EVALUATION OF THE COMMUNITY HEALTH WORKERS PROGRAMME

Belize 2013

Bridging the gap in the distribution of healthcare personnel through the provision basic primary healthcare to rural communities in Belize

Pan American Health Organization

Regional Office of the World Health Organization

The Ministry of Health

BELIZE, C.A.

HUMAN RESOURCES IN HEALTH:

EVALUATION

OF THE

COMMUNITY HEALTH

WORKERS PROGRAMME

Dr. Philip J. Castillo Ph.D.

August 2013

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Belize's health system is based on a primary health care model. This is predicated on the reality that the country has a widely dispersed rural population, less than the optimum required number of physicians and nurses per capita population and included in the country's cadre of health professional are noteworthy percentages of non-nationals, basically on loan from their home countries. The country's health system relies substantially on public funding, while its spending is largely geared towards recurrent expenditures. Additionally, the mortality profile resembles a developed country with the leading causes of death being lifestyle related, which are chronic diseases and costly to treat. Based on these realities, the country's health care model necessarily focuses not on a predominantly curative approach to medicine, but more so on the provision of health education and information that focuses on disease prevention and control.

In this context, the primary health care model posits a pivotal role for the Community Health Worker Programme and this study is an evaluation of this programme to ascertain, inert alia, its level of effectiveness, challenges and scope for improvement as an integral component of the health care system. The methodology employed was a quantitative, self-administered survey of a representative sample of CHWs countrywide using a Likert Scale questionnaire.

A Community Health Worker is a health volunteer resident in his/her village. Since nearly every village countrywide has at least one of the existing 287 CHWs, they are necessarily the most widely dispersed health worker and this underpins the primary health care model, where they are envisaged to be the first point of contact between any patient, even in a far flung rural community and the health care system. The duties, responsibilities and obligations of a CHW are outlined in a 50 page manual and these are reinforced in regular training sessions under the auspices of HECOPAB, the Health Education and Community Participation Bureau of the Ministry of Health, which is tasked with supervising the CHW. A typical CHW is usually a female, in her forties, in possession of at least a primary level of education and has an above average family size.

The survey found that the CHWs are aware of their duties, responsibilities and obligations, attend their scheduled training sessions often and generally make themselves available for their community members in need of basic health care. This facilitates the provision of a level of culturally sensitive health care.

They are however being challenged by a plurality of resource constraints such as a lack of basic equipment that hamper their effectiveness. An acknowledged challenge is a stipend of $100 that has remained unchanged for nearly two decades, despite many additions to their range of duties. While a full salary can be viewed as incompatible with the spirit of volunteerism that

necessarily underlies community health work, due consideration ought to be given to a more realistic stipend reflective of the scope of duties actually being undertaken and the time being devoted to the work. The survey found that one in every five CHWs devotes in excess of 40 hours per week to their duties and this equates to a full time job in the Public Service.

There are multiple scopes for enhancements in the effectiveness of a CHW. Virtually all CHWs have mobile telephones and the role of even this level of technology in improving health care is acknowledged elsewhere. Patient or community related emergency information can be better relayed up the health hierarchy in real time. They can provide patients in their communities with text remainders to take their medication on time and be medically compliant. CHWs can be specifically trained to administer basic medications and manage uncomplicated patients, with long term diseases such as Diabetes and Hypertension, which have already been diagnosed by physicians. By assisting in chronic disease management and amelioration, this would considerably reduce the patient loads of rural nurses and physicians at health centres and health posts, who could then administer a higher level of care. Given the acknowledged shortage of nurse and doctors, these scarce human resources in health would be substantially better utilized with an effective CHW programme.

Additional financial resources are required to actualize this potential. Less than one percent of the MoH's budget is allocated to HECOPAB. This would undoubtedly have to increase if substantially more training is required, as well as the provision of a specific medical equipment and medication to the CHWs. An increased stipend will also be a positive motivator.

Given the pivotal and important role of the CHW in Belize's primary health care system, underscored by the reality of being the most widely dispersed health care worker in Belize, a well trained, equipped, motivated and hence enthusiastic community health care worker can indeed be the firm bedrock foundation of Belize's primary health care system.

PART 1 – INTRODUCTION: POLITICAL, ECONOMIC & SOCIAL CONTEXT

Belize is the only English-speaking countryon the Central American isthmus. It is more similar to the other English–speaking Caribbean islands in culture, politics, and historical experiences. Though English remains the official language, due to its location, Spanish is widely spoken and is the first language for substantial numbers of the country's population. The country is bordered on the north by Mexico and on the west and south by Guatemala. The ease with which Belizeans could travel to both these countries and the comparative cost of obtaining services in either country, results in several Belizeans visiting those countries, in addition to others, for health care reasons. A Living Standards Measurement Survey (LSMS) in 2002 found that 6.3% of Belizeans sought medical services abroad. The survey had found that the highest percentage of Belizeans who sought health care abroad were from the Corozal District (26.2%) and the Cayo District (24.6%). These districts border Mexico and Guatemala, respectively, implying that these bordering countries are the preferred foreign destination for most Belizeans who seek health care abroad.

Belize is a sovereign state governed by the principles of parliamentary democracy based on the British Westminster system. The titular head of state is Queen Elizabeth II, represented by a Governor General. A Prime Minister and Cabinetconstitute the executive branch of the government while a thirty one member elected House of Representatives and a nine-member appointed Senate form a bicameral legislature, the National Assembly. General Elections are held every five years. The most recent General Elections were held in March 2012, where the ruling United Democratic Party secured a second consecutive victory. General elections are not constitutionally scheduled until 2017.

The most recent population estimates record 342, 636 persons (LFS, SIB 2012). Given a land area of 8, 867 square miles, the country has one of the lowest population densities in the region. One implication of this is that infrastructural costs of development, including per capita health care expenditures tend to be high since small numbers of persons are spread out across a geographical wider area. The hundreds of miles of unprotected and porous national borders, specifically with Guatemala, pose a challenge to health care authorities in dealing with unregulated migration and diseases being transmitted by mobile populations. The country has several different ethnic groups. The most recent census estimates are that Mestizos (a mixture of Spanishsettlers and Maya) are 50% of the population, followed by Creoles (a mixture of English settlers and African slaves) at 21%, the indigenous Maya at 10% and Garifunas (a mixture of African slaves and Carib/Arawak Indians of the Caribbean) at 4.6%. Other ethnic groups include the Mennonites, East Indians, Arabs and Indians. Some 6% of the population is of mixed origins. The existence of various ethnic groups challenge the health care system to deliver care in a manner that is respectful of cultural norms and traditions.

ECONOMIC CHARACTERISTICS

Belize has a small open economy. While the country's exports have traditionally been agricultural, withsugar, citrus, bananas and marine products being its main exports as it transacts with its main trading partners, the United States of America, Mexico the United Kingdom and other EU countries. The agricultural exports depend substantially on migrant labour, some of whom are undocumented. This again poses specific challenges for health care authorities. The discovery of petroleum in 2005 contributed greatly to the stabilization of export earnings and Government revenues at a time when theglobal economy entered a recessionary phase. One result was that even though Belize felt the impact of the global recession, real economic growth continued and averaged marginally over 2%, since 2008, with the rate being highest at 5.3% in 2012.

The country remains dependent on imports and over the period 2005 to 20012, the trade gap widened considerably. One result of being so dependent on imports, including fuel, is that imported inflation increases several costs, including medical equipment and supplies, almost all of which areimported.

Belize relies substantially on various forms of taxation, whether on international trade and income and consumption based taxes, for the bulk of its revenues. These taxes are the principal source of funding for Government's national budget, which funds the Ministry of Health and all the other line ministries.

Table 1.1 below details select economic indicators over the period 2005 to 2012.

Table 1.1: Select Economic Indicators 2005 to 2012

Indicator/Year		2005	2006	2007	2008	2009	2010	2011	2012
Population (Thousands)		309.8	322.1	333.2	332.4	332.7	323.4	339.9	342.6
Unemployment (%)		11.0	9.4	8.5	8.2	13.1	23.3	NA	16.1
Real GDPGrowth Rate (%)		3.0	4.7	1.2	3.6	NA	2.7	2.0	5.3
Inflation (%)		3.7	4.2	2.3	6.4	(1.1)	0.9	1.5	1.3
Exports (US $ M)		425.7	427.1	425.6	480.1	382.1	475.7	603.6	625.1
Imports (US $ M)		593.4	611.9	642.0	788.2	620.5	649.8	778.2	840.4
Trade Balance	(US $ M)	(167.7)	(184.8)	(216.5)	(308.2)	(238.4)	(174.0)	(174.6)	(215.3)

Source: Statistical Institute of Belize & Central Bank of Belize

SOCIAL CHARACTERISTICS

Poverty in Belize is officially defined as a consumption level not exceeding $10.00 per day for a family of five or an annual consumption of some $3587.00. Based on that definition, some 41.3 % of the Belizean population was deemed to be poor in 2009, the last year that a Living Standards Measurement Survey was undertaken. Of the 41.3%, some 15.8% were regarded as indigent. Poverty and indigence are unevenly distributed across the country with the greatest concentration being in rural Toledo District and urban Belize City. Poverty and indigence also affect some ethnic groups worse than others.

The high levels of poverty andindigence pose particular problems for the health care system. There is a Government funded National Health Insurance Scheme (NHIS) for the Southern Districts and Southside Belize, already identified as among the poorest areas, but this programme has yet tobe extended countrywide. There are also specific programmes to assist the indigent including a Conditional Cash Transfer programme, where money is provided to poor families on the condition that their children attend school and are immunized on schedule. Government funds a food pantry programme whereby a basket of basic food items is sold at half price to targeted recipients. There is also a level of financialassistance to the elderly, and to counter observed levels of malnutrition, the Ministry of Health provides Incaparina, a protein food nutrition supplement, mainly to families in southern Belize.

Belize's homicide rate is among the highest in the region. In 2012, the country's homicide rate per 100,000 population earned a 6th place ranking on the list of the most violent countries prepared by the UN Office on Drugs and Crime. Most of the perpetrators and victims of homicide are young males based in urban locations. The high homicide rate imposes huge costs on the tertiary health care system as most of the victims interface with the Karl Huesner Memorial Hospital, the country's only tertiary care facility.

A recently concluded assessment of the country's Millennium Development Goals found that Belize will not meet many of its health indicators before the end of the MDGs in 2015.

Table 1.2 below details select social and health indicators.

Table 1.2:Select Social and Health Indicators 2005 to 2012

Indicator/Year	2005	2006	2007	2008	2009	2010	2011	2012
Poverty Rate (%)					41.3			
Indigence Rate (%)					15.8			
Under –Five Mortality Rate	23.5	24.8	20.5	17.0	22.7	16.9		16.8
Infant Mortality Rate	18.4	19.6	17.2	12.0	17.9	13.3		14.4
Maternal Mortality Rate (per 100,000 live births)	119.1	41.8	85.3	42.5	53.9	55.3	0*	42
Adolescent Birth Rate (15 – 19 years per 1,000 women) (%)				77	76	79.9		81.4
Proportion of births attended by Skilled Health Personnel (%)		95.8		95		94.3	92.2	89
Contraceptive Prevalence Rate		34.4					55.2	

Source: Scorecard Report on the MDGs 2013, Belize Country Poverty Assessment 2009, MICS 2011 & MOH data

Notes: Some social and health indicators are not measured annually in Belize. MICS is undertaken every five years and the last CPA, which measures poverty and indigence, was in 2009.

(*) For the first time ever since official statistics were kept, Belize recorded a full calendar year with no maternal deaths.

PART 2 – BELIZE'SNATIONAL HEALTH SYSTEM

The national Public Health System in Belize provides universal access to personal and population based services, essentially at no direct cost to the individual. Belize has decentralized administrative authority for health services to bring decision making functions closer to the stakeholders. Based on the decentralization, there are now four (4) health regions that cover the entire country: the Northern Region which encompasses the northern districts of Corozal and Orange Walk, the Southern Region which covers Toledo and Stann Creek, the Western Region which coversthe Cayo District and the Central Region, which covers the Belize district.

The Northern Health Region (NHR) serves two districts with a total estimated population of 90,524 (SIB 2012). The NHR is composed of two (2) public Health Institutions (Northern Regional Hospital and Corozal Community Hospital), eleven (11) Health Centres and sixteen (16) Health Posts. The Regional Hospital has 57 beds and Corozal Community Hospital (CCH) has 30 beds. The Southern Health Region has two (2) Public Hospitals, fourteen (14) Health Centres and twelve (12) Health Posts and the region serves a population of 69,371 persons (SIB 2012). The two public hospitals are Southern Regional Hospital (formerly Dangriga Hospital), which has 52 beds and Punta Gorda Hospital/ Community Hospital, which has 30 beds. The Western Region has 2 public hospitals - the Western Regional Hospital in Belmopan and the San Ignacio Community Hospital and serves a population of 80,694. The Central Region serves a population of 102,047 and has the Karl Huesner Memorial Hospital, the country's only referral hospital, three Polyclinics II: Matron Roberts, Cleopatra White and San Pedro, ten health centres: Port Loyola, Queen Square, Hattieville, Double Head Cabbage, Ladyville, Maskall, Crooked Tree, Burrell Boom, Gales Point and Caye Caulker and the Port Loyola Mental Health Acute Day Hospital).

A comprehensive package of health services is now delivered through these four administrative regions. The provision of hospital based carein these four regions includes inpatientand outpatient care,including accident and emergency, paediatrics, obstetrics and gynaecology, internal medicine andsurgical care. Clinical and non-clinical support services and some specialized tertiary services are also provided. A network of clinics, permanently staffed health centres and un- manned health posts isavailable to address the primary health care needs of the population. These are supplemented by mobile health services, community nursing aides, community health workers and traditional birth attendants working throughout the rural communities of the country.

The Ministry of Health seeks to achieve its mandate of equal health for all through several programmes/projects. At the political level, the ministry is headed by a Minister, who may have

other portfolio responsibilities. A Chief Executive Officer is tasked with day to day administration and he is supported by directors and department heads responsible for the ministry's programmes/projects. Budgetary allocations within the ministry continue to reflect an overwhelming emphasis on personal emoluments and medical supplies. The various programme/projects currently administered by the Ministry are briefly described below, subsequent to which there will be a more detailed evaluation of the Community Health Workers programme, which falls under HECOPAB.

EPIDEMIOLOGY

The Epidemiology Unit is responsible for collection, compilation, analysis/ interpretation of health data and the dissemination of health information to support decision making on current and emerginghealth situation at the local, regional and national levels. The unit is also responsible for diseasesurveillance, outbreak investigation and control of communicable and non-communicable diseases.

Services provided include periodic reports on the status of communicable and non-communicable diseases and making data on morbidity and mortality available to health personnel and to the public in general.

NATIONAL STI/HIV/AIDS PROGRAM

The National AIDS Program, a preventative public health program, is the Ministry of Health's response towards the prevention, treatment and care of persons living with STI/HIV/AIDS. It is a planned activity aimed at making full and rational use ofthe technical knowledge and health resourcesavailable. Services provided include Information, Education and Communication: This involves public education as well as continuing education for healthcare workers utilizing different mediaincluding workshops.Counseling: Pre and post-testcounseling are essential components for good clinical care of individuals at risk orinfected with STI/HIV. Counseling is integrated with all HIV testing, screening and care. Anti-retroviral drugs are freely provided to all those infected with HIV and these drugs are now provided through pharmacies to enhance access to those needing them.

NATIONAL TUBERCULOSIS PROGRAM

The National Tuberculosis Program isa methodical approach of the Ministry of Health towards alleviating and in the long term eliminating suffering due to allforms of tuberculosis. It is a planned activity aimed at making full and rational use of the technical knowledge and health

resources available. Services provided include diagnosis: Healthcare workers in all six districts have been trained to diagnose and treatment: Treatment regimens have an initial (intensive) phaselasting two months and a continuation phase usually lasting 4-6 months.

MATERNAL AND CHILD HEALTH

The program was established with the purpose of facilitating a health care environment where there is an improved access, coverage and quality of basic care for mothers and children. Services provided include Pre and Postnatal integrated health care for women: this includes the monitoring and management of normal pregnancy, gynecological and obstetric pathologies. Regarding Child Health, this programme ensures the vaccination of children against immuno-preventable diseases. Due to this programme, all the public hospitals in Belize are now certified as Baby Friendly and there have been notable successes in reducing HIV transmission from mother-to-child.

SEXUAL & REPRODUCTIVE HEALTH SERVICES

The aim of this service is to providereproductive health care based on specific reproductive health needs of individuals and the community. The services are delivered through a network of eight urban and thirty-seven rural healthcenters that are staffed by Public Health Nurses, Nurse Practitioners, Rural Health Nurses, Domestic Auxiliariesand Driver/Mechanics. Community Nursing Aides and Traditional Birth Attendants form an important link between the programme and the community.

MENTAL HEALTH PROGRAM

To achieve the best mental health status for all Belizeans by providing services to prevent and reduce the incidence of mental illness and by providing adequate delivery of accessible, efficient, costeffective and user friendly psychiatric services. Services provided include enhance the quality of life of persons with mental disorders and create networks that guarantee the delivery of care within the community.

DENTAL HEALTH

This program seeks to promote oral health, and prevent and control dental morbidity. Services provided include dental care to pregnant women, outreach mobile clinics to rural areas, dental health education including the mass media and in-patient surgical services.

NUTRITION

The purpose of the Nutrition Program is to assist inthe improvement of the nutritional status of the Belizean population through health education, healthpromotion and the monitoring and evaluation of nutritional status. Services provided include training of human resources in nutrition, training of public health personnel to address malnutrition in children and pregnant women, dissemination of information related to chronic diseases and strengthening of hospital dietetic services.

ENVIRONMENTAL HEALTH

The purpose of this program is to contribute to and support the development and maintenance of clean, safe and healthy environment in order to reduce the prevalence of public health problems that are associated with poor environmental conditions. Services provided include food safety, water quality monitoring, vector control, zoonotic diseases surveillance, prevention and control, port health and quarantine, premises Inspection and certification, acute Pesticide Intoxication Surveillance, investigation of Public Health Complaints , monitoring of recreational areas, institutional Health and occupational Health and Safety.

HEALTH EDUCATION/PROMOTION (HECOPAB)

This programme aims to contribute to the improvement ofthe health of individuals and communities and to the attainment of acceptable levels of equity in health, through health promotion, health education and communitymobilization. Services provided include Health Education/Promotion advocates for the development of policies promoting and maintaining health practices, knowledge, and attitudes which impact positively on the health status and quality of life of the population. Itpromotes active community participation in the development of policies and programmes designed to benefit the general population as well as special groups. To empower individuals to assume responsibility for their health and well-being through increased access to health information, design and distribution of visual aids, utilization of the mass media for the sharing of information, skills development through training and the promotion of the primary health care principles and concept.

The objectives of HECOPAB include to advocate for the development of policies promoting and maintaining health practices, knowledge, and attitudes which impact positively on the health status and quality of life of the Belizean populace, to promote active community participation in the development of health policies and programmes designed to benefit the general population as well as target groups and to foster the principle of partnership and multi-sectorial collaboration recognizing the value of partnership in the promotion and maintenance of

optimum health and encouraging the building of alliances with Government Ministries and Departments and Non-Governmental Organizations.

HUMAN RESOURCES IN HEALTH CONTEXT

Human resources for health includeadministrative, professional, technical and ancillary personnel. The Ministry of Health has difficulty maintaining a complete human resource inventory of qualified staff due to many factors including active recruitment of health professionals by foreign countries. The Government of Belize is the main provider of education and training for health professionals. The growing private sector is also a directcompetitor for this critical resource.

Currently, there is a concentration of physicians, nurses and other healthprofessionals in the principal towns and cities, while distant communities with high proportion of rural and indigenous population are in need to improve their health and availability of health professionals. The characteristics of the country require cultural adaptation in the distribution and allocation of human resources in health. Recruiting and hiring practices require identifying professional and labor competencies to incorporate adequate staff according to the needs of the population and for the improvement in the provision of healthcare services at different levels.

Belize has commenced the process of strengthening its human resources for health since the ministry now has a health planner, who is the sole person in the ministry's human resources for health unit. The existence of this unit notwithstanding, human resource functionsremain diffused and divided, both within the ministry and the wider Public Service. Defining human resources management as the management of an organization's workforce and being responsible for the attraction, selection, training, assessment and rewarding of employees while overseeing organizational leadership and culture, and ensuring compliance with employment and labour laws, there are many entities, within and outside the Ministry of Health tasked with these varying responsibilities.

At the micro level with the Ministry of Health, some human resource management tasksare divided among the ministry's three Administrative Officers, who are responsible for personnel management functions including but not limited to managing personnel files, calculating leave entitlements, and related administrative tasks. Though part of human resources management, these tasks are substantially better classified as personnel management functions.

However, the development of human resources is a substantially broader task at the macro level and this task is shared amongst several ministries in Belize's Westminster style of democracy. The ministry is headed by a Chief Executive Officer who is tasked with overall day

to day responsibility of the ministry including identifying where key persons are required and staffing levels of the ministry. Actually getting staff positions filled though is somewhat outside the purviewof the CEO MOH, as the Ministry of the Public Service is tasked with actually advertising for the positions, subject to resource availability from the Ministry of Finance. Actual salary payable is decided by the Ministry of the Public Service and this further constrains the Ministry of Health in deciding remuneration levels for professionals. One result of this is that some MOH specialists while fully employed in the Public Sector earn substantially more in private practice.

Authority of the CEO is similarly limited when educational development of existing personnel are concerned as the CEO may inform the Ministry of the Public Service of his required training needs. However the priority areas for scholarships are decided by the Ministry of Education.

The diffusion of human resource responsibilities among multiple ministries may not necessarily be regarded negatively if there is a high level of cooperation among the various stakeholders and decision makers. In developing countries, such as Belize, where there are critical human resources shortages in multiple areas, the opportunity for dialogue among the decision makers to ascertain national priorities must always be available, even if not dutifully followed. It is also widely acknowledged that there is widespread political interference and nepotism in the process of human resources development.

PART 3 – EVALUATION OF HECOPAB'S COMMUNITY HEALTH WORKER PROGRAMME

HECOPAB is the acronym for the Health Education and Community Participation Bureau, the health promotion arm of the Ministry of Health tasked with responsibility for planning, coordinating and implementing health promotion activities at the community level throughout Belize. The Community Health Worker (CHW) programme, which falls within the purview of HECOPAB, was established in 1982 with technical and financial support from the United Nations Children's Fund (UNICEF).

In 1995, the Ministry of Health's Primary Health Care Programme was amalgamated with HECOPAB and units were established in each district. This undertaking enabled community health workers to be supported and supervised directly by district health educators and connected community health activities to the structured health system through Village Health Committees.

Since the inception of the CHW programme, a programmatic evaluation has not been conducted to assess its effectiveness and gaps. The need for such an evaluation has become crucial in determining whether the CHW programme should continue to exist, whether the services provided are of value to the health system, to document the challenges of the CHWs and to obtain input from professional health personnel and community agencies involved in community health. Such an assessment would also assist in identifying and strengthening gaps as well as providing baseline for future planning.

Quite apart and distinct from the above reasons, the CHW programme can be directly linked to four of the twenty HRH goals. These are goals 1, 7, 9 and 17. Goal # 1 focuses on the density of health care personnel in the country. At marginally less than 25 per 100,000 Belize is below the level recommended in the Toronto Call for Action. However should the CHWs be excluded from the count, Belize would fall even further behind. Goal # 7 focuses on the proportion of workers with primary health care competencies. Arguably, given the range of practical experiences of a typical CHW, they do possess primary health care competencies as it is envisaged that they are the first link between the community and the health system. This is further buttressed by Goal # 9, which focuses on recruiting PHC personnel from their own communities. The final of the 20 HRH goals that underpin the choice of the CHW programme for evaluation is Goal # 17, which focuses on reorientation of the training of health personnel towards PHC.

METHODOLOGY

The evaluation utilized a quantitative research methodology which involved a survey questionnaire administered to a representative sample of community health workers countrywide. There are some 287 CHWs and a sample that totalled107 was randomly taken from all six districts. This equates to a margin of error of just over 6 percentage points and with a 90 degree level of confidence. A Likert Scale questionnaire was designed that initially sought demographic information from the respondents and thereafter sought to ascertain their perspectives on a range of employment related issues. The survey instrument is attached at Appendix 1. Analysis was undertaken using SPSS.

LIMITATION OF THE ANALYSIS

Community Health Workers are supervised by a health educator in their respective district, who themselves report to a Technical Adviser in Belmopan. With a Master's degree in Social Work and over twenty four years'experiences, the TA is a qualified health professional. While it is taken for granted that all the health educators possess some level of qualification commensurate with their post, their pedagogical and delivery skills were not assessed.

Also not assessed were the perspectives of the community on the effectiveness of their CHW. This would have been a substantially more time consuming endeavour, but it would serve to triangulate survey data obtained from the CHWs. The perspectives of the community would also provide an indication of the quality of medical care administered by the CHW themselves. The proxy used was their attendance at their training sessions. This proxy assumes that the information provided at the training sessions has been internalized and absorbed and then the CHW is able to effectively transfer his new knowledge to his patients.

DATA ANALYSIS

The duties, responsibilities and obligations of a community health worker are broad and diverse and are detailed in a fifty-page CHW Manual. These duties include, but are not limited to, conducting home visits, assisting health facilities in their communities, visiting schools, coordinating clean up campaigns, and performing basic patient care. They assist medical teams in community outreach activities and support partner agencies such as the National Emergency Management Organization (NEMO), the Belize Red Cross and other agencies in their programs.

The summary table below encapsulates the main results from the survey.

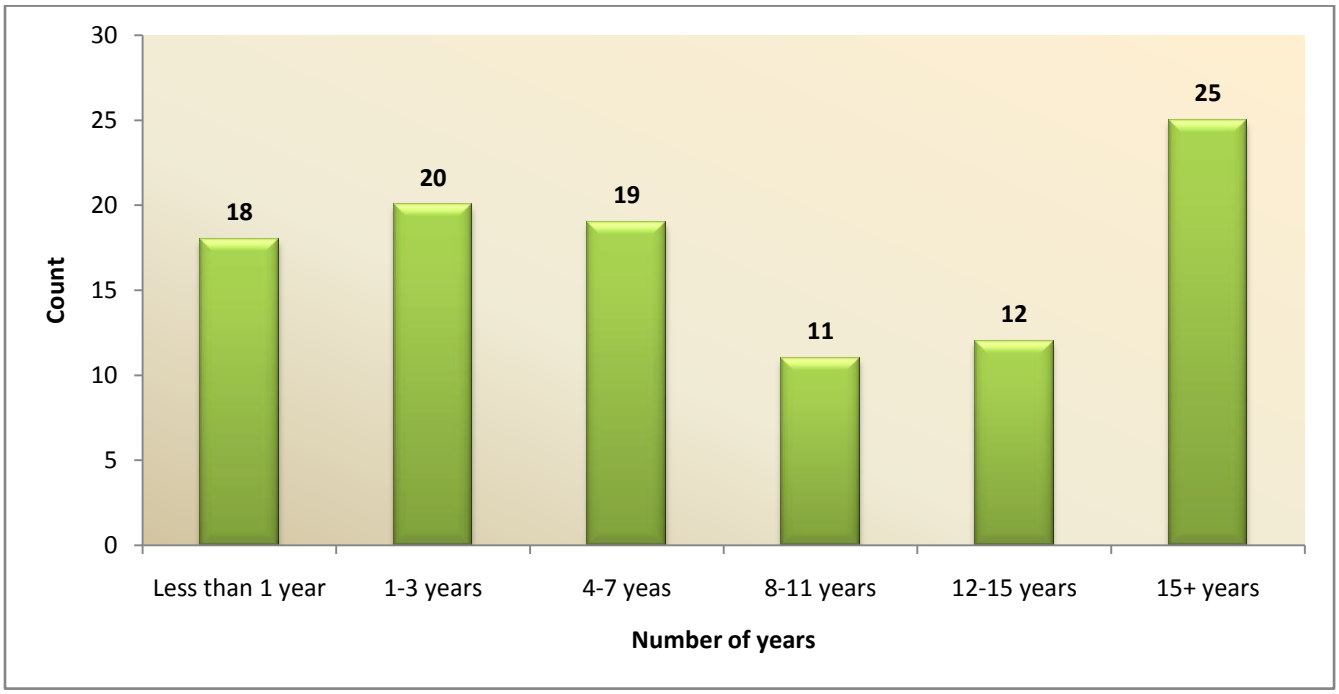
Summary Table		Responses (%)			
#	**Question**	**YES**	**NO**	**DK/NS**	**TOTAL**
2.1	I have learnt a lot of new things as a Community Health Worker (CHW).	88.8	4.7	6.5	100
2.2	I am satisfied with my stipend as a CHW.	6.5	83.2	10.3	100
2.3	I enjoy working with doctors.	89.7	4.7	5.6	100
2.4	I enjoy working with nurses.	93.5	4.7	1.9	100
2.5	I am aware of the duties/responsibilities of a CHW.	95.3	0.9	3.7	100
2.6	I am provided with the resources I need to do my job.	47.7	44.9	7.5	100
2.7	I get support from my supervisor.	88.8	4.7	6.5	100
2.8	I attend training sessions often.	94.4	3.7	1.9	100
2.9	My community has benefited from the presence of a CHW.	93.5	3.7	2.8	100
2.10	I am satisfied with the support I receive from the Ministry of Health.	45.8	41.1	13.1	100
2.11	Medicine is provided to community residents who need them.	60.7	27.1	12.1	100
2.12	I am available for community members who want to see me.	97.2	0.0	2.8	100

The table highlights some notable success of the programme. There is an overwhelming consensus that CHWs are aware of their duties and responsibilities (95.3%), that they attend their regularly scheduled training sessions often (94.4%), that they are available for community members who want to see them (97.2%), and that their community has benefitted from the presence of a CHW (93.5%). It must also be regarded as a success that the programme is in reality to be regarded as the base of Belize's primary health care system, since there is a CHW in nearly every village. Given the disease profile of the country where there is a rise in lifestyle related illness that must be managed with medications on a continuous basis, the CHW programme has expanded to urban areas to assist in encouraging healthy lifestyles in urban areas.

In focusing on the factors that contribute towards the success of the programme, mention must be made of the thorough reorganization of the programme in the last few years. Subsequent to the establishment of HECOPAB offices in each district, there was poor coordination among these offices with one result being a lack of standardization of their training materials. The appointment of a Technical Adviser in Belmopan with responsibility for coordinating the various district offices resulted in the establishment of a HECOPAB manual and standardization of training materials.

The length of time that persons have served as CHW is similarly to be positively regarded. The single largest number of CHWs in the sample (25) has served for in excess of fifteen years. The second and third longest tenuresare between 1 to 3 years (20) and between 4 to 7 years (19), respectively.Nearly equal numbers of CHWs have served for between 8 to 11 years and 12 to 15 years. Figure 1.1 refers. A cross tabulation by district reveals that some 40 percent of the CHWs in Orange Walk have served in excess of 15 years, while marginally less than 30 percent of CHWs in Toledo have served for that length of time. Appendix 2 refers.

Figure 1.1: Length of time served as a Community Health Worker

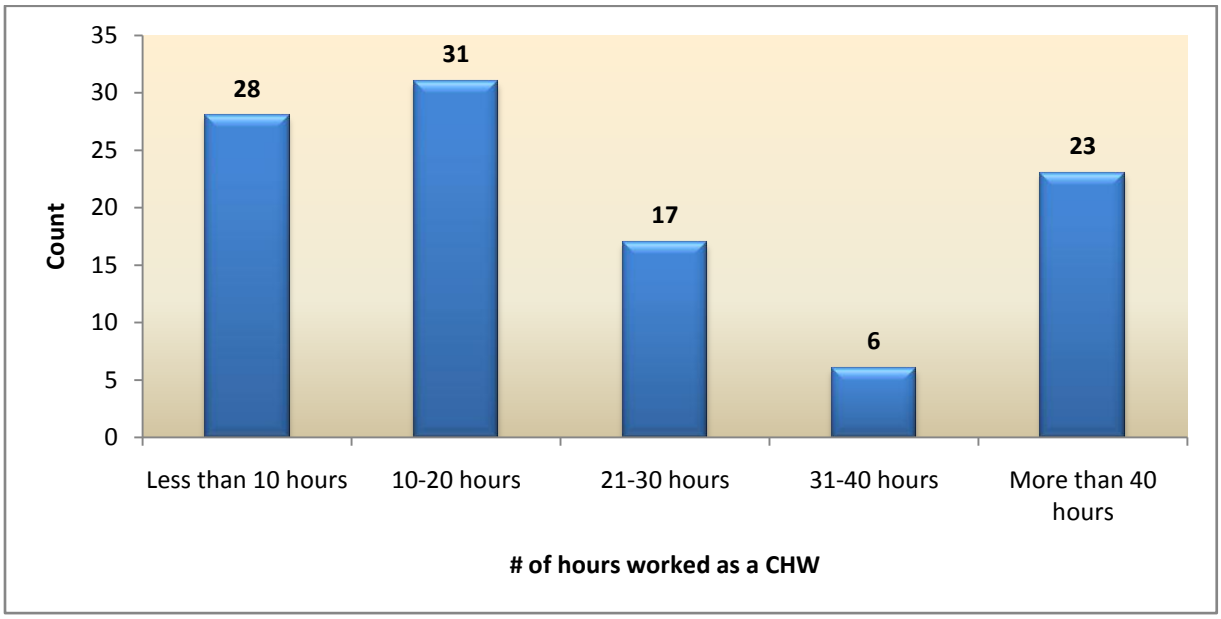


CHALLENGES

However the CHWs do face challenges that impede their effectiveness. Less than half note that they are provided with the resources required to do their job. Resources required vary and may include kits to measure blood pressure, glucometers, batteries and on the personal level, raincoats and boots and even office equipment such as fans and water coolers. Though a large percentage of CHWs enjoy working with both nurses and doctors, some level of professional disrespect from those health professionals was also noted.

Perhaps the single greatest challenge facing CHWs is resource constraints. CHW are provided with a monthly stipend of$100, an amount that has been fixed since 1994, before which time it was $50.00. For the nearly twenty years that the stipend has remained unchanged at $100, their range of duties has expanded. As noted by the survey results, while the majority of CHWs (31) devote between ten and twenty hours per week and less than ten hours per week (28), the third largest number of CHWs (23) devote in excess of 40 hours weekly to their duties. This is equivalent to a standard work week in the Public Service of Belize. Figure 1.2 refers. A cross tabulation reveals that Cayo leads in the districts where CHWs work the most hours per week, followed by the Southern Districts of Toledo and Stann Creek. (Appendix 3 refers).

Figure 1.2: How many hours per week do you work as a Community Health Worker?



Other challenges include the average age of a CHW. Nearly two in every three CHWsare older than 40 years old. While there may be some positives associated with age and experience in the area of primary health care, the nature of community health work is that the practitioner must be mobile to traverse around the community. In an urban area, a community may be a well-defined geographic area. However in a rural village, the community may likely be a substantially larger area with only pathways connecting houses. These pathways may not be well maintained and may even include makeshift structures over pools of water or over rocky and hilly terrain. Given these realities the work may be better suited to a younger person who may be better able to overcome the resultant mobility challenges.

CHW, notably from Toledo cited the lack of electricity and running water in many of their villages. Administering any level of health care in these conditions is likely to be challenging. Virtually all CHWs only have a basic level of education and this posed challenges in legibly completing the many forms required for documentation when dealing with health concerns.

Table 1.3:MoH's Budget as a Percentage of GoB's Budget & HECOPAB as % of MoH: 2005/06 – 2012/13

Financial Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
GoB's Budget (BZ $ M)	493.7	561.7	585.2	649.6	768.5	825.0	867.4	862.2
MoH Budget (BZ $ M)	61.5	72.8	86.4	72.8	83.4	95.5	97.8	93.7
MoH Budget (%) of GoB	12.5	13.0	14.8	11.2	10.9	11.6	11.3	10.9
HECOPAB	NA	NA	NA	$127,151	$122,659	$179,464	$171,752	$153,944
HECOPAB as % of MoH	NA	NA	NA	0.17	0.15	0.19	0.18	0.17

Source: Budget Estimates from Ministry of Finance and Ministry of Health

The above table cites GOB's budget and compares the budget allocation to the Ministry of Health as a percentage of GOB's budget. It has been noted that GOB's budget is sourced mainly from various forms of taxation. There is scope though, for revenue generation from some forms of user fees. HECOPAB's budget allocation is also shown and that is calculated as a percentage of MoH's budget. The numbers and percentages show that there is scope for increased allocations if the ministry is to meet its mandate of equal health for all. Meeting this mandate requires additional expenditures on the CHWs, regarded as the base of the primary health care system.

CONCLUSIONS/RECOMMENDATIONS

CHWs can be regarded as the base of Belize's primary health care system, since they are more widely dispersed that any other health professional. This means that properly empowered, they can be the first point of contact between a patient and the health system. This ought to be officially acknowledged and the Community Health Worker be properly regarded as a health professional to be included in the national count of health workers. By serving in far flung villages, CHWs work in underserved areas and they serve a patient population largely bereft of primary care. Upon the occasional visit of a rural health nurse or a primary health care physician as part of a mobile health team, the local CHW can be an essential part of this inter-professional team by his first hand information on the community members requiring their services and a level of care he is unable to provide.

Some 87% of CHW possess mobile telephones and this brings the possibility of using the benefits of such technology to the area of health. This is regarded as E-health. Given the mortality profile in Belize, where the major causes of death are all lifestyle related, diseases such as Diabetes and Hypertension require taking medication over extended periods. It is possible that the patients may not be medically compliant and a CHW who likely knows the patients in his area can easily send them a daily text reminder to take their medication and providing basic care already approved by a physician. Thus CHWs can assist at this basic level in chronic disease management and amelioration. This may also be possible for HIV/AIDS where more medicines are required on a daily basis. Admittedly, issues of not breaching confidentiality must also be addressed.

The issue of remuneration was a sore point for an overwhelming majority of the community health workers (83.2%). This issue is difficult to entirely address as there must be an element of volunteerism in community health work. Notwithstanding this, the issue of basic fairness arises when a community health worker is required to attend training sessions for which she/he bears his own transport costs. Under existing regulation in the Public Service, allowances are payable whenever an officer has to leave his duty station. A main reason why some consideration ought

to be extended to the CHW is that whereas the public servant should have no other main job, it is expected that the CHW has another job. Thus the opportunity cost of attending a training session is the income lost from his/her other job. Thus some level of compensation is due.

Despite this, some 94.4 percent of CHW attend training sessions often, indicative of their commitment to their accepted task. A reimbursement for standard travel expenses would serve as an indicator of their value to the system to further motivate these heath volunteers.

The issue of equipment including a toolkit and proper attire ought to be standardized. Upon being accepted as a CHW, there should be standard package provided. This should include boots, raincoat, umbrella and a toolkit with basic bandages, gauze, possibly a thermometer. The TA could decide on this toolkit after consultation with health educations in the districts. The likelihood of a local of international health partner donating this equipment is substantially higher than such a health partner providing monies for recurrent expenditures such as stipends. Assistance could also be sought from local donors to sponsor a CHW.

This need for equipment was the single recommendation provided by the majority of the CHWs. Other recommendations they provided focused on the need for increased stipend, more CHWs and more positive attitudes from other health workers. Equipment constraints are seemingly worse in Corozal, followed by Orange Walk and Toledo. The primary concern in the Cayo District seemed to be the issue of increased stipend and benefits, while the CHWs in the Belize District were largely concerned with the need for more training and additional CHWs. A cross tabulation between recommendations as provided by district CHWs is at Appendix 4.

The issue of basic means of transportation specifically a bicycle, to traverse the community, also arose. This could be dealt with in the same manner of existing Public Service rules where a loan – and in this case – it ought to be an interest free loan – be provided to purchase the bicycle and an amount deduced from the stipend such that the bike is paid off within a calendar year. The advantage if this is that the CHW is far more likely to be protective and care for his investment and perhaps limit its use exclusively to CHW work.

Every effort should be made to resist known political operatives from being CHWs. The manual is silent in this regard, but it should be specified and made abundantly clear that to maintain the integrity of the system, CHW work should be incompatible with overt political activity.

And finally, an occasional recognition ceremony for CHWs would again indicate to them their value to the system. Long service awards and certificates of recognition may serve as additional motivation in a career where there are no prospects for upward mobility.

BIBLIOGRAPHY

Barnett, C., Catzim-Sanchez, A., &Humes, D. (2010). *Horizon 2030: Planning our future together central bank of Belize. Annual Report.* (various years). Belmopan BZ: Ministry of Economic Development .

Barrow, Dean. (2013). *Budget Address 2012/2013: Exercising discipline while preserving growth*. Belmopan, BZ: Government of Belize.

Cameron Health Strategies Group Ltd. & PAHO. (2009). *Core Data – Human Resources for Health: Stocks and Flows – Education – Management: Tracking Regional Goals for Health – A Shared Commitment.* Washington DC.

Caribbean Media Corporation (CMC) News (Producer). (2013, June 17). *2013 Policy Changes in Cuba will affect Havana's health contribution to CARICOM [Television broadcast].* St. Michael, BB: Caribbean Media Corporation.

Central Bank of Belize. A*nnual Reports* (1995-2012). Belize City: Belize.

Gayle, H. & Mortis, N.(2010). *Male social participation and violence in urban Belize.* Belmopan, BZ: Restore Belize.

Government of Belize. (2013). *Budget Presentation for Fiscal Year 2013/2014: Achieving debt sustainability: Stimulating economic expansion*. Belmopan, BZ.

Government of Belize & United Nations Development Programme (2010). *Belize scorecard and outlook report 2010: Millennium Development Goals*. Belmopan, BZ: GOB & UNDP.

Johnson, K., Posner, S., Biermann, J., Cordero, J., Atrash, H., Parker, C., Boulet, S., & Curtis, M. (2006). *Recommendations to improve preconception health and health care---United States*. Retrieved from http://www.cdc.gov

Ministry of Economic Development (2009). *Belize 2009 country poverty assessment*.(Volume 1: Main Report). Belmopan, BZ: National Human Development Advisory Committee.

Ministry of Economic Development (2003). *2002 Belize Living Standards Measurement Survey* (Report). Belmopan, BZ: National Human Development Advisory Committee.

Ministry of Health. (2012). Administrative Data. Belmopan: BZ: Author.

Ministry of Health. (2006). Health Agenda 2007 – 2011. Belmopan: BZ: Author.

Pan American Health Organization (PAHO). (2012). Health in the America's 2012 edition, regional outlook & country profile".*Retrieved from* http://www.paho.org/saludenlasamericas/index.php?option=com_content&view=article&id=9&Itemid=14&lang=en

Rosenberg, Tina. (2012, October 24). The Family Doctor, Minus the MD.*The New York Times*. Retrieved from http://www.nytimes.com.

Statistical Institute of Belize (2012). *Abstract of statistics 2012*. Belmopan, BZ: Author.

Statistical Institute of Belize (2012). *Labour force survey 2012.* Belmopan, BZ: Author.

Statistical Institute of Belize (2010). *Census 2010*. Belmopan, BZ: Author.

Statistical Institute of Belize & United Nations Children's Fund (UNICEF). (2011). *Multiple Indicators Clusters Survey 2011.* Belmopan, BZ: Author.

Statistical Institute of Belize & United Nations Children's Fund (UNICEF). (2006). *Multiple indicators cluster survey 2006.* Belmopan, BZ: Author.

United Nations. (2013). *2013 addendum to the MDG country report guidelines: UNDG – Guidance Note.* Retrieved from http://www.undp.org/content/dam/undp/library/MDG/UNDG%20MDG%20Country%20Report%20Guidelines_2%20May2013.pdf

University of Belize & UNICEF. (2013).*Towards a compact for Belizean development compendium of papers.* Belmopan, BZ: Authors.

APPENDIX #1

Belize: Community Health Workers Survey

Questionnaire #	
Date	_____
District	Corozal___1Orange Walk___2 Belize___3 Cayo ___4 Stann Creek___5Toledo___6

Good day. We are doing a survey of Community Health Workers (CHW) to assist the Ministry of Health. We have a few questions to ask you that should take no more than TEN minutes of your time. Please note that any and all information you provide will be kept in the strictest of confidence. Thank you for participating.

Section 1: Demographics	
1.1 Sex?	Male___1 Female___2
1.2 Age at last birthday?	_____years
1.3 Highest level of education completed?	No formal education___1 Primary___2 Secondary___3 Skills/Vocational___4 University___5

1.4 To what ethnic group do you belong?

Caucasian / White___1

Asian/Chinese___2

Creole___3

Garifuna___4

East Indian___5

Mayan (Ketchi/Mopan/Yucatecan)___6

Mestizo/Spanish/Latino/Hispanic___7

Other___8

1.5 Length of time as a Community Health Worker?

Less than 1 year___1

1- 3 years ___2

4 - 7 years ___3

8 - 11 years ___4

12 - 15 years ___5

15 +___6

1.6 Household size?

# of persons living in your home? _____Persons

1.7 Do you have a cell phone?

YES___ NO___

1.8 About how many hours per week do you work as a CHW?

_____Hours

Section 2:

Response Options:

YES__1 **NO__2** **Don't Know/Not Sure__3**

2.1 I have learnt a lot of new things as a Community Health Worker (CHW)	☐ 1	☐ 2	☐ 3
2.2 I am satisfied with my stipend as a CHW.	☐ 1	☐ 2	☐ 3
2.3 I enjoy working with doctors.	☐ 1	☐ 2	☐ 3
2.4 I enjoy working with nurses.	☐ 1	☐ 2	☐ 3
2.5 I am aware of the duties/responsibilities of a CHW.	☐ 1	☐ 2	☐ 3
2.6 I am provided with the resources I need to do my job.	☐ 1	☐ 2	☐ 3
2.7 I get support from my supervisor.	☐ 1	☐ 2	☐ 3
2.8 I attend training sessions often.	☐ 1	☐ 2	☐ 3
2.9 My community has benefited from the presence of a CHW.	☐ 1	☐ 2	☐ 3
2.10 I am satisfied with the support I receive from the Ministry of Health.	☐ 1	☐ 2	☐ 3
2.11 Medicines are provided to community residents who need them.	☐ 1	☐ 2	☐ 3
2.12 I am available for community members who want to see me.	☐ 1	☐ 2	☐ 3

3.13 What recommendations would you have to improve the Community Health Workers program?

a. _____

b. _____

c. _____

APPENDIX #2

District & Length of Time as a Community Health Worker Crosstabulation

			Length of Time						
			Less than 1 year	1- 3 years	4 - 7 years	8 - 11 years	12 - 15 years	15 + years	Total
District	Corozal	Count	1	2	2	3	0	3	11
		% within District	9.1%	18.2%	18.2%	27.3%	.0%	27.3%	100.0%
	Orange Walk	Count	4	2	4	2	0	8	20
		% within District	20.0%	10.0%	20.0%	10.0%	.0%	40.0%	100.0%
	Belize	Count	5	6	2	0	0	3	16
		% within District	31.3%	37.5%	12.5%	.0%	.0%	18.8%	100.0%
	Cayo	Count	1	2	2	1	3	2	11
		% within District	9.1%	18.2%	18.2%	9.1%	27.3%	18.2%	100.0%
	Stann Creek	Count	2	4	7	2	1	0	16
		% within District	12.5%	25.0%	43.8%	12.5%	6.3%	.0%	100.0%
	Toledo	Count	5	4	2	3	8	9	31
		% within District	16.1%	12.9%	6.5%	9.7%	25.8%	29.0%	100.0%
Total		Count	18	20	19	11	12	25	105
		% within District	17.1%	19.0%	18.1%	10.5%	11.4%	23.8%	100.0%

APPENDIX #3

District & # of Hours Worked as a Community Health Worker Crosstabulation

			Hours Per Week Worked as a CHW					
			Less than 10 hours	10 - 20 hours	21 - 30 hours	31 - 40 hours	More than 40 hours	Total
District	Corozal	Count	0	11	0	0	0	11
		% within District	.0%	100.0%	.0%	.0%	.0%	100.0%
	Orange Walk	Count	1	2	12	3	2	20
		% within District	5.0%	10.0%	60.0%	15.0%	10.0%	100.0%
	Belize	Count	7	8	0	1	0	16
		% within District	43.8%	50.0%	.0%	6.3%	.0%	100.0%
	Cayo	Count	1	3	1	0	6	11
		% within District	9.1%	27.3%	9.1%	.0%	54.5%	100.0%
	Stann Creek	Count	6	0	3	2	5	16
		% within District	37.5%	.0%	18.8%	12.5%	31.3%	100.0%
	Toledo	Count	13	7	1	0	10	31
		% within District	41.9%	22.6%	3.2%	.0%	32.3%	100.0%
Total		Count	28	31	17	6	23	105
		% within District	26.7%	29.5%	16.2%	5.7%	21.9%	100.0%

APPENDIX #4

District & Recommend Crosstabulation

			Recommend				
			Salary/Pay Benefits	Equipment & Infrastructure	More CHWs/Staff/ Training	Positive Attitudes from Community & Health Professionals	Total
District	Corozal	Count	1	10	0	0	11
		% within District	9.1%	90.9%	.0%	.0%	100.0%
	Orange Walk	Count	2	9	5	3	19
		% within District	10.5%	47.4%	26.3%	15.8%	100.0%
	Belize	Count	0	4	5	3	12
		% within District	.0%	33.3%	41.7%	25.0%	100.0%
	Cayo	Count	9	2	0	0	11
		% within District	81.8%	18.2%	.0%	.0%	100.0%
	Stann Creek	Count	4	5	1	2	12
		% within District	33.3%	41.7%	8.3%	16.7%	100.0%
	Toledo	Count	14	14	4	0	32
		% within District	43.8%	43.8%	12.5%	.0%	100.0%
Total		Count	30	44	15	8	97
		% within District	30.9%	45.4%	15.5%	8.2%	100.0%