HUMAN RESOURCES FOR HEALTH IN THE CARIBBEAN:

A Review of the Workforce Situation and the National Baselines of the 20 Goals for Human Resources for Health

2011

Pan American Health Organization
Regional Office of the World Health Organization

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This publication aims to summarize the findings and information from the HRH data research and the baseline measurement of the 20 Regional Goals for HRH in order to provide an overall view of the situation across a number of Caribbean countries. It is not intended as a ranking or judgment of the countries' performance. The information provided should be reviewed as "food for thought" in assessing the areas that may or may not need attention in individual countries or that may be of shared interest across the Caribbean region. Recommendations or observations provided came out of discussions within the countries with the contributing stakeholders. The recommendations are based on the principals and objectives of the *Toronto Call to Action* and the Resolution CSP27/10, Regional Goals for Human Resources for Health 2007-2015.

In addition, it should be emphasized that each country of the Caribbean has its unique characteristics and context which need to be taken into account in the interpretation of the information and the main findings presented in this document. The first assessment of the 20 regional goals provides a baseline upon which each country may decide to move forward over the decade. It is expected that information will be expanded and improved in subsequent studies, so that the improvements that reveal themselves in follow-up investigations over the next 10 years will reflect the impact of targeted development initiatives as well as the commitment of the health authorities to improve their processes for gathering, managing, monitoring and evaluating quality HRH data. Ultimately, the countries will benefit from adopting specific priorities and objectives in HRH and developing the capacity for their monitoring and evaluation.

Finally, PAHO/WHO acknowledges the generous financial contributions of the British and the Canadian governments to the strengthening of HRH information systems and planning of human resources in health. Supporting the continued enhancement of quality evidence provides decision makers with the tools they need in taking policy decisions that will fortify the health workforce and enable health workers to provide universal quality care to all persons.

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Glossary

CARICOM	Countries of the Caribbean Community & Common Market
GDP	Gross Domestic Product
HC	Health Centre
HDI	Human Development Index
HRH	Human Resources for Health
HRIS	Human Resources Information Systems
MOH	Ministry of Health
MDG	Millennium Development Goals
MOE	Ministry of Education
OSU	Off-Shore University
PAHO	Pan American Health Organization
PHC	Primary Health Care
RHA	Regional Health Authorities
UWI	University of the West Indies
WHO	World Health Organization

Executive summary

Background

Traditionally, human resources for health (HRH) were largely a personnel management function with little emphasis on strategic planning. With the introduction of health reform in the 1990's, however, developing effective HRH strategies and plans was recognized as a high priority by governments in order to achieve a well-trained, well-distributed and motivated workforce that was equipped and committed to deliver quality health care. HRH planning is now about ensuring that there are enough health workers to meet the health care needs of the population, both now and in the future. The lack of an adequate health workforce is currently viewed as one of the most important challenges of the health systems of the Region of the Americas with respect to achieving their national health goals.

A number of historical initiatives have helped build Regional HRH planning and management capacity in the Americas:

HRH *Observatories* in the Americas have helped to produce information and evidence to inform policy decisions to improve health systems through health workforce development;

Bringing together countries from the Region of the Americas, the *Toronto Call To Action* (2005) brought consensus in the Americas Region to commit political will, financial resources, and commitment to improve HRH supply, distribution, training, and management in order to provide quality care in response to changing population health needs;

Joint Learning Initiative (2004) and *WHO* (2006) publications focused specifically on the critical role of HRH in developing an effective health care system;

In 2007, the *Health Agenda for the Americas 2008-2017* was launched by the Health Ministers of the Region. This agenda expressed a shared vision of the countries of the Americas with respect to health trends, challenges and future directions, including strengthening the management and development of the health workforce;

In 2008, the *Kampala Declaration* called upon governments across the globe to address HRH development with focused strategies supported by political mandate and national resources;

The *Global Health Alliance,* in collaboration with WHO, began working directly with individual country stakeholders and NGOs to advance national workforce development;

CARICOM established the *Caribbean Cooperation in Health Initiative* (CCH) in 1984, and it was intended to promote collaboration and technical cooperation in health. CCH III (2010-2015) identified HRH as a key issue for regional commitment;

In 2007, the countries of the Caribbean region began the *Data Management Project* to develop a core data set for HRH, to provide an analysis of the status of the national health workforces, and to develop capacity for the collection, management and evaluation of HRH data; and,

At the 27th Pan American Sanitary Conference (2007), twenty *Regional Goals for Human Resources for Health (2007-2015)* were ratified. The goals provide a regional orientation for analysis and formulation of workforce planning priorities and national ten-year HRH plans, in line with the needs and priorities of each country.

Overview

This publication summarizes the findings of two primary health workforce assessment initiatives, led by the Ministries of Health of nine countries in the Caribbean. One of these two initiatives, the Data Management Project, led to an initial core data set of information on human resources in health, with the intention to use that data set to inform policy development while continuing to improve, update and evaluate that data set over time. The second initiative produced a baseline measurement for the 20 goals of Human Resources in Health as part of *Resolution CSP-27/10, "Regional Goals For Human Resources For Health 2007-2015,"* which was ratified by all PAHO member states in 2007, to achieve the 20 goals by 2015. An additional two countries contributed limited data on their human resources for health, which are included in this report.

The summary provides a snapshot of the similarities and differences in the current HRH situation in the participating countries in the Caribbean and offers some insights and recommendations on the continued improvement in monitoring, evaluating, and managing human resources in health within these contexts.

Approach

The overall *purpose* of the Data Management Projects and the Baseline Measurements for HRH was to: assess and analyze individual country HRH status; strengthen Ministry of Health capacity to track and monitor trends, identify priority areas and measure and monitor the 20 regional goals to guide strategies and inform policy decisions; and, establish HRH information systems and knowledge exchange.

This report reviews the results of data collection and analysis in the Caribbean region undertaken between May 2009 and January 2011. Each of the 9 Caribbean countries included in the study—Belize, Trinidad and Tobago, Jamaica, Barbados, Grenada, Montserrat, Anguilla, Dominica and Saint Lucia— completed the core data management project and/or the 20 goals baseline measurement. In addition, St. Vincent and the Grenadines completed their core data report, and Guyana completed an independent HRH study and analysis so these two additional countries are also included in the comparison and regional assessment. The HRH analyses, for both the core data reports and the baseline measurement of the 20 goals, were carried out by country teams, identified by the Ministries of Health. In addition, PAHO provided technical support to the countries through the input of country and regional advisors and through the consultation of policy experts and analysts. Funding support for both initiatives was primarily provided by the Department of Health of Great Britain, Health Canada, and the Canadian International Development Agency (CIDA), with some additional support from the United States International Agency for Development (USAID).

Profile of the Caribbean Region

Geography

The eleven countries of the Commonwealth (English-speaking) Caribbean included in this review include Belize, in northern Central America, nine islands of the eastern Caribbean — Anguilla, Barbados, Dominica, Grenada, Jamaica, Montserrat, Saint Lucia, Trinidad and Tobago and Saint Vincent and the Grenadines— and Guyana in northern South America.

Islands range in size from about 100 square kilometres for Anguilla and Montserrat, to Jamaica which is over 100 times larger and twice the size of Trinidad and Tobago, the next largest island. In terms of population density (persons per square kilometre) however, Barbados was by far the most populated country in the region, ranking in 16th place worldwide. Montserrat (106th most populated) and Dominica (107th) were the least dense islands in the region. Trinidad and Tobago stood at the median for population density (54th worldwide) of the nine islands in the region. Out of 233 countries globally, Guyana and Belize (221st and 206th, respectively), were among the least densely populated countries in the world. In terms of persons per square kilometre of arable land however, Grenada and Saint Lucia stand at 23rd and 25th globally.

Population Trends

The region's population grew from 5.7 million to 5.9 million between 2005 and 2010. The highest population growth occurred in Anguilla while the Grenadines recorded the largest percentage population decline over the period. Five out of nine countries for which data was available, recorded declining population rates. While the population of Montserrat and Anguilla combined was only 22,000 (0.4 percent of the region's total), Jamaica and Trinidad and Tobago represented over 69 percent of the region's total. In 2010, Barbados recorded the lowest number of births per 1,000 population (11.8) with Jamaica scoring the highest rate (17.6).

Population emigration is a concern in the Region of the Americas, with 72.5 percent of countries recording net migration losses in 2010. Of the total eleven countries surveyed in the Caribbean region, only Anguilla was expected to experience a population increase due to immigration. Guyana (-15.8 percent) and Saint Vincent and the Grenadines (-11.2 percent) were forecast to experience the largest losses in the Caribbean region through emigration.

Population Health

Between 2005 and 2010, the median life expectancy for the Caribbean increased from 71.8 to 73.9. Three countries in the region, however, (Barbados, Montserrat and Trinidad and Tobago) recorded decreases in their life expectancy rates over the period. With respect to infant mortality rates, Jamaica had the highest rate (24.1 percent) over the past five years. In term of reducing their infant mortality rates, Barbados reported the largest annual reduction in infant mortality rates while Guyana and Saint Vincent and the Grenadines are aiming to scale up their improvements to be able to reach the Millennium Development Goals (MDGs) If the region is to

reach its Millennium Development Goal in this regard, countries will need to improve the infant mortality rates by an average of 13 percent annually. With respect to children under five, Guyana recorded the highest mortality rates and lowest improvement between 2004 and 2008, while Belize and Saint Vincent and the Grenadines made the most significant improvements.

The leading causes of death in most countries were from heart disease and hypertension, diabetes, cancer and strokes. With respect to tuberculosis, Guyana's rate in 2008 was over 10 times the median rate for the region and over 40 times higher than the rate for Barbados, the lowest in the region. Only four countries in the region have improved their incidence rates over the latter part of this decade. By contrast, AIDS programs have been very successful throughout the region with the incidence of the disease dropping, for example, an average of 90 percent between 2003 and 2008 in Saint Vincent and the Grenadines, Barbados and Grenada. Ranked against 172 other countries, Barbados achieved the highest Human Development Index (considering literacy, education, standard of living and life expectancy) ranked in 42nd worldwide and the highest in the Caribbean region.

Health Expenditure

The median GDP growth rate between 2003 and 2008 was about 2.5 percent for the region, largely the result of strong growth rates in Dominica and Guyana over this period. All of the remaining six countries surveyed in the region recorded significant drops in their respective growth rates in GDP. Public expenditure as a percent of GDP also fell over this period, from a median figure of 3.4 percent in 2003 to 1.8 percent five years later. By 2008, private expenditure surpassed public expenditure (as a percentage of GDP) in Anguilla, Dominica, Grenada, Saint Lucia and Vincent and the Grenadines. Impact of a falling GDP growth rates had the least impact on public health expenditure in Jamaica, Grenada and Trinidad and Tobago. Per capita dollars spent on health ranged from $240 (Jamaica) to $1,155 (Barbados), with a median of $461.

Human Resources for Health

Historical Trends

Although the region's median ratio of physicians per 10,000 remained relatively stable at approximately 7.5 between 2001 and 2008, significant changes had occurred on a country by country basis. While three countries noted strong gains in physician supply (Dominica, Trinidad and Tobago and Saint Lucia), six others in the region reported significant declines, the greatest occurring in Jamaica. Over the comparable period, Jamaica and Guyana recorded the region's largest drop in the number of nurses per 10,000 population, while Saint Vincent and the Grenadines, Dominica and (in particular) Grenada, exhibited the strong growth in their supply. The out-migration of health professionals from the region has a significant impact on health workforce growth rates.

In 2008, only Guyana, Belize and Jamaica reported HRH ratios below 25 per 10,000, the minimum recommended levels to provide optimal delivery of health services. By 2010, all countries in the region had between 90 and 100 percent of both birth attendances and prenatal care provision provided by appropriately trained health personnel.

Migration

With respect to HRH emigration rates, both Jamaica and Grenada reported rates of over 72 percent for physicians and over 87 percent for nurses, the highest in the region for both professions. Saint Lucia reported the lowest out-migration rates for health professionals. The median region out-migration for nurses was 81 percent, significantly higher than the physician rate of 53 percent. Comparing annual physician emigration rates (as a percent of current stock), Jamaica ranked in 20th place at the global level. While the Caribbean region's emigration rate of health professionals at 3.4 percent was slightly higher than the rate for OECD countries, it was far below the physician out-migration rates recorded by South America (8.4 percent) and Sub-Sahara Africa (19.0 percent). Stronger HRH strategies are required to better manage emigration and reduce workforce shortages.

Current Supply

On average about 78 percent of the region's health professionals are employed in the public sector. Women are the largest component of the health workforce, ranging from 52 percent in Anguilla to 73 percent in Barbados. While health workers are relatively young in most countries in the region, 38 percent are over 50 years of age in Barbados. In Jamaica too, 50 percent of dentists and 37 percent of physicians are over 50. Professional school enrolment planning in these countries will need to respond to these trends.

The size and distribution of medical specialties varied considerably across the region. Specialists were near 17 percent of the physician total in Dominica but 85 percent of the medical workforce in Anguilla. Core medical specialties across the region generally included: anaesthesia, general surgery, obstetrics and gynaecology, internal medicine, orthopaedics and paediatrics. The first three specialties listed constituted, on average, about 55 percent of the total active specialist workforces in Trinidad, Belize and Jamaica. With respect to dentists, Belize and Jamaica had the smallest number relative to their population size, while Montserrat had the richest supply. Regarding pharmacists Trinidad and Tobago had five times the number of nurses employed by Saint Lucia on a per capita basis. Nurses outnumber physicians by 2.1 to one across the region, which supports the further expansion of community-based PHC service delivery.

Workforce Shortages

While detailed information was not available on workforce shortages on a cross-country basis, the Ministry of Health of *Trinidad and Tobago* had identified their needs and had planned to recruit 450 nurses and 119 medical specialists between 2009 and 2010. The greatest needs were in Anaesthesia, Emergency Medicine and Intensive Care. In *Barbados*, the vacancy rate for specialists in 2010 was 7.7 percent. Ten of the country's 16 specialty groups (62.5 percent) are experiencing vacancies, the greatest numbers occurring in Obstetrics and Gynaecology, Internal Medicine and Anaesthesia.

In *Guyana*, the situation is even more serious. In the public health sector, vacancy rates often range between 25 and 50 percent in the professional categories. With over 300 vacancies in the technical sector (April 2010), it is estimated that 12.5 percent of Guyana's population does not have access to health care. The attrition rate for registered nurses was over 13 percent. As the result of a large expansion of scholarships to support health professionals to train out of country, however, the situation is expected to reverse in the very near future. With respect to the needs identified under the health services plan, Guyana may well have a surplus of almost

1,500 health professionals within three years. This unique situation, which will need to monitored and managed carefully, will be instructive for the region as a whole in terms of options available to address current HRH issues.

Health Education

Several countries are focusing on continuous quality improvement in service delivery, including the ongoing development of health worker skills aimed at providing optimal and sustainable, client-focused care.

The University of the West Indies (UWI) is a principal resource with respect to providing training for health care workers across the Caribbean region. It has five campuses: Barbados, Jamaica, Trinidad and Tobago, the Bahamas and an open campus for distance education. Guyana and Belize have their own universities to train health professionals although Belize does not have a medical school. All countries have community colleges that produce the majority of the health workers, but off-shore medical schools and training institutions overseas also are significant resources to the Region.

In 2009, *Jamaica* offered HRH training programs in 15 health professions, including medicine. The acceptance rate for applicants was 21 percent for medicine (UWI) and pharmacy (UTECH) and about 41 percent for nursing. Medical school applicants were up 30 percent between 2006 and 2007. Between 20 and 40 pharmacists, medical technologists, nurses and midwives graduate annually. About 67 percent of training institutions are registered with the University Council of Jamaica, and 12.5 percent of programs are accredited.

With an applicant pool much smaller than Jamaica's, the University of *Belize*'s acceptance rate averages about 83 percent for its eight health professional programs. Despite high acceptance rates, student registrations average only about 55 percent of the acceptance rates. Between 2000 and 2009, the University produced about 58 graduates annually; including, 12 social workers, 8 pharmacists, 14 nurses and 6 midwives. International program accreditation is expected for the University of Belize before the end of the decade.

In *Guyana*, the annual intake of medical students at the University of Guyana is about 30, while about 60 additional students are trained at Greenhart Medical University plus 100 out of country, primarily in Cuba. Returning medical graduates are expected to outnumber local graduates by about 3.3 to 1. The university admits about 30 students to nursing, pharmacy and medical technology programs each year. While program attrition rates are generally about 10 percent, the rate for nursing is double at 20 percent. An additional 300 nurses are trained each year by the Ministry of Health plus about 140 nursing assistants. New programs in Emergency Medicine, Plastic Surgery and Anaesthesia and Intensive Care were being introduced in 2010.

Two hundred and ten students were admitted to the Faculty of Medicine at UWI in *Trinidad and Tobago,* one-third of them from outside the country. Female medical school entrants outnumber males by 2 to 1. About 150 registered nurses were trained annually between 2002 and 2009. In total, as many as 450 nurses and 300 physicians, dentists and pharmacists graduate from the various programs in any one year.

Tracking HRH Goals in the Caribbean Region

The overall purpose of the baseline indicators and core data management projects were to assess, measure, analyse and monitor the overall status of HRH across the region in order to identify priorities for ongoing HRH development.

Responses to the questions set out in the *Handbook for Measuring and Monitoring the Indicators of the Regional Goals for HRH* to assist countries in developing their respective HRH status reports in relation to the regional goals are summarized below.

Goal 1. The WHO target of 25 health care professionals per 10,000 population was reached by *eight* countries in the region with a median ratio of 41. While Barbados and Montserrat were 3.3 times the minimum HRH target level, Jamaica in Belize achieved between 20 and 25 percent of the desired ratio.

Goal 2. Only Belize and Grenada reached the target of having 40 percent or more of their respective medical workforces as PHC physicians. With a median figure of 31 percent, Saint Lucia, Jamaica and Trinidad and Tobago had the lowest proportion of PHC physicians.

Goal 3. Regarding PHC teams with the appropriate competency levels, five out of nine countries surveyed had achieved 90 percent of the required competencies and coverage.

Goal 4. The target of one professional nurse for every physician practising in the Caribbean region was achieved by *all* surveyed countries. With a regional median value of 3 nurses to each physician, Barbados and Montserrat revealed a higher a ratio of 8.2 to 1.

Goal 5. All surveyed countries in the region, excluding Dominica, reported having established an HRH planning unit within their respective Ministries of Health. While Trinidad and Tobago has developed a substantial unit, most countries had one-person units and were beginning to develop the function.

Goal 6. With 80 percent of population growth in the Region of the Americas occurring in urban areas over the past decade, the gap in urban-rural distribution of health personnel is expected to remain issue in the larger countries throughout the Caribbean region. The per capita supply of health workers in urban areas in Belize, for example, is 20 times greater than it is in the more remote areas.

Goal 7. Four countries within the Caribbean region have surpassed the target of 70 percent of staff having the appropriate public health intercultural competencies. This indicator may only have limited application to countries that exhibit little ethnic diversity.

Goal 8. While 70 percent of health workers had upgraded their skills and competencies in Jamaica, Dominica and Saint Lucia (and to some degree in Anguilla), in the remaining countries surveyed there was either no requirement for staffing upgrades or insufficient data available.

Goal 9. Only four countries—Belize, Grenada, Dominica, Saint Lucia—indicated that between 40 and 90 percent of the PHC workers had been recruited locally, surpassing the regional target of 30 percent. Unlike most of the Eastern Caribbean countries, Belize, Trinidad and Tobago and Guyana will need to manage this issue more closely to establish more equitable access among their more ethnically and culturally diverse populations.

Goal 10. Only two of the nine surveyed countries of the Caribbean region (Barbados and Jamaica) reported that they had adopted an international code of practice and developed ethical norms on the international recruitment of health care workers. Jamaica has bilateral agreements with Cuba and Nigeria to guarantee comparable working conditions for both migrant health workers and Jamaicans. Dominica, Saint Lucia and Trinidad and Tobago reported that they have begun to develop standards.

Goal 11. None of the countries of the Caribbean region reported having fully achieved self-sufficiency with respect to HRH. Most countries, however, are looking at better aligning graduate skills, numbers of health workers and geographic distribution of the workforce with the needs of the health care system.

Goal 12. Under the CARICOM Agreement, there is free movement of health care professionals between the 15 member (plus 5 associate member) countries within the region. There are also bi-lateral agreements between a number of Caribbean countries and external partners. Over 900 Cuban health care workers are employed throughout the region.

Goal 13. The proportion of precarious, unprotected unemployment for health service provides, as a percentage of the total health workforce, varied from a low of 19 percent in Jamaica to a high of 35 percent in Dominica. The median figure for the seven countries reporting data was 29 percent.

Goal 14. Six out of the nine countries surveyed in the region reported that they fully or almost fully achieved the goal of having a health worker health and safety policy in place. This suggests that 67 percent of countries had reached this goal, just below the regional target of 80 percent.

Goal 15. Four of the region's nine countries surpassed the regional target of having 60 percent of health services managers with appropriate public health skills and management competencies (Jamaica, Montserrat, Saint Lucia and Trinidad and Tobago).

Goal 16. While all nine countries (100 percent) indicated that they had effective negotiation mechanisms in place to resolve labour conflicts in the health sector, only six (67 percent) had legislation to guarantee that essential health services would be provided to the public during a labour dispute.

Goal 17. While there is a stronger emphasis towards PHC in clinical health sciences training programs and across several health professions across the region, opportunities and financial support for inter-disciplinary training was very limited. Six out of nine countries that provided data indicated ranges from 33 percent (Grenada and Saint Lucia) to a high of 73 percent in Jamaica towards achieving this goal.

Goal 18. Only Jamaica and Barbados had fully achieved the goal that 80 percent of clinical health science schools will recruit and train students from underserviced populations. While Belize and Grenada had made some progress in adding PHC training components to their curricula, six countries either provided no data or felt the indicator did not apply to their country.

Goal 19. While Barbados, Jamaica and Guyana have reached the regional target and report nursing attrition rates from training programs at 20 percent or lower, other countries in the Caribbean have reported rates averaging closer to 40 percent, twice the target rate. In Guyana, the attrition rates from medicine and dentistry was 10 percent in 2009, half the nursing rate.

Goal 20. Six of the Caribbean region's nine countries (67 percent) have achieved the goal that 70 percent of the clinical science schools and public health be accredited by a recognized accreditation body.

Regional Profile

With respect to the Caribbean region as a whole, a number of issues and trends emerged that impact on the region's need for HRH as well as its overall capacity to respond to them. With three-quarters of the region experiencing a net loss through HRH emigration, several countries have recorded a decline in total population. Life expectancy is down in three countries and infant mortality rates have been slow to improve. While the incidence of AIDS has vastly improved, tuberculosis has shown little improvement. Growth in GDP has dropped in half the countries of region with a corresponding drop in public expenditure on health overall in many of the countries. More than half the countries have experienced a decline in physician numbers,

while three countries are below the minimum recommended per capita target levels for total HRH. Nurse and physician emigration rates are high, exacerbating shortages for registered nurses and many medical specialties. Health education training program accreditation remains an issue and program attrition rates are often in excess of twenty percent. While much of the health workforce is relatively young, several countries have an aging medical and dental health workforce.

Regional Goals

Progress has been made in the region, with almost half of the goals well underway. Goals 4 and 12 have been achieved in all nine countries with another five goals being reached by more than half the countries in the region. Some goals (6, 9, 13 and 18) were not applicable to all countries, but this may change as populations alter; e.g. as a population becomes more diverse there may be a need for the composition of HRH to reflect these changes. Paucity of data was an issue for 9 out of the 20 goals and this is an issue that will need to be addressed over time to facilitate efficient monitoring and a comprehensive approach to overcoming the 5 challenges to HRH that were described in the *Toronto Call to Action*.

Conclusions

The results of the review suggest that the size and mix of the health workforces within the Caribbean region are improving but that more attention is still required to strengthen HRH planning capacity, ongoing skills development, geographic distribution and workforce retention.

Country profiles on HRH issues were not consistent across the region: while some countries scored well on some goals and indicators, they often scored lower on other measures. Issues of workplace support, the out-migration of health workers, the dependence upon immigrant health workers, training program size, attrition and accreditation, workforce geographic and professional distribution, health professional vacancies (particularly for physicians and nurses), combined with insufficient HRH information systems and inadequately staffed and supported HRH Planning Units, still loom large. It would be useful to explore further how the countries may share common areas of concern with regard to these issues. Understanding the impacts of these issues on the outcomes of the goals measurements and the HRH data would provide important insight into how targeted initiatives might address the most key problem areas. In addition, identifying shared priority need areas among groups of countries would enable collaborative effort to address these shortcomings. While considerable progress has been made, much work remains to be done. Further action is required to identify and implement appropriate enabling conditions, including supportive HRH policies, programs and partnerships, to ensure relevant and sustainable opportunities for workforce development and management to meet the future health care needs of the population.

The Caribbean region would benefit from continuing support for data development, HRH program coordination and evaluation and enhanced collaboration across the Caribbean with respect to workforce migration. With respect to planning, it will be important to build on the strengths and successes of the most recent HRH initiatives.

Chapter One: Introduction

1.1 Background and Context

Historically, human resources for health (HRH), or workforce management, was a responsibility of the public administration ministry or related departments of governments. Within this realm, the management of the health workforce consisted of filling posts and dispensing payments and benefits. Because of this management process, there was little if any strategic planning or monitoring of the production, distribution and management of the health workforce. Despite the fact that the success of the health systems and the front line of implementation of national health plans is carried out by the human resources for health, there had been little thought, political will, or fiscal space dedicated to the planning, development and management of HRH.

By the 21st century, however, common understanding had shifted and national decision makers had begun to invest political and financial resources into strengthening the health workforce so that, as the interface between the health system and the care received, this cornerstone of the health system would align with the objectives of the national authorities and the best interests of the population.

HRH planning (*Appendix G*) is about ensuring that there are enough health workers to meet the health care needs of the population, both now and in the future. The lack of an adequate health workforce in terms of supply, mix, distribution and training is a viewed as one of the most important challenges of the health system of the Region of the Americas and a major barrier for countries to achieve their national health goals.

1.2 Global Focus on the Importance of Human Resources for Health

Key International Publications

At the turn of the century, the health workforce, or human resources in health (HRH), began to be more widely understood as a critical cornerstone to the effectiveness of any health system. The Joint Learning Initiative (JLI) spotlighted the urgent need for HRH development in its 2004 publication, Human Resources for Health: Overcoming the Crisis.[1]

Following the JLI publication, the World Health Organization unveiled its 2006 annual World Health Report on Human Resources for Health: The World Health Report 2006: Working Together for Health.[2]

1. 2004, The President and Fellows of Harvard College; Website link: *http://www.who.int/hrh/documents/JLi_hrh_report.pdf*.
2. 2006, World Health Organization; Website Link: *http://www.who.int/whr/2006/whr06_en.pdf*.

Kampala Declaration and the Global Health Workforce Alliance

The global crisis was considered so urgent, that the WHO authorized a separate body to be formed, in partnership with a number of countries and supporters to cooperate with WHO in its effort to advance the development of the national health workforces, particularly those human resources in Africa, who needed a strong HRH to achieve the MDGs. This organization, the Global Health Workforce Alliance (GHWA), would work closely with WHO and would have flexibility in working with country leadership, external partners, NGOs and key stakeholders. GHWA held the first ever global forum on HRH in 2008 in Kampala Uganda, with delegates from over 57 countries, and almost 1000 forum participants. From this forum came the Kampala Declaration,[3] which called on governments to address their health human resources development with focused strategies supported by political mandate and national resources.

1.3 Regional Focus

Observatories for HRH in the Americas

As global attention led to national and international initiatives to address the HRH crisis, the countries of the Americas were also addressing the need for a more well-developed workforce, which would be trained and disbursed to align with the priority health needs of the country. Many of the countries of Latin America and the Caribbean formed loosely defined "Observatories for Human Resources in Health," which were made up of Health Ministry leadership and stakeholders from various sectors who began sharing information, research, and debate over national and Regional health workforce policies.

In the late 1990's and early 2000, these stakeholder groups, representing health, academia, labour, finance, and other sectors, formed a group of Regional Observatories for Human Resources in Health, which held their first Regional meeting of Observatories in Toronto, Ontario, Canada in 2005.

The Toronto Call to Action

The Toronto Call to Action: Towards a Decade of Human Resources for Health in the Americas (2006-2015)[4] brought together discussions of the working groups at the Seventh Regional Meeting of the Observatories of Human Resources in Health held in Toronto, Ontario in October, 2005. The Toronto Call to Action aimed to mobilize the health sector, nationally and internationally, to collectively strengthen the human resources in health (HRH), through both policies and interventions, in order to achieve the Millennium Development Goals and to provide access to quality health services for all the peoples of the Americas by the year 2015. The objectives and strategic challenges that were discussed highlighted five areas of shared concern for HRH development of the Region:

i) Build long-range policies and plans to adapt the work force to the changes in the health system.

3. "Health Workers for All and All for Health Workers: The Kampala Declaration and Agenda for Global Action." Website link: *http://www.who.int/workforcealliance/forum/2_declaration_final.pdf*.

4. Http://www.observarh.org/fulltext/torontocalltoaction.pdf.

ii) Put the right people in the right places, achieving an equitable distribution according to the health needs of the population.

iii) Promote national and international initiatives for countries affected by migration to retain their health workers and avoid personnel deficits.

iv) Achieve healthy workplaces and promote a commitment of the health work force with the mission of providing quality services to the whole population.

v) Develop mechanisms of cooperation between training institutions and the health services institutions to produce sensitive and qualified health professionals.

Additionally when coordinating efforts to overcome these five challenges, it is important to consider the following "guiding principles" that were also provided:

Human resources are the foundation of the health system;

Working in the health field provides a public service and demands a social responsibility, and

Health workers are the key players in the development and improvement of health systems.

Building momentum for future collaborative action, the *Toronto Call to Action* strongly reinforced the need for making medium and long-term, directed and coordinated efforts to promote, strengthen and develop HRH in all the countries of the Region of the Americas. To this end, it was recognized that a planned and sustained effort was needed that would require not only internal work in countries, but also collaboration among countries, sharing experiences and knowledge.

Health Agenda for the Americas

In June 2007, the Health Agenda for the Americas 2008-2017,[5] was launched by the Health Ministers of the Region during the 37th regular session of the General Assembly of the Organization of American States (OAS). The Health Agenda expressed the shared vision of the countries of the Americas for addressing expected trends and challenges over the next decade to improve health among the peoples of the Region.

The Health Agenda specified eight areas of action: i) strengthening the national health authority; ii) tackling health determinants; iii) increasing social protection and access to quality health services; iv) diminishing health inequalities among countries and inequities within them; v) reducing the risk and burden of disease; vi) harnessing knowledge, science and technology; vii) strengthening health security; and, viii) strengthening the management and development of health workers.

With respect to the health workers, the Health Agenda reflected the five challenges of the *Toronto Call to Action*, underscoring the need to collaborate to address the principal challenges of:

Defining long-term evidence-based policies and plans to develop HRH;

5. *Http://aplicaciones.medioambiente.gov.ar/archivos/web/trabajo/File/Herramientas%20y%20comunicados/OPS%20Agenda%202008%20-%202017.pdf*.

Resolving inequities in the distribution of health workers;

Promoting national and international initiatives for countries to retain HRH and avoid deficits;

Improving personnel management capacity and working conditions, and

Linking health services training institutions for joint planning to address the needs and profiles of health professionals in the future.

The Agenda incorporates and complements the global agenda included in WHO's Eleventh General Program of Work, adopted by the Member States at the 59th World Health Assembly in May, 2006, and is in alignment with the goals of the Millennium Declaration.

Regional Goals for Human Resources for Health 2007-2015

At the 27th Pan American Sanitary Conference in July 2007, twenty Regional Goals, organized under the five principal challenges defined in the *Toronto Call to Action* and outlined in the Health Agenda, were presented and ratified in **Resolution # CSP27/10, "Regional Goals for Human Resources for Health 2007-2015."** The Regional goals were intended as benchmarks against which to assess the attainment or progress in overcoming each of the five challenges of the *Toronto Call to Action*. The goals provide an orientation for analysis and formulation of workforce planning priorities and national ten-year HRH plans, according to the specific situation of each country and objectives that are realistic to attain in each context.

After the ratification of the Resolution, teams of researchers, strategic planners, and policy makers from the HRH Observatory networks in each country began to define the baseline values of their health workforces and will monitor the progress achieved over the decade. The identification of Regional goals for the Americas, and an assessment of the status of individual countries in relation to these targets, will contribute to the development of national plans of action and regional strategies for collaborative efforts in the Americas Region and technical cooperation across country borders. Of the Caribbean countries, 10 countries completed their baseline measurements by 2010. These countries are: Belize, Trinidad and Tobago, Jamaica, Barbados, Grenada, Montserrat, Anguilla, Dominica, and St. Lucia.

1.4 The Caribbean

Caribbean Cooperation in Health Initiative (CCH II and CCH III)

While national governments came together at the global level, and the Americas came together to set their own Regional agenda for improving the strength of their health workforces, the Caribbean countries joined the commitment.

The Caribbean Community (CARICOM) body established the CCH, or Caribbean Cooperation in Health Initiative (CCH) to establish common commitment and cooperation to improving the health of the Caribbean people and overcoming common obstacles to that end. The first CCH was introduced in 1984 at a meeting of the former CARICOM Conference of Ministers responsible for Health (CMH). The CMH saw this as a mechanism for health

development through increasing collaboration and promoting technical cooperation among countries in the Caribbean. The first initiative was to be applied from 1992 to 1994.

Both the CCH II (1997-2001) and the CCH III (2010-2015) identified the development of HRH as a key objective and commitment of the regional body of Caribbean nations.

Data Management Project in the Caribbean

In line with the global recognition and urgency with regard to the need of strengthening health human resources, and in compliance and concurrence with the mandates of the CARICOM body of nations, the countries of the Caribbean region undertook an analysis of the status of their health workforces, as the first step toward improving the training, distribution, and management of the nation's valuable health resource.

After their signing on to the commitments of the *Toronto Call to Action*, the countries of the Caribbean held their first HRH meeting in Kingston, Jamaica in 2007. During this meeting the country delegates discussed their objectives to strengthen the HRH strategic planning capacity at the national levels, and to develop policies and plans that would address the five shared challenges.

It was evident that to make these plans the countries would need to have a clear picture of the current workforce status in their countries, and to have a reasonable set of core data that would give them evidence on which to base the decisions regarding HRH priorities and strategies.

The PAHO country offices, with technical support from the PAHO Regional office and through political and financial partnership with the Canadian International Development Agency (CIDA), answered this need expressed by the health ministries. Through the Data Management Project, countries of the Caribbean partnered academic researchers with Ministry policy makers to work as a team to develop a core HRH data set and establish a network of key stakeholders that would contribute HRH information to the Ministry's HRH planning, and to participate in relevant policy debate.

The purpose of the Data Management Project was four-fold:

i) The development of a data set of the health workforce in the country, focusing on stocks and flows, education data, and management and regulation information;

ii) From this data, the initiative would provide a description of the main HRH situation:

iii) The report would provide a summary of a limited set of problems or challenges related to Human Resources that hamper the improvement of the health system, and

iv) A key outcome of the exercise was the defining of a data collection/management process that would be part of a sustainable updating practice.

The ten countries of the Caribbean that completed their data management projects and that established a core data set were: Trinidad and Tobago, Guyana, Jamaica, Belize, Barbados, St. Lucia, Dominica, St. Vincent and the Grenadines, Anguilla, and Montserrat. From these datasets, the Ministries gained a snapshot of their current HRH landscape, and were able to begin tracking the changes and trends with help from the stakeholders who contributed to the project. Note that Guyana did not participate in the specific Data Management Project, but it did assess its health human resources for a 2009 report and therefore Guyana is included in this report's summary of HRH data in the Caribbean. There are 11 countries summarized in that

section. Only nine countries completed their 20 goals baseline measurement. St. Vincent and the Grenadines did not complete in the 20 goal baseline measurement between 2009 and 2011.

Regional Goals for Human Resources for Health: Baseline Measurements in the Caribbean

Upon completing the data management projects, the participating countries were poised to use the capacities developed for information sharing and analysis to expand their workforce evidence to include a baseline measurement of the Regional goals for HRH.

In a second initiative, the 9 countries published reports on their national situation with respect to each of the 20 goals for human resources development for the decade.

1.5 Purpose and Objectives of Measuring and Monitoring HRH in the Caribbean

The overall purpose of the Baseline Indicators and Core Data Management Projects for Human Resources in Health were to:

i) To assess and analyze the status of country's human resources in health;

ii) To strengthen the capacity of the HRH steering role of the Ministry of Health so that the Ministry, with its network of stakeholder institutions, will be able to track and monitor changes and trends in the health workforce and in the resulting impacts on population health;

iii) To enable to Ministry of Health to identify priority areas for HRH development and integrate workforce initiatives that will support and complement the national health plan;

iv) To enable the Ministry of Health to measure, analyze, and monitor the 20 goals over time, using a standardized and consistent process;

v) To provide various indicators from the core data set and the 20 goals as evidence to define national workforce development priorities, to guide strategies and to inform policy decisions, and

vi) To support countries in their efforts to establish information systems and networks for knowledge exchange and evidence-building that are sustainable.

1.6 The Approach: Collection, Management, and Evaluation of HRH Data to Develop a Core Data Set and Establish the Baseline percentages for the 20 Goals

HRH Data Collection and Measurement

This summary reviews the results of data collection and analysis in the Caribbean Region carried out from May 2009 to January 2011. This review relies on the core data collected to provide a general description of each country's workforce landscape, and then shows the baseline status for each of the 20 goals of the participating countries of the Caribbean region, comparing and contrasting the nine countries that have completed their baseline measurement.

Guyana has not yet formally undertaken a baseline measurement of its 20 goals, but its evaluation of the core data of the workforce mentioned previously and its assessment of the current needs for its development and improvement address some of the regional goals and provide information to determine Guyana's baseline with respect to several of the goals. Those findings will be discussed in a separate section.

In completing the core data management project and/or the 20 goals baseline measurement, the countries assembled a of researchers from one of the national universities or other academic institution with policy makers from the Health Ministry, along with other technical professionals from the public service administration, the government statistics office and/or other offices. These core teams worked closely with representatives from a number of other sectors to collect the necessary information and to verify data and analysis.

The aim of the study was not only to establish baselines for the 20 goals of HRH for the countries, but also to strengthen the cooperation and coordination of information sharing between health authorities and academia and between the Ministry of Health and its network of stakeholders from other sectors at national and sub-national levels (such as finance, labour, and NGOs, as well as the cooperation with public and private sectors). PAHO provided technical support to the countries through the input of country and Regional advisors and through the consultation of policy experts and analysts.

Measuring the Baselines for the 20 Goals in HRH

The indicator measurements were carried out according to the guidelines provided by the Handbook for Measurement and Monitoring: Indicators of the Regional Goals for Human Resources for Health (updated edition 2011).[6]

Each country project report defined the baseline for each of the 20 goals so that countries would be able to monitor their progress (both progress in achieving the HRH goals, and progress in improving the amount and quality of data collected.)

This publication provides a review of those country reports and provides a summary of where the Caribbean region as a whole stands at its baseline with regard to the achievement of the 20 Goals in Human Resources in Health. It also presents a general overview of the main similarities and differences among the participating Caribbean countries.

6. PAHO/WHO, *Handbook for Measurement and Monitoring*: Indicators of the Regional Goals for Human Resources for Health, Washington, D.C. (Updated Edition 2011).

Chapter Two: Profile of the Caribbean Region

2.1 Country Profiles *(Appendix A)*

General Information

The *eleven* countries of the Commonwealth (English-Speaking) Caribbean included in this review include Belize in northern Central America, the nine islands in the eastern Caribbean—Anguilla, Barbados, Dominica, Grenada, Jamaica, Montserrat, Saint Lucia, Trinidad and Tobago and Saint Vincent and the Grenadines—and Guyana in northern South America.

Anguilla is a British Dependent Territory and is the most northerly of the Leeward Islands in the Eastern Caribbean. It is 91 square kilometres with a population density of 171 people per square kilometre in 2010. Having just 21 percent of the land area of Barbados, Anguilla is the smallest island of the English-speaking Caribbean included in this review. In 2005, it ranked in 85th place worldwide in terms of population density.[7] About 90 percent of the population is of African descent with 27 percent non-Anguillan (2001).

Beginning in 2004 under the Ministry of Social Development, the Health Authority of Anguilla is comprised of the Princess Alexandra Hospital, Miriam Grumps Senior Citizens Home and Administration and Support Services and Community Health Care which primary health care including nursing and dental services. Anguilla has a public sector health service that requires fee payment at the point of care delivery.

The island of **Barbados** is about 430 square kilometres, consisting of 11 parishes. With 597 people per square kilometre, it is one of the most densely populated nations in the world, ranking in 16th out of 233 countries in 2005. About 93 percent of Barbados is of African descent.

Responsible for the health of the population of Barbados, the Ministry of Health provides the steering role and health sector vision with respect to strategic direction, policies, regulations and standards. In 2002, the Queen Elizabeth Hospital Act was passed, which allowed the only public tertiary general hospital to be government by a management board and not the Ministry of Health. This island has eight polyclinics that are responsible for the delivery of primary care services, including maternal and child health services, dental services and general practitioner visits.

Belize is the northern most country in Central America with a total land area of 22,770 square kilometres. The second largest country in the region, it is only 10.6 percent of the size of Guyana. It is 17.7 percent larger, however, than the combined size of all of the English-speaking islands in this review. Divided into six districts and thirty-one constituents, the estimated population density of the country is 14 people per square kilometre. The country is not densely populated and ranks in 206th globally in terms of persons per square kilometre and 155th in terms of persons per square kilometre of arable land. Belize is a diverse society, comprising

7. *Http://en.wikipedia.org/wiki/List_of_countries_by_real_population density*.

may cultures and languages. The principal ethnic groups are Mestizo (53 percent), Creole (25 percent), Maya (10 percent) and Garifuna (7 percent).

The Ministry of Health holds responsibility for national health planning, public health protection, regulation, research, quality and standards, international and regional cooperation and monitoring the overall performance of the national health system. Belize is divided into four Health Regions. There are eight hospitals operated by the Ministry of Health, three regional hospitals, three community hospitals, a mental health hospital and a national referral hospital (Karl Heusner Memorial Hospital). In addition there are 39 health centres, 28 health posts and three polyclinics, two mental health institutions and an STI clinic. Outreach community services include dental health, mental health and communicable disease prevention and control. The Public Health Nurse is responsible for all traditional functions of the PHC team, excluding acute conditions and emergency treatment.

The island of **Dominica** in the eastern Caribbean is 751 square kilometres with a population density of about 89 people per square kilometre. It is the third largest island in the English-speaking Caribbean, behind Trinidad and Tobago, included in this review. In terms of population of population density, it ranks 107th globally. The country is comprised of 10 administrative parishes, St. George and St. Andrew have the largest population. In 2001, about 86 percent of the island's residents are of African descent.

The Ministry of Health includes Administration, Medical Stores, the Health Promotion Resource Centre and the Health Information Unit. With respect to health services management, the country is divided into two regions and seven health districts. Health clinics serve between 600 and 1000 persons, all within five miles of the clinic. Two district hospitals (Marigot and Portsmouth) and 54 health centres and clinics form the primary health care sector. Primary care services are fully decentralized and are provided free of charge.

Grenada is situated in the south eastern Caribbean and consists of the main island of Grenada, Carriacou, Petite Martinique and six smaller islands. It has a total land area of just over 344 square kilometres and comprises seven administrative parishes. Its population density is 294 persons per square kilometre, ranking 47th worldwide, while in terms of its density per square kilometre of arable land, it rises to 23rd place. Similar to Dominica and Grenada, 89 percent of its population is of African descent.

The Ministry of Health, Social Security and the Environment is responsible for the overall management of the health sector in Grenada. The Ministry has a centralized management system which is divided into Administration, Hospital Services and Community Health Services. The country is divided into six health districts, each with a health centre and a network of 30 medical stations. There is one general hospital in St. George, as well as a district hospital in both St. Andrew and Carriacou. The medical stations provide an initial contact point with the public health care system, providing access all within a three-mile radius of home.

Guyana is a sovereign state on the northern coast of South America that is culturally a part of the Anglophone Caribbean. A member of CARICOM, it is the only state of the Commonwealth of Nations on mainland South America. At 215,000 square kilometres, it is the third smallest independent state in South America. With a population of only 3.6 persons per square kilometre, its population density ranks in 221st place out of 233 countries worldwide. About 43 percent of its population is East Indian while 30 percent is of African descent.

The Ministry of Health's broad responsibilities include policy formulation, policy setting, monitoring and evaluation and program implementation. Guyana's public health care system is highly decentralized, however, with the Ministry of Local Government and Regional

Development having responsibility for financing and providing services at the regional level through the Regional Democratic Councils. The Ministry of Health provides technical

support and some of the human resources to this effort. The private sector functions independently. In 2008, health workers were employed in 380 health institutions across the 10 regions of Guyana. There are 6 regional hospitals,[8] six private hospitals, a national and geriatric hospital and a rehabilitation centre.

With a land area of 11,424 square kilometres, **Jamaica** is by far the largest English-speaking island in the Caribbean, over 45 percent larger than all of the other islands combined. The country is divided into 14 parishes. Kingston, its largest city, had a population of 2.65 million in 2005. With a population density of 248 persons per square kilometre, it ranks in 49th place worldwide. Jamaica is generally homogenous in terms of its ethnic mix with 97 percent of its population being of African descent.

In Jamaica, public sector health services are provided through a network of primary, secondary and tertiary care facilities through its 24 hospitals, including the University Hospital of the West Indies. The public sector hospitals provide 95 percent of hospital-based care, while the private sector dominates pharmaceutical and diagnostic services. PHC delivery, currently offered through 316 health centres through the country, has been in existence for well over thirty years. PHC services include maternal and child health, dental, STI and mental health services.

Montserrat is a British overseas territory located in the Lesser Antilles in the Caribbean Sea. Only 16 kilometres long and 11 kilometres wide, it has an area of 104 square kilometres. It is the second smallest island in this review. With a population density of 58 persons per square kilometre it places in 106th place globally in terms of population density, but falls to 143rd place overall with respect to population density per square kilometre of arable land. Montserrat is divided into three parishes: Saint Anthony, Saint Georges and Saint Peter, the last being the only inhabited parish as the result of volcanic activity. West African, Creole and British constitute the largest ethnic groups on the island.

Montserrat's Department of Health is responsible for administering primary and secondary health care services in the country and assisting Montserratians who wish to access tertiary care elsewhere in the Caribbean. Secondary care is provided by Glendon Hospital and primary care services are provided through four health districts. While public sector health service requires fee payment at the point of care, services are free for children, public sector workers, persons over 60 years of age and those with chronic diseases.

With a total land area of 620 square kilometres, the population density of the island of **Saint Lucia** is estimated to be 323 persons per square kilometre, ranking in 45th place globally. With respect to arable land per square kilometre its ranking rose to 25th place. The island is comprised of 11 administrative districts, with Castries and Vieux Fort having the largest populations. About 83 percent of the population is of Africa descent with 12 percent of mixed race.

The Ministry of Health has two main divisions; administration and service delivery. The Ministry is the sole provider of primary and secondary health care services in the public sector. For purposes of health planning and management, the island is divided into eight health regions. Saint Lucia has two general hospitals (Victoria and St. Jude's) providing secondary and specialized services. Most tertiary services are provided by other countries in the region. PHC is provided through two district hospitals, 35 health centres and one polyclinic.

8. Ministry of Health of Guyana, Statistics Unit, Statistical Bulletin, 2004 and 2008.

Saint Vincent and the Grenadines is an island country is the Lesser Antilles chain. Its 389 square kilometre territory consists of the main island of Saint Vincent and the northern two-thirds of the Grenadines, a chain of smaller islands which stretch south from Saint Vincent Island to Grenada. Saint Vincent and the Grenadines is densely populated (over 300 inhabitants per square kilometre), ranking in 41st place globally in terms of population density. Administratively the country is divided into six parishes, five in Saint Vincent and one for the 7 islands of the Grenadines. In 2009, the ethnic descent was 66 percent Africa descent, 20 percent mixed descent and 6 percent East Indian.

The Ministry of Health and the Environment provides primary, secondary, and tertiary health services through its 14 programs. In addition, the Department is responsible for offering health promotion, nutrition and health education services to the population, as well as protecting and preserving the environment. Thirty-nine health centers provide services across nine health districts. On average, each health center is equipped to provide services to a catchment population of 2,900 persons, and no person is required to travel more than three miles to access care.

Trinidad and Tobago is the second largest southernmost territory of the West Indies. Although it is only about 45 percent of the size of Jamaica, it is almost double the size of all of the other English-speaking Caribbean islands included in this review. With a total area of 5,128 square kilometres, it has a population density of 262 person per square kilometre (54th place globally). Ninety-six percent of the population reside in Trinidad. Local government consists of 14 corporations made up of two cities, three boroughs and nine regional corporations. Approximately 40 percent of the population is East Indian while about 39.5 percent is of African descent.

With the delivery of health care services in Trinidad and Tobago devolved to five Regional Health Authorities (RHA's), the role of the Ministry of Health is to finance and manage the health facilities by through policies and service agreements, and establishing needs-based regional goals and targets. Trinidad has three general hospitals, two district hospitals, four specialist hospitals and 84 health centres. With an emphasis on PHC, the aim was to expand diagnosis and treatment in non-hospital settings. While the health sector is a mixture of public and private health care institutions, the majority of the population is served by the public health facilities where there is no cost to access medical care. People come to Trinidad and Tobago from other CARICOM countries seeking tertiary medical care, particularly in oncology and cardiac surgery.

Health Reform

Anguilla developed a five-year national strategic plan for health in 2003 that identified ten priority areas that emphasized improvements in the development and management of health systems, services and human resources for health. A Health Authority was established to take responsibility for the more efficient management of health services including primary health care. A comparable strategic plan was developed by **Barbados** in 2002 that also emphasized service effectiveness, financial sustainability, equity and increased social participation as well as a shift from a medical model to a more client-focused model of care. The Health Sector Reform Program of **Belize** (2007-2011) included strengthening the stewardship and regulatory role of the Ministry of Health to improve access, quality and coordination of public and private s health service provision. Rolling out the National Health Insurance Scheme, as well as strengthening and streamlining HRH, was a central aim of Belize's reform program. In **Dominica** primary health care services are fully decentralized and provided free of charge. The 2002 Action Plan for Health Care in Dominica targeted women's reproductive health, promoting responsible sexual behaviour and enhancing the well-being of the elderly. In 2005, the government of

Grenada, emphasizing the long-term sustainability of its health system, embarked upon a five-year national plan under the theme "Health for Economic Growth and Development." **Guyana**'s National Health Sector Strategy (2008-2012) provides a detailed strategy for the implementation of Guyana's Package of Publically Guaranteed Health Services (PPGHS), the 2nd Edition of which was published in 2010. By 2012, it is expected that the health sector will be delivering services in accordance with the targets that have been defined in the package.

Jamaica's National Strategic Plan (2006) is outcomes-oriented and reflects national, regional and international development guidelines. Priorities are selected based on national health needs and the island's disease burden, as well as the Millennium Development Goals. Emphasis is placed on reducing threats to population health through improved public education and health promotion. Expanded PHC services are the basis for improved community health. **Montserrat's** Sustainable Development Plan (2003-2007) primary objective is to delivery affordable and accessible care. The adequate provision of medical and nurse training is considered key to achieving the vision. In addition to priorities identified elsewhere, **Saint Lucia** since 2006 has been supporting the production of well-trained and motivated staff, an effective information system to support evidence-based planning and a system of continuous quality improvement. Guided by local, regional and international policies, the Ministry of Health and the Environment of **Saint Vincent and the Grenadines** developed the 2006-2011 National Strategic Health Plan. The plan emphasizes expanding PHC to improve population health, adhering to the priorities set within the Caribbean Cooperation in Health Initiative and linking health sector direction to the results of the analysis of the country's Essential Public Health Function. In addition, the regional initiative for extending social protection in health is intended to facilitate greater collaboration with the National Insurance Service as a way to address universal access to programs and services.

In **Trinidad and Tobago**, the Ministry of Health's Vision 2020, in addition to many of the strategies to improve the quality and performance of the health system listed by other jurisdictions above, focuses on strengthening health research systems for evidence-based decision making and policy development. The Ministry's Business Plan Model (2008) focuses on strengthening RHA's and the continuous quality improvement in service delivery, including the ongoing development of health worker skills aimed at providing optimal and sustainable community-based client-focused care.

Health Education (Appendix B)

The University of the West Indies (UWI) is a principal resource with respect to providing training for health care workers across the Caribbean region. It has five campuses: Barbados, Jamaica, Trinidad and Tobago, the Bahamas and an open campus for distance education with each campus offering a different selection of courses.

Other than UWI, **Anguilla's** principal option for training health workers is St. James School of Medicine, an off-shore, private university. **Barbados** trains health professionals at the Barbados Community College and through UWI. While the majority of health sector training is offered in Jamaica and Trinidad and Tobago, UWI's Cave Hill campus, one of three in Barbados, is now offering a medical degree. **Belize** does not have a medical school and trains students through scholarships and bilateral agreements and with other countries—primarily Cuba—as do many other countries in the region. UWI is mandated by CARICOM to provide space at UWI for Belize students. The University of Belize graduates up to 90 health professionals annually from its Faculty of Nursing, Allied Health and Social Work. In addition to access to two off-shore universities (Ross University School of Medicine and All Saints University), **Dominica's** main HRH training resource is the Dominica State College which

includes a Faculty of Health Sciences. Residents of **Grenada** have access to the T.A. Marryshow Community College, which includes training in nursing and pharmacy, and St. George's University, an off-shore private school that offers graduate degrees in the sciences and public health as well as a School of Medicine. The University of **Guyana** has a Faculty of Health Sciences and a School of Medicine and offers Bachelor of Science degrees in medical technology and nursing, and associate degrees in pharmacy, environmental health and radiography. There is one private and three public nursing schools. The Ministry of Health Department of Health Sciences Education trains the lower and mid-level cadres who serve primarily in rural areas. Training lasts 12-18 months and is provided for rural midwives, x-ray technicians, laboratory assistants, rehabilitation assistants, environmental health assistants and for the 'medex' (physician assistants).

Physicians and medical specialists are trained in thirty-two programs, all offered at UWI, in **Jamaica**. Nursing training is offered in twenty programs at eight institutions while practical nursing is offered in thirty-eight privately operated institutions. There is one private university and one private nursing school. The School of Dental Sciences of U-Tech (The University of Technology of Jamaica) provides a strong dental program. There are four degrees offered in dentistry by U-Tech: a doctor of medical dentistry (DMD) in Dental Surgery; and a B.Sc. in Dental Hygiene, Dental Laboratory Technology, or Dental Nursing/Therapy. Uech also offers a diploma in Dental Assisting. At the **Montserrat** Community College, which commenced in 2006, training is provided for nurses and nursing assistants. While health professional training opportunities also exist at UWI, nationals often leave the region for tertiary education. The sir Arthur Lewis Community College in **Saint Lucia**, established in 1985, offers a range of programs in the health sciences, including nursing, midwifery and nursing aides. There are also three off-shore medical schools; the Spartan Health Sciences University, Destiny University and the International American University.

Saint Vincent and the Grenadines has two training institutions for health care professionals: the Government-run School of Nursing and the private off-shore Kingstown Medical College, an affiliate of the St. George's Medical School headquartered in Grenada. Health care professionals also receive training at regional institutions with the Caribbean as well as overseas.

In **Trinidad and Tobago**, UWI's (UWI St. Augustine campus) Faculty of Medicine offers undergraduate programs in medicine, dentistry, nursing and pharmacy, as well as graduate programs in child health, surgery and dentistry, as well as specialty training programs in obstetrics and gynaecology, anaesthesia, psychiatry, radiology and orthopaedics.

St. George's University also offers training in medicine. The University of the Southern Caribbean grants a bachelor's of science degree in nursing. The College of Science, Technology and Applied Arts and the Ministry of Health both offer basic training for registered nurses and nursing assistants.

2.2 Demography *(Appendix C)*

Population Trends

The total population of the eleven Caribbean countries included in this review was 5.7 million in 2005. On an individual basis, the size of the countries varied considerably, ranging from 9 thousand (**Montserrat**) and 13 thousand (**Anguilla**) to 1.3 million (**Trinidad and Tobago**) and 2.65 million (**Jamaica**). While **Montserrat and Anguilla** together totalled about

0.4 percent of the region's total population in that year, **Jamaica and Trinidad** combined represented 69.3 percent.

The region's population increased from 5.7 million in 2005 to 5.9 million in 2010, representing a total increase of 3.4 percent, or about a 0.67 percent annual growth over that period. In 2005, country annual population growth rates varied from a low of -0.3 in **Dominica** (the only country to record a loss in that year) to a high of 2.0 percent in **Belize**. By 2010, the country annual population growth rates ranges from a low of -0.3 in the **Grenadines** and -0.2 in **Guyana**, to a high of 2.0 percent and 2.2 percent in Belize and Anguilla, respectively. **Belize and Anguilla** maintained the strongest percentage population growth rate in the region between 2005 and 2010. While annual population growth rates also increased in 4 other countries (Barbados, **Dominica, Grenada and Trinidad and Tobago**), the five remaining countries (**Guyana, Jamaica, Montserrat, Saint Lucia and Saint Vincent and the Grenadines**) all recorded a reduction in their population growth rates over that period.

In the Region of the Americas the largest population growth generally occurred in '*urban'* areas. Between 1980 and the year 2000, for example, the number of urban dwellers grew from 69 percent of the population to 76 percent over those two decades. Within the Caribbean region, however, only three countries—**Dominica, Anguilla and Trinidad and Tobago—**have over 70 percent of their population residing in urban areas. Given the relative size and geography of many countries in the Caribbean, however, the size and growth of their urban populations has been much less. Six of the eleven countries reviewed all reported urban populations less than 50 percent in 2005. Furthermore by 2010, seven countries (63.6 percent) indicated that their urban populations had grown smaller.

The total fertility rates (number of children per woman) were lowest in **Barbados** at 1.5, with Anguilla and Saint Lucia both recording rates of 1.7. **Belize and Dominica** recorded the highest fertility rates (3.0) in the region. Total births per 1,000 population in that year ranged from a low in **Barbados** of 11.8 to a high in **Jamaica** of 17.6.

Birth rates continue to drop in a number of countries within the region (e.g. Saint Lucia), and there is also an increasing use birth control. Declining birth rates and increasing emigration rates have resulted in a decline in the population of half the countries in the region over the past five years.

Migration

When evaluating and monitoring health workforce migration, it is important to establish a context to reach an accurate understanding of the severity or not of workforce migration as it aligns with the general flow of peoples in and out of the countries assessed. Of the forty countries in the Region of the Americas for which data were available in 2005,[9] three countries of the Caribbean (Cayman Island, the Turks and Caicos and **Anguilla)** experienced the highest net gains in migration, averaging about twelve immigrants per 1,000 population, while **Antigua, Dominica and Grenada** averaged a net loss of about 10 emigrants per 1,000 population in the same year. Overall, six countries reported a positive net migration rate, five countries reported no impact, while twenty-nine countries (72.5 percent) reported a net loss.

9. Central Intelligence Agency, The World Factbook (2005), Field Listing: Country Net Migration Rate.

In 2010, the estimated net migration rates per 1,000 population in the Caribbean region[10] still remained a concern. Of the eleven countries highlighted in this report, only Anguilla was expected to have an increase in its population through immigration. All of the other eight countries in this review are forecast to have negative migration rates, i.e. in all cases the total number of emigrants leaving the countries is expected to exceed the total immigrants coming into each of the countries. The net migration rates ranged from a relatively balanced figure of -0.3 percent in **Barbados** to rather significant losses of -15.8 percent in **Guyana** and -11.2 percent in **Saint Vincent and the Grenadines**. The net losses in the remaining five countries reviewed ranged from -3.7 percent in Grenada to -7.1 percent in **Trinidad and Tobago**.

This projected net loss of migrants from the Caribbean—particularly the loss of locally trained professionals—is likely to have a significant impact on individual countries capacity for economic growth and stability across the entire region.

2.3 Population Health *(Appendix C)*

Life Expectancy

In 2005, life expectancy ranged from 64.4 years in **Guyana** to 78.7 years in **Montserrat,** with a median age of 71.8. By 2010, the range increased to 67.9 in **Guyana** and 80.8 in **Anguilla,** with a median of 73.9. Only three countries (**Barbados, Montserrat and Trinidad and Tobago**) recorded slight decreases in their life expectancy rates.

With respect to gender, women's life expectancy was greater than men's in all countries in 2007, ranging from a difference of only 3.1 years in Saint Lucia and 4.1 years in **Jamaica**, to the greatest range of 6.6 years in Barbados. Female life expectancy was greatest in Anguilla (80.3), **Barbados and Dominica**, while males lived longest in **Anguilla** (74.3), **Grenada and Barbados**. **Trinidad and Tobago** had the lowest life expectancy for both men (69 in 2005) and women (74) in the region, followed closely by **Belize**.

Infant and Child Health

Both infant and under five mortality rates are important indicators of population health and identify key targets and priority areas for country improvements as identified by the WHO Millennium Development Goals. In the period between 2005 and 2009, infant mortality rates (per 1,000 live births) in the nine countries for which data was available, ranged from 11.2 in **Grenada** to 24.1 in **Jamaica**. In terms of actual annual percentage change in infant mortality rates between 2004 and 2009, **Barbados** reported the largest average annual percentage reduction of -8 percent, double the median value of about -4 percent. **Guyana and Saint Vincent and the Grenadines** recorded the lowest annual decline in infant mortality rates over the period of -2.0 and -0.3, respectively. If they are to reach their Millennium Goals with respect to this indicator, countries of the region will have to reduce their infant mortality rates by about 13 percent annually between 2010 and 2015. **Saint Vincent and the Grenadines and Trinidad**

10. Central Intelligence Agency, The World Factbook (2009), Field Listing: Country Net Migration Rates. February 2010. *Note*: This entry includes the figure for the difference between the number of persons entering and leaving a country during the year per 1,000 persons (based on midyear population). An excess of persons entering the country is referred to as net immigration, and excess leaving the country as net emigration. The net migration rate indicates the contribution of migration to the overall level of population change.

and Tobago will have to decrease their infant mortality rates by 18.8 and 20.3 percent over this period in order to achieve the Millennium Goal targets.

With respect to children under five, the region's mortality rates (per 1,000 live births) ranged from 10 to 61 in 2008. For the five countries for which comparative data was available, **Belize and Saint Vincent and the Grenadines** made the most significant improvements in reducing the child mortality rates, each reducing their rate by over 50 percent between 2004 and 2008**. Dominica** (10 percent) and **Barbados** (11 percent) had the lowest children under five mortality rates while **Guyana** reported both the highest mortality rate (61 percent) and the rate lowest improvement (5.6 percent) over the four year period.

Low birth weight, which can be an indicator of both infant and maternal health as well as a predictor of child health over the longer term, remains an issue in several countries across the region. Over the period 2000-2004, the proportion of low births ranged from a rate of 2.0 in **Montserrat** to 11.9 in **Guyana**, with a median rate for the nine surveyed countries of 10.0 percent. By 2006-2009, it is noteworthy that only three countries reported modest improvements, averaging only 0.7 percentage points over the entire period, with a median rate of 10.1 percent. Three countries recorded significant increases in their incidence of low birth weights: **Anguilla and Belize** virtually doubled their rates to 17.9 percent and 8.4 percent, respectively, while **Montserrat**'s rate increased four-fold to 8.0 percent over the comparable period.

In considering the HRH planning and its impact on low birth rate and high maternal and child mortality rates, it is important to review strategies that affect these rates, and whether a country has health workers who are trained in primary health in health education, prenatal care and obstetric care and who are distributed effectively to allow access to all the population. These improved services, integrated with other controllable variables, certainly would facilitate the decrease of these rates.

Health Indicators

Diseases of the pulmonary system (including all hypertensive disease and ischemic heart disease) are consistently a leading *cause of death* in the Caribbean region in 2005. About 31 percent of all deaths in **Anguilla**, 29 percent of deaths in **Barbados** and almost 38 percent of deaths in **Montserrat** were related to some form of heart disease. In **Trinidad and Tobago**, for example, deaths from ischemic heart and hypertensive disease are the number one cause of death, outnumbering the next leading cause of death (diabetes mellitus) by 52 percent. Diabetes ranks in second place in most countries (in first place in **Saint Lucia**) across the region. Malignant neoplasms also ranked high: the primary cause of death in **Jamaica,** and ranking in second place (**Anguilla, Dominica and Grenada**) and in third place in **Trinidad and Tobago and Barbados**. Cerebrovascular disease, which generally ranked in third or fourth place in most countries, was the second leading cause of death in **Anguilla**.

The incidence of *tuberculosis and AIDS* are also significant indicators of population health across the region. The incidence of tuberculosis exhibited a very wide variance throughout the Caribbean region. While **Barbados** reported an incidence rate of only 1.9 percent (2002-2003) which was reduced to 1.1 percent by 2008, **Guyana** reported a rates 84.2 percent increasing to 85.5 percent over the comparable period. The media incidence rate in 2003 was about 10 percent. By 2008, only four countries (Barbados**, Belize, Jamaica and Saint Vincent and the Grenadines**) had improved their tuberculosis incidence rates. In contrast, while **Grenada and Trinidad** almost doubled their incidence rates to 4.7 percent and 20.9 percent, respectively,

Dominica recorded the largest change, increasing from 2.9 percent (2002) to 17.9 percent (2008).

By contrast, over the comparable period very dramatic improvements were made in the incidence of AIDS across all countries in the region. In the five year period between 2003 and 2008, the incidence of AIDS fell from most dramatically from 686 to 45 in **Saint Vincent and the Grenadines**, 508 to 33 in **Barbados**, 394 to 63 in **Belize** and 247 to 22 in **Grenada**. Even in **Anguilla**, which had one of the region's lowest incidence of AIDS in 2003 (77), reported a rate of only 7.3 percent in 2008. It is clear that disease specific health promotion programs on AIDS, supported by the Presidents Emergency Program for AIDS Relief (PEPFAR) and others, have had a high degree of success within the region.

With respect to the United Nations ranking of 172 countries on its 2010 Human Development Index (HDI)[11], **Barbados** listed 42nd worldwide. **Trinidad** (59th), **Belize** (78th) and **Jamaica** (80th) were also ranked. Countries that were ranked among the first 43 countries were considered very highly developed. Those falling between 44th and 86th were considered high developing countries. There was insufficient information available to rate the remaining 22 countries, including **Anguilla, Dominica, Grenada, Montserrat and Saint Lucia**.

2.4 Health Systems *(Appendix C)*

Health Expenditure

While national health expenditure as a percentage of gross domestic product (GDP) has reached the double-digits in North America, the median figure for the Caribbean region (combining both public and private expenditure) was 5.8 percent in 2002 and in 2007.

The median annual growth rate in GDP was 2.3 percent in 2003 and about 2.6 in 2007-08 for the Caribbean region as a whole. On an individual country basis, however, much more volatile swings in GDP growth were evident. Although **Dominica and Guyana** both exhibited GDP growth rates of -0.6 percent annually in 2003, their numbers had increased to 4.3 and 3.0 percent respectively by 2007-08. By contrast, however, GDP growth in the remaining six countries (**Belize, Grenada, Jamaica, Saint Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago**), recorded dramatic drops in the annual growth in GDP (e.g. 5.6 percentage points in **Belize** and 9.7 percentage points in **Trinidad and Tobago**), while both **Jamaica and Saint Vincent and the Grenadines** reported negative growth rates of -1.3 and -1.1 respectively, over the comparable period.

Public expenditure on health as a percentage of GDP ranged from 1.7 percent to 7.7 percent in 2003 with a median figure of 3.4. By 2007-08, the range was 0.6 percent 4.4 percent, with a median of about 1.8 percent. Private expenditure as a percentage of GDP also fell in all countries but **Grenada, Jamaica and Saint Lucia**. In 2003, private expenditure as a percentage of GDP surpassed public expenditure in **Jamaica, Montserrat and Guyana**. By 2007-08, private expenditure as a percentage of GDP surpassed the percentage of public expenditure in **Anguilla, Dominica, Grenada, St. Lucia and Saint Vincent and the Grenadines**.

11. *The Human Development Index* (HDI) is a comparative measure of life expectancy, literacy and education and standards of living for countries worldwide. It is a standard means of measuring well-being, especially child welfare and to measure the impact of economic policies on quality of life.

Falling GDP growth rates impacted each country's total health expenditures in different ways across the Caribbean region. While the drop in GDP in **Belize, Saint Vincent and the Grenadines and St. Lucia**, resulted in a drop in health expenditure as a percentage of GDP as well, for example, the impact of declining GDP has much less of an impact on overall health expenditures in **Jamaica, Grenada and Trinidad and Tobago**. Private sector health expenditure as a percentage of GDP also fell in all countries but **Grenada, Jamaica and St. Lucia** between 2002 and 2009.

In terms of gross national income per capita (purchasing power parity in international dollars), **Barbados** ($15,150) and **Trinidad and Tobago** ($16,800) surpassed all other countries in the region by a significant margin. Guyana reported the lowest earnings with a figure of $3,410. The income of the remaining six countries surveyed ranged from $6,220 (**Saint Vincent and the Grenadines**) and $8,770 (**Grenada)**, with regional median per capita income of $7,870. Per capita dollars spent on health ranged from $240 **(Jamaica**) to $1,155 (**Barbados**), with a median of $461. Although **Saint Vincent and the Grenadines** ranked in 8th place region with respect to gross national income per capita, they were in 5th place overall regarding per capital income spent on health. By contrast, Saint Lucia was in 4th place with respect to per capita income but in 7th place in reference to per capital health expenditure.

Chapter Three: Human Resources for Health

3.1 Historical Trends *(Appendix D)*

In the year 2001, the ratio of *physician* human resources per 10,000 population[12] ranged from lows of 1.8 in **Montserrat** and 2.6 in **Guyana,** to highs of 10.2 in **Belize** and 13.7 in **Barbados**. The median ratio of the number physicians per 10,000 population was 7.5. While the region's median population/ratio of physicians had remained relatively stable (7.6) by 2008, the supply of physicians on a country by country basis had changed. Three countries exhibited significant increases in their physician to population supply ratios, **Dominica** (4.9 to 17.0), **Trinidad and Tobago** (7.5 to 13.3) and **Saint Lucia** (5.8 to 8.0). By contrast, the other six countries for which data was available all reported declines in the physician to population ratios. While the declines were relatively small in **Grenada, Guyana and Saint Vincent and the Grenadines and Barbados**, the declines in **Belize** (10.2 to 7.0) and **Jamaica** (8.5 to 4.0) were more dramatic over the seven year period.

The ratio of *registered nurses* per 10,000 population in the Caribbean region in 2001 ranged from 8.6 in **Guyana** to 51.2 in **Barbados**, with a median ratio of 22.6. By 2008, the median ratio for registered nurses had fallen to 20.4 as a result of declining registered nurse supplies in **Barbados, Belize, Guyana, Saint Lucia and Trinidad and Tobago**. The most dramatic declines occurred in **Guyana** (8.6 to 4.0) and **Jamaica** (16.5 to 8.0), representing over a 50 percent drop over the seven year period between 2001 and 2008. In contrast, **Grenada, Saint Vincent and the Grenadines and Dominica** recorded improvements in their registered nurse to population ratios. **Grenada** in particular exhibited strong growth with a ratio that grew from 19.5 in 2001 to 43.9 in 2008. The emigration of health professionals is largely responsible for the decline in HRH ratios in the region (see Migration section below).

The Joint Learning Initiative has suggested that on average, countries with fewer than 25 health care professionals (physicians, nurses and midwives) per 10,000 population failed to achieve an 80 percent coverage rate for deliveries by skilled birth attendants or for measles immunization.[13] With respect to the combined ratio of physicians and nurses per 10,000 population, the results ranged from 11.2 (**Guyana)** to 64.9 (**Barbados**) with a median ratio of 28.4 for the region in 2001. By 2008, the median combined HRH ratio has risen to 30.0, with a range of 6.2 (**Guyana**) to 68.0 **(Dominica**). In 2008, only **Guyana, Belize and Jamaica** reported HRH ratios below 25 per 10,000 population, the minimum recommended levels to provide optimal delivery of health services. By 2010, all countries in the region had between 90 and 100 percent of both birth attendances and prenatal care provision provided by appropriately trained health personnel.

12. Health Situation in the Americas, *Basic Indicators Reports*, Health Information and Analysis, Pan American Health Organization, Washington, D.C., 2005/2010.

13. Chen L, Evans T et al. Human resources for health: overcoming the crisis. *Lancet*, 2004, 364:1984-1990.

3.2 Migration of Health Workforce

The emigration rates of physicians and nurses (defined as the share of the *total* population of domestically trained physicians and nurses who are residing abroad as a percent of the total current stock of physicians and nurses who are in the country at a defined point in time)[14] were high in most countries throughout the Caribbean region. In the year 2000, **Jamaica** (72.7 percent) and **Grenada** had the highest (72.2 percent) physician emigration rates in the region. **Saint Lucia** (4.9 percent) and **Belize** (23.2 percent) recorded the lowest physician emigration levels in the region. The rates for the remaining five countries in the region that were surveyed ranged from 46.1 percent **(Barbados**) to 60.4 percent (**Dominica**). By comparison, the emigration rates in the year 2000 were considerably higher for registered nurses throughout the region. The RN emigration rates ranged from a low of 52.7 percent (**Saint Lucia**) to highs of 87.7 percent (**Jamaica**) and 87.6 percent (**Grenada**), with a median rate of 81.1 percent, significantly higher than the regional median emigration rate for physicians of 53.2 percent.

A review of the top 30 countries with highest *annual* physician emigration rates (as a percent of current stock) at the global level[15] revealed that **Jamaica** held 20th place with respect to out-migration of physicians. **St. Lucia, Dominica and Grenada** ranked in 28th 29th and 30th place, respectively. While Jamaica's physician annual emigration rate had decreased from 0.45 percent of the total stock of physicians in 1990 to 0.34 percent in the year 2000, **Saint Lucia's** rates had increased from 0.47 percent in 1990 to 0.67 percent over the same period. The physician emigration rates for **Dominica and Grenada** both remained high at 0.96 percent over the decade.

The physician emigration rates for the Latin America and the Caribbean regions as a whole[16] increased from 3.9 percent in 1991 to 4.1 percent in 2004. While the emigration rate for the Caribbean region was slightly higher than the rate for OECD country rates as a whole (3.4 percent), it was far below the physician emigration rates recorded by South America (8.4 percent) and Sub-Sahara Africa (19.0 percent).

High emigration rates reduce a country's population growth and potentially reduce the overall size of the workforce. More effective human resource policies to better manage health care worker recruitment and retention—particularly in relation to the emigration of health professionals—have significant potential to reduce current and future workforce shortages in the region.

3.3 Current Supply (Appendices B & D)

The majority of health professionals in the region are employed in the *public health* sector. While **Montserrat** (46 percent), **Barbados** (58 percent), **St. Lucia** (58 percent) and **Grenada** (65 percent) represent the low end of the scale, **Dominica and Trinidad and Tobago** (both at 90 percent) employ the highest proportion of health professionals in the public sector. **Belize and Jamaica** represent the median figure of approximately 78 percent.

14. International Migration Outlook: Immigrant Health Workers in OECD Countries in the Broader Context of High Skilled Migration, SOPEMI 2007 Edition – ISBN 978-92-64-03285-9 OECD (2007).
15. Docquier F, Bhargava, A. *A New Panel Data Set on Physician Emigration Rates*, 1991-2004, April 2007, p. 12.
16. Ibid, p. 9.

Women have traditionally represented the majority of health care workers, totalling about 70 percent of the health workforce in the Region of the Americas[17] in 2002. While approximately 52 percent of health professionals in the public sector are women in **Anguilla**, 82 percent of the professional workforce is female in **Jamaica.** In the other countries in the Caribbean region, the percentage of women in the public health workforce ranges from 64 percent (**St. Lucia**) to 73 percent (**Barbados**), in line with the trend for the Region of the Americas as a whole.

Preliminary data on the *age* of the workforce in the region suggests that in several countries the health workforce is relatively young, but within a decade, concerns regarding an aging health workforce may become an issue, especially in the medical, dental and health administration fields. While the percentage of health workers over 50 years of age in **Anguilla** (19 percent), **Belize** (13 percent) and **Saint Lucia** (25 percent) is quite low, a comparable figure of 38 percent in **Barbados** is of much greater concern. Similarly, in **Jamaica** 50 percent of dentists and 37 percent of physicians are over 50, while 39 percent of Ministry of Health staff is over 50 in **Trinidad and Tobago**. Enrolment planning in health professional schools will need to include attrition due to an aging health workforce over the long term.

The number of *medical specialists* employed in the region's public sector as a percentage of the total medical workforce (physicians) exhibits considerable variance on a country by country basis. In **Anguilla** 85 percent of the medical workforce are specialists and in **Montserrat** all five physicians (100 percent) are specialists. In the case of Montserrat and other countries with a weighted percentage of specialists, the specialists also provide primary health care services. It should be noted that many countries now consider primary health care to be a specialty itself. In this measurement, the primary health care physicians, even if considered a specialty in the country, were not counted as a specialty because the point of this measurement is to assess the number of specialists as opposed to primary health care physicians available. Of the other seven countries surveyed, the percentage of specialists ranged from 16.9 percent in **Dominica** to 49.1 percent in **Jamaica**. **Barbados** (44.1 percent) represented the median for the region. The number of medical specialty groups varied considerably across the region. In **Belize**, for example, the only the core medical specialties were represented: anaesthesia, general surgery, internal medicine and gastroenterology, obstetrics and gynaecology, orthopaedics and paediatrics.

In **Jamaica,** however, with a population 18 times that of **Belize**, an additional nine medical specialties were present including cardiology, dermatology, endocrinology, emergency medicine, neurology, otorhinolaryngology, plastic surgery, psychiatry and urology. The largest numbers of specialists are generally in anaesthesia, general surgery and obstetrics and gynaecology which represent 71 percent of the total number of medical specialists active in **Trinidad and Tobago**, 53 percent in of those **Belize** and 41 percent in **Jamaica**.

The total number of nurses and midwives (8,192) in the Caribbean region in 2009-2010 outnumbered the total number of physicians (3,847) by 2.1 to 1. With respect to the other health professions employed within the region, pharmacists and related allied workers (1,141) were among the largest, followed by public health practitioners (978), technologists (830) and dentists and allied health professions (801). While **Saint Lucia's** supply of pharmacists was the lowest on a practitioner per population basis (1.3), **Montserrat** (3.9) and **Trinidad and Tobago** (5.0) had the richest supply in the region. With respect to dentists, **Montserrat** again at 7.8 practitioners per 10,000 population had the greatest supply. **Belize** (0.37) and **Jamaica** (0.98) record the smallest numbers in the Caribbean region relative to their population size.

17. PAHO/WHO, HRH Trends in the Americas: Evidence for Action, PAHO WDC, 2006, p. 9 (Draft).

Nutritionists (418), mental health practitioners (421) and rehabilitation workers (183) ranked in 7th, 8th and 9th place among the next largest health professions in the region.

3.4 Workforce Shortages

A needs-assessment conducted in **Trinidad and Tobago** in 2009 by the Regional Health Authorities (RHAs) identified a need for 119 medical specialists. The highest priorities were for Anaesthetists (12), Emergency Physicians (10), Intensive Care Physicians (8), Pathologists (6) and Neonatologists (6). In 2005, 200 nurses were recruited from the Philippines. In 2007, about 20 physicians and over 50 nurses were recruited from Cuba. The Ministry of Health planned to recruit 450 nurses and 119 physicians between 2009 and 2010.

There is a serious workforce shortage in the health field in **Guyana** which has placed constraints on the provision of health services to the population. In the public health sector, vacancy rates often range between 25 percent and 50 percent in many professional categories.[18] In 2009, 39 nurses and 13 doctors resigned from the health sector. It is estimated that there were over three hundred technical vacancies in the health sector in April, 2010.[19] It is estimated that 12.5 percent of **Guyana's** population does not have access to healthcare.[20] The low ratio of professionals to non-professionals also presents a problem. For nurses this ratio was 0.60 in 2003 presumably due to a high attrition rate of professional nurses. The professional nursing attrition in densely populated areas was 13 percent of the staffing complement and about 3.5 percent for non-professional nursing. The Ministry of Health has introduced various low and mid-level cadres of health workers in response to these challenges and to help improve overall access to health services.[21]

The most recent—and unique—challenge is that a *surplus* of almost 1,500 health care workers is expected to occur in **Guyana** by 2014; over 300 physicians and almost 400 nurses and 800 nursing assistants. These recent estimates suggest that Guyana's traditional and long-standing chronic shortage of health workers may be resolved in the near future. It is critical that this issue is examined closely and managed carefully. If this scenario eventuates, it will provide Guyana with an opportunity unique to the Region to reconfigure both its health workforce and its health education and training system to emphasize primary health care delivery and to address urgent rural health issues. Guyana's experience, and results of the options that it exercises, will be instructive to other countries.

3.5 Health Education

While detailed health education training program data is not available for all countries, the experiences of Jamaica, Belize, Trinidad and Tobago and Guyana are outlined below.

18. Second Administrative Level Boundaries Dataset (SALB), Guyana. *http://www.who.int/whosis/database/gis/salb/salb_home.htm*
19. Stabroek News, Daily Guyana News, April 26, 2010. Minister of Health's response to questions in the National Assembly of Guyana.
20. *Http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_guy_en.pdf*.
21. Second Administrative Level Boundaries Dataset (SALB), Guyana, p.410.

The education system for training human resources for health in **Jamaica** in 2009[22] offered a range of programs (certificate/diploma/degree) for 15 health disciplines: Medicine (32), Nursing and Midwifery (20), Nursing Assistants (2), Practical Nursing (38), Dentistry (5), Pharmacy (4), Medical Technology (4), Radiation Technology (2), Nutrition and Dietetics (7), Rehabilitation (1), Public Health Inspection (6), Health Promotion and Education (1), Psychology (6), Social Work (5) and Counselling (3). Only six training programs were offered in private institutions.

The University of West Indies (UWI) and the University of Technology together train a large number of HRH in Jamaica. At UWI in 2007-2008, there were 1091 applicants for the program in medicine and 233 (21.3 percent) were accepted. With respect to Nursing in that year, there were 702 applicants and 286 (40.7 percent) were accepted. While the number of applicants were up 30 percent over the previous year (2006-2007) in medicine, the increase in nursing applicants was only up 18 percent. At UTECH, the number of applicants accepted into Pharmacy in 2007-2008 was 67 (21.3 percent) and into Medical Technology 36 (17.5 percent). The increase in number of applications to several programmes each year has not resulted in an increase in the number of accepted applicants as overall programme capacity has not changed.

With respect to health education training programme output between 2003 and 2006, an average of 33 pharmacists and 20 medical technologists graduated each year from their respective four-year programs at UWI. Between 2006 and 2008, an average of 43 nursing and 32 midwifery students graduated from UTECH annually.

About 67 percent of training institutions are registered with the University Council of Jamaica (UCJ). Approximately 12.5 percent of programs are accredited by the UCJ. Nursing schools re accredited by the Nursing Council of Jamaica (NCJ) and eight percent of practical nursing schools are accredited by the National Council on Technical and Vocational Education and Training (NCTVET). The UWI, including the Medical School, is accredited by the Caribbean Accreditation Authority for Education in Medicine and Other Health Professions (CAAM).

At the University of **Belize**,[23] health programmes are offered in Social Work, Pharmacy, Nursing, Midwifery, Practical Nursing, Medical Laboratory Technology, Psychiatric Nurse Practitioner and Environmental Health. With an applicant pool much smaller than Jamaica, the programme acceptance rates (i.e. total students accepted as a percentage of total applicants) for the University of Belize in 2008-2009 were considerably higher in Belize, averaging 83.1 percent for the eight training programs. The smallest programs—Rural Health Nursing and Midwifery—had the highest acceptance rates of 95 percent and 100 percent, respectively. Only the programs of Practical Nursing (73.6 percent) and Public Health Nursing (77.6 percent) fell below 80 percent. Despite the high acceptance rates, student registrations vary between 53 percent and 60 percent across programmes. Although 52 percent of the population is rural, only 21 percent of University graduates were from rural areas in Belize.

Over the ten years between 2000 and 2009, the University of Belize produced 528 health graduates, averaging 58 per year. In 2008 there were 72 graduates and 73 graduates in 2009. On a program basis, the average annual number of graduates were: Social Work (12.1), Pharmacy (7.9), Nursing/Professional Nursing (conversion to degree programme) (14.2), Midwifery (5.8), Practical Nursing (5.8), Medical Laboratory Technology (5.1), Psychiatric Nurse

22. Wilks R, Willie D, et al. *Health Human Resources Information Datasets in the Americas*: Jamaican Database of Human Resources in Health, University of the West Indies, February 20, 2009.

23. PAHO/WHO, Human Resources for Health in Belize: A Status Report on the Human Resources for Health Core Data Set and Regional Baselines Indictors Project, PAHO Washington DC, 2009.

Practitioners (1.3) and Environmental Health (0.6). International programme accreditation is expected before the end of the decade.

The annual intake at the Faculty of Health Sciences at the University of **Guyana** on a programme basis is: Dentistry (5 to 8), Medicine (29), Nursing (25), Pharmacy (30), Medical Technology (30), Environmental Health (10 to 15) and Social Work (Diploma 50/BSc 50). Additional programmes have been introduced in Radiography and Rehabilitation. About 60 physicians are also trained annually at the Greenheart Medical University, in addition to about 100 physicians who are trained out of country (primarily Cuba) and expected to return annually. Returning medical graduates are expected to outnumber local graduates by about 3.3 to 1.

Annual attrition rates for most university programs are at about 10 percent. The rate for nursing is 20 percent. There are 28 certificate and diploma programs offered by Ministry of Health and the Georgetown Public Hospital Association, about one-third of the in affiliation with the University of Guyana. While most programs have an intake of 30 or less, nurse enrolments are generally in excess of 300 annually. The next largest programme intakes are for Nursing Assistants (140) and Midwifery (75). Three new programmes in Emergency Medicine, Plastic Surgery, Anaesthesia and Intensive Care and General Surgery are being added to the course offerings. Although the Ministry of Health programs are shorter than those at the University, attrition rates with the Ministry training programmes are generally higher, ranging from 12 to 20 percent.

At UWI, St. Augustine, **Trinidad and Tobago**,[24] 210 students were admitted to the Faculty of Medical Sciences in 2007-2008, 44 (21 percent) who were regional and 11 (5 percent) who were extra-regional. Female entrants to medical school outnumbered males over 2 to 1 in that year. Enrolment in the BSc Nursing programme averaged about 60 students over four years (2005-06 to 2008-09), with 48 registered in 2008-2009. Nursing graduates were from 72 in 2006, 32 in 2007 and 12 in 2008. The total number of successfully trained (basic) nursing personnel between 2002 and 2009 was 1254 for Registered Nurses, 200 Registered Mental Health Nurses, 340 Nursing Assistants and 293 Licensed Midwives. In Pharmacy enrolments have average increased from the mid to high 30's between 2003 and 2006 to 54 in 2007 and 2008. The number of pharmacy graduates was 138 between 2003 and 2008, averaging about 23 annually. The graduation rate for pharmacists (graduates as a percentage of enrolments four years earlier) was just over 90 percent. All totalled, there can be as many as 450 nurses and 300 physicians, dentists and pharmacists graduating from the various educational programmes in any one year.

24. Ministry of Health, Government of the Republic of Trinidad and Tobago, Human Resources Data Management Project.- Developing a Profile of the Human Resources in the Health Sector in Trinidad and Tobago. October 2009.

Chapter Four: Tracking Regional Goals for HRH

4.1 Introduction

The twenty regional goals set out below further define and operationalize the five principal challenges outlined in *Chapter One* providing a framework within which to work toward HRH development and a set of indicators and benchmarks to monitor progress in achieving HRH goals over time.

As the countries of the Americas Region, and the wider global community strive toward a stronger primary health care focus, the 20 goals reflect that commitment to strengthening the role of primary care as the foundation of the health systems, to widening access to that care, and to emphasize primary health care capacities and public health functions in the training of health care workers.

The *PAHO/WHO Handbook for Measuring and Monitoring the Indicators of the Regional Goals for HRH*, produced as a reference for countries within the Region to ensure the consistent identification and definition of the initial baseline data, was used to guide data collection and evaluation in the Caribbean region. Responses to the questions set out in the *Handbook* to assist countries in developing their respective HRH status reports in relation to the Regional Goals, are included below. The detailed responses are graphically depicted in *Appendix E.*

4.2 *Challenge One:* Define Long Term Policies and Plans to adapt the workforce to meet the projected changes in the health systems

GOAL 1 *All countries of the Region will have achieved a human resources density ratio level of 25 health professionals per 10,000 inhabitants.*

Results

The WHO has suggested that countries require a minimum of 25 health care professionals (which for this indicator includes only registered nurses, midwives, and physicians) per 10,000 population in order to provide the minimum acceptable level of health care services to the population. Although the number of health workers for population is by no means an indication of appropriate access to the needed services by the entire population, the indicator is useful in providing an insight as to whether are not the number of health professionals might be adequate.

This HRH standard has been reached by 8 out of the ten of the surveyed countries in the Caribbean region. **Barbados and Montserrat** recorded the highest health workforce staffing levels (86 and 80, respectively), 3.3 times the minimum target level.

Jamaica recorded a figure that was only 79 percent of the minimum HRH target. Jamaica would require an increase of over 1,400 physicians, nurses and midwives to achieve optimal staffing levels, an increase of 26 percent.

With a ratio of 18.8 health professionals per 10,000 inhabitants, **Belize** reported a similar situation. Belize would need to increase its health workforce by 250 (33 percent) to meet recommended HRH to population ratios.

The other five surveyed countries of the Caribbean region recorded more modest staffing levels, ranging from 31.6 to 53.

St. Lucia with a ratio of 41 health professionals per 10,000 inhabitants represented the median value.

Various global studies have found that few countries with ratios below this level have the capacity to reach the Millennium Development Goals by the year 2015. As such, both **Jamaica** and **Belize** will need to place particular emphasis on strengthening their respective workforces in order to significantly improve the performance of their health delivery systems.

GOAL 2 *The regional and sub-regional proportions of primary health care physicians will exceed 40 percent of the total medical workforce.*

Results

A key feature of PHC renewal is the shift from individual, hospital-centered practice to a system of teams of community-based professionals, who are accountable for providing comprehensive, coordinated health services to their patients. Early evidence suggests, however, that the health workforce throughout the Americas, and in the Caribbean region alone, is not optimally prepared to meet the expected changes in the health system and to support primary health care delivery.

With respect to PHC physicians as a percentage of the total physician workforce, however, most countries of the Caribbean region did not fare well.

Only **Belize and Grenada** have achieved this target. While PHC physicians represented 75 percent and 81 percent of the medical workforce in these two countries respectively, this figure is more the result of a shortage of specialists than it is an indication of an optimal supply of PHC physicians. While PHC physicians as a percentage of the total number of physicians are high, the total number of physicians on which that percentage is based is less than what the country needs. Therefore, in the case of Belize in particular, there is a shortage of both generalist/PHC and specialist physicians.

All other countries in the Caribbean region fell below the target of 40 percent. **St. Lucia, Jamaica and Trinidad and Tobago** recorded the lowest proportion of PHC physicians at 30, 20 and 17 percent, respectively.

The median figure of 31 percent was reported by **Barbados**. This suggests that Barbados would need to increase their total number of PHC physicians by about 33 percent to reach the target levels relative to the medical workforce as a whole.

It is noteworthy that PHC physicians generally represent only about 25 percent of the total medical workforce across the entire Region of the Americas,[25] and as such, it will be necessary to significantly increase physician numbers in many countries to better support primary health care team development. An increase in both the number and proportion of PHC physicians is required to facilitate the implementation of public health and primary health care programs and policies. For several of the countries of the eastern Caribbean, where rural areas are not defined, and where specialists are in demand, the current national priorities are more focused on increasing the number of specialists. In **Barbados**, for example, the current vacancy rate for medical specialists is 7.7 percent. Ten of the country's sixteen specialty groups (62.5 percent) are experiencing vacancies, the greatest numbers occurring in Obstetrics and Gynaecology, Internal Medicine and Anaesthesia. There is a less than optimal number of funded positions in Oncology, Infectious Diseases and Psychiatry throughout the Caribbean region.

The challenge will be to maintain and fortify the access to quality primary health care services while also building a stronger cadre of specialists.

GOAL 3 *All countries will have developed primary health care teams with a broad range of competencies that systematically include community health workers to improve access, reach out to vulnerable groups, and mobilize community networks.*

Results

The make-up of PHC teams varies widely and should generally reflects the particular health needs of the local community which they serve. Regarding primary health care teams with the appropriate competency levels, five out of the nine countries surveyed had achieved 90 percent of the competencies and coverage described in this indicator.

Of the other four countries **Belize, Grenada and Trinidad and Tobago** achieved a figure of about 80 percent. Anguilla reported that it had only achieved 63 percent on this indicator.

Although the proportion of PHC physicians may be below optimal levels, as reported in Goal Two above, the range of health workers within PHC teams with the appropriate PHC skills appears to be progressing well. The effectiveness of PHC teams to carry out their work will continue to improve as more teams manage themselves as community-based coordinated, and collaborative, self-sufficient health care delivery groups. The continued development of the role of Community Health Worker as a key member of the PHC Team will provide a more direct linkage between the health delivery system and the health care needs of the community due to their greater familiarity with the population he or she serves.

25. PAHO/WHO, Health Human Resources Trends in the Americas: Evidence for Action. PAHO, WDC. September, 2006.

GOAL 4 *The ratio of qualified nurses to physicians will reach at least 1:1 in all countries of the Region.*

Results

Given the scope of the activities of the PHC Team, the expanded role and credentials of nursing, and the benefits of using nurses to their full level of competency, especially in a community health context, having the appropriate number of nurses enhances overall health service delivery cost-effectiveness, quality, and efficiency.

For some countries within the Region of the Americas, there are at least four nurses for every physician, while in other countries, particularly in South America, the reverse is true. The *minimum* goal for the Region as a whole, however, is identified as one physician to one nurse, with the expectation that the number of nurses will exceed the number of physicians.

The target ratio of one professional nurse for every physician practising in the Caribbean region was achieved by *all* surveyed countries.

The range was from 1.27 nurses for every physician in **Barbados,** to 8.2 nurses for every physician in **Montserrat**. The median value on this indicator was 3 nurses to every physician. All countries scored well on this indicator, suggesting that this staffing level would provide more opportunities for nurses to be used effectively and to their full scopes of practice within the PHC delivery context, and to allow physicians to attend to patients with more critical or complex needs.

It is to be noted however, that while the ratio of nurses to physicians surpasses the minimum amount for achievement of this goal, the overall supply of PHC physicians still remains low. This suggests that, despite the current strong ratio of nurses to physicians, as physician numbers reach more optimum levels, the nurse workforce supply figures will need to grow at even greater levels to maintain and improve current nurse to physician ratios.

GOAL 5 *All countries of the Region will have established a unit of human resources for health, responsible for the development of human resources policies and plans, the definition of the strategic directions, and the negotiation with other sectors, levels of government, and interest groups.*

Results

All surveyed countries of the Caribbean but **Dominica** reported having established a Human Resources for Health Planning Unit within their respective Ministries of Health.

The scope of activities and planning capacity of the various HRH “Units” however, varied widely across the Caribbean region. **Barbados and Trinidad and Tobago** were in the earlier stages of developing their planning capacity, while several of the other countries were involved in policy and program development that strategically supported Ministry of Health program development.

Jamaica has an HRH unit which was experiencing many changes during the time of the baseline measurements and during the writing of this report. At that time, the HRH manager had not been mandated with decision-making for strategic planning, nor staffed with capacities for monitoring, evaluation, and planning.

Belize, at the time of the 20-goals baseline measurement had a nominal HRH unit which was comprised of one person, mandated with HRH duties as one part of a number of other health systems responsibilities, and without decision-making capacities or mandates regarding HRH monitoring, evaluation, planning, and policy making. Since the initial baseline measurement, Belize has established two positions to be dedicated to HRH planning. The fulfillment and terms of reference for these positions was still in flux at the time of this writing.

Trinidad and Tobago has made the most significant improvement in the developing of an HRH unit. At the time of the baseline measurement, there was no HRH unit within the Ministry of Health. After the initial baseline measurement of 2009 showed significant areas of need in workforce planning and management, Trinidad and Tobago has since established a significant HRH unit with strategic planning and management capacities as well as the political mandate for decision-making to lead such activities. At the time of the baseline measurements, Trinidad and Tobago had recently assembled a team for HRH planning within the Planning Unit of the Ministry of Health with targeted capacities to be able to develop strategic plans, as well as policy recommendations, based on evidence and to monitor trends and changes in the workforce and in the relationship of those changes to population health.

Overall integration across service delivery sectors and government departments has not been fully implemented in all jurisdictions. The lack of formal HRH data systems and sufficient numbers of dedicated planning staff also remains an issue which limits overall staff leadership capacity with respect to national planning issues.

Greater emphasis needs to be placed on HRH planning infrastructure support, within Ministries of Health and across the Caribbean, to ensure that collective HRH goals and targets are being met.

4.3 *Challenge Two:* Put the right people in the right places in order to achieve an equitable distribution according to the health needs of the population

GOAL 6 *The gap in the distribution of health personnel between urban and rural areas will have been reduced by half in 2015.*

Results

Over the past twenty years the rate of population growth for many urban areas throughout the Region of the Americas has been double those of rural areas.[26] The growth in the number of health care providers continues to be concentrated in urban areas, contributing to a continued major imbalance in the urban-rural distribution of the health workforce. While physician-to-population ratios within the Region of the Americas may be up to four times greater in urban areas than for countries as a whole, the urban physician-to-population ratios may be more than eight times greater than the comparable physician ratios in some rural areas.

Similarly, the gap in the distribution of health personnel between ‘urban’ and ‘rural’ areas remains a significant challenge in the Caribbean Region.

26. Ibid, p. 10.

As a result, rural communities continue to have very limited access to required health care services compared to their urban counterparts. The evidence suggests that this trend will continue for the foreseeable future with over 80 percent of the population growth in the Region of the Americas occurring in urban areas over the past decade. With the majority of health professionals also locating in urban areas, the concern over equitable access to health services for countries with large rural and remote populations remains an important issue. In **Belize**, for example, the situation is serious with the ratio of health workers in urban areas (including towns and villages) over twenty times greater than it is in the more rural and remote areas.

For smaller island countries within the Caribbean, however, the problem may not be as severe. Many countries do not distinguish formally between an urban and rural community so the distribution differences are less defined. For the baseline measurements, those countries created parameters to define, for the purpose of the study, which population density levels would be referred to as “urban” or “rural”. According to these definitions for this study, access to health care was found to be less accessible in poorer areas as well as in less populated sections of the islands.

In **Dominica**, for example, the ‘urban’ health workforce surpasses the ‘rural’ workforce by a factor of only 2.6 to 1, exhibiting among the best distribution of HRH in the Caribbean region. In general, however, definitions around this issue are unclear and there is a paucity of adequate data to accurately assess the issue.

GOAL 7 *At least 70 percent of the primary health care workers will have demonstrable public health and intercultural competencies.*

Results

Broad-based public health competencies may enhance the capacity of health professionals to provide comprehensive, community-based patient care that is more responsive to the full range of population health needs. These competencies include skills involved in preventing disease, prolonging life and promoting and maintaining health through population surveillance and the promotion of healthy behaviours.

In order to be most relevant and effective, public health strategies must be sensitive to the cultural contexts in which they are being administered. In addition to increasing the size of the health workforce, enhancing the intercultural competencies of those health workers who will be providing the services will improve the access for diverse cultural groups to needed health services.

Although the countries of the Americas Region have a wide diversity of ethnic and cultural populations, with different languages, dialects, tribal religious practices, and community customs, the Caribbean as a whole, is more homogenous in its demographic make-up. Some countries, such as **Guyana, Belize and Trinidad and Tobago** have more diversity, while the majority of countries have a fewer noticeable differences in ethnicity and culture. During the baselines measurement workshops for **Jamaica, Barbados, St. Lucia and Grenada**, for example, the stakeholders discussed at length the applicability of Goal #7 to their countries. After much debate it was determined that even with little ethnic diversity in the majority of the populations, there remain cultural differences between rich and poor population groups and/or between geographic population centers and more secluded areas. In addition, health workers need always to have particular sensitivities to working with people of varied backgrounds, especially when there are fewer numbers of those differences.

Finally, in many of the Caribbean region, the tourist population brings its own unique challenges to the countries – both in terms of bringing various backgrounds, languages, and cultures and in terms of requiring particular awareness to monitoring public health issues that can affect national and international safety and security.

Four countries within the Caribbean region have surpassed the target of 70 percent of staff's having the appropriate public health and intercultural competencies; **Barbados, Dominica, Jamaica and St. Lucia. Montserrat** too reported being very close to target levels.

Anguilla, Belize and Grenada recorded far fewer staff achieving this target competency goal. Training curriculum and job descriptions are beginning to reflect these changes, which will greatly facilitate the successful implementation of and improved access to public health and PHC programs.

While new graduates and new job postings are beginning to reflect these public health and inter-cultural competencies, a greater emphasis is also required on strengthening these competencies in health workers already on the job. More stringent job requirements combined with enhanced opportunities for continuing education still need to be developed and supported.

GOAL 8 *Seventy percent of nurses, auxiliary nurses and health technicians including community health workers, will have upgraded their skills and competencies appropriate to the complexities of their functions.*

Results

In addition to providing the first point of entry to the health system and providing a coordinating function for other health and community services, a health system based on primary health care addresses the broader determinants of health. It encourages the best use of all health providers, through expanding scopes of practice, evolving working relationships, and potential new roles within multi-disciplinary teams in order to maximize the potential of all health resources.

Success in similar competency upgrades in nursing, nursing aides and community health workers however, have not been as great. While registered nurses and midwives are required to re-register every two years, auxiliary nurses and technicians are provided with the necessary skills through in-service education. In **Jamaica,** for example, this goal was considered fully achieved. Similarly, both **Dominica and St. Lucia** had already achieved this target. **Anguilla** estimated that it had achieved about 58 percent of the competencies required.

With respect to the other six countries of the Caribbean region, there was either no requirement for staffing upgrades (e.g. **Belize**) or, as in most other instances, there simply was insufficient data to adequately assess the situation, particularly in the private sector.

It is important for all members of the PHC care team to have the appropriate skills and to work at their full competency levels within multi-disciplinary environments in order to best meet the needs of communities and the technical requirements of evolving health care delivery systems.

The need to both make it a requirement and to expand health workforce access to in-service education remains an important issue to be addressed if all members of the PHC team are to have maximum effectiveness and efficiency.

GOAL 9 *Thirty percent of health workers in primary health care settings will have been recruited from their own communities.*

Results

Only four countries were able to report that this number of health care providers working in PHC settings was recruited from their own communities. **Belize, Dominica, Grenada and St. Lucia** indicated that between 40 and 90 percent of the PHC workers had been recruited locally, easily surpassing the recommended target of 30 percent. Dominica had achieved the greatest success on this indicator.

Anguilla, Barbados, Montserrat and Trinidad and Tobago did not have sufficient information to assess the situation.

In **Belize**, although data was largely unavailable as well, all professional nurse and midwife graduates from 2003 to 2007 (not just those in PHC settings) were matched in terms of the district in which they are currently employed with their home district when they applied to the University of Belize. The return rates varied across the various districts in Belize with the highest return rate of over 87 percent recorded in the District of Belize, the main urban centre of the country. Although a high percentage of health workers were employed in their "home" districts, the overall figure was lowered because only about 50 percent of health professional graduates from the sample period (2003-2007) were employed in the health field.

Evidence has demonstrated that health care workers who are recruited from their own communities are more likely to return and remain in their communities to work after completing their training than are those who have been recruited externally. Local recruitment further enhances the strength of the primary health care team by enlisting those individuals that already possess the requisite cultural sensitivities and knowledge of community networks, contacts and needs. As discussed previously, many of the smaller Caribbean nations have less of a challenge with this Goal because 1) the communities are less diverse ethnically/culturally; 2) the urban and rural areas are not clearly defined so there is a smaller significant difference and/or distance between city centers and more remote areas; and 3) the populations of most of the Caribbean countries are smaller than the Central or South American regions or the Andean countries so there is more familial and cultural overlap in these smaller populations.

Unlike the Eastern Caribbean countries, **Belize, Trinidad and Tobago, and Guyana** do have to manage Goal #9 more closely as they aim to establish a more equitable access among the ethnic and cultural populations and among the urban and outlying geographic areas of their countries

A larger challenge for the Caribbean, rather than encouraging health workers to return to their communities to contribute, is the challenge of encouraging them to stay in their own countries, as most countries face the strains of out-migration of HRH. This challenge will be discussed subsequently with the Goals of Challenge #3.

It is important to track the retention of health professional graduates in the health field. Preliminary observations suggest that a more equitable geographic distribution of health workers would be achieved by both increasing the recruitment of students from ethnic populations and/or disenfranchised communities and by expanding scholarships opportunities for students in rural geographic areas and/or poorer socio-economic population groups. While some countries have begun to adopt incentives to attract health care providers to rural areas and/or poorer neighbourhoods, most have only achieved modest, short-term success. As better

monitoring data and broader integrated policies are developed to support PHC service delivery at the community level, HRH access is expected to improve.

4.4 *Challenge Three:* Promote national and international initiatives that help countries affected by migration to retain their health workers and to avoid gaps in staffing

GOAL 10 *All countries of the Region will have adopted an international code of practice or developed ethical norms on the international recruitment of health care workers.*

Results

In view of the fact that a global shortage of health care workers currently exists in thirty percent of all countries[27] and that increasingly competitive health worker migration worldwide will have a significant impact on the workforces in lower income countries, the World Health Organization drafted a Code of Practice on the International Recruitment of Health Personnel[28] to promote the stabilization of health worker migration and to provide guidelines to help protect those countries that are being disadvantaged by the process.

Only two of the nine surveyed countries of Caribbean region (**Barbados and Jamaica**) reported that this goal had been fully achieved. In addition to adopting the WHO guidelines in this regard, **Jamaica** also has bilateral agreement with Cuba and Nigeria that specify that Jamaica shall provide similar conditions of employment for the nationals of those countries as they do for Jamaican citizens.

While some progress has been made regionally with respect to adopting a Code of Practice with respect to migrant health workers, less success has been achieved with regards to establishing ethical standards for recruiting from countries in need. **Dominica, St. Lucia and Trinidad and Tobago** have moved towards developing and implementing standards, while **Anguilla, Belize, Grenada and Montserrat** had not officially adopted standards or guidelines at the time of the baseline measurement.

Currently there is free movement of qualified health professionals among the 16 member CARICOM countries through the CSME (Caribbean Single Market Economy) agreements on migration of health workers. These agreements, including a common registration process through the Caribbean Association of Medical Councils, and an exam qualification provided through the Regional Nursing Registration program, provide reciprocal recognition of health worker credentials. In view of a general shortage of health care workers in the Caribbean Region, and the increasing demand for health care workers world-wide, it is expected that there will be continuing pressure for countries to further develop their HRH strategies to address their respective health care delivery needs and to create overall workforce stability. Recognizing the autonomy of health workers to emigrate to other countries, it will be necessary for countries to further strengthen their workforce incentives programs in order to retain their health professionals in view of the growing global competition for HRH. The migration of health

27. WHO, The World Health Report 2006: Working Together for Health, Geneva, Switzerland, 2006, p. 13.
28. WHO, Code of Practice on the International Recruitment of Health Personnel, September, 2008 (Draft).

professionals is expected to remain a serious concern for many of the countries of the Region of the Americas. Inequities in the supply of human resources for health not only vary greatly across the Region of the Americas, but the gap between countries with high and low densities of health workers, continues to grow. The adoption of a Code of Practice regarding the international recruitment of health workers would be an important first step in developing broad, ethical, collaborative workforce policies to better stabilize and manage the health workforce of the Region of the Americas and specifically the Caribbean region.

GOAL 11 *All countries of the Region will have a policy regarding self-sufficiency to meet their needs in human resources for health.*

Results

Self-sufficiency in HRH is achieved by countries training and retaining the appropriate number of health professionals that are optimally required to meet the identified needs of their population. By emphasizing more focused and effective country health workforce recruitment and retention policies and programs, the dependence on recruiting health workers from other countries to meet local needs is minimized.

None of the countries within the Caribbean region reported having fully achieved self-sufficiency with respect to HRH. While none have developed firm, integrated HRH policies in this regard, most are looking at better aligning graduate skills, numbers of health workers, and geographic distribution the workforce with the needs of their health care systems. The expansion of collaborative PHC teams, the more effective deployment of staff and the creation of better overall working conditions all contribute to better staff retention and thereby a reduced dependence upon migrant health workers.

Although **Jamaica** did not have a formal policy on self-sufficiency at the time of the baseline measurement, for example, the Ministry of Health does continually train health workers in an effort to satisfy established needs. In addition, Jamaica's involvement in the PAHO-Dalhousie University needs-based HRH project also reflects its commitment to self sufficiency in HRH.

It is recognized that self-sufficiency is a long-term goal for most countries. Adopting self-sufficiency as the policy of first response in HRH program planning, however, is an important strategic approach to help stabilize the Caribbean region's health workforce by encouraging greater investment in workforce capacity and infrastructure development. Utilizing migrant health workers as a demand "buffer" to meet short-term needs, rather than as a long-term primary source of health care workers, would be key to this approach.

A policy of self-sufficiency would also be key enabling factor in adopting and implementing a long-term Code of Practice for the international recruitment of health care workers.

GOAL 12 *All sub-regions will have developed mechanisms for the recognition of foreign-trained professionals.*

Results

It is important to deepen the pool of the Region's workforce talent and skills by ensuring more successful integration of new immigrants into the economy and into communities. The introduction of common guidelines and mechanisms for the assessment of credentials and

competencies of foreign health workers seeking licensure ensures the speedier recognition of foreign credentials and prior work experience and facilitates the assimilation of immigrant health workers into the workforce.

With respect to the recognition of the credentials of foreign-trained health professionals, all of the surveyed countries had introduced mechanisms and developed standards in this regard.

Under the CARICOM agreement[29], there is free movement of health care professionals between the 15 member countries (plus 5 associate members) within the region. This allows health care professionals who have met the licensing requirements to relocate to the Caribbean country of their choice with the knowledge that their credentials will be honoured and that they will be able to work in their capacity as a health professional without further testing or training.

There are also bi-lateral agreements between a number of Caribbean countries and external partners. Over 900 Cuban health care workers, for example, are employed throughout the Caribbean region, 44 of whom were currently in **Belize** at the time of their baseline measurement. In **Jamaica**, as in other areas of the region, professional Councils help to facilitate licensing examinations for foreign-trained professionals. There are some bi-lateral agreements that allow for specific country medical licenses to be recognized automatically without the need for an examination. For example, medical graduates from the USA, Canada, UK, Australia, and University of Guyana are automatically accredited in **Jamaica**. Generally nursing graduates from countries outside the region can qualify for practice in the Caribbean based on training transcripts or through an exam.

In **Belize**, doctors, nurses, midwives and dentists from countries which are not partners in the CARICOM Agreement however, are all required to write the appropriate licensing exam through the Belize Medical Council, Dental Council or the Nursing and Midwives Council. While there is no official language exam, general English language proficiency is assessed during the respective Council's interview process.

These policies and procedures help standardize credentials and verify competencies, and to ensure the appropriate deployment of migrant workers, thereby helping to improve retention and to stabilize the workforce over the longer term.

This approach would strengthen the human resource capacity of the health delivery system by ensuring that immigrant workers are accepted into the workforce as early as possible and by allowing them to work at their full competency levels. These policies alone are not sufficient, if not coupled with policies to at the same time move the country toward self-sufficiency. In addition, despite controls that are put in place, there can still be challenges integrating foreign workforces and/or professionals into the culture of the country. In **Belize**, for example, the Observatory stakeholder group discussed at length the difficulties in achieving comfort levels of local populations with the services provided by foreign-trained health professionals. Cultural and language barriers can still create barriers to access if not addressed as part of the immigrant worker integration process.

29. CARICOM Free Trade Agreement, Treaty Establishing the Caribbean Community, August, 1973.

4.5 *Challenge Four:* Generate healthy work environments that foster agreement with the institutional mission of ensuring the provision of health services of good quality for the entire population

GOAL 13 *The proportion of precarious, unprotected employment for health service providers will have been reduced by half in all countries.*

Results

An effectively functioning health delivery system is one of the many factors that determine the health of a population. As such, promoting stable working conditions for all healthcare providers is an important strategy for improving population health.

The proportion of precarious, unprotected unemployment for health service providers, as a percentage of the total health workforce, varied from a low of 19 percent in **Jamaica** to a high of 35 percent in **Dominica**. The median figure for the seven countries reporting data was 29 percent. In **Anguilla**, however, employment data was only available for the public sector.

It is noted however, that some non-permanent positions may be preferred by some employees, such as retired workers, for example, who are seeking only part-time work. In addition, the number of volunteers, which was 17 percent in **Belize**, would inflate the number of unprotected posts. During the baseline measurement process in these countries, there were various approaches adapted, with a number of caveats and notes described in each country report to explain what "precarious" might or might not signify in that country's context.

The goal to reduce precarious employment by half would mean achieving a target median figure of 14.5 percent for the region as a whole. This would mean, for example, that **Jamaica** would have to create 9.5 percent more permanent employment positions with employee benefits while the comparable target for **Dominica** would be 17.5 percent more secure jobs.

The current number of non-tenured, contracted, voluntary and "un-established" positions results in less than optimal protection for health workers and contributes to labour turnover, chronic vacancies and general workforce instability.

The further reduction of precarious, unprotected employment for health service providers, however, may be financially untenable in the countries, as well as establishing an imbalance between the number of posts and the number of qualified persons who are willing and able to work in those full-time positions.

Even so, reducing these "precarious" positions will enhance the long-term success of health workforce recruitment and retention strategies and increase the overall stability, manageability and effectiveness of the health workforce. Nurse staffing reviews have suggested that costs could be lowered and quality of patient care improved by hiring experienced, permanent, full-time baccalaureate nurses, staffing to meet workload demands and creating work environments to foster nurses' mental and physical health, safety, security and satisfaction.[30]

30. O'Brien-Pallas L, Thomson D, McGillis-Hall L, et al. (2004) Evidence-based Standards for Measuring Nurse Staffing and Performance. CHSRF, Project #RC1-0621-06. September, 2004.

GOAL 14 *Eighty percent of the countries of the Region will have in place a policy of health and safety for the health workers, including the support of programs to reduce work-related diseases and injuries.*

Results

Employee health and safety programs, policies and legislation provide formal guarantees of safe and healthy work environments for all healthcare workers with respect to general working conditions and overall workplace safety.

Six out of nine of the countries of the Region that were surveyed reported that they had fully or almost fully achieved this goal. This suggests that 67 percent of the countries in the Region had policies in place to protect the health and safety of their health workers, just below the regional target of 80 percent.

Barbados, Grenada and Montserrat registered less progress on this indicator.

In February 2010, a new National Occupational Safety and Health Act was enacted by the **Belize** government to provide safe workplaces, ensure healthy working conditions and provide basic health care to the country's health workers in both governmental and private sector employment.

Similarly, **Jamaica** has proposed a more comprehensive Occupational Health Policy that was in draft form at the time of the baseline measurement.. The development of this policy is being jointly spearheaded by the Ministries of Labour & Social Security and Health and supplements the powers of Jamaica's Public Health Act (2004) which gave the government power to investigate complaints of unsafe working conditions.

Improving the health and safety of workplace environments prevents accidents and reduces lost work time as the result of injury. Formal programs to enhance workplace safety and security also result in improved worker job satisfaction, better workplace performance and greater stability through lower rates of worker absenteeism, turnover, sick leave and general attrition.

GOAL 15 *At least 60 percent of the health services and program managers will fulfill specific requirements for public health and management competencies, including ethics.*

Results

The continued professionalization and strengthening of the leadership and administration of health services delivery is needed to achieve greater efficiency in management and a greater capacity and work commitment.

Health service and program managers cover a range of positions including Technical Program Coordinators, Medical Officers of Health, Public Health Nurses, Matrons, Parish Managers, Public Health Inspectors , Hospital Administrators, MOH senior managers and others.

An examination of position descriptions revealed that the number of managers who are certified in health management and have the requisite competencies in public health and ethics, ranges from 33 percent in **Anguilla** to 75 percent in **St. Lucia**.

While four countries surpassed the regional target and had more than 60 percent of their managers with the skills required (**Jamaica, Montserrat, St. Lucia and Trinidad and Tobago**), the remaining five countries (Anguilla, Belize, Barbados, Grenada, and Dominica) of the region had yet to achieve the goal.

While some Ministries of Health do provide funds to support training in health management and administration, continuing education and in-service workshops for staff, opportunities need to be further expanded in both the public and private sectors. Appropriately trained managers, with formal certification from a university or through an accredited in-service training program, will have greater capacity to improve the efficiency and effectiveness of program delivery.

GOAL 16 *One hundred percent of the countries of the Region will have in place effective negotiation mechanisms and legislation to prevent, mitigate or resolve labour conflicts and ensure essential services if they happen.*

Results

A formal mechanism to maintain dialogue with workers' labour organizations that allows for the continuing delivery of essential health services while labour disputes are being settled, is essential to facilitate patient access to critical health care services.

All of the nine countries of Caribbean region that completed their baseline studies (100 percent) indicated that they have in place effective negotiation mechanisms and legislation to resolve labour conflicts in the health sector. Only six of the nine countries (67 percent) however, indicated that they have legislation to guarantee that essential health services will be provided to the public.

Jamaica's Labour Relations and Industrial Disputes Act, for example, ensures that there is a minimal disruption to service delivery during periods of labour and management disputes. The Industrial Disputes Tribunal exists to settle disputes when all other attempts at resolution have proven unsuccessful. In Belize, the Essential Services Law of the Settlement of Disputes Act, ensures that critical, non-elective services are not disrupted during labour disputes.

Anguilla, Barbados and Grenada have yet to introduce the appropriate regulatory mechanisms to guarantee the delivery of essential health services. The introduction of essential services legislation is required across the full Caribbean region to improve overall service provision and reduce public health risks.

4.6 *Challenge Five:* Create mechanisms of cooperation between educational institutions and health services to produce health care professionals who are responsive and qualified to meet the national health system's needs.

GOAL 17 *Eighty percent of schools of clinical health sciences will have reoriented their education towards primary health care and community health needs and adopted inter-professional training strategies.*

Results

For the PHC team to be effective, the must work together as a team, share common values and approaches, not just with regards to medical issues but to social and environmental issues and strategies as well. It is also important within a team environment that staff are deployed effectively, are utilized to their full levels of competence, and understand and respect each team member's role. This allows the team to be as effective and efficient as possible.

In order for this collegial culture to develop at the workplace, shared courses and common curricula need to promoted and developed with respect to inter-professional student training.

Clinical health sciences training programs were examined to determine whether or not the curricula had been reoriented towards PHC and community health needs and was provided within a inter-disciplinary training environment.

While there is a stronger emphasis on PHC care in many countries and across several health professions, opportunities and financial support for inter-disciplinary training was very limited.

Six of the nine countries that provided data for this indicator ranged from 33 percent (**Grenada and St. Lucia**) to a high of 73 percent in **Jamaica** toward the achievement of this goal.

Inter-disciplinary training in the health professions needs greater support within the region. If professions are to work in collaborative, inter-disciplinary teams at their full competency levels in community-based environments, these principles will have to be reflected in all aspects of both their didactic training and their internships.

GOAL 18 *Eighty percent of schools in clinical health sciences will have adopted specific programs to recruit and train students from underserved populations with, when appropriate, a special emphasis on indigenous, or First Nations, communities.*

Results

It is expected that health care providers who are recruited from rural areas and from minority populations are more likely to return there to practice. Furthermore, they are more likely to have the social and cultural sensitivities and the language skills needed in primary health care settings with rural and ethnic communities

Six countries in the region either provided no data (**St. Lucia and Trinidad and Tobago**) or felt that the indicator was not applicable to their country (**Anguilla, Dominica and Montserrat**). While **Belize** and **Grenada** had made some progress in adding PHC training components to their curricula, only **Jamaica** and **Barbados** had fully achieved this goal.

Mechanisms for entry to higher education in clinical sciences by the underserved population exist, e.g. scholarships, students loans, grants, admission requirements, etc. are offered throughout the Caribbean region.

In **Jamaica** for example, the application of the Maturity Clause where Direct Entry Midwifery training is delivered by the MOH at no tuition cost to the participants who are usually from rural communities and who usually return to these communities after completion of training.

Recruitment programs for select ethnic groups are less common in the region. In several countries where the population is relatively homogenous (e.g. **Jamaica**) a selection progress based on ethnicity is not considered appropriate. Recruitment from underserviced areas has tended to emphasize a select range of health disciplines in some countries. In **Belize**, for example, recruitment from underserviced areas only pertains to three of the eleven training programs (nurses, midwives and practical nurses) offered at the University of Belize.

Colleges and Schools in Clinical Health Sciences will needed to further strengthen their policies to recruit and accept students into health training programs from underserviced areas and from populations who traditionally have not had access to health services.

GOAL 19 *Attrition rates in schools of nursing and medicine will not exceed 20 percent.*

Results

Studies in countries in the Region of the Americas have found attrition rates that exceed 50 percent,[31] which implies a high level of failure of the educational system to retain possible future health professionals, with consequences on the misuse of resources and impact on the quality of professional training.

Attrition rates in Schools of Nursing throughout the Caribbean region, and indeed the Region of the Americas, have been traditionally high. First-year dropouts in nursing have sometimes been attributed to difficult training programs and environments as well as inadequate recruitment and selection mechanisms.[32]

While **Barbados** and **Jamaica** have nursing attrition rates at 20 percent or lower, other countries in the Caribbean region have reported rates averaging closer to 40 percent, twice the target rate.

Improvements in recruitment and selection process and nursing program design may reduce overall nursing program attrition rates. Lower attrition rates will reduce nursing education costs and train greater number of nurses in a shorter period of time. The quality of training programs and student satisfaction will also improve.

31. PAHO/WHO, Health Human Resource Trends in the Americas – Evidence for Action, September, 2006, P. 14 (Draft)
32. PAHO/Ministry of Health, A Rapid Assessment of the Training Capacity of the Nursing Schools in Guyana, November, 2009.

GOAL 20 *Seventy percent of schools of clinical health sciences and public health will be accredited by a recognized accreditation body.*

Results

Six of the Caribbean region's nine countries (67 percent) have achieved the goal that 70 percent of the schools of clinical health sciences and public health will be accredited by a recognized accreditation body.

While in **Jamaica,** for example, health education programs are accredited by their respective regulatory bodies and/or accreditation council as well as by the University Council of Jamaica, programs at the University of **Belize** are currently undertaking a process to achieve international accreditation and recognition. At present the University of West Indies has an online accredited *Appendix F* program in nursing. About half the health education programs in **Montserrat** and less than one-quarter of those in **Trinidad and Tobago** have achieved full accreditation.

An increase in the number of accredited health science training programs in the Caribbean region will improve overall program quality and strengthen the competencies of health professional graduates. Creating common standards across disciplines will facilitate inter-disciplinary training and strengthen the efficiency and effectiveness of the PHC team.

Chapter Five: Summary and Conclusions

5.1 Summary

Caribbean Profile Highlights

With respect to the Caribbean region ('the region') as a whole, a number of issues and trends emerged from these studies that impact the region's need for an continually adapting health workforces well as its overall capacity to respond to this need.

Five out of nine countries in the Caribbean region have recorded a declining population over the past five years.

Almost three-quarters of countries included in this survey had a general net migration loss in 2010.

Life expectancy in three countries in the region has declined in the past five years.

Infant mortality rates will have to improve 13 percent annually if the region is to reach its Millennium Development Goals by 2015.

The highest causes of death - heart disease, hypertension, strokes and diabetes – are lifestyle related and controllable.

While the AIDS crisis has improved about 90 percent in many areas of the region, tuberculosis rates have declined in only four countries over the past decade.

Six countries in the region have experienced a drop in their GDP growth rate in the later part of this decade.

In half of the countries surveyed, public expenditure as a percentage of GDP, has also declined.

In six countries in the region, the ratio of physicians per 10,000 population has decreased.

Three countries reported having HRH ratios of health professionals per 10,000 population lower than the WHO recommended minimum target to meet population health service needs.

The number of registered nurses who have emigrated from the region are 83 percent of the total stock of registered nurses currently employed in the Caribbean. The comparable figure for physicians is 55 percent.

There are shortages for registered nurses and for a wide range of medical specialists throughout the region.

Many health education training programs are not fully accredited.

Attrition from health education training programs in some schools is close to 20 percent, and for registered nurses the attrition rate sometime surpasses that number.

Women continue to outnumber men 2 to 1 in most health professions, including medicine.

While aging health professionals in general has not been a significant issue across the region, there are an increasing proportion of physicians and dentists over fifty years of age in a number of countries.

Regional Goals Summary

In summary, a wide range of scores was reported by individual countries in the Caribbean region (*Appendix F*) in relation to each of the twenty goals:

Only **Goal 4** (obtaining a 1 to1 ratio of nurses to physicians) was fully achieved all nine countries in the review. A strong showing was also reported for **Goal 1** (ratio of 25 health professionals per 10,000 population) and **Goal 12** (mechanisms for the recognition of foreign trained professionals) where 7 of the 9 countries indicated that they had fully achieved each of these goals, respectively.

In contrast, only one country – Grenada - achieved **Goal 6** (an adequate urban-rural distribution of HRH) and **Goal 11** (a policy on self-sufficiency in HRH); and only Jamaica reported reaching **Goal 17** (re-orienting education programs towards PHC and community needs).

Similarly, two countries (Anguilla and St. Lucia) had well-developed HRH Units (Goal 5); only Barbados and Jamaica had adopted a Code of Practice on the ethical recruitment of immigrant health workers (**Goal 10**), and, only Jamaica and Barbados had programs to recruit students into health training programs from underserviced areas.

It is noted however that because of the smaller size of some of the countries in the Caribbean region (Anguilla, Dominica, Montserrat and St. Lucia) this goal may not have been applicable.

If we consider the Caribbean region on a *country by country* basis:

Jamaica achieved the highest ranking, achieving the highest score on 90 percent or more on 12 of the 20 Regional goals.

St. Lucia followed closely having achieved 11 of the 20 goals while Grenada had reached 10. The median score for number of goals achieved for the nine countries reviewed was 8, which was reached by Barbados.

The remaining countries - Anguilla, Belize, Montserrat and Trinidad and Tobago - all reported that they had achieved 6 or 7 of the 20 goals.

These scores suggest that the size and mix of the health workforces within the Caribbean region are improving but that more attention is still required to strengthen HRH planning capacity, ongoing skills development, geographic distribution and workforce retention.

5.2 Conclusions

The purpose of the core data development and regional goal measurement projects was to establish a baseline comparison of HRH in the Caribbean region and to enable the ongoing monitoring of HRH trends and developments over time with respect to achieving both individual country targets and overall regional goals.

A number of proposed actions for consideration are set out below to address some of the key HRH issues identified in this initial review:

Country-Level

Further emphasis on HRH developments in PHC, including health promotion and disease prevention, will help to reduce preventable deaths (heart disease, hypertension, diabetes, etc.), to reduce regional infant mortality rates (through improved prenatal care), and to reduce the incidence of disease (tuberculosis).

Increasing workplace support (salaries, incentives, continuing education, working conditions, health and safety measures, flexible hours, more support staff, working in teams, full staff deployment based on competence, clearer guidelines, standards and accountability and increase numbers of full-time, permanent professional staff, etc.) should improve overall workforce recruitment and retention strategies.

National strategies to enhance country capacity for self-sufficiency in HRH, including aligning health education training posts with health system needs and reducing dependence upon immigrant health workers will mitigate emigration strains on the health workforce.

Recognizing that 25 health professionals per 10,000 population, and a ratio of one nurse to every physician are *minimum* targets to provide basic health care, using these ratios as a guideline, countries will need to continue to develop new long-term HRH targets to meet their respective identified population health needs in ways that are affordable and sustainable. In addition, these ratios alone are inadequate for assessing adequate coverage. Distribution, level and mix of skills with respect to need, motivation of workforce and population access to care are crucial variables that must be taken into account along with the numbers of health professionals per population.

In the countries where the urban-rural distribution of the health workforce is an issue, more emphasis needs to be placed on strategies (including educational scholarships and employment bonuses and incentives) to recruit prospective students from rural and remote areas to enter health professional training programs and to recruit professional health workers to provide access to the more remote areas.

The education of health workers can better match the country's needs and the objectives of the health authorities by aligning training program output with population needs, integrating PHC components across all health science didactic and clinical programs, promoting inter-disciplinary education across the health professions and supporting the full accreditation of all training institutions and programs.

The duties of the HRH Unit should include staff capacities in strategic planning (research, data development and monitoring) development (policy and programs, legislation, fiscal plans) and support (implementation, standards, guidelines and evaluation). It should be important that these capacities be used.

Improved data development, standardized processes for monitoring and evaluation, and integration of information among stakeholders and across sectors will allow accurate, timely, accessible, reliable, useful, comparable evidence to support HRH planning and development.

Caribbean regional-Level

Development of a regional migration policy with CARICOM partners regarding the movement of health professionals will promote regional economic development and workforce stability and supports the WHO International Code of Practice for the ethical recruitment of international health workers.

Support data development, collection and analysis at the regional level to identify regional HRH trends and issues and to support the ongoing development of regional HRH plans and strategies.

The trends and challenges identified in this report underscore the need for ongoing commitment—on a regionally coordinated and collaborative basis—to fortify HRH planning, information development and management processes across the Caribbean. In addition, further action will need to be taken at the individual country level to identify appropriate enabling conditions, including supportive policies, programs and partnerships, to ensure continuing and sustainable opportunities for HRH development to meet the future health care needs of the population.

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Appendix A: Health Sector Overview and Population Trends

Country Comparison Trends

Table 1: Demography

Country	Land area km^2	Census definition of urban/rural? Subregions	Population density[33] People/ km^2	Population estimate[33]	Population trends	Racial/ ethnic mix
Anguilla	91	No None	170	2010: 15,000 2010: 15,236[34]	Since 1960 population has increasing steadily, with the greatest increase (4.3%) between 1984 and 1992 (2280 persons). A 3.2% rise was seen between 1992 and 2001[35]	90% of African descent. NOTE: In 2001 27% of the population were non-Anguillan[36]).
Barbados	430	No 11 Parishes	597	2010: 276,302 http://www.barstats.gov.bb/	Between 1960 and 2000 the population has increased by 36,465 (15%)[37]. The greatest rise (5.8%) was seen between 1970 and 1980.	93% African descent
Belize	22,700	No 6 Admin.Districts	13.7	2008:322,100 2010:313,000	During the 1980s and the 1990s the annual population growth was 2.8% and 3.0% respectively. The population has grow 4.3 percent annually since the year 2000.	Mestizo 53.2% Creole 25.3% Maya 10.1% Garifuna 6.9%
Dominica	751	No 10 Parishes	90	2010: 67,000 2009: 72,660	Between 1960 and 2001 the population has increased by 9,709 (16%)[38]. The greatest rise (16%) was seen between 1960 and 1970 but since 1980 the population has decreased so that at 2001 the population was similar to that of 1970.	86% African descent 4% Caribs
Grenada	344 (over 9 islands)	No 7 Parishes	303	2010: 104,000 2010:109,724[39]	In 2001, Grenada's population was estimated at 103,137. In 2005, the estimated population was 105,892, with an estimated growth rate of 2.6%.	89% African descent

33. Http://esa.un.org/unpp.
34. Statistic Department. Government of Anguilla. http://www.gov.ai/statistics/census/index.htm Accessed 08/ Dec/2010).
35. Health in the Americas Volume II.
36. Census table 13: *http://www.gov.ai/statistics/census/Demography%20&%20Culture%20tables.htm*.
37. Http://www.caricomstats.org/Files/Databases/Population/BB.pdf.
38. Http://www.caricomstats.org/Files/Databases/Population/DM.pdf.
39. Grenada Statistics Office.

Country	Land area km^2	Census definition of urban/rural? Subregions	Population density[33] People/ km^2	Population estimate[33]	Population trends	Racial/ ethnic mix
Jamaica	10,991	No 14 Parishes	248	2010:2.73M	Between 1995 and 2005, population grew about 0.4 percent per year, increasing 3.0%(0.6 percent % annually) by 2010.	97% African descent
Montserrat	104	No 3 Parishes	58	2010:6000	The 2001 Census estimated the population at 4465, a 42% decline since the 1991 census. This decline was due primarily to the volcanic activity which resulted in some residents leaving the island. In 2005 the mid-year population was estimated at 4,785. The population growth rates for 2004 were 2.5%.	Unknown
St Lucia	620	No- exception is Castries, which can be divided into Metropolitan Castries (pop: 11,093), Castries City (pop: 28,570), and Castries rural (pop: 23,698). 11 quarters	323	174,000	St Lucia's population has increased by 45% between1960 (population: **86,108**) and 2001 (**157,490**) With the greatest increase from 1990 to 2001 of 18 % (24,182)[40] The total mid-year population of Saint Lucia was estimated at 162,434 in 2004, reflecting an increase of 1,814 persons (1.1%) over the 2003 figure of 160,620 (*6*).	82.55 African decent 11.9 Mixed race
Trinidad & Tobago	5,128 Tobago 308(6%)	No 13 Regional Corporations	262	2010:1.34M	Between 2005 and 2010, population grew 3.0% from 1.305M to 1,344M , or 0.6% annually.	Indian Trinbago 40% Afro-Trinbago 39.5%

40. Http://www.caricomstats.org/Files/Databases/Population/LC.pdf.

Table 2: Health Indicators [41]

Country	HDI[42]	Male life expectancy	Female life expectancy	Fertility rate	Causes of death
Anguilla	N/A	74.3 years	80.3	2005 : 1.7 children per woman.	2001 and 2005: 112 deaths (30.6%) - circulatory system disease 42 (11.5%) malignant neoplasms 27 (7.9%) endocrine, nutritional + metabolic diseases 14 (3.1%) for external causes
Barbados	42 (0.788)	72.3	78.9	2005: Crude birth rate = 11.8 per 1,000 Total fertility rate = 1.5 children per woman.	In 2003 total deaths - 2057, leading causes were: pulmonary circulation disease & other forms of heart diseases (257), diabetes mellitus (246), cerebrovascular diseases (207), ischemic heart diseases (180), hypertensive diseases (159), pneumonia (143), malignant neoplasms - digestive organs except stomach (115) malignant neoplasm of the prostate (101) septicemia (74) AIDS (30)
Belize	78 (0.694)	69.5	74.2	Fertility Rate=3.0 (2005)	2001-2005 (Deaths) Hypertension (504) Diabetes Mellitus (398) Land transport accidents (386) Acute respiratory infection (372) Ischemic heart disease and HIV/AIDS also among leading causes of death.
Dominica	Unranked	71.7	77.7	1991-2001 Crude birth rate averaged 16.1 per 1,000 Total fertility rate = 3.0 children per woman.	2003, the ten leading causes of death (and the number of deaths) were: malignant neoplasms (123), hypertensive diseases (86), heart diseases (71), diabetes mellitus (31), cerebrovascular diseases (26), diseases of the respiratory system other than acute respiratory disease (20), acute respiratory infection (16), conditions originating in the perinatal period (14), other diseases of the digestive system (13), diseases of the nervous system except meningitis (12).
Grenada	Unranked	73 year		Not stated	In 2002, the leading causes of death were: diseases of the circulatory system (including diseases of pulmonary circulation and other forms of heart and cerebrovascular diseases), malignant neoplasms, diseases of the respiratory system parasitic diseases. The number of deaths due to malignant neoplasms was 47 (21%) in 2005.
Jamaica	80 (0.688)	70.9	75.0	Fertility Rates=2.5 (2002) Crude birth rates= 17.6 (2004)	In 2002, leading causes of death were: Malignant neoplasms (2,686) Cerebrovascular diseases (1905) Heart disease (1774)

41. PAHO Country Reports (2007).
42. British Dependent Territories do not have specific HDI.

Country	HDI[42]	Male life expectancy	Female life expectancy	Fertility rate	Causes of death
					Diabetes Mellitus (1477) Assault (homicide) (1045) HIV disease (989) Hypertension (784) Acute respiratory infection (479) Chronic lower respiratory disease (437) Transport accidents (408)
Montserrat	N/A	Not stated	Not stated	Not stated	2004–2005 there were 71 deaths from defined causes. The five leading causes were: diabetes mellitus, 17.4% (20); cardiac arrest, 15.7% (18); hypertensive diseases, 14.8% (17); cerebrovascular accident, 7.0% (8) ischemic heart disease, 7.0% (8).
St Lucia	Unranked	71.3	74.3	2004, Crude birth rate = 14.3 live births per 1,000 population This is the lowest to date, a trend expected to continue as women delay pregnancies and use prescribed contraceptives and other methods of birth control. Total fertility rate 1.7 children per woman	2004: 1114 deaths Causes Rank No. Diabetes mellitus 1 133 Cerebrovascular diseases 2 116 Ischemic heart disease 3 61 Pulmonary heart disease, diseases of pulmonary circulation+ other heart disease 4 51 Malignant neoplasms of other + unspecified sites 5 45 Acute respiratory infections 6 43 Homicides 7 38 Malignant neoplasms- digestive peritoneum, except stomach + colon 8 37 organs + Malignant neoplasm of the prostate 9 36 Chronic lower respiratory diseases 10 32
Trinidad & Tobago	59 (0.736)	69 (2005)	74	Crude birth rate of 14 per 1000 (2005) 1.75 children born per woman	Leading causes of death in 2001: Ischemic Heart Disease (1631) Diabetes Milletus (1340) Malignant Neoplasms (1211) Cerebrovascular Disease (972) External Causes (569) HIV Disease (541) Hypertensive Diseases (406)

Table 3: Health Expenditures[43]

Country	Gross National Income per Capita (PPP International $)	Total Expenditure on Health per Capita (International $ 2006)	Total Expenditure on Health as a % of GDP (2006)
Anguilla	N/A	N/A	N/A
Barbados	15,150	1,155	6.7
Belize	7,080	426	5.3
Dominica	7,870	481	6.7
Grenada	8,770	596	7.0
Guyana	3,410	264	5.5
Jamaica	7,050	240	5.1
Montserrat	N/A	N/A	N/A
Saint Lucia	8,500	421	5.9
Saint Vincent & Grenadines	6,220	461*	6.0
Trinidad & Tobago	16,800	811	4.2

Table 4: Health Sector Information

Anguilla

Overview	The Health Authority of Anguilla (HAA) is a Statutory Corporation that was established by a law in 2003(as part of thehealth sector reform – see below) and began to function in 2004. The HAA comes under the auspices of the Ministry of Social Development. Anguilla has a public-sector health service that requires fee payment at the point of care. However, exemptions can be made through the Social Development Department for persons with HIV and those who are deemed unable to pay: these individuals are issued with a card detailing their payment status. Public workers are provided with health insurance which requires them to pay 20% of the cost at point of service (Government pays 80%). Persons working in the private sector pay the full price. Fees for services at the hospital are greater than those at the clinic.
Primary Care	Community Health Care Services (including nursing & dental services)
Secondary Care	Princess Alexandra Hospital
Other	Miriam Grumbs Senior Citizens Home, Administration and Support Services
Health Reform	In 2002, the Government of Anguilla embarked on an ambitious health sector reform program. In an effort to make the health system more efficient, the Health Authority of Anguilla was established by law in 2003 to take responsibility for the provision and efficient management of primary and secondary health care, the Miriam Gumbs Senior Citizens Home, the primary health care units, including the dental unit, the mental health unit, all health centres, and the health promotion unit. The Act also provides for the establishment and payment of health service fees and charges and personal care fees and charges In 2003, the Government of Anguilla approved the 2003–2008 National Strategic Plan for Health, which is guided by a vision of a "Nation of Healthy and Productive Individuals, Families, and Communities." To attain this vision, the Government has identified ten priority areas—health system development, health services, human resource development and management, family health, food and nutrition and physical activity, chronic non-communicable diseases, HIV/AIDS, communicable diseases, health and the environment, mental health, and substance abuse.

43. *Www.who.int/countries/en* *Median.

Barbados

Overview	Under Section 12 of the 1969 Health Services Act, the Ministry of Health is responsible for the health of the population of Barbados; it is the executing agency for the delivery of health care. The Ministry provides a steering role, which includes setting the health sector's vision—defining the strategic direction, policies, regulations, norms, and standards. The Chief Medical Officer is the Ministry's technical head. However, in 2002 the Queen Elizabeth Hospital Act was passed which allowed the public general hospital to be governed by a management board and not the Ministry of Health. Although, the hospital comes under the auspices of the Minister for Health the Chief Medical Officer does not provide any support and the management board report directly to the Minister for Health.
Primary Care	The island has eight polyclinics that are responsible for the delivery of a significant portion of primary care clinic attendances, including maternal and child health services, dental services, and general practitioner visits.
Tertiary Care	Queen Elizabeth Hospital
Other	The Ministry of Health is also responsible for Black Rock Psychiatric Hospital and the Geriatric Hospital and three district hospitals. Additional units are: the Disability Unit, the Police Service, the Prisons Service, the Youth Service, Elayne Scantlebury Centre, Children's Development Centre, Nutrition Service.
Private	The island has one private hospital and approximately 55 doctors working solely in private practice and an additional 197 working in both the private and public health care sector
Health Reform	To increase greater efficiency, effectiveness, financial sustainability, equity, and social participation the 2002–2012 Barbados Strategic Plan for Health was developed. The Plan addresses 10 priority action areas and has broad strategies and measurement indicators. The Plan represents a shift from a medical model to a more client-focused model of care.

Belize

Overview	The Ministry of Health is responsible for national health planning, public health protection, regulation, research, quality and standards, international and regional collaboration and monitoring of the overall performance of the national health system. Belize is divided into four Health Regions: i) the Northern Region provides primary and secondary level care to Orange Walk and Corozal Districts, with one Regional and one Community Hospital, eleven health centres and sixteen health posts; ii) the Southern Region has one Regional and one Community Hospital, fourteen health centres and twelve health posts; iii) the Western Region (Belmopan and San Ignacio) has two hospitals (one Regional), three urban health centres and one rural health centre; and, iv) the Central Health Region (Belize City, Belize Rural and the Cayes) has three polyclinics, ten health centres, two mental health institutions and the country's only STI clinic.
Primary Care	Outreach community services include dental health, mental health and communicable diseases prevention and control. The Public Health Nurse is responsible for all the traditional functions of the PHC Team, including coordinating services, rehabilitation, health promotion and disease prevention, antenatal and postnatal care, etc., but generally excludes the diagnosis and management of acute conditions and emergency treatment. Currently there are 8 Public Health Nurses, 65 Rural Health Nurses and 158 Community Health Workers active within rural communities.
Secondary/ Tertiary Care	The Karl Heusner Memorial Hospital functions as a national referral hospital and is the general hospital for the Belize District. It provides services in neurology, physiology, ENT and orthopaedic surgery.
Other	In addition, there is a mental health hospital, a psychiatric unit in Belmopan and psychiatric units staffed with psychiatric nurses in each of the regional and community hospitals.
Private	About 80 percent of health workers are employed in the public sector. While 87 percent of nurses and 70 percent of physicians work in the public sector, by contrast, only 54 percent of pharmacists and 56 percent of medical technicians are employed in the public sector.
Health Reform	The National Health Insurance Scheme (NHIS) was implemented in 2005 in Belize City and in the Southern Health Region in 2006. In 2001-04, health service level agreements were initiated in all four health regions. The Health Sector Reform Program (2007-2011) consists of three main components: i) sector restructuring and strengthening of the organizational and regulatory capacity of the central and regional levels of the public sector, which will strengthen the stewardship and regulatory role of the MoH; ii) service rationalization and improvement of the coverage and quality of services of public and private sectors by restructuring public facilities, purchasing selective services from the private sector to support the public supply; and, iii) the roll out of a National Health Insurance Scheme. A principal aim of the reform program included the identification, streamlining and management of human resources within the health sector.

Dominica

Overview	For the purposes of health services management the country is divided into 2 regions and 7 health districts. Region 1 comprises: Roseau (excluding Prince Margaret Hospital), St Joseph and Grand Bay while Region 2 comprises: Portsmouth, Marigot, La Plaine and Castle Bruce. Each district has 4-7 Type 1 health clinics (serve between 600-1000 persons within 5 miles of the clinic) and one Type III health centre (serves as district's administrative headquarters). Ministry of Health includes: Ministry of Health administration, Medical Stores, Health Promotion Resource Centre, and the Health Information Unit. Environmental Health Services includes: Environmental Health Services, Environmental Co-ordination Unit.
Primary Care	The two district hospitals (Marigot and Portsmouth) and the 54 health centres/clinics form the primary health care sector. The district hospitals offer limited inpatient services while the clinics offer a range of service e.g maternal and child health services, cancer screening; diabetic and hypertensive clinics; health education; dental services and environmental monitoring. Type III health centres offer a more comprehensive range of services (including opthamology and psychiatry) than Type I. Primary care services are fully decentralized and are provided free of charge. The direct managerial responsibility for the delivery of primary health care services lies with the Director of Primary Health Care and the Senior Community Health Nurses. The management of the district is supported by a multidisciplinary health team. Type I clinics are staffed by resident staff/midwives or primary health care nurses. Type III health centers are staffed by a resident doctor, a family nurse practitioner, an environmental health officer, a pharmacist community health nurses, registered nurse midwives, a dental therapist, and support staff.
Secondary/ Tertiary Care	The Princess Margaret Hospital offers a range of specialist and diagnostic services e.g internal medicine, dialysis, gastroenterology, surgery, ophthalmology, otolaryngology, obstetrics and gynaecology, dermatology, psychiatry, pathology, oncology, radiology, anaesthesiology, and paediatrics. The hospital is not decentralized and a payment schedule has been established for medical care at the hospital indicating fees associated with in-patient and outpatient services. Tertiary services are provided by visiting consultants or are acquired in neighbouring islands; the cost is borne by the patient..
Other	No other units
Private	Alternative private healthcare options exist in Dominica but minimal regulations and a lack of accurate data recording mean that information on healthcare professionals in the private sector is limited to estimates. There is one private hospital and approximately 23 doctors, 5 dentists and 13 pharmacist working in the private sector on a full or part-time basis
Health Reform	The 2002 Action Plan for Health Care in Dominica targeted several objectives for a range of areas from women's reproductive health, promoting responsible sexual behaviour, enhancing the well-being of the elderly, and to improve quality of services for the Caribbean population.

Grenada

Overview	The Ministry of Health, Social Security and the Environment is responsible for the overall management of the health sector although the Ministry of Finance has final authority over all expenditures. The Department of Human Resources, under the Prime Minister's office, approves all public service staffing. The Public Services Commission selects, appoints, and determines terms and conditions of employment for all staff. The Ministry has a centralized management system where the Chief Medical Officer is the principal technical advisor on medical services. The Ministry is divided into three functional areas—Administration, Hospital Services, and Community Health Services. The Ministry's administrative role is to formulate policies; enforce regulations; provide direction to programmes; and oversee health and vital statistics, expenditures, inventory control, and personnel. For the purposes of management the country is divided into 6 health districts (St George's, St David's, St Andrew's, St Patrick's, St John/St Mark's, Carriacou/Petite Martinique.T he health service in Grenada consists of the following: Ministry of Health (Administration) — Dental Services General Hospital — Environmental Health Services District Hospitals — Richmond Hill Institutions
Primary Care	The Community Health Service comprises health centres and medical stations. There is 1 health centre per district and a total of 30 medical stations. The medical stations are often the initial contact point with the public health care system. Each person has access to a health facility within a three-mile radius of his or her home.
Secondary Care	General Hospital (in St Georges) - offers 24-hour accident and emergency and specialist services, e.g. paediatric, surgical, internal medicine, obstetrics/gynaecology, and, orthopaedic, and neurology services. Support services include laboratory, imaging, physiotherapy, rehabilitation, and social services There are two district hospitals: Princess Alice (St Andrew) and Princess Royal (Carriacou) that provide low risk obstetric, general medical, and minor surgical services, as well as stabilization of emergencies.
Other	Richmond Hill Institutions: Mount Gay (long-stay mental health), Carlton House (substance abuse rehabilitations) and Richmond Home (care of the elderly)
Health Reform	Since 1998 the Government has embarked on a health sector reform programme aimed at improving efficiency and effectiveness of the health services. In 2005 the Government began the process of developing a five-year national strategic plan for health under the theme "Health for Economic Growth and Development." This plan is expected to chart the way forward in health for the period 2006–2010
Private	Minimal regulations and a lack of standardised data collection mean that information on healthcare professionals in the private sector is limited. There are approximately 25 doctors, 16 dentists, 10 nurses and 22 pharmacists working on a full or part-time basis in the private healthcare sector.

Jamaica

Overview	The health system was de-centralized in 1997 with the promulgation of the Health Services Act and establishment of four Regional Health Authorities (South East, North East, Southern and Western Regional Health), to deliver health care to the population. The Ministry of Health (MOH) is the pre-eminent Government organization whose mandate is "To ensure the provision of quality health services and to promote healthy lifestyles and environmental practices"**.** The Ministry, together with its Regional Health Authorities (RHAs), Agencies and related organizations make up the public health system and are responsible for health care delivery across the island.
Primary Care	Jamaica's achievements in primary health care include the reduction of malnutrition, infant mortality, and fertility rates; an increase in immunization coverage; the elimination of polio and measles; improved sanitation status; the creation of a strong health centers network and of a new cadre of health workers (examples include the community health aide and the nurse practitioner); and strong local government engagement in health services. Primary care facilities comprise 316 health centers, ranging from type 1 to type 5 and offering progressively more complex services, from maternal and child health services only in type 1 clinics, to curative, dental, STI, and mental health services in the others.
Secondary/ Tertiary Care	The University Hospital, Kingston Public Hospital and the Cornwall Regional Hospital in Montego Bay are class A secondary and tertiary referral centres. Class B hospitals (providing in- and outpatient services in general surgery, internal medicine, obstetrics and gynaecology and paediatrics) are located in St Ann's Bay, Savannah-la-Mar, Mandeville and Spanish Town. There are 24 primary, secondary and tertiary hospitals, including the University Hospital of the West Indies. There are four specialist hospitals for psychiatric, cancer, rehabilitation and pulmonary services. . Public sector hospitals provide more than 95% of hospital-based care on the island.
Other	There are about a dozen smaller (class C) hospitals that are parish-based with two or three doctors providing general medicine, child and community care.
Private	Jamaica has six private hospitals. Traditionally an arrangement between the government and private medical facilities, whereby concessions are granted on equipment and various other items and in return, those private facilities offer care to public patients. Larger private hospitals may provide 24 hour services in gynaecology, surgery, obstetrics, paediatrics, internal medicine, renal dialysis and orthopaedics. Government is exploring options to strengthen this partnership. About 450 doctors work in the public hospital and health centres. Elsewhere there are 750 doctors working within the private healthcare system. The private sector dominates pharmaceutical and diagnostic services and provides about half of the ambulatory care through an extensive network of professionals offering specialist and general practice services. Nongovernmental organizations and other groups provide health services at a nominal fee
Health Reform	The MOH has a five year strategic planning cycle. A new National Strategic Plan for 2006-2010 took effect in April 2006 and will guide the Ministry's operations over the period. The plan was prepared In keeping with GOJ Strategic/Corporate Planning methodologies and processes, and is outcome oriented. It reflects national, regional and international development guidelines, and used a participatory approach with extensive stakeholder consultation to obtain consensus on a broad range of health related issues. The priorities are selected based on national Health needs and the island's disease burden, as well as the Millennium Development Goals (MDGs) for global development. The health system relies on strong partnerships to maintain the gains of previous years and to be effective in decreasing the major threats to population health. Thus, priorities for health include the need to reduce/control the spread of HIV/AIDS, focus on Maternal and Child Health, for example, reducing maternal mortality; and implementing the Healthy Lifestyle Policy, promulgated in 2004, to control the incidences of Chronic Non-Communicable Diseases (CNCDs) that are lifestyle related. The strategies dictate increased attention to health education and promotion to reorient our people towards health seeking behaviours. This is based on a recognition of the cause and effect principles of engaging in risky behaviour related to lifestyles and facilitating individuals taking responsibility for their own health status and making informed decisions and choices.

Montserrat

Overview	The Ministry is functionally divided into Headquarters (responsible for planning and policy analysis to support and strengthen the health system, as well as reviewing any legislation under the remit of the Ministry) and the Department of Health (responsible for providing and administering primary and secondary health care services in the country and assisting Montserratians who wish to access tertiary care elsewhere in the Caribbean.) The health care delivery system is organized into primary and secondary health care services. Montserrat has a public-sector health service that requires fee payment at the point of care. However, these same services are free for specific categories of residents (children, public sector workers, those over 60 years old and those with chronic disease).
Primary Care	Primary health care services are provided via four health districts (Salem, St Peter's, Cudjoe Head and St John's).Primary health as well as through environmental health, dental, nutrition, and health promotion activities.
Secondary Care	Montserrat has one 30-bed hospital (Glendon Hospital) and services provided at the hospital are generally accessed by referral from primary health care, medical or surgical outpatients, private doctors' offices, or from casualty.
Other	There are also two residential care homes: the Margetson Memorial Home that provides high dependence care, while the Golden Year home is run by the Red Cross and supports independent living.
Health Reform	Montserrat's 2003–2007 Sustainable Development Plan encompassed six strategic objectives. The specific objectives for the health sector included: develop appropriate health strategies, strengthen the institutional management of the sector as well as adequately provide medical and nursing training. The central goal of all the objectives for the health care sector is the delivery of adequate, affordable, and accessible health and welfare services.
Private	There are only three full time doctors in private practice

St. Lucia

Overview	The Ministry of Health has two main divisions: administration (led by the permanent secretary) and service delivery led by the chief medical officer). The Ministry of Health is the sole provider of primary and secondary health care services in the public sector. For the purposes of health planning and management the island is divided into eight health regions: REGION 1: Grand Riviere, Gros Islet, Monchy. REGION 2: Babonneau, Fond Assau. REGION 3: Dennery, La Ressource, Richfond REGION 4: Desruisseaux, Micoud, Mon Repos, Ti Rocher (Micoud). REGION 5: Belle Vue, Grace, Laborie, Saltibus, Vieux Fort, St.Jude. REGION 6: Canaries, Delcer, Etangs, Fond St Jacques, La Fargue, Mongouge, Soufriere REGION 7:. Anse La Raye, Jacmel, La Croix Maingot, Vanard REGION 8: Bexon, Castries, Ciceron, Entrepot, La Clery, Marchand, Ti Rocher (Castries).
Primary Care	There are 35 health centres across the country, along with a single polyclinic located in the northern administrative quarter of Gros Islet. In addition to these health centres there are two district hospitals (Dennery Hospital and Soufrière Hospital). These facilities offer medical and pharmaceutical services, maternal and child health care prevention and control of sexually transmitted infections, mental health clinics, and services related to diabetes, hypertension, cancer screening, dental care, as well as food and nutrition.
Secondary/ Tertiary Care	There are two general hospitals (Victoria Hospital and St. Jude's Hospital) providing secondary and specialised services. Victoria Hospital is the main secondary/tertiary care facility and St Jude's Hospital is a quasi-public institution that receives an annual subvention from the Government and many of whose specialists come from overseas and serve on a voluntary basis. Most tertiary care services are provided through health facilities abroad, primarily in Martinique, ,Barbados, and Trinidad and Tobago.
Other	Psychiatric facility (Golden Hope Hospital); Senior Citizen's Home – Soufriere and Turning Point Rehabilitation Unit.
Private	Tapion Hospital in Castries is the only private hospital on the island. Minimal regulations and a lack of standardised data collection mean that information on healthcare professionals in the private sector is limited to estimates. There are approximately 80 doctors, 19 dentists and 23 pharmacists working full- or part-time in the private sector.
Health Reform	The National Strategic Plan for Health for 2006–2011aims to strengthen the organization and management of health and social services; improve and sustain health gains; achieve greater equity, cost effectiveness, and efficiency in the allocation and use of health resources; ensure a cadre of well-trained and motivated staff; develop an effective health information system to support evidence-based planning; implement a quality improvement system; and improving health infrastructure to support the reform process.

Trinidad & Tobago[44]

Overview	Trinidad has three general hospitals, two district hospitals and four specialist hospitals (psychiatric, maternity, thoracic, and combined radiotherapy, physical medicine and gerontology facility). Tobago has one general hospital . Trinidad has eighty-four health centres, while Tobago has eighteen, all of them dispersed through each island. Currently there are five RHA's. Programs under the Ministry of Health include the Public Health Laboratory, Hansen's Disease Control Program, National Tuberculosis Program, Expanded Program on Immunization, National, Surveillance Program, National Population Program and School Health Program, among others.
Primary Health Care/Public Health	Health Centres offer a combination of various services including: Clinic, Cervical screening, Child Health Clinic, Immunization, Chronic Disease Clinic, Testing and Counselling for HIV, Dental services, Diabetic Clinic, Dressings, Family Planning, General Practice, Home Visits, Pap Smears, Pre-Natal Clinic, Post Natal Clinic, Social Work Services, Psychiatric Clinic, School Health, Skin Clinic and Wellness Clinic. Different types of community health facilities have been introduced, e.g. the District Health Facility, which provides more services and functions on a 24-hour basis and the Outreach Centre, which offers fewer services and has shorter hours. General dental services by dental surgeons and dental nurses are provided countrywide free at the point of delivery in primary health care facilities.
Secondary/ Tertiary Care	As part of the philosophy of Health Sector Reform, greater emphasis was placed on primary health care with fewer, better resourced and staffed hospitals. The aim was to expand diagnosis and treatment in non-hospital settings, increase the rate of day care and same day surgeries, with the expansion of laser surgery and minimally invasive techniques. Persons from other CARICOM islands also come to Trinidad & Tobago seeking tertiary medical care, particularly in the areas of oncology and cardiac surgery.
Other	Following a review of the Mental Health Act of 1975, the 2000 Mental Health Plan developed by the Ministry of Health was implemented in the national psychiatric hospital and several primary health care centres in three RHAs during the 2000-2005 period.
Private	Currently the public sector outsources some services to private providers to reduce wait times. The private sector includes private practitioners, hospitals, clinics, pharmacies, bio-medical laboratories and radiological-image diagnostic services and remains highly unregulated. Several private companies provide health services benefits, with the most common form being that of group medical insurance coverage provided by employers to their employees. Dual work practices, allowing senior public service physicians to work in the private sector, have lead to a decline in public sector work hours and reduced access for population segments unable to pay for private sector services.
Health Reform	The Health Sector Reform Program has pursued fundamental changes through the strengthening of leadership in the Ministry of Health, development of health systems and the implementation of the Regional Health Authorities Act of 1994. Vision 2020 seeks to improve the health status of the population by unifying and enhancing the performance and quality of the health care delivery system and services; strengthening health research systems for evidence-based decision-making, policy formulation, new learning and development, and creating a client-focused health care environment.

44. *Http://www.who.int/whosis/database/gis/salb/salb_home.htm*.

Appendix B: Caribbean Human Resources for Health and Training Programs

Table 5: Caribbean HRH Core Data Summary Comparisons

Country	Health professionals in public health sector (%)	Women in health professions (%) Women in total health workforce (%)	Age >50 (%)	No. Specialists (consultant/ registrar) No. PHC	Total Physicians/ No. per 10,000 Population	Total Nurses +Nursing Assistants/ No. Per 10,000 Pop.	Total Pharmacists/ No. Per 10,000 population	Total Dentists/ No. Per 10,000 Population	Total Public Sector Workforce
Anguilla	82	52 72	19	11 Hospital* 2 PHC	13 8.5	37 24.3	4 2.6	3 2	109
Barbados	58	73 67 (65 unknown)	38	161 Specialists 58 PHC	365 13.1	1103 39.7	76 2.7	34 1.2	4420
Belize	79.8	68.3 (Professionals)	13	60 Specialist 181 GP/PHC	241 7.5	328+141 14.6	112 3.5	12 0.37	1279(Prof) 2283(Total)
Dominica	90	70 76	24%	21 Specialist 14 PHC	124 17	370 NA - 68 50.1 NA-9.36	18 2.48	21 2.89	824
Grenada	65	No data	No data	20 Specialist 21 PHC	69 7.6	398 43.86	21 2.31	19 2.09	974
Jamaica	77.5(RNs)	82 NA	Age range fr: 34 (Rehab) to 50 (Dentistry) 37 (MDs)	542 Specialists (Pharm. Rep Database)	1103 4.1/ 1558 (Registered)	2140+2309 16.6/10k (RNs+Aides+ Midwives)	172 0.64	262 0.98	7770
Montserrat	46	No data	No data	5 in hospital 0 PHC	5 9.8	36 67.5	2 3.9	4 7.8	170
St Lucia	58	64 64	25	27 specialist 27 PHC	130 7.51	329 NA-42 19.01 NA-2.43	23 1.33	27 1.56	1485
Trinidad & Tobago	MD- 66 RN-224 Pharm- 8 , in Priv. Hospitals 90 (Est)	72 (RHAs/MoH) 32 (MDs)	Reg. Diet.-33 SLPs-22 Rad-17 PTs-29 MoH – 39	463 Specialists GM/GP-198	1735 Public/ Private 13.3 914(MoH)	4677 Nurses,MW, Asst & Aides (Govt/RHAs)	650 5.0 Public/ Private	294 2.2 Public/ Private	14,523 (MoH/ RHAs)

Table 6: Education

Country	UWI Campus Country	Community College (CC)	CC Courses	# Off-shore universities	Fellowships
Anguilla	No	No	Not applicable	1	Scholarship programmes are run by PAHO and the Commonwealth Scholarship (UK). Additionally, St James School of Medicine (the off-shore, private medical school) offer two fellowships a year
Barbados	Yes	Yes	Nursing assistant (Cert) General nursing (AD) Community health nursing (PADD) Community mental health nursing (PADD) Midwifery (PADD) Shortened Registered Nurse (PADD) Dental assistant (Cert) Pharmacy (AD) Medical Lab Tech (AD) Food inspection (PADD) Environmental health inspection (AD)	0	All economic and tuition costs are waived for Barbadians attending UWI. "Financial Hardship" bursaries (approximately 10) are available to Barbadians at the University of the West Indies. Ten National Development Scholarships are available to candidates pursuing courses in scare specialist areas identified as priorities to the development of the country. The scholarship provides funding for the student to study in the UK, US or Canada. Commonwealth scholarships - number available varies. China and Cuba also provide scholarships
Belize	No University of Belize		Nursing (4 year baccalaureate) Practical Nursing (18mo certificate) Rural Health Nursing (3yr certificate) Pharmacy (3 yr associate degree) Psychiatric Nurse Practitioner (18mo) Midwifery (18 mo. Certificate) Medical Laboratory Technology (3yr) Social Work (2yr Associate/3yr Bach)		Belize does not have a national medical school. Belizean students utilize scholarship opportunities provided under bilateral technical cooperation agreements, particularly with Cuba, and to a lesser extent, Mexico and Taiwan. Most medical professionals are trained in Mexico and Central American countries, i.e. Guatemala, Costa Rica, and Nicaragua. As a Caribbean sub regional training institution, the University of the West Indies (UWI) is mandated by CARICOM to provide space in its School of Medicine for students from Belize. Dentists are trained largely in Guatemala. Of the 528 graduates between 2000 and 2009, 260 (49.2 percent) had been awarded scholarships. While this figure would also include students on scholarships from other countries, the majority of these would be provided by the Belize government.
Dominica	No	Yes	General Nursing (AD) Practical Nursing (Cert) Pre-Nursing (Cert) Mental Health Nursing (Cert) Environmental Health (AD) RN to BSc conversion course	2	Scholarship programmes are run by the governments of Cuba, China and Venezuela. In 2007 twenty scholarships to China were awarded, of these 3 were related to HRH: 1 nursing. 1 medical psychology and 1 psychology. In 2009, the total number of scholarships dropped to 9 with 2 of these in medicine. Cuba Venezuela Medicine 20 7 PAM 12 0
Grenada	No	Yes	Nursing (AD) Nursing Assistant (Cert) Midwifery (PBC) Pharmacy (AD) Social Work (AD)	1	The government of Cuba runs a scholarship programme run. Additionally students have access to scholarships from the University of the West Indies (UWI), St George's University (SGU) and universities in the US (Mid-Western State (MSU), City University, New York (CUNY)). St George's University is an off-shore, private university based in Grenada.

	UWI	Cuba	MSU	CUNY	SGU
Medicine	1	11	1	0	6
Nursing	2	0	0	0	0
Psychology	5	1	1	2	0

Country	UWI Campus Country	Community College (CC)	CC Courses	# Off-shore universities	Fellowships
Guyana	No University of Guyana	Ministry of Health & Georgetown Public Hospital Corporation	(Certificate & Diploma Courses) Pre-Dentex and Dentex Dental Assistant and Dental Therapist Nursing and Midwifery Nurse Anaesthetist/Nurse Assistant Patient Care Assistant Pharmacy Assistant Environmental Health Assistant Occupational Health and Safety Dietician Phlebotomist Operating Room Technician Orthopaedic Technician Radiology Technologist Refraction Technician Pre-Medex and Medex Community Health Worker Rehabilitation Assistant Audiology Medical Laboratory Technology Orthopaedics/Traumatology Emergency Medicine (New) Plastic Surgery (New) Anaesthesia/Intensive Care (New) General Surgery (New)		Students who undertake training programs offered by the Ministry of Health do not pay tuition costs, receive a stipend, and are committed to serve 3 to 5 years after completing their training. Nurses receive a stipend three times higher than other students and receive a meal allowance. Students who train abroad on scholarships are also required to serve in an area of need after completing their course. Students at the University of Guyana pay for their own education and are not subject to the same restrictions. While the intake of medical students at the University of Guyana is about 30 annually, there are currently about 300 medical students being trained in Cuba and others in China on scholarships provided by the Public Service Ministry. About 100 physicians a year are expected to return to Guyana over the foreseeable future, outnumbering local medical graduate annual production by 3.3 to 1.
Jamaica	Yes UWI offers 32programs in subspecialities in Medicine, plus Nursing, Radiation Technology, Nutrition, Rehabilitation, Public Health Inspection and Health Promotion In addition to these UTECH offers degrees in Medical Technology and Pharmacy	Yes Nursing is offered in 20 programs and 8 institutions, practical nursing in 38 private sector institutions.	Certificate/Diploma Courses also offered in: Nursing and Midwifery Nursing Assistants Practical Nursing Dental Technologies Public Health Inspection Psychology Social Work Kingston School of Nursing was the premier government operated nurse training institution until 2006 when BSc became the new nursing requirement.		Jamaica has formal arrangements with other countries across the world for the training of Jamaican nationals in certain health disciplines including medicine, nursing, pharmacy, dentistry and psychology. The main collaborating countries are Cuba and Russia. These programs are accessed as scholarships and are facilitated through the Ministry of Finance.
Montserrat	No	Yes	Nurses Nursing assistants	0	No data available
St Lucia	No	Yes	Nursing Midwifery Health Aides	3	2009: Government gave assistance to 17 students for fees for nursing courses at the Sir Arthur Lewis Community College. Full sponsorship is also provided by the Cuban government – 4 medical graduates and 18 enrolled in medicine.
Trinidad & Tobago	Yes - (St. Augustine)	Yes	College of Science, Technology and Applied	1 St.	177 T&T students received scholarships to pursue medicine at St. George's University, Grenda in

Country	UWI Campus Country	Community College (CC)	CC Courses	# Off-shore universities	Fellowships
	Courses in: Medicine Nursing Dentistry Pharmacy		Arts of Trinidad and Tobago (COSTAATT) : ASD in Basic Nursing Education University of the Southern Caribbean – BSc in Nursing Ministry of Health, Nursing Division, Basic Training – RN and Nursing Assistant	George's University Grenada	2009, through the Government Assistance for Tertiary Education program.

KEY:
Cert = Certificate
AD = Associate Degree
PAD = Post Associate Degree Diploma
PBC = Post basic certificate

Appendix C: Historical Caribbean Population Health Trends

Table 7: Population Growth

Country	Total population (000's)		Annual population grouth (%0		Urban population (%)		Life expectancy at birth (YRS)	
	2005	2010	2005	2010	2005	2010	2005	2010
Anguilla	13	15	1.8	2.2	100.0	100.0	77.1	80.8
Barbados	270	286	0.2	0.4	52.9	44.5	75.8	74.1
Belize	270	313	2.0	2.0	48.6	52.2	71.8	76.9
Dominica	69	73	-0.3	0.2	72.7	67.2	74.7	75.8
Grenada	90	108	0.2	0.6	42.2	39.3	64.5	72.8
Guyana	751	761	0.1	-0.1	38.5	28.6	64.4	67.9
Jamaica	2651	2730	0.4	0.4	52.2	52.0	70.9	72.3
Montserrat	9	5	1.0	0.5	13.8	14.3	78.7	72.9
Saint Lucia	161	161	0.8	0.4	31.3	28.0	72.8	76.7
Saint Vincent & the Grenadines	119	104	0.5	-0.3	60.5	49.3	71.6	73.9
Trinidad & Tobago	1305	1344	0.3	0.4	76.2	13.9	70.0	69.9

Table 8: Caribbean Mortality Indicators

Country	Infant mortality rate (1,000 l.b)		Under five mortality rate (1,000 l.b.)	
	1998-04	2005-09	2004	2008
Anguilla	...	...	...	...
Barbados	14.3(03)	13.3(08)	...	11.0
Belize		14.3(04) 17.9(09)	40.2	19.0
Dominica	...	22.2(09)	...	10.0
Grenada	19.6(02)	11.2(09)	...	15.0
Guyana	17.5(03)	22.0(05)	64.6	61.0
Jamaica	19.9(98)	24.1(08)	20.3	31.0
Montserrat	...	...	...	...
Saint Lucia	13.5(03)	15.0(05)	18.8	15.0
Saint Vincent & the Grenadines	17.3(04)	14.2(09)	28.8	13.0
Trinidad & Tobago	18.5(01)	13.1(06)	...	35.0

Table 9: Caribbean Infant Mortality Indicators[45]

Country	Infant mortality rate actual annual % change		Infant mortality rate req'd annual % change	
	2004–2009	Rank	2010-2015	Rank
Anguilla	...	...	...	...
Barbados	-8.0	1	-12.0	7
Belize	-3.5	5	-11.6	8
Dominica	-2.5	6	-15.7	3
Grenada	...	...	...	...
Guyana	-2.0	7	-13.2	4
Jamaica	-4.5	3	-12.8	5
Montserrat	...	...	...	...
Saint Lucia	-4.8	2	-12.6	6
Saint Vincent & the Grenadines	-0.3	8	-18.8	2
Trinidad & Tobago	-4.3	4	-20.3	1

Table 10: Caribbean Morbidity Indicators

Country	Tuberculosis incidence rate		Aids incidence rate		Proportion of low birth rate	
	2003	2008	2003	2008	2000-04	2006-09
Anguilla	...	...	76.9	7.3(07)	8.5	17.9
Barbados	1.9(02)	1.1	507.5	32.8	11.0	11.7
Belize	38.2	29.3	393.8	62.6(09)	4.4	8.4
Dominica	2.9(02)	17.9	42.9	...	10.5	9.7
Grenada	2.2	4.7	247.2	21.5(09)	8.0	7.5
Guyana	84.2	85.5	...	...	11.9	11.2
Jamaica	4.6	3.9	407.3	49.0	10.0	12.1
Montserrat	11.1	...	333.3	19.7	2.0	8.0
Saint Lucia	8.9	13.2	196.2	23.1(09)	10.0	10.1
Saint Vincent & the Grenadines	11.9	11.4	686.4	44.9(09)	...	7.9
Trinidad & Tobago	11.3	20.9	246.0	14.3(07)	...	10.2

Table 11: Caribbean Socioeconomic Indicators

Country	National health expenditure as % of GDP *public*		National health expenditure as % of GDP *private*		Annual GDP growth (%)	
	2002	2009	2002	2009	2003	2007-08
Anguilla	3.3	3.0	2.5	2.7	...	...
Barbados	6.7	4.4	1.9	1.6	1.3	...
Belize	4.1	3.0	1.4	1.3	9.4	3.8
Dominica	4.4	3.8	2.2	2.8	-0.6	4.3
Grenada	3.1	2.9	3.2	4.0	5.8	2.1
Guyana	2.1	5.3	...	1.7	-0.6	3.0
Jamaica	1.7	2.6	4.4	3.0	2.3	-1.3
Montserrat	7.7	9.0	1.1	0.8	...	...
Saint Lucia	3.4	2.4	1.3	3.4	1.7	0.5
Saint Vincent & the Grenadines	3.9	3.5	0.6	0.8	4.0	-1.1
Trinidad & Tobago	2.1	...	2.8	2.3	13.2	3.5

45. Decrease (%) of infant mortality rate during period 2004-2009 and annual percentage variation required to achieve Millennium Development Goal 4 by 2015 within the Caribbean Region.

Table 12: Caribbean Migration Indicators

Country	Expatriation rates: MDs[46] 2000		Expatriation rates: RNs 2000		Estimated net Migration rates PER 1,000 pop.[47] 2010 - Number of migrants
	Number	Rate	Number	Rate	
Anguilla	...	...	...	...	13.54
Barbados	275	46.1	3496	78.0	-0.3
Belize	76	23.2	1365	81.8	...
Dominica	58	60.4	620	66.2	-5.44
Grenada	109	72.7	2131	87.6	-3.67
Guyana	949	72.2	7450	81.1	-15.83
Jamaica	2114	48.4	31186	87.7	-5.52
Montserrat	...	...	...	...	...
Saint Lucia	39	4.9	369	52.7	-3.93
Saint Vincent & the Grenadines	115	53.2	1228	81.6	-11.36
Trinidad & Tobago	1206	54.6	9808	72.9	-7.11

46. International Migration Outlook: Immigrant Health Workers in OECD Countries in the Broader Context of Highly Skilled Migration, SOPEMI 2007 Edition – ISBN 978-92-64-03285-9- OECD (2007).
47. Central Intelligence Agency, The World Factbook (2005), Field Listing: Country Net Migration Rate. February 2010.

Appendix D: Human Resources for Health in the Caribbean

Table 13: Historical Trends In HRH

Country	Human resources per 10,000 *(mds)*		Human resources per 10,000 *(rns)*		Health care by trained personnel *prenatal (%)*		Health care by trained personnel *at birth (%)*	
	2001	2008	2001	2008	2005	2010	2005	2010
Anguilla	9.0	...	31.3	...	100.0	100.0	100.0	100.0
Barbados	13.7	13.0	51.2	40.0	100.0	100.0	100.0	100.0
Belize	10.2	7.0	12.3	10.1	98.0(02)	94.6	87.8	93.5
Dominica	4.9	17.0	41.6	51.0	100.0	100.0	100.00	100.0
Grenada	8.1	7.6	19.5	43.9	99.0	100.0	100.0	100.0
Guyana	2.6	2.2	8.6	4.0	90.0	96.3	94.0	93.3
Jamaica	8.5	4.0	16.5	8.0	70.1(01)	...	95.0	95.7
Montserrat	1.8	...	29.1	...	100.0	100.0	98.0	100.0
Saint Lucia	5.8	8.0	22.6	19.0	47.8(00)	98.9	99.0	100.0
Saint Vincent & the Grenadines	6.9	6.0	19.8	24.0	99.0	99.5	100.0	98.9
Trinidad & Tobago	7.5	13.3	28.7	20.4	90.4(01)	97.1	99.5	99.7

Table 14: Current Supply of HRH in the Caribbean

Discipline	Anguilla	Barbados	Belize	Dominica	Grenada	Jamaica	Mont-serrat	St. Lucia	St Vincent	Trinidad & Tobago
	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Medical doctors	13	365	241	124	69	1103	5	130	62	1735
Nurses + Midwives	37	1,582	363			2140	36	329		
Nursing assistants	NA	34	141			2309	NA	NA	208	1388+327 Nurse Aide
Dentists and allied	3	76	12	68	19	262	4	42		
Pharmacists and allied	4	109	112			172	2	27	23	650
Rehabilitation workers	2	53	N/A	18	1	50	1	23		
Technologists	18	101	126			301	6	35	5	225 (RHAs)
Public health practitioners	6	244	60+158 ComHlth	4	29	301+35 Hlth Pro	11	16		
Nutritionists	2	15	NA			97	2	76	67	26
Mental-health practitioners	2	9	NA	65	1	169	4	165		
Other health workers	22	1,832	NA			NA	99	7	1	N/A

* Miriam Gumbs Senior Citizens Home employs 13 care assistants

Table 15: Distribution of Medical Specialists (sample)

Medical Specialty	Trinidad & Tobago	Jamaica	Belize
Anaesthesia	50	59	10
Cardiology/Pulmonary		8	
Dermatology		23	
Endocrinology		2	
Emergency	3	5	
Gen Medicine/GP/FM	191+7	585+2	181
General Surgery	191	78	8
Haematology	3		
Internal Med/Gastro		43+2	9
Neurology		3	
Obs/Gyn	89	86	14
Otorhinolaryngology		23	
Orthopaedic s		26	4
Pathology/Forensics/Venereology	15+1+2		
Paediatrics	46	119	15
Plastic Surgery		7	
Psychiatry		29	
Public Health	33		
Radiology/Radiotherapy	22+6	N/A +11	
Rehabilitation	2		
Urology		17	
Venereology	2		
TOTAL	**661**	**1129**	**241**

Appendix E: Caribbean Regional Goals HRH Baseline Indicators

CHALLENGE 1. Build long-range policies and plans to adapt the work force to the changes in the health system

GOAL 1: All countries of the Region will have achieved a human resources density ratio level of 25 professionals per 10,000 inhabitants

Country	Percentage of Indicator	HRH density per 10,000 population
Anguilla	100	33
Barbados	100	86
Belize	75	18.8
Dominica	100	44
Grenada	100	53
Jamaica	79	19.7
Montserrat	100	80
St Lucia	100	41
Trinidad & Tobago	100	31.6

GOAL 2: The regional and sub-regional proportions of primary health care physicians will exceed 40% of the total medical workforce

Country	Percentage of Indicator	Percentage of medical workforce in primary health care (PHC)
Anguilla	0	0
Barbados	78	31
Belize	100	75.1
Dominica	83	33
Grenada	100	81
Jamaica	20	8
Montserrat	93	38
St Lucia	30	12
Trinidad & Tobago	17	6.8

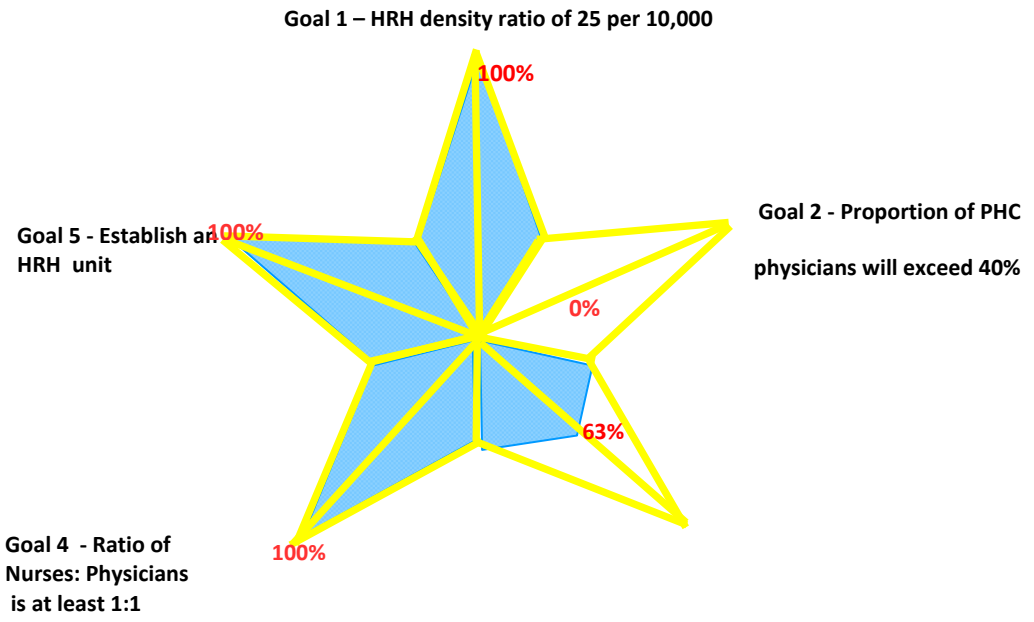
GOAL 3: All countries will have developed primary health care teams with a broad range of competencies that systematically include community health workers to improve access, reach out to vulnerable groups, and mobilize community networks

Country	Percentage of Indicator	Score out of 70 for PHC competencies & coverage
Anguilla	63	44/70
Barbados	96	67/70
Belize	79	55/70
Dominica	100	70/70
Grenada	80	56/70
Jamaica	99	69/70
Montserrat	91	64/70
St Lucia	97	68/70
Trinidad & Tobago	79	55/70

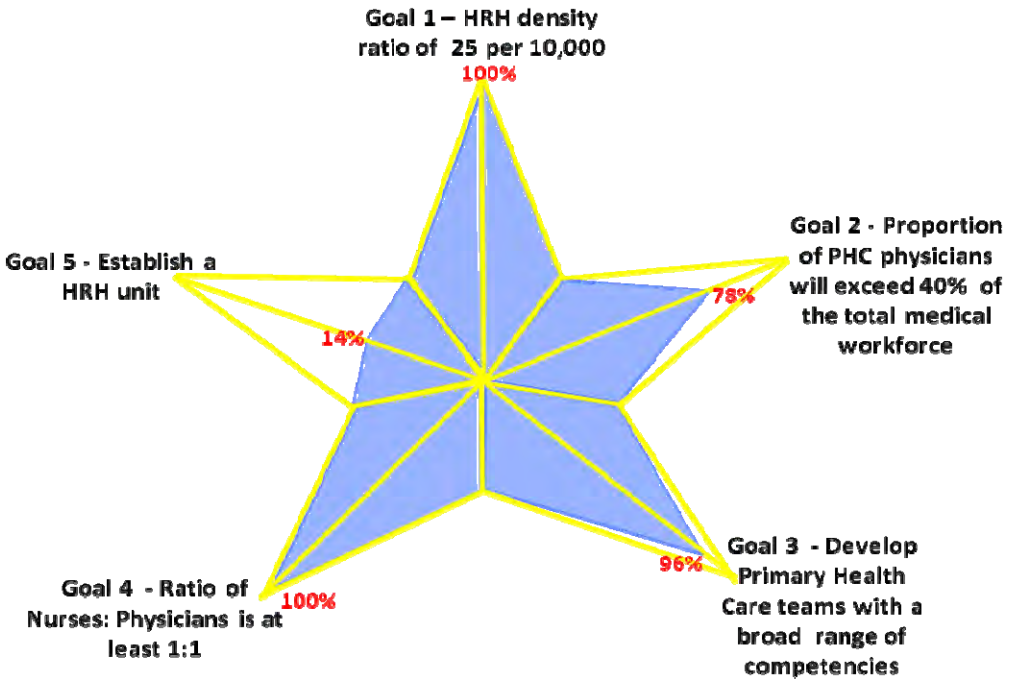
GOAL 4: The ratio of qualified nurses to physicians will reach at least 1:1 in all countries of the Region	Country	Percentage of Indicator	Ratio of nurses to doctors
	Anguilla	100	3:1
	Barbados	100	1.27:1
	Belize	100	1.4:1
	Dominica	100	3:1
	Grenada	100	4:1
	Jamaica	100	2.3:1
	Montserrat	100	8.2:1
	St Lucia	100	2.3:1
	Trinidad & Tobago	100	3.4:1

GOAL 5: All countries of the Region will have established a unit of human resources for health (HRH) which will be responsible for the development of HRH policies and plans, the definition of the strategic directions, and the integration of HRH with other sectors	Country	Percentage of Indicator	Score out of 16
	Anguilla	100	15/16
	Barbados	14	2.3/16
	Belize	54	8.5/16
	Dominica	0	0/16
	Grenada	62	10/16
	Jamaica	75	14/16
	Montserrat	75	14/16
	St Lucia	100	15/16
	Trinidad & Tobago	53	8.5/16

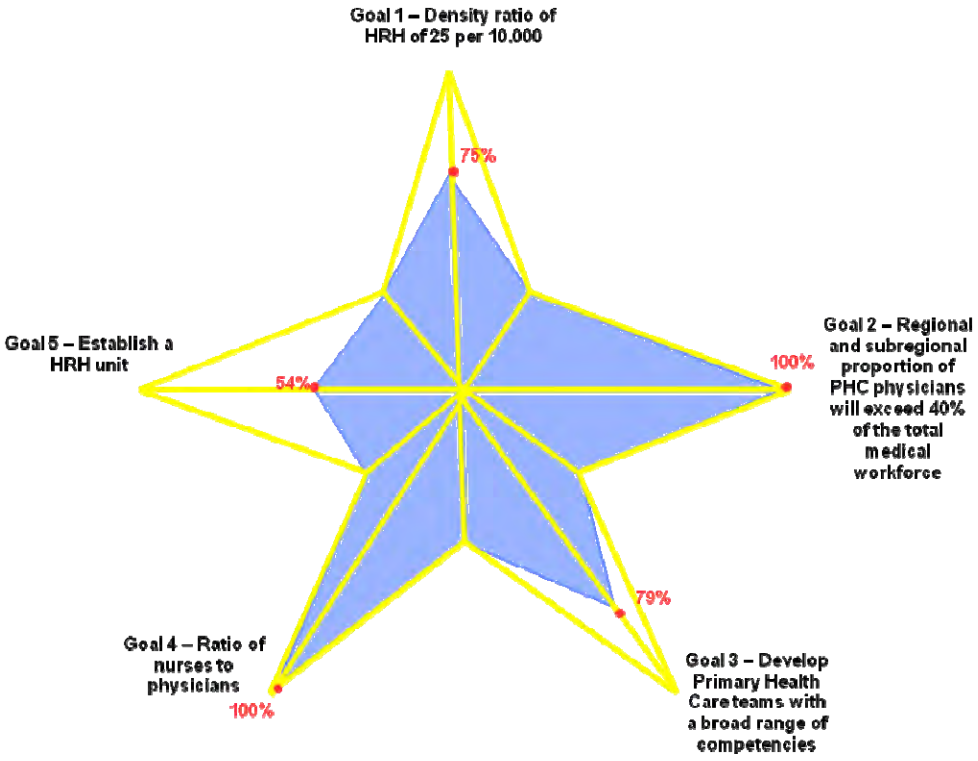
Anguilla



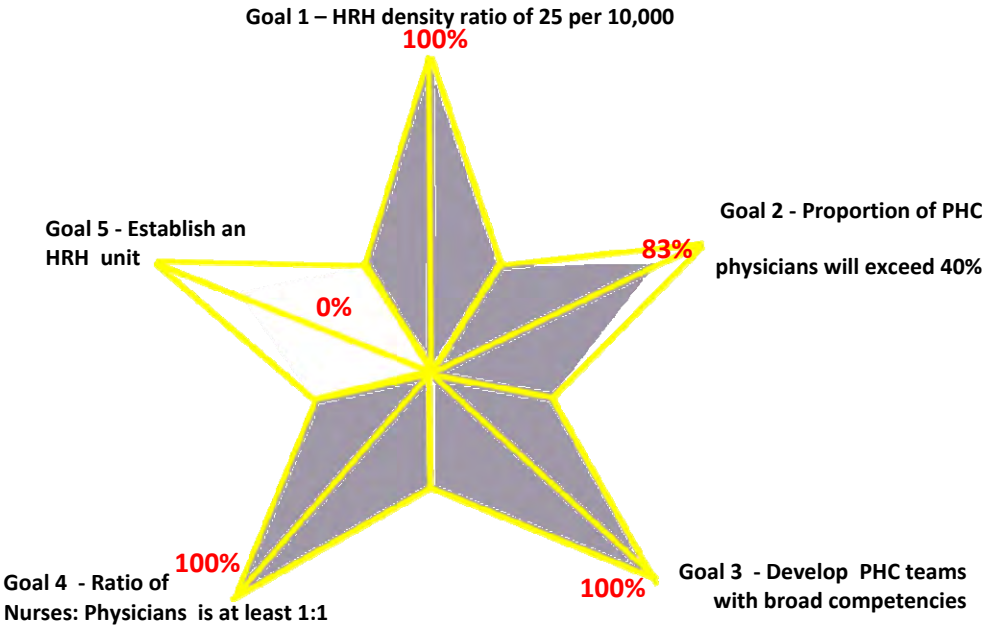
Barbados



Belize



Dominica



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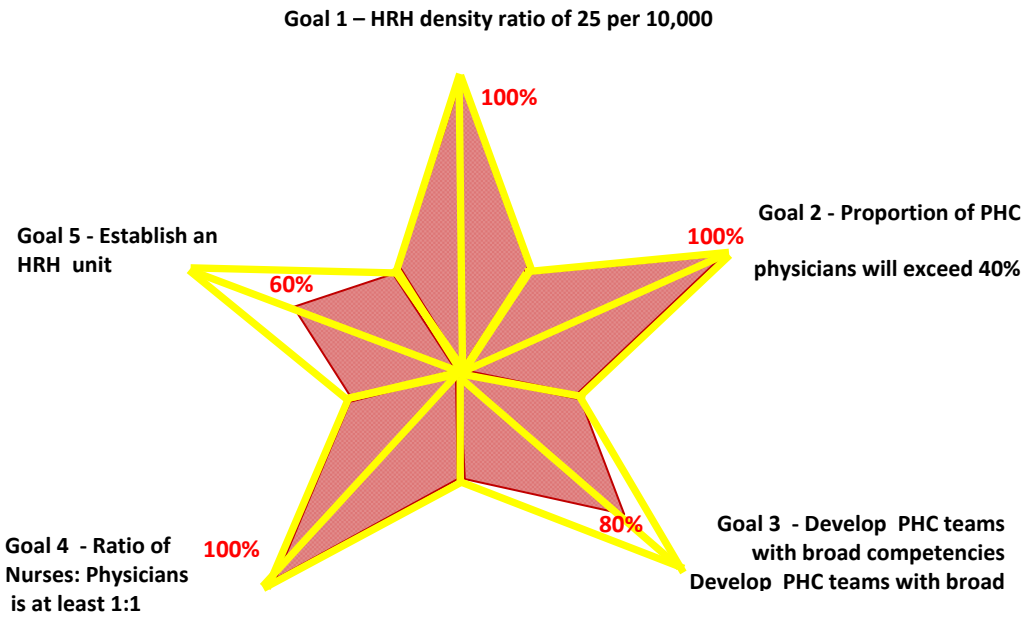

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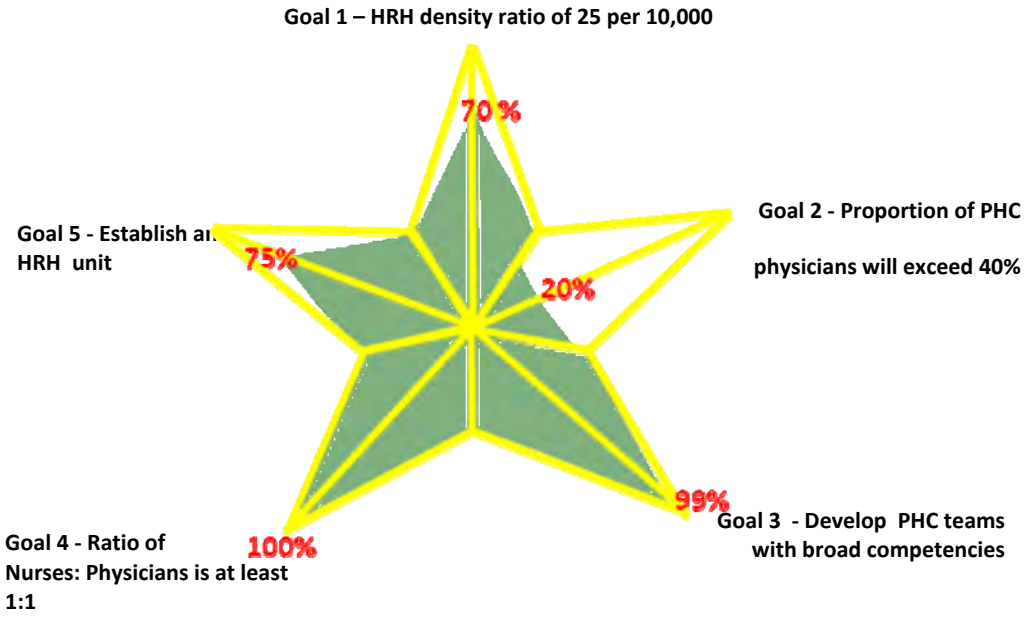
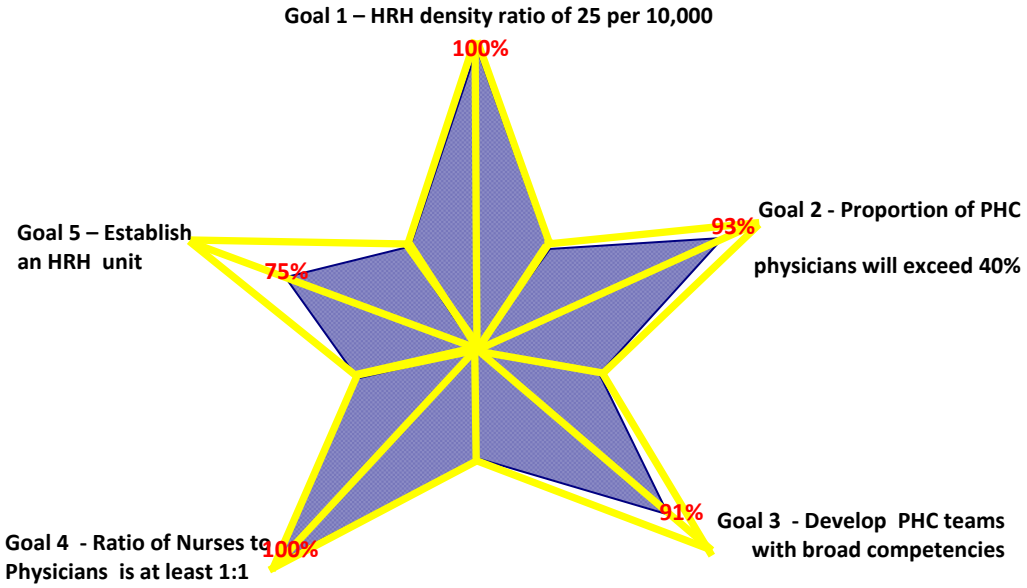
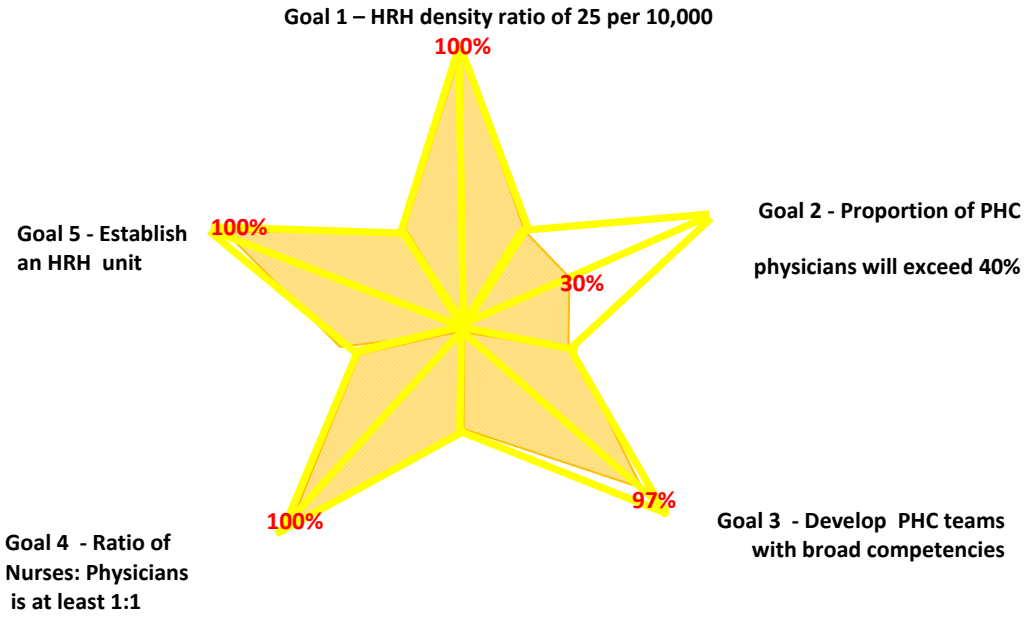


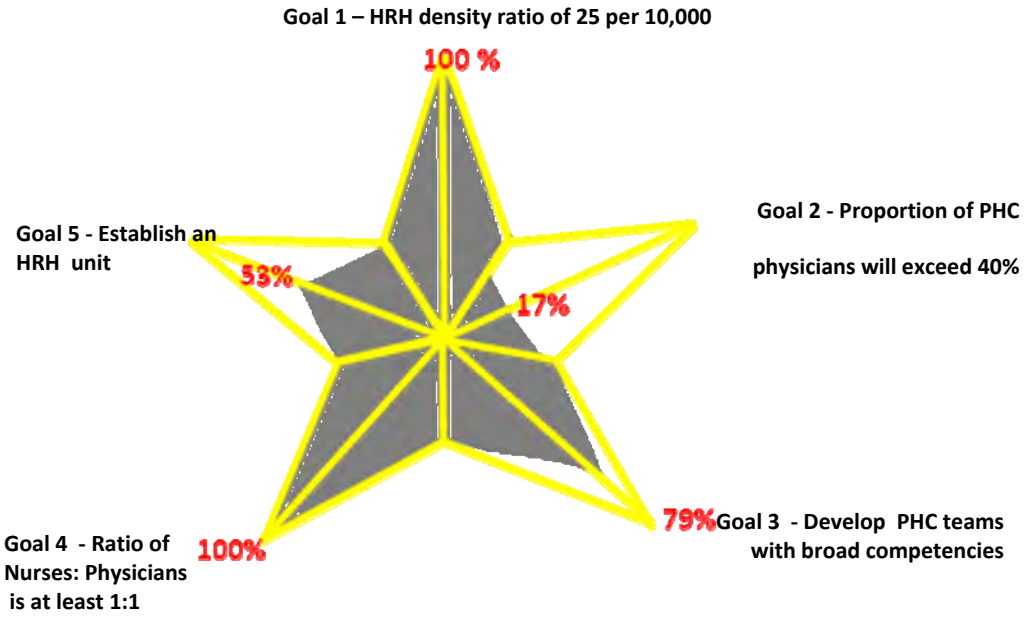
Montserrat



Saint Lucia



Trinidad & Tobago



CHALLENGE 2. Put the right people in the right places, achieving an equitable distribution according to the health needs of the population

GOAL 6: The gap in the distribution of health personnel between urban and rural areas will have been reduced by half in 2017

Country	Percentage of Indicator	Ratio of health personnel densities for urban and rural area
Anguilla	-	Not applicable
Barbados	-	Not applicable
Belize	50 (10.5:1)	21:1
Dominica	-	2.6:1
Grenada	-	5:1
Jamaica	-	No data
Montserrat	-	Not applicable
St Lucia	-	8:1
Trinidad & Tobago	-	No data

GOAL 7: At least 70% of the primary health care workers will have demonstrable public health and intercultural competencies

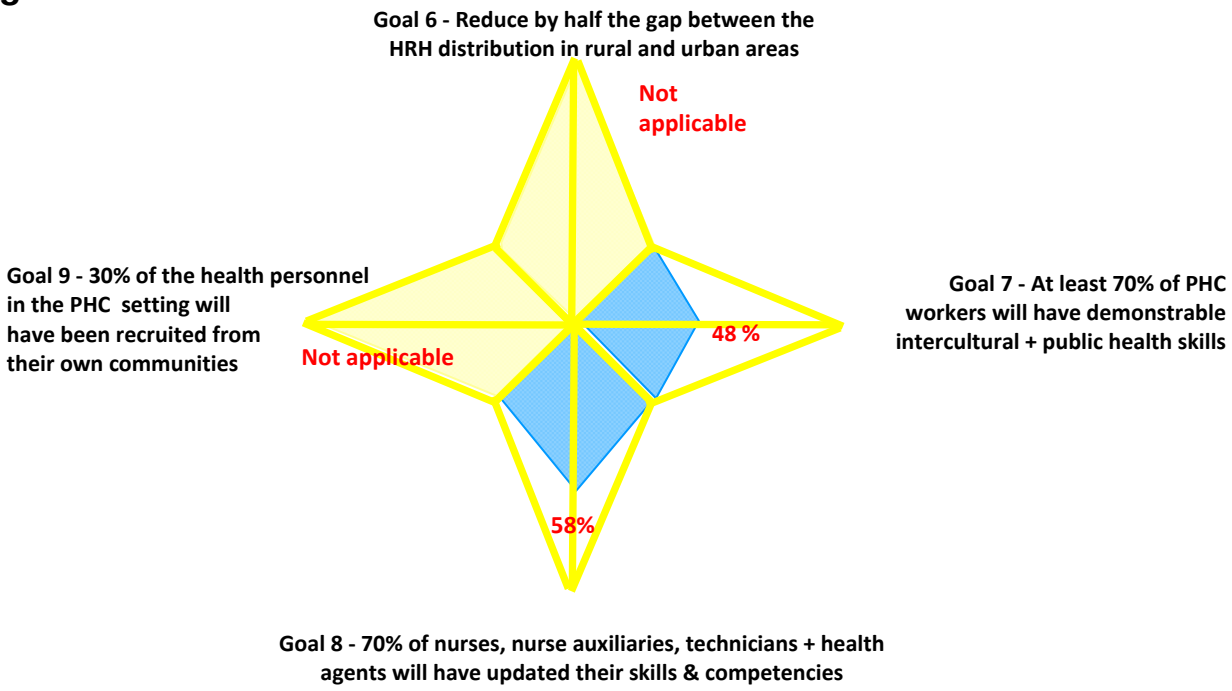
Country	Percentage of Indicator	% of PHC workers with demonstrable public health & intercultural competencies
Anguilla	48	34
Barbados	100	100
Belize	48	34
Dominica	100	85
Grenada	13	9
Jamaica	100	70+
Montserrat	97	68
St Lucia	100	86
Trinidad & Tobago	No data	No data

GOAL 8: Seventy percent of nurses, nursing auxiliaries and health technicians including community health workers, will have upgraded their skills and competencies appropriate to the complexities of their functions

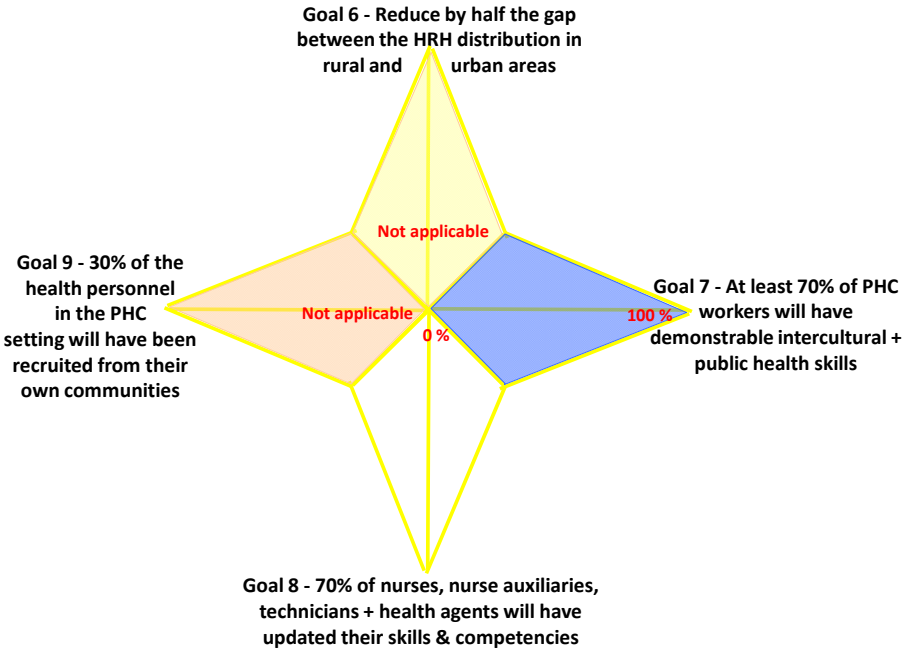
Country	Percentage of Indicator	% of nurses, nursing auxiliaries + health technicians with upgraded skills & competencies
Anguilla	58	41
Barbados	0	0
Belize		No requirement
Dominica	100	77
Grenada	NDA	No data
Jamaica	100	
Montserrat	No data	No data
St Lucia	100	100
Trinidad & Tobago		No data

GOAL 9: Thirty percent of health workers in primary health care settings will have been recruited from their own communities	Country	Percentage of Indicator	Percentage of health workers in PHC settings who have been recruited from their own communities
	Anguilla		Not applicable
	Barbados		Not applicable
	Belize	100	40.5
	Dominica	100	95
	Grenada	100	61
	Jamaica		No data
	Montserrat		Not applicable
	St Lucia	100	42
	Trinidad & Tobago		No data

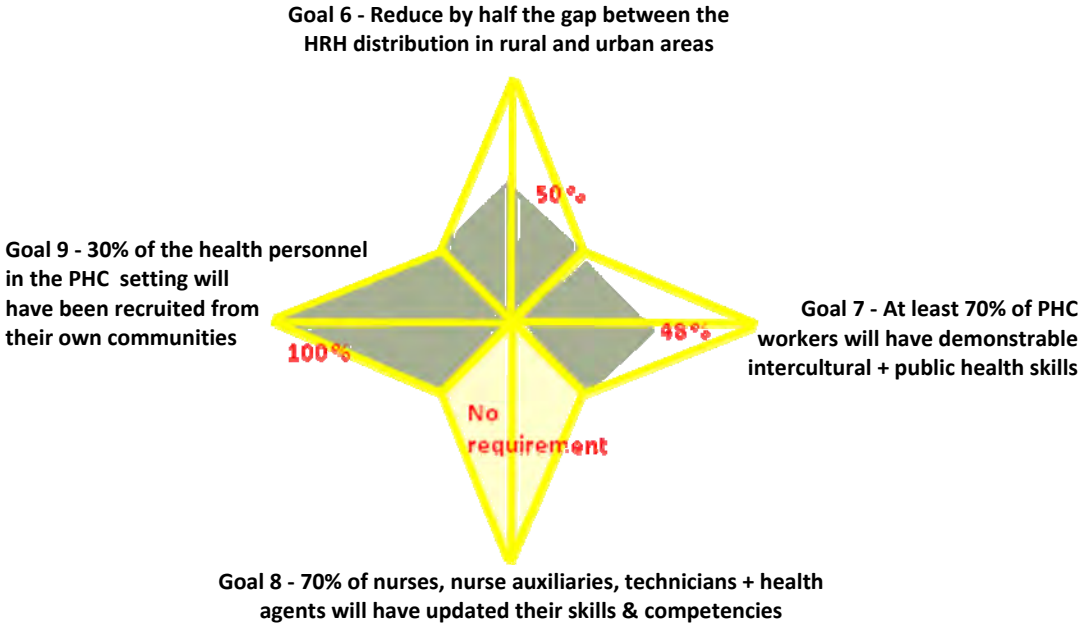
Anguilla



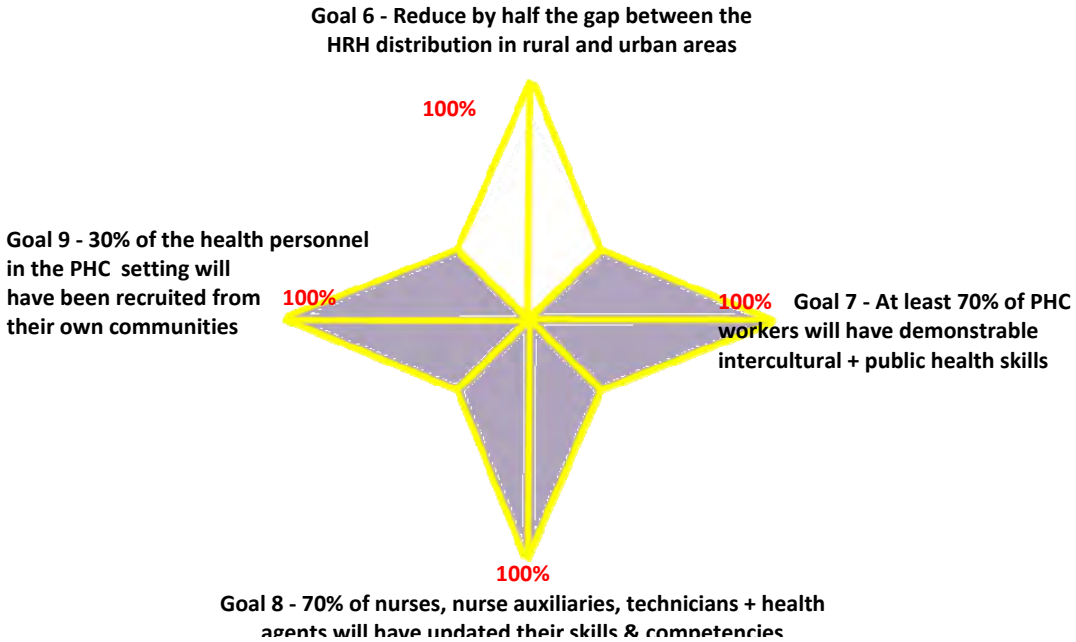
Barbados



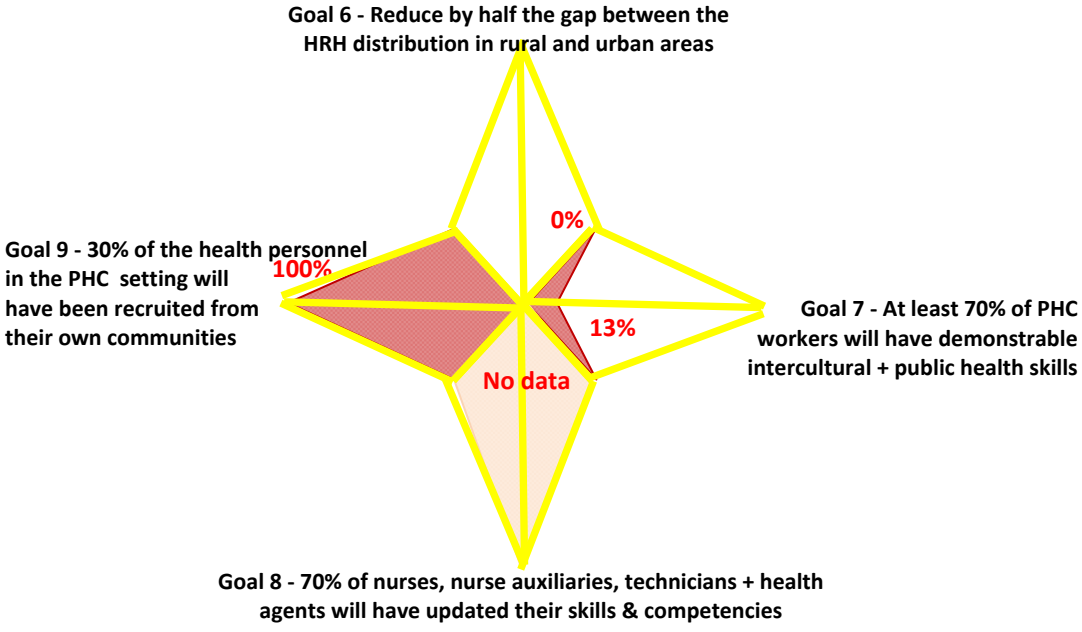
Belize



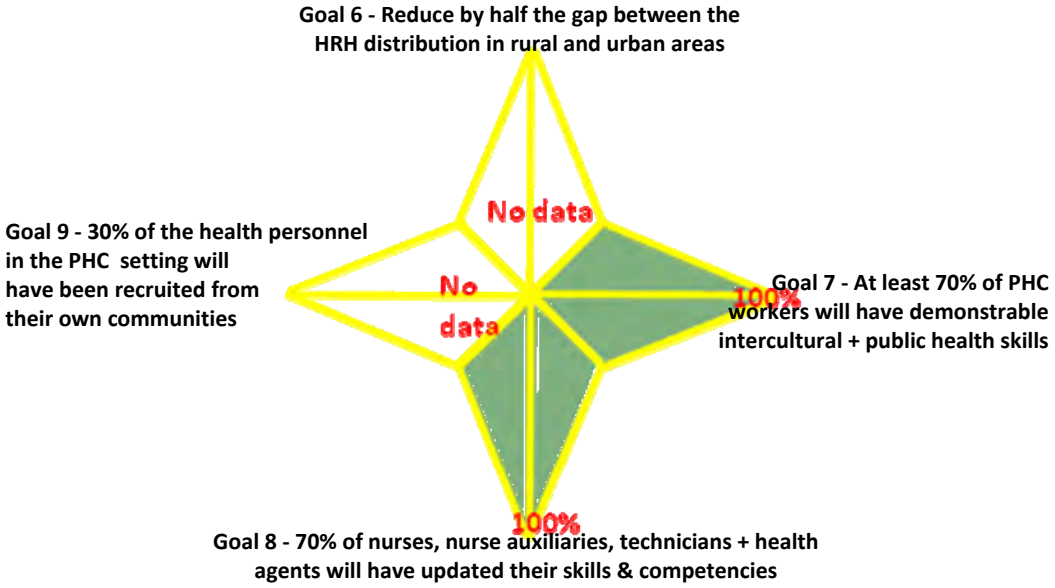
Dominica



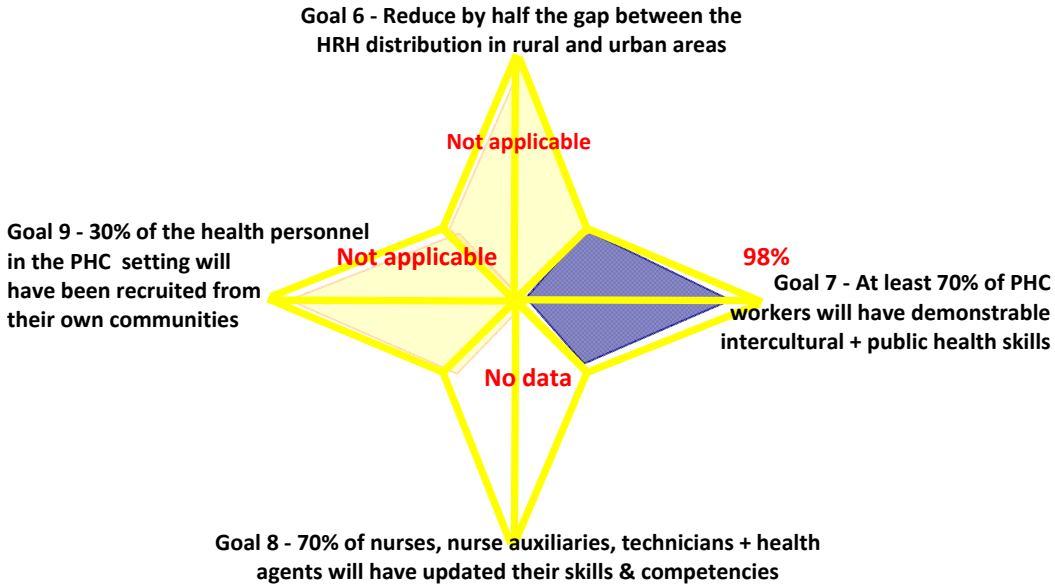
Grenada



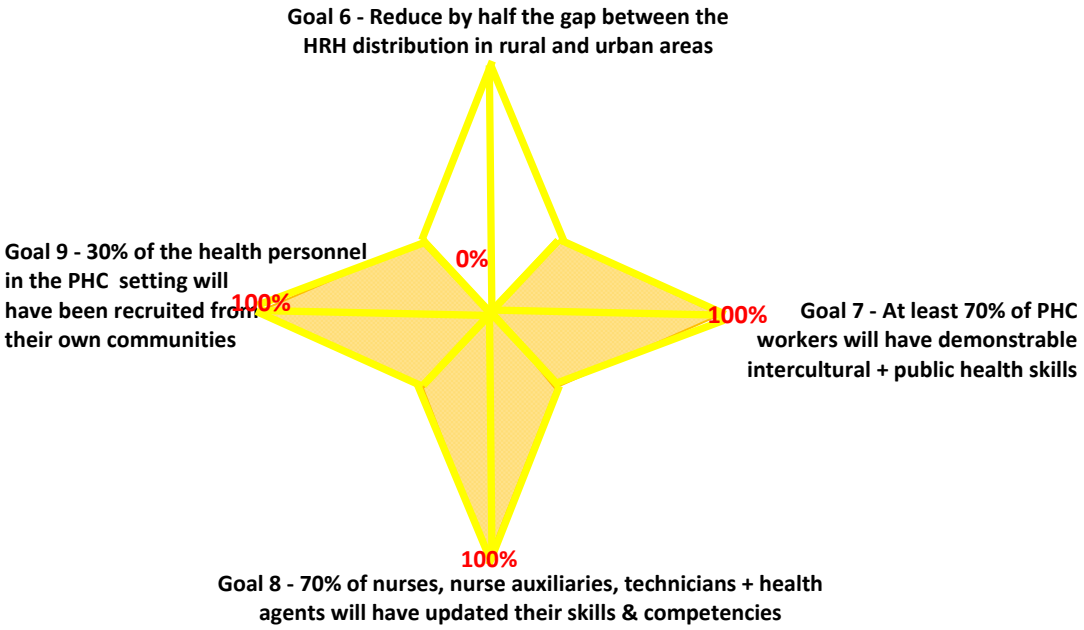
Jamaica



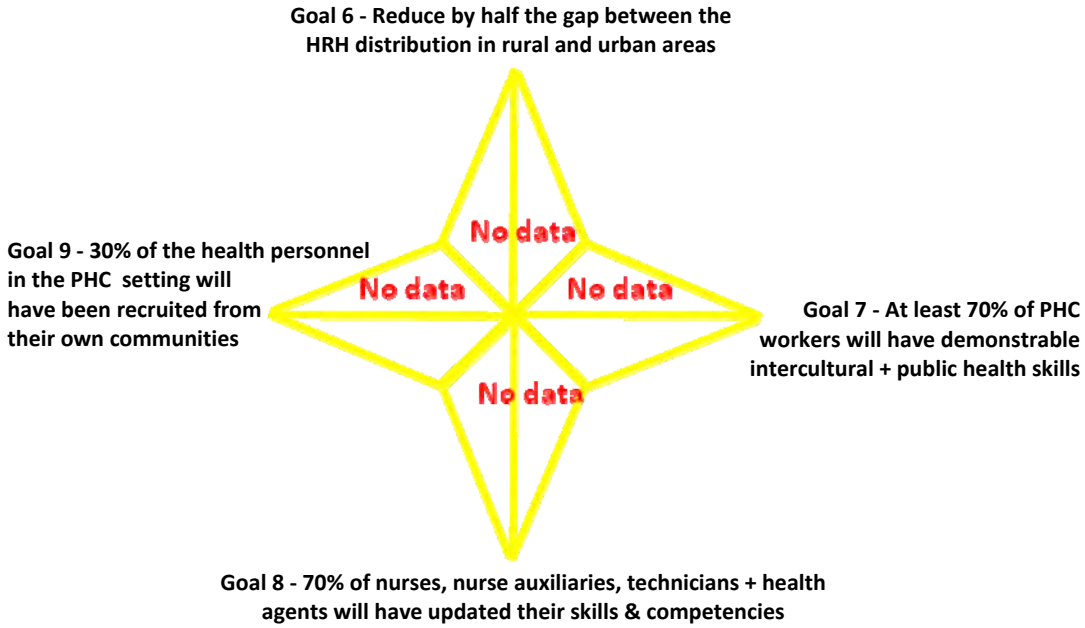
Montserrat



Saint Lucia



Trinidad & Tobago



CHALLENGE 3. Promote national and international initiatives for countries affected by migration to retain their health workers and avoid personnel deficits.

GOAL 10: All countries of the Region will have adopted a global code of practice or developed ethical norms on the international recruitment of health care workers.

Country	Percentage of Indicator	Does the country have a code of practice (CP) & ethical norms (EN) for international recruitment
Anguilla	0	CP = No, EN = No
Barbados	100	CP = Yes, EN = Yes
Belize	0	CP = No, EN = No
Dominica	50	CP = No, EN = No
Grenada	0	CP = No, EN = No
Jamaica	100	CP = Yes, EN = ?
Montserrat	0	CP = No, EN = No
St Lucia	50	CP = Yes, EN = No
Trinidad & Tobago	30	CP = Yes (43%) EN = Yes (29%)

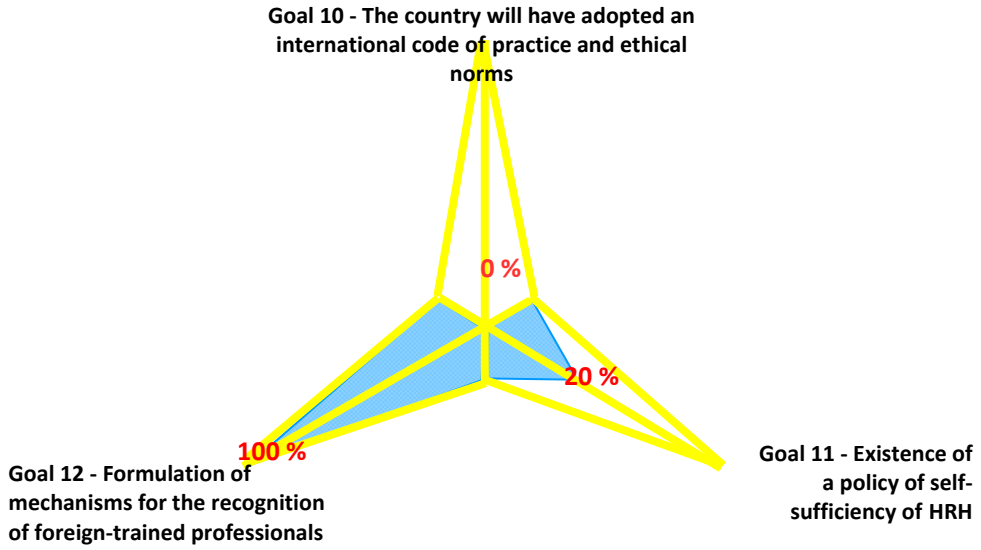
GOAL 11: Each country of the Region will have a policy regarding self-sufficiency to meet its needs in human resources for health.

Country	Percentage of Indicator
Anguilla	20
Barbados	30
Belize	No policy
Dominica	60
Grenada	50
Jamaica	No policy
Montserrat	No data
St Lucia	10
Trinidad & Tobago	33

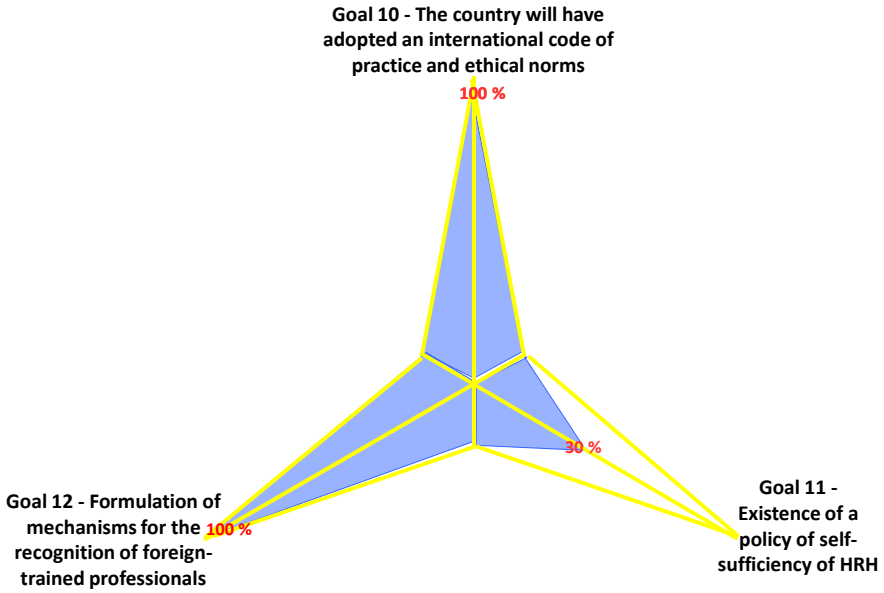
GOAL 12: All sub-regions will have developed mechanisms for the recognition of foreign-trained professionals

Country	Percentage of Indicator
Anguilla	100
Barbados	100
Belize	100
Dominica	100 to discuss
Grenada	100
Jamaica	100
Montserrat	100
St Lucia	100
Trinidad & Tobago	100

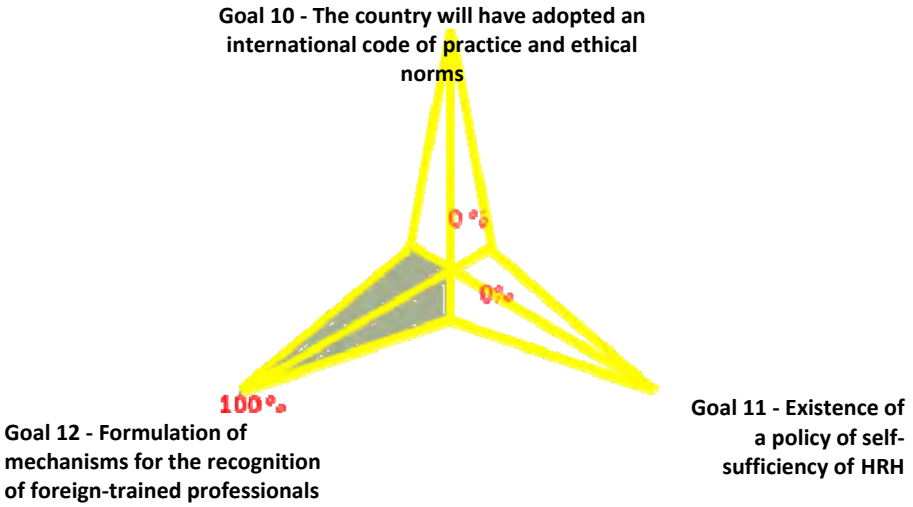
Anguilla



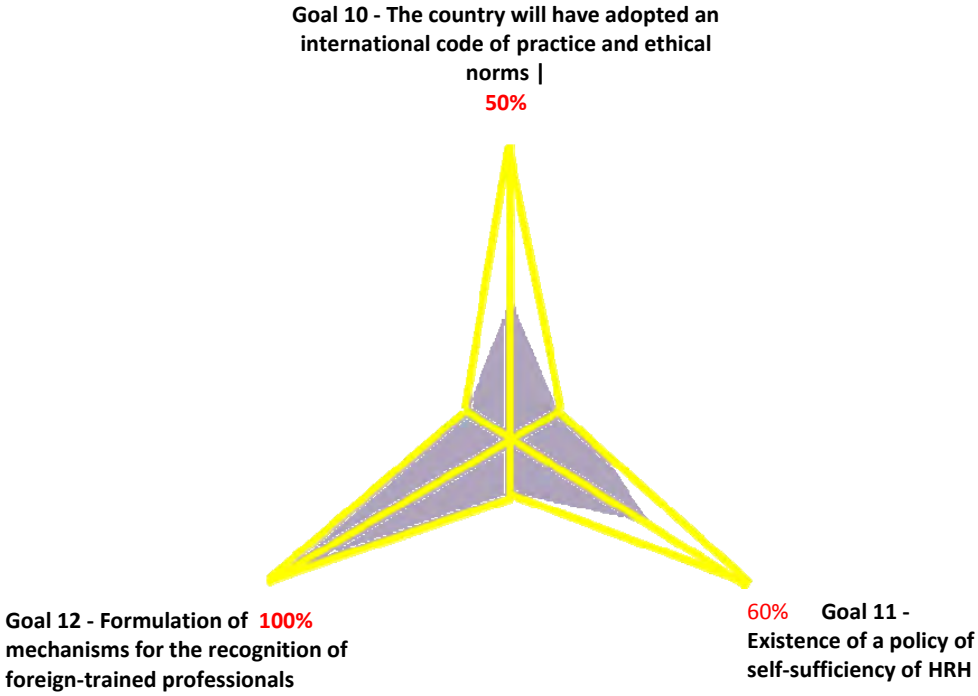
Barbados



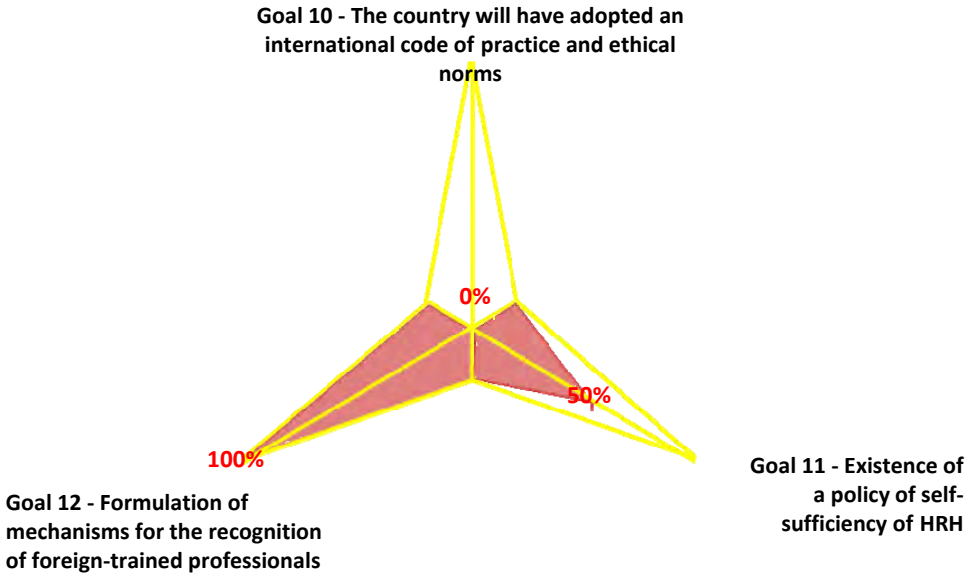
Belize



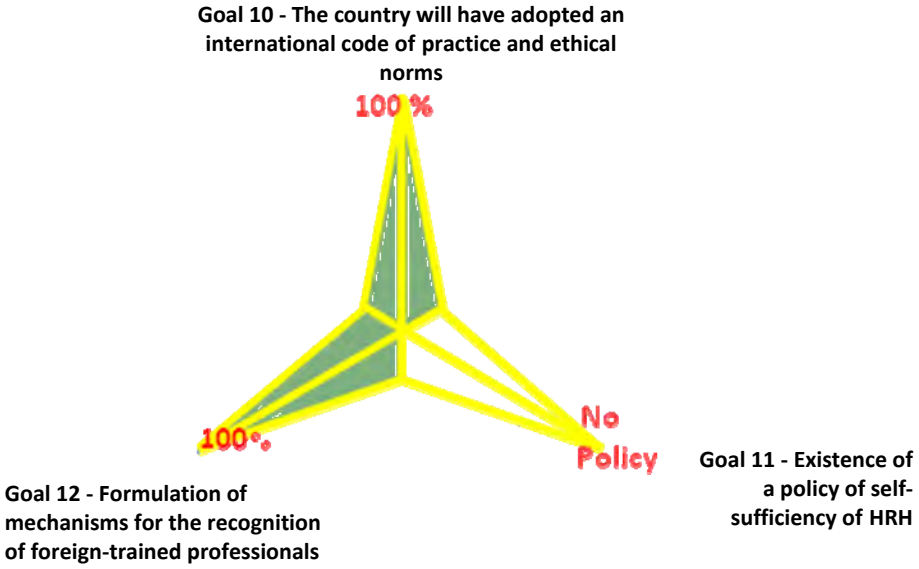
Dominica



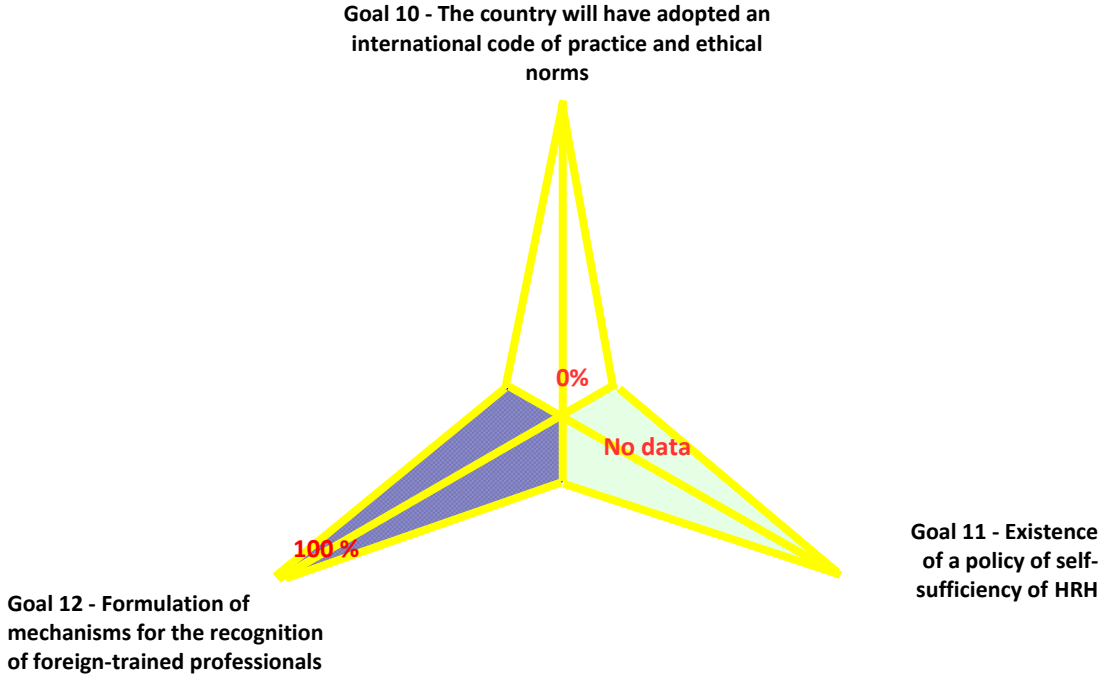
Grenada



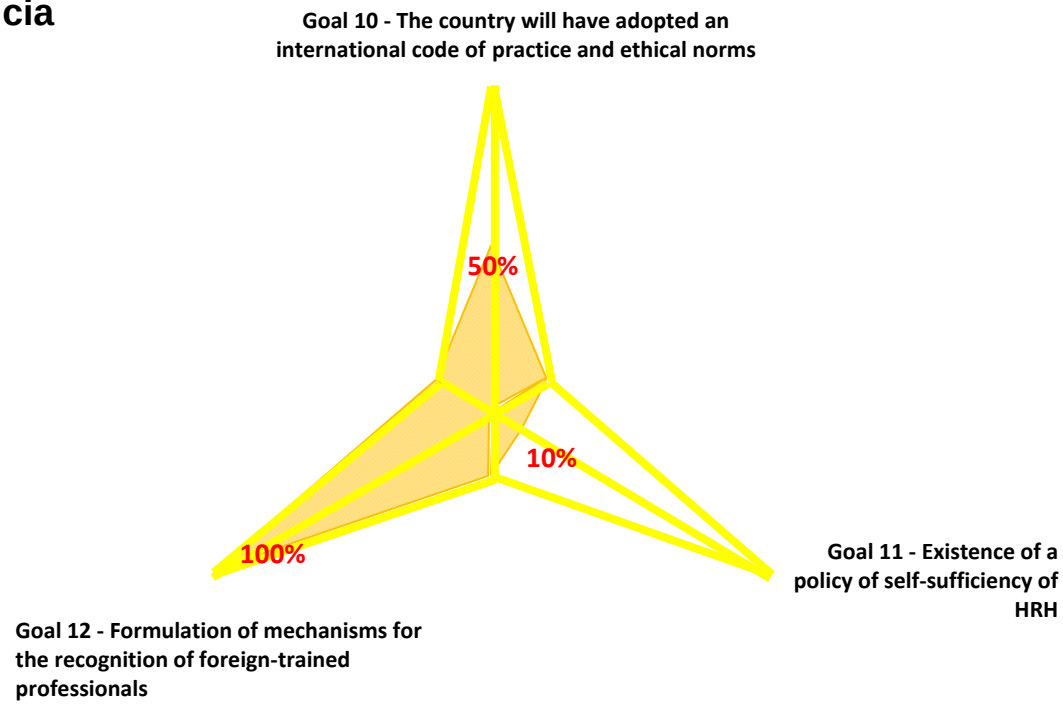
Jamaica



Montserrat

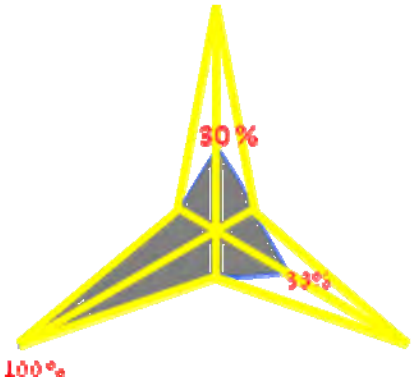


Saint Lucia



Trinidad & Tobago

Goal 10 - The country will have adopted an international code of practice and ethical norms



Goal 11 - Existence of a policy of self-sufficiency of HRH

Goal 12 - Formulation of mechanisms for the recognition of foreign-trained professionals

CHALLENGE 4. Achieve healthy workplaces and promote a commitment of the health work force with the mission of providing quality services to the whole population

GOAL 13: The proportion of precarious, unprotected employment for health service providers will have been reduced by half in all countries

Country	Percentage of Indicator	Proportion workers in precarious/unprotected employment
Anguilla	-	29
Barbados	-	Not applicable
Belize	15 (Target)	30
Dominica		35
Grenada	-	28
Jamaica	9.5 (Target)	19
Montserrat		34
St Lucia		23
Trinidad & Tobago		No data

GOAL 14: Eighty percent of the countries of the Region will have in place a policy of health and safety for the health workers, including the support of programs to reduce work-related diseases and injuries

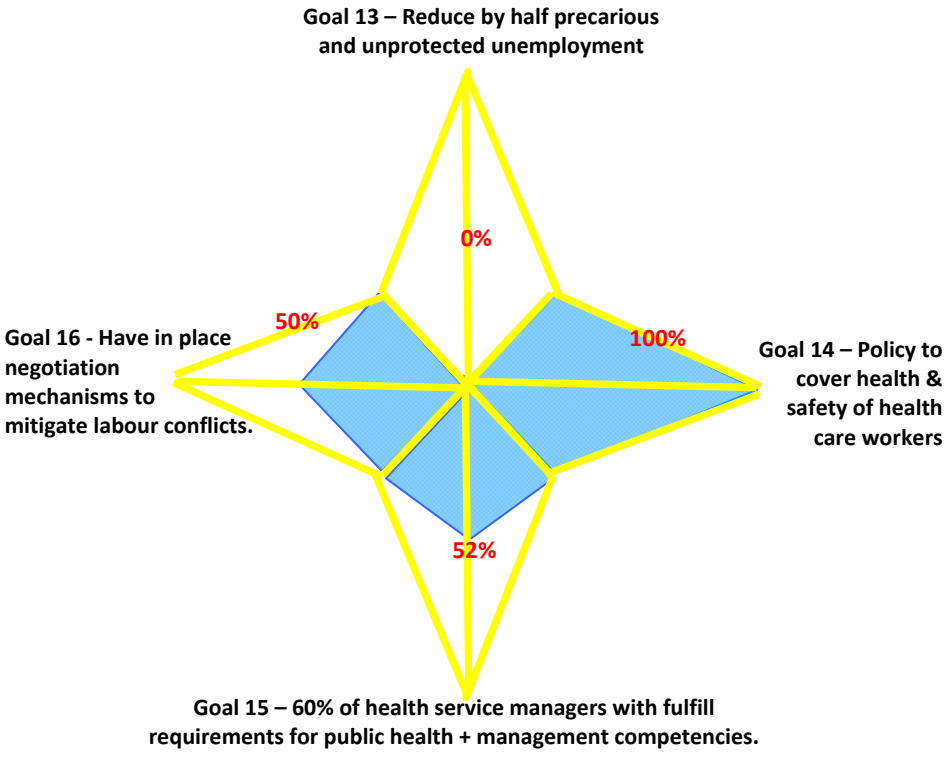
Country	Percentage of Indicator
Anguilla	100
Barbados	10
Belize	100
Dominica	100
Grenada	NDA
Jamaica	100
Montserrat	10
St Lucia	76
Trinidad & Tobago	100

GOAL 15: At least 60% of the health services and program managers will fulfil specific requirements for public health and management competencies, including ethics

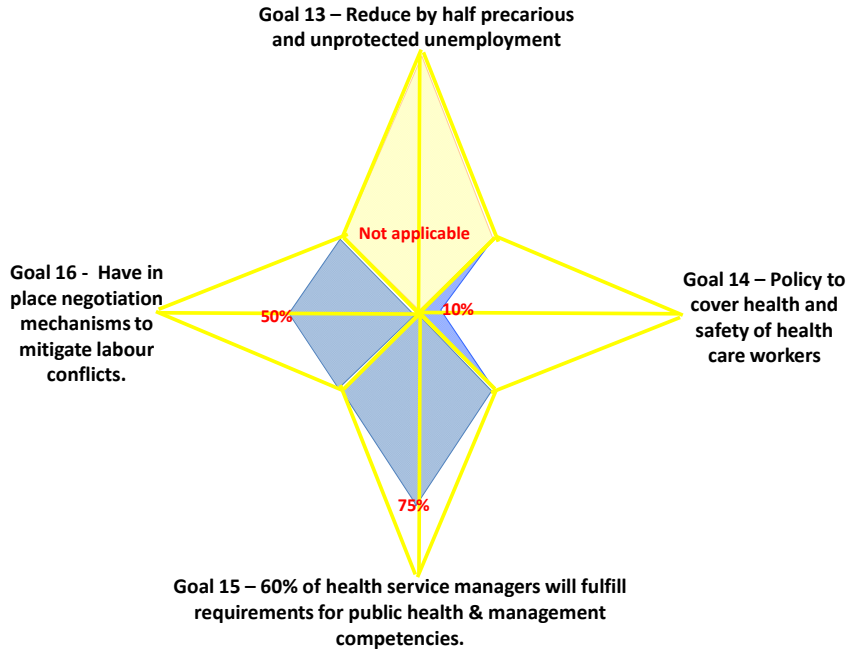
Country	Percentage of Indicator	% of health services programs + managers with public health & management competencies
Anguilla	52	33
Barbados	75	45
Belize	83	50
Dominica	78	47
Grenada	83	50
Jamaica	100	60+
Montserrat	100	70
St Lucia	100	75
Trinidad & Tobago	100	61

GOAL 16: One hundred percent of the countries of the Region will have in place effective negotiation mechanisms and legislation to prevent, mitigate or resolve labour conflicts and ensure essential services if they happen	Country	Percentage of Indicator	Are there effective negotiation mechanisms etc to prevent, mitigate or resolve labour conflicts (NM) & ensure essential services (ES)
	Anguilla	50	NM = Yes, ES = No
	Barbados	50	NM = Yes ES = No
	Belize	100	NM = Yes, ES = Yes
	Dominica	100	NM = Yes, ES = Yes
	Grenada	50	NM = Yes, ES = No
	Jamaica	100	NM = Yes, ES = No
	Montserrat	100	NM = Yes ES = Yes
	St Lucia	100	NM = Yes ES = Yes
	Trinidad & Tobago	100	NM = Yes, ES = Yes

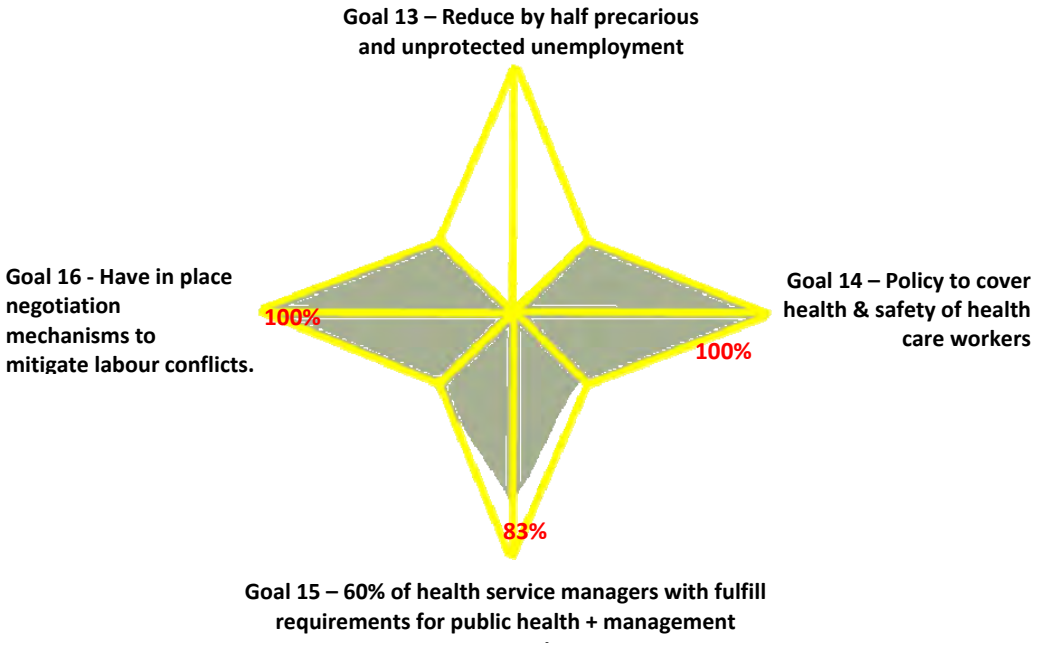
Anguilla



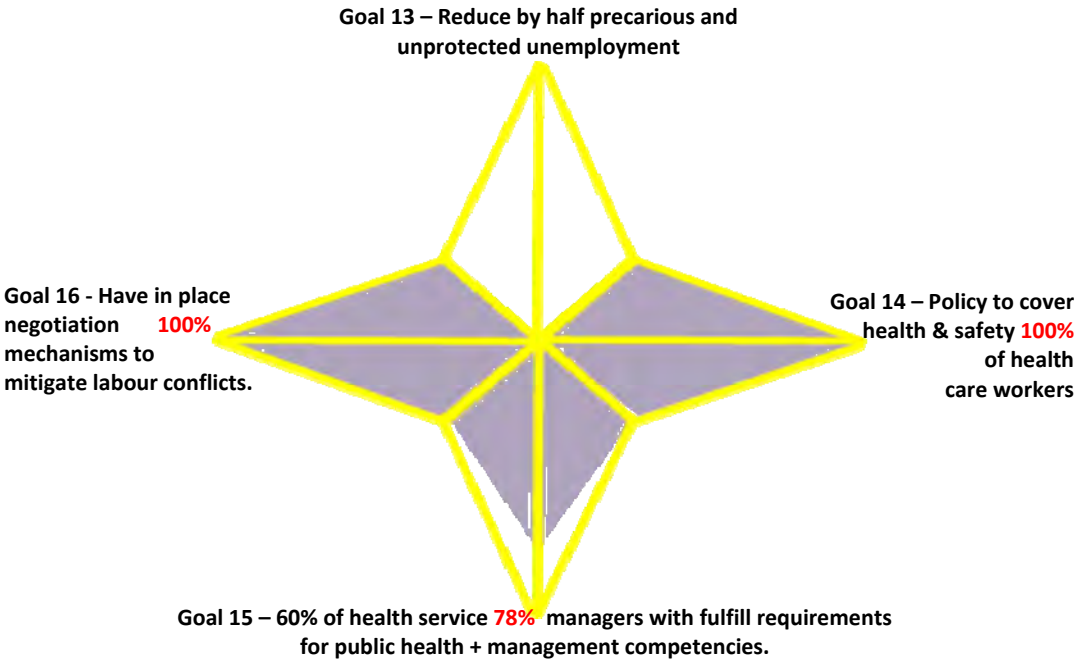
Barbados



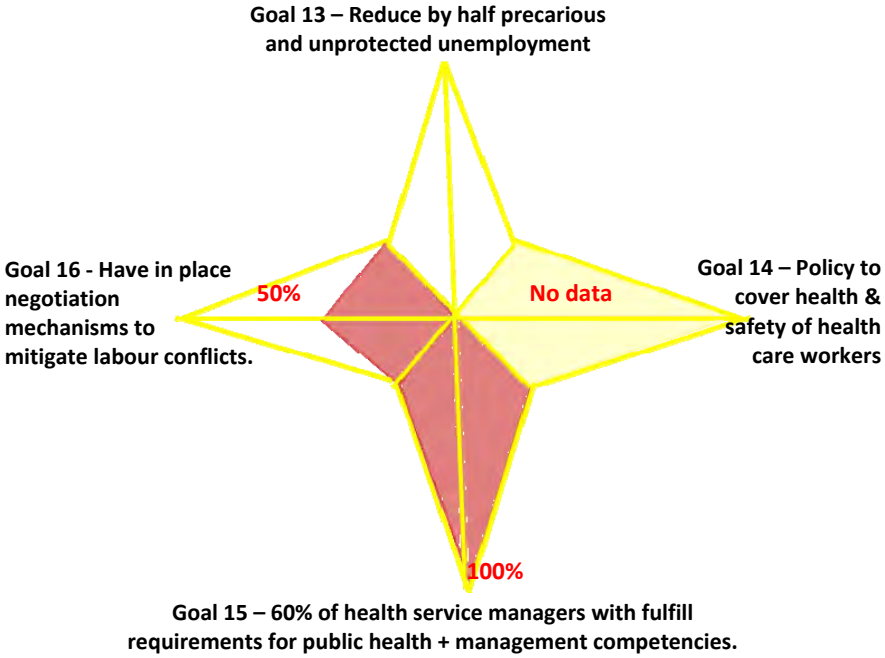
Belize



Dominica



Grenada



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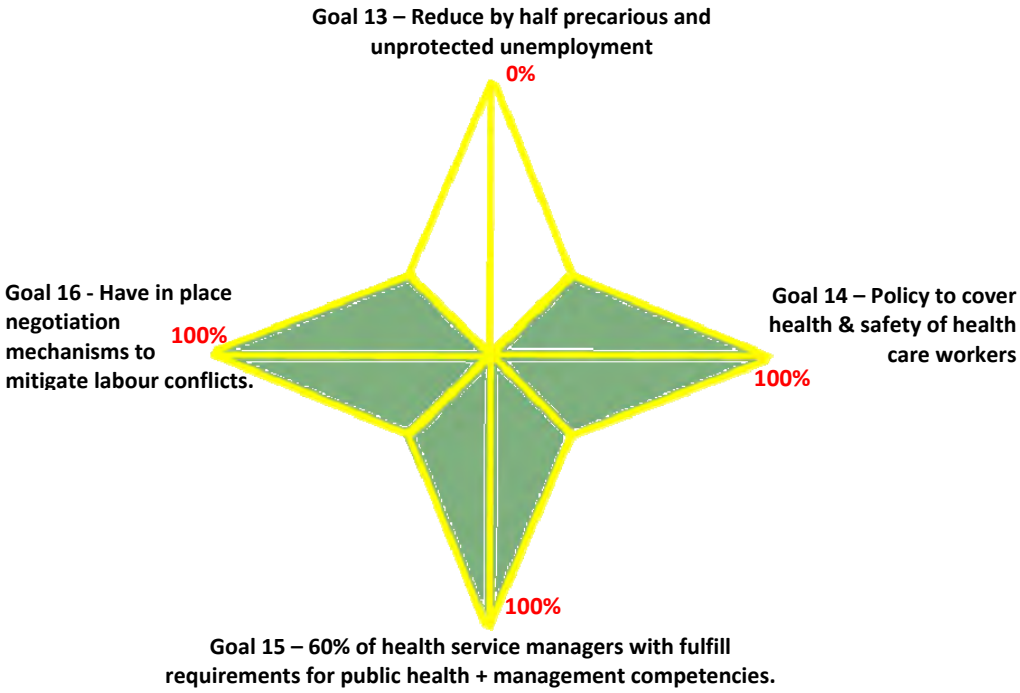
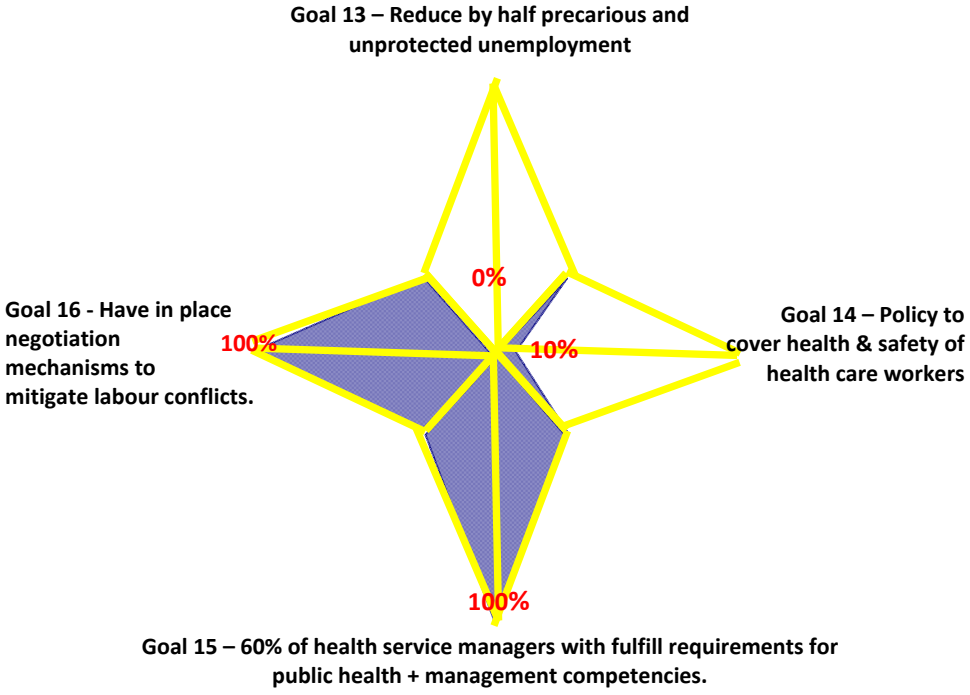
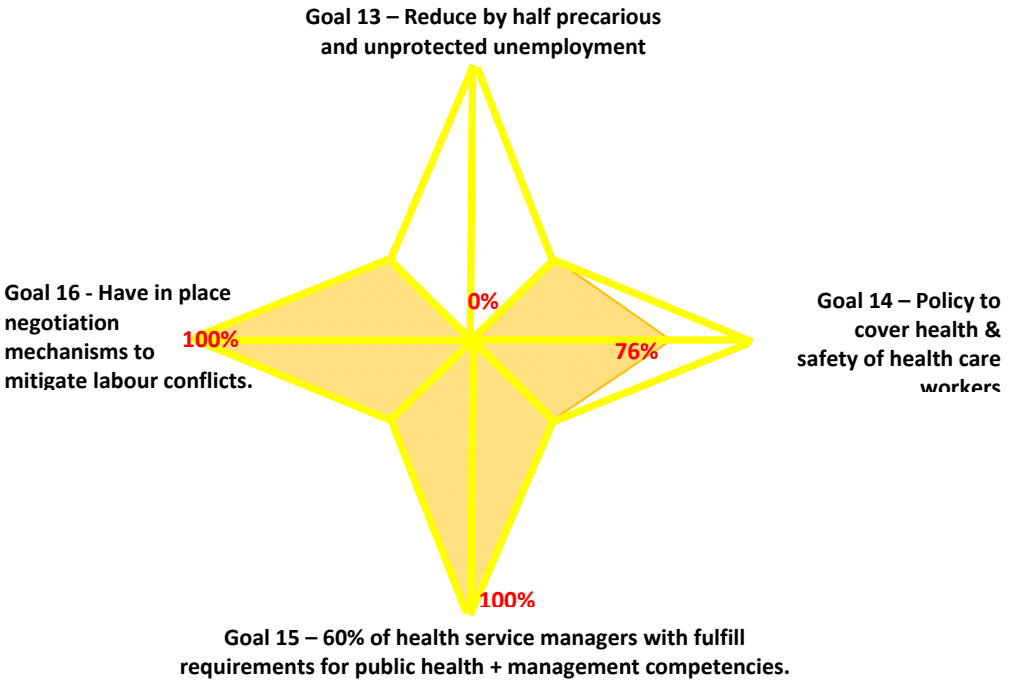


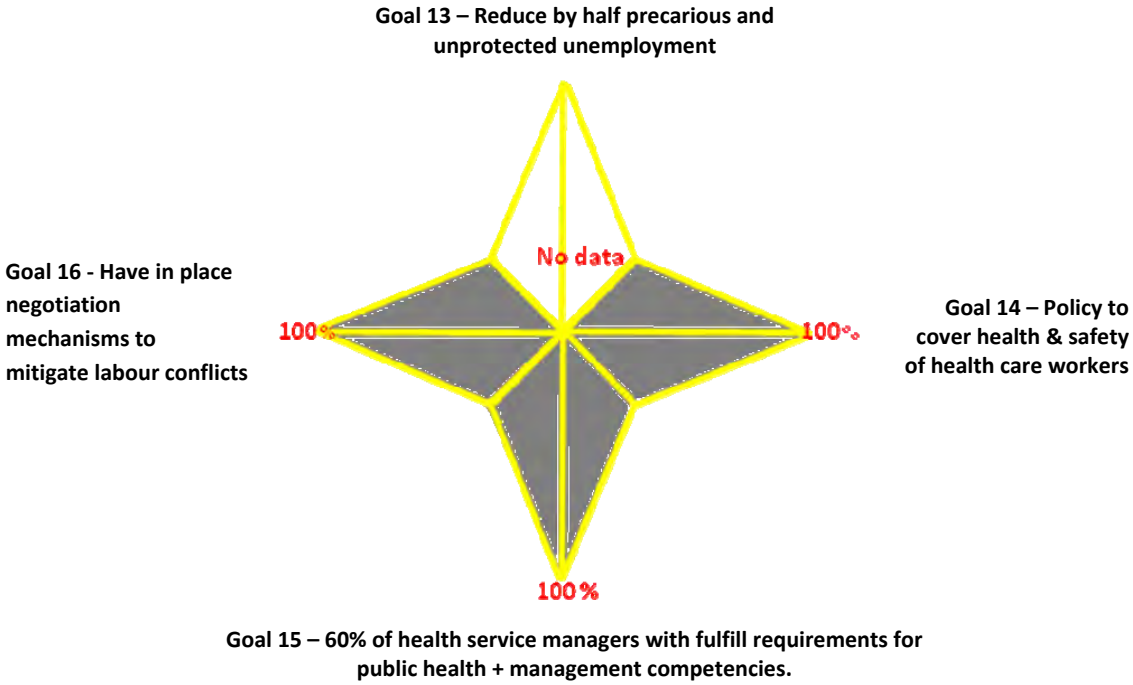
Montserrat



Saint Lucia



Trinidad & Tobago



CHALLENGE 5. Develop mechanisms of cooperation between training institutions and the health services institutions to produce sensitive and qualified health professionals.

GOAL 17: Eighty percent of schools of clinical health sciences will have reoriented their education towards primary health care and community health needs and adopted inter-professional training strategies

Country	% of Indicator	Country score for questionnaire
Anguilla	0	0/15
Barbados	66	10/15
Belize	53	8/15
Dominica	47	7/15
Grenada	33	5/15
Jamaica	73	11/15
Montserrat	No data	
St Lucia	33	5/15
Trinidad & Tobago	No data	

GOAL 18: Eighty percent of schools in clinical health sciences will have adopted specific programs to recruit and train students from underserved populations with, when appropriate, a special emphasis on indigenous, or First Nations, communities

Country	Percentage of Indicator
Anguilla	Not applicable
Barbados	100
Belize	62
Dominica	Not applicable
Grenada	25
Jamaica	100
Montserrat	Not applicable
St Lucia	0
Trinidad & Tobago	No data

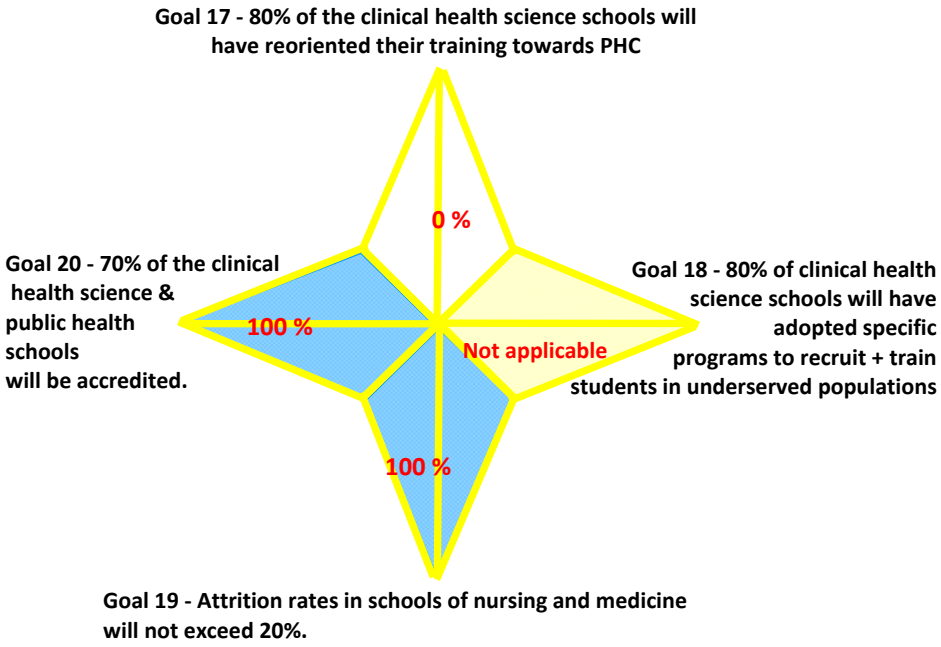
GOAL 19: Attrition rates in schools of nursing and medicine will not exceed 20%

Country	Percentage of Indicator
Anguilla	50
Barbados	100
Belize	40 (Rate 50%)
Dominica	50
Grenada	50
Jamaica	100 (RN 7%)
Montserrat	60
St Lucia	50
Trinidad & Tobago	100

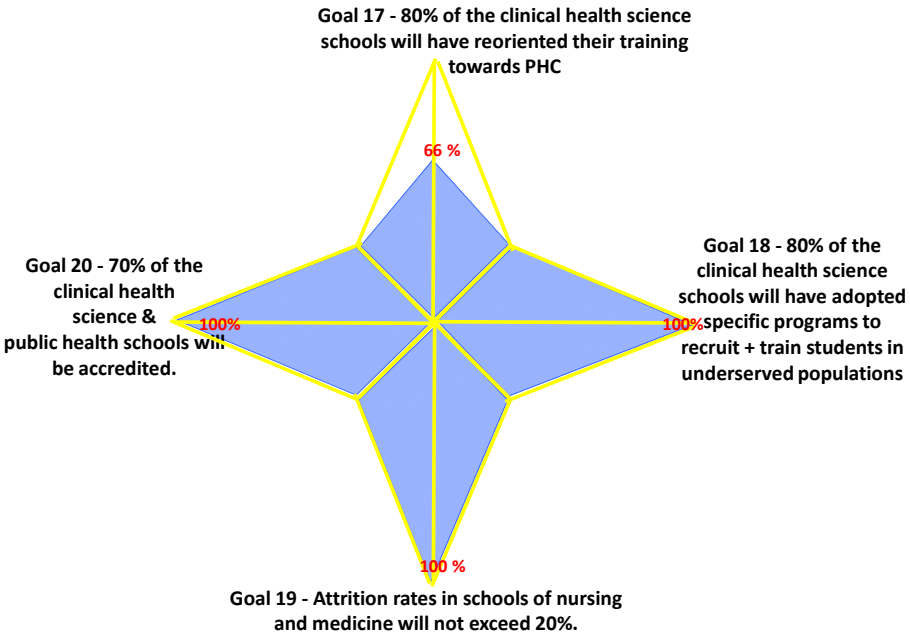
GOAL 20: Seventy percent of schools of clinical health sciences and public health will be accredited by a recognized accreditation body

Country	Percentage of Indicator
Anguilla	100
Barbados	100
Belize	0
Dominica	100
Grenada	100
Jamaica	100
Montserrat	71
St Lucia	100
Trinidad & Tobago	33

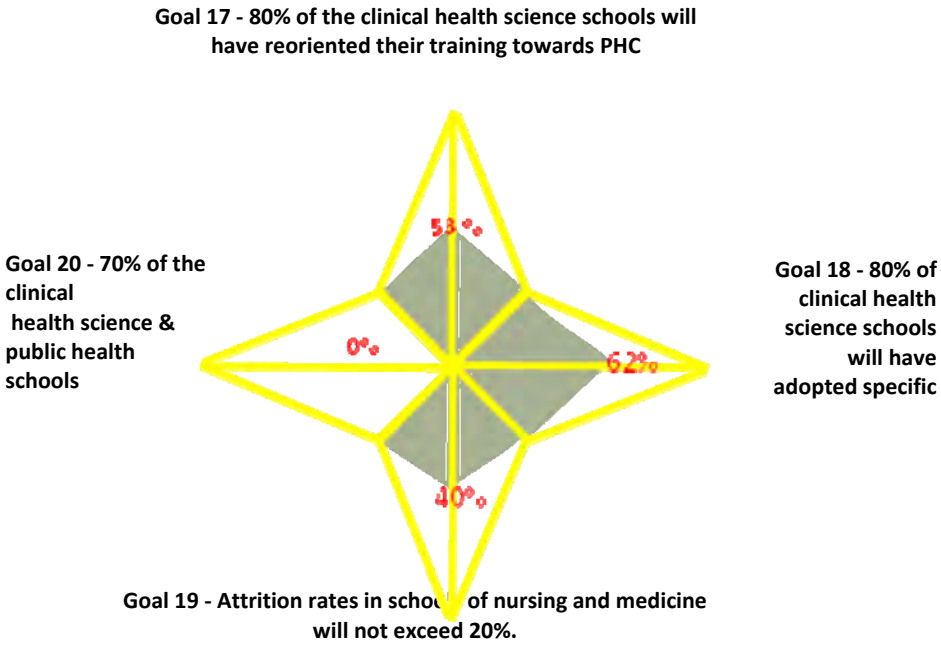
Anguilla



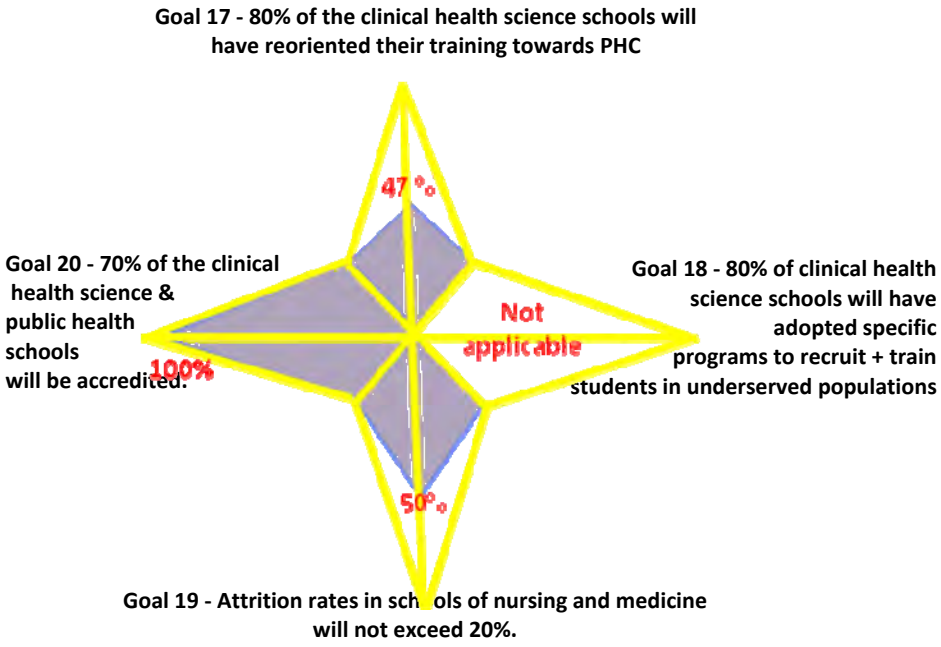
Barbados



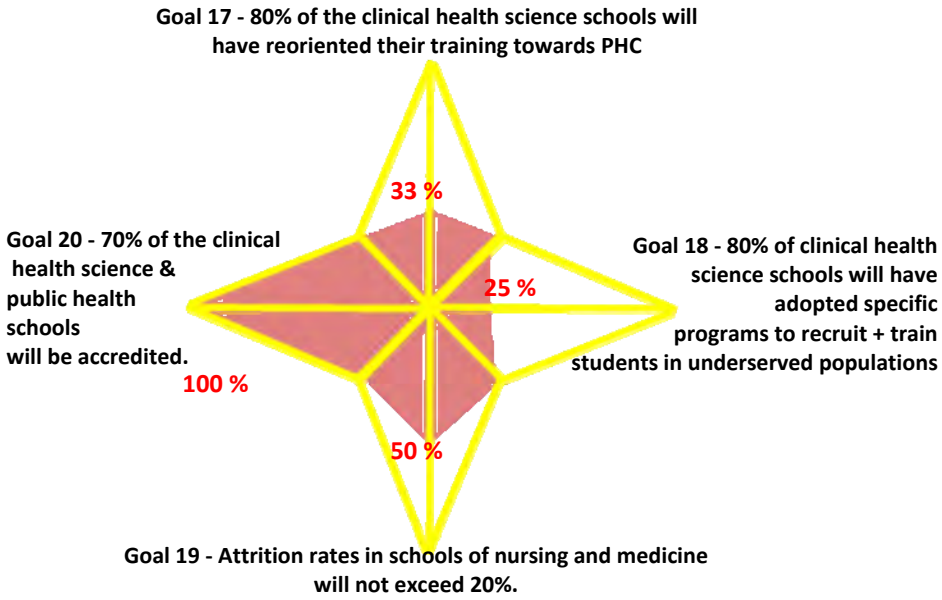
Belize



Dominica



Grenada



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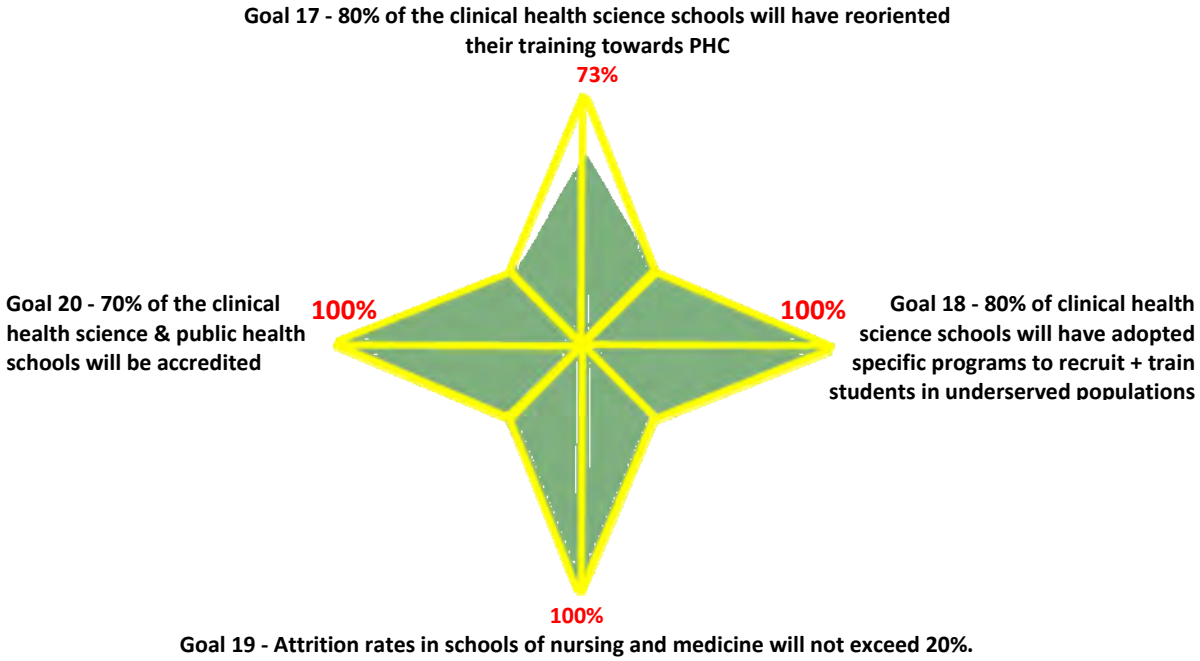
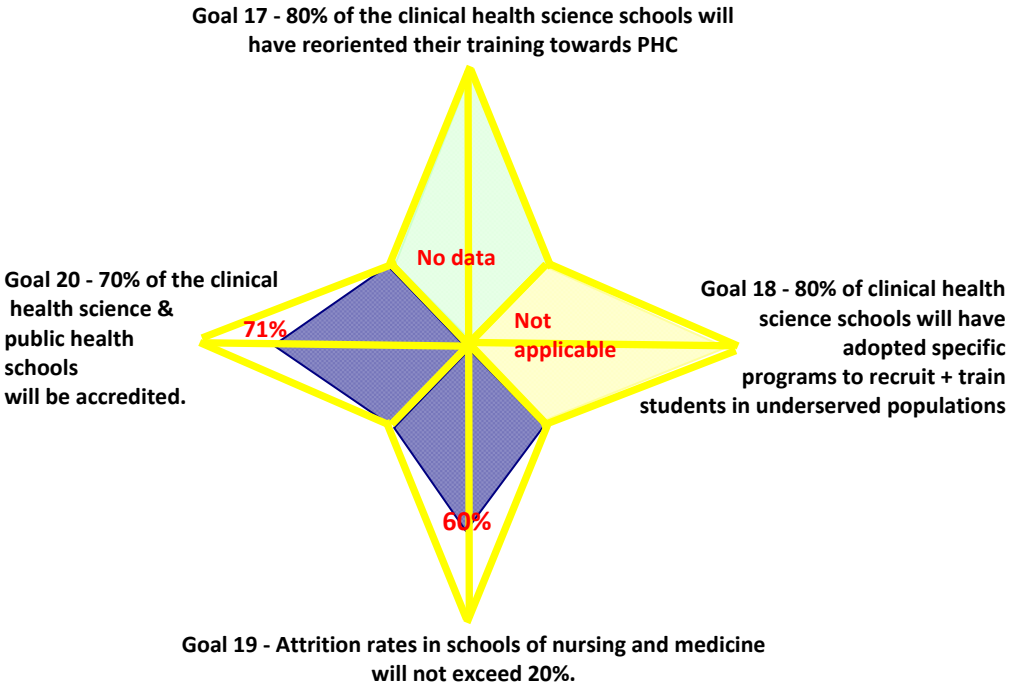
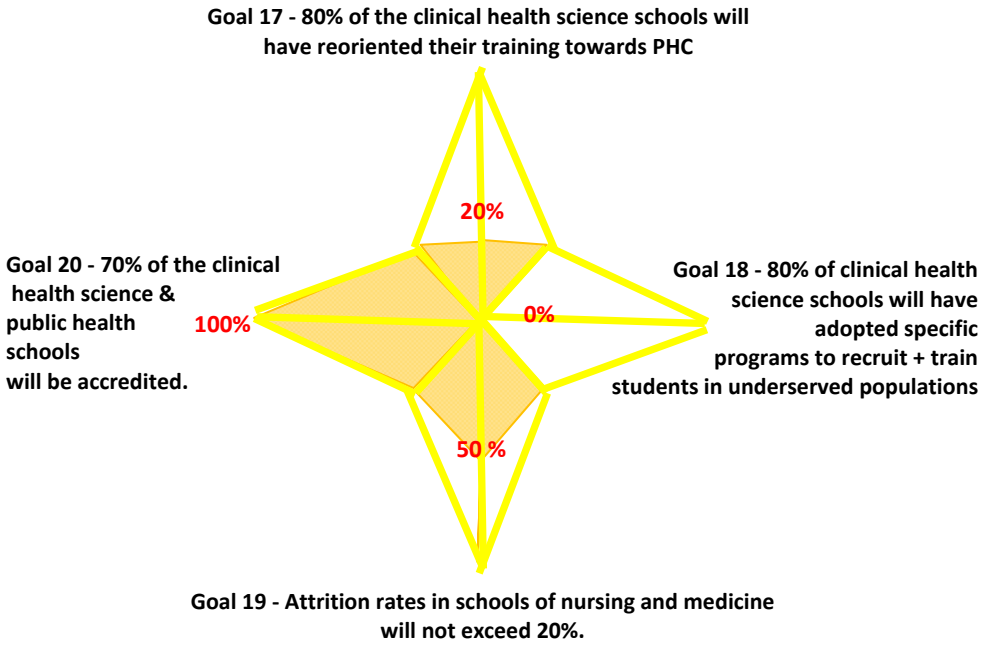


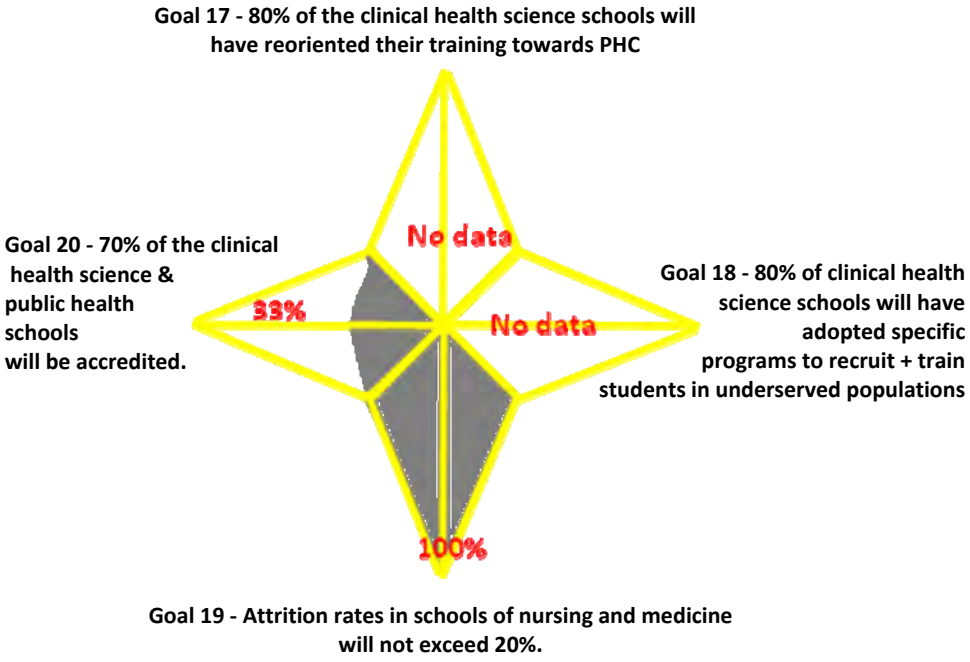
Montserrat



St. Lucia



Trinidad & Tobago



Appendix F: Summary Caribbean Region Baseline Indicators

Table 14: Percentage of Goals Achieved by Country

20 Goals	Anguilla	Barbados	Belize	Dominica	Grenada	Jamaica	Montserrat	St. Lucia	Trinidad and Tobago
Year	2010	2010	2009	2010	2010	2010	2010	2010	2009
CHALLENGE 1									
Goal 1	100%	100%	75%	100%	100%	79%	100%	100%	100%
Goal 2	0%	78%	100%	83%	100%	40%	93%	30%	17%
Goal 3	63%	96%	79%	100%	92%	90%	98%	97%	79%
Goal 4	100%	100%	100%	100%	100%	100%	100%	100%	100%
Goal 5	100%	14%	54%	0%	17%	75%	66%	100%	53%
CHALLENGE 2									
Goal 6	N/A	N/A	50%	0%	100%	ins data	N/A	0%	ins data
Goal 7	48%	100%	31%	100%	15%	100%	68%	100%	ins data
Goal 8	58%	0%	0%	100%	ins data	100%	s/d	100%	ins data
Goal 9	N/A	N/A	100%	100%	100%	ins data	N/A	100%	ins data
CHALLENGE 3									
Goal 10	0%	100%	0%	50%	50%	100%	ins data	50%	30%
Goal 11	20%	30%	0%	60%	100%	0%	ins data	10%	33%
Goal 12	100%	100%	100%	ins data	100%	5%	100%	100%	100%
CHALLENGE 4									
Goal 13	28%	N/A	50%	0%	28%	ins data	0%	0%	ins data
Goal 14	100%	10%	100%	100%	ins data	100%	10%	76%	100%
Goal 15	52%	75%	50%	78%	100%	100%	100%	100%	61%
Goal 16	50%	50%	100%	100%	50%	100%	100%	100%	100%
CHALLENGE 5									
Goal 17	0%	66%	55%	47%	33%	100%	ins data	20%	ins data
Goal 18	N/A	100%	62%	N/A	25%	100%	n/a	0%	ins data
Goal 19	50%	100%	66%	50%	50%	100%	60%	50%	100
Goal 20	100%	100%	0%	100%	100%	100%	71%	100%	100

Table 15: Total Countries Achieving Regional Goals

Goal	Range of indicator	# countries achieving goal	# not applicable (NA)	# no data (ND)
1: All countries of the Region will have achieved a human resources density ratio level of 25 professionals per 10,000 inhabitants	75-100	7	NA = 0	ND = 0
2: The regional and sub-regional proportions of primary health care physicians will exceed 40% of the total medical workforce	0-100	2	NA = 0	ND = 0
3: All countries will have developed primary health care teams with a broad range of competencies that systematically include community health workers to improve access, reach out to vulnerable groups, and mobilize community networks	63-100	1	NA = 0	ND = 0
4: The ratio of qualified nurses to physicians will reach at least 1:1 in all countries of the Region	100	9	NA = 0	ND = 0
5: All countries of the Region will have established a unit of human resources for health (HRH) which will be responsible for the development of HRH policies and plans, the definition of the strategic directions, and the integration of HRH with other sectors	0-100	2	NA = 0	ND = 0
6: The gap in the distribution of health personnel between urban and rural areas will have been reduced by half in 2017	To be achieved	0	NA = 3	ND = 2
7: At least 70% of the primary health care workers will have demonstrable public health and intercultural competencies	13-100	3	NA = 0	ND =1
8: Seventy percent of nurses, nursing auxiliaries and health technicians including community health workers, will have upgraded their skills and competencies appropriate to the complexities of their functions	58-100	3	NA = 0	ND = 3
9: Thirty percent of health workers in primary health care settings will have been recruited from their own communities	100	4	NA = 3	ND =2
10: All countries of the Region will have adopted a global code of practice or developed ethical norms on the international recruitment of health care workers	0-100	2	NA = 0	ND = 0
11: Each country of the Region will have a policy regarding self-sufficiency to meet its needs in human resources for health	0-60	0	NA = 0	ND = 1
12: All sub-regions will have developed mechanisms for the recognition of foreign-trained professionals	100 (0-100)	9 (8)	NA = 0	ND = 0
13: The proportion of precarious, unprotected employment for health service providers will have been reduced by half in all countries	To be achieved	0 (Range of targets 9.5- 17.5)	NA =1	ND =1
14: Eighty percent of the countries of the Region will have in place a policy of health and safety for the health workers, including the support of programs to reduce work-related diseases and injuries	0-100	5	NA = 0	ND = 1
15: At least 60% of the health services and program managers will fulfil specific requirements for public health and management competencies, including ethics	52-100	4	NA = 0	ND = 0
16: One hundred percent of the countries of the Region will have in place effective negotiation mechanisms and legislation to prevent, mitigate or resolve labour conflicts and ensure essential services if they happen	50-100	6	NA = 0	ND = 0
17: Eighty percent of schools of clinical health sciences will have reoriented their education towards primary health care and community health needs and adopted inter-professional training strategies	0-73	0	NA = 0	ND = 2
18: Eighty percent of schools in clinical health sciences will have adopted specific programs to recruit and train students from underserved populations with, when appropriate, a special emphasis on indigenous, or First Nations, communities	0-100	2	NA = 3	ND = 1
19: Attrition rates in schools of nursing and medicine will not exceed 20%	40-100	3	NA = 0	ND = 0
20: Seventy percent of schools of clinical health sciences and public health will be accredited by a recognized accreditation body	0-100	6	NA = 0	ND = 0

Appendix G: Health Human Resources Planning

The lack of an adequate health workforce, in terms of supply, mix, distribution and training, is viewed as one of the most important challenge of the health systems of the Region as well as a major barrier for countries to achieve their national health goals.

Human resources for health (HRH) planning is about ensuring that there are enough health workers in the Caribbean region to meet the health care needs of the population. The general aim of HRH planning is to provide the information and tools needed for decision-makers to make informed, strategic decisions in getting and keeping the HRH that are required and making the best use of their skills to ensure that the Region's health systems are affordable and sustainable.

Having the right supply, distribution and appropriately deployed HRH is critical to having an effective and efficient health care delivery system. Policies on recruitment and retention, education and training, licensure, safety and deployment all impact on HRH availability and the stability of the workforce. The outcomes of health services delivery depend to a large extent on appropriate HRH utilization.

An efficient mix of human, fiscal and other resources are required to achieve the best outcomes for the population in terms of improved health status, for health care workers in terms of healthier and more stable work environments, and for the health service delivery system in terms of overall effectiveness and efficiency. Given the global climate of growing fiscal restraint and increasing competition for limited resources, the importance of having effective planning tools to better inform our decision-making processes is becoming more critical.

As such, there is increasing demand for the Caribbean region to develop and implement HRH program management and planning tools that contribute to evidence-based health services planning and delivery. It is important that HRH plans and forecasts be updated and assessed regularly. Effective HRH planning requires a broad range of information to enable the function to be carried out effectively. This includes information on the goals and functioning of the health care delivery system, including how it is funded and managed as well as how programs and policies are being developed, implemented and evaluated.

Given that health care is a people-based, resource intensive industry, it is also critical to have current, reliable and comprehensive information on HRH in order to determine its scope and capacities to effectively support the changing health care delivery system in meeting the priority needs of the population in a way that is sustainable over the long term.

In more specific terms, the role of data in HRH planning is to:

Describe current and past trends.

Identify implications and emerging issues.

Estimate opportunity costs.

Determine priorities for action.

Guide policy and program development.

Monitor changes and impact of policy initiatives

Determine appropriate contingency plans and actions.

Support system sustainability and accountability.

In order for HRH data to be an effective planning tool, it must be: valid and consistent over time; reliable and updated; comparable, linked and portable; accessible and translatable; flexible and straight-forward; supportive of evidence-based decision-making; and relevant and useful.

Developing a sound, comprehensive and comparable Regional HRH data base is an important first step in developing the evidence base necessary to assess and monitor progress towards attaining the Region's HRH goals.

2.2 Focus Workforce Planning on the Renewal of Primary Health Care

To improve population health, many countries are focusing on reformed primary health care (PHC) delivery systems and on strengthening overall public health infrastructure. The key feature of PHC reform is a shift from individual, hospital-centered practice to teams of community-based professionals, who are accountable for providing comprehensive, coordinated health services to their patients. As such, it is critical that the workforce be adequately prepared to meet expected changes in the health system and to support PHC delivery.

The PHC team refers to groups of professionals who deliver health services in the community at "primary" or first points of contact between the patient and the health delivery system. The core principle of PHC is to introduce health delivery mechanisms that are the most responsive to people's needs and provide the greatest equity of access to quality health services at the lowest cost.

As such, a comprehensive human resource strategy requires:

Recruiting applicants with the right talents, aptitudes and personal expectations;

Developing the right patient-centered motivation and collaborative professional culture;

Providing the right training that develops the inter-personal, professional and technical skills required;

Deploying workers in the right job, in the right role at their full competency levels;

Performing the right service in line with established clinical protocols;

Providing the service at the right time to ensure efficient service delivery;

Ensuring the right support that reflects health workforce needs and contributes to overall health worker job satisfaction;

Identifying the right place to ensure an equitable distribution of needed health services;

Ensuring the right environment that provides a safe and healthy workplace;

Providing the right incentives that are equitable and support appropriate service delivery;

Achieving the right cost through using resources efficiently;

Utilizing the right tools and technology to support and enhance service delivery;

Achieving the right clinical and patient outcomes.

2.4 Migration and Self-Sufficiency

There appears to be a general consensus that the worldwide shortage of health care workers is significant and that situation will continue to grow, largely unabated over the next decade or two. Over one-third of the world's countries currently have insufficient health human resources to meet even minimum health service delivery requirements and their capacity is expected to further deteriorate in the future. Developed countries have been traditionally reliant on migrant health workers to meet their growing needs, largely in rural areas. With increasing global demand, the competition for scare health human resources is expected to increase exponentially.

Furthermore, inequities in the supply of health human resources not only vary greatly across the regions worldwide, but the gap between countries with high and low densities of health workers, is also expected to grow, further exacerbating the situation.

The key to the approaches above—for both developed and developing nations—is to adopt *self-sufficiency* as the "policy of first response" in human resource plans and strategies. Agreeing to invest in workforce capacity and infrastructure development, including training for local needs and to improving working conditions to enhance overall health workforce retention, would help achieve and maintain a more stable workforce. Utilizing migrant health workers as a demand buffer, rather than as an ongoing primary source of health workers, would be a important component of this approach.

Increasing professional training program enrolments to meet identified domestic needs, and improving overall workforce retention by improving working conditions and deployment, are the most important broad strategies in helping to achieve and maintain a more stable health workforce, both locally and internationally.[48] It is recognized, however, that self-sufficiency is a long-term goal for most countries.

2.5 Scope of HRH Planning Function

From a functional perspective, workforce planning cross-cuts all program delivery areas, including all stakeholders and professions, as well as each level of planning and service delivery, from local health units in the hinterland to international workforce migration strategies and everything in between. Similarly, the activities stretch from basic data collection and research, through to identifying how the human resources component can better support proposed new health program and policy objectives.

The full scope of the human resources for health planning function can include the following:

HR Management Information System - Partner in developing an HR management information system to include workforce supply in the short-term, but evolve to include demand side data, training information, deployment, workforce stability indicators, tracking graduates, monitoring migration, and eventually using HR data to assess health

48. Bulletin of the World Health Organization, Recruitment of Health Workers to Rural Areas, Volume 88, No 11, November 2010, pp. 797-876. Available at: *http://www.who.int/bulletin/volumes/88/11/en/index.html* .

delivery program efficiencies, and linking HR data to population health needs and patient outcomes.

Strategic Planning – A HRH Action Plan is a "green" document, which will have to be continuously monitored, evaluated and updated as issues, priorities, opportunities and capacities shift over the course of implementing the plan.

Needs Identification – Developing, monitoring and evaluating HRH need indicators and targets at community, regional and national levels.

Research – Evidence-based planning will require new research, pilots and research synthesis of existing literature to help inform HRH policy decision-making.

Knowledge Transfer – Experiences, lessons learned and 'best practices' from research, planning will need to be shared across professional groups, health regions and other planning partners to facilitate quality program development.

Priority Setting – Priorities will continually shift as the result of political directions, stakeholder and partnership input, fiscal capacity, partnership opportunities and shifts in HRH supply and demand, requiring adjustments in timelines and resource allocation.

Regional Liaison and Support – While health regions will be responsible for implementing plans, they will need advice and ongoing support regarding, standards, guidelines, targets and evaluation.

Recruitment and Retention – Determining areas of greatest need, providing advice on best options, evaluating cost-effectiveness of initiatives, and recommending policy, program and infrastructure changes required.

Education and Training – This will include program enrolments, program capacity, clinical site requirements, accreditation, new program development, scholarship numbers, rural recruitment schemes, training program mix, supporting primary health care delivery, location of training, curricula development, and level of training, lowering attrition and exam failure rates and enhancing teacher, tutor and applicant quality.

Labour Relations – Provide advice to the Ministry on strategies and options to align professional association/union priorities with long-term HRH action plan.

Personnel Management – Advice on the development of a personnel management scheme aimed at creating supportive and healthy workplace environments to lower absenteeism and attrition.

Monitoring and Contingency Planning- If new policies and programs lead to unexpected results, contingency plans must be at the ready to do mid-course HRH plan corrections.

Policy and Program Development – Consider the HRH implication of all MOH policies and programs to ensure the HRH is included and that all plans are mutually supportive.

Policy and Program Evaluation – Evaluation mechanisms must be built-in at the front-end of new programs and policies to facilitate evaluate and to establish clear partner expectations.

Forecasting – Projections, forecasts, program simulations and policy impact analyses will all be part of determining policy direction, providing appropriate policy advice.

Communications- Keep all partners and stakeholders, include regions and communities, of ongoing HRH initiatives will be key to acceptance and successful implementation.

External Development Partners – Liaise with external funding partners to ensure HRH is appropriately supported and developed to reach MOH and partner program goals and priorities.

International – Liaise with international partners, including PAHO/WHO and CARICOM, to develop strategies of mutual interest with respect to HRH planning, information system development, HRH target identification and monitoring, health education program development and immigration policy and guidelines.

Appendix H:
Map of the Caribbean Region

Pan American Health Organization
Regional Office of the World Health Organization