CORE DATA

HUMAN RESOURCES FOR HEALTH

Stocks and Flows - Education - Management

JAMAICA

2009

Tracking
Regional Goals
for Human
Resources
for Health

A Shared Commitment

Pan American Health Organization
Regional Office of the World Health Organization

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List of Abreviations

BTCC	Brown's Town Community College
CAAM	Caribbean Accreditation Authority for Education in Medicine and Other Professions
CPSM	Council for Professions Supplementary to Medicine
CSN	Cornwall School of Nursing
EXED	Excelsior Community College
HRH	Human Resources in Health
JHRHO	Jamaica Human Resources in Health Observatory
KNOX	Knox Community College
KSN	Kingston School of Nursing
MOH	Ministry of Health
NCJ	Nursing Council of Jamaica
NCTVET	National Council on Technical and Vocational Education and Training
NCU	Northern Caribbean University
NERHA	North-East Regional Health Authority
PAHO	Pan American Health Organization
PCC	Portmore Community College
SERHA	South-East Regional Health Authority
SRHA	Southern Regional Health Authority
STATIN	Statistical Institute of Jamaica
STSM	Spanish Town School of Midwifery
UCJ	University Council of Jamaica
UTECH	University of Technology, Jamaica
UWI	University of the West Indies
VJSM	Victoria Jubilee School of Midwifery
WHO	World Health Organization
WRHA	Western Regional Health Authority

Executive Summary

The Jamaican database on human resources in health (HRH) is an important component of the Health Human Resources Information Data Sets in the Americas and derives from the objectives of the Toronto Call to Action and the five critical challenges and twenty regional goals to be achieved in the ensuing decade ending in 2015.

The specific objective of this phase of the study is to assemble a comprehensive database on all HRH in Jamaica and establish a system for the efficient, continual updating of this database.

A team of researchers at the Epidemiology Unit (ERU) of the Tropical Medicine Research Institute (TMRI) identified the main stakeholders in HRH management in Jamaica under the three main areas:

- Stocks and flows
- Regulatory framework and management practices
- Training

Contact has been made with stakeholders to obtain the data on all HRH, and six databases have been created to include aggregate and individual data under the three categories above. These datasets are being managed under currently acceptable standards of database management with the requisite confidentiality and security arrangements.

Data collection has been limited by the scarcity of data in some cases, while in others the required data management systems allow for easily retrievable data. Data from the public sector has been more easily obtained and less data have been forthcoming from the private sector, forcing the research team to resort to innovative tools such as surveys of medicals reps (salespeople of pharmaceutical companies) and extract data from the “yellow pages” listings.

Analysis of these data reveals shortages across the health workforce in general and more so in some specific professions and in some regions of the country. HRH density of doctors, nurses and midwives in the public sector is approximately 12.1/10,000 population, and falls to lower levels in the Southern Regional Health Authority (SRHA). Even the largest estimates of HRH calculated in this paper show a ratio of 22.8 per 10.000 level for the whole country, while the level set by the World Health Organization

to achieve a minimum level of health care is 25 / 10,000. The distribution of doctors, nurses and dentists is least favourable to the SRHA. The data also shows that in addition to a severe shortage of dentists in the public sector, there is a significant shortage of rehabilitation specialists in speech and occupational therapy. There is a predominance of female professionals even in traditional masculine professions like medicine, where the research found an M/F relation of 1:1.

The ageing of the population and the increased burden of chronic diseases, in particular strokes and heart disease, may make it mandatory that greater attention be paid to these HRH areas of specialty in comparison to other areas like public health inspectors, which were a priority focus in an earlier time.

The data so far does not allow for the linkages to be made between training facilities and the needs of the population. With the absence of good data on the societal needs it will be difficult to conclude whether and how much these institutional capacities should be increased, and if not, alternate ways of satisfy those needs. The Ministry of Health and the International Consortium for HR Planning have begun a process to address this problem linking health needs with HRH forecasts.

More data will be required to assess the role of regulatory agencies and government bodies like the Ministry of Education and the Ministry of Labour in the international recruitment. There is nevertheless the need that all databases of regulatory bodies be electronically maintained in a form, which is easily retrievable

This paper argues for the necessity of a continuous effort in data collection to establish this baseline database and in the development of a Human Resources Observatory, as a system to achieve a sustainable database to inform decisions and guide policies in HRH for Jamaica and the Region.

1. Introduction

1.1. Background

Trained human resources are an important component for the delivery of quality health care. The adequacy of health human resources must take account of numerical sufficiency, appropriate skill mix, motivation of the workforce, enabling working environments and adequate support systems. In the Caribbean there is a constant clamour concerning health care delivery concerns, including complaints in respect of the above issues. To this extent, the Caribbean Cooperation in Health (CCH) has consistently included Human Resources Development in its list of priorities for the health of the Region (CCH II, CCH Secretariat, ISBN: 976 8077 30 1) and this has continued with CCH III (in draft). In the majority of cases, the number of incumbent professionals in the various categories falls short of the budgeted positions, and in many cases, the number of budgeted positions is considered insufficient. The Region faces additional challenges of inadequate training opportunities for health professionals and high rates of migration. Those who remain often display low morale and perform sub-optimally due to low wages, poor working conditions and excessive workload. In these circumstances, rural and other peripheral populations tend to be even more underserved.

In many situations, discussions around these issues are not underpinned by reliable, valid and up to date data. Where data are available, they are often scattered and not easily retrieved. These data are crucial to rational decision-making in respect of training, determination of real staffing needs and appropriate deployment, good labour relations practices, optimization of regulatory framework and ultimately the delivery of quality health care in the context of current needs.

The Pan American Health Organization (PAHO), in collaboration with regional health authorities, academic institutions and other stakeholders, has undertaken to establish a sustainable system for gathering, collating, analyzing and disseminating accurate and up-to-date information to fill the knowledge gaps outlined above.

In recent times, there has been a greater awareness of the need to focus more keenly on Human Resources (HR) Management and Development in the delivery of services (McLagan, Training and Development Journal 1996). This understanding has led to an evolution of the HR structure in organizations of varying types. A similar thrust is being made in health, especially in light of the global crisis of human resources

in health (HRH) (World Health Report 2006) where many regional populations are plagued by shortages and misdistribution of health professionals. This health human resources crisis, and the resulting mal-effects on access to care and health of country populations, has led to PAHO and the World Health Organization's (WHO) resolving that 2006-2015 is the Decade for Human Resources for Health and instituting initiatives to achieve a marked improvement in the training, distribution, and motivation of health care workers in the Caribbean and Latin American countries of the Region. Among the research and initiatives that have led to or have resulted from this Decade of Human Resources for Health are the Joint Learning Initiative "Human Resources for Health: Overcoming the Crisis" (Rockefeller Foundation, 2003); the High-level Forum on the Health Millennium Development Goals held in Abuja, Nigeria in 2004 with Human Resources for Health as one of its main themes (HLF, 2004); the World Health Report 2006, "Working Together for Health" (WHO, 2006); The "Toronto Call to Action" 2005 (PAHO, 2005); the creation of the Global Health Workforce Alliance (gwha.org) in 2006, and the Kampala Declaration of 2008 (GHWA, 2008), a global statement of commitment to the development and improvement of health human resources in all countries.

The accumulating evidence has revealed the key role that human resources play in health and health outcomes, including maternal mortality, infant mortality and under-five mortality rates (Anand & Barnighausen, 2004). The WHO has estimated that a density of 20-25 HRH (including doctors, nurses and midwives) per 10,000 persons being served is required to ensure minimum desired level of coverage of basic health interventions (World Health Report, 2006). In addition to the crude HRH to population ratio, issues of deployment, retention and labour relations (including remuneration, security of tenure, upward mobility and work environment) are crucial to human resource management and the maximization of productivity. Human resource needs and allocation must also meet the changing needs in populations; for example the changing landscape of health in the Caribbean in the last 5-6 decades require a different skill-mix from the preceding period and all stakeholders in the production and use of HRH must be adjusted according to these needs. All these issues have important implications for the future of HRH and the most efficient training to meet the needs will require cooperation between training institutions and all end users of HRH including the communities which they serve. The HRH of countries of the Caribbean are suffering from a continuous flow of emigration from Jamaica to North America and Europe and also from poorer to more wealthy states within the Region. The reasons for migration are often complex and it is important that these be understood if they are to be addressed.

PAHO has taken bold steps to improve the HRH situation in the Region of the Americas (the Region). The Observatories of Human Resources for Health initiative, launched in 1999, had been initially mandated to monitor the impact of health sector reforms on the health workforce. Over the subsequent five years, the countries of the

Region have passed several Resolutions to bring health human resources development to the focus of work of the Observatories.[1]

Two significant events led the countries of the Americas Region to put health workforce development at the top of their national health agendas. In 2005, the "Toronto Call to Action" was established through the support of PAHO, Health Canada, and the Ontario Ministry of Health and Long Term Care, by 28 country governments in the Caribbean and Latin America. This proclamation identified five priority HRH challenges to which the governments of the Region have committed financial support, political will, and specific action. These five challenges are:

1. Aligning human resource policies with countries' present and future health needs.

2. Putting "the right people in the right places"—with an emphasis on primary health care and multidisciplinary teams to promote greater access to quality health care for everyone.

3. Managing health worker migration.

4. Motivating and empowering health workers through better compensation, healthier work environments, and opportunities for professional development.

5. Shaping health education to better meet the needs of health services.

The second turning point for health workforce development in the Region was the passing of Resolution of the Pan American Conference of Ministers of Health in 2007 (PAHO, 2007). Through this Resolution, all the member states of the Pan American Sanitary Bureau agreed to 20 specific, measurable objectives to define their success in HRH development over the decade. The Resolution establishes twenty goals that will define that improvement. These goals are listed in Appendix 1.

Before an assessment of the achievement of these goals can be made, it is important to document the current situation—or baseline—of the relationship of the health workforce to the population being served.

In order to effectively and efficiently address the human resources situation in any locale and thereby facilitate needs-based planning and development, the existing HRH situation must first be detailed, and systems and structures must be created which will allow for the timely updating of these records in order to keep the situational analysis current. A comprehensive database on HRH would include:

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1. Resolution CD43.R6 on the "Development and Strengthening of Human Resources Management in the Health Sector," adopted by the 43rd Directing Council urged Member States to accord higher priority to HR development in their sectorial reform processes and to actively participate in the Observatory of Human Resources initiative. Resolution CD45.R9, adopted in 2004 by the 45th Directing Council, urged Member States to exert effective leadership in establishing a national agenda for HRH development to support the strategy of primary health care and the delivery of essential public health functions, and to explore ways to better address the active recruitment of health professionals from the developing countries within a framework of managed migration

- Current stocks and flows, i.e. a listing of currently employed persons, their skill mix, how they are deployed in respect of the population being served, how they are being managed including recruitment, promotion, termination etc. and levels of job satisfaction among these employees.
- The regulatory frameworks that governs these professionals including guidelines for qualifications that will allow registration and re-registration where applicable.
- The training institutions which produce these HRH professionals including capacity, matriculation requirements, details of training, throughput and deployment.

The relationship between these three aspects of HRH management and the impact of each on the other is also an important component of a comprehensive HRH database. Of equal importance is the capacity of this database to be updated in a timely and efficient manner that will allow for it always to reflect the current situation accurately.

1.2. Importance for Jamaica

Jamaica has one of the highest rates of HRH losses, as documentation reveals that it has the highest Emigration Factor worldwide for doctors to major western developed countries (Mullan, 2005). However, Jamaica does not have an accurate count of the annual emigration numbers, the reasons for this emigration, or the ratio of emigrants that return. While certain elements of this type of record may exist within specific entities (professional councils, the Ministry of Health, regulatory bodies etc.), the information exists at varied levels of completeness, and an efficient structure with attendant systems is lacking. A database of this nature will prove beneficial to all stakeholders including educators, policy makers, planners, providers and consumers and others in the health care delivery market. In addition to other uses, this database will be able to:

- Provide current information on status of human resources in health.
- Determine the Health Human Resources ratios for all health professions, allowing for comparisons with standard guidelines and an assessment of adequacy of health personnel in terms of numbers, distribution and skill-mix.
- Relate the current supply of HRH to health outcomes.
- Determine whether the current cadre of health professionals is consistent with the country's epidemiological profile.
- Establish basis for training and deployment priorities in the health service.

1.3. Jamaican Health Care Provision and Training

In Jamaica, health care and the training of human resources in health are provided in both the public and private sectors. The Ministry of Health (MOH) serves as the country's main governing and regulatory authority in health and employs public sector health care workers. Administrative and management processes of the MOH have been decentralized giving rise to four Regional Health Authorities (RHAs). Ambulatory care is delivered through a total of 348 health centres and clinics, while in-patient and out-patient services are delivered through 24 hospitals, including five specialist institutions (Economic and Social Survey Jamaica, 2006; Ward & Grant, 2006). All these facilities are managed by the RHAs.

The private sector also provides ambulatory care through a large number of medical centres and clinics. The most recent documentation shows that in 2001 there were eight private hospitals in Jamaica which were delivering in-patient and out-patient care in 300 beds (PAHO LAC Health Systems, 2001).

Many HRH professionals work in both the public and private sectors as well as in both urban and rural areas. The practice of the majority of HRH professionals are regulated by Councils, which register and provide oversight of these professions. Estimation of full-time and part-time status in the various jobs as well as HRH density ratios for various segments of the population poses some challenge.

The country provides training for the majority of health professions. Notable exceptions include dentists, occupational therapists, and speech therapists.

1.4. Healthcare Delivery Professionals in Jamaica

Health care professionals include the following categories:

- Medical doctors (various levels of specialization)
- Nurses (registered, midwifery, enrolled assistant, practical)
- Dentists and allied professions in the "family" of dentistry
- Pharmacists and allied professions in the "family" of pharmacy
- Technologists (laboratory, radiation)
- Nutritionists/dietitians and their assistants
- Rehabilitation therapists (physical, occupational, speech)
- Social workers

- Public health practitioners other than medical doctors (public health officers, health promotion officers, peer educators, environmental health officers/workers)
- Mental health professionals other than psychiatrists (psychologists, counselors)
- Community health aides
- Contact investigators

Data indicate that the HRH density based on professionals in the public sector in Jamaica was 10.2 per 10,000 persons in 2005 (Economic and Social Survey Jamaica, 2005). There were insufficient numbers of midwives and nurses, with only 28% of posts filled for the former while 74% of posts for the latter were filled. On the contrary, according to the number of posts, there was a 37% surplus of doctors and 16% excess of Medical Technologists but few if any experts in the field would agree that the number of posts for these professions is appropriate in respect of real needs. These data represent healthcare professionals within the public sector while the complement in the private sector and those who operate in both sectors is not readily available (Economic and Social Survey Jamaica, 2005).

The objectives of this study include:

- The identification of data and information resources for HRH professional in Jamaica.
    - Collecting the core data information and any additional information that may be important to Jamaica's HRH planning needs.
- Interpretation and analysis of the current situation and any trends in respect of HRH in Jamaica including:
    - Identification of gaps and needs in education and training, specialties, recruitment and retention and distribution.
    - The highlighting of notable findings and making assumptions and recommendation regarding HRH development and improvement possibilities.
- Presentation of data in a format that can be interpreted by and is useful to decision makers and stakeholders and which can interface with data processes in other areas of the health system.
- Presentation of a framework and methodology so that stakeholders can manage and update the database in order to assess HRH situation and trends in the country so as to inform policies and guide decisions.
- Presentation of recommendations on the sustainability of the database including the need to build capacity within the Ministry of Health and Environment that will enable a sustained process of data gathering, analysis, interpretation and presentation and the use of the data for decision making.

2. Method

2.1. Study Preparation

The principal investigator assembled a project team of five members responsible for the execution of this data management project. With the exception of one person, the team members were existing staff members at the University of the West Indies (ERU and the Admissions Section of the UWI Registry) and the Ministry of Health. The newly recruited individual, at the time a pending graduate of the MSc Epidemiology programme, was placed in a full time position at the ERU and provided with office accommodation and requisite equipment. The project team held preliminary meetings and discussions which facilitated the development of the project proposal.

2.2. Core Dataset Parameters

An orientation seminar was held for data management teams of Jamaica, Belize, Trinidad and Tobago and Eastern Caribbean, in Barbados, November 28-29, 2007. The primary purpose of this seminar was to arrive at an agreement regarding the core dataset parameters for a HRH database for the Caribbean. Teams were presented with reports of past experiences in HRH databases from North America and Latin America in addition to suggested approaches for database development by persons with such experience. Sources of data, method of data collection, data analysis and interpretation plans and expected output were identified for each of the three main datasets. This resulted in the reference document “Core data set for data management project”, Christ Church, Barbados, November 28-29, 2007 (Appendix 2).

2.3. Health Professionals Studied

For the purposes of this database and reporting we placed health professionals into fourteen (14) groups as follows:

1 - Dental health workers;

2 - Doctors and specialists;

3 - Food and nutrition workers;

4 - Health administration personnel;

5 - Nursing aides and community health workers;

6 - Mental and social health workers;

7 - Nurses, midwives and nurse specialists;

8 - Occupational and environmental health workers;

9 - Pharmacy workers;

10 - Physical rehabilitation workers;

11 - Public health officers;

12 - Technical/scientific workers;

13 - Health education/promotion workers; and

14 - Traditional medicine practitioners and faith healers.

Appendix 3 outlines more thoroughly the specific professionals included in these groups. Specific professionals were also studied individually as relevant.

2.4. Main Areas of Investigation

Stocks and flows dataset

We identified all human resources engaged in health care delivery in Jamaica and initiated the process of detailing their distribution and relationship to the populations that they serve. We included a survey/audit of all health care delivery organizations and sites in private and public sectors and where these overlap. It should be noted that this audit is ongoing.

Sources of data

Data sources for the execution of this situational analysis included:

- The Economic and Social Survey of Jamaica (ESSJ) and the Survey of Living conditions (SLC) which are produced annually by the Planning Institute of Jamaica (PIOJ)

- The Human Resources Management Department (HRMD) of the Ministry of Health an the 4 Regional Health Authorities (RHAs)
- The Public Health Department of each parish
- The Regulatory councils for:
  - Medicine
  - Nursing
  - Dentistry
  - Pharmacy
  - The professions supplementary to medicine (physiotherapy, occupational therapy, speech therapy, audiology, medical technology, radiography, nutrition, dietetics, dietetic assistants, nutrition assistants, public health inspection)
- Professional associations
- Medical representatives of pharmaceuticals companies
- The National Health Fund (NHF)
- Health insurance companies
  - Blue Cross of Jamaica
  - Life of Jamaica (now Sagicor Life)
  - Medecus

Collection of data

Letters of introduction were sent to all potential sources. In each institution we attempted to identify a liaison officer with whom we would maintain dialogue and who would facilitate the gathering of data.

Situations arose where up-to-date data on specific aspects of stocks and flows were not readily available as records at the institution, but it was possible to generate these with some effort. In such situations attempts were made to negotiate a data gathering plan with the institution, taking into account the need of the project to obtain the data in the short or medium term, the necessary resources to generate the data, the project's and the institutions' potential contribution to the data gathering process, and the need to establish a sustainable system that will allow to update the data in the future at minimal cost and maximal efficiency.

Permission is being sought to carry out surveys among samples of health professionals in the various situations either via face to face or telephone interviews aimed at

estimating morale, satisfaction with workplace and career-path, migration tendencies and associated pull-and-push forces. Negotiations with the institutions will help to identify the sampling frame and interviewers, the most appropriate mode of interview, the exact formulation of questions and the appropriate timing frequency of future repeat surveys. A further objective of these negotiations will be to achieve buy-in from these institutions that must come to see the benefits of the process for their own operations.

Data analysis and interpretation

Data were analyzed according to the fourteen (14) professional groups we distinguished as well as separately for certain specified health professions. We present combined as well as group-specific totals in addition to numbers categorized by deployment (urban vs. rural; public vs. private; primary health care vs. secondary; and by RHA). Data are interpreted in respect of the regional goals for 2007-2015 (PAHO document CSP27/10) with particular reference to required HRH density for an adequate workforce; percentage total medical workforce composed by primary healthcare physicians; and ratio of qualified nurses to physicians.

Regulatory framework and management practices dataset

Sources of data

The regulatory agencies for health human resources reside in the Ministry of Health and include

- Medicine
- Nursing
- Dentistry
- Pharmacy
- The professions supplementary to medicine (physiotherapy, occupational therapy, speech therapy, audiology, medical technology, radiography, nutrition, dietetics, dietetic assistance, nutrition assistance, public health inspection)

We identified HRH who did not fall under any regulatory agency.

Collection of data

We informed the above listed agencies of the national and regional importance of this study, of the aims and objectives and of the fact that the data are being requested for use by PAHO and the Ministry of Health. We established contact with the Ministry of Health, Regional Health Authorities and relevant professional associations and regulatory bodies to access existing data.

We created a complete listing of regulatory bodies for health care professionals in Jamaica and their licensing mechanisms and regulations. Agencies were asked to provide updates on all requested information up to the time of the report.

Data analysis and interpretation

Data were analyzed separately for each health profession. We present data indicating the professionals which have established regulatory bodies and professional associations as well as the main guidelines within which these professions are practiced in Jamaica.

Education system dataset

We established contact with the Registrars and Programme Directors of all institutions involved in the educating and training of healthcare professionals in Jamaica and documented the process of training and certification for all such professionals.

Sources of data

Sources include the following:

- Records from the Ministry of Education
- Accreditation bodies for academic and vocational institutions
- Programme-specific records from schools that train health professionals in Jamaica
  - The University of the West Indies
  - The University of Technology
  - Northern Caribbean University
  - Other training institutions registered with the Ministry of Education
- Program-specific information from schools outside of Jamaica that are responsible for the training of Jamaican health professionals

Collection of data

The programme directors or their counterparts for the programmes were contacted and asked for the required programme information.

Data analysis and interpretation

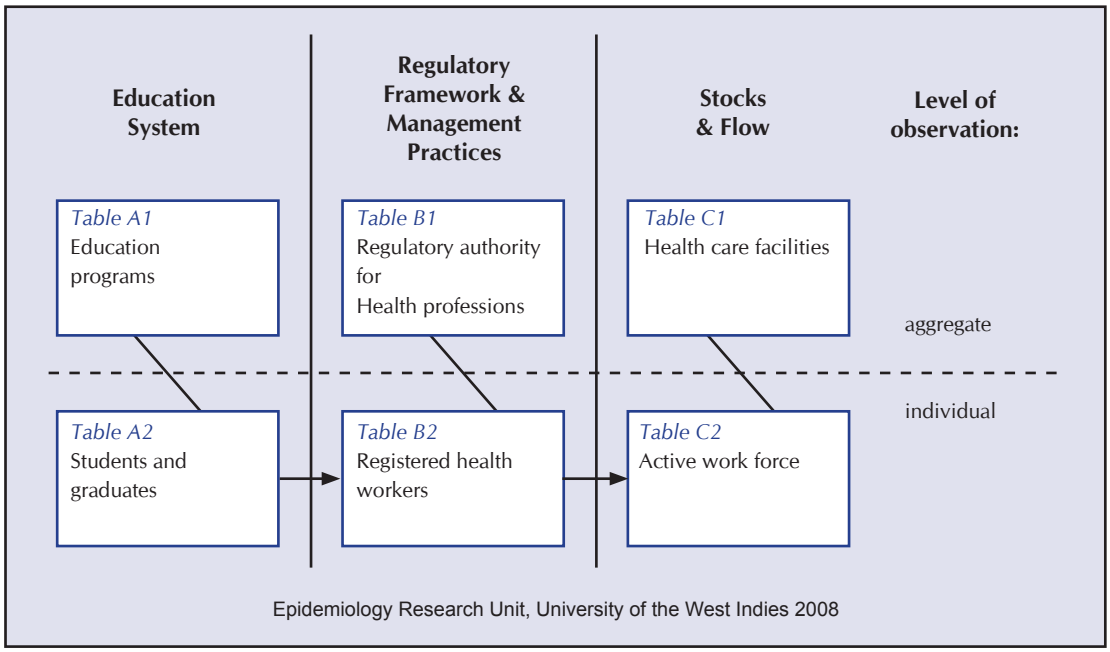
- Data was analyzed separately for each health profession and further characterized by nature of institution: public or private. We present data highlighting

the number and types of institutions and programmes that exist for educating and training health care professionals in Jamaica.

2.5. Database Construction

The database has been designed as a tri-dimensional spreadsheet containing six (6) linked data tables (Figure 2.1). There are two levels of observation: the aggregate level and the individual level. The tables labeled A1 and A2 are designed to capture data on the education and training system at the aggregate and individual level respectively. For regulatory framework and management practices, aggregate and individual data are to be captured in tables B1 and B2 while tables C1 and C2 are intended to capture data on stocks and flow also at the aggregate and individual levels respectively. It is expected that over time the database will be able to capture the flow of individuals from A2 through B2 to C2 and that the information sharing between A1, B1 and C1 will facilitate educational and health delivery planning. Figure 2.1 illustrates the database structure. A Data Dictionary has been written which lists each variable used in the database and gives, for each variable, the variable location (worksheet/ table name- for example A1); variable type (text or numeric); variable description; and variable value code. The database is currently housed at the Epidemiology Research Unit (ERU), Tropical Medicine Research Institute, University of the West Indies, Mona with only study investigators having access.

Figure 2.1: Database structure: six linked data tables



2.6. Development of Sustainable Infrastructure

We have initiated the process of developing, at the University of the West Indies and in collaboration with the Ministry of Health, a database management system that will store data and have the capacity for continuous updating. The structure of the interface will be determined by the information content and these details will be determined by the variables collected. The final list of variables will be determined after the initial data gathering exercise. Data gathering for the purpose of updating the data base will be via a data gathering instrument, the content and modalities of which will be determined by the initial exercise. We anticipate that such instrument will be profession specific and within each profession, will also have to relate to the three main areas: stocks and flows, regulatory framework and training.

2.7. Data Management, Ethical Issues, Analysis and Reporting

Available data have been in a variety of forms including electronic and paper based. As far as is possible, data was collected on structured data abstraction forms. Where data entry assistance is required from persons external to the research group all data sheets were made anonymous. Any personal identifying information of health professionals is kept in a separate file. Access to this file will be restricted to the investigators and formally monitored. In the operational database health professionals will be identified by encrypted codes. The database consists of a number of separate data tables corresponding to the main sub domains of the research. A Data Dictionary explains case definitions, response codes, source of information. All corrections and updates will be documented by an electronic audit trail system. Data will be stored at the University of the West Indies Epidemiology Research Unit in the Tropical Medicine Research Institute where strict confidentiality will be assured and be the responsibility of the Director. Backups will be made of the operational database once monthly. Extraction of analysis datasets for use by researchers and other stakeholders will be subjected to formal data use agreements. Personal identifying information of health professionals will not be part of any analysis dataset.

3. Results

In this section we present results of the data gathering process in addition to actual data gathered on HRH in Jamaica in respect of stocks and flows, regulatory framework and management practices, and education and training system.

3.1. Data Collection Process

Some important findings in respect of data collection can be catalogued as follows:

1. Data availability: It was found that many organizations did not routinely collect from their members the type of data required for this project. There were also issues relating to how current the data were, as some organizations did not have active mechanisms to ensure this. In some instances data were present but in formats that could not be readily collated for analysis, for example paper files to which access by our project team was denied.

2. Organizational response & challenges encountered (Table 3.1): There was general agreement among stakeholders that a database of this nature would be useful in meeting the health care needs of the country. However, many viewed the project as labour-intensive and as such were unwilling to assist or made requests for remuneration.

Table 3.1 shows the organizations contacted and the results so far obtained. In most cases only aggregate data have been obtained. The Ministry of Health and the Regional Health Authorities have provided substantial information in electronic form which has allowed a fair assessment of the public HRH situation but despite requests there has been no information out of the Ministry of Labour in respect of work permits granted for foreign HRH personnel or any other information on the overseas recruitment of such personnel. Of nine (9) professional associations so far contacted four (4) have provided useful information in respect of stocks and flow. Contact with individual private practices (group and individual) in all professions has so far been very limited. All 5 regulatory bodies have provided information on their respective regulatory framework. Regarding information on stocks of registered HRH, two councils have provided electronic lists of registrants, two others have reported the number of registrants and one has begun to give information on the professions under its purview and is committed to providing the remaining information. The Jamaica National Agency for accreditation, JANAAC, whose responsibility it is to accredit conformity assessment bodies, including medical laboratories are currently developing their database of public and

private medical labs and have been able to share this with us. Though incomplete at this time it is still useful and we are establishing the necessary relationships for future collaboration.

We have had full information from the Ministry of Education in respect of registered institutions providing education and training for HRH in Jamaica. All three universities, four accreditation bodies, seven of eight nursing schools and 20 of 38 schools which train practical nurses have been contacted. Apart from the accreditation bodies none of these training institutions have provided all the information requested.

Table 3.1: Organizations contacted and results obtained

Organization	Number present	Number contacted	Number responded	Number of organizations providing data	
				In part	In full
Stocks and flows					
Ministry of Health	1	1	1	1	-
Regional health authorities	4	4	4	4	-
Regulatory councils	5	5	5	4	1
Professional associations	?	9	9	6	0
Medical reps. of pharm. cos.	?	6	3	2	0
Private hospitals	?	8	7	1	0
Group private medical practices	?	0	0	0	0
Individual private medical practices	?	0	0	0	0
Private sector pharmacies	409	0	0	0	0
Nursing homes*	48*	0	0	0	0
Medical laboratories	?	0	0	0	0
Ministry of Labour	1	1	1	0	-
Jamaica National Agency for Accreditation	1	1	1	1	-
Regulatory framework and management practices					
Ministry of Health	1	1	1	1	-
Regulatory councils	5	5	5	5	
Professional associations	?	9	9	6	0
Jamaica National Agency for Accreditation	1	1	1	1	-
Education and training					
Ministry of Education	1	1	1	-	1
Accreditation bodies	4	4	4	-	4
Universities	3	3	3	2	-
Nursing schools	8	7	4	0	0
Dental auxiliary schools	1	1	1	1	-
Practical nursing schools	38	20	4	2	0
Ministry of Finance	1	0	0	0	0

Notes:

*This represents the number of registered nursing homes.

Conclusions and recommendations

While all stakeholders have expressed an interest in the process of creating this dataset and all agree to its potential usefulness, obtaining the required data to populate the dataset has been difficult. The main reason has been that required information has not been collected at all or is in a form that is not easily retrievable requiring a labour intensive process. This situation gives further credence to the need for Jamaica to have central institution, in the form of a HRH Observatory, responsible for providing accurate HRH information to guide the decision-making process. In this model all stakeholders would be brought together in a network and capacity within individual groups would be strengthened thereby enabling them to collect the relevant data in a form that can be easily retrieved and that allows for analysis and interpretation. In order to establish the database it will be necessary to provide some incentives for compliance, and in some instances, there may be need for additional staff support in stakeholders' offices to gather the data so that this initial database can be created in an electronic form. This effort would require effective leadership from the Ministry of Health and commitment from stakeholders for it to achieve success.

3.2. Stocks and Flows Dataset

The information in this section is derived from the public health sector records and data from regulatory councils and some professional associations. Along with crude estimates of the private sector's contributions, these give a panoramic view of the HRH stocks and flows in Jamaica. In subsequent reports we intend to expand on what is presented here and address other pertinent areas as the data are gathered and analyzed.

Table 3.2 shows the number of HRH professionals identified by various organizations in Jamaica based on data available so far. These numbers have been obtained from the database of each organization and represent their memberships and/or clientele. They are not estimates of the total numbers of HRH professionals serving Jamaica. The Medical Council of Jamaica which requires annual re-registration of medical practitioners in Jamaica has 2801 doctors registered for the year 2008. The most recent data from the Ministry of Health (MoH) shows 1103 doctors in their employ and one pharmaceutical company has 1140 doctors on its register. The Nursing Council of Jamaica (NCJ) registers suitably qualified persons to practice as general nurses, midwives and mental health nurses. Assistant nurses are also enrolled by this body. Biennial re-registration is mandatory for all these groups. The NCJ reports that there are approximately 5000 nurses and assistant nurses on its register. They are unable at this time to provide a breakdown by nursing specialization. MoH data shows 2141 nurses and midwives and 789 enrolled assistant nurses in their employ. Using the largest estimate available so far, the HRH density for doctors, nurses and midwives is 22.8 per 10,000 persons in the population island-wide, while the level set by the World Health Organization to achieve a minimum level of health care is 25 / 10,000. At the same time practical nurses are not recognized as a nursing category by the

government service. There are as yet, no data from their professional association to estimate their numbers. Of the 749 dentists registered with the Dental Council only 44 (6%) are in government employment and it is likely that many of those in government service also engage in private practice. At present dental nurses are only allowed to work within the public sector. Of the 385 dental nurses registered with the Dental Council, 97 (25%) are in government employment. 36 Dental hygienists are registered with the Dental Council. This professional group is not currently employed within the public sector. Dental technicians are classified as Dental prosthetists in the government service. Of the 108 Dental technicians registered only 3 are employed to government. Dental assistants operate within both the public and private sectors but are not registered by a regulatory body. Ninety nine (99) dental assistants are employed in government service. Of 640 registered pharmacists 96 (15%) work in the government service island-wide while pharmacy technicians (76 in the government service) do not at present come under a regulatory council. Nutritionists (5), dietitians (11), nutrition assistants (13) and dietetic assistants (68) are currently employed in the government service. No data are available from their regulatory council. Their professional organization has in its membership 47 nutritionists, 12 dietitians, 3 nutrition assistants and 14 dietetic assistants. It estimates that 50% of all nutritionists and dietitians and 40% of all assistants comprise its membership. At present 45 physical therapists and 4 occupational therapists are employed to government. Both professions are regulated by the same council which reports that at present there are 140 registered physical therapists and 10 registered occupational therapists in Jamaica. The professional associations of both these professions are yet to provide data. Non-medical public health workers including 301 public health officers, 45 health promotion officers, 112 peer educators and 106 environmental health workers are in the government service. There are no other data to compare with these at the present. Health educators and environmental health officers do not fall under a regulatory agency. The 727 community health aides and 38 contact investigators are employed exclusively in the government service from where they are reported. The 747 Ward Assistants are also employed exclusively in government service. These persons are akin to practical nurses and are represented by the same professional association. They do not fall under any regulatory body.

Table 3.2: Number of professionals identified by various sources – Jamaica

Health professionals	Organization figures			
	Ministry of Health	Regulatory Council	Professional Association	Medical Representative
MDs and specialists*	1103	2801	1681	1140
RNs and midwives	2141	5000**	-	n/a
Nursing assistants	789		~400	n/a
Practical nurses	n/a	n/a	-	n/a
Dentists	46	749	-	n/a
Dental nurses	97	385	95	n/a
Dental hygienists	n/a	36	-	n/a
Dental technicians	3	108	-	n/a

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...continuation of Table 3.1

Health professionals	Organization figures			
	Ministry of Health	Regulatory Council	Professional Association	Medical Representative
Dental assistants	98	n/a	-	n/a
Pharmacists*	96	640	227	-
Pharmacy technicians	76	n/a		n/a
Pharmacy assistants	n/a	n/a		n/a
Radiation technologists	56	161		n/a
Medical technologists	75	-		n/a
Nutritionists	5	-	47	n/a
Dietitians	11	-	12	n/a
Nutrition assistants	13	-	3	n/a
Dietetic assistants	68	-	14	n/a
Physical therapists*	45	140	-	n/a
Occupational therapists*	4	10	-	n/a
Speech therapists*	0	-	-	n/a
Social workers	21			n/a
Public health officers*	300	-		n/a
Environmental health workers	110	-		n/a
Health promotion officers	45	n/a	n/a	n/a
Peer educators	112	n/a	n/a	n/a
Psychologists	4			n/a
Counselors	1			n/a
Community health aides	727	n/a	n/a	n/a
Contact investigators	38	n/a	n/a	n/a
Ward assistants	747	n/a	-	n/a

Notes:

*Interns included.

**This includes registered nurses, midwives and enrolled assistant nurses.

Data shown in Table 3.3 describe the public sector health workforce of Jamaica in respect of numbers of workers in named professional groups by sex as at 2007 Mean age for males and females as well as the HRH density per 10,000 persons in the population are presented for each health professional category. Nurses, midwives and nurse specialists together with nursing aides and community health aides accounted for nearly 60% of all public sector health workers in 2007. Doctors and specialists comprised just less than 15% of health workers. Rehabilitation workers accounted for less than 1% of the health workforce while the remaining groups contributed between 1% and 8% each.

The combined group of doctors, nurses and midwives represent 42% of the public sector health workforce and reflect an HRH density of 12.3 per 10,000 persons in the population.

The majority of workers were females for all categories except doctors and specialists, where the male to female ratio was approximately 1:1; occupational/environmental health workers, male to female ratio 4:1 and public health professionals (excluding doctors), 1.5:1. The dimorphism between the sexes was most evident among the nursing and community health aides group and the nurses, midwives and nurse specialists group with there being 1 male for every 28 females among the nursing aides and community health workers and 1 male for 45 females among the nurses, midwives and nurse specialists.

The average age for males and females combined across the health categories ranged from 34.1 years in the rehabilitation workers to 49.8 years in dental health workers. The groups having the greatest disparity in age between the sexes are nurses, midwives and nurse specialists; occupational/environmental health workers; and public health professionals. Males were on average 10-15 years older than females in these groups.

Table 3.3: Number and mean age of public sector health workers by sex and health professional category, Jamaica 2007

Health Professional Category	Number of Workers			Mean Age			Density/ per 10,000 population[b]
	Male	Female	Total[a]	Male	Female	Combined	
Dental health workers	25	237	262	55	44.5	49.8	0.979
Doctors and specialists*	589	504	1103	38.8	35.8	37.3	4.12
Diet and nutrition workers	2	94	97	40.5	38.9	39.1	0.359
Health administration professionals**	119	476	603	33.5	36.1	35.5	2.27
Nursing aides and community health aides	79	2,227	2,309	47.7	44.3	44.4	8.63
Mental and social health workers	70	102	169	46.4	48.5	47.6	0.643
Nurses, midwives and nurse specialists	46	2,085	2140	51.1	40.4	40.6	7.99
Occupational/environmental health workers	97	9	106	44.2	34.9	43.3	0.396
Pharmacy workers*	33	138	172	41.9	40.9	41.5	0.643
Rehabilitation workers*	9	40	50	31.5	34.6	34.1	0.187
Public health professionals (excluding doctors)	179	118	301	51.3	36.9	45.5	1.12
Technical/scientific health professionals	77	221	301	37.9	36.7	38.8	1.12
Traditional medicine practitioners and faith healers	-	-	-	-	-	-	-
Health education and promotion workers	35	121	157	35.4	35.5	35.4	0.561

Notes:

a Total may differ from actual summation of Male and Female subgroups as sex was unknown in some cases.

b Mid-year population of Jamaica, 2007 (STATIN 2008).

* Counts in these groups include interns.

** This group includes Chief Executive Officers, Administrators, Personnel managers and officers, Health records personnel.

- No data presently available.

Table 3.4 shows by geographic locale the percentage of workers belonging to various professional groups within the public health sector. The four health regions, North East (NERHA), South East (SERHA), Southern (SRHA) and Western (WRHA), are main units of demarcation. Further subdivision is done by parish. The parishes Portland, St. Mary and St. Ann comprise the North East Regional Health Authority (NERHA). Population estimates (STATIN 2008) indicate that these three parishes represent 14% of the country's population. The number of public sector doctors and specialists in this region is 13% of the total number of this group serving the country. The South East Regional Health Authority (SERHA) has the parishes Kingston & St. Andrew, St. Catherine and St. Thomas. These account for 47% of the country's population and 54% of the public sector doctors and specialists. Clarendon, Manchester and St. Elizabeth, comprising the Southern Regional Health Authority (SRHA), represent 22% of the country's population and have 13% of public sector doctors and specialists. The Western Regional Health Authority (WRHA), covering the parishes Trelawny, St. James, Hanover and Westmoreland, has 18% of the country's population and 20% of the public sector doctors and specialists.

NERHA is served by 13% of the nurses and midwives. Forty six per cent (45%) of all nurses and midwives serve SERHA while SRHA and WRHA where 40% of the population resides are served by about 20% of the country's nurses and midwives. Nutritionists, dietitians, rehabilitation therapists (excluding physiotherapists) social workers and psychologists are among the fewest workers in public sector health system with some health regions not having any workers in these categories. The availability of dentists based on the government employed dental practitioners reveals a HRH density of 17.1 per million persons in the population island-wide. The SRHA is again the worst off with 12.0 per million persons but there is little difference between the SERHA, WRHA and NERHA with 19.2, 16.9 and 19.0 per million persons respectively.

Table 3.4: Percentage of selected public sector health workers for all four health regions, Jamaica 2007

Health Professionals	NERHA				SERHA				SRHA				WRHA				
	Proportion (%)																
	Region total			Country total	Region total			Country total	Region total			Country total	Region total				Country total
	Portland	St. Mary	St. Ann		Kingston & St. Andrew	St. Catherine	St. Thomas		Clarendon	Manchester	St. Elizabeth		Westmoreland	Hanover	St. James	Trelawny	
Medical Doctors & Specialists*	9.2	25.5	65.2	12.8	75.5	22.7	1.8	53.9	30.4	60.1	9.5	13.4	20.5	5.0	69.4	5.0	19.9
Registered Nurses	20.0	29.0	51.0	13.2	73.8	19.7	6.5	46.9	27.8	54.2	18.1	19.3	23.1	11.9	49.1	15.8	20.7
Midwife	10.3	41.0	48.7	14.0	53.8	37.0	9.2	42.8	44.4	30.2	25.4	22.7	26.3	12.3	40.4	21.1	20.5
Assistant Nurses	31.6	33.3	35.0	14.8	75.4	12.2	12.5	42.7	31.7	55.5	12.8	20.8	26.8	10.1	50.6	12.5	21.3
Dentists	14.3	42.9	42.9	15.2	75.0	20.8	4.2	52.2	28.6	42.9	28.6	15.2	37.5	12.5	37.5	12.5	17.4
Dental Nurses	46.2	23.1	30.8	13.4	69.8	20.8	9.4	54.6	44.4	27.8	27.8	18.6	30.8	30.8	38.5	0.0	13.4
Dental Technicians	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dental Assistants	45.0	30.0	25.0	20.4	66.7	23.8	9.5	42.9	38.9	38.9	22.2	18.4	27.8	22.2	33.3	16.7	18.4
Pharmacists*	23.1	0.0	76.9	13.5	70.8	27.1	2.1	50.0	22.2	55.6	22.2	9.4	11.5	3.8	76.9	7.7	27.1
Pharmacy Technicians	16.7	58.3	25.0	15.8	15.8	23.1	12.8	51.3	30.0	60.0	10.0	13.2	26.7	6.7	53.3	13.3	19.7
Pharmacy Assistants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Radiation Technologists	16.7	16.7	66.7	10.7	82.8	13.8	3.4	51.8	25.0	50.0	25.0	14.3	15.4	0.0	84.6	0.0	23.2
Medical Technologists	16.7	16.7	66.7	16.0	50.0	31.3	18.8	21.3	20.0	66.7	13.3	20.0	9.4	3.1	81.3	3.1	42.7
Nutritionists	0.0	0.0	100.0	40.0	100.0	0.0	0.0	40.0	0.0	100.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Dietitians	0.0	0.0	100.0	18.2	100.0	0.0	0.0	36.4	0.0	100.0	0.0	18.2	0.0	33.3	66.7	0.0	27.3
Nutrition Assistants	25.0	25.0	50.0	30.8	0.0	50.0	50.0	15.4	33.3	33.3	33.3	23.1	50.0	0.0	25.0	25.0	30.8
Dietetic Assistants	8.3	58.3	33.3	17.6	64.3	25.0	10.7	41.2	57.1	35.7	7.1	20.6	28.6	0.0	57.1	14.3	20.6

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Health Professionals	NERHA				SERHA				SRHA				WRHA				
	Proportion (%)																
	Region total			Country total	Region total			Country total	Region total			Country total	Region total				Country total
	Portland	St. Mary	St. Ann		Kingston & St. Andrew	St. Catherine	St. Thomas		Clarendon	Manchester	St. Elizabeth		Westmoreland	Hanover	St. James	Trelawny	
Physical Therapists*	0.0	0.0	100.0	13.3	91.7	8.3	0.0	53.3	33.3	66.7	0.0	6.7	16.7	0.0	83.3	0.0	26.7
Occupational Therapists	0.0	0.0	0.0	0.0	100.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0
Speech Therapists	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social Workers	0.0	50.0	50.0	19.0	80.0	20.0	0.0	47.6	25.0	50.0	25.0	19.0	0.0	0.0	100.0	0.0	14.3
Public Health Practitioners																	
Public Health Officers*	26.2	31.1	42.6	20.3	49.5	30.6	19.8	37.0	35.0	28.3	36.7	20.0	25.0	16.2	41.2	17.6	22.7

Notes:

*Counts in these groups include interns.

The HRH density per 10,000 persons in the population for each health region is presented in table 3.5. WRHA has the highest HRH density, which along with that for SERHA, are higher than the national HRH density. SRHA and NERHA have HRH densities which are lower than the national HRH density with the former being the lowest overall.

Table 3.5: HRH density per 10,000 population for each health Region based on public sector workers

Health Region	Number of doctors, nurses and midwives	Population of Region	HRH density per 10,000 population
NERHA	425	367,705	11.6
SERHA	1587	1,251,149	12.7
SRHA	571	584,947	9.8
WRHA	661	472,030	14.0
Total	3,244	2,675,831	12.1

Specialists

The regulatory councils for medicine, dentistry and nursing do not presently keep records of specialist professionals. We have however been able to acquire an estimate from medical representatives. The information presented in table 3.6 describes 1,129 doctors, about 40% of the doctors registered to practice in Jamaica. General practitioners comprise 52% of this group. Pediatricians comprise about 10%, Anaesthesiologists, General Surgeons and Obstetrician/Gynaecologists account for between 5% and 8% each. Family Medicine is among the least common specialty areas with just about 0.2% representation from this group.

Table 3.6: Number of doctors by specialist area Pharmaceutical representative database

Specialist area	Number of doctors
Anesthesiology	59
Cardiology	5
Dermatology	23
Endocrinology	2
Emergency medicine	5
Family medicine	2
Gastroenterology	2
Geriatrics	1
General practice	585
General surgery	78
Internal medicine	43
Neurology	3

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...continuation of Table 3.6.

Specialist area	Number of doctors
Obstetetrics/gynaecology	86
Oncology	11
Orthopaedics/traumatology	26
Otorhinolaryngology	23
Pediatrics	119
Plastic surgery	7
Pulmonology	3
Psychology	29
Urology	17
Total	1129

Data on job titles from the Ministry of Health which will be analyzed in the near future may be useful in further quantifying these as well as nurse specialists.

Private sector estimates

Medical doctors

The regulatory body for medical doctors and specialists, Medical Council of Jamaica, has 2,801 persons registered to practice medicine in Jamaica. This number is believed to include a group of individuals who do not reside or practice in Jamaica but nonetheless maintain their registration status. Based on the public sector count and the number of registrants an estimate for doctors working exclusively in the private sector is about 1,500. Of importance also is that group of practitioners who work in both the public and private sectors. Using a convenience sampling technique available via the Business listing ("yellow pages") of the national telephone directory, 483 medical practitioners have been identified so far, representing just under 20% of doctors listed on the Medical Council Register. We found that 8% of doctors identified by this method worked in both public and private sectors.

Nurses

The Nursing Council reports that there are about 5,000 nurses, midwives and assistant nurses on its register. Taking into account the public health sector estimate of 2,930, this suggests that the remaining nurses (about 2,000) are either employed within the private health sector, employed to public and/or private sectors other than health, residing overseas or are unemployed. The Nursing Council provided data on persons who work in private institutions registering (initial and renewal) in 2007, shown in Table 3.7. A total of 797 nurses who do not work in the public sector were registered in 2007. This is probably an incomplete estimate of private sector nurses because it does not include nurses who were not required to re-register in 2007.

Dentists and allied professionals

The register of the Dental Council of Jamaica indicates that there are 749 registered dentists. However, the office of the Principal Dental Surgeon reports that from its surveys it has identified approximately 150 dentists practicing in Jamaica. This estimate is far fewer than the 749 registered dentists on the Dental Council Register of Jamaica. Anecdotal reports suggest that the majority of dentists in Jamaica operate within the private sector. Considering the public sector count of 44 the number of dentists working in the private sector may range from 100 to 600. Records of the dental council state that there are 385 dental nurses registered to practice in Jamaica. The professional association which represents this group has reported that based on its knowledge there are 112 of these professionals in Jamaica. The public sector has 97 dental nurses in its employ and since these workers are exclusive to the government service, there are currently about 15 such persons not engaged in active practice. The public sector currently does not employ persons as dental hygienists, but these persons serve in the private sector and are enrolled by the dental council. There are 36 registered dental hygienists in Jamaica. Annual re-registration is not a requirement for these allied professions, therefore in order to validate this list thorough checks will have to be made through individual dental practices. This process is underway.

Pharmacists

As is the case with dentists, the majority of pharmacists also operate within the private sector. The Pharmacy Council indicated that at December 2007 there were 640 registered pharmacists. Based on this number and the public sector count, the number of exclusive private sector pharmacists can be estimated to be about 500. Additionally, the Pharmacy Council keeps a register of pharmacies and the pharmacists who work in them. The September 2008 register identifies 398 pharmacists working in private sector across manufacturing, distribution and retail pharmaceutical companies. The professional association for pharmacists has 227 persons in its membership. Of this number 154 were identified as working in the private sector.

Professions supplementary to medicine

Physical therapists, radiographers, nutritionists, dietitians, nutrition assistants and dietetic assistants are among the professions that fall under the regulatory authority of the Council for Professions Supplementary to Medicine (CPSM). CPSM has indicated that 140 physical therapists and 161 radiographers are on its register. Based on the public sector count of 45 physical therapists and 56 radiographers, there may be between 90 and 100 of each of these professionals working in the private sector. The professional association for nutritionists, dietitians and their assistants has 76 persons in its membership across these four professions. Only 5 nutritionists are working in the public sector and the professional association, with its 45 nutritionists estimate that this represents about 50% of the nutritionists practicing island-wide suggesting that up to 85 nutritionists work in the private sector.

Table3.7: Number of nurses registered in 2007 from private institutions

Place of work	Number of nurses, midwives and assistant nurses
Educational institutions	170
Private sector (other than health)	200
Overseas	76
Private hospitals (6)	284
Retired, unemployed, self-employed	67
Total	797

Health facilities

The public and private sectors provide health care through hospitals, health centres and clinics, pharmacies, nursing homes, medical laboratories and imaging centres. Health centres in the public sector are managed through Health Departments in each parish. The process of ascertaining the number of private sector groups and individual practices will be part of future efforts.

Table 3.8 shows the numbers of various types of public and private sector health facilities by health region in Jamaica identified thus far. The majority of health facilities are in the SERHA in keeping with the largest population centre. Pharmacies are by far the most frequently occurring health facility.

Table 3.8: Numbers of public and private sector health facilities by health region

Health facility	Number of facilities in Region								
	NERHA		SERHA		SRHA		WRHA		Total
	Public	Private	Public	Private	Public	Private	Public	Private	
Hospitals	4	0	10	5	5	1	5	2	32
Pharmacies*	4	44	10	223	5	80	5	62	433
Nursing homes**	0	2	0	31	0	9	0	6	48
Imaging centres***		1		18		4		5	
Medical labs****	4	19	17	112	6	28	5	17	208

Notes:

*This refers to pharmacies in hospitals and does not include those operating at health centres.

**This refers to nursing homes which are registered with the MoH.

***Number of public health facilities not ascertained.

****This includes medical labs and collection centres in hospitals and other health facilities.

Private pharmacies are concentrated in urban areas while all public pharmacies are located in hospitals which are also in urban centres. Medical laboratories are also confined to urban centres (Table 3.9).

Table 3.9 shows the urban-rural distribution of the health facilities described above.

Table 3.9: Urban-rural distribution of health facilities

Health facility	Number of health facilities				
	Urban		Rural		Total
	Public	Private	Public	Private	
Hospitals	24	8	0	0	32
Pharmacies*	24	380	0	29	433
Nursing homes**	0	43	0	5	48
Imaging centres***		28		0	
Medical labs****	31	173	1	3	208

Notes:

*This refers to pharmacies in hospitals and does not include those operating at health centres.

**This refers to nursing homes which are registered with the MoH.

***Number of health facilities not ascertained.

****This includes medical labs and collection centres in hospitals and other health facilities.

Conclusions and Recommendations

Comparison with the data from regulatory councils suggests that a large proportion of HRHs registered in Jamaica are not in the public sector. This is in keeping with national data suggesting that a large proportion of health care is provided in the private sector (ESSJ, SLC). There is a need to require more data from the private sector in order to provide a better estimate of HRH densities in Jamaica. The issue of access to HRH by the population will raise a separate issue as private sector health care will involve an additional cost component. In the case of the doctors less than 50% of those who are registered by the Medical Council are in the employ of the MoH. The explanation for this may derive from several sources. The most obvious is that many doctors may be in exclusive private practice. However some of these doctors may maintain their registration in Jamaica while being resident overseas. A small proportion may even be itinerant. Our only estimate of the mix of medical specialties comes from the medical representatives' data and reveals that more than half of the medical practitioners are in general practice with pediatrics, obstetrics/gynaecology accounting for the largest proportions of the remaining. In addition to the public sector information the NCJ provides information that approximately 5,000 registered and assistant nurses in Jamaica and the best estimate of private sector nurses is approximately 1,600 (representing double the 800 who were identified as being in the private sector and who were registered by the NCJ in one year of their biennial re-registration system). The HRH densities based on these admittedly limited data suggest that Jamaica falls below acceptable standards nationally and the situation is even more marked in some regions. The SRHA appears to be the worst served region in HRH and this is so for doctors, dentists and nurses. Overall supporting facilities for health care (laboratories, pharmacies) are confined to urban centres but the large number of pharmacies should

be seen as a potential resource for community screening especially for risk factors for chronic non-communicable diseases.

Overall, the supply of public sector dentists seems particularly inadequate and will require urgent attention.

3.3. Regulatory Framework and Management Practices

In general, regulation of health professions in Jamaica is achieved through the actions of legally constituted bodies called Regulatory councils which are specific for every profession. These bodies have several responsibilities including:

i) Ensuring that only suitably qualified persons enter and practice the profession

ii) Establishing and maintaining registers and/or rolls in which all suitably qualified practicing professionals are enlisted

iii) Providing oversight of education and training system related to the profession

iv) Taking disciplinary actions as necessary in order to maintain the integrity of the profession.

Professional associations are organizations which act in securing the well-being of professionals as they execute their duties in their workplaces. They undertake activities and lobby for the implementation of measures aimed at professional and personal development of their members and uplifting the image of their respective professions. Membership with these groups is voluntary. Individual employers are largely responsible for instituting and executing activities related to operating procedures within the workplace. They abide by existing laws and regulation for employer-employee relationships in general and also observe any particulars that might exist for a specified profession. Table 3.10 shows councils and professional associations where they exist for professional groups and the intervals for re-registration.

Regulatory councils exist for the majority of health professions. Professional associations are more often in place for the more established professions. Among the dental health professions, only dentistry has the requirement of re-registration and this is in the form of issuance of an annual practicing certificate. In recent times the importance of continuing education for practicing professionals has been embraced by several councils and is now a legal requirement for re-registration of doctors, nurses and pharmacists. Medical doctors and pharmacists require annual re-registration and must show evidence of continuing medical education/professional development while nurses have similar requirement for biennial re-registration.

Procedures are currently underway to make this a legal requirement for dentists. Several categories of HRH included in our study do not fall under any regulatory body. These include pharmacy technicians and assistants, dental assistants, practical nurs-

es, social workers, environmental health officers and health education and health promotion specialists.

Table 3.10: Existence of regulatory council and professional association and periodicity of renewal of these bodies

Health professionals	Regulatory Council yes (Y) or no (N)	Duration of registration (years)	Professional association yes (Y) or no (N)	Professional association membership renewal (years)
Medical doctors and specialists	Y	1	Y	1
Registered nurses	Y	2	Y	lifetime
Midwives	Y	2	Y	lifetime
Assistant nurses	Y	2	Y	lifetime
Practical nurses	N	n/a	Y	lifetime
Dentists	Y	1	Y	1
Dental nurses	Y	lifetime	Y	1
Dental hygienists	Y	lifetime	Y	1
Dental technicians	Y	lifetime	Y	1
Dental assistants	N	n/a	Y	1
Pharmacists	Y	1	Y	1
Pharmacy technician	N	n/a	??	
Pharmacy assistant	N	n/a	??	
Radiation technologists	Y	1		
Medical technologists	Y	1	Y	??
Nutritionists	Y	1	Y	1
Dietitians	Y	1	Y	1
Nutrition assistant	Y	1	Y	1
Dietetic assistant	Y	1	Y	1
Physical rehabilitation therapists	Y	1	Y	1
Occupational rehabilitation therapists	Y	1	Y	
Speech rehabilitation therapists	Y	1	??	
Social workers	N	n/a	N	n/a
Public health practitioners				
Public health officers	Y	1	??	
Health educators	N	n/a	N	n/a
Environmental health workers	N	n/a	N	n/a
Community health aides	N	n/a	N	n/a

Table 3.11 shows licensing requirements for the professions operating under the regulatory authority of a council. University training and the possession of a degree at the baccalaureate level in the relevant field is required for most professions. Those not requiring this accept certificates or diplomas in the specified area from approved institutions. Most professions require either internship or success in post-training licensing

for eligibility to practice. In the case of doctors, nurses and midwives this is regional exam, thereby making professionals eligible to practice in other Caribbean countries while for assistant nurses, dental professionals and pharmacists this is a local exam. All professionals pay licensing fees.

Table 3.11: Licensing requirements for health professionals

Regulatory council	Professionals regulated	Licensing requirements				
		University qualification	Minimum duration of study[a]	Internship completion	Licensing exam	Licensing fee
Medical Council of Jamaica	Medical doctors and specialists	Y	5 years	Y	Y*	Y
Nursing Council of Jamaica	Nurses	Y**	3 years	N	Y	Y
	Midwives	N	2 years	N	Y	Y
	Assistant nurses	N	2 years	N	Y	Y
Dental Council of Jamaica	Dentists	Y	5 years	N***	Y	Y
	Dental nurses	N	3 years	N	N	Y
	Dental hygienists	N	2 ½ years	N	Y	Y
	Dental technicians	N	4 years	N	Y	Y
Pharmacy Council of Jamaica	Pharmacists	Y	3 years	Y	N^	Y
Council for professions supplementary to medicine	Medical technologists	Y	4 years	Y	N	Y
	Radiographers	Y	3 years	Y	N	Y
	Physiotherapists		3 years			
	Occupational therapists	Y	4 years	Y	N	Y
	Speech therapists	Y	4 years	Y	N	Y
	Nutritionists	Y	1 ½ year	N	N	Y
	Dietitians	Y	4 years	Y	N	Y
	Nutrition assistants	Y^^	9 months	N	N	Y
	Dietetic assistants	Y^^	9 months	N	N	Y
	Public health inspectors	Y	1 year	Y	N	Y

Notes:

#Does not include internship period.

*Graduates from approved schools in the United States, Canada and the United Kingdom and persons with GMC registration do not need to sit this exam.

**Nursing programmes have been transferred to universities. Phasing out of certificate programmes began in 2006.

***This differs based on where trained. Persons trained in Trinidad do internship.

^Exam must be sat by pharmacists trained outside of Jamaica.

^^These are Diploma programmes offered in universities.

Conclusions and Recommendations

The majority of health professionals have their practice regulated by a legal authority. Notable exceptions include lower levels of nursing and ancillary staff like community health aides, clinical psychologists, health educators and promoters and health administrators. The database maintained by these regulatory authorities sometimes exclude important demographic details including date of birth and sex. There is no register of sub-specialties in the main professions of medicine, nursing and dentistry.

The registers do not differentiate persons are actively practicing in Jamaica in the year of registration and may not be a valid estimate of available HRH in the various professions.

We recommend that all databases be electronically maintained in a form which is easily retrievable and that they include a minimum of: date of birth, name, sex, year of first registration, practice address, qualifying institution and sub-specialty qualification. Identification of current practice activity and practice address or addresses would be useful in disaggregating HRH density by region.

3.4. Education System Dataset

Regulatory framework for educational institutions

The Ministry of Education is the main regulatory authority for public and private education and training institutions in Jamaica. The establishment of private institutions requires a formal application to the Ministry of Education after which the prospective institution is evaluated and a decision made. The Ministry of Education continues to maintain oversight of approved private institutions. There are over 48 institutions providing education and training for HRH in Jamaica. Of this number 10 are public institutions. Practical nursing schools, which are all privately operated, comprise the majority of the remainder. There is also 1 private university and 1 private nursing school. Table 3.7 shows the schools where training is offered for the various health professions and indicates whether the institution is public or private and the degree levels offered.

Table 3.12: Institutions and degree levels offered for education and training of HRH in Jamaica

Health professionals	School where training offered	Region located	Degree levels offered				
			C/D	A	B	M	D
Medical docors and specialists	UWI*	SERHA	N	N	Y	Y	Y
Registered nurses	BTCC*	NERHA	N	N	Y	N	N
	EXED*	SERHA	N	N	Y	N	N
	KNOX*	SRHA	N	N	Y	N	N
	KSN/CSN*a	SERHA/WRHA	Y	N	N	N	N
	NCU*	SRHA	N	N	Y	N	N
	SIGMA**	NERHA	Y	N	Y	N	N
	UTECH*	SERHA	N	N	Y	N	N
	UWI	SERHA	N	N	Y	Y	N
Midwives	KSN/CSNa	SERHA/WRHA	Y	N	N	N	N
	STSM*	SERHA	Y	N	N	N	N
	VJSM*	SERHA	Y	N	N	N	N
Assistant nurses	EXED	SERHA	Y	N	N	N	N
	KNOX	SRHA	Y	N	N	N	N
	PCC*	SERHA	Y	N	N	N	N
Practical nurses	1 school(s)**	NERHA	Y	N	N	N	N
	22 school(s)**	SERHA	Y	N	N	N	N
	10 school(s)**	SRHA	Y	N	N	N	N
	5 school(s)**	WRHA	Y	N	N	N	N
Dentists	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dental nurses	DAS*	SERHA	Y	N	N	N	N
Dental hygienists	DAS	SERHA	Y	N	N	N	N
	NCU	SRHA	Y	Y	N	N	N
Dental technician			Y	N	N	N	N
Dental assistants			Y	N	N	N	N
Pharmacists	UTECH	SERHA	N	N	Y	Y	N
Pharmacy technician	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pharmacy assistant	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Radiation technologists	UTECH	SERHA	N	N	Y	N	N
	UWI	SERHA	N	N	Y	N	N
Medical technologists	NCU	SRHA	N	N	Y	N	N
	UTECH	SERHA	N	N	Y	N	N
Nutritionists	UTECH	SERHA	N	N	Y	N	N
Dietitians	UWI	SERHA	N	N	N	Y	Y
Nutrition assistant	NCU	SRHA	N	Y	Y	N	N
Dietetic assistant	UTECH	SERHA	N	N	Y	N	N

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...continuation of Table 3.12.

Health professionals	School where training offered	Region located	Degree levels offered				
			C/D	A	B	M	D
Physical rehabilitation therapists	UWI	SERHA	N	N	Y	N	N
Occupation rehabilitation therapists	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Speech rehabilitation therapists	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Social workers	NCU	SRHA	N	Y	Y	N	N
	UWI	SERHA	Y	N	Y	Y	N
Public health officers	NCU	SRHA	N	N	N	Y	N
	UTECH	SERHA	Y	N	Y	N	N
	UWI	SERHA	N	N	N	Y	Y
Health promotion officers	UWI	SERHA	N	N	N	Y	N
Peer educators	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Environmental health workers	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mental health professionals	NCU	SRHA	N	N	Y	N	N
Psychologists	UWI	SERHA	Y	N	Y	Y	Y
Counselors	NCU	SRHA	N	N	Y	Y	N
Community health aides	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Contact investigators	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ward assistants	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes:

C/D-Certificate or Diploma; A-Associate degree; B-Bachelor's degree; M-Master's degree; D-Doctoral degree

* Public institutions

** Private institutions a One institution operating in different geographic locales

n/a No training available.

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 programmes are accessed as scholarships and are facilitated through the Ministry of Finance.

Registration and Accreditation

There are three established bodies responsible for accrediting education and training programmes in Jamaica. They are The University Council of Jamaica (UCJ), The Caribbean Accreditation Authority for Education in Medicine and Other Health Professions (CAAM) and The National Council on Technical and Vocational Education and Training (NCTVET). UCJ has the additional responsibility of registering tertiary level institutions. UCJ in its capacity as the national quality assurance body for tertiary education registers tertiary level institutions and accredits academic programmes within these institutions. As at January 2008, 8 of 12 (67%) institutions offering tertiary level health care programmes were registered with the UCJ. Of the 128 tertiary level health

care programmes, 16 (12.5%) were accredited by the UCJ and these programmes were offered across 2 institutions. CAAM is a legally constituted body entrusted with the responsibility of accrediting medical and other health professional programmes within the Caribbean region. Presently, only medical schools are being accredited but CAAM is building the institutional capacity to enable it to accredit other programmes in short order. The lone medical programme offered in Jamaica is accredited by CAAM. NCTVET is the authorized body empowered to accredit technical and vocational organizations and award certification to individuals who have completed all units or mastered specific units of competency to qualify for the National Vocational Qualification of Jamaica (NVQ-J). All nursing schools training registered and assistant nurses are regulated by the NCJ while practical nursing schools come under the purview of NCTVET and 3 of 38 practical nursing schools are presently accredited.

Table 3.8 summarizes the current education and training system in Jamaica indicating the number of institutions offering training across the degree levels and whether they are public or private. There are 32 programmes in medicine and its subspecialties, all offered at the University of the West Indies. Nursing training is offered in 20 programmes at eight institutions while practical nursing sees the widest range of institutions (38) offering training, all of which are in the private sector. There are no programmes for training HRH in a few important professions including dentistry and in speech and occupational rehabilitation and therapy.

Table 3.13: Current education system for training of Human resources in Health in Jamaica

Health professions	Degree level	Number of programmes	Number of institutions offering programmes	
			Public	Private
Medicine	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	1	1	0
	Master's degree	3	1	0
	Doctorate	28	1	0
	All	32	1	0
Nursing and midwifery	Certificate/Diploma	8	4	1
	Associate degree	0	0	0
	Bachelor's degree	10	6	1
	Master's degree	5	1	0
	Doctorate	0	0	0
	All	20	7	1
Nursing assistance	Certificate/Diploma	2	2	0
	Associate degree	0	0	0
	Bachelor's degree	0	0	0
	Master's degree	0	0	0
	Doctorate	0	0	0
	All	2	2	0

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...continuation of Table 3.13.

Health professions	Degree level	Number of programmes	Number of institutions offering programmes	
			Public	Private
Practical nursing	Certificate/Diploma	38	2	36
	Associate degree	0	0	0
	Bachelor's degree	0	0	0
	Master's degree	0	0	0
	Doctorate	0	0	0
	All	38	2	36
Dentistry	Certificate/Diploma	4	1	0
	Associate degree	1	0	1
	Bachelor's degree	0	0	0
	Master's degree	0	0	0
	Doctorate	0	0	0
	All	5	1	1
Pharmacy	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	3	1	0
	Master's degree	1	1	0
	Doctorate	0	0	0
	All	4	1	0
Technology (Medical)	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	4	1	1
	Master's degree	0	0	0
	Doctorate	0	0	0
	All	4	1	1
Technology (Radiation)	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	2	2	0
	Master's degree	0	0	0
	Doctorate	0	0	0
	All	2	2	0
Nutrition and dietetics	Certificate/Diploma	0	0	0
	Associate degree	1	0	1
	Bachelor's degree	3	2	1
	Master's degree	2	1	0
	Doctorate	1	1	0
	All	7	2	1

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...continuation of Table 3.13.

Health professions	Degree level	Number of programmes	Number of institutions offering programmes	
			Public	Private
Rehabilitation	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	1	1	0
	Master's degree	0	0	0
	Doctorate	0	0	0
	All	1	0	0
Public health inspection	Certificate/Diploma	1	1	0
	Associate degree	0	0	0
	Bachelor's degree	1	1	0
	Master's degree	4	1	1
	Doctorate	0	0	0
	All	6	3	1
Health promotion/ education	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	0	0	0
	Master's degree	1	1	0
	Doctorate	0	0	0
	All	1	1	0
Psychology	Certificate/Diploma	1	1	0
	Associate degree	0	0	0
	Bachelor's degree	2	1	1
	Master's degree	2	1	1
	Doctorate	1	1	0
	All	6	1	1
Social work	Certificate/Diploma	1	1	0
	Associate degree	1	0	1
	Bachelor's degree	2	1	1
	Master's degree	1	1	0
	Doctorate	0	0	0
	All	5	1	1
Counseling	Certificate/Diploma	0	0	0
	Associate degree	0	0	0
	Bachelor's degree	2	0	1
	Master's degree	1	1	0
	Doctorate	0	0	0
	All	3	1	1

The University of the West Indies (UWI) and the University of Technology, Jamaica (UTECH) together train a large number of HRH in Jamaica. Kingston School of Nursing (KSN) is the premier government-operated institution for training in the nursing profession. Nursing and Midwifery programmes are offered at this institution which has four campuses across the island. Because of new training requirements from the MoH stating that nursing programmes should be at the baccalaureate level, the nursing programme at KSN is being transferred to UTECH. Since 2006 no new students were admitted to KSN. The data which follow indicate the number of persons who applied, were accepted and who graduated for the academic years 2003/2004 to 2007/2008 in the case UTECH and 2006/2007 to 2007/2008 in the case of UWI. The throughput for KSN for the years 2006 to 2008 are also presented.

Table 3.14 shows training programmes, applicants and throughput at the University of Technology. Most programmes at the baccalaureate level have an additional component designed to accommodate persons who have been practicing in the profession and/or possess lower level academic qualifications. These programmes termed “post-basic” or “post diploma” have shorter durations than programmes for persons who have never worked in the field or do not possess and academic qualification in that area. Some programmes such as the bachelor in radiation technology, the post-basic diploma and post-diploma bachelor in public health inspection appear undersubscribed. The programmes for pharmacy and medical technology receive most applications each year. There has been a sharp increase in applicants to the 4-year pharmacist training programme with a greater than 200% increase in 2005/06 compared to 2004/05 but the absence of any increase in capacity has left the numbers accepted to the programme unchanged. An average of 33 students per year have graduated from this programme over the period 2003 to 2006.The 4-year medical technologist training programme has produced an average of 20 graduates per year for the same period.

Table 3.14: Training programmes, applicants and throughput, UTECH, Jamaica 2003-2007

Profession	Degree level	Programme duration	Number of applicants received					Number of applications accepted					Number of graduates				
			03/04	04/05	05/06	06/07	07/08	03/04	04/05	05/06	06/07	07/08	03/04	04/05	05/06	06/07	07/08
General nursing	Bachelor	4 years	n/a	n/a	n/a	n/a	118	n/a	n/a	n/a	n/a	76	n/a	n/a	n/a	n/a	n/a
Public health nursing	Bachelor (p-b)	2 years	37	32	20	35	26	18	24	20	26	25	20	11	11	16	no data
Anaesthesiology nursing	Bachelor (p-d)	3 Summers	0	0	0	22	0	0	0	0	20	0	3	0	12	3	no data
Pharmacy	Bachelor	4 years	50	62	227	217	315	41	33	65	60	67	32	25	35	40	no data
	Bachelor (p-d)	3 Summers	0	0	0	17	0	0	0	0	16	0	0	0	10	2	no data
	Bachelor (p-d)	1 year	66	60	24	34	24	25	30	24	32	14	27	30	20	30	no data
	Master	2 years	n/a	n/a	n/a	0	0	n/a	n/a	n/a	0	0	n/a	n/a	n/a	n/a	n/a
Medical tehnology	Bachelor	4 years	193	110	157	154	206	28	24	37	40	36	21	24	11	23	no data
	Bachelor (p-d)	1 year	31	27	22	9	11	23	16	19	7	8	17	11	11	7	no data
Nutrition and dietetics	Bachelor	4years	47	42	48	55	81	14	13	33	28	39	0	6	15	10	no data
	Bachelor (p-d)	3 Summers	0	0	0	5	0	0	0	0	3	0	2	0	7	0	no data
Public health inspection	Bachelor	4 years	39	65	63	97	95	21	19	24	38	38	11	8	7	11	no data
	Bachelor (p-d)	3 Summers	0	0	0	22	0	0	0	0	20	0	3	0	12	3	no data
	Diploma (p-b)	18 weeks	0	0	0	16	0	0	0	0	0	0	17	0	13	0	no data
Radiation technology	Bachelor (p-d)	3 Summers	0	0	0	0	0	0	0	0	0	0	2	0	0	0	no data

Notes:

p-d, post diploma.

p-b post basic.

Training programmes offered by UWI are shown in Table 3.15. For some programmes such as the Doctor of Medicine and Bachelor in Nursing programmes the increase in number of applications received and subsequent marginal increase in number accepted over the two year period suggests that the increase in the number of applicants is occurring at a faster rate than the capacity to accept potential students. Before this can be conclusive, though, further exploration is needed to identify the reasons for refusal. For most programmes the majority of students who were offered a place (accepted) took up the offer and registered as students. Several programmes saw 100% uptake while the lowest was 13.8% in the post-basic nursing programme for the academic year 2007/2007.

Table 3.15: Number of applications received and accepted and number of students registered, UWI 2003-2007

Profession	Degree level	Programme duration	Number of applications received		Number of applications received		Number of students registered	
			06/07	07/08	06/07	07/08	06/07	07/08
Medicine	Bachelor	5 years	809	1,091	189	233	164	197
	Master (3)*	2 years	18	7	12	6	5	3
	DM (25)*	4-6 years	104	129	52	47	51	40
Nursing	Bachelor	3 years (Include summer)	593	702	276	286	215	254
	Bachelor (p-b)	4 semesters	123	332	109	246	15	231
	Master	2 years	58	74	28	46	22	40
Radiation technology	Bachelor	3 years	45	205	31	27	27	25
Nutrition	Master	18 months	23	32	9	20	9	11
	Doctorate	3-5 years	4	3	2	2	1	1
Physical rehabilitation	Bachelor	3 years	83	177	20	51	13	42
Public health inspection	Master	1 year	42	61	24	31	21	22
	Doctorate	2 years	7	6	1	4	1	3
Health promotion/education	Master	1 year	18	18	9	13	9	10

Notes:

()*, number of different programmes.

p-b, post-basic.

Table 3.16 shows the proportion of persons who applied, were accepted and registered for training programmes in various health professions at UWI 2006/2007 and 2007/2008 who were resident in Jamaica. The majority of students applying to all programmes were resident in Jamaica. Programmes in the medical profession saw only a 10% higher application rate for Jamaican residents while programmes in nutrition and radiation technology were nearly 100% subscribed by Jamaicans. It is noteworthy that while 60% of applications to programmes in medicine came from Jamaican residents in 07/08 only 47% of the accepted applicants were Jamaican residents. For that same year, however, the majority of students registering into medical programmes were resident in Jamaica.

Table 3.16: Proportion of total applicants, accepted applicants and registered students who were Jamaican residents, 2006-2008 UWI

Profession	Proportion of persons resident in Jamaica (%)					
	Applicants		Accepted applicants		Registered students	
	06/07	07/08	06/07	07/08	06/07	07/08
Medicine	60	60	56	47	58	53
Nursing	87	79	80	72	92	70
Radiation technology	96	94	97	93	96	92
Physical rehabilitation	75	79	75	73	69	79
Public health inspection	82	75	84	66	82	72
Health promotion/education	78	83	89	85	89	90

Table 3.17 shows the throughput of the nursing and midwifery programmes for three of the four KSN campuses combined. An average of 43 nursing students graduate year for the years 2006 to 2008, insufficient to replenish the annual losses of the nursing workforce described in Table 3.2, even without considering out-migration.

Table 3.17: Number of registered students and graduates for different nursing programmes at KSN, 2005 to 2008

Profession	Degree level	Programme duration	Number of students registered				Number of graduates			
			05/06	06/07	07/08	08/09	05/06	06/07	07/08	08/09
Nursing	Certificate	3 years	66	68	n/a	n/a	54	43	43	33
Midwifery	Certificate	2 years	37	0	39	0	20	no data	34	-
Midwifery (p-b)	Certificate	1 year	19	29	39	45	18	44	45	38

Notes:

(p-b): post basic; n/a not applicable

At present we do not have any data on training of HRH which takes place outside of Jamaica.

Conclusion and Recommendations

The majority of HRH professions have training programmes available in Jamaica with the notable exception of dentistry and the rehabilitation specialties of occupational and speech therapy. These latter two specialties may represent the shift in skill mix which is being required by the epidemiological transition. With the increasing aging of the population and the increased incidence of the chronic non-communicable diseases with their manifestations in the forms of stroke and heart failure, both these rehabilitation specialties may be more relevant. **It may be worth an assessment of the relative training opportunities for these professions compared to say public health inspectors. The inadequacies of dentists especially in the public sector makes it mandatory that provisions be made for the training of Jamaican dentists in Jamaica or in the Region.** In several training programmes the number of ap-

plicants has increased substantially while those accepted have remained unchanged or have only increased marginally. While we do not have data on the matriculation of the applicants, it is likely that some qualified applicants are being denied the opportunity to pursue training.

With the absence of good data on the societal needs it will be difficult to conclude whether these institutional capacities should be increased, and if not, alternate opportunities should be provided for qualified applicants. The Ministry of Health and the International HRH Consortium (PAHO. WHO, Dalhousie University, and Universidade Federal de Minas Gerais, and the governments of Brazil, Canada, and Jamaica) have begun a process to address this problem (JIS, 2009) linking health needs with HRH forecasts.

It will be useful in further analyses to compare throughput of training programmes in Jamaica as well as those outside of Jamaica which train Jamaicans through bilateral agreements, with the number of new persons entering these professions. Even more helpful would be the ability to distinguish these from other persons such as immigrants who are newly entering the field in Jamaica.

It was found that for some programmes in public institutions a system for compulsory reporting to the ministries of education and/or health does not exist. The training for HRH for Jamaica facilitated by bilateral arrangements is managed through the Ministry of Finance. We believe these two situations are not optimal for the effective management of the training needs for HRH. We feel that the presence of central body responsible for collecting and analyzing all data relating to HRH, including data on training, is essential for proper evaluation and planning for training needs of HRH.

The interface between health delivery needs and plans for training will require more data and its interpretation in relation to population dynamics. This study is an important step in this direction and is important that the outstanding data be collected to complement the process.

4. General Conclusions and Recommendations

The need for a comprehensive database on human resources in health in Jamaica and the Region has been recognized if evidence-based plans and policies are to be developed in order to meet the changing health needs of our society. There is an absence of the culture of needs-based planning in human resources (Tomblin-Murphy, 2002) in the Region and this is evidenced by the absence of or inadequate records that are maintained in respect of human resources in health in Jamaica. This matter is being addressed by this study as well as another project aimed at assessing the HRH needs in the SERHA which is currently underway (JIS, 2009).

4.1. Main Findings

Stocks and flows dataset

The data derived so far suggest inadequacies in several crucial areas of health delivery, with low HRH densities island-wide but more marked in some areas like the Southern Regional Health Authority (SRHA) in particular in respect of dentists, nurses, and rehabilitation professionals. Even though the annual re-registration is compulsory for individuals within nearly all professions, with the exception of pharmacies there is not a requirement for places of practice to be registered. This makes it very difficult to obtain a true reflection of the private sector complement, in terms of health facilities. To do this a research team has used the “multiple sources” approach as in other several country studies (Cameron, 2006). We must accept that while this is not an impossible feat, it is a laborious task which may take a long time to complete with high degree of accuracy. We observed that certain health care services such as those provided by imaging centres, medical laboratories and pharmacies are available through many more private facilities than public facilities. Additionally discussions with key informants in the public sector have indicated that very often the facilities lack adequate and reliable materials and equipment. We recommend that the government examines the possibility of public-private partnerships, specifically for the purposes of improving access to health care products and strengthening health services. These arrangements are only to be entered into following extensive evaluation of needs in the public sector and capacity of the private sector to provide. It will be necessary to consider both the “for-profit” nature of most private sector organizations as well as the responsibility of

the government to provide affordable health care. Many ethical issues will also arise and these need to be examined. Reviews of other countries' experiences will also be helpful.

Regulatory framework and management practices dataset

The majority of health professions are overseen by legally constituted bodies. The primary role of these bodies is to ensure that all persons, regardless of place of study and country of origin, are suitably qualified before they are allowed to practice in Jamaica. These bodies are also instrumental in establishing ethical codes of conduct to guide the profession and enforcing these set standards. The education and training of students in local institutions also come under the purview of these organizations. It was observed that the health professions which did not fall under any regulatory body were those 'newly-emerging', non-traditional ones such as health promotion officers and those which at present do not require formal training such as community health aides and contact investigators. Of note is the fact that while these regulatory bodies have clearly defined roles for oversight they have not taken advantage of information and communication technology (ICT) and as such certain administrative systems and functions are not as effective and efficient as they could have been. This has implications for the ability of councils to accurately identify their registrants for their own internal purposes and also for reporting. We have also observed instances where data which would be useful for HRH planning are not routinely collected from registrants. We therefore recommend that the role of councils be reviewed and expanded to include a component which requires them to play a more active role in HRH planning particularly through the collection of crucial HRH planning data from their registrants. We have not presented data on management practices in this report but discussions with key informants have revealed that there is dire need for a review and change in many aspects of HRH management. For example, in many cases decades have passed since the last review of established number of posts in certain facilities. As the demand for health care has increased in many areas there now exist many grossly understaffed health facilities. Also resulting from this is HRH working under less than optimal contractual arrangements. These together have a negative impact on health care delivery and ultimately on health outcomes.

Education system dataset

Training opportunities exist in Jamaica for a wide range of HRH professionals. Jamaica also has bilateral and multilateral agreements which facilitate the training of certain HRH outside of Jamaica. For most professions training is up to the baccalaureate level and there also exists masters and doctoral level training for key clinical HRH such as nurses and doctors. Medical, Nursing and Pharmacy programmes are consistently highly subscribed. Training of physical rehabilitation therapists is on the increase. The majority of students trained in the largest university in Jamaica are Jamaican residents. This, though unsurprising, is still worthy of mention since this university also trains a large number of Caribbean nationals as well as nationals form

other countries. It is expected then that the output of these training programmes will largely be contributing to the Jamaican pool of HRH. Notwithstanding, anecdotal evidence suggests that in many cases the pool of trained professionals are not benefiting from the high outputs of many training programmes. This demands investigations to determine the whereabouts of these trained professionals and points to the need to devise creative improvements in working environments and compensation packages in order to attract and retain HRH.

There appears to be inadequate systems for monitoring and ultimately planning for improved HRH performance. We are not convinced that there exists a synergy among all the major stakeholders (training institutions, regulatory councils, employers) for the HRH management and development. This project is the beginning of the creation of a foundation for a paradigm shift in our approach to HRH management in Jamaica and the Region. The difficulties encountered so far derive more from the prevailing culture rather than from a lack of interest or insight. It is important that this project be seen to succeed and it will require a more active role in the process, perhaps making mandatory that some of these data be made available to the database managers while at the same time, in collaboration with partners like PAHO, provide the resources to all stakeholders in order to establish this foundation.

We will continue to collect as much of the remaining information as is possible. This will require much closer follow-up with those agencies which hold the information. We will endeavour to develop a database which is flexible both to analysis and updating and will interrogate this database as much as possible in order to provide the insights necessary for a sustainable process to mange and inform HRH policy in the Region.

Our experience suggests that there is an absence of the culture that would facilitate the data collection. In addition to improved systems and structures to facilitate data collection on HRH, some stakeholders will require additional personnel to perform this task and we must also work to ensure that these stakeholders recognize the benefits of the exercise to their own organization.

Strategies to enhance data collection are outlined in Appendix 6.

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- Appendices.

Appendix 1
Regional Goals for Human Resources for Health 2007-2015

The regional goals for human resources for health 2007-2015 are organized according to the five critical challenges identified in the Health Agenda for the Americas and the Toronto Call to Action.

A. Define long-range policies and plans to better adapt the workforce so it will be prepared to meet expected changes in the health systems and to better develop the institutional capacity for defining these policies and revising them periodically:

- Goal 1: All countries of the Region will have achieved a human resources density ratio level of 25 per 10,000.
- Goal 2: The regional and subregional proportions of primary health care physicians will exceed 40% of the total medical workforce.
- Goal 3: All countries will have developed primary health care teams with a broad range of competencies that will systematically include community health workers to improve access, reach out to vulnerable groups, and mobilize community networks.
- Goal 4: The ratio of qualified nurses to physicians will reach at least 1:1 in all countries of the Region.
- 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 strategic directions and the negotiation with other sectors, levels of government, and stakeholders.

B. Place the right people in the right places by deploying the appropriate personnel into the right positions and into the most suitable areas of the countries, so as to achieve an equitable distribution of quantity and skill set of health workers in the different regions so that they match the specific health needs of those populations:

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

- Goal 7: At least 70% of the primary health care workers will have demonstrable public health and intercultural competencies.
- Goal 8: 70% 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.
- Goal 9: 30% of health workers in primary health care settings will have been recruited from their own communities.

C. Promote national and international initiatives for developing countries 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.
- Goal 11: All countries of the Region will have a policy regarding self-sufficiency to meet its needs in human resources for health.
- Goal 12: All subregions will have developed mechanisms for the recognition of foreign-trained professionals.

D. Generate labor relationships between the workers and the health organizations that promote healthy work environments and foster commitment to the institutional mission to guarantee quality health services for all the population:

- Goal 13: The proportion of precarious, unprotected employment for health service providers will have been reduced by half in all countries.
- Goal 14: 80% 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.
- Goal 15: At least 60% of health services and program managers will fulfill specific requirements for public health and management competencies, including ethics.
- Goal 16: 100% of the countries of the Region will have in place effective negotiation mechanisms and legislations to prevent, mitigate or resolve labor conflicts and ensure essential services if they happen.

E. Develop mechanisms of cooperation between training institutions (universities and schools) and the health services institutions so that it is possible to adapt the education of the health workers to a universal and equitable model of providing quality care to meet the health needs of the entire population:

- Goal 17: 80% of schools of clinical health sciences will have reoriented their education towards primary health care and community health needs and adopted interprofessional training strategies.

- Goal 18: 80% 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.
- Goal 19: Attrition rates in schools of nursing and medicine will not exceed 20%.
- Goal 20: 70% of schools of clinical health sciences and public health will be accredited by a recognized accreditation body.

APPENDIX 2
CORE DATA SET FOR DATA MANAGEMENT PROJECT

CORE DATA SET FOR DATA MANAGEMENT PROJECT

DEVELOPED THROUGH DISCUSSIONS OF FOUR RESEARCH TEAMS
(BARBADOS/EASTERN CARIBBEAN, BELIZE, JAMAICA, AND TRINIDAD & TOBAGO)

CHRIST CHURCH, BARBADOS
NOVEMBER 28-29, 2007

Stocks and Flows

1A. Number of Workers in Health Activities:

Numbers of Workers Reported in Each Professional Group (check and footnote differences with ISCO 88 —see below— if necessary) and are to be reported in the following categories:

1. Total Head Count
2. Total Head Count in Active Practice
3. Total Hours Worked
4. A definition of Full Time Equivalent for the profession in the country (if exists)

Numbers in the above three areas must be also shown for:

- Combined Totals
- Gender Specific Totals
- Age Specific Groupings (It is recommended to report age groupings recommended by decade: 20-29 years; 30-39 years; etc. This grouping will match most census reports)

1B. Distribution of Workers in Health Activities:

- Distribution according to Geographical Units (regional health authorities, parishes)
- Distribution by Population Size (i.e. numbers per 10.000 pop.)

- Distribution by Urban vs. Rural Areas (Group recognized that there is a common understanding of the terms “urban” and “rural” but that specific definitions vary – please footnote general description)
- Distribution working in Hospitals vs Non-Hospital Settings (Clinics, etc) (Footnote or specify those that work in both when possible)
- Distribution working in Public Practice vs. Private Practice vs. NGO’s (Footnote or specify those that work in both when possible, or quote studies showing evidence of double or multiple employment with estimates of relative weight of this condition)
- Distribution by Geographically Distinct Minority Populations (This should be gathered through secondary data sources)
- In this study, minority populations are defined by ethnicity, language and religious groups that are in smaller numbers than the majority population group). In addition, and socio economic status?
- In this study, minority populations that are included are only those living in distinct geographic areas.
- Distribution by Socio-Economic Level (Recommended through proxies, such as human development index)

1C. Professional and Subsets of Workers in Health Activities:

The following professionals and subsets should be included in the core data set. Standard definitions of the each professional category and subset to be included can be compared to the international guideline of the International Labour Organization (ILO) in the International Standard Classification of Occupations (ISCO 88) and point out those professions that differ from the ILO classification: http://www.ilo.org/public/english/bureau/stat/isco/isco88/major.htm.

Individual country teams may expand this set to suit specific interests of each country.

- Medical Doctors – General Practitioners and Specialists
- Nurses – Registered Nurses and Other Types of Nurses (Titles and Brief Qualifying Description)
- Dentists and Allied Professions in the “Family” of Dentistry
- Pharmacists and Allied Professions in the “Family” of Pharmacy
- Social Workers (Optional: to report total number of social workers, and then any significant subset)
- Rehabilitation Workers (Physical Therapists, Occupational Therapists, etc)

- Technologists (Laboratory, Radiation, etc.)
- Public Health Practitioners (e.g. Public Health Officers, Health Educators, Environmental Health Officers / Workers, etc.)
- Nutritionists
- Mental Health other than Psychiatrists (e.g. Psychologists)
- Traditional/Alternative Health Practitioners (e.g. traditional healer, acupuncturist, etc.)
- Other Relevant Groups

Additional Data Information to Include in Stocks and Flow:

a. Number of Health Workers as a Percentage of the Whole Workforce in the Country / Region.

b. Number of Positions in Health Services (Hospitals, Health centers).

c. Number of Positions that are Unfilled or Vacant (for 90 days or more), and the Percentage of Total Positions that this Number Represents (Vacancy Rate). If other definition or measure is used, please explain.

d. Projected Public Budgets (salaries and benefits) for Health and Projected Budget for HRH over the next five years.

e. Approved Loans or Donors' Projects involving Scaling-Up health Facilities that will Require Staffing in the next 5 years.

Regulatory Framework and Management Practices (Descriptive)

a. Main regulatory tools concerning University training programs, accreditation, approval, and financing.

b. Main regulatory tools concerning health employment: Public sector regulations, private sector, NGO's specifically: selection systems, performance management, career paths, incentives and evaluation

c. Main regulatory tools regarding licensing of professional practice (through professional boards, periodic register)

d. Regulatory and Licensing requirements for foreign workers

e. Main regulatory framework regarding unionization and collective actions

f. Contracting models (Is the permanent tenure in the public service the norm? Is the flexible, short term contract the norm?)

h. Selection process (Is there any selection process established? Or is the discretional appointment the norm?)

i. Salary and payment scales and relative values (Are there important differences between the medical and non-medical workers? The wage scale in the health sector is competitive with employment in other sectors?)

j. Performance measurement: Is there any formal process of evaluation?

k. CSME regulatory and accreditation requirements for free circulation and contracting of personnel

l. As per suggested in the workshop, if there are data on migration that can be quoted, please do it here.

Education System (Descriptive)

The assessment of the Education component of the HRH field calls for review not only of professional training, such as Medical or Nursing schools, but also of the multiple continuing education, in-service, and life-long training activities.

a. How many Schools and Programs to train Health Professionals are in the country?

b. How many are accredited?

c. Within the schools and programs, how many degree levels are offered / required?

d. How many universities are public / private / off-shore?

e. How many seats are in each School and in each Program (per year, and if possible, for each year over the last five years)

f. How many persons enter each school and program each year? (per year, and if possible, for each year over the last five years)

g. How many graduates in each School and Program (per year, and, if possible, for each year over the last five years and proportion of graduates from identified minority populations).

h. Number of years of training needed for each profession

i. Requirements for applying for entry to each profession

j. Number of candidates who apply to the programs, and how many are accepted, and what percentage of the applicants are actually accepted into the programs. For those that are denied, is the denial due to requirements, number of positions available, or shortages in professors, etc.?

k. Tuition cost of education for each profession

l. Average age when students graduate from each program

m. Gender ratios in each program

n. Professional programs that include ethnic/social sensitivity as part of the training

o. Are there shortages in faculty members?

p. Is the curriculum content of the various university or training institutions related to the health situation (such as matching the epidemiological profile needs and/or health priorities) of the country

q. Are there socio-cultural training components within the health curricula? If so, what type of training for what type of sensitization?

r. Description of curriculum renewal (process, frequency, etc.)

s. Are there processes and lines of communication between curriculum developers / academic leaders to coordinate curriculum design, academic priorities, and research focus with national strategic plans for health and/ or health human resources development?

t. Description of in-service training activities

u. Estimates of the Total Number of Hours and persons in in-service training.

v. Estimates of credits offered / and required in each profession for advancement. Which of those credits are also eligible as credits toward advanced degrees?

w. How many fellowships / bursaries are offered annually in each of the academic program areas?

x. Professions requiring continuing education/ license renewal

y. As per suggested by participants, please include any significant program/ funding for scholarships outside the country.

Appendix 3
Categories of Health Professionals in Jamaican Database

Categories of Health Professionals in Jamaican Database

1	Dental health workers: includes dentists, dental nurses, dental assistants, dental technicians and dental hygienists.
2	Doctors and specialists: includes medical doctors and specialists
3	Diet and nutrition workers: includes nutritionists, dietitians, nutrition assistants and dietetic assistants
4	Health administration professionals: includes chief executive officers, administrators, personnel managers and officers, health records clerks
5	Nursing aides and community health workers: includes all personnel acting under the supervision of nurses including assistant nurses and practical nurses* as well as those who work in the community such as community health aides and contact investigators**
6	Mental and social health workers: includes psychologists, social workers and psychiatric aides
7	Nurses, midwives and nurse specialists
8	Occupational/environmental health workers: includes pest control workers and sanitation workers
9	Pharmacy workers: includes pharmacists, pharmacy technicians and pharmacy assistants
10	Rehabilitation workers: includes physiotherapists, occupational therapists and speech therapists
11	Public health professionals: includes public health inspectors
12	Technical/scientific health professionals: includes medical technologists, radiation technologists and medical/scientific equipment operators
13	Health promotion/education workers: includes community peer educators, health education officers, health promotion officers
14	Traditional medicine practitioners and faith healers

Notes:

* Practical nurses mainly attend to the hygienic and feeding needs of patients.

** Community health aides work in assigned communities with primary focus on encouraging maternal and child health.

Contact investigators keep records of persons diagnosed with certain conditions, such as sexually transmitted and trace and refer for treatment persons who may have come in contact with infected persons.

APPENDIX 4
LIAISON OFFICERS WITHIN ORGANIZATIONS

Liaison Officers within Organizations

Organization	Liaison Officer
Stocks & Flow	
Regulatory Councils	
The Medical Council of Jamaica	Dr. Muriel Lowe, Registrar ; Inez Robinson-Gammon, Administrator
The Nursing Council of Jamaica	Karlene Wan, Registrar
The Pharmacy Council of Jamaica	Gloria Gibbs, Registrar
The Council for Professions Supplementary to Medicine	Jean Morgan, Registrar
The Dental Council of Jamaica	Dr. Mark Edwards, Chairman, 2008
Professional Associations	
Medical Association of Jamaica	Dr. Winston Davidson
The Nurses Association of Jamaica	Mrs. Bruff, General Secretary
Dental Association of Jamaica	Dr. Dennis Jones, President, 2008
Practical Nurses Association of Jamaica	Stephanie Powell, President ; Roslyn Stewart, Secretary, 2008
Pharmaceutical Society of Jamaica	Verna Edwards, President ; Ingrid Bachelor, Secretary
Jamaica Association of Professionals in Nutrition and Dietetics	Vanessa White, Immediate Past President
Jamaica Association of Public Dental Surgeons	Dr. Winston Grey, President
Jamaica Dental Nurses Association	Lorna Laing-Hill, President
Jamaica Enrolled Nurses Association	Josephine Hutchinson-Bedward, President
Ministries of Government	
Ministry of Health	Gail Hudson, HRM ; Claudette Walker, Dir HRM&D
Ministry of Health, Standards & Regulation Division	Molly McGann, Registrar, Health Facilities and Institutions
Ministry of Health, Principal Dental Surgeon	Dr. Irvine McKenzie
Ministry of Health, Physical Therapy Services	Nicholas Ford, Coordinator, Physical Therapy Services
Regional Health Authorities	
North East Regional Health Authority	Leo Garel, Acting Director , Human Resource
South East Regional Health Authority	Joan Guy-Walker, Director , Human Resource
Southern Regional Health Authority	Sonia Smith, Director , Human Resource

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continuation of Table...

Organization	Liaison Officer
Western Regional Health Authority	Benjamin Waysome, Director, Human Resource
Private Health Facilities	
Medical Associates Hospital	Dorrett Houchen, Human Resource Manager
Andrews Memorial Hospital	Patric Rutherford, Chief Executive Officer ; Karen Hamilton
Hargreaves Memorial Hospital	
St. Joseph's Hospital	Daniele Stewart, Secretary of Chief Executive Officer
Nuttall Memorial Hospital	Karen Jones, Secretary of Administrator
University of the West Indies Health Centre	
University Hospital of the West Indies	
Accreditation Authorities	
Jamaica National Agency for Accreditation	Sandra Carr-Moore, Accreditation Officer
Other	
Caribbean Food and Nutrition Institute	Dr. Fitzroy Henry, Director
Education & Training	
Ministry of Education	Mr. Philbert Dhyll, Chief Education Officer. Tertiary Unit
Schools	
University of the West Indies	
Admissions Section, Registry	Ann Marie Witter, Senior Assistant Registrar
Office of Graduate Studies & Research	Barbara Miller, Senior Assistant Registrar
Office of Student Financing	Joy Dickenson, Manager
School of Medical Radiation Technology	Joan Shaw
School of Nursing	Andrea Brown-Dennis
School of Physical Therapy	Carron Gordon, Director
Tropical Medicine Research Institute,	
Master of Science, Nutrition Programme	Dr. Christine Powell, Coordinator
University of Technology, Faculty of Health and Applied Sciences	Mrs. Patricia Bullock, Vice Dean
Northern Caribbean University, College of Natural and Applied Sciences	Dr. Paul Gyles, Dean
Dental Auxiliary Training School	Dr. Thaon Jones, Director
Accreditation Authorities	
Caribbean Accreditation Authority for Education in Medicine and other Health Professions	Lorna Parkins, Executive Director
University Council of Jamaica	Grace Gordon, Senior Accreditation Officer
National Council on Technical and Vocational Education and Training	
Regulatory Framework	
Regulatory Councils	As outlined above
Professional Associations	As outlined above
Ministry of Health	As outlined above
Ministry of Labour	As outlined above

APPENDIX 5
SAMPLE LETTERS OF INTRODUCTION

To Regulatory Councils

The Chairman
The Medical Council of Jamaica
2-4 King Street
Kingston

Re: Human Resources in Health (HRH) Database-Jamaica

Dear Sirs:

The Pan American Health Organization (PAHO), in collaboration with the Ministry of Health and the University of the West Indies (UWI) are engaged in an exercise to establish a sustainable database of the Human Resources in Health (HRH) for Jamaica and the Caribbean. The main components of the database will include:

a. *Stocks and Flows* - currently available HRH, their distribution and deployment, sources and movement, established cadre and vacancy levels.
b. *Education System* - schools involved in the training of HRH, their applications, acceptance and graduation levels.
c. *Regulatory Framework for HRH* - including competence for graduation and employment, licensing and professional practice; selection and employment processes; and performance evaluation.

The Ministry of Health has given full support to this venture as indicated in the attached letter. The project is being hosted and implemented by the Epidemiology Research Unit (ERU) in the Tropical Medicine Research Institute of the UWI. The investigators are:

- Professor Rainford Wilks, Director, ERU
- Dr. Jan Van den Broeck, Senior Lecturer, ERU
- Gail Hudson, Director, Human Resource Management & Corporate Services, Ministry of Health
- Ann Marie Witter, Senior Assistant Registrar, UWI
- Douladel Willie, Project Coordinator, ERU

As the regulatory council for medical doctors in Jamaica, we are asking you to provide information on the stocks and flows within the profession as well as on the regulatory framework and management practices for medical doctors in Jamaica. A complete

list of the information requested is attached. We also ask that you recommend to us an individual within your organization with whom we will be able to maintain dialogue for the purposes of this project. We would like the opportunity to meet with a representative to explore the available data and determine the course of action in the event that certain required data are unavailable. As this is an ongoing exercise, we want to discuss the logistics of a sustainable system including the frequency of future data collection. We anticipate that the data derived from this project will serve all stake holders in the health delivery market and provide an evidence base for training and deployment needs in the health care system. These data are expected to be incorporated into annual reports at the local level. Additionally, PAHO will use and publish this information for regional profiling and country comparisons. Publications will include summary data and personal identifying information will be kept strictly confidential. Your collaboration will be duly acknowledged.

We look forward to your kind cooperation and stand ready to provide any information or clarification that you may require. A member of our team will be in touch with you by telephone.

Yours truly,

_____

Rainford Wilks
Professor & Director, Epidemiology Research Unit

The information hereunder is being sought from the Medical Council of Jamaica and relates to stocks and flows and regulatory framework and management practices governing the practice of medicine in Jamaica.

Stocks and Flows

Number of Workers in Health Activities

- Total Head Count
- Total Head Count in Active Practice
- Total Hours Worked
- A definition of Full Time Equivalent for the profession

N.B. Numbers in the above areas are required for:

- Combined Totals
- Gender Specific Totals
- Age Specific Groupings
- Number of Health Workers as a Percentage of the Whole Workforce in the Country / Region.
- Number of Positions in Health Services (Hospitals, Health centers)

- Number of Positions that are Unfilled or Vacant (for 90 days or more), and the Percentage of Total Positions that this Number Represents (Vacancy Rate).

Distribution of Workers in Health Activities

- Distribution according to Geographical Units (regional health authorities, parishes)
- Distribution by Population Size (i.e. numbers per 10.000 pop.)
- Distribution by Urban vs. Rural Areas (with 'urban' and 'rural' as defined by the Statistical Institute of Jamaica)
- Distribution working in Hospitals vs Non-Hospital Settings (Clinics, etc) (Please specify those who work in both when possible)
- Distribution working in Public Practice vs. Private Practice vs. NGO's (Please specify those who work in more than one area when possible)
- Distribution by Geographically Distinct Minority Populations
- In this study, minority populations are defined by ethnicity, language and religious groups that are in smaller numbers than the majority population group).
- In this study, minority populations that are included are only those living in distinct geographic areas.
- Distribution by Socio-Economic Level (Recommended through proxies, such as human development index)

Regulatory Framework and Management Practices

- Main regulatory tools concerning University training programs, accreditation, approval, and financing.
- Main regulatory tools regarding licensing of professional practice (through professional boards, periodic register)
- Regulatory and Licensing requirements for foreign workers
- Performance measurement: Is there any formal process of evaluation?
- CSME regulatory and accreditation requirements for free circulation and contracting of personnel
- Are their data on migration that can be quoted?

To Professional Associations

The President
The Medical Association of Jamaica (MAJ)
19a Windsor Avenue
Kingston 5

Re: Human Resources in Health (HRH) Database-Jamaica

Dear Dr. Wright-Pascoe:

The Pan American Health Organization (PAHO), in collaboration with the Ministry of Health and the University of the West Indies (UWI) are engaged in an exercise to

establish a sustainable database of the Human Resources in Health (HRH) for Jamaica and the Caribbean. The main components of the database will include:

a. *Stocks and Flows* - currently available HRH, their distribution and deployment, sources and movement, established cadre and vacancy levels.
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c. *Regulatory Framework for HRH* - including competence for graduation and employment, licensing and professional practice; selection and employment processes; and performance evaluation.

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- Professor Rainford Wilks, Director, ERU
- Dr. Jan Van den Broeck, Senior Lecturer, ERU
- Gail Hudson, Director, Human Resource Management & Corporate Services, Ministry of Health
- Ann Marie Witter, Senior Assistant Registrar, UWI
- Douladel Willie, Project Coordinator, ERU

As the professional body representing medical doctors in Jamaica, we would appreciate your assistance in gathering the required data on medical practitioners in Jamaica. We are requesting that you:

- Recommend to us an individual within your organization with whom we will be able to maintain dialogue for the purposes of this project
- Provide for us a listing of all doctors' organizations affiliated with the MAJ along with their contact information.
- Give your estimate of the number of medical doctors serving Jamaica at the present time, their geographical and specialty distribution
- Indicate the proportion of these doctors are members of your association
- Indicate the number of doctors registered with the association and whether they serve in the public or private sector
- Provide information on the regulatory framework and management practices for practitioners.
- Explain the role of the MAJ in securing the welfare of doctors at their workplaces

Kindly see the attached document which contains some specific requests. We would like the opportunity to meet with a representative to explore the available data and determine the course of action in the event that certain required data are unavailable. As this is an ongoing exercise, we want to discuss the logistics of a sustainable system including the frequency of future data collection. We anticipate that the data derived from this project will serve all stake holders in the health delivery market and provide an evidence base for training and deployment needs in the health care system. These data are expected to be incorporated into annual reports at the local level. Additionally, PAHO will use and publish this information for regional profiling and coun-

try comparisons. Publications will include summary data and personal identifying information will be kept strictly confidential. Your collaboration will be duly acknowledged.

We look forward to your kind cooperation and stand ready to provide any information or clarification that you may require. A member of our team will be in touch with you by telephone.

Yours truly,

_____

Rainford Wilks
Professor & Director, Epidemiology Research Unit

The information hereunder is being sought from the Medical Association of Jamaica and relates to regulatory framework and management practices governing the practice of medicine in Jamaica.

a. Main regulatory tools concerning health employment: Regulations for public sector, private sector, NGO's; selection systems, performance management, career paths, incentives and evaluation
b. Main regulatory tools regarding licensing of professional practice (through professional boards, periodic register)
c. Regulatory and Licensing requirements for foreign workers
d. Main regulatory framework regarding unionization and collective actions
e. Contracting models (Is the permanent tenure in the public service the norm? Is the flexible, short term contract the norm?)
f. Selection process (Is there any selection process established? Or is the discretional appointment the norm?)
g. Salary and payment scales and relative values (Are there important differences between the medical and non-medical workers? The wage scale in the health sector is competitive with employment in other sectors?)
h. Performance measurement: Is there any formal process of evaluation?
i. CSME regulatory and accreditation requirements for free circulation and contracting of personnel
j. Are their data on migration that can be quoted?

Following initial response and review by project team we added the following:

Please indicate:

- Total membership by sex
- A list of members including:
- Name
- Registration Number
- Sex
- Date of Birth
- Nationality
- Training institution from which qualified

- Workplace Name
- Workplace Address
- Sector of primary employment (public or private-if public indicate whether part time employment occurs in private sector; if private indicate whether sessions are done in public sector)
- Additionally please give:
- The requirements for membership
- The fee for initial registration in 2008
- The periodicity of registration
- The fee for re-registration in 2008 (if different from above)

To Educational Institutions

The Dean
College of Natural and Applied Sciences
Northern Caribbean University
Mandeville

Dear Dr.:

Re: Human Resources in Health (HRH) Database-Jamaica

The Pan American Health Organization (PAHO), in collaboration with the Ministry of Health and the University of the West Indies (UWI) are engaged in an exercise to establish a sustainable database of the Human Resources in Health (HRH) for Jamaica and the Caribbean. The main components of the database will include:

a. *Stocks and Flows* - currently available HRH, their distribution and deployment, sources and movement, established cadre and vacancy levels.
b. *Education System* - schools involved in the training of HRH, their applications, acceptance and graduation levels.
c. *Regulatory Framework for HRH* - including competence for graduation and employment, licensing and professional practice; selection and employment processes; and performance evaluation.

The Ministry of Health has given full support to this venture as indicated in the attached letter. The project is being hosted and implemented by the Epidemiology Research Unit (ERU) in the Tropical Medicine Research Institute of the UWI. The investigators are:

- Professor Rainford Wilks, Director, ERU
- Dr. Jan Van den Broeck, Senior Lecturer, ERU
- Gail Hudson, Director, Human Resource Management & Corporate Services, Ministry of Health
- Ann Marie Witter, Senior Assistant Registrar, UWI
- Douladel Willie, Project Coordinator, ERU

As an institution involved in the educating and training of HRH we are requesting that you provide us with some information regarding the health-related programmes

that you offer. Kindly see the attached document which contains the specific requests. We would like the opportunity to meet with a representative to explore the available data and determine the course of action in the event that certain required data are unavailable. As this is an ongoing exercise, we want to discuss the logistics of a sustainable system including the frequency of future data collection. We anticipate that the data derived from this project will serve all stake holders in the health delivery market and provide an evidence base for training and deployment needs in the health care system. These data are expected to be incorporated into annual reports at the local level. Additionally, PAHO will use and publish this information for regional profiling and country comparisons. Publications will include summary data and personal identifying information will be kept strictly confidential. Your collaboration will be duly acknowledged.

We look forward to your kind cooperation and stand ready to provide any information or clarification that you may require. A member of our team will be in touch with you by telephone.

Yours truly,

_____

Rainford Wilks
Professor & Director, Epidemiology Research Unit

The information hereunder is being sought from the Northern Caribbean University and relates to the education and training programmes offered by the institution.

N.B. For the purposes of this study we are considering the training of the following health professionals:

- Medical Doctors - General Practitioners and Specialists
- Nurses - Registered, Midwifery, Enrolled Assistant, Practical)
- Dentists and Allied Professionals
- Pharmacists and Allied Professionals Social Workers
- Rehabilitation Workers (Physical, Occupational, Speech Therapists)
- Technologists (Laboratory, Radiation)
- Public Health Practitioners (e.g. Public Health Officers, Health Educators, Environmental Health Officers / Workers, etc.)
- Nutritionists/Dietitians
- Mental Health other than Psychiatrists (e.g. Psychologists)
- Traditional/Alternative Health Practitioners (e.g. traditional healer, acupuncturist, etc.)
- Community Health Aides

a. Please indicate any relationships with other institutions off-shore (where Jamaican students are trained)

b. Within the schools and programs, how many degree levels are offered / required?
c. How many seats are in each School and in each Program (per year, and if possible, for each year over the last five years)
d. How many persons enter each school and program each year? (per year, and if possible, for each year over the last five years)
e. How many graduates in each School and Program (per year, and, if possible, for each year over the last five years and proportion of graduates from identified minority populations).
f. Number of years of training needed for each profession
g. Requirements for applying for entry to each profession
h. Number of candidates who apply to the programs, and how many are accepted, and what percentage of the applicants are actually accepted into the programs. For those that are denied, is the denial due to requirements, number of positions available, or shortages in professors, etc.?
i. Tuition cost of education for each profession
j. Average age when students graduate from each program
k. Gender ratios in each program
l. Professional programs that include ethnic/social sensitivity as part of the training
m. Are there shortages in faculty members?
n. Is the curriculum content of the various university or training institutions related to the health situation (such as matching the epidemiological profile needs and/or health priorities) of the country
o. Are there socio-cultural training components within the health curricula? If so, what type of training for what type of sensitization?
p. Description of curriculum renewal (process, frequency, etc.)
q. Are there processes and lines of communication between curriculum developers / academic leaders to coordinate curriculum design, academic priorities, and research focus with national strategic plans for health and/ or health human resources development?
r. Description of in-service training activities
s. Estimates of the Total Number of Hours and persons in in-service training.
t. Estimates of credits offered / and required in each profession for advancement. Which of those credits are also eligible as credits toward advanced degrees?
u. How many fellowships / bursaries are offered annually in each of the academic program areas?
v. Professions requiring continuing education/ license renewal
w. Please include any significant program/funding for scholarships outside the country.

Below are the variables we have created in order to capture the information of interest indicated on the previous pages in respect of each programme.

Variables and their Description for Data on Programmes

Variable	Description
Degree	Specifies certification offered by program
School Type	Whether school is public or private
Program Specialty	Specifies health care specialty
Program Profession	Profession trained by program
Minimum Age	Minimum age required to enter program
Minimum Academic Requirements	Minimum qualifications required to enter program
Minimum Work Experience	Minimum experience required to enter program
Program Duration Full Time	Standard duration of program, full time
Program Duration Part Time	Standard duration of program, part time
Capacity*	Number of new places available in program
Applications*	Number of applicants to program
Refusal Reason*	Main reason why applicants were refused
Intake*	Number of persons admitted to program
Throughput*	Number of persons graduating
Financing*	Whether program is government sponsored or self-financed
Tuition Cost*	Tuition fee for country citizens
Cadre Full Time Educators	Cadre for full time educators in 2007/2008
Number Full Time Educators	Number of full time educators in 2007/2008
Cadre Part Time Educators	Cadre for part time educators in 2007/2008
Number Part Time Educators	Number of part time educators in 2007/2008
Ethnic Sensitivity	Method of including ethnic/social sensitivity as part of the training
Scholarships	Number of scholarships offered exclusively to students in particular program in 2007/2008
Bursaries	Number of bursaries offered exclusively to students in particular program in 2007/2008

*As far as possible, please give data for the academic years 2003/2004 to 2007/2008

Questions on Curriculum content and design:

a. How is the curriculum determined?
b. Is the curriculum content related to the health needs of the country?
c. Are there processes and lines of communication between curriculum developers/academic leaders to coordinate curriculum design, academic priorities, and research focus with national strategic plans for health and/or health human resources development?
d. Describe the renewal process, how often does this occur?

Below are the variables we have created in order to capture the information of interest indicated on the previous pages in respect of each applicant.

Variables and their description for data on applicants
for the academic years 2003/2004 to 2007/2008

Variable	Description
Name/Id	Name of (prospective) student or unique identifier for each student and prospective student given by the school
Degree Applied	Degree applied for by prospective student
Specialty Applied	Health care specialty applied for by prospective student
Sex	Sex of (prospective) student
Date of birth	Date of birth of (prospective) student
Year of Application	Academic year being applied for
Country of origin	Name of country of which (prospective) student is a national
High School Name	Name of high school that the applicant attended
GCE/CXC 'O' level passes	GCE/CXC 'O' level subjects passed
GCE/CXC 'A' level passes	GCE/CXC 'A' level subjects passed
Number Bachelor's Degrees	Number of bachelor's degrees obtained at application
Number Master's Degrees	Number of master's degrees obtained at application
Number PhD	Number of PhD degrees obtained at application
Offered Place	Whether applicant was accepted
Year Graduated	Year in which student graduated

We are asking kindly that Heads of departments provide the following information on each staff member in the department for the academic year 2007/2008:

- Name
- Sex
- Date of Birth
- Academic Qualification
- Indicate employment status (full time (permanent), full time (temporary), part-time)
- Indicate whether individual also works in a public or private health care facility, identify facility.

To Private Health Facilities

Administrator
Hargreaves Memorial Hospital
32 Hargreaves Avenue
Mandeville

Re: Human Resources in Health (HRH) Database-Jamaica

Dear Mrs. Walker:

The Pan American Health Organization (PAHO), in collaboration with the Ministry of Health and the University of the West Indies (UWI) are engaged in an exercise to

establish a sustainable database of the Human Resources in Health (HRH) for Jamaica and the Caribbean. The main components of the database will include:

a. *Stocks and Flows* - currently available HRH, their distribution and deployment, sources and movement, established cadre and vacancy levels.
b. *Education System* - schools involved in the training of HRH, their applications, acceptance and graduation levels.
c. *Regulatory Framework for HRH* - including competence for graduation and employment, licensing and professional practice; selection and employment processes; and performance evaluation.

The Ministry of Health has given full support to this venture as indicated in the attached letter. The project is being hosted and implemented by the Epidemiology Research Unit (ERU) in the Tropical Medicine Research Institute of the UWI. The investigators are:

- Professor Rainford Wilks, Director, ERU
- Dr. Jan Van den Broeck, Senior Lecturer, ERU
- Gail Hudson, Director, Human Resource Management & Corporate Services, Ministry of Health
- Ann Marie Witter, Senior Assistant Registrar, UWI
- Douladel Willie, Project Coordinator, ERU

As a facility employing health human resources and providing health care services to a proportion of the Jamaican population, we are asking that you provide information on the hospital's workforce and the services offered. A complete list of the information requested is attached. We also ask that you recommend to us an individual within your organization with whom we will be able to maintain dialogue for the purposes of this project. We would like the opportunity to meet with a representative to explore the available data and determine the course of action in the event that certain required data are unavailable. As this is an ongoing exercise, we want to discuss the logistics of a sustainable system including the frequency of future data collection. We anticipate that the data derived from this project will serve all stake holders in the health delivery market and provide an evidence base for training and deployment needs in the health care system. These data are expected to be incorporated into annual reports at the local level. Additionally, PAHO will use and publish this information for regional profiling and country comparisons. Publications will include summary data and personal identifying information will be kept strictly confidential. Your collaboration will be duly acknowledged.

We look forward to your kind cooperation and stand ready to provide any information or clarification that you may require. A member of our team will be in touch with you by telephone.

Yours truly,

_____

Rainford Wilks

Professor & Director, Epidemiology Research Unit

The information hereunder is being sought from the University Health Centre and relates to the health centre's workforce and the services offered.

Please provide an updated staff list with the following information provided for each staff member:

- Name
- Sex
- Date of Birth
- Job Title
- Employment status-Full Time (permanent)/ Full Time (temporary)/ Part Time*
- Full time hours for profession**
- Number of hours worked per week
- Annual salary or salary scale

For each occupation (position) please indicate:

- the cadre for 2008
- the actual number of filled posts to date
- whether professionals underwent in-service training in 2007

Please also give:

- the number of inpatients and the number of outpatients attended to for the year 2007
- a description of the performance evaluation system for workers (method, frequency)

Notes:

* Full Time (permanent)/ Full Time (temporary)/ Part Time -Indicate whether individual is hired as a permanent full time worker, a temporary full time worker or as a part time worker.

** Full time hours for profession-Number of hours worked per week by a full time worker in this profession.

Appendix 6
Plans for Capacity Building among Stakeholders

Plans for Capacity Building among Stakeholders
Building a Jamaica HRH Database to Serve
The Jamaica HRH Observatory
Rainford Wilks & Douladel Willie

Capacity building will vary from one place to another as the needs vary. Many institutions are in the process of developing an electronic database of some of the variables which will be useful to this process. We should understand that the data we require and the format in which we require it may not be a priority of the stakeholder who has that information. For most potential stakeholders there is also no obligation to provide these data. We are reminded of the difficulties encountered in places like Canada with upwards of 15 years experience and an established culture of doing these tasks. In order to further advance this process we will need to:

- Establish buy-in and interest from potential stakeholders
- The Ministry of Health needs to make a clear and consistent statement as to the usefulness of this process to policy making and project planning and encourage participation publicly and at special interest forums where stakeholders are gathered
- Provide stakeholders with a template of the core dataset required to service a worthwhile HRH database and elicit an assessment of their current capacity to respond
- Analyze the current data gathering capacity of all institutions (personnel and technical capacity) for commonalities in deficiencies and potential solutions
- Ask stakeholders to identify a suitably competent person who could be trained at a workshop
- Explore the possibility of running workshops with relevant staff from stakeholder institutions so as to make the upgrade process more efficient than working with individual institutions
- Workshops would focus on:
  - reinforcing the importance of the project
  - assess prior competence
  - training on the required core dataset
  - confidentiality issues
  - basic computing skills.

APPENDIX 7
HUMAN RESOURCES IN HEALTH (HRH) OBSERVATORY FOR JAMAICA

HUMAN RESOURCES IN HEALTH (HRH)
OBSERVATORY FOR JAMAICA
Epidemiology Research Unit
Tropical Medicine Research Institute
The University of the West Indies
Rainford Wilks & Douladel Willie

Background and significance

The current ethos of society dictates that planning for any endeavour must be guided by evidence and where this evidence is inadequate all activities must incorporate mechanisms for monitoring and evaluation in order to inform the next phase. Unfortunately many practices of longstanding have not adopted this new approach and continue operate on the basis of "expert opinion," tradition or conjecture.

The management of human resources in health is one area that has been trying to break out of the old mold and operate on the basis of evidence and the Region of the Americas has been leading the way in this effort. Among the activities that have characterized this new thrust in the Region is the development of PAHO HRH Observatories which have been established in twenty four nations of the Region.

The importance of HRH to health outcomes has been well documented (1) and Jamaica has one of the highest rate of HRH losses which has been documented as having the highest Emigration Factor for doctors to major western developed countries (2). Jamaica therefore has a vested interest in a better knowledge and understanding of the national HRH situation if it is to respond appropriately and plan efficiently.

Despite the Region observing the decade of human resources, prior to 2007 the English speaking Caribbean has not been a part of this effort but under the auspices of PAHO the last year has seen an effort to incorporate the Caribbean into this new thrust. Over the last year several countries in the Caribbean have been engaged in a situational analysis with the objective of developing a HRH database for the Region. The experiences from that effort have taught us several lessons including:

- The culture of evidence-based HRH management practices is absent or at best embryonic

- The data gathering and retrieval methods are archaic and have not taken advantage of the information and computer technology (ICT) advances
- The stakeholders lack the capacity and perhaps the efficiency to respond to the requests for data
- Requests for information was greeted by uncertainty and in some cases suspicion as to the and there is a legitimate concern about confidentiality

Statement of intent

We intend to develop a Jamaican Observatory on HRH patterned off the other Observatories in the Region but with its national and culturally appropriate characteristics to meet the unique needs of Jamaica while participating in, contributing to and benefiting from regional and global Observatories.

Objectives

- Provide continually updated situational analysis reports on all aspects of human resources in health
- Identify information gaps and propose solutions including research, improved organizational interface and identification of new sources of information
- Provide information for and actively participate in the development of policy, strategies, and plans for improved HRH management
- Help to build a culture which recognizes the importance of evidence in HRH planning and the need to maintain a valid database
- Facilitate local, regional and international networking and information sharing
- Establish efficient system of communication including dissemination of information to stakeholders
- Serve as an early warning mechanism for impending HRH challenges.

Concept

- Structure
  - The Jamaica HRH Observatory (JHRHO) will be housed at the Epidemiology Research Unit (ERU) of the University of the West Indies (UWI) on the Mona campus in Jamaica in agreement with the Ministry of Health and PAHO .
  - The ERU has been the headquarters of the Jamaica study on HRH since 2007. The ERU is a Unit within the Tropical Medicine Research Institute (TMRI), a centre of excellence in biomedical research in the Region. Rainford Wilks is professor of epidemiology and director of the ERU, and has had over twenty years experience in epidemiological teaching and research. He has been the principal investigator on the Jamaica HRH database project

- The JHRHO will be led by a Focal Point (Douladel Willie) who will be the champion of the process. Miss Willie, an epidemiologist, has been the main force in putting together the Jamaica database on HRH as a prelude to the establishment of this Observatory
- The Focal Point will be supported by the requisite technical and office services support staff

- Role
  - The JHRHO will be responsible for the achievement of the objectives outlined above
  - It will identify the stakeholders in a manner that will be dynamic and new stakeholders when identified will be brought into the network

- Responsibilities
  - The JHRHO will be responsible for:
    - Maintaining and updating the HRH database in Jamaica
    - Ensuring that stakeholders have the capacity to fulfill their role in the Observatory process by having in place trained personnel and efficient systems to collect, collate and dispatch data to the observatory
    - Analyzing the information received to provide cogent advice to the stakeholders and assist in the development of HRH policy
    - Using data and trends to proactively forecast needs and the need for changes in operations at the training, regulatory and the management stocks and flows levels
    - Popularizing the Observatory and assist in developing a modern HRH culture of monitoring and evaluation to guide policy and action
    - Deliver training modules to keep stakeholders up to date on database maintenance and provision for the Observatory

- Requirements
  - Personnel
    - Focal point
    - Database manager (part time)
    - Data entry clerk
    - Secretary (part time)
  - Infrastructure
    - Office space
    - Desktop PC x 2
    - Software: Microsoft Office including Microsoft Access; SPSS v.17
    - Printer, Photocopiers, Scanner

- Telephone and Telefax services
- Broadband internet access
- Access to relevant journals and other publications including PAHO and WHO

□ Financing

- Personnel salaries will be computed using appropriate UWI pay scales
- Office equipment will be procured by competitive bidding in accordance with UWI practices
- Stakeholders will require some support to upgrade their information systems and may require stipend or incentive for the staff members to be assigned the task

Stakeholders

Stake holders will include:

- Ministry of Health and Regional Health Authorities
- Ministry of Education
- All HRH Five (Medical, Dental, Nursing, Pharmacy and Professions Supplementary to medicine) Regulatory Councils in Jamaica
- All health professional associations
- All health care facilities in private and public sectors (hospitals, group and individual private practice of various professions [doctors, dentists, physiotherapists etc.], clinics, pharmacies, medical laboratories, imaging centres

Roles and responsibilities:

- Maintain electronic records of vital information to include data which is useful to HRH planning (demographics, training information, immigration status etc.)
- Provide this information to the Observatory
- Continually upgrade capacity (human, technical etc.) in order to efficiently deliver the service

Interface:

- Stakeholders are responsible for communicating with each other in order to learn from each others experience and maintain best practice; especially communication between human resource (HR) managers

Requirements:

- Trained personnel
- Relevant information and communication technology (ICT)

Work Plan

- Negotiate with the TMRI/UWI for office space
- Expose Focal Point to one or more of the Region's HRH Observatories to prepare for the task ahead
- Recruit staff as outlined above
- Procure office equipment as outlined above
- Meet with stakeholders – sensitize, engage, reassure and allay concerns about confidentiality, assure that data will be fed back to stakeholders for their use
- Establish network of contacts and partners
- Develop website
- Stage workshops for training, dissemination, updates and other purposes among stakeholders
- Disseminate baseline data and all subsequent data that is gathered in attractive accessible format

Outputs

- Valid HRH database with insightfully disaggregated data by relevant categories (urban/rural, health region, public/private sector)
- Informative HRH density ratios
- Links between major areas of HRH (training, regulation, deployment and work place practices and standards
- Evaluation of adherence to Regional Goals or other current criteria which guides best practice
- Positive, measurable impact on HRH management e.g. appropriate training and/or recruitment including from overseas, judicious deployment,
- Evidence-based adjustment in policies and strategies to better meet needs
- Improved skill-mix appropriate to health needs
- Improved health outcomes in particular at local levels within the country

Sustainability

In order for the JHRHO to be sustainable it must have the buy-in and support of crucial national and regional institutions which are themselves perpetual. These include Ministries of government including Health and Education; Regional organizations of long standing e. g. PAHO/WHO. We expect that initial funding will come from PAHO but that the work of the JHRHO will demonstrate its worth and in a few years will justify budgetary support by the Ministry of Health and possibly from the Ministry of Education.

Reference List

1. Anand S, Barnighausen T. Human resources and health outcomes: cross-country econometric study. Lancet 2004;364(9445):1603-9.

2. Mullan F. The metrics of the physician brain drain. N Engl J Med 2005;353(17):1810-8.

APPENDIX 8
PRESENTATION ON HEALTH HUMAN RESOURCES INFORMATION DATASETS IN THE AMERICAS

HEALTH HUMAN RESOURCES INFORMATION DATASETS IN THE AMERICAS

Jamaican Database of Human Resources in Health

Rainford Wilks, Douladel Willie,Jan Van den Broeck, Colette Cunningham-Myrie

Consultants: Gail Hudson, Ann Marie Witter, Allison Annette Foster and Félix Héctor Rígoli

Epidemiology Research Unit,
University of the West Indies 2008

Development of a Caribbean Sub-regional Network

- Process initiated by PAHO
- Caribbean network for data collection and management: pilot sites:
  - Belize
  - Jamaica
  - Barbados and ECC
  - Trinidad and Tobago
- Aims at sustainability, stakeholder participation

Epidemiology Research Unit,
University of the West Indies 2008

The University of the West Indies (UWI)

Among the powers conferred on the University in its Charter are:

"To make provision for ***research and advisory services*** and with these objects to enter into such arrangements with other institutions or with public bodies as may be thought desirable" (Section 3p).

Epidemiology Research Unit
Mission Statement "*to make a significant contribution to the improvement of health in the Caribbean and the world by developing collaborative programs of excellence in research…in the fields of Epidemiology, Biostatistics and Public Health*"

Epidemiology Research Unit,
University of the West Indies 2008

PAHO/WHO Data Management Project Jamaica
General Objectives

- To design a framework that will facilitate the ongoing collecting, collating and analysis of data on HRH in Jamaica
- To develop a work plan that will enable this data to be useful in health systems planning

Epidemiology Research Unit,
University of the West Indies 2008

PAHO/WHO Data Management Project Jamaica
Specific Objectives

1. To develop a database to document all members of the health workforce, including their training opportunities, skill-set, deployment and labor relations

   With detailed information on:

   - Stocks and Flows
   - Regulatory Framework
   - Education and Training System

Epidemiology Research Unit,
University of the West Indies 2008

PAHO/WHO Data Management Project Jamaica
Specific Objectives

2. To develop operational indicators that can be extracted from the database to identify inadequacies related to:
   - Personnel cadre
   - Distribution
   - Regulation
   - Training
3. To ensure sustainability of the info system
4. Dissemination to stakeholders

Epidemiology Research Unit,
University of the West Indies 2008

Main Areas Of Investigation

Stocks and flows

- best estimate of HR working in health as we have them now by profession, workplace, geographic deployment and individual demographics

Regulatory framework and Management practices

- best description/understanding of the regulatory framework under which HRH operate
  - recruitment practices
  - licensing requirements and renewal of same
  - management practices at work places
  - worker satisfaction
  - opportunity for upward mobility, etc.

Training

- the best estimate of capacity, recruitment and throughput for training of required HRH

Epidemiology Research Unit,
University of the West Indies 2008

Health Professionals Studied

- Medical doctors (various levels of specialization)
- Registered nurses
- Nurse auxiliaries (enrolled assistant nurses, practical nurses)
- Midwives
- Dentists
- Dental auxiliaries (dental nurses, dental hygienists, dental technicians)
- Pharmacists
- Pharmacy auxiliaries (pharmacy technicians, pharmacy assistants)

Health Professionals Studied *(cont.)*

- Technologists (laboratory, radiation)
- Nutritionists/dietitians and their assistants
- Rehabilitation therapists (physical, occupational, speech)
- Social workers
- Public health practitioners other than medical doctors (public health officers, health promotion officers, peer educators, environmental health officers/workers)
- Mental health professionals other than psychiatrists
- Community health aides
- Contact investigators

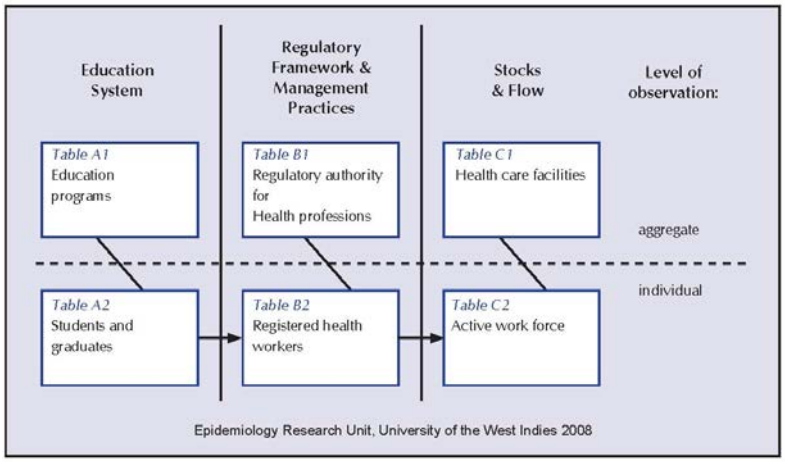
Method

- Project team assembled – October 2007
- Orientation meeting for all project teams in region – November 2007 (Barbados)
  - Core data set parameters agreed on
  - Data sources, analysis plans, output discussed
- Official start of project – January 2008
  - Preliminary structure of database designed
  - Continued identification of data sources
  - Began making contact with stakeholders

Epidemiology Research Unit,
University of the West Indies 2008

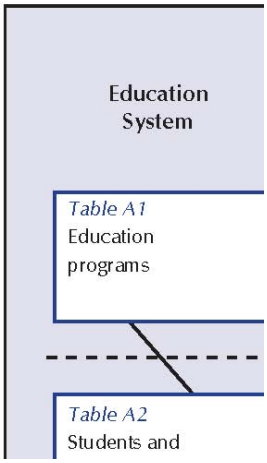
Database Structure

Six linked data tables



Epidemiology Research Unit,
University of the West Indies 2008

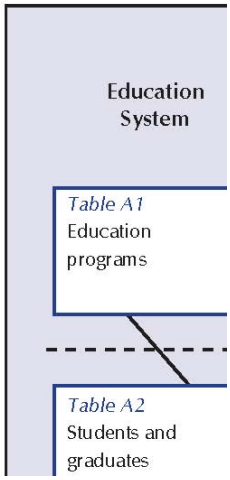
Sources of Information



- Educational institutions
- Program accreditation bodies
- Program coordinators
- Ministry of Education and
- Ministry of Finance

Epidemiology Research Unit,
University of the West Indies 2008

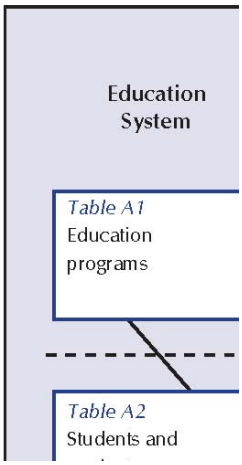
Sources of Information



- Ministry of Health
- Regulatory councils
- Professional associations

Epidemiology Research Unit,
University of the West Indies 2008

Sources of Information



- Ministry of Health
- Ministry of Labor
- Regional health authorities
- Medical representatives
- Suppliers of health care products
- Statistical Institute: Census data and labor force surveys
- Work place (Special surveys)

Epidemiology Research Unit,
University of the West Indies 2008

Strategy of Data Collection

- Letter of support from PS, MoH
- Networking by investigators with colleagues in the health professions
- Interviews with Key Informants
- Introductory letters and written information requests
- Follow-up phone calls
- Meetings with administrators/executives of professional associations
- Reinforcement contact by Ministry of Health

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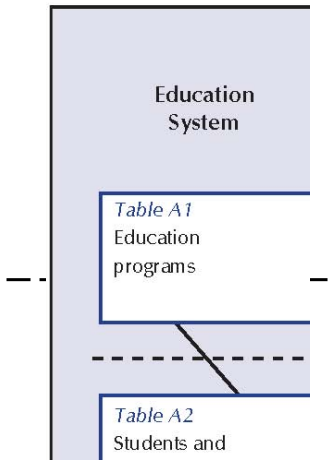
Database Variables



- Type
- School
- Accreditation
- Matriculation
- Duration
- Capacity
- Throughput

- ID, DOB, name, gender
- Nationality
- Entry qualifications
- Age at entry / at graduation

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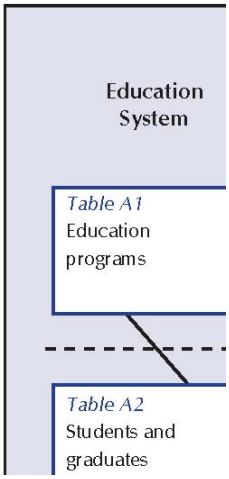
Database Variables



- Licensing requirements
- Professional council
- Professional associations / unions

- DOB, Name, gender
- Where trained
- Nationality

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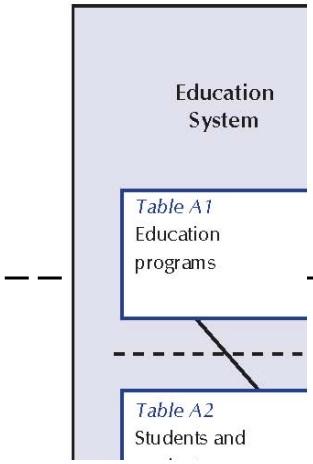
Database Variables



- Private / public
- Urban / rural
- Population served
- Contracting models
- Cadre, unfilled positions
- Name, age, sex
- Health profession
- FTE, income / salary scale
- In-service training

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RESULTS

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Process Issues

Data collection process

- Data availability
  - Not available
  - Not up to date
  - Stored in formats that do not allow for ready retrieval (e.g. paper-based)
- Organizational response
  - Worthwhile venture
  - Labour-intensive
  - Remuneration requests
  - Administrative delays

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Stocks & Flows

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Number and Density of Health Professionals in Public Sector by Category

Health Professional Category	Number of Workers			Mean Age			Density/ per 10,000 population[b]
	Male	Female	Total[a]	Male	Female	Combined	
Dental health workers	25	237	262	55	44.5	49.8	0.979
Doctors and specialists*	589	504	1103	38.8	35.8	37.3	4.12
Diet and nutrition workers	2	94	97	40.5	38.9	39.1	0.359
Health administration professionals**	119	476	603	33.5	36.1	35.5	2.27
Nursing aides and community health aides	79	2,227	2,309	47.7	44.3	44.4	8.63
Mental and social health workers	70	102	169	46.4	48.5	47.6	0.643
Nurses, midwives and nurse specialists	46	2,085	2140	51.1	40.4	40.6	7.99
Occupational/environmental health workers	97	9	106	44.2	34.9	43.3	0.396
Pharmacy workers*	33	138	172	41.9	40.9	41.5	0.643
Rehabilitation workers*	9	40	50	31.5	34.6	34.1	0.187
Public health professionals (excluding doctors)	179	118	301	51.3	36.9	45.5	1.12
Technical/scientific health professionals	77	221	301	37.9	36.7	38.8	1.12
Traditional medicine practitioners and faith healers	-	-	-	-	-	-	-
Health education and promotion workers	35	121	157	35.4	35.5	35.4	0.561

Notes:

a = Total may differ from actual summation of Male and Female subgroups as sex was unknown in some cases.

b = Mid-year population of Jamaica, 2007 (STATIN 2008).

* Counts in these groups include interns.

** This group includes Chief Executive Officers, Administrators, Personnel managers and officers, Health records personnel.

- no data presently available.

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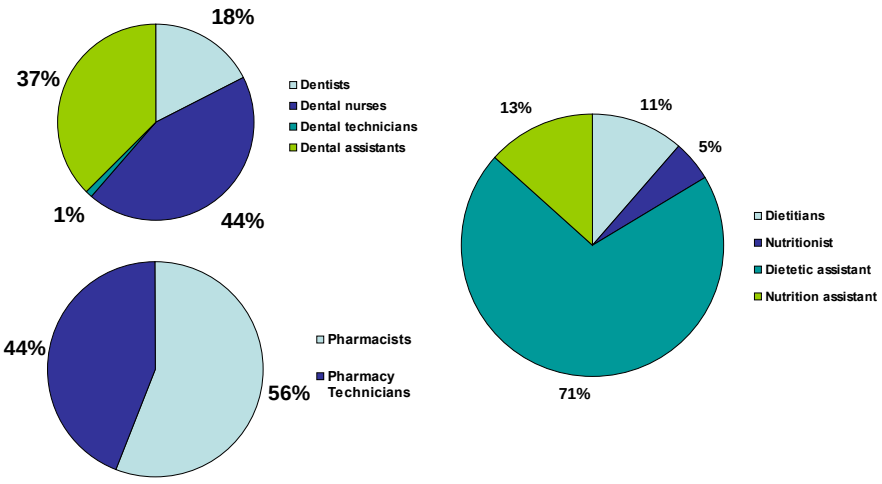
Composition of Selected Health Worker Categories



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National Estimate of Health Professionals by Category and Source of Information

Health professionals	Organization figures			
	Ministry of Health	Regulatory Council	Professional Association	Medical Representative
MDs and specialists*	1103	2801	1681	1140
RNs and midwives	2141	5000**	-	n/a
Nursing assistants	789		~400	n/a
Practical nurses	n/a	n/a	-	n/a
Dentists	46	749	-	n/a
Dental nurses	97	385	95	n/a
Dental hygienists	n/a	36	-	n/a
Dental technicians	3	108	-	n/a
Dental assistants	98	n/a	-	n/a
Pharmacists*	96	640	227	-
Pharmacy technicians	76	n/a		n/a
Pharmacy assistants	n/a	n/a		n/a
Radiation technologists	56	161		n/a
Medical technologists	75	-		n/a
Nutritionists	5	-	47	n/a
Dietitians	11	-	12	n/a
Nutrition assistants	13	-	3	n/a
Dietetic assistants	68	-	14	n/a

Notes:

* Intern included.

** This includes registered nurses, midwives, and enrolled assistant nurses.

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National Estimate of Health Professionals by Category and Source of Information *(cont.)*

Health professionals	Organization figures			
	Ministry of Health	Regulatory Council	Professional Association	Medical Representative
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Notes:

* Intern included.

** This includes registered nurses, midwives, and enrolled assistant nurses.

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National Estimates

National estimates were unavailable for:

- Practical nurses*
- Pharmacy technicians
- Pharmacy assistants
- Social workers
- Environmental health workers
- Health promotion officers
- Peer educators
- Psychologists
- Counselors
- Community health aides**
- Dental assistants
- Contact investigators**
- Ward assistants*

Notes:
* Similar levels in private & public sectors respectively.
** MoH estimates probably equal to national estimates.

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HRH Density

Public Sector Jamaica, 2007

Health Region	Number of doctors, nurses and midwives	Population of Region	HRH density per 10,000 population
NERHA	425	367,705	11.6
SERHA	1587	1,251,149	12.7
SRHA	571	584,947	9.8
WRHA	661	472,030	14.0
Total	3,244	2,675,831	12.1

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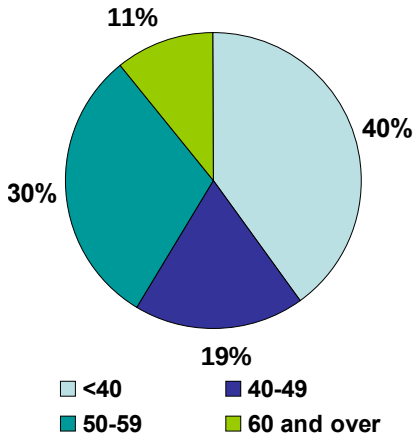
Age Distribution of PHI



- 60% over age 40
- >40% have 10-15% remaining in service
- 11% have 5 years or less remaining in service
- Annual entry rate adequate to replenish stock?

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Other Sources of HRH Data by Profession

Doctors

- Telephone Directory Yellow Pages - 483
- Pharmaceutical Representative - 1140

Dentists

- Telephone Directory Yellow Pages - 125

Pharmacists

- Council register of Private Pharmacies - 395

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Notable Shortages in the Public Sector - 1

There are no:

- Dental Nurses in Trelawny
- Pharmacists in St. Mary
- Radiation Technologists in Hanover and Trelawny
- Nutritionists in Portland, St. Mary, St. Catherine, St. Thomas, Clarendon, St. Elizabeth or in the WRHA

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Notable Shortages in the Public Sector - 2

There are no:

- Dietitians in Portland, St. Mary, St. Catherine, St. Thomas, Clarendon, St. Elizabeth, Westmoreland and Trelawny
- Nutrition Assistants in KSA and Hanover
- Dietetic Assistants in Hanover
- No Physical Therapists in Portland, St. Mary, St. Thomas, St. Elizabeth, Hanover and Trelawny

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Notable Shortages in the Public Sector - 3

There are no:

- Occupational Therapists ***except*** in KSA & St. James
- Speech Therapists ***anywhere*** in the Public Sector
- Social Workers in Portland, St. Thomas, Westmoreland, Hanover & Trelawny

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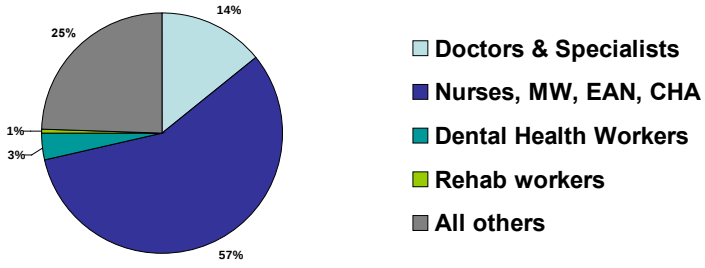
Summary



Nurses, midwives, assistant nurses and community health aides comprise 57% public sector health workforce; Doctors 14%; Dental health workers 3%; Rehab workers <1%

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Summary

- SRHA is the worst served especially in respect of dentists, nurses and rehab professionals
- Females dominate most health professions in public sector except medicine (M:F-1:1) and occupational/environmental workers (M:F-4:1)
- Services by imaging centers, medical labs and pharmacies more abundant in private than public health sector

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Regulatory Framework

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Results: Regulatory Framework

- Majority of health professionals have their practice regulated by a legal authority.
- Database maintained by regulatory authorities often exclude important demographic details (e.g. date of birth, sex)
- No register of sub-specialties in the main professions of:
  - medicine,
  - nursing and
  - dentistry

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Regulatory Framework

Professions without regulatory councils:

- Clinical psychologists
- Health educators and promoters
- Health administrators
- Social workers
- Environmental health officers
- Lower levels of nursing staff – practical nurses
- Dental assistants
- Pharmacy technicians & assistants
- Ancillary staff - community health aides, ward assistants

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Regulatory Framework

- No data on management practices and workplace satisfaction available to date
  - Absolute salary scale
  - Relative salary scale
  - Other perquisites – health insurance etc.
  - Tenure and full/part-time status
  - Performance appraisal practices
  - Opportunities for professional development
  - Opportunities for promotion
  - Tendency to migration

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Training

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Training Opportunity

- At least 50 institutions providing education and training for HRH in Jamaica
  - 10 public institutions
  - Private institutions include
    - 1 private university
    - 1 private nursing school
    - At least 38 Practical nursing schools
- Local training available for most health disciplines
- No local training opportunities in:
  - Dentistry (i.e training to become dentist)
  - Speech therapy
  - Occupational therapy

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Accreditation

- 67% institutions registered with UCJ
- 12.5% programmes accredited by UCJ
- Medical school and MBBS programme, UWI accredited by CAAM
- Nursing schools accredited by NCJ
- 8% Practical nursing schools accredited by NCTVET

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Programme Applications

Profession	Degree level	Programme duration	Number of applications received		Number of applications received		Number of students registered	
			06/07	07/08	06/07	07/08	06/07	07/08
Medicine	Bachelor	5 years	809	1,091	189	233	164	197
	Master (3)*	2 years	18	7	12	6	5	3
	DM (25)*	4-6 years	104	129	52	47	51	40
Nursing	Bachelor	3 years (Include summer)	593	702	276	286	215	254
	Bachelor (p-b)	4 semesters	123	332	109	246	15	231
	Master	2 years	58	74	28	46	22	40
Radiation technology	Bachelor	3 years	45	205	31	27	27	25
Nutrition	Master	18 months	23	32	9	20	9	11
	Doctorate	3-5 years	4	3	2	2	1	1
Physical rehabilitation	Bachelor	3 years	83	177	20	51	13	42
Public health inspection	Master	1 year	42	61	24	31	21	22
	Doctorate	2 years	7	6	1	4	1	3
Health promotion/education	Master	1 year	18	18	9	13	9	10

Notes:

()* Number of different programmes.

p-b = post-basic.

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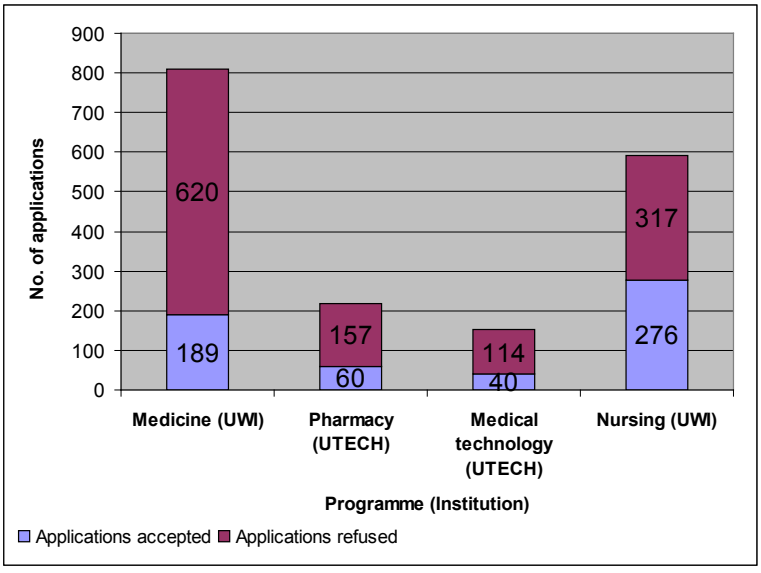
Programme Applications 06/07



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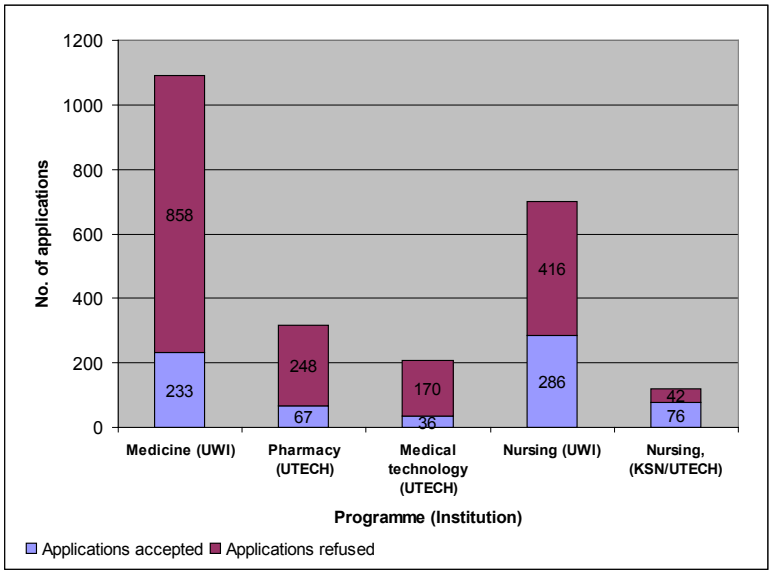
Programme Applications 07/08



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Programme Offerings

- Many disciplines have training opportunities at more than one degree level
- Increase in number of applications to several programmes each year not followed by similar increase in accepted applicants due to unchanged programme capacity

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Throughput

- An average of 33 students per year have graduated from the 4-yr pharmacist training programme, 2003-2006
- An average of 20 students per year have graduated from the 4-yr medical technologist training programme, 2003-2006
- An average of 43 nursing and 32 midwifery students graduated KSN, 2006-2008

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Challenges During Data Collection

- Privacy concerns
- Remuneration requests
- Required data not available
- Limited stakeholder buy-in
- Administrative delays

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Summary of Results

- Overall HRH densities are low and worst so in the SRHA
- Several professions crucial to current epidemiologic profile (nutrition, rehabilitation) are in very short supply
- Lack of training opportunities in dentistry, speech and occupational therapy need to be addressed
- Other training programmes like Pharmacy lack adequate capacity

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Outstanding Data to be Collected

Stocks & Flows

- Private sector HRH estimates
- Private/Public/Mixed sector deployment
- Estimates of FTE
- Finer details on distribution
- Details on skill-mix
- Nationality and where trained
- Work permits issued for recruitment of HRH

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Outstanding Data to be Collected

Regulation & Management Practices

- Criteria for Registration of foreign-graduates
- Management practices
  - Tenure
  - Opportunities for professional development & promotion
- Migration tendencies & factors influencing

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Outstanding Data to be Collected

Training

- Sources of recruitment
- Capacity vs. need
- Throughput – more details
- Retention
- Deployment

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Recommendations and "Next Steps"

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Some Recommendations

- Stocks and flows dataset
  - government examines the possibility of public-private partnerships, specifically for the purposes of improving access to health care products and strengthening health services
- Regulatory framework
  - the role of councils be reviewed and expanded to include a component which requires them to play a more active role in HRH planning particularly through the collection of crucial HRH planning data from their registrants
  - development of recruitment guidelines for HRH

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Some Recommendations

- Training
  - an assessment of the local training opportunities for rehab professionals
  - provisions be made for the training of dentists in Jamaica
  - strengthening of relationship between training institutions and the MoH

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Reporting

Written and published first report on findings

- Includes:
  - recommendations to various stakeholder organizations
  - next steps

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Improving HRH Data for Planning: Issues to be Addressed

- Data gathering
  - Stakeholder sensitization and buy-in
  - Improving stakeholder capacity
- Data management, analysis and interpretation
  - Situational analysis
  - Forecasting
- Data dissemination
- Uptake and impact on policy
- Completing the loop
- HRH Observatory

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Improving HRH Data for Planning: Issues to be Addressed

- Data gathering
  - Clear, consistent policy statements from MoH, PAHO, etc.
  - Sensitization workshops among stakeholders at senior level
  - Provide stakeholders with data gathering template
  - Assess stakeholder capacity
  - Identify focal point at stakeholder organization
  - Workshops for focal point training, etc.
    - Reinforcing importance of project
    - Assess prior competence
    - Training on required core dataset
    - Establish required computing skills
    - Ensure competencies in ethics and confidentiality

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Improving HRH Data for Planning: Issues to be Addressed

- Data management, analysis and interpretation
  - Situational analysis
  - Forecasting
- Data dissemination
- Uptake and impact on policy
- Completing the loop – Data, Reporting, Stakeholders, Feedback, Policy maker-interface and impact
- The HRH Observatory

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The Observatory: Objectives

- Provide continually updated analyses and reports
- Identify gaps, new sources of information,
- Improve interface and camaraderie between stakeholders
- Help build culture of evidence-based HRH planning
- Provide information for planning

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The Observatory: Objectives *(cont.)*

- Facilitate local, regional and international networking and information sharing
- Establish efficient system of multi-directional communication
- Develop early warning system to identify impending HRH challenges

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The Observatory: Required Support

- Office space & infrastructure including access to ICT
- Personnel
  - Investigators
  - Research Assistant (Focal point)
  - Database support
    - Data entry
    - Statistician – consultant capacity
  - Secretarial support (part-time)

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The Observatory: Required Support *(cont.)*

- Transportation
- Communication
- Office supplies
- Funding

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Overall Summary

- Jamaica has embarked on an evidence-based approach to HRH planning
- Initial data reveal important shortcomings and have identified clear needs for intervention
- The process will require further support if it is to be sustained
- A partnership between government, international agencies, academia and local stakeholders is crucial
- The UWI is committed to the process

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Acknowledgements

- The Ministry of Health
- The Pan American Health Organization
- The Regulatory Councils
- Accreditation agencies
- The HRH training institutions
- Professional Associations
- The UWI and the TMRI

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Next Steps

- Building and strengthening of relationships with stakeholders
- Capacity building within stakeholder organizations
- Continued data collection and update of database
- Additional analyses
- HRH Observatory

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Post-manuscript Work

- Database development
  - Populating
  - Finalizing variables
- Data collection
  - CPSM
  - UHWI
- Data exploration
  - Additional axes of analysis

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Public Health Inspectors

Average age of Public Health Inspectors

Male	51.3 yrs
Female	36.5 yrs

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Age Distribution of PHI

Age range	No. of registrants
>65	8
60-65	17
50-59	70
40-49	43
<40	92
All	**230**

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CPSM Registrants* by Profession 2008

*(*initial and renewal)*

Profession	No. registrants 2008
Medical Technologist	359
Radiographer	113
Physiotherapist	152
Occupational Therapist	11
Speech Therapist	2
Audiologist	2
Dietitian/Nutritionist	50
Dietetic Assistant	88
Nutrition Assistant	12
Public Health Inspector	244
Total	**1033**

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  - Populating
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