in 1990 Grenada and Saint Kitts and Nevis realized more than 30 per cent of their export revenues from net worker

remittances. In 2000, Jamaica, Saint Kitts and Nevis, Saint Lucia and Saint Vincent had a net worker remittance to merchandise exports ratio in excess of 30 per cent. Between 1990 and 2000 net worker remittances as a proportion of exports increased in Dominica, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago. In all of the CARICOM member states for which data are available, worker remittances as a proportion of imports was above five per cent. The average ratio of worker remittance to merchandise imports in 1990 was 7.8 per cent; increasing to 9.7 per cent by 2000.

TABLE 20:

Trends in Some Ratios Reflecting the Significance of Worker Remittances in CARICOM, 1990–2000

Panel 5.a: Net worker remittances as a percentage of GDP in selected CARICOM countries, 1990–2000											
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Belize	3.43	2.86	3.38	2.52	2.36	2.36	2.10	2.74	2.84	2.92	2.66
Dominica	4.53	4.61	4.32	4.80	4.68	4.91	4.63	4.75	4.54	4.44	5.33
Grenada	4.48	4.52	4.26	4.04	5.19	7.17	7.14	9.75	7.00	7.54	7.78
Jamaica	3.59	6.60	4.83	6.33	9.70	10.32	10.05	8.82	9.07	11.06	10.67
Saint Kitts	10.75	7.88	7.39	6.80	6.41	6.57	5.88	4.79	5.07	6.00	6.45
Saint Lucia	3.43	3.63	3.35	2.78	3.77	3.75	3.86	3.47	3.25	3.43	2.93
Saint Vincent	6.95	6.52	0.00	6.04	6.17	5.85	5.82	5.86	4.53	5.48	5.85
Trinidad and Trinidad	0.06	0.09	0.12	0.40	0.52	0.57	0.49	0.52	0.73	0.70	0.61
Mean	4.78	4.59	3.45	4.21	4.85	5.19	5.00	5.09	4.63	5.20	5.03
Panel b: Worker remittances as a percentage of merchandise exports in s elected CARICOM countries, 1990–2000											
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Belize	12.45	12.30	13.50	10.92	10.00	9.93	8.80	11.13	11.88	12.53	11.47
Dominica	15.67	16.60	16.40	19.20	20.60	21.60	22.20	21.51	18.73	22.22	22.08
Grenada	33.00	54.50	53.50	50.50	45.00	99.00	105.00	78.00	44.39	28.41	26.92
Jamaica	11.74	12.22	15.02	17.50	37.84	40.72	46.05	46.54	50.43	70.18	60.72
Saint Kitts	57.33	44.67	44.33	45.33	70.50	75.50	73.50	26.27	32.67	40.00	38.46
Saint Lucia	10.54	14.18	13.42	11.33	17.82	17.50	27.50	28.71	29.71	34.33	30.59
Saint Vincent	17.38	19.57	0.00	24.17	29.60	38.00	32.60	34.00	29.00	36.20	33.60
Trinidad and Tobago	0.15	0.24	0.37	1.10	1.37	1.24	1.12	1.19	1.97	1.48	0.96
Mean	19.78	21.78	19.57	22.51	29.09	37.94	39.60	30.92	27.35	30.67	28.10
Panel c: Worker remittances as a percentage of imports in selected CARICOM Countries, 1990 –2000											
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Belize	6.49	4.80	5.91	4.66	5.00	5.41	5.18	6.22	5.85	5.82	4.84
Dominica	7.97	7.55	7.81	10.21	10.73	9.23	8.54	9.12	8.68	8.51	1.16
Grenada	9.43	9.01	10.00	7.01	11.34	15.23	13.8	13.5	8.92	9.51	7.78
Jamaica	7.06	7.44	9.41	8.78	20.59	20.66	21.4	20.5	22.04	26.6	24.54
Saint Kitts	15.64	12.18	14.00	11.53	11.02	11.35	9.87	10.3	11.22	13.3	13.19
Saint Lucia	5.06	5.29	5.14	4.53	6.49	6.86	7.24	6.05	6.12	6.67	6.52
Saint Vincent	10.22	9.79	0.00	10.82	11.38	11.18	12.3	9.04	7.51	7.56	9.14
Trinidad and Tobago	0.27	0.29	0.56	1.25	2.27	1.77	1.31	1.01	1.49	1.71	1.36
Mean	7.77	7.04	6.60	7.35	9.85	10.21	9.97	9.47	8.98	10.7	9.69

Source: World Bank (2002) and own derivations

Overall then, net worker remittances for those CARICOM member states for which data are available are on the rise and even more significantly, their representation in important macroeconomic ratios is also on the rise. However, whilst worker remittances certainly represent a valuable and important avenue through which the pool of savings and the stock of capital in the region can be enhanced, leaving it to the influence of the market mechanism may not prove fully effective if these resources are only directed at consumption expenditures.

9.6. STRUCTURE AND ORGANIZATION WITHIN WHICH NURSES MIGRATE

In the face of the problem of migration the CARICOM Ministers of Health (PAHO 2001) have called for a 'managed strategy' towards nurses' migration or as it was called, a 'managed migration programme'. This program focused on 6 critical areas;

- Terms and conditions of work
- Recruitment, education and training
- Value of nursing
- Utilization and deployment
- Shared governance
- Policy and health sector reform

Strategies, activities, indicators and timelines were defined. The success of any such programme needed the participation of a wide range of stakeholders and it is doubtful if it has achieved that desired results so far. While the critical areas are important, they do not take account of national, regional and international developments, commitments and obligations. As conceived originally, the programme certainly did not entertain the possibility of temporary migration through a mechanism such as Mode 4.

The following conditions show the gravity of the current situation. There are:

a) 35 per cent vacancy rate for registered nurses. In CARICOM (for the countries for which data are available) there are 2810 vacancies, (see Table 21);
b) loss of government revenues of US$16.7m to train nurses at the basic level;
c) cost of US$2.6m from nurses strikes and civil action directed at improved pay and better working conditions;
d) considerable disruption of services; and
e) the public itself is concerned about its safety and the type of treatment it receives in hospitals.

TABLE 21:
Number of Registered Nurses, Vacancies and Vacancy Rates by Country

Country	Number of registered nurses	Number of Vacancies
Antigua	320	56
Barbados	930	192
Dominica	177	11
Jamaica	2256	1317
Saint Kitts	192	50
Saint Lucia	409	18
Saint Vincent	216	34
Trinidad	2125	1132
Belize		
Bahamas, The		
Grenada	432	16
Guyana		
Haiti		
Suriname		
TOTAL	6625	2810

Source: PAHO 2001

On an individual country basis, three countries had vacancy ratios in excess of 20 per cent: Barbados (20.6 per cent), Jamaica (58.4 per cent), Saint Kitts (26 per cent) and Trinidad and Tobago (53.3 per cent). Ironically, Jamaica and Trinidad and Tobago (the two member states with the most training institutions) had the highest number of unfilled posts.

Finally, there was a significant resignation rate during the period 1998–2002. For CARICOM member states which had data, the total number

of resignations was 993, and given a nursing staff potential of 9,435, this meant that in excess of ten per cent of all the nursing staff posts became vacant because of staff resignations. Indeed, the ratio of resigning nurses to currently employed staff is 15 per cent.

The principal reasons cited by these resigning nurses were (1) poor financial packages (2) limited opportunities for professional and upward development (3) general job dissatisfaction and, (4) a general lack of educational opportunities (Hewitt, 2004).

The effective capacity to export nursing services will depend upon the nursing production capabilities of CARICOM economies, which in turn depends on the capacity of existing training institutions. According to Hewitt (2004) there are 19 nursing schools in the region. More than 50 per cent of these schools (10) are located in the two largest member states, Jamaica and Trinidad and Tobago. In Belize, Guyana and Jamaica B Sc. nursing degrees are offered.

In terms of immediate training capacity potential, there are positive differences between the maximum seating capacity and numbers admitted, suggesting that there is certainly excess capacity in the existing production apparatus for nurses. This also suggests that in the short run as long as faculty for the nursing school can be sourced, the number of trained nurses can be increased.

Several governments have implemented varying forms of "managed migration" schemes for their nurses. The Philippines is the best known example as it plays an important role in the management of these flows globally and has the largest recorded number in the world of registered nurses working abroad. In the 1970s the Philippines had 63 nursing schools, and by the end of the 1990s, given the government's management of nurses for foreign markets, this had expanded to 198. Carcega et al (2002) note that whilst in 1970 there were 40,000 registered nurses in the Philippines; by 1998 this had increased by 665 per cent to 306,000. Approximately 4,900 or 70 percent of the annual graduating class of about 7,000 nurses, migrate each year. It is important to acknowledge, however, that the Philippines has an estimated 30,000 unfilled nursing jobs (OECD 2003). The motivation to manage this migration stemmed from the high levels of unemployment in that economy.

In light of the international experience and the interest of the ministers of health in managed migration, it would be well to consider major adaptation of that programme to incorporate the potential of temporary migration through Mode 4. In the context of such a strategic migration programme in the Caribbean, part of the eligibility for selection criteria might well include a commitment by nurses to place some of their resources in an appropriately defined development trust fund, which the government guarantees and invests until the nurses' return.

Traditionally, the migration of skilled nurses was a North-South problem but has increasingly taken on a new dimension in terms of the direction of traffic flows, with South-South migration on the increase. Thus within CARICOM, Guyanese nurses migrate to Trinidad and Tobago, Barbados and Jamaica. Cuban nurses are now recruited to work in hospitals in Trinidad and Tobago. Some North-North migration also takes place amongst nursing personnel, a good recent example being the migration of nurses from the new expanded EU states to the UK. North-South migration, however, remains the universally predominant form of migration.

9.7. CONCLUSIONS

- There is a shortage of nurses in the industrialized countries, and this is marked in the three markets to which the nurses from the Caribbean are attracted i.e. the USA, the UK and Canada. It is estimated for example that by the year 2020 there will be between 800,000 and one million vacancies for nurses in the USA alone. CARICOM nurses have an advantage in the major markets because of language and physical proximity. The factors leading to a global shortage of nurses include the aging

of the population in the industrialized countries, the increasing career opportunities for young women and the shortage of training personnel.

- The CARICOM Ministers of Health have called for a 'managed migration' strategy, given the fact that migration has in part been responsible for the very high vacancy rate for nurses (up to 35 per cent), an estimated loss of revenue of about US$17 million through migration of nurses whose basic training was paid for by the state and the aggressive recruitment of nurses by industrialized countries.
- There is a range of 'push' and 'pull' factors that influence the migration of CARICOM nurses and although economics is important, this is not the sole or in many cases the most important factor. Poor working conditions and limited career mobility contribute also to the push. Among the 'pull' factors are the converse of the push factors as well as the opportunity to send remittances home.
- The export of nursing services must be seen in the context of the WTO–GATS arrangements and may be a special case of the Mode 4 mode of supply which covers movement of natural persons associated with the particular service.
- Mode 4 trade in nursing services cannot be conflated into nurses' permanent migration. The individual choices nurses make cannot be superseded by external control. Nurses would trade their services on a voluntary basis in a Mode 4 arrangement and thereby continue to take responsibility for their lifelong work preferences and therefore under this Mode there is no guarantee of a job on re-entry.
- While we can learn from the international experiences highlighted here, none of these can be simply copied in the region. Indeed the two approaches of FDI-led development of export capacity for nursing services and laissez-faire have limitations, which we believe form the basis for the current concern to devise an appropriate strategy. This would take account of the international experience of the various approaches tried, the reality and prospects for the arrangements with the WTO and the interests of the various stakeholders. These stakeholders would include the nurses themselves, the source countries, as well as the countries of destination. Such an approach would increase the possibility of an arrangement that might be beneficial or at least satisfactory in terms of Caribbean needs.
- The temptation is for the region to do nothing and to sit on the benefits it has already gained from on-going bilateral arrangements, and not seek to run the risk of having these multilateralised. The danger here is that each country competes with the other, with the attendant risk of selling the benefits they have at bargain basement prices. There is the additional risk of having to contend separately with quid pro quo requests during services liberalization from the destination countries to which our nurses migrate.
- A pre-commitment mechanism for nurses who are trained at public expense and allowed to participate in a 'managed migration programme' is reasonable and just, and consistent with WTO–GATS provisions. Because of the economic rent involved, the willingness to pay as well as the ability to pay are there. The shift to private financing of training costs is therefore consistent with equity. The consequences of introducing this approach would have to be considered carefully, given the history of training and the need for nurses in the services.
- The status of bilateral arrangements already in place will be eventually multilateralised, or with the coming of the FTAA shifted to a hemispheric basis. The region cannot hold on to these 'bilateral benefits' indefinitely,

even though we believe that the present economic uncertainty and post 9/11 security concerns would make destination countries more comfortable with known and long standing source countries.

9.8. RECOMMENDATIONS

- The programme of 'managed migration' as proposed by the ministers of health should be reformulated especially in discussions with the RNM to take account of the potential and the realities of the Mode 4 form of supply. Any such programme must also deal with the 'push' and 'pull' factors outlined.
- Movement of this category of services must be examined by CARICOM, the RNM and other interested parties, as the region cannot retain the bilateral arrangements indefinitely and must be prepared for the inevitable multilateralization.
- The Caribbean must be clear on its policy on training nurses and exporting nursing services, making the clear distinction between a program of temporary migration under the Mode 4 of GATS and the possibility of expanding training and considering these resources as an exportable commodity that may result in permanent migration. In the case of the latter, there should be efforts to attract the necessary foreign investment to take advantage of the excess training capacity which exists or to expand that capacity.

CHAPTER 10

Health Financing

10.1. HEALTH FINANCING: CONCERNS, GOALS AND GUIDING PRINCIPLES

The WHO (2000) suggests that 'the *purposes* of health financing are to make funding available as well as to ensure that all individuals have access to effective public and personal health care'. Achieving these purposes requires attention to policies and action in several key areas regarding the financing of national health care systems.

- Revenue Generation — who pays (for example groups of individuals and businesses) for health services; through what mechanisms (for example taxes, insurance premiums, direct out of pocket payments); adequacy and efficiency of these mechanisms;
- Allocation — what mix of services is bought (for example public health, ambulatory care, inpatient services; drugs; supplies)
- Distribution — who benefits and to what extent does access and utilization depend on one's payment/contribution.

Another purpose of health financing policies is to address health service financing management issues and to set the right financial incentives for providers. Achieving this purpose requires attention to policies and action in the following key areas.

- Management of Funds — who pools, manages the funds and organizes the purchase of services (for example public agency, private for profit or non-profit insurance company, community group) and regulates the market for services;
- Remuneration — how are service providers remunerated (for example budget, salary, capitation, fee for service);

Based on the theoretical debates and empirical evidence in developed and developing countries five key features of a desirable scheme for the financing of health systems and services emerge:

- Specific allocations of public funds for public health goods/services, merit goods and externalities (such as disease surveillance; vector control; standards and regulations; disaster preparedness, research which yield widespread social benefits and in which there may be under-investment if left to private spending by households and firms).
- Mandatory pooling of income and health risk in the population through tax funded or

social health insurance plans (to smooth household's inter-temporal health spending);
- Individual and household contributions on the basis of ability (capacity) to pay and access to services on the basis of need;
- Limited out of pocket payments (especially at time of utilization) to encourage access and avoid catastrophic payments and health-induced poverty;
- Purchasing plans based on health priorities and value for money along with remuneration systems that are prospective and performance related;

In the Caribbean, there are two key contextual factors which influence the type of health financing policies and the management and utilization of financial resources — firstly, fiscal policies and budgetary allocations for health services and secondly, the level of household spending and the significance and growth of the private sector.

10.2. HEALTH EXPENDITURES AND THE PUBLIC-PRIVATE MIX

The general pattern of expenditure and provision of health services in the region reflects a mix of public and private roles and activities. Tables 22 and 23 provide data on expenditures derived from WHO and the National Health Accounts. These seek to answer the questions:

- What are the absolute and relative (to GDP) amounts spent on health and to what extent can this be regarded as 'adequate'?
- What are the sources of financing, who paid and how much did they pay (that is, the public-private mix)?
- How does health spending in the Caribbean compare with that in other countries?

10.2.1. TOTAL HEALTH EXPENDITURE AND PUBLIC-PRIVATE MIX

Table 22 (based on data from the WHO Annual Report 2004) shows that the average total health expenditure per capita (THE pc) for the period 1997–2001 ranged from US$48 in Guyana (the only country with THE pc less than US$100) to US$798 in The Bahamas. Overall, the (unweighted) average THE pc for the 13 Caribbean countries was US$288 — 9 countries had THE pc less than the regional average while Saint Kitts –Nevis (US$344); Antigua (US$487); Barbados (US$562) and The Bahamas (US$798) exceeded the regional average. *Differences in THE pc among countries remain significant when measured in international dollars adjusted for purchasing power parity (PPP$). As shown in Table 22 the level of THE pc ranged from PPP$191 in Guyana to PPP$1029 in The Bahamas.*

THE as a percentage of GDP, ranged from 4.3 per cent in Trinidad and Tobago and Saint Lucia to 9.8 per cent in Suriname. Two other countries had THE%GDP between four per cent and five per cent — Saint Kitts (4.8 per cent) and Grenada (4.9 per cent) while the rest had ratios between five per cent and 6.5 per cent. Overall, the regional average of THE%GDP was 5.7 per cent with eight countries having ratios less than the regional average and five above.

In terms of the public-private mix, Guyana had the lowest PHE%THE (17 per cent) and highest GHE%THE (83 per cent) while Trinidad and Tobago had the highest (55 per cent) and lowest ratios (45 per cent) respectively. The PHE%THE estimate ranged from 25 per cent to 50 per cent for all other countries — this is indicative of a fairly high level of private spending especially out of pocket expenditures and to a lesser extent private health insurance. The data also show that only Suriname (30 per cent of THE) and Saint Lucia (24 per cent of THE) had any significant contribution from social insurance to health expenditures while Suriname (12 per cent of THE) was the only country benefiting significantly from external health grants and aid.

Using a different methodology, PAHO also sought to measure health expenditures in Caribbean countries (including Montserrat). Its estimates (shown in Table 23) are based on 2001 data and the results are generally consistent with the WHO estimates in terms of the magnitude of health spending (that is, THE pc) and relative level of expenditure (that is, THE%GDP). They show that:

- THE pc ranged from US$50 in Guyana to US$1069 in The Bahamas. The estimated regional average (for the 14 countries) was US$359 with 8 countries having THE pc less than the regional average and 6 above.
- When measured in PPP$, the differences in THE pc are somewhat smaller and the ranking of countries in terms of health spending changes. Saint Lucia (PPP$236) followed by Jamaica (PPP$240) show the lowest level of THE pc while Barbados (PPP$1151) rather than The Bahamas (PPP$1124) emerges as the country with the highest THE pc. Adjusting for PPP$ also shows that Grenada (PPP$362); Saint Vincent (PPP$349), Belize (PPP$363) and, interestingly, Guyana (PPP$362) had fairly similar levels of THE pc in 2001.
- THE as a percentage of GDP ranged from 4.9 per cent for Saint Lucia to 9.4 per cent for Suriname. The estimated regional average of THE%GDP was 6.3 per cent with eight countries having ratios less than this average and six above.
- The public-private mix showed that Suriname had the highest ratio of public spending on health with its GHE%THE at 5.6 per cent while Belize the lowest ratio (1.9 per cent). On the other hand, Belize had the highest ratio of private spending on health with its PHE%GDP at 4.4 per cent while Guyana had the lowest (1.1 per cent).

Figure 18 draws on data from table 23 to plot the relationship between level of income per capita (adjusted for PPP$) and the relative amount of resources devoted to health in Caribbean countries. It shows that while the level of per capita health expenditure is positively correlated with the income per capita of the country (that is, the higher a country's GDP per capita the more it spends on health per capita), the share of THE/GDP is not. This suggests that the ratio of THE/GDP is more sensitive to the organizational structures for delivering services and the financing methods of the national health systems than to the level of income of the country.

TABLE 22:
Health Expenditure in Caribbean Countries, 1997–2001

Indicators	Ant	Bah.	Bdos	Bel	Dom.	Gren	Gya	Jca	SKN	SL	SVG	Sur	TT
1. THE%GDP	5.4	5.6	6.1	5.0	5.9	4.9	5.0	6.4	4.8	4.3	6.1	9.8	4.3
2. PHE%THE	39	43	34	51	27	31	17	49	34	36	37	41	55
3. GHE%THE	61	57	66	49	73	69	83	51	66	64	63	59	45
4. GHE%TGE	14	15	12	5.5	12	12	9.3	6.2	11	8.5	9.1	17.7	6.6
5. ERH%THE	3	--	4	4	2	--	4	3	7	0.6	1.5	12	4
6. SSHE%GHE	--	--	--	--	--	--	--	--	--	24	--	30	--
7. OOP%THE	39	43	6	51	27	31	17	34	34	36	37	16	48
8. THE pc (US$)	487	798	562	147	200	223	48	178	344	188	167	169	239
9.THE pc (PPP$)	540	1029	844	251	292	372	191	229	515	257	324	396	367

WHO Report 2004

* THE — Total Health Expenditure
* GHE — Government (Public) Health Expenditure
* OOP — Out of Pocket Expenditure
* PHE — Private Health Expenditure
* ERH — External Resources for Health
* SSHE — Social Security Health Expenditure

TABLE 23:

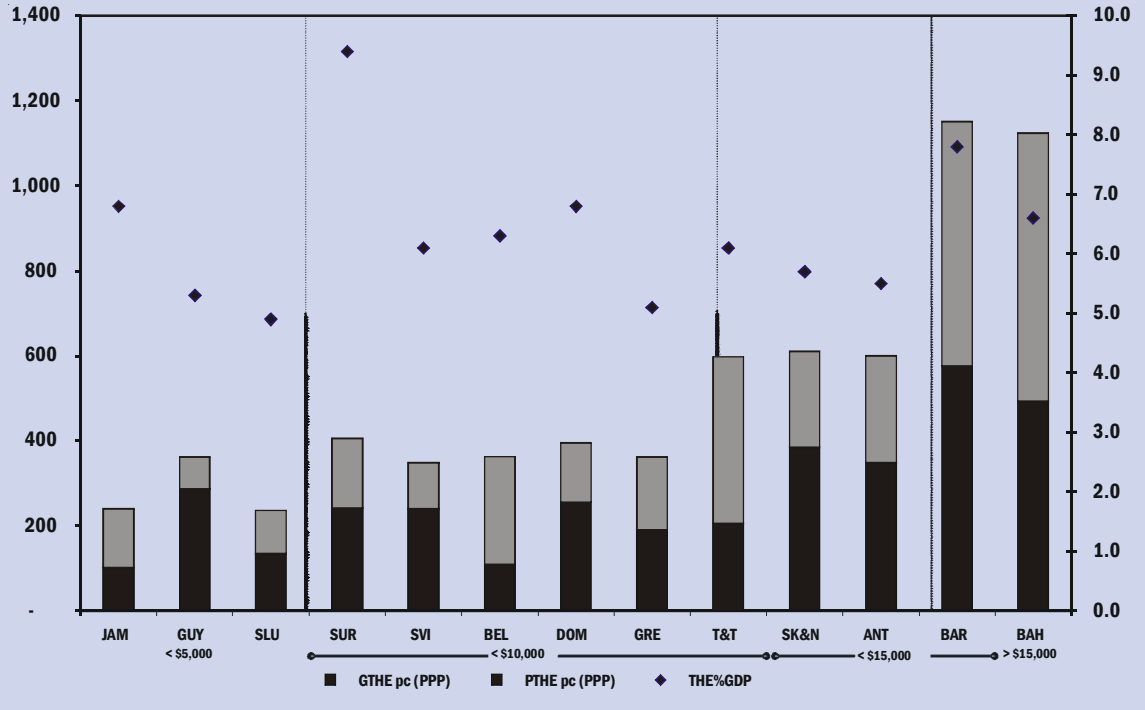
Health Expenditure in Relation to Population and GDP, 2001

Country	Pop. ('000)	GDP per cap. US$	GDP per Cap (PPP$)	THE per cap. (US$)	THE per cap (PPP$)	THE% GDP	GHE% GDP	PHE% GDP
OECS								
Antigua	76	9055	10931	497	600	5.5	3.2	2.3
Dominica	71	3697	5802	252	395	6.8	4.4	2.4
Grenada	103	3881	7099	198	362	5.1	2.7	2.4
Monts.	4.3	8070	n.a.	436	n.a.	5.4	3.3	2.1
St Kitts-Nevis	46	7451	10693	425	610	5.7	3.6	2.1
St Lucia	158	4184	4844	204	236	4.9	2.8	2.1
St Vincent	112	3112	5714	190	349	6.1	4.2	1.9
Other Caribbean								
Belize	256	3145	5768	198	363	6.3	1.9	4.4
Bahamas	307	16249	17082	1069	1124	6.6	2.9	3.7
Barbados	270	9444	14811	734	1151	7.8	3.9	3.9
Guyana 1/	764	943	4268	50	362	5.3	4.2	1.1
Jamaica 1/	2627	2982	3745	191	240	6.8	2.9	3.9
T&T	1267	7068	9785	432	598	6.1	2.1	4.0
Surinam 1/	432	1914	5086	153	406	9.4	5.6	3.8

1/ Data for Guyana, Jamaica and Suriname are derived from WHO estimates for 2001 (WHO Annual Report 2004)

FIGURE 18

Total Health Expenditure and Income Per Capita in the Caribbean, 2001



10.2.2. ALLOCATION OF HEALTH EXPENDITURE

Data gathered from annual budget estimates in each country as well as the more detailed NHA studies in The Bahamas, Jamaica and Suriname indicate that:

- Hospital-based services (inpatient and outpatient) account for 45–50 per cent of THE and an even larger percentage of GHE (about 60–70 per cent).
- Drug purchases and visits to private GPs, specialists and public health centres (primary care) were the next big items accounting for 25 per cent to 35 per cent of THE.
- The rest of THE was allocated to administrative services, training and public health services.
- Estimates for the public sector, show that personnel costs account for 60 per cent to 70 per cent of the budget with smaller amounts devoted to maintenance and paying for supplies. In Jamaica, for example, about 90 per cent of budgetary grants are spent on compensating workers and user fee collections are required to provide supplementary resources for covering other non-personnel bills.
- Even though the official policy in most countries is to target about 20 per cent of public health financing to primary and preventive care the data suggests that the allocation has been quite variable among countries and even within countries in different years. For the region the allocation to primary care ranges from 14 per cent to 24 per cent.

10.2.3. HEALTH SPENDING AND HEALTH OUTCOMES

Despite the universal recognition that health outcomes do not result from health actions only (but also income levels, education, sanitation, housing and other variables) it is useful to relate outcomes to health expenditure in order to get an idea of whether the health sector is getting 'value for money'. The data suggest (see details in Working Paper 2) that countries which are richer (GDP per capita) and spend more on health (THE per capita and THE%GDP) have better health outcomes (measured in terms of life expectancy, infant mortality rate and crude death rate). The data also suggest that the service-based economies (such as The Bahamas, Barbados, Antigua) are 'performing' better in terms of getting value for money. However, this is not a clear-cut linkage as there are several Caribbean countries whose health performance and outcomes require more detailed analysis than just looking at health expenditure.

Caribbean countries generally show good health outcomes and secure better value for money compared with the USA and several other developed and developing countries which spend much more to get similar or slightly better outcomes. However, good performance in most Caribbean countries becomes less obvious when compared with Cuba and Mauritius where health expenditure is generally less but outcomes seem to be better. The notion that more health spending will lead to better health outcomes may be broadly true but there are several exceptions. Perhaps more critical in determining outcomes is the allocation of resources to match health needs and the distribution of services to those with greater needs.

10.3. FINANCING NATIONAL HEALTH CARE SYSTEMS

Two key contextual factors in the Caribbean influence the type of health financing systems in terms of the availability, management and utilization of financial resources — firstly, budgetary allocations for health services and secondly, the level of household spending and the growth of the private sector.

Health financing is derived from four main sources: taxes (general and earmarked); pooled contributions (compulsory under NHI or social insurance programmes and voluntary under private

insurance plans); grants and donations (local and external) and direct out of pocket payments by patients at the time of utilizing services. Internationally, the first two (taxes and contributions) are the principal and dominant sources of health financing — no country with good and desirable health outcomes relies on grants and out of pocket payments to finance health services.

10.3.1. TAX FUNDS AND BUDGETARY ALLOCATIONS

Allocations from the central budget are a critical (mostly the dominant) source of health financing in Caribbean countries. As such, the tax base, tax instruments, ability to collect taxes and competing demands on the public purse are key factors in determining availability of funds to the health sector. Data from four Caribbean countries on revenue from taxes and social contributions are shown in Table 24.

TABLE 24:
Tax Revenue in Selected Countries — Percentage of GDP (2000)

Revenue	Caribbean a/	USA	Canada	Industrialized Countries b/
A. Taxes	21.2	21.5	31.3	27.6
Income	6.1	14.4	17.8	14.0
Goods and Services	5.3	4.1	8.5	6.6
Other c/	9.8	3.0	5.0	7.0
B. Social Security Contributions	0.8	6.6	5.3	11.7
C. Total Tax and Soci al Security Revenue	22.0	28.1	36.6	39.3

Source: IMF Government Finance Statistics Yearbook (2001) and IMF International Finance Statistics Yearbook (2001, 2002)

a. Unweighted average for The Bahamas, Belize, Jamaica, Saint Kitts-Nevis, Trinidad and Tobago
b. Unweighted average for Industrialized Countries
c. Other—includes taxes on international trade transactions, property taxes, user fees donations, grants and other revenues.

Table 24 indicates that relative contribution of taxes (21.2 per cent of GDP) and social security deductions (0.8 per cent of GDP) to total revenue in Caribbean countries is significantly less than in the USA (21.5 per cent and 6.6 per cent respectively), Canada (31.3 per cent and 5.3 per cent) and the group of Industrialized countries (27.6 per cent and 11.7 per cent). Clearly, there are opportunities and options for Caribbean countries to enhance public revenue and make greater use of taxes and social security contributions to meet the financing requirements of the health sector. The fiscal capacity of Caribbean countries to make use of these options to sustain and increase allocations to health depends on a mix of factors having both positive and negative implications. These include the levels, composition and efficiency of collection of revenue, the extent of debt repayment obligations, levels of income, unemployment and poverty and obviously, the prospects for overall economic growth.

10.3.2. NATIONAL HEALTH INSURANCE

While tax-funded National Health Care Systems represent the predominant source of organizing the financing and delivery of health services, several countries of the region are considering reforms to create National Health Insurance Systems; systems pooling income and health risk among all members of the population (universal coverage) on the basis of social solidarity and mandatory membership rather than actuarial fairness (risk rating) and voluntary acceptance. For individuals and households, NHI offers health security, access to services and financial protection while for health providers it establishes defined contractual obligations as the basis for delivery of and remuneration for services.

However, despite decades of discussions (which intensified in the 1990s), only three Caribbean countries have national health insurance programmes in place that offer coverage (access) to all residents — Antigua and Barbuda; Bermuda and Cayman Islands (Lalta, 2001)[1].

In terms of performance, the programmes in Antigua and Barbuda, Bermuda and Cayman Islands provide almost universal coverage. Surinam's restricted membership plan covers about 40 per cent of the population. However, several concerns have arisen —

1. cost escalation in Bermuda and the growing burden on Government
2. abuse of overseas care in Antigua and Suriname
3. cream skimming and non-payment of claims by insurers in Cayman Islands
4. obsolete capitation and per diem rates in Suriname.

In Antigua/Barbuda, there are two statutory authorities: the Social Security Scheme and the Medical Benefits Scheme, both contributory schemes supported by contributions from employers and employees. The Medical Benefits Scheme (MBS), established since 1978, is directly related to the health ministry in a devolved relationship. Its funds when properly applied and managed, support costs of hospitalization at the government acute care hospital, the cost of pharmaceuticals for both primary and secondary care, cost of some repairs and renovation to clinics, health centers and other health facilities, assistance to persons approved for medical assistance overseas, and the cost of pharmaceuticals and minor supplies for persons suffering from nine non-communicable chronic conditions set out in law. The MBS carries a substantial share of the overall national health budget.

In Bermuda, there is a hospital insurance scheme that covers hospitalization only, including overseas assistance. The scheme, although actuarially approved by the government, is predominantly administered through private insurance carriers which are obliged to offer an agreed package of benefits for a premium agreed by the government. To ensure that no one is denied cover, the government accepts premiums from persons who would otherwise not be able to afford or who might not be considered insurable risks. Over and above this standard package, individuals are free to pay for increased benefits by negotiating the levels of premiums with providers. This introduces effectively the notion of competition among the private sector providers and, in practice, appears to be benefiting the consumer.

Proposals for NHI are under discussion currently in The Bahamas, Belize, Saint Lucia, Saint Vincent and the Grenadines, Jamaica and Trinidad and Tobago. Some of these have been under consideration for as long as ten years.

NHI is a major social, political and health financing initiative for any country. In countries which already have NHI schemes in place there are ongoing problems in monitoring, evaluating and tackling design and operational deficiencies. In countries contemplating NHI the critical lessons of experience suggest that there are certain key decision points requiring intense interaction among technical analysts and policy makers. Quite apart from getting the technical aspects right, there are other equally challenging tasks in fostering and

managing change at all levels — political, organizational, service providers and the community.

10.3.3. USER FEES IN CARIBBEAN COUNTRIES

The growing imbalance between the demand for and cost of health services on the one hand and resource constraints in the public sector on the other — as well as 'expert' advice from certain international financing agencies — have pushed several Caribbean countries (Jamaica, Saint Lucia, Saint Vincent, Grenada, Dominica, Saint Kitts, Belize) to revive and revise user fee schedules in an attempt to generate revenue, contain demand and improve the availability and quality of public health services (Huff-Rousselle and Richards, 1995; PAHO/IDB, 1996; PAHO-UNDP-CARICOM,1999). Among policy analysts, policymakers, health professionals and administrators and the general public there are divergent views on the revival and expansion of user fees. Proponents and opponents present a mix of theoretical and empirical arguments to support their positions on whether fees should be charged, what types of services should attract fees, should there be a single fee for all users or graduated fees depending on income and what kind of exemption system may be needed to ensure 'equity' in access.

User fees have a long and chequered history in the Caribbean (Lalta and LeFranc, 2001). Most countries have legislated fee schedules since the colonial period but these have never been fully operationalized because of reluctant or inadequate administration, the low level of the charges making them a 'nuisance' to collect and political emphasis on 'health for all' and the 'right to free care' in public facilities. (Ironically, these policies co-exist with privileges granted to some health professionals to charge and collect 'private fees' through 'private practice' in public facilities). Caught up in this policy dilemma, the approach of Caribbean countries to user fees has been mixed. Some countries have kept fees on the books but have opted not to implement them or to do so quietly and unobtrusively. Others such as Jamaica, Saint Vincent, Saint Lucia and Saint Kitts have made user fees more explicit as key elements of revenue generation, demand management, overall health policies and have done so in unique ways.

The data on user fees in Caribbean countries reveal the following:

a) **Revenue Generation** — User fees generated additional revenue ranging from two per cent to about 15 per cent of the recurrent cost of public health services. Jamaica, Saint Kitts and Saint Lucia show the highest relative collections (Lalta and LeFranc, 2001; Annual Estimates of Expenditure;). In Jamaica the user fee schedule was revised in 1984; 1993, 1999 and 2005. Since 2002, health regions faced with budgetary constraints have been required to collect and retain certain target levels of fees — these have been treated as 'income' rather than fiscal 'appropriations in aid' to add to grant funds (budget) allocated to them by the Ministry of Finance. Data on the collection of user fees over the past 20 years show that they have increased from 0.1 per cent originally to now being 11.4 per cent of the recurrent budget of the Ministry of Health and about 15 per cent of the budget of the Regional Health Authorities. Innovative collection methods include improved admission, billing and discharge systems; prepayment and instalment payments for some high cost services; more cashiers; more assessment officers; better systems to collect from insured persons and those with credit cards.

   It should be noted that when deductions are made for the administrative cost of collection, the amount of net revenue falls in all countries. In Jamaica it is estimated that administrative costs account for about eight to ten per cent of fees collected (Bitran and Associates, (2004).

b) **Utilization Levels** — Generally, user fees led to an initial decline in utilization levels. However, these declines tended to be quite temporary as utilization levels in the public

sector rose in subsequent years. On the other hand a closer examination of the data revealed that the decline in utilization by the poor, children, elderly and the rural population was greater than for the general population and the rise in their utilization was much slower. In addition, the decline was most marked for preventive care and health center-based services. More importantly, utilization patterns do not tell the full story of what other welfare-reducing trade-offs the poor had to make in seeking to access services and the types of coping mechanisms they had to adopt as a result of increased user fees for health and other social services (Lalta and LeFranc, 2001).

c) **Exemption Systems and Targeting** — Most countries sought to protect the poor and other vulnerable groups from the expected negative impact of fees through implementing national or institutional policies for exemption. These seemed to have worked to a reasonable degree since the decline in utilization by the poor was not as severe as predicted by opponents of fees. Even where the exemption systems were less than optimal, there seemed to be agreement that it was better to have a system which could be improved with time rather than have no system in place.

In general, however, exemption systems have been poorly legislated and inadequately administered. Countries have tried to offer exemptions not just to the poor but to several 'vulnerable' and 'special interest' groups so that as much as 90 per cent of the population may be deemed to be exempt. Even without such broad-based exemptions, there were considerable opportunities for abuse by the non-poor (especially those who 'know' the system or the health staff). Additionally, there is anecdotal evidence showing that the exempted poor had to settle for lower quality care and longer waiting times than those who were fee-paying patients (Lalta and LeFranc, 2001).

d) **Quality Improvements**—Improvements in drug supply as well as availability of services, staff and equipment were noted in several countries. These were strengthened by improvements in the admission and discharge systems and in the overall functioning of health facilities. However, quality improvements have been slow and patients still complain of long waiting times, drug stockouts and unavailability of staff especially doctors in health centers. In addition, there seemed to be less success in terms of improvements in the attitudes of health staff towards patients.

The international literature evaluating the results of user fees (out of pocket charges at the point of utilization) draws attention to two key issues. First, because of the conceptual and empirical difficulties in separating the impact of health services and other health-inducing factors (such as nutrition, sanitation, etc) on 'improved' or 'poorer' health, most studies have focused on the effects of fees on utilization of services.

Second, fees have not been implemented in isolation but have been complemented by exemption systems, quality improvements and reallocation of some funds to pro-poor measures. These have led to differences in the quality of assessments and varying interpretations of the 'evidence'. Despite issues with aggregation and comparability, the data from several studies reviewed seem to indicate the following:

- Levels of utilization of the public health services have generally declined (small in some countries, large in others) in the period immediately following implementation of fees. Recovery to pre-fees levels has been quite slow (Gilson et al. 1995; Collins et al. 1996). The decline in utilization has been most marked among the poor, children and in rural populations and for preventive

as against curative health services (Bailey et al.,1994; Gilson and Mills 1995; Russell and Gilson, 1997; Arhin, 2002).
- Utilization of health services in the private sector with generally higher prices has been increasing in the same period (World Bank, 1994; Musgrove, 1996).
- The poor have had to resort to or renew various coping strategies such as delaying care, purchasing less medication, reducing consumption of non-health goods, using home remedies — many of these have been ineffective, leading to reduced welfare or increased severity of health conditions requiring more expensive treatment at a later stage (Gilson and Mills, 1995; Lalta and LeFranc, 2001).
- Revenue generation has been quite modest averaging less than ten per cent of the recurrent cost of public services (with a range from one per cent to about 20 per cent). Net revenue is reduced if administrative costs of collection are included (Gilson, 1997; Arhin, 2002; PAHO, 2002). In some cases, efforts to enhance revenue have led to more attention being placed on hospital-based services where fees are higher and on utilization of high technology services.
- The administration of exemption and targeting systems has been weak with abuse and leakage (denial of waivers to the poor and granting of waivers to the non-poor) being quite common (Russel and Gilson, 1997; Bitran, 2004).
- Some quality improvements have been made for example improved drug availability. But improvements have been slow and variable in view of the low starting levels.

Overall, the international and Caribbean experience with user fees shows that modest success has been attained in generating revenue; utilization levels by the poor and rural groups as well as for preventive care services have been affected; exemption systems have not worked well and have led to much abuse and quality improvement have been variable. In addition, there has been little evidence of general cost containment. Two key inferences can be drawn from the data and discussion on user fees:

- First, it would appear that there is inadequate evidence for improved mechanisms to protect the poor and increase use of preventive care services. The challenge, according to van Adams and Hartnett (1996) is that on the one hand reverting to notions of no fees for everyone would lead nowhere since the fundamental problem of insufficient resources would only get worse choking off prospects for better health … for millions in need. On the other hand pressing forward where fees hurt the poor would not help either.

Perhaps the most significant aspect of the challenge is to determine which services should attract charges and which should be exempt.

- Secondly, user fees are quite inequitable and inefficient compared with other mechanisms and can only be seen as a supplementary and not substitute mechanism to finance health services. For Caribbean countries, the bulk of health financing should still be derived from general taxes, earmarked contributions or a mix of both.

10.4. THE DEMAND CHALLENGES

The demand for resources to finance health services is driven by a mix of health-related, technological, organizational, managerial and socioeconomic factors. While the precise mix and intensity may vary, there are a core set of concerns which countries, individually or in groups, have been grappling with or will be pushed on to the health agenda for policy action.

10.4.1. MORBIDITY AND MORTALITY PATTERNS (EPIDEMIOLOGY)

The epidemiological challenges are dealt with in other sections. Though the relative burdens may shift with appropriate corrective policies and health interventions, it is unlikely that successes in managing the disease burden will be manifested in lower financing requirements for the sector (though they may slow down the rate of growth of demand for resources). International experience also suggests that the real dividends from the accompanying demographic transition may be partially offset by the additional demand for resources to provide health and social care for aging populations.

10.4.2. TECHNOLOGICAL IMPERATIVES

Whether conceived as 'basic'; 'appropriate' 'keeping abreast' or 'cutting edge', the technologies used in organizing, managing and delivering health services are critical in determining the magnitude of resources needed to finance them. As middle income developing countries well into the demographic transition, Caribbean states have to confront the full spectrum of infectious, chronic and externally caused conditions. As such, technological choices in terms of the mix of health facilities, treatment regimes, drugs, equipment, personnel and supporting infrastructure (for example, information and regulatory systems) have to be made constantly. These choices are influenced by 'technical' considerations of what is feasible, appropriate and affordable as well as non-technical considerations of what the country is 'locked into providing' or should aspire to offer.

10.4.3. ORGANIZATION OF DELIVERY OF HEALTH SERVICES

There are two key aspects of the organization of health services in the Caribbean which propel the demand for financial resources. First, the pattern of public and private (including non-profit) provision of services is based more on competitive rather than complementary operations. Opportunities for public-private collaboration are rarely used even where one sector seems to have a comparative advantage. In the public sector there seems to be an ethos which drives attempts to finance and provide all services irrespective of the availability of quality private providers. On the other hand, real or unsubstantiated, notions of 'higher quality' care in the private sector alongside 'supplier-induced' demand combine to intensify pressures on prices and spending in health.

Secondly, decentralization in the public health sector — through regional authorities in Trinidad and Tobago, Belize and Jamaica; public hospital authority in The Bahamas; autonomous public hospital corporations in Guyana, Belize and Barbados — offers opportunities for more efficiency and innovation especially in terms of integration of primary-secondary services and public-private providers. On the other hand costs are expected to rise as another layer of administration is added and head offices recruit more highly skilled persons to tackle policy, planning and regulatory issues.

10.4.4 INCOME DRIVEN DEMAND

Income levels play a key role in the demand for health resources. International evidence suggests that the demand for health services is income-elastic i.e. as income rises there is a proportionately larger increase in the demand for care. Given growing income levels in many countries of the region — nationally and at the household level — it is noticeable that the range of what may be called 'health' services has expanded markedly so that there is increasing demand for conventional and new services. In addition, all countries have to manage the health workers' demands for improved salaries and other working conditions to keep pace with other sectors which add to the pressures for increased financing for health services.

10.4.5. CHOICE AND GROWTH OF THE PRIVATE SECTOR

Rising levels of income among households as well as frustrations with the inadequacies of the public health sub-sector led to the rapid growth of the private health sub-sector (for profit and not for profit) in all countries. Well-defined markets now exist for health insurance, pharmaceuticals and health supplements; laboratory and imaging services; day surgery; ambulance transport; dental and optical care; hospital care; radiation treatment and telemedicine. Private services also include access to external care. The interaction between the private and public health sub-sectors varies across and within countries — in some places they compete with each other while in others they are complementary. Generally, private health care services offer more choice and confidentiality even though the cost is higher than for comparable public services. These factors are related to concerns over national quality standards and cost control as well as proposals to explore opportunities for 'public-private partnerships'. The pattern of demand for and supply of private health has led analysts to point to the institutionalization of a 3-tiered health system in the Caribbean that is, private services for those with health insurance and upper middle income earners; public services for low and middle income earners; and overseas care for high income earners.

The rapid growth of the private sector in all countries is expected to increase, fuelled by deficiencies in public health services; more private health insurance options, technological changes and health entrepreneurship. The FTAA will deepen this process as health firms and professionals press for entry into the system, or for patients to leave the system and seek care in the US. The growth of the private sector/market must be counter-balanced by strengthening of the regulatory framework (to ensure quality of care for all and to minimize opportunism by private operators). The growing appeal and purchase of private insurance enhances choice for members — this is a development which can relieve some of the burden on the public sector.

10.5. EFFICIENCY ISSUES AND INNOVATIONS

10.5.1. PUBLIC HEALTH EXPENDITURE

Given the historical experience of budgetary allocations, much more targeted and systematic efforts will be needed to secure greater efficiency in spending. Key areas to be addressed include resources for strengthening the provision of 'public health' services (such as surveillance, vector control, sanitary inspections, and regulatory mechanisms) and primary care; more day surgery; reduction of hospital beds where occupancy rates are sub-optimal; emphasis on health promotion and illness prevention. A major concern in all countries is the high proportion of resources having to be expended on personnel costs as against supplies, maintenance and drugs. Health is 'labour intensive' but the working arrangements do not always provide for efficient use of human resources.

10.5.2. IMPROVING MANAGEMENT AND PURCHASING OPTIONS

Several countries have recognized the limitations of traditional budgetary allocations and of managerial capabilities in ministries of health, and have therefore implemented innovative programmes to address financing, management and purchasing concerns. Key features of some of these programmes are highlighted below.

A) DRUG PROCUREMENT AND DRUG FUNDS

In addition to the well-established activities of the Barbados Drug Service (1980) and the OECS Pharmaceutical Procurement Service (1986) other countries have commenced programmes to procure and/or facilitate access to drugs prescribed for chronic disease patients. These programmes are described below.

i) **Jamaica Drugs for the Elderly Programme (JADEP)**. Established in 1996, the Jamaica Drugs for the Elderly Programme (JADEP) seeks to help patients manage their condition better by reducing out of pocket drug costs for persons 60 years and over suffering from one or more of 8 chronic conditions—arthritis, glaucoma, hypertension, diabetes, asthma, psychotic conditions, cardiovascular conditions, epilepsy. Members benefit from greater access to prescription drugs (types and quantities per person per month defined in a schedule) since the co-payment at the time of purchase is relatively low. Private pharmacies, with many more outlets and customer appeal than public pharmacies, are key partners in the program. The Ministry of Health, through the drug procurement agency Health Corporation Ltd, buys the drugs and gives these to contracted private and public pharmacies for distribution to members.

The overall performance of the programme, including the role of the private pharmacies has been mixed. In 2004, JADEP's membership was about 40 per cent of the total elderly population. Some pharmacies have done quite well — the needs of patients have been met through timely and good quality services. This has helped to expand their customer base as well as to enhance their reputation as 'caring institutions'. Others have reneged on their obligations — the JADEP targeted drugs have been sold to non-JADEP members without full accounting; JADEP beneficiaries have had to wait longer periods for service because their co-payments are perceived to be too low and 'unremunerative'. The managers of the program have been reluctant to take strong action (sanctions) against errant private pharmacies because of weak regulations and concern that terminating a contract would severely limit choice by and impose undue hardship on beneficiaries.

In 2004 the administration of JADEP was handed over to the newly-established National Health Fund (discussed below).

ii) **National Health Fund in Jamaica**

National Health Fund of Jamaica: The National Health Fund (NHF) is seen as a major source of non-budgetary resources for the public health sector. Established as a statutory agency in early 2003, it seeks 'to reduce the burden on the healthcare sector by supporting improvements in health care benefits, access to medical treatment and preventive care for the resident population of Jamaica'. It provides financial assistance for two types of benefits:

- Individual Benefits — subsidies in meeting the cost of prescribed drugs to patients suffering from one or more of 14 chronic conditions (arthritis; asthma; breast and prostate cancer; diabetes; epilepsy; glaucoma; high cholesterol, hypertension; ischemic heart disease, major depression, psychosis, rheumatic heart disease; vascular diseases). Given current prevalence rates it is estimated that about 750,000 people or 30 per cent of the population will be eligible for benefits. Eligible persons are given membership cards which entitle them to the subsidies (paid to providers) upon presentation at participating public and private pharmacies.
- Institutional Benefits — funding support for two sets of activities: firstly, projects from public and private agencies aimed at enhancing health promotion and illness prevention; and secondly, projects from public sector agencies aimed at improving infrastructure and capacity to deliver essential public health functions.

The NHF is financed through a mix of the following: a 23 per cent levy on consumption of tobacco products; a one per cent payroll tax shared equally between employers and employees; and a five per cent share of the Special Consumption Tax on alcohol, petroleum and tobacco products. The total revenue is estimated at J$2.4 billion (US$40 million) per year with the tobacco levy contributing 50 per cent; 33 per cent from the payroll tax and 17 per cent from the Special Consumption Tax. In terms of the expected pattern of expenditure, 50 per cent of revenue will go to paying individual benefits; 25 per cent to institutional benefits; 15 per cent to administration and ten per cent to a reserve fund.

After the first year of operations (August 2003—July 2004), the NHF experience shows the following:

- About 50,000 persons out of an estimate of 100,000 in the first year;
- About 150 public and private pharmacies or about 50 per cent of all pharmacies have been contracted as participating providers;
- Of the total costs of prescriptions sold to NHF members (which amounted to about J$five million or US$80,000) the NHF subsidy was J$1.7 million (US$27,000) or just about 34 per cent of costs. Public sector pharmacies have been extremely tardy in submitting claims and have received less than ten per cent of the subsidies paid by the NHF;
- Some distributors, recognizing the role of NHF in assisting with out of pocket payments for the drugs, have raised their selling prices (and retailers have followed accordingly) claiming 'inflation' and 'worldwide market pricing' so that overall patients are still faced with quite high prescription costs;
- About J$150 million has been disbursed in institutional benefits — all of this has gone to upgrading pharmacy services and other infrastructure in the public sector.

iii) **Chronic Disease Assistance Plan (C-DAP) in Trinidad and Tobago** — C-DAP was introduced in March 2003 to improve access to drugs for people 60 years and over as well as those receiving disability grants and suffering from one or more of the following chronic conditions — diabetes, glaucoma, hypertension, cardiac diseases, arthritis, asthma, enlarged prostate and depression. A schedule containing the type and quantities of drugs per condition per period of time is agreed with private pharmacies and members are eligible for these drug benefits without having to make any payments. In 2004 the Plan was expanded twice — first, to include young people under 18; and later to cover all other persons suffering from any of the prescribed list of conditions. C-DAP is financed through a government grant and is managed by the National Insurance Property and Development Company (NIPDEC) — a statutory body which also has responsibility for procurement and distribution of drugs and medical supplies to public health facilities. An emerging concern is the issue of abuse and excess demand for drugs by patients.

B) CONTRACTING (OUT-SOURCING) HEALTH SERVICES

The purported benefits of contracting or out-sourcing health services include increased efficiency in use of resources and improved access. In several countries Ministries of Health out-source a range of non-clinical services such as cleaning, portering, catering, security, grounds maintenance and laundry in an attempt to improve efficiency and

quality. In Jamaica, reports suggest that, despite the relative absence of a large number of private firms bidding for contracts, some improvements have been made in timeliness and quality of services although the costs have exceeded previous in-house provision. However, more systematic reviews of these contracts in all countries are needed to establish whether value for money is really being secured.

Out-sourcing of clinical services is a common feature in OECS countries and for 'catastrophic' cases in the larger Caribbean states. In the OECS, formal agreements for a range of clinical services (cardiac surgery, orthopedics, neurosurgery, ENT care, some emergency cases) have been established between Saint Lucia–Martinique and Dominica–Guadeloupe. Reports suggest that the quality of care is generally good; there are concerns over the large pile-up of unpaid bills (including many by self-referred private patients) and the availability of follow-up services in the home countries.

10.6. EQUITY ISSUES

10.6.1. COVERAGE AND EQUITY

The presence of the public health system does not ensure equity in access to health services. Deficiencies in the availability of services and the reluctance to address problems of access to care and waiting time caused by inadequate investment or maintenance or private practice privileges to doctors mean that the poor may be disadvantaged even in the public system. Inequalities or inequities in health relate to inequalities in the determinants of health, including health care. Systematic benefit-incidence analyses (to highlight who gets care, where and how much was paid) can provide helpful data for addressing inequities in access. The poor may not be able to afford care in the private markets and as such, public subsidies and transfers would be needed to protect their health.

10.6.2. ACCESS TO CARE AND UTILIZATION

In the absence of comparable data across the region on who accesses services, key informants and some utilization studies suggest that persons with private insurance and high incomes generally use private facilities, 'private beds' in public hospitals and increasingly overseas care (for example, The Bahamas) while persons with low incomes make greater use of public facilities for services and all people make extensive use of privately managed ambulatory services — GPs, specialists, pharmacies and diagnostic centers.

In all countries there are continuous complaints about long waiting lists and waiting times for elective surgery in public facilities. Some of these problems are due to inadequate capacity while others are more systematic and relate to such things as the organization and management of operating theatre facilities. Overseas care for complicated conditions and procedures is a common feature in all countries. Access, however, tends to be limited to those with comprehensive health insurance plans and those persons fortunate enough to receive grant funds from governments or donated funds from charitable groups.

To get a clearer picture of the pattern of utilization and how this varies according to income and type (ownership) of facility, a benefit-incidence study was undertaken using data from the *Jamaica Survey of Living Conditions* Reports, 1991–2002. The data suggests that when compared (expressed as a ratio) with the highest consumption expenditure group (Quintile 5), the poorest (Quintile 1) report almost as much illness (0.93) but have more protracted illness (1.18); days of illness (1.22) and days of impairment (1.4) and are less likely to seek care and demand services (0.79). They make greater use of public facilities for medical care (3.3) and medication (3.8). (However, all groups rely to greater extent on private rather than public pharmacies for their medication). They are less likely to use preventive care services (0.8), are more likely to use hospital outpatient services, and are more likely to be hospitalized and to use public hospitals and rarely

have health insurance coverage (0.04). The data also show that while the poor spent slightly less on health as a percentage of their overall consumption, they spent significantly more on health as a percentage of their non-food (basic needs) budget (1.12). In a further analysis the WHO (2003) estimated that about two per cent of households were impoverished after having to make large payments for health services (i.e. 'catastrophic spending defined as more than 40 per cent of non-subsistence/food expenditure or discretionary income going to health).

Removing inequities in access to care must move beyond the alleviation of the suffering of the poor to the fundamental issues that must be tackled if overall socio-economic inequalities are to be reduced. The goal is a society that is healthier by virtue of improvements in the principles by which it operates. This is a society that recognizes health as an asset and inequalities in health as a limiting factor in national development. Unhealthy social systems, economic arrangements, political dispensations, physical environs, cultural expressions, income distribution and so on will be manifested in greater poverty for some but the solutions do not lie solely in programs that target the poor. Rather, national policies must be developed that promote human development by empowering people to change their personal and communal circumstances for the better

In the final analysis, the most effective intervention lies in the area of behaviour change for the entire population. The tendency to focus on the improvement of access and on the provision of health care per se is likely to increase general expenditures without a commensurate improvement in the health status of the population generally. In the face of fiscal and balance of payments difficulties and endemic poverty confronting these countries, health and wellness literacy is the ultimate safeguard and would empower the poor and the non-poor to protect and improve their health status. However the responsibility does not lie principally with either the poor or the non-poor, as the general improvement of population health depends on the manipulation of the environment that is beyond the capacity or responsibility of the individual.

10.6.3. COVERAGE OF SERVICES AND UNMET NEEDS

While precise data on gaps in coverage throughout the region is not known, some proxy observations from Jamaica may be valuable in the estimations. The 2000 Lifestyle Survey conducted by the MOH and UWI found that morbidity and mortality were dominated by NCDs. In addition, 24 per cent of the population with one or more of the diseases was aware and managing their condition; 36 per cent was aware but not managing and 40 per cent was not aware and not managing. The gap in coverage was about 60 per cent. This was one of the key findings which was fed into the design and establishment of the National Health Fund (to assist people to meet the costs of prescribed drugs). The Fund estimated that to adequately cover the drug needs of the un-covered population would require tripling the public sector budget on drugs alone.

The Jamaican data also provide an idea of overall unmet need in terms of health services utilization. Findings from the Annual Survey of Living Conditions show that on average over the period 1991–2002, about 12 per cent of the population reported an illness/injury but only 55 per cent of these actively sought care. The reasons cited for not seeking care included financial difficulties; reliance on home remedies; uncertainty as to whether care would be available at public facilities.

10.6.4. TARGETED FUNDS FOR TREATMENT OF THE POOR

Universal access to public health services is a stated principle of all Caribbean governments. However, eliminating formal access barriers does not always get translated into utilization of services by the poor because of inadequacies in the availability of some public health services, competition for access to these services,

transportation and waiting time costs and their financial limitations necessitating regular spending trade-offs. Recognizing this, some Caribbean governments have developed programmes to target the poor more directly to minimize problems of access to care. Two of these programmes are discussed below.

i) **Programme for Advancement through Health and Education (PATH) in Jamaica.** PATH was established in 2003 as a significant component of the Government's reformed Social Safety Net. It seeks to increase educational attainment and improve health outcomes among the poor by making cash benefits available only when the targeted person has met qualifications for school attendance and visits to health facilities — this establishes closer links between benefits to the poor and human capital investment (increased educational attainments; improved health outcomes; reduction of poverty). The targeted persons are children up to six years; people 65 years and over; pregnant and lactating women; other poor adults. Eligible persons are given a membership card and are required to make scheduled visits for health checks at public health centers. These must be verified and reported monthly by social workers. At the end of March, 2004 approximately 170,000 of the 236,000 targeted people were registered and receiving benefits. In the face of ongoing human resource and financial constraints, one of the principal concerns which has arisen relates to the burden of additional administrative and other costs on the public health facilities to manage and deliver the scheduled health services.

ii) **MSA Health Card in Suriname** As part of the overall safety net for vulnerable groups, assessments and means testing conducted by the Ministry of Social Affairs (MSA) seek to target those living below a fixed income threshold for health cards. These cards permit access to ambulatory care, drugs and inpatient services in public and private facilities at zero or minimal cost. Providers are reimbursed from budgetary allocations given to the MSA. Cards are valid for six months (one year for the elderly and handicapped) and are renewable upon approval after home visits and interviews by MSA inspectors. While there is clear recognition of the value of the program in providing direct assistance to the poor, there is also widespread concern over abuse and leakage. Bitran and Associates (2004) estimated that in 2003 about 63 per cent of health cards were distributed to the genuine poor while 37 per cent were in the hands of persons whose income exceeded the poverty line. Improvements in the effectiveness of the health card as a targeting mechanism is currently being considered as part of the overall Health Sector Reform Programme.

10.7. CONCLUSIONS

- The financing of health services is a challenge for all Caribbean countries, raising questions on aspects such as the quantum, distribution and source of the resources applied, the efficacy of their application, the coverage of populations which need it and the role of the various sectors in supplying services.
- The analysis has suggested a continued critical role for the public sector in financing and management of health services to ensure adequate funds, access, and quality. To strengthen and enhance its capacity for this leading role and to ensure that health financing can address health needs effectively and sustainably, strategic actions are necessary in three areas — scaling up coverage and expenditure; generating and maximizing revenue; and changes in the quality (efficiency and equity) of spending. Given the diversity of starting points and

resource constraints (financial, human and infrastructural) among countries, the health financing challenges will vary — some would need to pay more attention to mobilizing resources while others would need to concentrate on changes in the quality of spending.

- Total health expenditure per capita varied widely from $US 50(PPP$362) in Guyana to US$1,069 (PPP$1,124) in The Bahamas as reported in 2001. Total Health Expenditure as a percentage GDP ranged from 4.9 per cent in Saint Lucia to 7.8 per cent in Barbados and 9.4 per cent in Suriname with an average of 6.3 per cent. Hospital–based services accounted for the great majority of the government health expenditure and in the public sector; personnel costs represent 60–70 per cent of the budget. There is a general growth of private sector involvement in the provision of services. Total Health Expenditure as a percentage of GDP is more sensitive to the organizational structure for delivering services and the method of health financing than to the wealth of the country.
- User fees are the commonest of the schemes for supplementary financing. There is considerable doubt as to whether this practice is not regressive and militates against the interests of the poor who need the public services most. It is doubtful whether the additional revenue generated counteracts the otherwise negative effects. User charges will continue to be problematic, but if and when they are used, perhaps the charges for preventive care services must be limited and attention focused on under-utilized sources such as charges for registration of drugs, private health facilities, pesticides and dangerous chemicals as well as fees for inspection and certification of food establishments, poultry and animal farms, slaughter houses and other services covered under the public health regulations.
- Increasing levies/excise taxes on tobacco and alcohol products may represent a way to generate revenue.
- The poor are disadvantaged in that they have more days of illness and impairment, but are less likely to seek care and demand services. Detailed data from Jamaica show significant gaps in coverage.
- Countries have introduced various schemes for health management and purchasing which seem to target more the needs of the chronic noncommunicable diseases and more recently drugs for HIV/AIDS.
- Many countries have contemplated some form of national health insurance that would provide universal coverage and has a stable source of financing, but so far only three Caribbean countries have such a scheme although there is universal agreement as to its desirability. Any such scheme represents a major social political and health financing initiative. The size of the risk pools in small countries may point towards multi-country schemes.

10.8. RECOMMENDATIONS

- The Caribbean countries must examine the degree to which there are unmet needs and gaps in coverage with a view to scaling up coverage and public expenditure. Additional expenditure should be preferentially directed to the primary level and to programmes that benefit the poor. Efforts to scale up coverage must involve research to deepen local knowledge of the nature and dimensions of gaps in coverage of services (access to care by different groups) and cost of interventions. The health investment plans to expand coverage must take account of the need for support services and systems and must also include such critical areas as HIV/AIDS and Health Promotion. Given the epidemiological profile and other challenges, Caribbean countries should

target expenditures on health systems and services of at least six per cent of GDP.

- In the attempt to generate and maximize revenue, there should be careful examination of the extent to which user fees are charged even though on the face of it they contribute to the budget for public expenditure. They are regressive and disadvantage the poor. More attention should be paid to mobilizing resources from activities of the public health inspectorate and from strategic public-private partnerships.
- The countries should examine the universal insurance plans which exist or are in train, with the ultimate aim of a portable Caribbean-wide health insurance which is desirable, especially in the face of the imminent free movement of people throughout the region. As an initial aspect of universality of insurance, there should be at a minimum the provision of an essential package of services universally available, the essentials of which will vary little, given the similarity of the epidemiological profiles.
- Given their importance in enhancing health in the region, Caribbean countries should allocate funds for scaling up initiatives in relation to national and regional public health goods such as surveillance systems, standards and regulations, research and sharing of best practices.

NOTE

1. Suriname has a statutory organization which manages health plans for government and some private sector workers. Some countries have health plans for government workers managed by private insurers for example Jamaica, Trinidad and Tobago and Saint Kitts–Nevis. However, these are more appropriately treated as private plans that is; voluntary, risk-rated for the group and limited to the period of one's employment.

CHAPTER 11

General Conclusions

THE COMMISSION'S MANDATE

This report to the CARICOM Heads of Government is in response to their Declaration of Nassau which saw the need for health to be propelled to the centre of development. Health is no longer to be regarded as a consequence of economic performance, but as an instrument of development. The report not only responds to the mandate of the Heads, but situates itself within the context of the Caribbean Single Market and Economy and the future development and articulation of the Chapter Four of the Revised Treaty of Chaguaramas.

It has fulfilled to large measure the Terms of Reference given to the Commission, and perhaps the most important aspect is in relation to the policy framework needed for addressing current and future health needs.

CARIBBEAN HEALTH

By far the most important challenge demanding policy changes is the health situation that results from the demographic and epidemiological transition. The report spells out the significance of the non-communicable diseases which by any measure account for the majority of the current burden of illness and the projections are that this will get worse. Obesity stands out as one of the factors that contribute substantially to these diseases and the region must examine the policy options to address these problems. The focus of the response cannot be primarily towards change in individual behaviour but by making those policy changes in the social environment that are in the hands of the political decision makers. This involves changes in agricultural policy and some aspects of educational policy for example and placing a high premium on increasing physical activity of Caribbean people. The Caribbean may not be able for long to continue to foster the importation of energy dense obesigenic foods,

The argument for addressing the non-communicable diseases turns not only on the burden of morbidity and mortality, but also on the huge economic costs society will have to bear. These diseases, including the problems of mental health must be tackled now with the same vigour and political concern with which HIV/AIDS is being addressed. Violence and injuries, while not a manifestation of the demographic transition are shown to be a considerable burden to the health services as well as being of tremendous economic significance.

No report on health can ignore the epidemic of HIV/AIDS, but there is guarded optimism that the current efforts are in the right direction and there is evidence of excellent progress in some countries. Among the major areas of concern is the persistent stigma and discrimination which inhibit optimal control of the epidemic and the anxiety that the political commitment shown so far be maintained or intensified to promote the expansion of care and treatment in addition to the preventive measures now in place.

MAJOR CHALLENGES

Any attempt to improve Caribbean health must begin with considering the resolving capacity of the health systems as a whole. All countries have health plans, but they are all bedeviled by the weaknesses in the information systems, the problems in managing the decentralization processes and the shortages of resources, physical, financial and human. There is a critical need to examine the public health systems to correct the deficiencies in discharging the essential public health functions.

There is an almost universal problem with human resource planning and management. The detailed examination of the situation of nurses points out the difficulty the region has in coming to terms with increasing permanent migration. The ministers of health have advocated a programme of 'managed migration' This has to be integrated with a programme of temporary migration under the Mode 4 form of supply as prescribed by WTO/ GATS.

Given the economic situation of the region and the apparent difficulty in allocating more of the national budget to health, financing is critical. When comparison is made with other countries, it would appear that there is still room to make greater use of taxes and social security contributions to meet the financing needs of the sector. The issue of user fees is likely to be the area of greatest debate as governments, in the face of economic constraints and the apparent intractability of the fixed costs, most of which are for personnel, seek to recover part of the funding needed for the services. The concern is that these fees are regressive and do damage disproportionately to the poor. Countries should aim at a health expenditure of at least six per cent of GDP and emphasis for additional funding must be on prevention and health promotion.

There is doubt whether the systems as currently organized can address the consequences of the demographic transition. Perhaps the most ambitious of the recommendations relates to the possibility of a Caribbean wide health insurance that will be needed with the free movement of people. The possibility of more formal sharing of services continues to be raised, but in spite of its logic, it has not been possible to establish such a programme. However, to the extent that some services constitute regional public goods, they are to be supported, the best example being in the field of disease surveillance which is within the mandate of the Caribbean Epidemiology Centre.

The report addresses the issue of aggregate returns to investment in health in Foreign Direct Investment and tourism and produces preliminary data of the positive impact of such investment. A major caveat is that these econometric studies have to be amplified and supported by further research.

The availability of data is a major limitation to any report that deals with health and its relation to other sectors. There is no uniform system for collecting health data and to our surprise there were similar deficiencies in other sectors to which the authors of the working papers turned for data.

The 'common currency' of public health analysis has always been national mortality data. Several basic requirements must be met before vital records can serve as effective guides to public health policy, and the inability to satisfy these requirements severely limits the value of mortality data as the basis for comparative analyses. First, complete and timely counts of the number of deaths and the population are required. Second, the cause of death that is assigned must be reasonably consistent and accurate. Third, the registration processes must be stable over time so that a reliable time series can be constructed. The extent to which these conditions can be met for all countries in the Caribbean is an unsettled matter.

One of the few objective quality control measures that can be applied to published vital statistics is the consistency of the trends over time and many of the data sets in the Caribbean fail in this regard. There is significant under reporting and the problem of accurate death certification is a chronic one. A precise description of the current situation is complemented in most instances by the ability to forecast significant trends. The historical experience in other countries of the world

can provide a general framework about what to expect, but predictions of trends can only rely on past experience, usually the preceding 10–15 years. It is in this area that the Caribbean data resources are particularly lacking and much greater attention will be required before a robust system will be available. Highlighting the limitations of vital statistics data from the Caribbean is not intended to imply that the situation is hopeless or that no conclusions can be reached. Indeed, vital statistics are subject to major limitations in all social contexts including in the US, Canada and Western Europe.

There is considerable variation among countries as to the frequency of social surveys which will allow analysis of trends. Jamaica has been unique with regard to the consistency and frequency of social surveys. But even in this case, the inclusion of questions relevant to health and health services can be improved. This is one area to which the Caribbean must give attention as a matter of urgency.

According to Martin Luther King, 'the time is always right to do the right thing'. The Heads of Government have given us the right time. The right thing for Caribbean health is to face squarely the mega problems in health which have this dimension because of the social and economic consequences. Failure to tackle with urgency the problems of obesity and its co-morbidities is storing up untold problems, not only for the health sector and thus they must be addressed by genuine intersectoral action driven from the highest levels of government. HIV/AIDS has attracted attention, but the epidemic has not plateaued and there has to be sustained and greater action to deal with it. They must strengthen the public health as well as the health services infrastructure and must improve considerably the current limited surveillance and data collection systems.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations for the chapters for which they were elaborated can be found in appendix C.

NEXT STEPS

The report is designed for the Heads of Government and the COHSOD. But if the recommendations are to be optimally effective, they have to find echo with a wider range of stakeholders, with emphasis on the media and the general public. It is therefore necessary that not only should the Working Papers be available, preferably in electronic form, but a synthesis of the report must be prepared for more general consumption and widely disseminated and discussed.

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Appendix

WORKING PAPERS

The following Working Papers were prepared for the Commission

Caribbean Health Situation Analysis
Kam Mung, C. James Hospedales

Cardiovascular Diseases and Cancer
Terrence Forrester, Abdullahi Abdulkadri, Stanley Lalta, Collette Cunningham-Myrie, Richard Cooper

The HIV/AIDS Epidemic in the Caribbean
Bilali Camara

Capacity of the Health Services
Sam Aymer

Public Policy to control Obesity in the Caribbean
Fitzroy J Henry

Morbidity and Mortality from External Causes as Obstacles to Development
Elsie Le Franc, Dillon Alleyne

The Economic Development and Financing of Health Services in the Caribbean
Stanley Lalta, Marilyn Entwistle, Ruben Suarez, Robert Brohim

The Impact of Health Investment on Foreign Direct Investment and Tourism in the Caribbean
Nigel Gaines, Karl Theodore

Assessing the export of nurses as a diversification option for CARICOM economies
Clive Thomas, Roger Hosein, Jean Yan

HIV/AIDS; Economic prospects for the Caribbean
Karl Theodore, Althea La Foucade, Ewan Scott, Vyjanti Beharry

Health and Poverty
Kairi Consultants

Terms of Reference of Commissioners

1. To establish a policy framework that will assist the CARICOM Member Countries in structuring their health and development agendas
2. Produce evidence of aggregate returns to investment in health in such areas as foreign direct investment, tourism and trade.
3. Identify the economic and other social returns to be derived from investment in interventions that address principally the health priorities that arise from the Nassau Declaration
4. Identify the economic consequences of the demographic/epidemiological changes in the Caribbean on the health systems, their costs and operations
5. Estimate the economic and social benefits to be derived from ensuring high level of health coverage for the poor or specific programs targeted to that specific group

NB: The final product of the Commission's work would be a report to be presented to COHSOD and the Heads of Government. This report will be informed by the Working Papers and the various consultations to be held.

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Conclusions and Recommendations

HEALTH INVESTMENT AND ECONOMIC GROWTH

CONCLUSIONS

- The arguments are put for regarding health as a productive asset and not only of value because it is intrinsically good
- The channels of the health to wealth link are explored with emphasis on the importance of human capital
- On the basis of the analysis and in spite of the data limitations it can be concluded that health expenditure has a significant impact on FDI flows, in the case of Trinidad and Tobago, and on activity in the tourism sector of Barbados. These impacts are not only significant but are also positive.
- The empirical analyses presented represent the experience of Trinidad and Tobago and Barbados only. Nevertheless, these results suggest that until the evidence of the similar economies in the Caribbean tells us otherwise, it may be prudent for all policy makers in the region to consider the results as speaking to the entire region.
- The state of health and especially that of the environment is important for the attractiveness of the tourism product.
- The returns to health tourism could be great if the region addresses seriously the barriers that now exist.

RECOMMENDATIONS

- This line of analysis must be continued to include other variables. It should be possible to test whether the influence of health on these two sectors is as or more robust than other variables that are traditionally linked to economic growth.
- The analysis must be strengthened both by the use of alternative estimation methods and by an extension to a wider set of Caribbean countries using a better set of health investment data and longer time series.
- Policy advisers and planners must be more cognizant of the economic returns to health especially in situations where there are competing valid claims for scarce budgetary resources.
- The region must recognize the impact of the health and health safety considerations on the attractiveness of the tourism product and factor these into its design and promotion.
- The region must pay urgent attention to removing the barriers to the growth of health tourism which could represent a significant revenue stream.

NONCOMMUNICABLE DISEASES AND MENTAL HEALTH

CONCLUSIONS

- Based on the data that is available for the Caribbean as a whole, CVD is by far the leading cause of death, with stroke, CHD and diabetes being comparable; in Barbados

and Trinidad CHD has become a major problem.

- Although cancer comprises a small proportion of the mortality burden, relative to industrialized countries, the absolute burden is similar.
- Formal cost of illness calculations that capture all major conditions cannot be performed at the present time, but indicative exercises as in this paper are feasible and demonstrate the potentially enormous costs of the NCDs
- Effective medical therapy for CVD in the primary care setting is feasible and could substantially reduce the CVD burden in the near-term. However primary prevention through controlling the known risk factors has to be the principal approach.
- Current data systems lack adequate precision to serve as measures of overall mortality and cause-specific mortality in most Caribbean countries. Vital statistics by themselves cannot characterize the NCD burden in the smaller countries; substantial biases are known to exist in Jamaica; Barbados and Trinidad appear to have more complete data.
- The data on mental illness for Jamaica show the magnitude of the problem with depression and schizophrenia and the enormous costs of the illnesses.

RECOMMENDATIONS

- The proposed strategic plan for the control of noncommunicable diseases as was mandated in the Nassau Declaration must be supported and funded.
- There must be improved case management of the NCDs, especially at the primary level.
- The long term solution to the problem of the NCDs does not lie in more aggressive therapy of established disease, but in primary prevention with changes in the policy environment, placing emphasis on weight control, reduced fat and increased fruits and vegetables in the diet, elimination of tobacco use and increased physical activity. Those countries which have not embraced the health promotion strategies as set out in the Caribbean Charter should do so. Best practices should be shared.
- Behavioural and environmental change is critical for preventing and controlling non-communicable diseases, therefore the Caribbean must establish systems for surveillance of the behavioural risks at the population level to support planning and evaluation of the policies that must be introduced.
- The programmes for cancer prevention should focus on the preventable behavioral and environmental factors that account for the majority of cancers of the lung, breast, cervix and colon.
- The paucity of Caribbean data for mental illness indicates the attention to be given to this area of health. It is not possible to suggest recommendations based only on the situation for two conditions in Jamaica, but the mandate of the Heads of Government to develop a regional plan for mental health must be pursued vigorously.

OBESITY

CONCLUSIONS

- There are no data for the cost of obesity per se to the Caribbean economy, but the direct and indirect costs of the co-morbid conditions such as diabetes mellitus are likely to be in excess of one billion US dollars annually.
- Unchecked, obesity in the Caribbean will soon reach proportions which are uncontrollable. Rolling back this increase in the Caribbean requires much more than the traditional passive approach that relied almost entirely on education for individual behavioural change. The traditional models of obesity control have generally failed

globally and a new public policy approach needs to be instituted to attack this epidemic in a multi-sectoral way.

- Effective control of obesity will require a shift away from the traditional focus on clinical management and individual behaviour change towards strategies which deal with the environment in which such behaviours occur. The successful challenge to obesity therefore lies not in medical interventions at the individual level, but in the public policy domain which can create the environment for individual behaviour change.
- There is growing demand for high calorie energy-dense convenient foods and inappropriate food consumption patterns are linked to inadequate domestic production and marketing of fruits and vegetables.
- The global food market is controlled by a small number of companies that operate a system that delivers cheap food to countries. This cheap food comes with a hidden cost in terms of the health consequences. Food policy must be applied upstream and cannot ignore issues about food supply because this influences the food chain and the food choices of the individual and communities. Of course the local food market is not blameless as it also promotes the consumption of obesigenic foods.
- There appears to be increased sedentarism with consequent decreased energy expenditure. Physical activity is critical in its own right and not only in terms of weight control.
- The obesity challenge is formidable but the success with other health challenges for example tobacco, seatbelts and breastfeeding, gives confidence that similar strategies which target environment and population policies can generate the social change needed to establish the multiple approaches to decreasing energy intake and increasing energy output.
- Vital to the success of this approach will be the participation of health officials, educators, legislators, businesses and planners in various health promoting actions. The prevention of obesity will need a concerted effort on the part of policy makers, the private sector, health care workers and the public itself.
- It is urgent that the Caribbean governments and not only the health sector appreciate the significance of the epidemic of obesity and the magnitude of its consequences in social and economic terms.
- The governments should develop the strategies and activities to implement the policy options set out above, using an approach similar to that adopted for another problem of great magnitude — HIV/AIDS. The consequences are no less severe.
- Particular attention should be paid to the need to reorient agricultural, trade and other relevant policies such that the Caribbean is less exposed to the flood of energy dense obesigenic foods and ensure the intersectoral actions needed to ensure the availability of healthy foods at affordable prices.
- While all the policy options merit consideration, special attention must be paid to facilitating increase in physical activity by all groups. Reintroducing appropriate physical education in schools and designing secure areas for public physical activity are particularly important.

HIV/AIDS

CONCLUSIONS

- The prevalence of HIV/AIDS in the Caribbean is second only to that found in sub-Saharan Africa.
- Many social and cultural factors contribute to the spread of the disease including an environment of stigma and discrimination against people living with HIV/AIDS and other vulnerable groups.

- The most prominent determinants of HIV infection relate to economic and social vulnerability, sexuality, early sexual initiation and multiple partnering. The gender imbalance that exists puts women and particularly young girls at risk.
- There is uncertainty about the exact number of persons living with HIV, but the estimated number is about half million in the wider Caribbean and 20 per cent of these are in the CARICOM countries.
- The annual reported HIV case rates are three to six times higher in women 15–24 years old than in men in the same age group.
- Men who have sex with men (MSM), female and male sex workers, mobile populations, and young people are the groups that report the highest prevalence rates.
- The profiles in selected countries demonstrate the success that can be achieved with a well structured programme and programming approaches that are critical for the control of the epidemic are outlined.
- Although the actual and precise extent of the impact is debatable, there is agreement that HIV/AIDS impacts negatively on the economies of the Caribbean principally by the reduction in the quantity and quality of the human capital.
- The case is made that the Caribbean economies can sustain and support a comprehensive programme to control the epidemic.
- Political will exists and it is well understood that the expanded response to the epidemic is the recommended approach to prevent its spread and mitigate its impact on individuals and communities.
- Prevention, care and treatment are two sides of the same coin and should be promoted and implemented with the same emphasis if the Caribbean is to reverse the HIV/AIDS epidemic.

RECOMMENDATIONS

- The leadership shown so far at the highest levels, especially the political level should be strengthened to ensure that the national response to the epidemic is strong, multisectoral and expanded.
- Issues related to human rights and gender are critical in the fight against HIV/AIDS and should be addressed through a range of anti-stigma and anti-discrimination efforts (policies and legislation) and gender equity initiatives at the highest levels in each country through application of a Health Promotion approach.
- PLWHA and vulnerable groups should be fully incorporated into the planning and programming process at national and regional levels.
- The country level management should be strengthened in order to scale up the programmatic response on prevention and treatment and to monitor the progress made with regards to the commitments made to fight the epidemic, and the impact achieved by national HIV/AIDS prevention and control programmes.
- The regional institutional partnerships, especially PANCAP should be supported in their coordinating, policy making, and resource mobilization roles.
- Economic analysis at the micro and macro levels is needed to measure the impact not only of the epidemic but of prevention and control approaches.
- Success stories documented in the Caribbean and the rest of the world should be adapted locally and replicated.
- Bilateral and multilateral commitment to the battle against HIV/AIDS in the Caribbean should be long term and sustained.

MORTALITY AND MORBIDITY FROM EXTERNAL CAUSES INCLUDING INJURIES

CONCLUSIONS

- Increasing concern about the rising levels of intentional violence and injury — globally, as well as in the Caribbean — is very easily justified. When their contribution to premature mortality, the years of potential life lost and the overall disease burden is calculated they appear in the top ten causes of mortality and morbidity and in the Caribbean they emerge as one of the top three causes of mortality and morbidity and must be regarded as a public health problem.
- The groups bearing the biggest burdens are the young; that is, those aged 15–44 years. They make up the largest percentage of the victims, as well as the perpetrators. Since individuals in this age group are also those in the prime working years, it might also be expected that the toll on the society in terms of the losses brought about in the levels of production, productivity and investment will be great.
- Violence is more common in urban areas and tends to be perpetrated among people who know each other.
- Calculations of the effect of violence and injury on the economy and its development are relatively recent. Analyses have been affected by continuing uncertainties about what is to be measured, how it should be measured, and how best to ensure comparability across time and space.
- Estimates of direct costs plus a limited number of indirect costs in Jamaica have yielded estimates that violence and injury can account for up to one per cent of GDP. This must be seen as a very conservative and lower boundary; were it possible to incorporate the full gamut of direct and indirect costs it can be expected that this proportion would significantly increase.

RECOMMENDATIONS

- Cost-benefit analyses, as well as assessments and evaluations of preventive measures must be conducted in an environment in which there are much better data than those which currently exist. The Caribbean must improve the systems for surveillance of the pattern, distribution and costs of injuries and the impact of such interventions as are applied. Only one or two Caribbean countries have begun to put in place injury surveillance systems that can permit the monitoring of trends over time.
- Policies in place that regulate such actions as use of seatbelts should be enforced where they exist or established where they do not. In general, there must be better enforcement of traffic regulations.
- The Caribbean countries should create incentives and disincentives for the private sector as well as the insurance industry with regard to vehicular accidents
- Policies that strengthen programmes which foster life skills, including conflict and anger management especially for the young should be implemented or strengthened.

ORGANIZATION OF THE HEALTH SYSTEMS

CONCLUSIONS

- The countries examined had a health plan with varying degrees of specificity, but in most instances, there is little evidence that these plans have been elaborated with the participation of a wide range of stakeholders.
- The weakness of information systems and the deployment of information technology is a common feature and there was weakness in the manner in which evidence for policy was organized and brought to the loci of decision making.
- Decentralization is seen as highly desirable, but difficulties, especially in the area of human resource management and clear

definition of the steering role of the ministry have not been solved in many cases.

- Executive agencies have been created in one country and this approach needs to be followed carefully.
- One of the problems in the decentralization has been the weakness in the linkages between the levels of care and the lack of resources at the primary level, forcing the public to attend at the secondary level or seek private care There are however examples of successful creation of functional primary care units.
- There was frequent if not universal concern with human resource management, with identified problems in the areas of lack of appropriate performance appraisal systems; movement of technical staff within the public service, often with detriment to the ministry of health and other technical ministries and the lack of career paths and planning.
- Programme budgeting would appear to be the better system for the countries examined, even given the precarious nature of resource flows.
- The services have done well in terms of the prevention of the classical communicable diseases and attending to the basic problems of the child, but with a few exceptions, are not equipped to deal with the changing epidemiological profile of the Caribbean and to focus on wellness and health promotion in addition to disease prevention.
- Several countries lacked an up-to-date legislative framework as a basis for regulating the health sector.
- Equipment and plant maintenance continue to pose problems
- There are deficiencies in the exercise of many of the essential public health functions and in particular the areas of quality assurance and public health research and surveillance systems must be added to these latter as the prototypical regional public goods.

RECOMMENDATIONS

- In any refashioning of the health systems, special attention must be paid to developing simple but adequate information systems that should feed regular reports on the state of health, introducing appropriate information technology and creating sectoral planning units where they do not exist.
- The Caribbean must address seriously the further training in public health and the creation of strong public health leadership as well as examine reintroducing the nurse practitioner category of health worker.
- Programme budgeting should be the norm in the ministries of health.
- Countries need to update their health legislation.
- There should be a mechanism for collecting and collating evidence for policy formation.
- All governments should examine the areas of deficiency in their health systems as shown by the analysis of the essential public health functions, paying special attention to quality assurance, research and development and surveillance, especially strengthening the Caribbean agencies which deal with these.

THE ECONOMICS OF THE 'EXPORT' OF NURSING SERVICES

CONCLUSIONS

- There is a shortage of nurses in the industrialized countries, and this is marked in the three markets to which the nurses from the Caribbean are attracted that is the USA, the UK and Canada. It is estimated for example that by the year 2020 there will be between 800,000 and one million vacancies for nurses in the USA alone. CARICOM nurses have an advantage in the major markets because of language and physical proximity. The factors leading to a global shortage of nurses include the aging

of the population in the industrialized countries, the increasing career opportunities for young women and the shortage of training personnel.

- The CARICOM Ministers of Health have called for a 'managed migration' strategy, given the fact that migration has in part been responsible for the very high vacancy rate for nurses (up to 35 per cent), an estimated loss of revenue of about US$17 million through migration of nurses whose basic training was paid for by the state and the aggressive recruitment of nurses by industrialized countries.
- There is a range of 'push' and 'pull' factors that influence the migration of CARICOM nurses and although economics is important, this is not the sole or in many cases the most important factor. Poor working conditions and limited career mobility contribute also to the push. Among the 'pull' factors are the converse of the push factors as well as the opportunity to send remittances home.
- The export of nursing services must be seen in the context of the WTO–GATS arrangements and may be a special case of the Mode 4 mode of supply which covers movement of natural persons associated with the particular service.
- Mode 4 trade in nursing services cannot be conflated into nurses' permanent migration. The individual choices nurses make cannot be superseded by external control. Nurses would trade their services on a voluntary basis in a Mode 4 arrangement and thereby continue to take responsibility for their lifelong work preferences and therefore under this Mode there is no guarantee of a job on re-entry.
- While we can learn from the international experiences highlighted here, none of these can be simply copied in the region. Indeed the two approaches of FDI-led development of export capacity for nursing services and laissez-faire have limitations, which we believe form the basis for the current concern to devise an appropriate strategy. This would take account of the international experience of the various approaches tried, the reality and prospects for the arrangements with the WTO and the interests of the various stakeholders. These stakeholders would include the nurses themselves, the source countries, as well as the countries of destination. Such an approach would increase the possibility of an arrangement that might be beneficial or at least satisfactory in terms of Caribbean needs.
- The temptation is for the region to do nothing and to sit on the benefits it has already gained from on-going bilateral arrangements, and not seek to run the risk of having these multilateralized. The danger here is that each country competes with the other, with the attendant risk of selling the benefits they have at bargain basement prices. There is the additional risk of having to separately contend with quid pro quo requests during services liberalization from the destination countries to which our nurses migrate.
- A pre-commitment mechanism for nurses who are trained at public expense and allowed to participate in a 'managed migration programme' is reasonable and just, and consistent with WTO–GATS provisions. Because of the economic rent involved, the willingness to pay as well as the ability to pay are there. The shift to private financing of training costs is therefore consistent with equity. The consequences of introducing this approach would have to be considered carefully, given the history of training and the need for nurses in the services.
- The status of bilateral arrangements already in place will be eventually multilateralized, or with the coming of the FTAA shifted to a hemispheric basis. The region cannot hold on to these 'bilateral benefits' indefinitely, even though we believe that the present

economic uncertainty and post 9/11 security concerns would make destination countries more comfortable with known and long standing source countries.

RECOMMENDATIONS

- The programme of 'managed migration' as proposed by the Ministers of Health should be reformulated especially in discussions with the RNM to take account of the potential and the realities of the Mode 4 form of supply. Any such programme must deal with the 'push' and 'pull' factors outlined.
- Movement of this category of services must be examined by CARICOM, the RNM and other interested parties, as the region cannot retain the bilateral arrangements indefinitely and must be prepared for the inevitable multilateralization.
- The Caribbean must be clear on its policy on training nurses and exporting nursing services, making the clear distinction between a programme of temporary migration under the Mode 4 of GATS and the possibility of expanding training and considering these resources as an exportable commodity that may result in permanent migration. In the case of the latter, there should be efforts to attract the necessary foreign investment to take advantage of the excess training capacity which exists or to expand that capacity.

HEALTH FINANCING

CONCLUSIONS

- The financing of health services is a challenge for all Caribbean countries, raising questions on aspects such as the quantum, distribution and source of the resources applied, the efficacy of their application, the coverage of populations which need it and the role of the various sectors in supplying services.
- The analysis has suggested a continued critical role for the public sector in financing and management of health services to ensure adequate funds, access, and quality. To strengthen and enhance its capacity for this leading role and to ensure that health financing can address health needs effectively and sustainably, strategic actions are necessary in three areas — scaling up coverage and expenditure; generating and maximizing revenue; and changes in the quality (efficiency and equity) of spending. Given the diversity of starting points and resource constraints (financial, human and infrastructural) among countries, the health financing challenges will vary — some would need to pay more attention to mobilizing resources while others would need to concentrate on changes in the quality of spending.
- Total health expenditure per caput varied widely from US$50 (PPP$362) in Guyana to US$1,069 (PPP$ 1124) in The Bahamas as reported in 2001. Total health expenditure as a percentage GDP ranged from 4.9 per cent in Saint Lucia to 7.8 per cent in Barbados and 9.4 per cent in Surinam with an average of 6.2 per cent. Hospital-based services accounted for the great majority of the government health expenditure and in the public sector; personnel costs represent 60–70 per cent of the budget. There is a general growth of private sector involvement in the provision of services. Total health expenditure as a percentage of GDP is more sensitive to the organizational structure for delivering services and the method of health financing than to the wealth of the country.
- User fees are the commonest of the schemes for supplementary financing mechanisms. There is considerable doubt as to whether this practice is not regressive and militates against the interests of the poor who need

the public services most. It is doubtful whether the additional revenue generated counteracts the otherwise negative effects. User charges will continue to be problematic, but if and when they are used, perhaps the charges for preventive care services must be limited and attention focused on under-utilized sources such as charges for registration of drugs, private health facilities, pesticides and dangerous chemicals as well as fees for inspection and certification of food establishments, poultry and animal farms, slaughter houses and other services covered under the public health regulations.

- Increasing levies/excise taxes on tobacco and alcohol products may represent a way to generate revenue.
- The poor are disadvantaged in that they have more days of illness and impairment, but are less likely to seek care and demand services. Detailed data from Jamaica shows significant gaps in coverage.
- Countries have introduced various schemes for health management and purchasing which seem to target more the needs of the chronic noncommunicable diseases and more recently drugs for HIV/AIDS.
- Many countries have contemplated some form of national health insurance that would provide universal coverage and has a stable source of financing, but so far only three Caribbean countries have such a scheme although there is universal agreement as to its desirability. Any such scheme represents a major social, political and health financing initiative. The size of the risk pools in small countries may point towards multi-country schemes.

RECOMMENDATIONS

- The Caribbean countries must examine the degree to which there are unmet needs and gaps in coverage with a view to scaling up coverage and public expenditure. Additional expenditure should be preferentially directed to the primary level and to programs that benefit the poor. Efforts to scale up coverage must involve research to deepen local knowledge of the nature and dimensions of gaps in coverage of services (access to care by different groups) and cost of interventions. The health investment plans to expand coverage must take account of the need for support services and systems and must also include such critical areas as HIV/AIDS and health promotion. Given the epidemiological profile and other challenges, Caribbean countries should target expenditures on health systems and services of at least six per cent of GDP.
- In the attempt to generate and maximize revenue, there should be careful examination of the extent to which user fees are charged even though on the face of it they contribute to the budget for public expenditure. They are regressive and disadvantage the poor. More attention should be paid to mobilizing resources from activities of the public health inspectorate and from strategic public-private partnerships.
- The countries should examine the universal insurance plans which exist or are in train, with the ultimate aim of a portable Caribbean wide health insurance which is desirable, especially in the face of the imminent free movement of people throughout the region. As an initial aspect of universality of insurance, there should be at a minimum the provision of an essential package of services universally available, the essentials of which will vary little, given the similarity of the epidemiological profiles.
- Given their importance in enhancing health in the region, Caribbean countries should allocate funds for scaling up initiatives in relation to national and regional public health goods such as surveillance systems, standards and regulations, research and sharing of best practices.

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