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# The globalization of the health-care industry: opportunities for the Caribbean

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The globalization of the health-care industry is proceeding. It is being driven by the high cost of health care in the developed countries, compounded by the steep rise in demand for health care as a result of the ageing of populations in these countries and the increasing availability of health-care services in developing countries at less expensive rates than in developed countries. Increasingly, patients are sourcing health care globally and opting for the most affordable treatment. In a growing number of fields of treatment, the most cost-effective option is travelling to a developing country. The provision of health care has significant potential for those developing countries that can provide world-class services and facilities at internationally competitive prices. The proximity of the Caribbean to the United States gives it an additional advantage in meeting the rapidly growing demand for health care originating in that country.

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# I

## Introduction

This article discusses the globalization of the health-care industry and points out the opportunities that this process has created for some developing countries. The gravamen of the argument is that globalization is transforming the worldwide health-care industry into a globally integrated industry with features similar to other global industries and services. The transformation of the health-care sector will entail the continued consolidation of the private segment of this industry in developed countries and the global dispersal of private medical facilities in response to cost differentials, in particular human-resource costs. This process of geographic dispersal creates opportunities for some developing countries.

These opportunities arise from the movement of health-care providers and facilities to less costly locations and the growing willingness of patients to go abroad for more affordable treatment. As costs continue to rise in the developed countries for a variety of reasons, ranging

from malpractice insurance to the shortage of nurses, the outsourcing of health-care provision will become more pronounced, giving rise to an “off-shore” health-care industry. This is an opportunity for developing countries that are suitably prepared to export health services to developed countries, especially those with internationally-acceptable quality health-care systems and close physical proximity to developed countries.

The argument is developed in the following sections. The main features of globalization are outlined in section II. An overview of the health-care industry is presented in section III, applying the framework employed in the section on globalization. The factors influencing the globalization of the health-care industry are set out in section IV and the driving forces and the barriers and constraints are identified. In section V, the pattern of globalization of health care is described setting the context for understanding the opportunities for developing countries, which are discussed in section VI.

# II

## The main features of globalization

Globalization is rapidly transforming in profound ways all aspects of national and global activities and interactions. The pace, character and extent of the economic, social and political aspects of globalization may vary across sectors and local circumstances but the economic thrust of this phenomenon is the erosion or elimination of national barriers to the international flow of goods, services, capital, finance and information. Some of the features of the globalization process are outlined below.

**Globalization has proceeded very rapidly** in recent years as is evident in the accelerating growth of international trade and capital flows. In the second half of the twentieth century, the rate of growth of world trade exceeded that of output (WTO, 2000a). During the period 1950-1994, world trade (in volume terms) expanded 1.6 times faster than world production, outstripping world production at an increasing rate, moving from 1.2 during the 1970s to 2.8 in the 1980s (Dicken, 1998). World output grew by 2.7% between 1981 and 1990, compared with a growth rate of 4.5% per annum for world trade (World Bank, 2002). Between 1991 and 2000, world GDP increased by 2.6% per annum, while world merchandise trade grew by approximately 7.0% per annum. The ratio of world trade in goods and services to output now stands at 22%, up from 7% in 1950 (WTO, 2001a). From the mid-1960s to the mid-1990s, flows of foreign direct

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investment grew at rates that exceeded the growth rates of international trade and world output (United Nations, 1994).

**Competition in global markets has intensified** among firms and countries as the world economy has become more integrated. The implication of global competition is that even goods and services that are produced and exchanged within the national markets have to meet standards of quality and compete with costs of production available globally. The fusion of computer technology with telecommunications makes it possible for firms to relocate an ever-widening range of operations and functions to wherever cost-competitive labour, assets and infrastructure are available. These technological developments have transformed organization structures, the nature of work, and the character of products, production techniques and international marketing.

As globalization proceeds **economic units are becoming larger**, as is evident from the enlargement of multinational corporations, and the integration of national economies to form regional economic or trade blocks (Bernal, 1997). These blocs are a prominent feature of the world economy, both in terms of the share of the world trade they encompass and the number of countries that participate in them. It is estimated that they are responsible for a half to two thirds of world trade (WTO, 1995; Carnegie Endowment for International Peace, 1997).

Multinational corporations (MNCs) now account for about a third of world output and a significant share of world trade. They also account for half of world trade in goods (Vernon, 1998), and 80% of the world's land cultivated for export crops (Stopford and Strange, 1991). Their dominance is also evident in the value of foreign assets they control, the volume of foreign sales and size of foreign employment (United Nations, 1998).

The trend towards enlargement of corporate entities and the dominance of the multinational corporation is likely to continue. Estimates of the share of cross-border mergers and acquisitions in world foreign direct investment vary between 76% (Barba Navaretti and Venables, 2004) and 83% (United Nations, 2000); in the European Union, mergers and acquisitions account for over 75% of foreign investment flows (Ietto-Gilles, Mexchi and Simonetti, 2000).

**Services are the fastest growing component of the world economy**; indeed during the 1990s services exports of developing countries grew more rapidly than exports of manufactured goods (World

Bank, 2001). The average annual growth in trade in services between 1990 and 2000 was 7%, compared with 6% for merchandise trade (WTO, 2003).<sup>1</sup> The overall share of services in total trade was 22.2% in 1993 (up from 17% in 1980), and service industries accounted for 50% to 60% of total foreign direct investment flows (World Bank, 1995; United Nations, 2001). Furthermore, services account for 65% of GDP in high-income countries and between 38% of GDP in low-income countries (World Bank, 2000).

The increasing globalization of economic transactions and activities has been facilitated and in some instances promoted by the rapid development of **new information, communications and manufacturing technologies**. The new developments in information-processing, and telecommunications facilitate globalization by reducing the costs resulting from distance, the importance of location and the advantages of large size. The use of electronic technology has altered fundamentally the conduct of financial services, telecommunications, entertainment and various other services and is projected to grow exponentially (WTO, 1998).

As regards **governance**, the process of globalization involves the coalescing of national markets into global markets. For example, the global financial architecture has been transformed from one constituted by nation-States with some transnational links to a predominantly global system in which some residual local differences in markets, institutions, and regulations persist as vestiges of a bygone era. The capability of governments to manage their economies is increasingly constrained by multilateral organizations, multinational corporations and transnational financial institutions, which increasingly wield economic and political influence that is global in scope (Strange, 1996; Korten, 1995).

The policy autonomy of the nation-State is also weakened by the prominence of multinational corporations, which, by their global span, internationally linked production and intra-firm trade, transcend the reach of the nation-State. A quarter of world trade consists of intra-firm transactions, that is, taking place within multinational corporations (UNCTAD, 1994) and consequently this substantial portion of world trade and capital movements is beyond the control of governments and insulated from global and national market forces.

<sup>1</sup> For a more in-depth study of the trends, see Maurer and Chauvet (2002).

As regards **the cultural and psychological dimensions of globalization**, availability of information throughout the world via satellite, computers and telecommunications technology have changed irrevocably all aspects of human life. Technological developments in telecommunications and informatics have eliminated

the barriers of distance and time, resulting in the transformation of the world into a single social space. In this milieu there is a greater willingness to live and work all over the world, a growing acceptance of cultural and ethnic diversity and an increasing openness to products and services regardless of origin.

### III

## Global health-care industry

The character, pattern and development of the global health-care industry do not mirror the characteristics and trends of globalization. This is because each good or service has circumstances which are unique to its nature, history and current trends and therefore parallel the features of globalization to varying degrees. Health-care services are produced in a wide variety of situations and hence exhibit both commonalities with and variations from the general features of globalization. For example, the health-care industry is not as globalized as many other activities that generate products and services (Woodward, Drager and others, 2002) nor has the enlargement of firms proceeded to the extent of many other services such as banking.

#### 1. Emerging global nature of the market

The health-care sector in the global economy has remained predominantly segmented into national health-care systems and hence the process of globalization has not progressed as much as in many other services markets. National health-care systems are by and large public-sector-owned and operated by a private sector whose participation varies with the affluence of the particular country. The private sector share of health care in both demand and supply tends to be much higher in developed countries than in developing countries. The countries of the Organisation for Economic Co-operation and Development (OECD) account for most of total world health expenditure indicative of the level of development, higher per capita income and higher share of GDP spent on health care.

Health care has been largely a nationally-based activity; consequently, health-care units have not been prone to the enlargement that is so pronounced in the private sector and particularly at the global level. The national health-care system run by governments

could be construed as a single organization and, unlike the private sector, does not have any impulse to spread beyond national borders and to be involved in strategic cross-border alliances. Similarly, the private sector of these systems displays different tendencies in developed and developing countries. The private medical institutions have exhibited a limited proclivity to merge even nationally, much less internationally. In the United States, however, there has been a growing merger movement among hospitals prompted by rationalization and consolidation. Developments in the United States may portend the future trend in the ownership and operation of private medical facilities. While there is not a worldwide tendency for units in the health-care sector to enlarge or to become transnational in scope, institutions in the United States could pioneer the emergence of transnational institutions.

The growth of health-care expenditure has been extremely uneven with the vast majority of funds being spent by developed country governments and citizens and almost exclusively in developed countries. In contrast the minuscule percentage of global health-care expenditure, which developing countries account for, is a reflection of demand, constrained by low-incomes and inadequate supply of modern medical facilities, equipment and services. Indeed, affluent citizens in developing countries often seek medical treatment in developed countries in particular, for specialized treatment such as that offered by the Mayo Clinic and the Johns Hopkins University Executive Medical Program.

#### 2. Embryonic international competition

There is no evidence of intense competition in the global health-care industry because the market for health-care services has not yet become truly global

in character. The intensification of competition which generally accompanies the increasing dominance of the global market is not a major factor influencing national health-care systems. At the high-income end of the market and in certain specializations a limited number of institutions in developed countries have achieved global reputations as leaders and the demand for their services emanates from all over the world.

### 3. Nascent enlargement

While the health insurance entities, hospitals and health-care providers in the private sector of developed countries have experienced consolidation and mergers, there are few genuine multinational corporations in this sector. This is largely because of the significant differences in national regulatory regimes, which have inhibited the global expansion of corporations that are sufficiently large to marshal the necessary human and financial resources to undertake such ventures abroad. The global spread of health-care corporations is likely to take place first in jurisdictions where there has been a standardization of regulations among a group of companies and points of entry will be those countries that make it relatively easy for foreign health-care providers to establish and operate. However, several multinational corporations involved in manufacturing pharmaceutical and medical supplies have well-established distribution networks in developing countries.

Many developing countries, particularly in Latin America and Asia have significant private medical sectors. A substantial number of hospitals and other health facilities are privately owned and even in low-income countries more than half of basic health services are provided by private practitioners. Several United States multinational corporations including Aetna, American Insurance Group, CIGNA and Prudential are operating in Latin America. They entered the market in the 1990s by acquiring through purchase or joint venture local companies that provide pre-paid health plans and indemnity insurance (UNDP, 2003). Consortia of corporations and strategic corporate alliances are beginning to emerge; for example, the Apollo hospital group is building 15 hospitals in Malaysia, Nepal and Sri Lanka. The Parkway Group of Singapore, which owns hospitals in the United Kingdom and Asia, has partnered with firms in Indonesia, Malaysia, Sri Lanka and the United Kingdom to form Gleneagles International to operate an international chain of hospitals (Chanda, 2002).

### 4. Growth of health-care services

Global expenditure on health care in 2005 is estimated to have amounted to US\$ 4 trillion (UNCTAD, 1997), with OECD countries accounting for most of this expenditure (WHO, 2002). Spending on health care ranges from 14% of GDP in the United States to 1%-5% of GDP in developing countries, with the OECD countries spending 8% of GDP (Zarrilli and Kinnon, 1998). Per capita expenditure on health exhibits similar disparities ranging from \$16 in low-income countries to \$2,300 in high-income countries.

Despite rapid globalization, particularly in services, there is limited international trade in health-care services and transborder activity in health care. Most of the international exchange of health-care services consists of purchase of services in developed countries by persons travelling to those countries for treatment. The growth of international trade in health services is accelerating. Cross-border delivery is now worth \$140 billion (World Bank, 2005) and is projected to grow at 6% per annum.

Some institutions in developed countries have begun to market their services and facilities internationally thereby boosting the global market. Johns Hopkins and the Mayo Clinics have achieved remarkable growth in foreign patients since they started marketing internationally in the 1990s (Freudenheim, 1996). Referral hospitals in the United States (e.g. Sloane-Kettering) are institutions of worldwide renown and have an international clientele. A growing number of less prestigious United States hospitals, in an effort to utilize their capacity to the full, have contracts with foreign firms, public sector institutions and trade unions throughout Latin America and the Caribbean (Warner, 1998). An interesting new trend is the movement of consumers in the developed countries to developing countries because they can access treatment, which is less expensive than in their home countries.<sup>2</sup> Another reason for seeking treatment abroad is to avoid extended waiting periods in national health systems and because in some cases they cannot afford private health care (Lunn, 2006). Increasingly, health care and tourism are being combined and have been labelled "sun, sea and surgery" (Prosser, 2006; Sankaranarayanan, 2005).

<sup>2</sup> For example, British citizens have traveled to Spain, Turkey, Eastern Europe and India to avail themselves of medical and dental services at prices which are as much as 50% lower than in Britain.

## 5. Technology

The health-care sector continues to produce new technologies which complement and enhance but do not replace human skills; for example, computers and lasers have not replaced human beings but improved the efficacy of medical practitioners and simplified the task of care givers. Developments in communications technology have led to the emergence and growth of telemedicine, which developed initially in national markets, but is increasingly international in scope. Telemedicine has helped to improve the practice of medicine in both diagnostics and treatment. Developing countries are turning increasingly to telemedicine to supplement and upgrade their capability at relatively inexpensive cost.

## 6. Governance

Health-care systems are predominantly national and in most cases government is the principal health-care provider and the regulator of the laws governing the health-care system. Naturally the role of the private sector in the health-care system reflects the predominant role of government and its health policy. The twentieth century was marked by the rise to prominence of the social and political philosophy that public health was the responsibility of the State and that the State was best able to execute the task of providing health care to all, and if not to all, then at the very least to those who could not afford private medical treatment. This type of thinking reached its zenith in the welfare State, but was also a firm commitment of socialist countries.

Governance of the health-care sector of the global economy is national with increasing international cooperation through multilateral institutions such as

the World Health Organization (WHO) and regional institutions such as the Pan-American Health Organization (PAHO). This cooperation is necessary because of the ease and speed of the spread of diseases from one country to another. In recent years, Governments have increasingly taken cognizance of international health-care standards and participated in, and cooperated on, international health-care issues such as immunization and the control of epidemic disease.

## 7. The cultural and psychological dimension

The health-care sector is far ahead of most industries in the global economy in terms of its multi-ethnic, multicultural character. Notwithstanding the ethics which derive from the "Hippocratic oath", the medical profession was one of the earliest to abandon the notion of national boundaries, as illustrated by the cases of Florence Nightingale and Mary Seacole<sup>3</sup> in the nursing profession and more recently, collaboration in research and the international mobility of doctors and nurses.

The mindset of the profession is global given that its subject matter—illness and mankind—is not confined by national boundaries and there is a willingness to live and work abroad. However, national professional certification of medical personnel and barriers to migration make global mobility extremely difficult. Patients tend to feel more comfortable with medical practitioners from their own culture, society and ethnic background. Indeed, many patients are suspicious of foreign medical practitioners in many cases fearing that they are not properly trained or too unfamiliar with local conditions and ailments. For example, Spanish-speaking Americans of Latino origin living in southern California often prefer to travel to Mexico for medical attention (Arredondo-Vega, 1998).

# IV

## Factors influencing the globalization of health care

The globalization of health care has started, albeit at a much slower pace and to a far lesser extent than many other services, but the process is likely to continue. How this will occur and how quickly will depend on a number of factors of a national and

international character. The principal factors influencing the globalization of health care are of two kinds: first,

<sup>3</sup> See Seacole (1988).

the driving forces impelling the globalization of the industry and secondly, barriers to globalization.

### 1. Driving forces

There are a number of factors which are encouraging the globalization of health care. These include:

#### (a) *Cost differentials*

The cost of providing health care is substantially lower in developing countries than in the developed countries. For example, the cost of coronary bypass surgery in India is 5% of the cost in developed countries and a liver transplant in India costs one-tenth of that in the United States (Gupta, Golder and Mitra, 1998). A magnetic resonance imaging (MRI) scan costs US\$ 60 in India compared with US\$ 700 in New York (Lancaster, 2004). Cardiac by-pass surgery in Trinidad and Tobago is about 50% less expensive than in Boston, United States (World Bank, 1996). Hip resurfacing costs US\$ 5,000 in India compared with US\$21,000 in the United States (Lancaster, 2004). A facelift in the British Virgin Islands is 30% less expensive than in the United States; a 28-day stay for addiction treatment including medical "detoxification" in Antigua is half the cost of a similar treatment in the United States, and many spas in Jamaica and St. Lucia provide comparable services at a lower cost than in Florida, United States (World Bank, 1996).

The cost differentials between developed and developing countries are attributable to various factors as indicated below:

- (i) Salary and wage differences are substantial. For example, a nurse in the Philippines earns the equivalent of about 5% of what he or she would be paid in the United States (Stalker, 2001). A registered nurse in the Washington, DC, area can earn three times as much as his or her counterpart earns in Barbados (CARICOM Secretariat, 2006).
- (ii) The cost of malpractice insurance is lower in developing countries than in the United States. It is estimated at \$100,000 in the United States, compared with \$4,000 in India (Lancaster, 2004).
- (iii) The cost of inputs and outsourced services tends to be lower in developing countries because of lower labour costs across all sectors. For example, drugs supplied from outside the developed countries, notably from India, Brazil or from less expensive developed country sources, such as Canada, are much less costly than the equivalent medicine

made in the United States. Part of the high cost of drugs in the United States is the well-documented exorbitant profits made by pharmaceutical companies (Ledogar, 1975; Greider, 2003).

Given the difficulties involved in the temporary movement of health-care professionals between countries and the even more contentious issues that restrict migration, salary and wage differentials between the developed countries and developing countries will remain high for the foreseeable future. The developed countries when faced by severe shortages in certain categories of skilled workers have liberalized conditions of entry to alleviate the shortage in specific sectors. When faced with (i) investment, jobs and capacity in the rapidly growing informatics sector going overseas in search of qualified labour, (ii) increasing international outsourcing of business or (iii) paying higher wages to attract workers away from other occupations, these countries, developed countries have liberalized access for foreign workers. For example, the United States, under pressure from Congress and the computer industry (Pear, 1998), permitted increased entry of qualified foreigners. In 2000, Congress raised the limit on H-1Bs (temporary visas for skilled foreigners) and exempted certain categories of labour from limits (Alvarez, 2000). In 1998, following representations from the private sector, the Government of Canada implemented speedier processing of approval of entry of temporary workers.

In light of the ageing of the population in developed countries, such as the United States, Canada and the United Kingdom, and the implications for stagnation or shrinkage of the workforce (Robson, 2001), further liberalization may be necessary. This is a probable scenario for the health-care sector in the developed countries where the demand for health services, particularly for the aged, is outstripping supply capacity. Already in the British National Health Service, 31% of doctors and 13% of nurses are foreign born and in London, the figure for nurses is 47%. Of the 16,000 new staff recruited in the last decade, half were trained overseas (Stalker, 2001). In the United States, it is estimated that the shortage of nurses in 2004 was 139,000 and the figure is predicted to increase to 275,000 in 2010<sup>4</sup> and 800,000 in 2020.<sup>5</sup>

<sup>4</sup> According to data from the American Nurses Association.

<sup>5</sup> According to data from the United States Department of Health and Human Services.

(b) *Technology*

The countries with lower salaries and wages are developing countries, however, in most cases they do not have as up-to-date and sophisticated equipment as hospitals and health-care facilities in the developed countries. Moreover, they may not have highly specialized institutions dedicated to a single ailment or disease, or in the case of small countries may not have specialists in all fields of medicine. But modern technology can be used to alleviate some of these deficiencies. Indeed, thanks to modern telecommunications and computer technology,<sup>6</sup> telemedicine (Bashur, Sanders and Shanon, 1995; Norris, 2002) enables health centres in developing countries to access the best expertise, cutting-edge technology and research capabilities in the world.<sup>7</sup> It can strengthen examination, diagnosis, treatment, surveillance, therapy and education by expanding access to information and permitting interactive audio, visual and data exchange between medical practitioners at any stage of patient care. Depending on the circumstances and the need, telemedicine uses a variety of modes of transmission including satellite, microwave, digital wireless and the Internet to communicate between physicians, other medical personnel and patients. Some services require live visual transmission, for example, assisted surgery and psychiatric evaluations.

The prospects for growth of telemedicine are very good because the equipment is affordable and its use is relatively inexpensive. The American Telemedicine Association (1999) reports that costs fell very significantly in the second half of the 1990s with improvements in technology, innovations in data compression and reductions in costs of computing and hardware. Telemedicine is also attractive because it obviates the need for the patient to be present in order to consult a specialist. Up to 80% of consultations with specialists do not require the physical presence of the patient and therefore the services of specialists can be sourced globally.

The constraints to the more widespread use of telemedicine are not the costs of equipment or technology but the traditional attitudes of many involved in the conventional delivery of health care and outdated

regulations. Currently governments insist on national registration of all medical practitioners operating within their national jurisdictions. Telemedicine poses a challenge to these national regimes because it allows the practice of medicine across national boundaries. Insurance coverage is also a restraining factor. For example, in the United States, the failure to allow full coverage by Medicare hampers the expansion of telemedicine (American Telemedicine Association, 1999). Telemedicine is well established in Australia, Canada, France, Norway, Japan and the United Kingdom, and in a growing number of developing countries and communist states such as Cuba (Krasnow, 2002).

(c) *Age structure of developed countries*

Over the next 50 years, the global population over 65 years of age will increase by 1 billion, which is estimated to be nearly 50% of total global population growth (Peterson, 1999). A similar decisive demographic shift in population structure in developed countries has already occurred. Approximately 9.2% of the population in these countries was over 65 years old in 1960, with the percentage increasing to 13.3% in 1990 and projected to reach 20.2% in the year 2020 (Peterson, 1999). Between 1960 and 1997 the percentage of the population over 65 years old increased by 169% in Japan, roughly 100% in Greece, Finland, Portugal and Spain, 78% in Italy, 35% in the United Kingdom, 34% in the United States and 31% in France (Rodriguez-Pose, 2002).

Declining fertility rates (Wattenburg, 2004) and improved life expectancy at birth have caused the ageing of the demographic structure, increasing the dependency ratio of the working population. The dramatic increase in the proportion of elderly persons in the population of industrialized countries will also seriously challenge the sustainability of pension systems, health care and economic growth (Stowe England, 2002a and 2002b). The countries most affected by population ageing account for two-thirds of world output and therefore a slowdown in these countries will adversely affect the global economy (Center for Strategic International Studies, 2002).

The high cost of health care in the developed countries makes it cheaper for individuals to travel to developing countries for treatment, for example, from the United States to the northern Caribbean and Central America. An increasing number of United States nationals have been going to Mexico for treatment because the cost of a doctor's visit is as much as 80% lower than in their country and some drugs are up to

<sup>6</sup> For a more detailed discussion of the application of computer technology and digital data networks to medicine see Dawkins and Cary (2000) and Maheu, Whitten and Allen (2001).

<sup>7</sup> For a recent review of the state of telemedicine in both developed and developing countries see Mandil, (1998, pp.79-100).



75% less expensive (Hilts, 1992). There is a growing trend towards persons in developed countries retiring abroad particularly to developing countries with a warm climate because their income purchases more abroad, than for example, in the United States. The market for retirement facilities will increase sharply in the next twenty years (*Business Week*, 1994). The small, developing countries in close proximity to the developed countries and which enjoy warm weather throughout the year and relatively lower wage levels constitute an environment suitable for the development of retirement communities.

(d) *Availability and cost of air travel*

The availability of affordable air travel has increased significantly with the expansion of tourism throughout the world. People are also more willing to travel for medical attention in most cases to developed countries but increasingly to countries with a reputation for quality health-care systems, such as Cuba. By the mid 1990s Cuba was receiving 25,000 foreign patients and earning \$25 million from sales of health services (World Bank, 2002).

The cost of air travel will be an important factor in the overall expense of having treatment overseas in preference to having it in one's own country. The cost of air travel has been reduced relative to the growth in levels of income and the availability of air transport has increased. Close location to major developed country markets is only an advantage if there is adequate air transportation. However, if the savings are sufficient the cost of air travel will become irrelevant. For example, a patient in North Carolina in the United States, faced with a bill of US\$200,000 for heart surgery, flew 7,500 miles to New Delhi, India, where the operation was successfully performed for a total cost of US\$10,000, including airfare (Lancaster, 2004).

(e) *Global pandemics*

Infectious diseases account for one quarter to one third of all deaths globally. In 1999, new HIV infections rose from 40,000 annually to 46,000. The number of passengers travelling in the world has increased several-fold. The number of new diseases, the increasing resistance to known treatments by several existing diseases, and the rapid geographic spread of both are on the rise. Explanatory factors include human manipulation of plant and animal food and genetics, increasing travel of humans and some animals.

In the last 25 years, 20 diseases, which were in decline, have re-emerged and spread geographically and

29 previously unknown diseases have been identified, including HIV/AIDS, Ebola and hepatitis C. With more international trade and more mobility of people via tourism and migration (legal and illegal), the problem requires more international cooperation. It is estimated that in 2000 some 36 million people were living with HIV, the virus that causes AIDS, of whom 90% were in developing countries and 75% in sub-Saharan Africa. Less than 25,000 people in developing countries receive anti-retroviral treatment, which is routinely available in developed countries (WTO, 2001a).

Ultimately, the best defence against the spread of diseases such as tuberculosis and polio is preventative health care, in particular, immunization programs. Such programmes, when properly undertaken and where there is adequate coverage of the population, not only prevent untold human suffering and death but also are far more cost-effective than handling an epidemic or outbreak (Ashley and Bernal, 1985). Multilateral efforts based on cooperation through international organizations such as the World Health Organization (WHO) need to be increased in order to tackle global pandemics. The Global Fund to fight AIDS, Tuberculosis and Malaria is aiming to raise \$7 billion. While this is a huge sum, it is nowhere near the \$57 billion per annum in additional expenditure required to deliver essential medical services to the world population according to the Commission on Macroeconomics and Health (The Economist, 2001). International cooperation should include agreements on disease identification, containment, and treatment, and standard protocols and cost-sharing structures to ensure that poor and rich countries alike can control outbreaks of the most deadly diseases. Cooperative efforts must improve primary health-care systems and infrastructure in developing countries so that diseases originating in the tropics can be identified and eradicated before they spread (Barks-Ruggles, 2001).

(f) *Multilateral trade rules*

International rules governing trade such as those set out in the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), impinge directly on health care because they regulate the availability of pharmaceuticals. The TRIPS Agreement authorizes patents governing the production and the conditions of sale of drugs. This recently became an acrimonious issue between developing countries and major pharmaceutical manufacturers, all concentrated in developed countries. World production of drugs is concentrated in six countries —France, Germany, Italy,

Japan, the United Kingdom and the United States—while only Brazil and India are significant producers among developing countries (Barks-Ruggles, 2001). The vast majority of developing countries have limited domestic production. Indeed, two thirds import more than 50% of their medicines, and half of the countries in that group are entirely dependent on imported medicines (UNIDO, 1992). Developing countries and humanitarian organizations have severely criticized the TRIPS Agreement for depriving poor countries of affordable drugs, particularly for HIV/AIDS and also contended that the General Agreement on Trade in Services (GATS) constrains the ability of governments to protect public services.

At the WTO Ministerial Conference in Doha, Qatar, in November 2001, it was agreed to permit the flexible application of the TRIPS Agreement so that it does not prevent member States from taking measures to “protect public health and in particular to promote access to medicines for all.” Specifically, it permits the right to determine the grounds upon which compulsory licenses can be granted and allows the national determination of “what constitutes a national emergency or other circumstances of extreme urgency, it being understood that public health crises including those relating to HIV/AIDS, tuberculosis, malaria and other epidemics can represent a national emergency or other circumstances of extreme urgency (WTO, 2001b).”

## 2. Barriers and constraints

The growth and development of international trade in health-care services is constrained by a number of barriers both at the national and international levels. These include:

### (a) *Barriers to movement of professionals*

The movement of health-care professionals is severely limited by several barriers such as visas, entry regulations and residence requirements with variations by skill category and length of stay. Some barriers reflect inertia in changing regulations covering the operation of domestic or national health-care systems. Many of the entrenched barriers to entry by foreign, service providers and institutions are part of a deliberate policy motivated by protectionism by local medical practitioners, immigration concerns and differences in regulations governing the medical profession. Other restrictions reflect prejudice, xenophobia and tradition. Where barriers to the movement of medical professionals continue there is likely to be an inability to keep down

costs in the developed countries and there may even be insufficient qualified personnel to allow existing facilities to operate at full capacity. The vigorous recruitment by United States institutions of nurses from developing countries such as Jamaica and the Philippines is a clear indication of the urgency of this situation.

### (b) *Multilateral rules*

International trade in health services is governed by the General Agreement on Trade in Services (GATS), which covers hospital services, medical and dental services and services provided by nurses, midwives, physiotherapists and paramedical personnel. The GATS defines four modes of supply, namely, cross-border supply, consumption abroad, commercial presence and movement of natural persons. Health-care services are traded through all four modes of supply but there are significant barriers in each mode.

Cross-border supply in the form of telemedicine is expanding rapidly as technology has improved and, given the nature of the technology, it is difficult to impose national restrictions on this type of trade. Developments in technology have increased the range of services, which can be traded and reduced the costs involved.

Consumption abroad, which entails the movement of consumers is the most important mode in the international trade of health care though it is constrained by lack of portability of health insurance. The United States is the largest supplier, with most developed countries having some business from overseas patients and some developing countries, such as Cuba, emerging as regional centres. China and India have long had unique traditions of both formal and folk medical treatment and have a worldwide clientele in treatments such as acupuncture and yoga.

Commercial presence has taken place on a limited scale particularly in treatment of stress, experimental treatment or drugs, for example for cancer (Tuckman, 2005) and plastic surgery. Large-scale investment in full service facilities is a possibility in the future but how quickly this will occur depends on a number of factors, such as the treatment of foreign investment including national treatment, tax regimes and ownership limitations.

The movement of natural persons is subject to sector-specific restrictions, immigration laws and barriers to entry maintained by the national medical professional associations. The shortage of nurses in developed countries and the higher remuneration in these countries will combine to force a review of the current impediments to movement of medical

personnel. Most of the movement of physicians and nurses is from developing countries to developed countries. The international movement of nurses (70% of health-care staffing (CARICOM Secretariat)) also raises issues of gender and international trade in health-care services (Williams, 2003).

The expansion of the coverage of health services in the GATS is an issue which will certainly have to be addressed in the future (Smith, Blouin and Drager, 2006), but at present there is no indication of when this will happen. Currently 54 WTO members have made commitments in medical and dental services, 44 members in hospital services and 29 members in services provided by nurses, midwives and others (Adlung and Carzaniga, 2002). Governments can liberalize trade in health services by unilateral action without making binding commitments in their national schedules under the GATS.

(c) *Lack of portability of health insurance*

A major factor inhibiting the globalization of the health-care industry is the lack of any form of health insurance, which is accepted worldwide; indeed, health insurance both of the public and private varieties are tenable only in the country in which the holder is domiciled. The fact that United States Medicaid and Medicare programmes are not valid for use overseas prevents United States citizens from seeking treatment abroad. Ironically treatment overseas may be less expensive than that available in the United States or drugs manufactured outside the United States may be less expensive or procedures not permitted in the United States may be available. Less costly treatment or drugs available would represent an enormous saving to a system which is under tremendous stress because of the exponentially escalating costs of delivering health care in the United States.

As the pressure grows on the health-care systems of developed countries in terms of both the volume of cases and the cost of services both public and private insurers will reluctantly concede the right of patients to be treated overseas. The overloaded British health-care system has begun referring patients for treatment in France and Spain. For the time being, patients are restricted to hospitals within three hours flying time from Britain (Lancaster, 2004), but even this is likely to be relaxed if patients are willing to bear the additional cost.

For the rich and top corporate executives, costs and health insurance do not constrain their decisions on where to obtain medical attention, their credit card rather than their health insurance cards being the means of payment. However, it cannot be long before an internationally portable form of health insurance is developed for highly paid, internationally mobile corporate executives. What will start at an exorbitant cost will, like all other global services, be reconfigured for the wider, less affluent global mass market. This will be followed by health insurers allowing their customers to source medical attention internationally starting with a restricted approved list of health providers and then extending to nationally accredited medical institutions in an ever-widening range of countries.

(d) *Need for standardization of accreditation*

Systems of accreditation vary widely and even where there are some similarities, for example, in the Commonwealth, systems are essentially national. Temporary or long-term accreditation of medical personnel involves convoluted, complicated and bureaucratic procedures. Much remains to be done in establishing educational equivalence, formalizing mutual recognition of qualifications, standardizing licensing requirements.

## V

### Pattern of globalization of the health-care industry

The globalization of the health-care industry and the global availability of health services will be influenced by several factors, prominent among which will be proximity between demand and supply, the mindset

of those in need of medical care, national measures to promote foreign direct investment in medical facilities and the availability and relative cost of medical professionals.

## 1. Proximity

Proximity between demand and supply will be a critical determinant of the location and relocation of health-service providers. Relocation abroad is likely to take place first among contiguous or adjacent OECD countries especially in the European Union, which has as a goal the development of Union-wide standards. The next locations which are likely to benefit from the nascent process of global dispersal of health care will be those countries which are close by, for example, two or three hours flying time from major international airports in developed countries and which have internationally acceptable health-care facilities with operating costs lower than the comparable facilities or services in developed countries. Mexico, Cuba, the Bahamas, Jamaica and Costa Rica, given their proximity to the United States, could be early poles of development, especially if their governments put in place the necessary policies to attract and encourage the establishment of internationally recognized health-care institutions.

The movement of patients to receive treatment in overseas health-care facilities is not only motivated by the desire to avail themselves of less expensive medical attention than that available in their country of residence. In many cases, it is prompted by the fact that the type and quality of treatment which they need or want is unavailable in their country of residence. A significant proportion of the worldwide clientele of world famous medical institutions, such as the Mayo Clinic or Sloane Kettering Cancer Centre in the United States, fits into this category. However, there is also a substantial movement of patients between developing countries, because health-care facilities abroad are better or those available in the home country are not adequate. This is the situation which leads patients from Bangladesh to seek treatment in India.

## 2. Cost and quality of health personnel

There is a global market for health-care professionals leading to migration to countries with the highest salaries. This migration is primarily driven by demand in developed countries (Stilwell, Diallo and others, 2004). The United States and the United Kingdom, for example, have a shortage of health-care professionals and offer higher remuneration and better working conditions. Most doctors working abroad are from developing countries (Mejia, Pizurki and Royston, 1979). WHO estimates that 77% of developed countries

are experiencing nursing shortages and nearly all of them are looking abroad to fill the gap (Rutter, 2001). With respect to the United States, estimates of the shortage of nurses range from 110,000 or 6% of the requirement to 126,000 or 11% of the number needed (Gerson and Oliver (2004)). The shortage of nurses is expected to become more acute, affecting both the quantity and quality of health care (Buerhaus, 2002). The remuneration for nurses in developed countries is going to increase in the immediate future because the shortage of personnel is likely to continue, despite overseas recruitment (Buchan and Sochalski (2004)), because of a decline in new entrants to the profession<sup>8</sup> and because of dissatisfaction with salaries.<sup>9</sup> Recruitment of nurses from developing countries for the health-care system in developed countries is not a solution even in the medium term because the shortage of nurses is worldwide.<sup>10</sup> In the United Kingdom during 2001/2002 more foreign nurses were added to the register than nationals.

## 3. Non-threatening, cost-sensitive treatments

The health-care services that are likely to be among the first to move offshore from the high-cost developed countries are those that are labour-intensive but not life-threatening, for example, rehabilitation. Among the treatments which have already started to move beyond the borders of the developed countries are cosmetic surgery, one of the fastest-growing categories of elective surgery, recovery from stress-related afflictions and treatment involving drugs or procedures not approved in most countries. The trend towards moving from high-cost developed countries to countries where costs are lower will accelerate as more aspects of treatment can be accomplished by telemedicine (Bashur, Sanders and Shanon, 1995).

The world-class health-care facilities and services springing up across the world will eventually cater for serious or life-threatening procedures such as heart surgery. Cost differences will be a critical determinant

<sup>8</sup> This is the situation in Europe and in the United States. See Gathercole (undated) and GAO (2001, p.7).

<sup>9</sup> According to Rutter (2001), only 20% of nurses in England and 26% in Scotland regarded their wages as acceptable.

<sup>10</sup> This is confirmed by 105 nurses' unions representing 69 countries. See "Worldwide nursing shortage has reached crisis proportions (June 2002) [www.scienceblob.com/community](http://www.scienceblob.com/community).

but other factors include logistics, the reputation of the institution and the tenability of health insurance.

#### 4. Policy and regulatory regime

Governments, in wishing to encourage the emergence of strong, internationally competitive health-care sectors, need, among other measures, to remove barriers to entry of professionals, meet developed-country standards, construct modern infrastructure and maintain good air-transport facilities.

Countries seeking to produce health-care services for the global marketplace must create a policy framework and a regulatory environment that facilitates and encourages the necessary investment, technology and staffing. In the case of developing countries, most of the capital and technology required for health-care services that are internationally competitive in price and quality will have to come from abroad. The critical components are a stable policy and regulatory framework that is consistent with current global standards, practices and intellectual property rights and

strategic planning to attract and/or create brand-name health-care organization, provide modern infrastructure and a trained labour force. The improvement in physical and telecommunications infrastructure must not only focus on modernization but must take cognizance of the need to close the gap with developed countries. For example, developing countries cannot compete effectively if the number of telephone lines per 100 inhabitants is between 5 and 10, compared with 48 in developed countries (WTO, 1998).

The creation of synergies based on inter-sectoral linkages should be planned: for example, synergies between tourism and health care in countries where an existing tourism industry can be enhanced by the establishment of world-class health-care facilities. Tourism could be enhanced and diversified to include new products such as health tourism,<sup>11</sup> thereby spawning a new industry and reinvigorating an existing sector. This is a distinct opportunity for regions such as the Caribbean and Central America, which have large tourism industries and are in close proximity to a major developed country.

## VI

### Opportunities for developing countries in the Caribbean

As the health-care industry becomes more globalized, there will be opportunities for developing countries to export health-care services to developed-country markets. Developing countries in close proximity to developed countries and which have an adequate supply of medical personnel at salaries lower than in developed countries have the opportunity to provide health care to foreign patients at a cost below that in the developed countries. These are necessary but not sufficient conditions for creating a world-class offshore health-care industry. Opportunities can be transformed into reality if the government puts in place the type of policy and regulatory regime that stimulates investment by companies that are global brand names in health care. Such possibilities can be illustrated by reference to an actual situation, namely, that of Jamaica (Taylor, 1993).

#### 1. Proximity

Jamaica is in close physical proximity to a major developed country, namely, the United States, which has an ageing population and a high-cost health-care system.

The city of Montego Bay, Jamaica, has an international airport which is one hour's flying time from Miami, 3 hours from Baltimore and 31/2 hours

<sup>11</sup> See Alleyne (1991, pp.291-300). Health tourism has been a largely overlooked issue in the extensive literature on tourism. Some publications do not make the slightest reference to the topic (see Yorghos Apostolopoulos and Gayle (2002) and Jayawardena (2005)). Ironically, the call for more attention to be given to health tourism comes from the health sector rather than the tourism sector. See CARICOM Secretariat (2006, p.23).

from Atlanta, Houston, New York, Philadelphia and Boston. It has a well-developed tourism industry with a range of world-class hotels and villas, restaurants and entertainment. It is the hub of Jamaica's tourist industry, which attracts 2 million visitors per year, 75% of whom originate in the United States. The resident and visitor populations are serviced by a large modern general public hospital and numerous private practitioners and clinics.

## 2. Business environment

In addition to modern health-care facilities and a cadre of trained and experienced health-care professionals, Jamaica is a well-known tourist destination with which Americans are very familiar. The tourism sector is a perfect complement to the establishment of world-class hospitals and clinics catering to patients from abroad and locals if they are willing to pay for the cost of treatment in foreign currency. The availability of world-class health-care facilities would encourage older tourists to travel to Jamaica. The main source of tourists for Jamaica is the United States, which has a rapidly ageing population, in fact the so-called seniors' travel market, that is over 55 years old, exceeds 100 million and accounts for one in six international trips (Gonzales, Brenzel and Sancho, 2001). The complementarity of tourism and health care could be extended to the retirement home business by sharing certain facilities and services. The retirement community could use the services and facilities of the hotels e.g. beach, dining, gym, entertainment. Their comfort level would be assured by the operation of world-class medical facilities located close by. The potential is enormous. For example, it is estimated that if 3% of the 100 million older persons in the OECD countries retired to developing countries it would generate US\$ 30 billion to US\$ 50 billion annually in personal consumption and \$10 billion to US\$ 15 billion in medical expenditures (Warner, 1998).

## 3. Investment

Investment by United States health-care providers, possibly in joint ventures with Jamaican hotel interests and the local medical fraternity, could fund the establishment of world-class medical facilities in Montego Bay. The incentive to invest arises from the fact that United States institutions can continue to service their clientele rather than lose the business to non-United States competitors. Profitability would

derive from the employment of Jamaican doctors and nurses at salaries below those available in the United States but higher than those paid in the local public health system. Local medical personnel could be combined with, or supplemented by, foreign practitioners, some of whom would be resident in Jamaica and others, such as specialists, would have visiting assignments for a specified number of days per month. All of this could be backstopped by expertise made available through telemedicine.

Jamaica will need foreign investment to create facilities to provide offshore health care and to provide brand-name institutions that are accredited in the developed countries from which patients will come. Brand-name<sup>12</sup> institutions from developed countries will provide the advantages of name recognition, acceptance by health insurers and familiarity to consumers. The Raffles Medical Group of Singapore and Kaiser Permanente has established a joint venture to create health-care facilities in the Asia-Pacific region (Diaz Benavides, 2002).

The ability to attract foreign investment will depend in part on the business environment, government regulations and incentives and the availability of the appropriately-skilled human resources. These conditions are either already in place or, in the case of incentives to build and operate medical facilities, can be promulgated quickly to match existing incentives to foreign investors. Skilled medical practitioners are available locally or could be induced to return from overseas for salaries somewhat less than those paid in the developed countries. Lower salaries may be readily accepted given the trade-off of being in their own country. This has been the experience of Jamaicans who have migrated and returned home to live and work. The employment decisions of Jamaican nurses, like nurses in developed countries, depend on several factors in addition to remuneration, in particular working conditions.<sup>13</sup> Future supply of medical personnel could be assured by linking training at the medical school of the University of the West Indies in Kingston with the offshore health-care industry in Montego Bay, as with a number of hospitals that train nurses.

*(Original: English)*

<sup>12</sup> On the critical importance of brands, see Crainer (1995) and Bedbury (2002).

<sup>13</sup> The labour supply of nurses in the United Kingdom and the United States is influenced by wages and several institutional factors (Askildsen, Baltagi and Holmas (2002). Job satisfaction depends on wages, stress, inadequate staffing, workload, overtime and working conditions (GAO,2001).

## Bibliography

- Adlung, R. and A. Carzaniga (2002): Health services under the General Agreement on Trade Services, in N. Drager and C. Vieira (eds.), *Trade in Health Services: Global, Regional and Country Perspectives*, Washington, D.C., Pan American Health Organization.
- Alleyne, G. (1990): Health and tourism in the Caribbean, *Bulletin of the Pan American Health Organization*, vol. 20, No. 3, Washington, D.C.
- Alvarez, L. (2000): Congress backs big increase in visas for skilled workers, *New York Times*, New York, 4 October.
- American Telemedicine Association (1999): *Telemedicine: A Brief Overview. Developed for the Congressional Telehealth Briefing*, Washington, D.C., 23 July. Available in [www.atmeda.org/news/overview.htm](http://www.atmeda.org/news/overview.htm).
- Apostolopoulos, Y. and D.J. Gayle (eds.) (2002): *Island Tourism and Sustainable Development. Caribbean, Pacific, and Mediterranean Experiences*, Westport, Praeger.
- Arredondo-Vega, J.A. (1998): The case of the United States-Mexico border area, in S. Zarrilli and C. Kinnon (eds.), *International Trade in Health Services: A Development Perspective*, Geneva, United Nations.
- Ashley, D. and R. Bernal (1985): A review of poliomyelitis epidemics in Jamaica: the immunization policies and socio-economic implications, disasters, *The International Journal of Disaster Studies and Practices*, vol. 9, No. 1, Oxford, United Kingdom, Blackwell Publishing.
- Askildsen, J.E., B.H. Baltagi and T.H. Holmas (2002): *Will Increased Wages Reduce Shortage of Nurses? A Panel Data Analysis of Nurses Labour Supply*, CESinfo Working Paper, No. 794, Munich, University of Munich, October.
- Barba Navaretti, G. and A.J. Venables (2004): *Multinational Firms in the World Economy*, Princeton, Princeton University Press.
- Barks-Ruggles, E. (2001): The globalization of disease: when Congo sneezes, will California get a cold?, *Brookings Review*, vol. 19, No. 4, Washington, D.C., The Brookings Institution.
- Bashur, R.L., J.H. Sanders and G.W. Shanon (1995): *Telemedicine. Theory and Practice*, Springfield, Charles C. Thomas Publishers.
- Bedbury, S. (2002): *A New Brand World*, New York, Viking.
- Bernal, R.L. (1997): *Trade Blocks: A Regionally Specific Phenomenon, or Global Trend?*, Walter Sterling Surrey Memorial Series, Washington, D.C., National Planning Association.
- Buchan, J. and J. Sochalski (2004): The migration of nurses: trends and policies, *Bulletin of the World Health Organization*, vol. 82, No. 8, Washington, D.C., World Health Organization.
- Buerhaus, P. (2002): USA nursing shortage continues to affect patients, *New England Journal of Medicine*, vol. 346, No. 22, Boston.
- Business Week* (1994): The economics of aging, 12 September, New York, McGraw Hill.
- CARICOM Secretariat (2006): *Report of the Caribbean Commission on Health and Development*, Washington, D.C., Pan American Health Organization /Georgetown.
- Carnegie Endowment for International Peace (1997): *Reflections on Regionalism. Report of the Study Group on International Trade*, Washington, D.C.
- Center for Strategic and International Studies (2002): *Meeting the Challenge of Aging: A Report to World Leaders*, Washington, D.C.
- Chanda, R. (2002): Trade in health services, *Bulletin of the World Health Organization*, vol. 80, No. 2, Washington, D.C., World Health Organization, February.
- Craimer, S. (1995): *The Real Power of Brands. Making Brands Work for Competitive Advantage*, London, Pitman Publishing.
- Dawkins, A.W. and M.A. Cary (2000): *Telemedicine and Telehealth. Principles, Policies, Performance and Pitfalls*, New York, Springer Publishing Company.
- Diaz Benavides, D. (2002): Trade policies and export of health services: a development perspective, in N. Drager and C. Vieira (eds.), *Trade in Health Services: Global, Regional and Country Perspectives*, Washington, D.C., Pan American Health Organization.
- Dicken, P. (1998): *Global Shift: Transforming the World Economy*, London, Guilford Press.
- Freudenheim, M. (1996): Hospitals looking abroad to keep their beds filled, *New York Times*, New York, 10 December.
- Gathercole, G. (n/d): *Free Movement of Professionals: Opening Up Opportunities or Perpetuating Problems*, European Public Health Alliance. Available in [www.eph.org/a/521](http://www.eph.org/a/521).
- GAO (General Accounting Office) (2001): *Nursing Workforce: Emerging Nurse Shortage Due to Multiple Factors*, GAO Report-01-994, Washington, D.C. Available in [www.eph.org/a/521](http://www.eph.org/a/521).
- Gerson, J. and T. Oliver (2004): *Addressing the Nursing Shortage*, Washington, D.C., Kaiser Foundation.
- Gonzales, A., L. Brenzel and J. Sancho (2001): *Health Tourism and Related Services: Caribbean Development and International Trade*, document prepared for the Caribbean Regional Negotiating Machinery.
- Greider, K. (2003): *The Big Fix: How the Pharmaceutical Industry Rips Off American Consumers*, Washington, D.C., Public Affairs.
- Gupta, I., B. Golder and A. Mitra (1998): The case of India, in S. Zirrilli and C. Kinnon (eds.), *International Trade in Health Services: A Development Perspective*, Geneva, United Nations.
- Hilts, P.J. (1992): *Quality and Low Cost of Medical Care Lure Americans on Border to Mexico*, New York, 23 November.
- Hoogvelt, A. (1997): *Globalization and the Post-colonial World: The New Political Economy of Development*, Baltimore, Johns Hopkins University Press.
- Ietto-Gilles, G., M. Meschi and R. Simonetti (2000): Cross-border mergers and acquisitions, in F. Chesnais, G. Ietto-Giles and R. Simonetti (eds.), *European Integration and Global Corporate Strategies*, London, Routledge.
- Jayawardena, Ch. (ed.) (2005): *Caribbean Tourism. Visions, Missions and Challenges*, Kingston, Ian Randle Publishers.
- Korten, D.C. (1995): *When Corporations Rule the World*, Hartford, Kumarian Press.
- Krasnow, D. (2002): The Cuban national telemedicine program, *Telemedicine Journal and e-Health*, vol. 8, No. 2, New Rochelle, Mary Ann Liebert.

- Lancaster, J. (2004): Surgeries, side trips for India's tourists, *The Washington Post*, Washington, D.C.
- Ledogar, R.J. (1975): *Hungry for Profits*, New York, IDOC/North America.
- Lunn, E. (2006): New rush to foreign hospitals, *Financial Times*, 19 February.
- Maheu, M., P. Whitten and A. Allen (2001): *E-health, Telehealth, and Telemedicine: A Guide to Startup and Success*, New York, Jossey-Bass.
- Mandil, S.H. (1998): Telehealth: what is it? Will it propel cross-border trade in health services, in S. Zarilli and C. Kinnon (eds.), *International Trade in Health Services*, Geneva, United Nations.
- Maurer, A. and P. Chauvet (2002): The magnitude of flows of global trade in services, in B. Hoekman, A. Mattoo and Ph. English (eds.), *Development, Trade and the WTO. A Handbook*, Washington, D.C., World Bank.
- Mejia, A., H. Pizurki and E. Royston (1979): *Physician and Nurse Migration: Analysis and Policy*, Geneva, World Health Organization.
- Norris, A.C. (2002): *Essentials of Telemedicine and Telecare*, New York, John Wiley & Sons.
- Pear, R. (1998): Higher quotas urged for immigrant technology workers, *New York Times*, New York, 23 February.
- Peterson, P. (1999): *Gray Dawn: How the Coming Age Wave will Transform America and the World*, New York, Times Books.
- Prosser, D. (2006): Health tourists sign up for sun, sea and surgery, *The Independent*, London, 2 August.
- Robson, W. (2001): *Aging Populations and the Workforce: Challenges for Employers*, Washington, D.C., British-North American Committee.
- Rodriguez-Pose, A. (2002): *The European Union: Economy, Society, and Polity*, Oxford, Oxford University Press.
- Rutter, T. (2001): Job discontent fuels aggressive recruitment of nurses, *Bulletin of the World Health Organization*, vol. 79, No. 12, Washington, D.C., World Health Organization.
- Sankaranarayanan, D. (2005): Medical tourism is becoming a common form of vacationing, *Health Care Management*, 1-15 March.
- Seacole, M. (1988): *Wonderful Adventures of Mrs. Seacole in Many Lands*, New York, Oxford University Press.
- Smith, R., C. Blouin and N. Drager (2006): Trade in Health Services and the GATS: What Next?, in Ch. Blouin, N. Drager and R. Smith (eds.), *International Trade in Health Services and the GATS: Current Issues and Debates*, Washington, D.C., World Bank.
- Stalker, P. (2001): *The No-nonsense Guide to International Migration*, London, Verso.
- Stilwell, B., K. Diallo and others (2004): Migration of health-care workers from developing countries: strategic approaches to its management, *Bulletin of the World Health Organization*, vol. 82, No. 8, Washington, D.C., World Health Organization.
- Stopford, J. and S. Strange (1991): *Rival States, Rival Firms*, Cambridge, Cambridge University Press.
- Stowe England, R. (2002a): *Global Aging and Financial Markets. Hard Landing Ahead?*, Washington, D.C.
- \_\_\_\_\_ (2002b): *The Fiscal Challenge of an Aging Industrial World*, Washington, D.C., Center for Strategic and International Studies.
- Strange, S. (1996): *The Retreat of the State. The Diffusion of Power in the World Economy*, Cambridge, Cambridge University Press.
- Taylor, F.F. (1993): *To Hell with Paradise. A History of the Jamaican Tourist Industry*, Pittsburgh, Pittsburgh University Press.
- The Economist* (2001): The health of nations, London, 22 December.
- Tuckman, J. (2005): Cancer patients take their hopes to Tijuana, *Guardian*, London, 21 May.
- UNCTAD (United Nations Conference on Trade and Development) (1994): *World Investment Report, 1994*, UNCTAD/DTCI/10, Geneva. United Nations publication, Sales No. E.94.II.A.14.
- \_\_\_\_\_ (1997): *International Trade in Health Services: Difficulties and Opportunities for Developing Countries*, TD/B/COM.1/2, Geneva, April.
- UNDP (United Nations Development Programme) (2003): *Human Development Report, 2003*, New York.
- UNIDO (United Nations Industrial Development Organization) (1992): *International Yearbook of Industrial Statistics*, Vienna.
- United Nations (1994): *Liberalizing International Transactions in Services. A Handbook*, UNCTAD/DTCI/7, New York. United Nations publication, Sales No. E.94.II.A.11.
- \_\_\_\_\_ (1998): *World Investment Report, 1998: Trends and Determinants*, UNCTAD/WIR/1998, Geneva. United Nations publication, Sales No. E.98.II.D.5.
- \_\_\_\_\_ (2000): *World Investment Report 2000*, UNCTAD/WIR/2000, New York. United Nations publication, Sales No. E.00.II.D.20.
- \_\_\_\_\_ (2001): *World Investment Report 2001: Promoting Linkages*, UNCTAD/WIR/2001, New York. United Nations publication, Sales No. E.01.II.D.12.
- Vernon, R. (1998): *In the Hurricane's Eye: The Troubled Prospects of Multinational Enterprises*, Cambridge, Harvard University Press.
- Warner, D. (1998): Globalization of medical care, in S. Zarilli and C. Kinnon (eds.), *International Trade in Health Services. A Development Perspective*, Geneva, United Nations.
- Wattenburg, B.J. (2004): *Fewer: How the New Demography of Depopulation Will Shape Our Future*, Chicago, Ivan R. Dee.
- Williams, M. (2003): *Gender Mainstreaming in the Multilateral Trading System. A Handbook for Policy-makers and Other Stakeholders*, London, Commonwealth Secretariat.
- Woodward, D., N. Drager and others (2002): Globalization, global public goods and health, in N. Drager and C. Vieira (eds.), *Trade in Health Services: Global, Regional and Country Perspectives*, Washington, D.C., Pan American Health Organization.
- World Bank (1995): *Global Economic Prospects and the Developing Countries, 1995*, Washington, D.C.
- \_\_\_\_\_ (1996): *Prospects for Service Exports from the English-speaking Caribbean*, Report No. 15301, Washington, D.C.
- \_\_\_\_\_ (1999): *Confronting AIDS. Public Priorities in a Global Epidemic*, Washington, D.C.
- \_\_\_\_\_ (2000): *World Development Indicators*, Washington, D.C.
- \_\_\_\_\_ (2001): *Global Economic Prospects 2002. Making Trade Work for the World's Poor*, Washington, D.C.
- \_\_\_\_\_ (2002): *Global Economic Prospects and the Developing Countries 2002*, Washington, D.C.



- \_\_\_\_\_ (2003): *Global Economic Prospects and the Developing Countries 2003*, Washington D.C.
- \_\_\_\_\_ (2005): *A Time to Choose. Caribbean Development in the 21<sup>st</sup> Century*, Washington D.C.
- Worldwide nursing shortage has reached crisis proportions (2002): June. Available in [www.scienceblob.com/community](http://www.scienceblob.com/community)
- WHO (World Health Organization) (2002): *Health and the International Economy*, Washington, D.C.
- WTO (World Trade Organization) (1995): *Regionalism and the World Trading System*, Geneva.
- \_\_\_\_\_ (1998): *Electronic Commerce and the Role of the WTO*, Geneva.
- \_\_\_\_\_ (2001a): *Overview of Developments in the International Trade Environment*, Geneva.
- \_\_\_\_\_ (2001b): *Declaration on the TRIPS Agreement and Public Health*, Geneva, 20 November.
- \_\_\_\_\_ (2003): *World Trade Report*, Geneva.
- Zarilli, S. and C. Kinnon (1998): *International Trade in Health Services. A Development Perspective*, Geneva, United Nations.