

DPC/NC/05.002

III PAHO-DOTA Workshop on Quality of Diabetes Care

Final Report

(Holiday Inn, Nassau, Bahamas,
21–24 November 2004)



Noncommunicable Diseases Unit
Pan American Health Organization / World Health Organization (PAHO/WHO)
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Venue

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Aims

1. Review clinical evidence-based diabetes guidelines and suggest a plan for the development of similar activities at the national level in participating countries.
2. Review strategies to improve quality of care for people with diabetes.
3. Produce plans for projects on diabetes education and quality of care improvement

Introduction

Diabetes mellitus affects between 10% and 15% of the adult population of the Caribbean, where its economic burden reached the \$1 billion mark in 2000. Previous studies indicate that diabetes care is sub optimal in the Caribbean. The Declaration of the Americas on Diabetes (DOTA) supported the project Institutional Response to Diabetes and its Complications with sites in the Bahamas, Jamaica and Saint Lucia.

The first DOTA Workshop on Quality of Diabetes Care was held on March 11-12, 2002 in Ocho Rios Jamaica with participation of Barbados, the Bahamas, Trinidad & Tobago, Jamaica and Saint Lucia. Participants agreed on implementing a quality of diabetes care survey in health centers using the data collection questionnaire discussed during the workshop.

A second workshop took place at the Diabetes Research Institute at the University of Miami in May 2003, where results of the evaluation were analyzed. Results of the study on the quality of diabetes care in the Caribbean (Bahamas, Jamaica and Saint Lucia) showed that diabetes care needs to be improved. More than half of the surveyed patients in participating centers were found to have poor metabolic control (fasting blood glucose ≥ 8 mm/l / $HbA_{1c} \geq 8\%$). Most people with diabetes still do not get an annual foot exam, nutrition or exercise advice as part of a diabetes education program.

Keynote Address

Delivered by Senator the Honorable Marcus C. Bethel, Minister of Health

I am delighted to have been invited to address the opening of his workshop by the Pan American Health Organization (PAHO) and the Declaration of the Americas on Diabetes (DOTA). I extend a warm welcome to our visitors and wish you a fruitful and enjoyable stay in the Bahamas.

Ladies and Gentlemen:

The convening of this third PAHO-DOTA meeting comes at a time when regionally there is much cause for alarm about this disease. The World Health Organization (WHO) and the International Diabetes Federation (IDF) in their joint 2004 publication, "Diabetes Action Now," estimate that by 2010, diabetes is expected to affect some 45 million people in the area of the Americas alone.

There is also evidence that diabetes in populations of African and Asian ethnicity is four times that of Caucasian populations. This is cause for great concern, as these two groups comprise the vast majority of the Caribbean peoples.

As a region, we owe a debt of gratitude to the International Diabetes Federation, the Pan American Health Organization, and the coalition of other international and national organizations, which make up DOTA; for their focused attention in promoting better health for people in the Americas affected by this disease since DOTA's formation in 1996.

This third PAHO-DOTA workshop, here in the Bahamas, is a follow-up to the two previously held workshops in Ocho Rios, Jamaica in March, 2002 and in Miami, Florida in May 2003. Specifically, the aims of the workshop are to:

- review clinical evidence-based guidelines and suggest a plan for the development of similar activities at the national level in participating countries;
- develop strategies to improve quality of care for people with diabetes; and
- produce plans for projects on diabetes education and quality of care improvement.

Therefore, the participants in this workshop will not only have the onerous but very important task of guiding the direction of their respective national programmes, they must also assist in bridging the gap in the community response to this very serious and costly public health disease.

Ladies and Gentlemen:

As an internist and Minister of Health, it saddens me to see the human suffering this preventable disease causes. Diabetes is the leading cause of chronic kidney failure, blindness and lower limb amputations that are not due to trauma. It is also a major underlying cause of heart disease and stroke and is linked to hypertension and early death. It negatively affects both the quality and length of life and has enormous economic costs. Ironically, scientific evidence indicates that much of this suffering can be prevented by simple lifestyle changes such as increased physical activity and healthier eating habits.

This growing pandemic is also a serious and challenging problem for us here in the Bahamas. In 2001, this disease was cited as the fourth leading cause of death among Bahamians, accounting for six percent of all deaths. However, mortality alone severely understates the burden of this disease on our country as a whole.

‘The 2001 Bahamas Living Conditions Report’ showed a self-reported prevalence of 3.3% diabetes, with rates slightly higher among females than males. The same research indicated that in the adult population, thirty four percent was overweight, thirty one percent were obese and the older population had increasing levels of overweight and obesity. While these figures are quite alarming, we have been encouraged by the significant strides made in the standardization and quality of diabetes care here in the Bahamas.

Evolving from a committee concerned with the prevention and control of diabetes in the Bahamas, the Ministry of Health initiated the National Chronic Non-Communicable Diseases (CNCD) Programme in 2003. The Programme’s long term goal is to strengthen the public health response to the rising problem of CNCD, in particular, cardiovascular diseases, diabetes, cancer and chronic respiratory diseases and to examine community-based approaches for reducing premature death and disability caused by these diseases.

The CNCD Programme has established strong partnerships with the Bahamas Diabetic Association, the Bahamas Heart Foundation, schools, churches, other civic groups and Doctors’ Hospital, a private health facility.

The Bahamas has also made significant strides in structuring its diabetes clinical care models. Diabetes clinics are conducted at four polyclinics in New Providence. A comprehensive ambulatory referral endocrinology (C.A.R.E.) clinic, encompassing a multidisciplinary approach to care, is operated at one of the expanded public health facilities. The C.A.R.E. clinics provide onsite care by endocrinologist, Dr. Sebastian Peter, who will be presenting at this workshop, a podiatrist, nutritionist, and diabetes nurse educators.

A protocol derived from the Caribbean Health Research Council, for the management of diabetes mellitus in primary care, has been adopted and disseminated throughout the public health system.

We are also very pleased with the success of our Lower Extremity Amputation Prevention (L.E.A.P.) Project. It is the brainchild of Dr. Daniel Johnson, head of the division of podiatric medicine and surgery at the Princess Margaret Hospital, and National Director of the Ministry of Health’s Chronic Non-Communicable Diseases Programme.

The Project began in 1996 and is aimed at reducing the rate of amputations in diabetics and geriatrics. Risk factors such as peripheral vascular disease, neuropathy, infection and ulceration were noted as the main causes of the amputations of the toes, feet, symes, above-the-knee and below-the-knee amputations. L.E.A.P. clinics are conducted at Princess Margaret and geriatric hospitals, three of our public health clinics and in several of our Family Island clinics.

I am pleased to report that our Princess Margaret Hospital offers the only programme in the Caribbean for nerve decompression in the diabetic patient. This procedure has been successfully returning sensation and stability to the limbs in diabetics. Out of the thirty-five cases seen, only one patient has had ulceration.

The Nutrition Unit in the Department of Public Health is also actively involved in the quality care of diabetics. Last week, this unit spearheaded a number of activities commemorating World Diabetes Day, the highlight of which was the “Diabetics Health Expo,” which attracted hundreds of persons interested in learning more about diabetes prevention, control, and management. Additionally, the unit has collaborated with the Ministry of Education in drafting policy to regulate the foods sold in and around schools, in an effort to prevent and reduce obesity in our school population. The School Weight Management Programme, where children between the ages of five to seventeen years, along with their parents, are seen by a nutritionist, is yielding some success among this youthful population.

Ladies and Gentlemen:

While the challenges brought about by diabetes can be daunting, the commitment of this government and my ministry is unwavering.

As a region, it will require a collective and active response at the national level, community level and individual level, if we want to see a significant decrease in the number of persons affected by this disease. I leave you with a quote from the final report on the “Institutional Response to Diabetes and its Complications.” It reads, “given the high burden that diabetes represents in the Caribbean and the current trend in the diabetes prevalence worldwide, there is an urgent need to act now and foster prevention strategies in order to achieve additional gains in years of life expectancy and quality of life.”

I wish every success in your discussions and it is now my pleasure to officially declare this workshop open.

Thank you.

A Final Report of an Evaluation of Quality of Diabetes Care

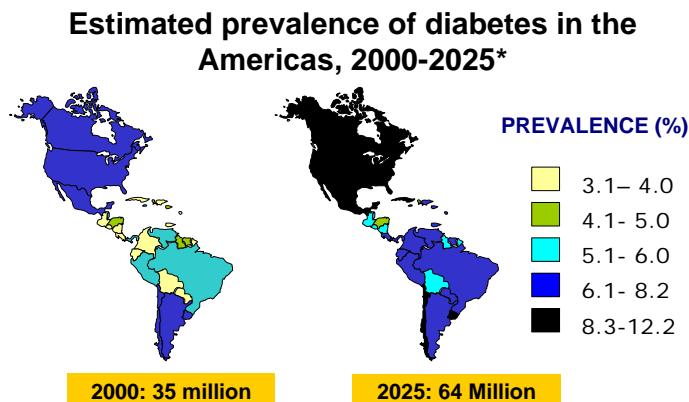
Dr. Alberto Barceló, PAHO, Washington, DC

The Declaration of the Americas on Diabetes (DOTA) movement began with a consensus development conference in 1996 where the Declaration was drafted. The Declaration recognized diabetes as a pandemic and called for strategic action in diabetes education, awareness and advocacy, quality of care, national diabetes program development, epidemiology, and organizational alliances.

The Pan American Health Organization Directing Council passed a resolution recognizing the Declaration as a guide to national program development. The founding organizations were the North American (NAR) and South and Central American (SACA) Regions of the IDF, the Pan American Health Organization (PAHO) and industry partners. The implementation of the declaration relies on volunteers from the three major partners (SACA, NARC and PAHO).

November 14 was World Diabetes Day and this year the theme was obesity. Obesity and overweight are related to type 2 diabetes. It is estimated that 2 billion people in the world are overweight. Obesity is estimated to be responsible for 61% of cases of type 2 diabetes. In addition, other lesser-known diseases related to obesity are endometrial cancer (34% of cases), arthritis (24%), cardiovascular diseases (17%), hypertension (17%), breast cancer (11%) and colon cancer (11%)¹.

Figure 1:



* Reference: King H, Aubert RE, Herman WH. Global Burden of Diabetes, 1995-2025. *Diabetes Care* 1998;21:1414-1431

TYPE 2 DIABETES IS PREVENTABLE

The prevalence of diabetes will increase in the Americas from 35 million in 2000 to 64 million in 2025. The main increase in the prevalence is expected in Latin America and the Caribbean². Barbados has reported the highest prevalence of diabetes (17%)³.

¹ Wolf AM, Colditz GA. Current Estimates of the Economic Cost of Obesity in the United States. *Obesity Research* 1998; 6 (2): 97-106.

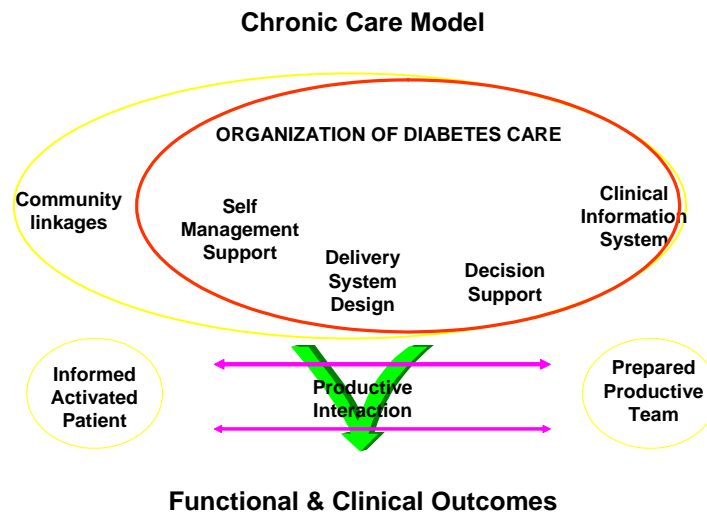
² King H, Aubert RE, Herman WH. Global Burden of Diabetes, 1995-2025. *Diabetes Care* 1998; 21: 1414-1431.

³ Foster C, Rotimi C, Fraser H, Sundarum C, Liao Y, Gibson E, Holder Y, Hoyos M, Mellanson-King R. Hypertension, diabetes, and obesity in Barbados: findings from a recent population-based survey. *Ethn Dis* 1993; 3 (4): 404-12.

The first IRDC workshop was held in Ocho Rios, Jamaica in March 2002 and was sponsored by DOTA. In this workshop, quality of care in the Caribbean was reviewed using data from different studies carried out in the Caribbean. The initial plans were made during this workshop to conduct an evaluation of quality of care in different settings.

The second workshop took place at the University of Miami in May 2003. The focus of the workshop was to identify gaps in the delivery of care for people with diabetes using the chronic care model⁴. Results of the group work showed that the focus of future projects in participating countries should be the creation of an information system to assist in the monitoring of quality of care; self management support or diabetes education programs; and decision support in terms of the creation, implementation or evaluation of clinical guidelines.

Figure 2:



The aim of the III IRDC workshop is to review clinical evidence-based diabetes guidelines and suggest a plan for the development of similar activities at the national level in participating countries, review strategies to improve quality of care for people with diabetes, and produce plans for projects on diabetes education and quality of care improvement.

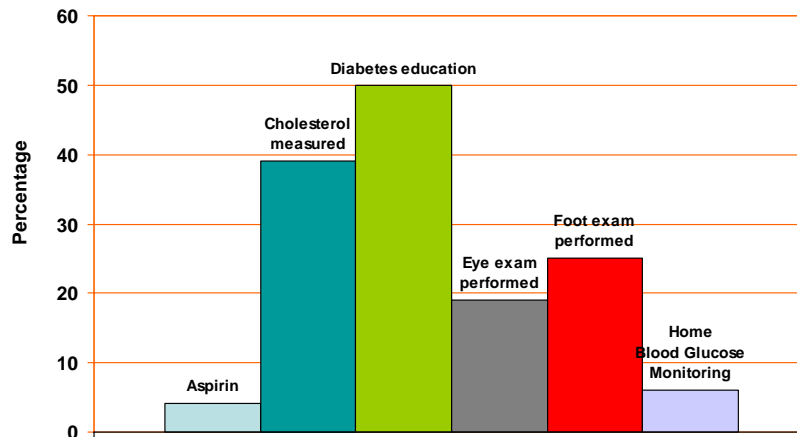
The IRDC Study

Diabetes care and education are among the most important aspects in the fight against diabetes. Improvement in diabetes control is linked to better quality of life and survival. The present project was funded by the Declaration of the Americas on Diabetes (DOTA) and the Pan American Health Organization (PAHO).

The aim of the study was to assess the quality of care for people with diabetes mellitus (DM) in four outpatient clinics in the Bahamas, one specialized clinic in Jamaica, and two hospitals in Saint Lucia. The study was an audit of medical records. Initially the study was planned to be done only in outpatient clinics but it was found that clinics in Saint Lucia do not keep patient records and therefore the audit was conducted in two hospitals in that country.

⁴ Wagner EH, Glasgow RE, Davis C, Bonomi AE, Provost L, McCulloch D, Carver P, Sixta C. Quality improvement in chronic illness care: a collaborative approach. *Jt Comm J Qual Improv.* 2001 Feb; 27 (2): 63–80.

Figure 3: The DOTA Project on Quality of Diabetes Care in the Caribbean



Overall, 563 patient charts were reviewed (Jamaica 297, Saint Lucia 147 and Bahamas 119) by trained data collectors. Eye examinations were reported in 19.0% of cases with the largest figure being reported in the Bahamas and the lowest in Jamaica. Foot examinations were reported only in 25.2% of charts, and it was more frequently reported in the Bahamas (58.0%) than in the other sites. The lowest proportion of charts with reported foot exam was Saint Lucia (2.9%). Overall, 51.0% of cases were reported to have blood pressures of 140/90 mmHg or higher. The proportion was similar in the three sites. Fasting glucose of 8 mmol/L or higher was found in 66.7% of cases and was the most frequent in Saint Lucia (67.9%) and the lowest in the Bahamas (52.2%). Overall 64.3% of patients were found to have poor control (HbA_{1c} or $FBG \geq 8\text{mmol/L}$). The proportion of patients with poor control varied from 71.8% in Jamaica to 38.0% in the Bahamas. Many incomplete records were found in all the seven sites.

A very low proportion of records had information on important aspects of the medical history such as smoking or alcohol use, as well as explanations given to patients. In most cases in the Bahamas and in all cases in Saint Lucia, the height of patients was not recorded and as a result of this, it was impossible to calculate the Body Mass Index (BMI).

As has been seen in previous reports, diabetes care in the three studied sites was found not to follow international standards. The proportion of people with poor glycaemic control reported here for the participating clinic in Jamaica and the two hospitals in Saint Lucia is comparable to previous studies in the Caribbean, but it was considerably lower in the centers in the Bahamas. The main predictors of good glycaemic control were nutritional advice and non-pharmacological treatment such as diet, exercise and weight reduction. In addition, patients in clinics in the Bahamas were shown to have achieved better glycaemic control.

Given the high burden that diabetes represents for the Caribbean and the current trend in the diabetes prevalence observed worldwide, there is an urgent need to act now and foster prevention strategies in order to achieve additional gains in years of life expectancy and quality of life.

Reducing the Impact of Diabetes: The Role of the Diabetes Unit at the World Health Organization Geneva and Diabetes Action Now

Dr. Nigel Unwin, WHO Geneva

Worldwide non-communicable chronic diseases (CDs), including diabetes, account for almost 60% of all deaths. However, only 3.5% of the World Health Organization's total budget is devoted to CDs⁵, and international donors contribute an even smaller proportion of their budgets. In short, at a global level there is a huge mismatch between the priority given to CDs and their burden. Thus, a key aim of both the diabetes unit at WHO, and the department within which it is based (Chronic Diseases and Health Promotion) is to raise awareness about the public health importance of diabetes and other CDs and stimulate action to address them.

The Diabetes Unit at WHO Geneva currently consists of three technical staff (Amanda Marlin, Gojka Roglic and Nigel Unwin) and one administrative assistant (Claire Duchesne). The activities of the unit fall under four main headings:

1. Awareness raising and advocacy
2. The promotion of prevention of diabetes and its complications
3. The promotion of, and contribution to, the surveillance of diabetes, its risk factors and its complications
4. The definition of standards and norms, such as for the diagnosis of diabetes and its complications

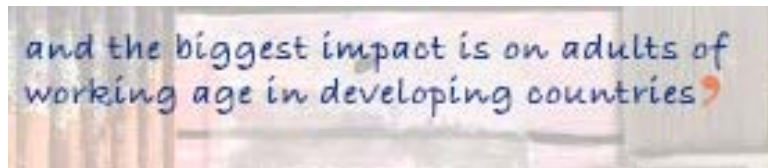
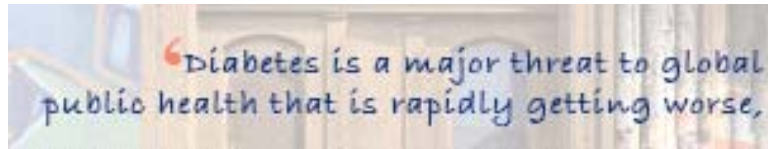
In addition, an ever-present concern is to find resources to support these activities.

Diabetes Action Now is a joint program of the World Health Organization and the International Diabetes Federation (IDF). It is based in the WHO diabetes unit in Geneva. The program is supported by a grant from the World Diabetes Foundation. It began in October 2003 and it is the single most important body of work currently being undertaken by the diabetes unit.

The main focus of Diabetes Action Now is on low and middle income communities, particular in developing countries. A major area of activity is to raise awareness, particularly among national and international health policy makers, about the public health importance of diabetes. A booklet designed to be used for awareness-raising with policy makers and the media is available (e.g. through the contact details given below). This booklet covers the situation worldwide but could easily be adapted to be specific to the circumstances in a particular region or country.

⁵ Figure for 2002

Awareness Raising *the Key Messages*



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Other activities include studies in pilot countries on levels of awareness about diabetes and its economic impact, a new technical report summarizing current evidence on the prevention of diabetes and its complications, and guidance to policy makers on the contents and implementation of national diabetes programs. It is proposed that activities around national diabetes programs will include the following:

- Known effective health care interventions for people with diabetes will be grouped to cost-effectiveness and feasibility. From the most cost-effective, a minimum package of care will be defined that will be recommended to be available to all people with diabetes.
- Guidance will be given on delivering the minimum package of care. The guidance will cover what needs to be in place across the health care system, from the policy level down to the training of primary health care staff and patient education. The chronic care model developed by WHO (known as the Integrated Care for Chronic Conditions Framework) will be used to provide a coherent structure for this guidance. This guidance will be made available on the internet, with links to examples of guidelines, training packages, and other materials, and with the contact details of people with experience in the use of those materials who are prepared to be contacted for further advice.
- Finally, it is proposed that a WHO primary health care guideline and implementation strategy for diabetes will be developed and piloted in 2 or 3 countries. Assuming the guideline and its implementation is shown to be effective in improving care it would be made available for adaptation and use elsewhere.

Further details about Diabetes Action Now are available through the WHO diabetes website, www.who.int/diabetes. Comments and questions are always welcome and can be directed to the diabetes email address (diabetes@who.int) or to Nigel Unwin (unwinn@who.int).

The Diabetic Foot in Barbados

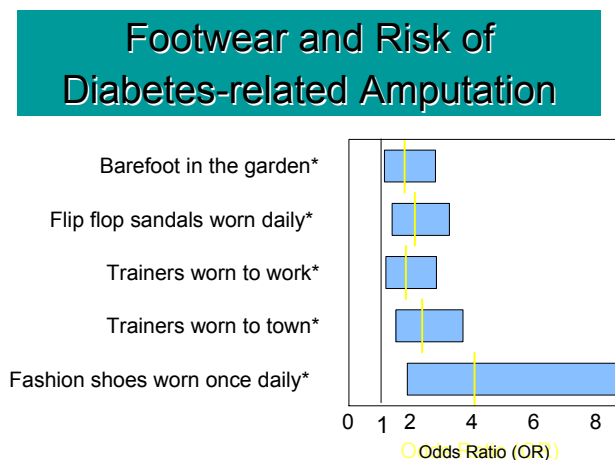
Dr. Anselm Hennis, Caribbean Health Research Council

There have long been anecdotal reports of high diabetes-related amputation rates in Caribbean populations, and the aim was to establish the incidence and risk factors for diabetes-related lower extremity amputation (LEA) in Barbados, West Indies. An incident study and a prospective case-control study of cases (people with diabetes having a LEA), and community-based controls (diabetes without LEA) were conducted. Participants completed a comprehensive interview including demographic, social, medical and lifestyle practices likely to be related to amputation risk, including foot care and footwear use.

Overall one-year incidence of lower extremity amputation was 173 per 10⁵ population. Women had higher amputation rates than reported in the Global Lower Extremity Amputation Study, apart from the US Navajo population. Amputation risk was higher among men and single persons and was influenced by the duration of known diabetes and how well blood glucose levels were controlled. Risk factors such as peripheral vascular disease and diabetic peripheral neuropathy were important factors that significantly increased amputation risk.

Of note, footwear was particularly associated with an increased likelihood of LEA. As such, men going barefoot outside in the garden had a nearly three fold increased risk of amputation, while women who regularly wore sneakers to work doubled their risk of amputation, which increased fourfold in those who regularly wore sneakers to town. It is believed that ill-fitting, poor quality sneakers, probably not maintained in a hygienic state, might be responsible for the associations reported. Wearing rubber thong sandals on a daily basis doubled the amputation risk. Wearing fashion shoes was also linked to a fourfold increased risk of amputation. Of note, many persons who eventually had an amputation had previously suffered foot ulcers and were known to the hospital system.

Figure 4:



* $P < 0.05$

In addition to improvements in education about diabetes care for both patients and health care providers, development of comprehensive multidisciplinary approaches to diabetes care, targeted interventions may also be a valuable strategy to reduce the burden of lower-extremity amputation in the Caribbean. Such an approach would aim to improve footwear, particularly in those with diabetic foot disease, foot care through podiatric and surgical services, and promotion of early health care-seeking behaviors.

Foot Care in Jamaica

Mr. Owen Bernard, Diabetes Association, Jamaica

One of the crucial components in the management of diabetes is foot care. However, empirical evidence has shown that in spite of this fact, it is an area that has been neglected. In many developing countries, there are no chiropodists or podiatrists. The management of diabetes needs a multidisciplinary approach and team work. Chiropodists/podiatrists should and *must* be part of the team because without their expertise there can be many complications.

Foot care is not a minor consideration, but can reduce the risk of amputations. The flow should be *diagnose, treat, and educate* since education is the cornerstone of diabetes management at all levels. This involves the person with diabetes understanding the importance of foot care. The degenerative process that leads to a patient having a limb or digit amputated does not happen overnight; it is a gradual and pernicious process. People with diabetes for twenty years or more have an increased risk of amputation of toes, feet or legs. High blood sugar levels can cause damage to the nerves of the feet. The ability to feel and fight infection therefore becomes reduced. It is important to recognize early signs of foot problems so that they can be treated quickly. Various case studies have shown that many foot problems could be prevented by early detection and education by qualified people with the basic skills.

Some of the most common foot problems in Jamaica are:

1. Calluses
2. Helomas:
 - a) Hard Corn (Heloma Durum)
 - b) Vascular Corn (Heloma Vasculare)
 - c) Neuro-vascular Corns
 - d) Soft Corns (Heloma Molle)
 - e) Seed Corns (Heloma Miliare)
3. Onychogryphosis
4. Involved Nails
5. Apical Helomas (as a result of hammer toes trauma)

Table 1:

Foot Care Services			
Conditions	Diabetics	Non Diabetics	Total
Involuted Nails	55 (45.5%)	65	120
Helomas	160 (76.6%)	50	210
Onychogryphosis	100 (71.4%)	40	140
Ingrown nails	40 (44.4%)	50	90
Total	355 (63.4%)	205	560

Patients seen at the Diabetes Clinic January to December 2002, Kingston, Jamaica.

The usefulness of foot care and having people with some formal training deal with foot care is not fully realized. Foot care is usually regarded only as a treatment of minor ailments which don't greatly interfere with the pleasures and comforts of everyday life. To know how to cut a corn and alleviate pain is *not* foot care. Corns can be very painful and unless they are treated in a skillful, scientific manner, there will always be the danger of a septic or inflammatory condition occurring.

A chiropodist/podiatrist is someone who deals exclusively with ailments of the feet. In Jamaica, which has a population of just over two and a half million, there are only eight chiropodists/podiatrists and they are *all* in the private sector. The government hospital and clinics have none. One solution was to create foot care assistants who are similar to Community Health Aides (CHA), members of the health care team who administer basic medical care in rural areas. A two-phase course for foot care assistants was therefore developed. Phase one involved one week of classroom work, and phase two involved three months of intensive practical training. Most of phase two was done in the homes of the elderly. The aim of the program was to give a group of people basic skills in foot care so that they could provide a service that is vitally needed in their community. A total of 14 foot care assistants were trained. Twelve were from Jamaica, one was from Saint Lucia and one from the Bahamas.

Implementation

Our 12 Foot Care Assistants are now certified and registered with the ***Diabetes Association of Jamaica*** which monitors them.

What makes our program unique?

We did it all with only **\$12,000**. But those \$12,000 have, I believe, gone a long way towards making people aware of just how important it is to look after their feet, especially if you're diabetic.

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Our success has been noted by neighboring countries such as Belize where the program has been replicated. Belize now has 15 foot care assistants and foot care clinics are held throughout the country. As in Jamaica, the role of the foot care assistant is to provide basic and formal foot care and education for people in the high-risk groups such as people with diabetes and the elderly in rural areas. In spite of all our successes, public awareness of the importance of foot care is still very low. There is still a lot of work to be done. The way forward is to expand the program and train more foot care assistants to work in rural communities.

It sounds like a simple solution, but in my experience simple solutions are more workable, less expensive and adaptable. In the words of that well known philosopher, Fred Seeley, "**Success comes in Cans. Failure comes in Can'ts.**"

Diabetes Health Technology Evaluation in Suriname

Dr. V.S. Asin-Oostburg, Bureau of Public Health (MOH)

The government official in charge of the chronic disease program in Suriname participated in the second DOTA quality of care workshop where the Chronic Care Model, QUALIDIAB and other subjects were introduced.

During the third workshop, the same official was able to present the activities that have been initiated in Suriname applying experiences from the second workshop. These activities included a pilot project in 13 practices (among 19 physicians) for implementing a diabetes protocol; introducing a quality of care monitoring system, QUALIFORM, adapted from QUALIDIAB; training in foot care screening for doctors and nurses; establishing small task forces on eye care and foot care/wound care; and training diabetes nurses.

A Health Technology Assessment (HTA) was carried out in Suriname in preparation of the II DOTA workshop that took place at the University of Miami in May 2003. This HTA used the Assessment of Chronic Illness Care form created by the Cindy McCall Institute. Health officials from various fields such as primary and secondary care units and public health responded to the questionnaire. The general recommendations of the HTA exercise were to improve the clinical information system, self management education and decision support. Suriname stated also as a priority area to work on the health care delivery system.

Immediate action was directed towards strengthening primary care. A pilot project in 13 practices (among 19 physicians) for implementation of the “diabetes protocol” started in February 2004. To assess the quality of care, QUALIFORM was introduced (QUALIDIAB adapted to Suriname). For the evaluation of foot care, foot training and the introduction of foot screening forms for doctors and nurses were designed. Small task forces (eye care, foot care, wound care) were formed for implementation of a public diabetes clinic in the local dermatology clinic. Training of Diabetes Nurses in Suriname at the training institute for nurses (COVAB) started in November 2004.

Promote Healthy Life Style



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On the ministry level, the Health Sector Plan MOH June 2004 was presented, identifying the need for integration of actors both in the health sector and health promotion, and collaboration of actors in the health sector and other areas and health promotion.

At the Bureau of Public Health (BOG), a project for strengthening the institute started in 2004, with the mission of evidence-based improvement of the health of the population based on proven and accepted public health principals with the emphasis on preventive aspects of these principals within the health area.

General Goals

Department of NCD BOG-MOH

- Reduction of ***morbidity*** related to preventable diseases.

- Reduction of ***mortality*** related to preventable diseases.

- Improvement of health and wellbeing of the population (***quality of life***).

Summary of the QUALIFORM results

The preliminary analysis showed that 41% of patients were Creole while 31% were from Hindu origin; other ethnicities such as Javaan, Maroon and Indian were also represented. Among Creoles, 42% were found to have diabetes, hypertension and high cholesterol, while the proportion of individuals with the three conditions were 31% and 35% for Hindu and Javaan respectively. The analysis of the Body Mass Index (BMI) indicated that most patients were overweight (42%) or obese (31%). Overall 79% of the patients had blood glucose over 6.5 mmol/L and only 16% of patients had a glucose meter.

Future plans

Suriname will continue building alliances; it has been a good experience so far and people have started to talk to each other and to work together, namely the government, NGOs, international organizations and PAHO. Based on the preliminary analysis of the monitoring system, Suriname needs to improve the quality of care. It also needs to start health promotion and continue the improvement of the information system.

The major challenge for Suriname is human resources. The country doesn't have many professionals to help in the field of public health or biostatistics and that will be the biggest challenge to Suriname.

Because we know that diabetes is preventable, let us now to spread the good news!

Anguilla

Ms. Dana Ruan, Ministry of Health

Anguilla is the most northern Leeward Island in the Caribbean. It is 16 miles long and 3 miles wide with a population of approximately 12,000. Anguilla is a British Dependent Territory and a member of the OECS.

Anguilla's main industries are tourism and fishing and the national sport is boat racing. Anguilla is home to the annual Tranquility Jazz Festival, Moon splash, and the Anguilla Yacht Regatta. Anguilla was the venue of NBC's first destination wedding on its Today show. This was aired last Friday live from Cap Juluca Hotel in Anguilla.

The latest census (2001) showed that 18% of the population has diabetes. A large percentage of the population seeks medical attention at private facilities as well as overseas. The figures here represent only those persons who utilize the government facilities. The government has 1 hospital with 35 beds, 5 clinics, and 1 dental unit.

There are 7 private doctor's offices and clinics. Services provided include GP's, Ob/Gyn, internist, general surgeons, plastic & reconstructive surgeon, dentist, optometrist, visiting specialist, ENT, cardiologist, rheumatologist, and dermatologist.

Table 2:

The Last Census (2001) Showed that 18% of the Population has Diabetes.

	<i>Admission to Hospital</i>		
	2001	2002	2003
Diabetes Mellitus Primary Diagnosis	54	68	78
Diabetes Mellitus Secondary Diagnosis	118	156	141
Newly Diagnosis Diabetes Mellitus	-	24	6
		<i>Male</i>	<i>Female</i>
Deaths 2003		4	4

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NGOs such as the Anguilla Diabetes Association (ADA) and Anguilla Red Cross provide services. The Anguilla Diabetes Association provides home visits, medication administration, monitoring, and a foot care nurse. The ADA also provides ongoing education; such as a diabetes educators course, a foot care course, and diabetes seminars. Screening occurs during the ADA week of activities held annually in November. Screenings of blood sugar, blood pressure and BMI were done during the health fair; other activities included foot care and nutritional consultation. Screenings are done 3 other times during the year by the ADA, Lions Club, and Rotary. The ADA has a support group; a men's group formed last year and has approximately 15 members. The annual diabetes conference is held in March for 2 days. The Red Cross provides van transportation to doctor's appointments, shopping and other errands.

Most medications are available in Anguilla, but some have to be obtained overseas e.g. Humulin insulin. Insulin costs \$20, Metformin costs \$12, Daonil costs \$12/month supply. Some testing equipment is available: machine costs \$268, strips \$134/50 strips. Strips are not always readily available so most persons purchase supplies overseas: One Touch, Advantage, DEX, Accucheck, Elite.

Inpatient care costs \$100 – \$300/night and consists of laboratories, medications, and supplies. Outpatient care costs \$25 for a medical visit, \$50 – 75 for a private visit, \$50 for a dental visit, and \$50 for an eye exam. Hemodialysis costs \$1005 per prescription.

Indirect costs to the family include financial, emotional, social, premature retirement and disability. Indirect costs to the community include loss of productivity, decrease in available personnel to develop community due to persons being affected by diabetes or being affected by having family members with DM. Costs to work are absenteeism and decrease in productivity.

Challenges exist in Anguilla; the stigma is still present among young adults, especially men. Diabetes is expensive; the annual cost is approximately \$2725. A low income salary is approximately \$2800 annually, therefore choices have to be made between food or medications and supplies. There are knowledge deficits related to diabetes. Some persons refuse to take advantage of available education; they feel that “it will go away” or that they just “have a touch of DM”. Medications are sometimes not available, even through the government pharmacy, and supplies have to be obtained from SXM, U.S.V.I, Puerto Rico, and the USA. Government financial support is limited. ADA has been trying for years to get a discount on medications for diabetics over 55 and under 18 without success.

A management protocol is badly needed for acute care, chronic care, and in and outpatient care. There is a rapid turnover of doctors and nurses at the hospital. Doctors bring their own management protocol which lasts during their stay, thus creating a problem.

There is limited access in Anguilla. The hospital provides the diabetic profile, there is one private lab for HbA_{1c}. People have to travel to SXM. The government clinics have set hours and a doctor is not available daily. There is no endocrinologist; there are endocrinologists overseas in Puerto Rico and SXM, but the language barrier and cultural differences make it difficult. The elderly have difficulty sometimes with transportation. The Red Cross has one van and cannot service all clinics. An ophthalmologist visits for a half day each week from SXM. Diagnostic tests, such as scans, happen overseas. There is no structured diabetes management team; there is nothing formally in writing. Referrals can be made informally. The majority of the staff nurses at the hospital are not locals.

PAHO/DOHA can help by impressing upon the government of Anguilla the importance of having proper diabetes care. They can assist in continuing training of health care professionals and in establishing guidelines and protocols.

Barbados

Dr. Carlisle Goddard, Ministry of Health

Type 2 Diabetes Mellitus (T2DM) is a major health problem in Barbados. According to the Barbados Eye study, 9.1% of people between the ages of 40 and 49 have diabetes and this increases to 24% at 70–79 years old. Overall, 17.5% of Barbadians have diabetes and 2% of the study population had a measure of diabetes without any prior history of having diabetes. This prevalence is one of the highest within the Caribbean and the major group affected is the working class.

Medical care is free to all Barbadians who attend the main hospital or any of the polyclinics. There is also access to private general physicians but the local cost lies with the patient or their insurance company. The Barbados Government spends a significant amount of money on chronic, non-communicable diseases (CNCDs). In the private arena, it spends close to a quarter million dollars per month on medication for diabetes alone. Unless a ready solution is sought, the burden of CNCDs will be insurmountable in Barbados.

At the primary level, a review of the burden of T2DM was done. An audit was done at one of the 8 polyclinics to see the current management of T2DM.

Audit of a Diabetes Clinic at one of the Polyclinics

Self Glucose Monitoring	22%
Average HbA_{1c}	12%
Average blood glucose	19.6
Non attendance rates	17%
Amputation rates	3%
Obesity	38%
Hypertension	78%
Dietitian referral	40%
Podiatrist referral	33%
Members of the Diabetes Association of Barbados	8%

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The average HbA_{1c} was 12% and the average blood glucose was 19.6 mmol/L. Only 22% of the people attending the Diabetes Clinic performed self-glucose monitoring. The proportion of people presenting obesity and hypertension was 38% and 78%, respectively. There is little use of Podiatry and Dietitian services at 33% and 40%, respectively. A mere 8% of the people attending the diabetes clinic belong to the Diabetes Association of Barbados.

Using a polyclinic as a pilot, a Framework for the Role of Diabetes Specialists in Primary Care was proposed. The principle aims were to establish a Primary Care Diabetes Unit, Shared Care Program, emphasize lifestyle modification, and implement a school training program.

Primary Care Diabetes Unit

In establishing a unit dedicated to diabetes, emphasis is on implementing protocols for screening, early diagnosis, referral and management of patients with diabetes. Appropriate and timely introduction of medication including insulin and tablets was employed as well as decreasing the incidence of complications. Emphasis on lifestyle modification was the backbone of the intervention.

Shared Care Program is a program between General Practitioners (GPs) and the Primary Care Diabetes Unit that offers continual educational sessions for GPs and other health care providers.

School Training Program is a program in which school teachers are trained to manage diabetic emergencies and provide basic life support. In addition, school children will be taught healthy lifestyles (emphasizing the role of exercise and healthy eating habits).

Lifestyle Modification is emphasized through the "Healthy Breakfast Club," a health initiative of the Lions Club, which places emphasis on providing a healthy breakfast snack which is affordable, easy to prepare at home, and above all, tasty. In addition, partnership with the Ministry of Health, pharmaceutical companies, and The Lions Club, as well as a weekly education seminar at a polyclinic focus on lifestyle modification.

Five months down the road there is a definite behavior change, reflected in the number of persons testing as well as the improvement in the control of the patients' blood glucose. The lifestyle module has had the greatest impact on the population. This however is the result of a very intensive program, with the team working well beyond their call of duty.

This raises the question of sustainability. Can this current intervention be sustained? The answer is not without injection of money and human resources. Barbados is in desperate need of podiatrists and dietitians within the primary care setting. This small pilot has demonstrated what these persons can do in a team approach setting.

Complications Prevention in Diabetes *The Alphabet Strategy*

- **A**dvice: Exercise, diet, no smoking, regular testing
- **B**lood pressure: Aim for less than 140/80
- **C**holesterol: Total <5, LDL < 3, HDL ≥1
- **D**iabetes control: HbA1c 7% or less
- **E**yes: Check yearly at least
- **F**eet: Check yearly at least
- **G**uardian drugs: Aspirin 75mg, ACE inhibitors, AT II antagonists

Dominica

Dr. David Johnson, Ministry of Health

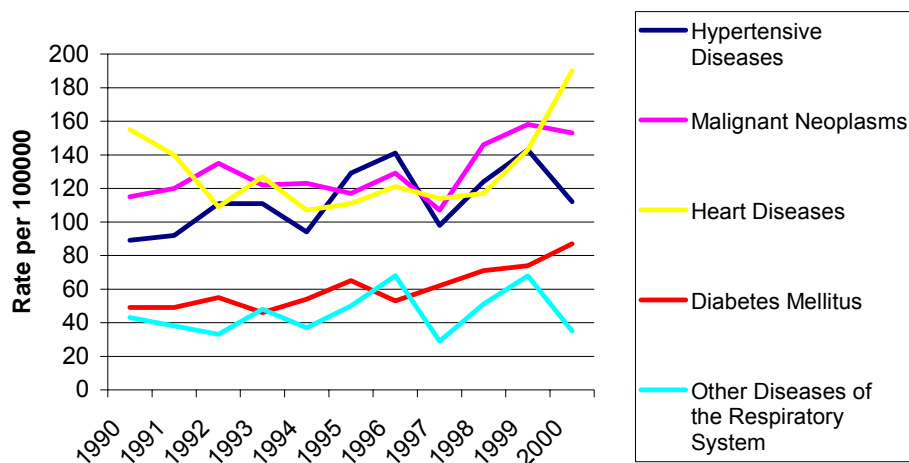
Dominica, with its population of 69,278, is situated at the northern end of the Windward Island Group of Lesser Antilles, between Guadeloupe to the north and Martinique to the south.

Health services on the island are basically organized in two levels: primary health care services (PHCS) and secondary care services. There are three public hospitals (1 secondary care and 2 primary care). The primary health care services are at no direct cost to the clients.

The management of diabetes places a heavy socioeconomic burden on Dominica's already limited health care resources, particularly at this time of economic stabilization. For 2002–2003, diabetes accounted for 14.4% of medicine expenditure at national level.

As of October 2004, the estimated prevalence of the disease is 4.33 % of the Island's population. The majority of cases occur in persons age ≥ 40 years. Diabetes is the 3rd most common cause of death in Dominica and accounts for over 25% of admissions to the medical ward.

Figure 5: Trends in Mortality, Main 5 Causes 1990-2000



Ministry of Health and Social Security

The first manual for the management of the disease was developed in 1985. The latest revision (4th edition) was done in 2003. The development of such clinical guidelines for the management of diabetes took in consideration that the client plays a central role in managing his own disease and stresses that the relationship between the health worker and client is a partnership.

The PHCS have also produced a more refined and straightforward protocol "Managing Diabetes in Primary Care". This document stresses the importance of non-drug, or life style, changes and the need to educate patients, families and the community as necessary prerequisites for effective management of the disease. It also offers the scope to rationalize and standardize management, providing evidence-based recommendations as far as possible.

The major challenges faced in managing the disease on the island are:

- the absence of a prevention and control program;
- reducing the economic burden of the disease;
- psychosocial problems related to management to diabetics (in older persons);
- insufficient human resources e.g. one nutritionist at MOH, no health educator;
- improving patient education and empowerment; and
- an inadequate information system.

The Ministry of Health of Dominica would appreciate PAHO/DOHA's assistance in the education of physicians in management of the diabetic patient, the review of clinical guidelines, technical assistance in developing a diabetes prevention and control program, the sensitization of political directorate of resources needed to develop programs to address diabetes and other NCD, and the utilization of international funds to develop programs.

Jamaica

Dr. Beverley Wright, Ministry of Health

In Jamaica, the care of the diabetic is inextricably linked to the care of the hypertensive as part of the chronic non communicable disease CNCD prevention and control program. All this flows from the National Policy for the promotion of healthy lifestyles in Jamaica. The Policy focuses on the primary and secondary prevention through an integrated approach of advocacy and partnership.

The evaluation was done at the Diabetes Association of Jamaica's clinic in Kingston, Jamaica. The Association is one of the Ministry of Health's major partners.

In Jamaica, the average life expectancy at birth is 72 years. Cardiovascular diseases, diabetes, and cancer account for 56% of deaths annually. Diabetes Mellitus and Hypertensive Diseases were the second and fourth leading cause of death in Jamaica in 1998. In 1996, cardiovascular disease and diabetes cost US \$5.2 million increasing to an estimated US\$ 13.3 million in 2002. The protocols for the management of hypertension and diabetes were published by the Ministry of health in 2001. Assessment of compliance of health care workers with protocols was necessary to evaluate whether their contents are being utilized in the field.

As part of the 2004–2005 work plan for the CNCDs (diabetes and cardiovascular diseases), the ministry will establish at least one high risk clinic in each of the four regions where the multidisciplinary team approach will be practiced.

The government of Jamaica through the National Health Fund currently provides on average 75% subsidy on the basic drugs for the treatment of hypertension and diabetes. It is also committed to strengthening the health information system for diabetes and hypertension monitoring and will increase patient education and empowerment in close collaboration with partners in the public and private sectors, NGOs, funding agencies, individuals, and the community.

The following presentation is an analysis of the knowledge of health center staff on aspects of diabetes and hypertension management following the distribution of these manuals and the training of health workers on their use. The objective was to assess the knowledge of healthcare workers on blood pressure measurement, knowledge of

symptoms and complications of diabetes and hypertension, and diagnostic criteria for diabetes and hypertension.

A cross-sectional survey was conducted on all doctors, family nurse practitioners and staff nurses who worked in curative clinics in health centers. The response rate was 79% for doctors, 92% for family nurse practitioners and 67% for staff nurses, accounting for an overall response rate of 78%.

The Ministry of Health protocol consists of the WHO diagnostic criteria for DM and the classification of high blood pressure based on the fifth report of the Joint National Committee on the Prevention, Detection, and Evaluation of Blood Pressure (JNC V) guidelines. On assessing familiarity with management guidelines, 71% of all health care workers reported being familiar with the Ministry of Health protocols. The remaining guidelines were not well known, with less than 33% of any category of respondents reporting being familiar with them.

Table 3:

Familiarity with Guidelines (Self-Reported)

	<i>All (n=173)</i>		<i>Doctor (n=59)</i>		<i>Nurse Practitioner (n=58)</i>		<i>Staff Nurse (n=56)</i>	
	N	%	N	%	N	%	N	%
Ministry of Health Protocols	120	71.4	43	74.1	41	74.5	36	65.5
(JNC V)	19	12.4	13	22.8	4	7.80	2	4.40
Hypertension in Primary Care, CCMRC	39	26.0	17	29.8	16	33.3	6	13.3
Diabetes in Primary Care, CCMRC	31	20.9	14	24.6	12	25.5	5	11.4
Manual of Nutrition and Dietetic Practice	20	14.0	7	13.2	9	18.4	4	9.80
Other Guidelines	58	40.3	27	51.9	20	36.2	10	23.8

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Health care professionals correctly identified the classic symptoms of diabetes as listed in the protocols. Complications of diabetes and types of hypertensive target organ damage were also known by > 90% of respondents.

Table 4:

‘Best Practices’ of BP Measurement and Identification of BP Cut-Off Point for Diagnosis

	<i>All</i> (n = 173)		<i>Doctor</i> (n = 59)		<i>FNP</i> (n = 58)		<i>Staff Nurse</i> (n = 56)	
	N	%	N	%	N	%	N	%
<i>BP Rounded to Nearest</i>								
10 mm Hg	21	13.4	5	8.8	5	9.2	11	23.9
5 mm Hg	31	19.7	14	24.6	7	13.0	10	21.7
2 mm Hg	105	66.9	38	66.7	42	77.8	25	54.3
<i>Total</i>	15	100.	57	100.	54	100.	46	100.0
HCPs correctly identifying “cut-off pt.”	119	75.8	53	91.4	35	67.3	29	67.4

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The majority of responses to the question *How would you diagnose a patient as diabetic* fell into the following general categories:

- Fasting blood sugar
- 2 hour post prandial
- Urine testing
- Signs and symptoms
- Blood glucose investigations

A significantly higher proportion of doctors knew the correct diagnostic definitions for diabetes than their family nurse practitioner and staff nurse counterparts.

Familiarity with the protocols was significantly associated with knowledge of the correct diagnostic definition for hypertension. A significant difference between the number of doctors and staff nurses correctly identifying hypertension diagnosis was also observed. Compared to nurses, doctors were six times more likely to correctly identify diabetes diagnosis. Health care professionals who were familiar with the protocol were three times more likely to correctly identify hypertension diagnosis.

The principal training need cited by all categories of respondents concerned topics related to lifestyle modification particularly nutritional/dietary management of the patient. Other areas cited as training needs were generalized management of the disease including the use of the management protocols, pharmacological management, continuing medical education updates in new trends in research, management trends and management of complications.

More work is needed to disseminate the information to the 30% of respondents who were not familiar with the management protocols. It is unclear whether the low proportions identifying the diagnostic criteria for hypertension and diabetes were due to lack of knowledge or unwillingness to answer a lengthy questionnaire due to their busy time schedules. However, the results highlight the importance of continuing medical education, especially for older graduates. Training based on self-reported training needs as well as the management protocols using interactive methodologies is required.

Challenges

- Utilization of management protocols in their present format.
 - *Guideline summaries in algorithm/brochure/pamphlet format.*
 - *Guidelines on website with accompanying CME accreditation forms online.*
 - *Continuing medical education sessions targeting key groups such as MAJ, JDA, NAJ.*
- Lack of resources.
- Short consultation times.
- Low staff-to-patient ratios.

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It must also be noted that 100% adoption of the protocol may not necessarily lead to improved patient care, as other contextual factors may be important barriers to achieving improvements in this area. The patients' will to change their lifestyle practices is also important and is perhaps the greatest obstacle to be surmounted. However, a comprehensive knowledge of diabetes and hypertension management will maximize the already narrow window of opportunity to improve patient care.

Montserrat

Ms. Roseline Tuitt, Ministry of Health

Montserrat, the “Emerald Isle of the Caribbean,” has a population of over 4,500 as of May 2002. It is 39 square miles, pear shaped, and lies in the Eastern Caribbean Chain of Islands, some 27 miles southwest of Antigua. It is 12 miles long and 7 miles wide (and now expanding due to volcanic activity). Only one-third of the land is now habitable. The average temperature ranges between 76–88° F.

Diabetes is the leading cause of death in many countries and for Montserrat it is no different. During the last five years, of the 249 deaths that occurred on Montserrat, preliminary reports indicate that diabetes ranked number one and accounted for 41 or 16.5% of total deaths. Of the 16 amputations performed from 1999 to 2003, fifty percent (8) were related to diabetes. Statistics also show that admissions for endocrine, nutritional, and metabolic diseases are steadily increasing.

In an effort to manage and treat diabetes on Montserrat, there is a weekly Diabetic/Hypertensive Clinic at all district clinics on specific days. Also, special consideration is given to the most vulnerable groups in the community such as the elderly and the mentally challenged. There is also free medical care and treatment for all resident diabetics. The Community Services Department provides financial aid and conduct assessment of home conditions and home care for the vulnerable and some non governmental organizations such as Red Cross and Lions assist with food packages, equipment, and home care.

Table 5:

Preliminary Leading Causes of Deaths in Montserrat 1999-2003

<i>Cause</i>	<i>Total</i>	<i>% of Deaths</i>
Diabetes Mellitus*	41	16.5
Cerebrovascular Disease	25	10.0
Hypertensive Diseases	18	7.2
Ischaemic Heart Disease	18	7.2
Cancer of Digestive Organs	17	6.8
Chronic Lower Resp Diseases	10	4.0
Cancer of Prostate	7	2.8
Dementia	7	2.8
Cancer of Breast	6	2.4
	149	59.8
All Other Causes	100	40.2
Total	(249)	

* Male = 17 Female = 24

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In the four health centers island-wide, there are 265 registered diabetic/ hypertensive clients; 165 are diabetics with hypertension, 100 are diabetics. There are no registered juvenile diabetics.

Table 6:

Epidemiology

Admissions, Endocrine, Nutritional & Metabolic Diseases

<i>Year</i>	<i>No.</i>	<i>Total Admissions</i>
1999	47	493
2000	53	526
2001	38	624
2002	49 (coded data)	632
2003	54 (coded data)	574
Total	241	2,849

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For World Diabetes Day, awareness and screening activities took place. Clients with a family history of diabetes, clients with hypertension, and clinic drop-outs were targeted. A total of 165 clients were seen; of the 79 unregistered clients, 9 were identified with elevated blood sugar levels.

The guide for the development of Diabetes Prevention and Control Programs in the Caribbean, developed by PAHO/WHO Caribbean Program Coordination Office in 1995, helped to develop and strengthen programs for the prevention and control of diabetes in Montserrat. This seeks to encourage and enable individuals to adopt healthy lifestyles and the need to achieve and maintain health and well-being. The draft with regards to diabetes prevention and control has not yet been finalized.

In Montserrat, the following services and programs are conducted at the four district clinics to prevent and control diabetes and its complications:

- Each clinic has a diabetic register.
- Weekly blood pressure, weight, and other vital checks are done.
- Annual physicals; laboratory investigations and foot inspections are done.
- Counseling on diet, exercise and foot care, etc. is offered.
- There is a doctors' clinic weekly at each health center.
- There is a family nurse practitioner clinic 2-3 days monthly at all clinics.
- There is a visiting ophthalmologist annually; overseas referrals are given when necessary.
- Home visits weekly by nurses as required and quarterly visits by the district medical officer.
- There are referrals and follow-up to other support staff e.g. nutrition officer.
- Follow-ups are done weekly/monthly and as necessary or as per appointment system.

All district clinics have specific days for diabetic clinics. Education is conducted through group sessions, individual counseling, nutritional and dietary counseling, media (weekly radio programs), distribution of diabetic literature, and counseling for antenatals and child welfare clients.

The following challenges are faced:

- Non-compliance (substitution of home remedies, elderly living alone, missed appointments, diet and exercise)
- Human Resource (nursing shortage, irregular visits to district clinics by nutrition officer to provide counseling to clients)
- Equipment (lack of equipment at clinics such as cooking supplies for demonstration purposes)
- Training (ophthalmic nurse, foot care, physiotherapist)

Training in Ophthalmic Nursing, Physiotherapy, and Foot Care is needed. In addition, resources persons are needed to visit Montserrat and conduct workshops in particular areas, such as foot care and dietary management.

St. Lucia

Dr. Romel Daniel, Ministry of Health

Diabetes Mellitus (DM) is one the most common chronic illnesses affecting St. Lucians today. From 1991, Diabetes Mellitus, heart disease, and cerebrovascular diseases have been the top 3 causes of death in St. Lucia. The prevalence of diabetes increases with age, but is significant even in the younger age groups, particularly among females. Figures from the Diabetes Registry (developed in 2001) indicate that there were 111 new cases identified at the primary level in 2003 and 85 cases thus far for 2004. It is estimated that between 70 and 120 new cases will be registered each year. In addition, from 1994 to 2003, between 8% and 13% of deaths were recorded resulting from diabetes, a number that would be greatly increased if complications of diabetes such as heart disease and stroke were considered.

Diabetes Registry, St. Lucia 1994–2003

One weakness in the Diabetes Registry is a significant proportion of missing variables. Totality of reporting for 1994–2003 is poor, with 68% of key data elements recorded in the Ministry's Diabetic Registry. This loss of data prevents any extensive analysis in reporting of the 765 cases recorded from 1994–2003.

Table 7: Completeness of Reporting for 1994–2003 Diabetic Data, by selected key variables reported.

Variable	Status of Reporting	
	Known or defined	Quality
Age	87%	Good
Sex	59%	Poor
Status (new or old case)	81%	Good
Type ((non)-insulin)	62%	Poor
Risk factors	8%	Poor

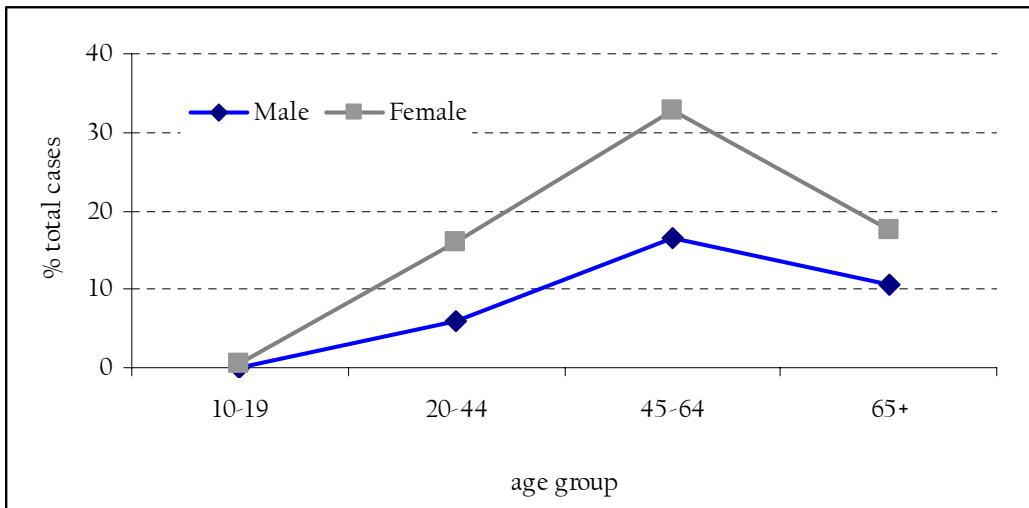
Source: Diabetic Registry, Ministry of Health, St. Lucia

Each year, health center community nurses prepare a report on the number of patients seen, and the patients' diagnoses are documented. However, survival, outcome and compliance are not documented.

Sex and Age

There is a significant difference of cases by sex. Females represented 58% of all reported cases for the period under review and had the highest proportion of cases in each age group especially in those 20–44 years old, which had a 3:1 ratio over males.

Figure 6: Percentage of reported cases, by sex and age group, 1994– 2003.



Diabetes rates have increased steadily over the ten-year period ranging from 51 per 100,000 population in 1987 to 84 per 100,000 population in 2001. Deaths from diabetes have also increased over the period under review. In 1994 there were 89 deaths due to complications of diabetes; there were 104 deaths in 1999 and 124 in 2003. It is unfortunate that data on complications such as amputations is not available at this time. This information can assist in evaluating the quality of care given and monitoring of the diabetic to ensure compliance with medication and other lifestyle changes.

Figure 7: Rates per 100,000 population, by total cases and sex.

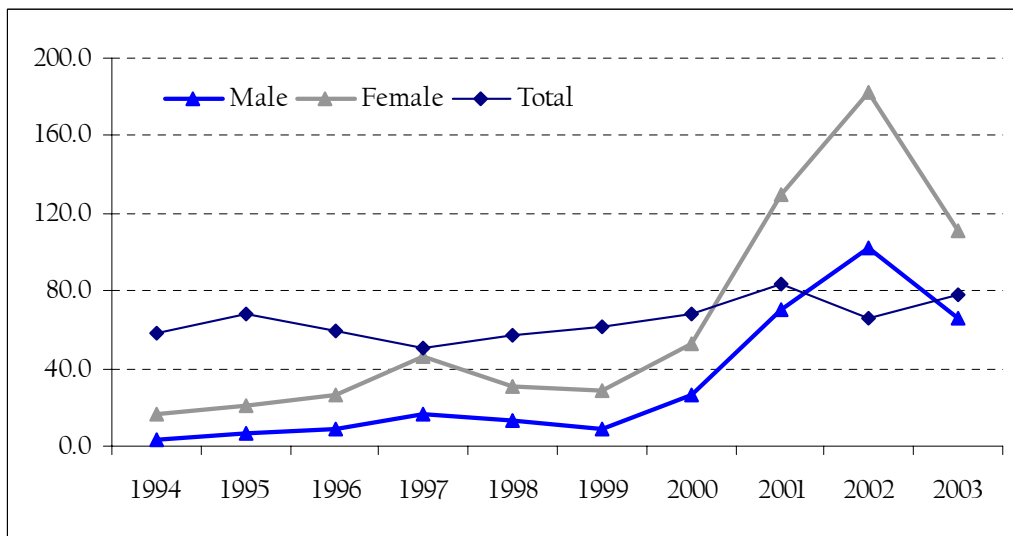


Table 8: Diabetes deaths, as a percentage of total deaths and rates, by gender (per 100,000 population, St. Lucia, 1994–2003)

Year	No of Deaths	% of Total Deaths	Rate per 100,000 Population		
			Male	Female	Total
1994	82	8.7	2.9	16	59
1995	97	10.0	7.1	21	68
1996	86	9.2	8.4	26	59
1997	75	7.1	16.0	46	51
1998	85	8.8	13.0	31	57
1999	94	10.0	9.3	28	62
2000	104	11.0	26.0	53	68
2001	131	13.0	70.0	130	84
2002	104	11.0	103.0	182	66
2003	124	12.0	66.0	111	78

Many assumptions were made when analyzing the data. First, a competent consensus in documenting diabetes cases by the health care workers was assumed to exist. This could be refuted by the absence of data for the given period, which calls into question the validity of the other numbers of cases. In addition, it was assumed that patients would attend a health clinic in the area in which they live and each newly diagnosed patient were all permanent residents of St. Lucia, which may not have been the case. Type 2 diabetes, which is more common in St. Lucia, is associated with people of age 35 and over and accounts for 72% of all known reported types and type 1 diabetes represented 22%. However, because a breakdown of diabetes type was not well documented (38% of cases had an unknown type), this valuable information is lost.

The number of clinics held at each health center impacts on accessibility to quality health care and consequently on patient management. Furthermore, some members of the community may not be aware that they have a chronic illness and may not make use of clinics. Patients receiving insulin are obligated to attend clinics to receive critical medication and are more likely to be included in the database than those on oral medication. This also accounts for an underestimated rate of the chronic diseases considered.

The management of diabetes involves lifestyle changes. For instance, non-pharmacological management (e.g. controlling weight, sugar intake) is becoming increasingly recognized as a method to improving health. These changes would be made easier if they were done on a community level. Since this is not possible, it is left to the counselor/nurse to motivate the individual client to make these changes. In addition, more doctors and/or clinic dates would allow for better quality care. This is especially recommended for areas where there is only one clinic per week.

While it is not necessary to maintain a database comprising patient's demographic information, it is important to know the numbers, age groups and type of diabetes, by region. To capture this information, the data collection forms/ books should be revised and training given to those responsible for completing them. This should improve the quality of data prepared by those reporting sites and thus improve the analysis and information extracted from the registry housed in the Ministry of Health.

Diabetes in St. Vincent and the Grenadines: Magnitude and Response

Dr. Roger Duncan, Ministry of Health

St. Vincent and the Grenadines (SVG) is a small Eastern Caribbean State in the Windward Island chain of the Lesser Antilles, consisting of thirty (30) islands, inlets and cays with a total land area of 345km². Most of the land area and ninety-one (91%) percent of the country's population of 106,031, are on the mainland St. Vincent. The Grenadines extend south for forty-five (45) miles, and include six inhabited islands, Bequia, Canouan, Myreau, Union Island, Mustique and Palm Island. Less than half (44%) of the population resides in urban and sub-urban communities and sea transport links all the islands, while airport facilities are present on the mainland and the four Grenadine islands of Bequia, Canouan, Mustique and Union Island.

Health care in St. Vincent and the Grenadines is delivered through a network of 39 health centers, supported by four rural hospitals and a main referral hospital located in the capital Kingstown. In addition to this, there are two private hospitals and some 12 practitioners who practice exclusively in the private sector.

In 2002, diabetes accounted for 11% of all visits to public health facilities (4,070) and 11.7% of all deaths (89). It is extremely difficult, with any accuracy, to ascertain the prevalence of diabetes in St. Vincent and the Grenadines. This is mainly due to the fact that data is collected only by visits and relates only to the public sector. It is, however, well-proven that the greater disease burden falls on females and that persons over the age of 40 are the most affected.

Clinical Guidelines

- Clinical guidelines ***not available***.
- Prescribing patterns vary from physician to physician.
- ***Committee recently established*** to develop and monitor implementation of guidelines.
- No information on prescribing patterns for private providers.

There are at present no written national guidelines for the care and treatment of persons with diabetes and quality of care varies from physician to physician. Recently, a committee has been established to develop national guidelines and to oversee their implementation. Very little is known about prescribing patterns for diabetes in the private sector.

Diabetes Education

- Mostly the responsibility of nursing personnel.
- Takes place in clinical setting.
- Creation of diabetic groups at the local and national levels .
- Little emphasis on family and community support.
- Little emphasis on self-management.

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The responsibility for diabetes education falls predominantly on nurses, with most of the education taking place in a clinical setting. Several diabetic and hypertensive groups have been established in various health centers. The activities of these groups focus on diabetic education, dietary counseling and some social activities. Very little focus is placed on family and community involvement.

Challenges/Areas for PAHO/DOTA assistance

- Qualifying and quantifying the problem.
- Development and implementation of sound, practical, evidence based and affordable guidelines.
- Improving the technical ability to manage diabetes.
- Community/family involvement in care and support for patients.

III PAHO-DOTA IRDC Workshop, Nassau, Bahamas, November 2004

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There is an immediate need to quantify and qualify the extent of the burden of diabetes in St. Vincent and the Grenadines. Sound, practical, evidence-based guidelines for the management of diabetes need to be developed. The requisite training in the management of diabetes is extremely important as to improve the technical ability of those responsible for diabetes care. The development implications of a growing burden of diabetes need to be articulated to influence policy makers in making decisions important to the care of persons with diabetes and their families. The private health sector is a major stake holder in the care and treatment for persons with diabetes. We need to find creative ways to involve this critical sector in any attempt to improve diabetes care.

A Guide for Guidelines: Improving the Quality of Diabetes Care

Dr. Nigel Unwin, WHO Geneva

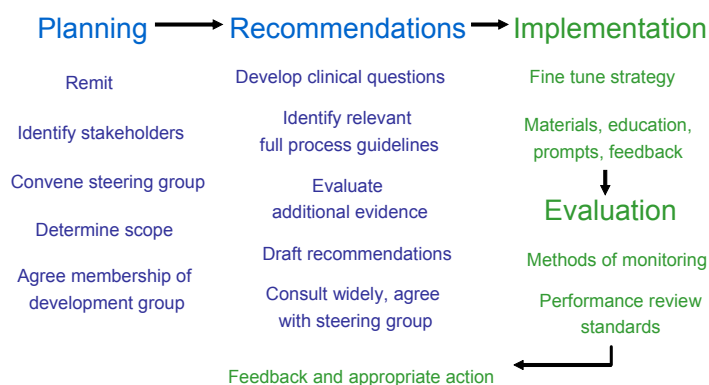
Properly developed and implemented guidelines can provide one of the most cost-effective approaches to improving the quality of health care. The International Diabetes Federation (IDF) document "A guide for guidelines" introduces the reader to the main concepts, a standard terminology, and leads them through a series of checklists on what needs to be considered at each stage of planning, development and implementation. Some of the key points for each of these stages are summarized in the diagram below.

It is recommended that most new guidelines are *derived* guidelines. This means that they should be developed from available evidence-based guidelines. Most of the guideline development work is on adapting them to the needs of the situation in which they will be used. Implementation and evaluation are as important to the success of a guideline as the development of the guideline itself. Planning for implementation should begin at the initial stages, and it is crucial to have key stakeholders, including patient representatives, involved from the beginning. Plans should also be outlined at this stage for monitoring the impact of the guideline on quality of care after its implementation and how, if necessary, further action will be taken to increase its success.

In summary, improving health care through the use of a guideline is not a one-off process that finishes with guideline development and dissemination. It involves commitment to regular monitoring of the quality of care, regular review of the evidence (or of the latest evidence based guidelines) and, based on these, making any necessary changes to the guideline and its implementation.

Each workshop participant was given a copy of "Guide for Guidelines". The booklet can also be downloaded from the IDF website: www.idf.org.

Key Stages in Guideline Development and Implementation: Summary Slide



Diabetes Clinical Management Guidelines: The Bahamas

Ms. Anya Symonette, Ministry of Health

The Bahamas has a population of over 303,000, of which 85% is urban and 15% rural. Diabetes prevalence is 3.3% of the total population, affecting more females than males. The prevalence rates among females and males are 3.8% and 2.7%, respectively. The peak age group for both sexes is 55–64 years old, and there is a higher concentration of diabetes in rural areas. According to the Chief Medical Officer's Report in 2002, diabetes was the 4th leading cause of death for both sexes and accounted for 6% of all deaths in the Bahamas. The 2001 Living Conditions Survey reported that 34% of the adult population was overweight and 31% was obese.

The Diabetes Clinical Management Protocol was derived from the CCMRC, which is now the Caribbean Health Research Council (CHRC). The protocol was developed by the Committee on Diabetes Management. It was implemented in 4 polyclinics in New Providence and several clinics in the Family Islands. However, quality of care has not been evaluated since its dissemination. Achieving physician compliance to the protocol has been a challenge.

Clinical Management Protocol

Comprehensive document includes

- Managing diabetes in primary care
- Diagnosis and Classification
- Management of Type II Diabetes
- Blood pressure control in diabetes
- Prevention of complications

Includes

- Annual review for all patients
 - Physical, Feet/Eye exam, Labs
- Diet and Lifestyle
- Education
 - Diabetes Self Management/Education Flow Sheet
- Foot care management

Since diabetes and its complications are bound to cardiovascular disease (CVD), a package of protocols was adapted from the World Health Organization to address CVD risk. The Bahamas' CVD risk management protocol for primary health care defines, in algorithms, the appropriate protocol for action depending on level of care available in all settings. It describes the human resources, equipment, drugs, and referral systems for all levels. It contains an algorithm for lipid management, management of cardiovascular disease with diabetes and appendices include patient record cards, BMI calculator, and conversion tables. Sections include topics such as recommended BP goals, risk assessment and management, and protocols for counseling on diet, physical activity, and smoking cessation.

A population-based protocol that advocates healthy lifestyles is also being reviewed for implementation. This protocol emphasizes primary prevention of risk factors, such as obesity, hypertension, diabetes, and alcohol abuse. Implementation is proposed using the public health model, with both demonstration and control sites, and an evaluation after 3–5 years.

Diabetes Clinical Management Guidelines: CHRC

Dr. Anselm Hennis, Caribbean Health Research Council (CHRC)

Diabetes has a big impact in the Caribbean. CHRC, then CCMRC, in collaboration with PAHO, Ministries of Health, CAREC, CARICOM, and many stakeholders in the Caribbean region, provided leadership and oversight to medical institutions across the region. CHRC (then CCMRC) published *Managing Diabetes in Primary Care* (1995) with the aim of improving standards of care for persons with diabetes in the Caribbean region. The report 'The Control of Diabetes Mellitus in the Caribbean Community (PAHO, 1988)' was used as the basis for an evaluation of quality of care for persons with diabetes in 4 countries.

The results of the first evaluation of the quality of diabetes care were published in 1996 by Gulliford et al. (*Diab Med* 1996;13:574-81). The survey took place in Barbados, British Virgin Islands and Trinidad and Tobago. It was a case record review of 1,661 patients with diabetes; 66% of them were women, 50% had poor glycemic control, 57% had hypertension and 83% were on medication. Overall only 23% of patients had good control. Foot and eye exams were found only in 11% and 2% of patients, respectively. Only 32% and 5% of cases had dietary and exercise advice, respectively.

The second evaluation was published by Wilks et al. in 2001 (*Pan A J Pub Health* 2001;9:65-72) and took place in Jamaica. It was a case record review of 437 patients with diabetes. Overall 60% of patients were found to have poor glycemic control. Surveillance for hypertension and proteinuria were found in 96% and 81% of patients, respectively. They concluded that medical standards fell short of international guidelines.

The results of the 1995 study were similar to those presented here for the IRDC and this study took place almost ten years later.

Results of these evaluations were incorporated in the content of workshops held in 13 territories. The guidelines were developed by participants in collaboration with diabetes specialists and published in 1995 as 'Managing Diabetes in Primary Care.' The aim of the guidelines was to produce an informed, asymptomatic patient, free from complications. Among the objectives were:

- **Achieve Metabolic Targets**
- **Blood Pressure Control**
- **Complications free**
- **Diet & Lifestyle**
- **Education**

The document *Managing Diabetes in Primary Care* had 20 pages; it was a user-friendly monograph with algorithms and flow charts. Overall 6000 copies were produced and disseminated in the region; but there is no information on how these guidelines were utilized, how useful or relevant to country-specific situations they were or what impact they have on diabetes care.

Among around 25 participants of the IRDC workshop, only 5 persons (25%) reported to have a copy of the CRHC guidelines and only 9 persons (36%) reported they had seen it before.

The only evaluation of the impact of the CRHC guidelines that can be found in the medical literature is a paper published by Alert and Fraser in 1997 (Managing Diabetes in Primary Care: A Preliminary Evaluation of the Impact of the Guidelines, WIMJ 1997;46 (Suppl. 2) 29). They reviewed records of 183 patients with diabetes attending the same clinics as the 1993 evaluation. Diabetic care was only marginally better with >50% of patients having uncontrolled disease.

The Guidelines for Managing Diabetes, 2004 are in the process of being updated, a draft document: 'Managing Diabetes in Primary Care in the Caribbean' is under review.

The process of guideline development is being optimized. CHRC and PAHO are working to rationalize the process; there is no need for each country to develop new guidelines. A generic Caribbean guideline can be adapted to country-specific situations. The guidelines should be an evidence-based use of Caribbean-derived data and incorporate successful innovations such as the diabetes passport. There are needs for standardization such as the use of standard clinical forms to record information. Monitoring and evaluation should be incorporated to the guidelines.

The process of guideline development needs to be optimized by the education of health providers, patient education and advocacy. The guidelines need to be disseminated by the media, websites and NGOs.

Group Work: Clinical Guideline Development and Implementation

Facilitator: Dr. Nigel Unwin, WHO, Geneva

Three groups were set up for this exercise with each group exploring one stage of the development. The groups were:

1. Planning Phase
2. Recommendations Phase
3. Implementation & Evaluation Phase

Each group was asked to answer the following questions:

For those who have experience with guideline development and/or implementation

- How did you plan/develop recommendations/implement and evaluate?
- What problems did you encounter?
- How did you address those problems?

For those who are without experience in guideline development and /or implementation

- What problems do you envisage in the planning/development of recommendations/implementation & evaluation of a diabetes guideline?
- How would you address those problems?

Group A: Planning

Remit

The remit for the country is the development of a guideline for secondary prevention of chronic communicable diseases (diabetes, hypertension & CVD).

Identify Stakeholders

Ministry of Health, NGO's, Diabetes Association, Heart Foundation, Universities, other Associations, Service Clubs, Ministry of Education.

Convene Steering Group

This should be made up of a core group (5–6 agencies). This group would develop terms of reference, do the literature review, prepare the first draft and consult all the stakeholders to ensure coordination of the project.

Determine Scope

The group should develop the aims and objectives and also plan the logistics for a pilot and for full-scale implementation. The group should consider the options between new training vs. in-service training.

Agree Membership of Development Group

The group should be expanded to ensure that it becomes a stakeholder group. Care should be taken, as a bigger group is more difficult to handle. Thus, it is recommended that the group be divided into smaller working groups with possibly the following tasks:

1. Data Collection
2. Education
3. Clinical Care with sub-groups of different specialist areas

There is also need to do a situational analysis, identify sources of funding, identify new specialty areas, recommend policy changes and report to the steering group.

The group identified the following problems:

- unwillingness to share information and control
- how to get non-clinical persons on the team

They suggested the following strategies as solutions:

- give credit to all involved
- leadership from top management
- political will from policy makers
- commitment from all those involved

Group B: Recommendations

Once the clinical questions have been developed using a consensus-based approach using a wide range of persons from the scientific field and NGOs, plans for the adaptation of the guidelines need to be made ensuring that they are adapted to meet the local needs. The group recommends that workshops for adaptation be planned with all key stakeholders and target audiences.

The group identified the following problems:

- cost of the original guidelines at local level
- political commitment
- need to train or get other human resources for implantation
- convincing Ministers that these processes need time, human resources and funds
- arriving at consensus (especially because persons were trained in different schools of thought)
- specific problems identified for countries without guidelines
- how and where to start
- linking guidelines to other reforms
- involving people with diabetes
- getting stakeholders together
- cost

They suggested the following strategies as solutions:

- recommendations should dependent on resources and be country-specific
- getting political commitment (follow through)
- convince politicians that to treat adequately there is a need to get things in guidelines adopted
- solutions proposed for countries without guidelines
- formation of steering committee
- look at current evidence to make case
- development group and start with small working group

Group C: Recommendations

The group recommended that a task force for implementation should be appointed. This should have members from the Ministry of Health and the National Diabetes Association. This task force would nominate Focal Points at the service delivery level. It should also liaise with the pharmaceutical industry, community groups and local government. The next step would be to present the strategy to policy makers and then train-the-trainers for capacity building. Patient education should also be a key to successful implementation of the protocol.

The group identified the following problems:

- physician and nurses resistance
- dissemination of information
- duplication of services
- inadequate training
- indiscriminate rotation of trained staff and replacement of persons of unequal status
- poor allocation of human resources
- financial constraints
- patients “doctor shopping”

They suggested the following strategies as solutions:

- enlist assistance of health care professionals
- ensure CME/CNE credits
- maintain database and tracking system
- disseminate information
- pre- and post-testing in workshops
- solicit funds from donor agencies
- train human resources at clinics to be CNCD coordinators
- use surveillance system to monitor quality of care
- do outcome evaluations and follow-up from the results
- guidelines reviewed annually and updated as necessary
- recognize the need for specialized professionals (foot care, ophthalmology, social services)

Group Work: Stakeholder Analysis

Exercise

Introduction

Every project is impacted positively or negatively by interested parties. During this exercise, participants were asked to consider partners at the country level that might be interested in the development/implementation of diabetes guidelines. Participants completed the Stakeholder Analysis form (annex 1 and 2) for their countries.

Methods

Participants received a form (Annex I) where they were asked to write the name of the organizations that they consider would be interested in developing or implementing diabetes guidelines. The report below shows the value of the identified potential parties, the importance of the project for the interested parties and finally the effect (positive or negative) that each partner would have on the project in question. The individual organizations were classified in 18 categories for the combined analysis. Results are shown by individual countries and by the combined Caribbean.

Results

Anguilla reported that the most important player in implementing the project was the Ministry of Health followed by laboratories and pharmaceutical companies. In Antigua, the first place was occupied by medical insurance followed by medical association and nurses association. In the Bahamas, the government was considered the most important stakeholder followed by the Minister of Health and the public hospital authority. In Barbados, the highest effect is expected from the Chief Medical Officer (CMO), followed by the medical association and the Caribbean Health Research Council (CHRC). Dominica selected as the most important player the Ministry of Health, followed by the government in general and the medical association. Grenada selected the Ministry of Health as the most interested party, followed by GFNC (Grenada Food and Nutrition Council) and consultant GH. In Jamaica the party that is expected to have the most important effect in the project is the University of West Indies, followed by the Diabetes Association of Jamaica (DAJ) and the Ministry of Health. Montserrat selected as the most important party the Ministry of Health followed by the CMO and the District Medical Officer (DMO). St. Kitts & Nevis ranked the CMO as the top party influencing the project, followed by the Caribbean Food and Nutrition Institute (CFNI) and the Pan American Health Organization (PAHO). In St. Lucia, the major potential effect is expected from the Social Security, followed by the Ministry of Health and the medical insurance companies. In St. Vincent & the Grenadines, the most important party was the Ministry of Health followed by the nurses association and insurance companies. Suriname identified the Ministry of Health as the most important party to influence the project, followed by the Training Institute for Nurses (COVAR) and the Suriname Association of Nurses. Trinidad & Tobago reported that the highest potential effect is expected from the Ministry of Health followed by the University of West Indies and NGOs. In general the total effect that participants may have in the implementation of the project was the highest in the Bahamas (296) and the lowest in Antigua (48).

The combined Caribbean results indicated that the most powerful entities were scientific associations, followed by governments and NGOs. The value and effect had the same leading categories. PAHO's effect on the project was evaluated with only 3 points for place number 11.

Conclusions

The importance of different players varied somewhat in participating countries. Most countries ranked the Ministry of Health as the top organization having an effect on the project while others were more apt to select scientific or academic organization. Overall in the Caribbean it is recommended that a project to produce or implement diabetes guidelines is coordinated with scientific associations, governments and NGOs. Diabetes associations obtained a low score, ranking 7 in the Caribbean combined data. PAHO is not seen as a major player neither by individual countries (only in Montserrat) nor in the combined ranking. In general, the effect of potential participant organizations was influenced by the number of participants in the workshop; so the country with highest number of participants (the Bahamas) was able to identify the most partners.

Table 9: Anguilla

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Ministry of Health	High	5	3	15
Lab	High	5	3	15
Pharmacy	High	4	3	12
Departmental Representation e.g.Education, Tourism, Finance,	High	4	3	12
Insurance	High	3	3	9
Media	High	3	3	9
Social Security	High	3	3	9
Professional Organizations	High	3	3	9
Diabetes Association	High	2	3	6
NGO-Church, Lions Club, Rotary	High	2	3	6
Youth Organizations	High	2	3	6
Total				108

Table 10: Antigua

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Medical Benefits Scheme	High	5	2	10
Medical Associations	High	3	3	9
Nurses Associations	High	3	3	9
Ministry of Health	High	4	2	8
Insurance Company	High	3	2	6
Ministry of Agriculture	High	3	2	6
Farmers Association	High	2	3	6
Diabetes Association	High	1	2	2
"Fast food" Vendors	Low	2	-1	-2
Food Retailers and Wholesalers	Low	3	-2	-6
Total				48

Table 11: Bahamas

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Government/Cabinet	Laws	5	3	15
Ministry of Health	Policy Making/ Finance	5	3	15
Public Hospital Authority	Policy, Finance	5	3	15
Department of Public Health	HCP, Q of Care, Education	5	3	15
Nurses Association	Training/ Assist with Policies	4	3	12
Nutrition Department	Education/ Training	4	3	12
Podiatrist	Training/ Education/ Implementation of Policies	4	3	12
Health Educators	Training/ Education/ Implementation of Policies	4	3	12
Laboratory Services	Implement Policies	4	3	12
National Security/ Community Police	Provide security around parks	4	3	12
Food Stores	Provide Healthy Choices	4	3	12
Schools	Educational Training	4	3	12
COB	Educational Training	4	3	12
Customs	Less dirty medical supplies, more healthy	5	1	5
Private Doctors	Educational Training	4	3	12

Bahamas (Cont'd)

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Churches	Sensitization	4	3	12
National Insurance Board	Benefits/ Finance	5	2	10
Pharmacies/ Drug Agencies	Ordering & Supplying Rx & Supplies	3	3	9
Bahamas Heart Association	Training/ Implementing Policies	3	3	9
Insurance Companies	Provide benefits assistance/ provide	3	3	9
Environmental Health/ Roads & Parks	Provide parks	3	3	9
NGO's/ Service Clubs	Promote employee awareness/ Finance	3	3	9
Ministry of	Sensitization/ Education	3	3	9
Ministry of Education	School Interventions	4	2	8
Town Planning	Provide areas for parks	4	2	8
Medical Association of Bahamas	Education, Assist with and Implement Policies	3	2	6
Minority Community	Implement Policies	3	2	6

Bahamas (cont'd).

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Dentistry Department	Implement Policies	2	2	4
UWI	Educational Training	4	2	4
Exercise Physiologist	Training/ Education/ Implement Policies	3	1	3
Fast Foods	Supply Healthy Choices	4	-1	-4
Total				296

Table 12: Barbados

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
CMO	High	4	3	12
Medical Association	High	4	3	12
CHRC	High	4	3	12
PAHO	High	4	3	12
Diabetes Association	High	3	2	6
University	High	3	2	6
Ass Cardiology	High	2	3	6
Media	Low	2	3	6
Heart Foundation	Interested	2	3	6
Ass Arthritis	High	2	2	4
Service Groups	Interested	2	2	4
Insurance Organizations	Interested	4	1	4
Drug Services	Interested	2	1	2
Nursing Associations	Interested	2	1	2
Dietary Associations	Interested	2	1	2
Total				96

Table 13: Dominica

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Admin MOH	High	5	3	15
Government	High	5	3	15
Medical Association	High	4	3	12
Medical Insurance	High	4	2	8
Pharmaceuticals	Medium	4	2	8
Nurses Association	High	4	2	8
Dominica Diabetes Association	High	3	2	6
Trade Unions	Medium	3	2	6
Teachers Association	Medium	3	2	6
Red Cross	High	2	2	4
Health centers	Medium	2	1	2
Cable and Wireless	Low	1	-3	-3
Industry of Commerce	Medium	2	-2	-4
Media	Medium	3	-2	-6
Total				83

Table 14: Grenada

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Ministry of Health	High	5	3	15
GFNC	High	5	3	15
Consultant GH	Average	5	3	15
Dep. PH, SGU	High	4	3	12
Private Pharmacies	Average	4	3	12
Nutritionist G H	High	4	3	12
Health Ministries	Average	4	3	12
Retina Rescue Fund	Average	4	3	12
Wellness Centre SGU	Average	4	3	12
Insurance Corp.	Average	4	3	12
MNIB	High	4	3	12
Grenada Heart Foundation	Average	3	3	9
Grenada Diabetes Association	Average	3	3	9
Grenada Medical Association	Average	3	3	9
Medical Association	Average	4	2	8
Total				146

Table 15: Jamaica

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
University of the West Indies	Education	5	3	15
Diabetes Association of Jamaica	Standardization of Care	4	3	12
Ministry of Health	Improve Quality of Care	4	3	12
Medical Association of Jamaica	Oversight	5	2	10
Heart Foundation	Decrease Mortality	3	3	9
Total				58

Table 16: Montserrat

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Ministry of Health	High	5	3	15
CMO	High	5	3	15
DMO	High	5	3	15
MO Education	High	5	3	15
PHN (Public Health Nurse)	High	5	3	15
MHN	High	5	3	15
Nurses	High	5	3	15
Pharmaceuticals	High	4	3	12
Nutritionist	High	4	3	12
Social Services	High	4	3	12
Red Cross	High	4	3	12
Lions	High	3	3	9
Total				162

Table 17: St. Kitts and Nevis

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
PS/ CMO	High	5	3	15
CFNI	High	5	3	15
PAHO	High	5	3	15
Social Security	High	4	3	12
Diabetes Association	High	4	3	12
Labor Department	High	4	3	12
Ministry of Health	High	5	2	10
Insurance	Medium	3	3	9
Agriculture- Farming	High	4	2	8
Medical Association	Medium	4	2	8
Pharmacists Association	Medium	3	2	6
Nurses Association	Medium	3	-2	-6
Media	Medium	4	-2	-8
Total				136

Table 18: St. Lucia

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Social Security (National Insurance Scheme)	High	5	3	15
CMO of Ministry of Health	Great	4	3	12
Insurances (Medical)	Good	4	3	12
PAHO	Great	4	3	12
Pharmacies/Drug Agencies	Great	5	2	10
Media	Good	5	2	10
Physician/Nurse- DMO's	Moderate	3	3	9
Churches	Great	3	3	9
Laboratories	Great	3	3	9
Physican Consultants	Great	4	2	8
Medical & Dental Association	Good	2	3	6
Diabetic & Hypertensive Association	Great	1	3	3
NGOs- Lions, Rotary	Great	1	3	3
Total				118

Table 19: St. Vincent and the Grenadines

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Ministry of Health	Good	4	3	12
Nurses Association	Good	4	3	12
Insurance Companies	Good	4	3	12
Medical Association	Fair	3	3	9
Eye Foundation	Good	3	3	9
Pharmacist	Good	2	3	6
NGO's	Fair	2	3	6
Diabetes Association	Good	2	2	4
Total				70

Table 20: Suriname

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Ministry of Health	Improve Quality of Care	5	3	15
COVAB- Training Institute for Nurses and related professions	Education	5	3	15
SV Verpleeijk- Suriname Association of Nurses	Building Capacity	5	3	15
SV Dietician- Suriname Association of Dieticians	Building Capacity	5	3	15
PAHO	Improve Quality of Care	5	3	15
IGC- Interreligious Health Committee	Education	5	3	15
Faculty of medicine (University of Suriname)	Education	4	2	12
SDES- Diabetes Foundation of Suriname	Education	4	3	12
Insurance Co. (Gov't & Private)	Cost-Effectiveness	3	2	6
Pharmacist	Education	3	2	6
VMS- Association of Medical Doctors in Suriname	Building Capacity	3	0	0
SV Physiotherapist- Suriname Association of Physiotherapy	Building Capacity	2	0	0
Total				126

Table 21: Trinidad & Tobago

Brief Description	Expectations of the Project	Power (P) (0-5)	Value (V) (-3 to +3)	Effect (P x V) (-15 to +15)
Ministry of Health	Policy	5	3	15
UWI- Medical	Training	5	3	15
Ministry of Health	Policy	5	3	15
UWI	Training	5	3	15
NGO's	Support	4	3	12
NGOs	Support	4	3	12
Medical Association	Oversight	5	2	10
Medical Association	Oversight	5	2	10
DATT	Education	3	3	9
Social Workers	Emotional Support	3	3	9
Nutritionist/Dietician	Counseling	3	3	9
Physical Training	Exercise	3	3	9
Diabetes Association	Education	3	3	9
Social Workers	Emotional Support	3	3	9
Nutritionist	Diet Counseling	3	3	9
Physical Trainer	Exercise Guidance	3	3	9
Nursing Association	Monitor	3	2	6
Nurses Association	Monitoring	3	2	6
Total				188

Table 22: Caribbean Combined Results, Power

Organization	N	Media	Sum
Scientific	51	3.65	186
Government	30	4.43	133
Other NGO	16	2.88	46
Academic	10	4.10	41
Insurance	10	3.70	37
Pharmaceutical	10	3.40	34
Diabetes Association	12	2.75	33
Other	9	3.56	32
Social services	7	3.86	27
PAHO	5	4.60	23
Media	6	3.00	18
Commercial	5	3.00	15
Religious	3	4.00	12
NGO/Social	2	2.00	4
Government Insurance	1	3.00	3
Total	177	3.64	644

Table 23: Caribbean Combined Results, Value

Organization	N	Media	Sum
Scientific	51	2.41	123
Government	30	2.73	82
Other NGO	16	2.94	47
Diabetes Association	12	2.67	32
Academic	10	2.50	25
Insurance	10	2.50	25
Pharmaceutical	10	2.40	24
Other	9	2.56	23
Social services	7	3.00	21
PAHO	5	3.00	15
Religious	3	3.00	9
NGO/Social	2	2.50	5
Government Insurance	1	2.00	2
Media	6	0.17	1
Commercial	5	-0.60	-3
Total	177	2.44	431

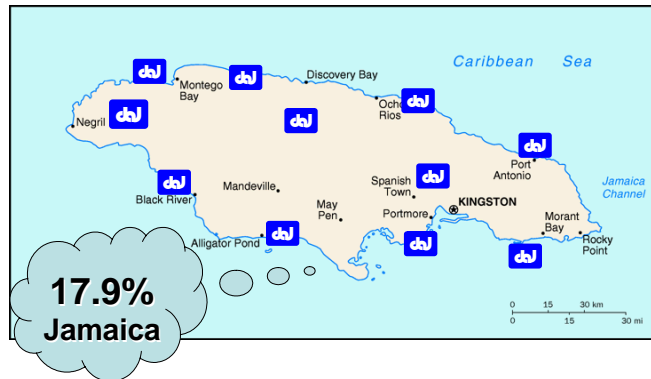
Table 24: Caribbean Combined Results, Effect

Organization	N	Media	Sum
Scientific	51	9.12	465
Government	30	12.30	369
Other NGO	16	8.50	136
Academic	10	10.90	109
Insurance	10	9.10	91
Diabetes Association	12	7.50	90
Pharmaceutical	10	8.30	83
Other	9	9.11	82
Social Services	7	11.57	81
PAHO	5	13.80	69
Religious	3	12.00	36
NGO/Social	2	5.00	10
Media	6	1.33	8
Government Insurance	1	6.00	6
Commercial	5	-0.80	-4
Total	177	9.21	1631

Diabetes Education Initiatives: Lay Diabetes Educator

Ms. Lurline Less, Diabetes Association of Jamaica

Prevalence : Jamaica



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A survey conducted in 1993 by the University Diabetes Outreach Project (UDOP), revealed that 17.9% of the Jamaican population over the age of 15 has diabetes. This was approximately 200,000 in persons in 1993; in 2001, this amount had increased to 327,000 persons. Fifty percent of this amount, 163,500 persons, is not aware of their diabetes. This increase is mainly due to improved life expectancy from the reduction in perinatal and infant mortality rates. With the aging population, there will also be an increase in chronicity, due to improved public health facilities.

In 1992, the overall cost of diabetes care and loss of productive person-hours was J\$23,885.00 per person and a total cost of J\$4.8 billion per year. Of this total cost, the burden to the country stood at J\$1.8 billion. The Government of Jamaica cannot afford to carry the high cost of diabetes care. The Diabetes Association of Jamaica (DAJ) is a non-profit, non-governmental organization that is set up to provide diabetes prevention and care to the public.

The Diabetes Association of Jamaica functions on the work of volunteers and has been providing diabetes care for the past 27 years. The mission of DAJ is to offer services and support for all activities which will lead to a better quality of life for those affected by, or at risk of, developing diabetes mellitus. The main office, located in Kingston, offers a range of diabetes-related services by a team of consultants who helps the patients in the management and control of their diabetes. The team consists of an Endocrinologist, Medical Practitioners, an Ophthalmologist, Nephrologists, a Nutritionist, a Chiroprapist, Education Officers, and Medical Technicians.

The concept of this center is to offers all diabetes-related services under one roof, “the one stop shop.” Health checks include screening for diabetes, hypertension, heart, kidney and eye problems as well as hemoglobin A_{1c}. In addition to offering secondary prevention and care that includes eye laser treatment and kidney dialysis, primary care is also offered in collaboration with the Ministry of Health by conducting diabetes education workshops in communities. Pharmaceutical services are also available.

The work of this organization goes beyond its main operation of “the one stop shop”; it undertakes the operation of seven branches and two chapters, conducts outreach activities (health checks/screening) and diabetes education workshops across the island. On average, 8,000 persons use the various services each month from all branches; this does not include persons seen on the outreach programs.

Outline of the Lay Diabetes Education Program

Specific Problems

Poor compliance with therapeutic measures is a major factor in the general unsatisfactory control of the disease in the majority of the patients. This is most likely to occur when patients:

- have little understanding of the nature of the disease;
- have little appreciation of the relationship between control of the process and the quality and duration of life;
- do not realize that the lack of any disturbing symptom is not necessarily indicative of satisfactory control;
- exhibit general resignation to diabetes and its problems, “I have it already attitude”; and
- display an almost total dependence on the health team.

The aim of the project in delivering health promotion strategies using education and awareness will, in the long term, empower persons with diabetes to increase their level of responsibility in their care. The lack of understanding in diabetes care by the patient that care actually is his/her responsibility can only be addressed through diabetes education. This will reduce the too-frequent visits to the medical facilities and improve the general status on health.

Objectives of the Diabetes Education Program

A. To empower persons with diabetes so they can understand their level of responsibility in their own diabetes management, by taking diabetes education to the communities, and training resources persons in each community.

Measurements of success:

1. Meeting the target of participants to train
2. Having a success rate of at least 90%
3. Certifying successful persons as lay diabetes facilitators
4. Outlining their facilitating role in the communities

B. To increase the general level of diabetes awareness to prevent the onset of diabetes and its complications.

Measurements of success:

1. Retesting of the successful participants
2. Successfully moving on to advanced training
3. Develop checklist that will be used by facilitators to monitor the checks done by the patients each year
4. Interview patients on their awareness and knowledge on diabetes since being counseled

C. To reduce the overall cost burden of diabetes to families, communities, and the country through proper management.

Measurements of success:

1. Check patient records at years 3 and 5 to evaluate management, using hospitalizations as reference points
2. The rate of use of the government facilities and services e.g. NHF and JADEP
3. Patients achieving HbA_{1c} between 6.4 – 7%
4. Visit health centers to assess if there is any change in clinic visits or hospitalizations

D. To improve the quality of life people with diabetes and enable them to be productive.

Measurements of success:

1. Patient interview to assess
2. Level of productivity of patient and ability to function
3. Patient's interaction with family and community

E. Build capacity within communities

Measurement of success:

1. Participate in community activities such as service clubs
2. Having community persons empowered on diabetes to reduce the burden on families and communities
3. Participation in community development

Targeted Participants

The persons targeted for training are 50% Community Health Aides and 50% community persons with at least secondary level education such as teachers, group leaders, guidance counselors, police officers, fire fighters, farmers, diabetics and any other interested persons.

The team of lecturers travels to the respective community and uses the health center to conduct the lay diabetes education workshop.

Methodology

1. Pre-Test
2. Physician Lecture -1 Hour
3. Chiropracist Lecture - 1 Hour
4. Nutritionist Lecture - 30-45 Minutes
5. Education Demonstration Using A Visual Aid - Body Map - 1hour
6. Post Test & Course Evaluation
7. Certification from Diabetes Association and Ministry Of Health as Lay Diabetes Facilitator

Diabetes Education Initiatives: Nutrition

Mr. Godfrey Xuereb, CFNI-PAHO, Jamaica



In the last 10 to 15 years, various regional institutions in the Caribbean have developed protocols for the clinical management of diabetes, which have been used to improve the quality of care given to persons with diabetes. However, the nutritional component of care has not been adequately addressed in these protocols and no standard guidelines exist in the region for the nutritional management of diabetes.

The Caribbean Food and Nutrition Institute (CFNI) developed an informal training manual on the dietary management of diabetes aimed at primary health care workers, but due to widespread demand across the region, CFNI recognized the need for a formal protocol to be used in primary care settings. In collaboration with PAHO's Caribbean Program Coordination Office (CPC) and the Ministry of Health, Jamaica, CFNI embarked on the development of a regional protocol for the nutritional management of diabetes.

The main goals of the protocol are to improve standards of care for, and the quality of life of, all those living with diabetes in the Caribbean. It provides the necessary tools for the process of nutrition management, including assessment, planning, implementation, coordination and evaluation.

The specific objectives of the protocol are:

- to provide guidelines to health professionals at the primary care level for the nutritional management of obesity, diabetes and hypertension;
- to facilitate documentation of the nutritional management process, mainstreaming it into the medical records;
- to provide a framework for setting treatment goals for nutritional management of these conditions in the primary care setting; and
- to define the referral process.

CFNI recognizes that one of the main challenges in the management of diabetes in the region is the scarcity of persons trained in nutrition and dietetics. To overcome this difficulty, the protocol is targeted at different types of health care professionals, not just nutritionists and dietitians. Also, as most of the persons with diabetes in the Caribbean are also hypertensive and/or obese, the protocol includes sections on the nutritional management of hypertension and obesity.

The project was initiated with the organization of a development workshop. At the end of this workshop, a draft outline of the protocol was agreed on and a specialist dietitian was contracted to develop the protocol, based on international and regional evidence-based practices. CFNI also conducted a needs assessment survey with health care professionals and health care policy makers. The results of these investigations helped CFNI in drafting the protocol and ensuring that it met the needs of the target audience.

Protocol Development

- **The project was initiated with the organization of a development workshop which had representatives from**
 - CFNI,
 - PAHO,
 - Ministries of Health,
 - UWI,
 - Patient support groups,
 - Dietitians,
 - Nutritionists,
 - Public Health Nurses,
 - The regional body for nutrition-related health care professionals (CANDi).



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The draft protocol was later reviewed by a variety of health care professionals from across the Caribbean Region as well as members of the Diabetes Association of the Caribbean (DAC). Cognizant of the fact that the Caribbean Health Research Council (CHRC) was also updating its Management Protocols, CFNI ensured that the nutrition protocol conformed to the information being included in the CHRC Protocol so that the two can now be used in conjunction by health care givers in the Caribbean. The final document was endorsed by the relevant regional professional organizations as well as the Ministers of Health of the Caribbean. CFNI launched the protocol in November 2004 with a training workshop for National Nutrition and Non-Communicable Disease Coordinators which will later be involved in the national training of the various categories of health care professionals to ensure that the protocol will be widely used. This protocol will be another important tool for all those who are working to improve the quality of life of Caribbean people living with diabetes.

The Regional Diabetes Educational (REDI) Project

Dr. Rhonda Sealey-Thomas, PAHO, Washington, DC

Diabetes mellitus is a chronic metabolic condition that is highly prevalent, affecting 194 million people in the world. Recent prevalence studies indicate that persons with diabetes in the Americas (an estimated 35 million people) account for 18% of the world's diabetes population, with the highest prevalence of diabetes in the region (17.9%) reported in Jamaica. In Latin America and the Caribbean, the total cost of diabetes was estimated at US\$ 65,216 in 2000. Studies such as the Diabetes Control and Complications Trial and the United Kingdom Prospective Study have shown that diabetes complications can be prevented through adequate glucose control.

Table 25: **Estimated total indirect and direct costs attributed to diabetes**

<i>Country</i>	<i>Costs (US\$ x 10⁶)</i>		
	<i>Indirect</i>	<i>Direct</i>	<i>Total</i>
Bahamas	138.1	10.7	148.8
Barbados	138.4	12.8	151.2
Guyana	15.9	20.4	36.3
Jamaica	273.4	136.1	409.5
Trinidad & Tobago	246.5	38.0	284.5
Total	812.4	218.1	1030.5

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To implement preventive care strategies and adequate disease management programs, the following are needed:

1. Awareness among policy makers
2. Specially trained health care teams
3. Knowledgeable and motivated patients

Diabetes education usually involves one or two sectors of society, diabetic patients and/or health educators. The regional response to diabetes education has been on select populations and has involved isolated efforts. The Regional Diabetes Education Program (REDI) Project was developed by the Pan American Health Organization. It represents a unique and an innovative approach that can result in the improvement of the quality of education and health care provided to persons with diabetes in the region and thus, the patient's overall quality of life. The project seeks to improve diabetes

education at three levels: the patient level, the health care provider level, and the policy level. Through the international collaboration of PAHO, DOTA, IDF, diabetes experts in the region, diabetes associations, technical people and decision makers in each country in the Latin American and Caribbean region, the attainment and sustainability of the project's objectives will be facilitated to improve diabetes education the Americas.

The goal of the project is to reduce the social and economic burden of non-communicable diseases through improved quality of care in Latin America and the Caribbean. Its immediate objective is the implementation of a multisectoral diabetes education program in Latin America and the Caribbean through an integrated approach at local and regional levels. The following are the specific project objectives:

- Improvement of the participating countries' capabilities to establish a comprehensive and integrated model for a diabetes educational program for persons with diabetes (i.e., newly diagnosed patients, with complications, without complications, impoverished).
- Improvement of the participating countries' capabilities to establish a comprehensive and integrated model for a diabetes training program for public and private health care workers (i.e., health care providers, diabetes educators, and diabetes educator trainers).
- Promote through advocacy, the collaboration and awareness of health policy makers on the importance of diabetes education.

The project is based on the following strategies:

- dissemination of information;
- field test of an integrated, multisectoral approach to diabetes education;
- training of health care workers in the region;
- maintenance and monitoring of the implemented activities;
- advocacy programs targeting health policy makers; and
- international collaboration.

The program will be initially implemented in three demonstration sites. Additional countries will be incorporated based on fund availability.

The Veracruz Initiative for Diabetes Awareness (VIDA) Project

Dr. Alberto Barceló, PAHO, Washington, DC

A monitoring system for quality of care in Mexico indicated that in 2000 only 34% of persons with diabetes receiving care were reported to have adequate metabolic control. As a result of this, the Ministry of Health in Mexico included diabetes as one of the health priorities in a national campaign for service improvement called "The Crusade for Quality Improvement".

In this context, an intervention project was carried out in five primary care centers in Veracruz, Mexico. The intervention used a collaborative approach based on the Breakthrough Series (BTS) promoted by the Institute for Healthcare Improvement (IHI) in Boston and was a joint program of the Ministry of Health and DOTA through the Pan American Health Organization.

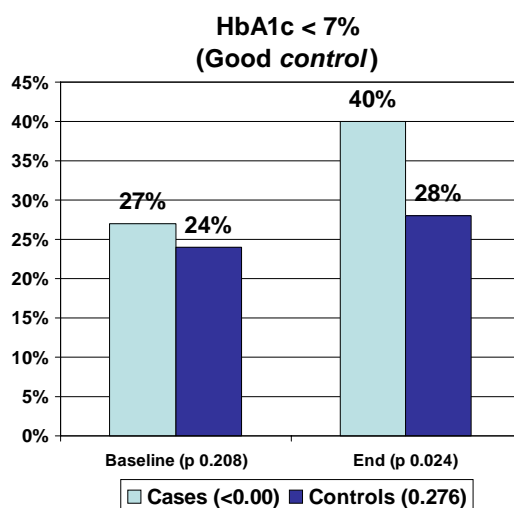
An assessment of the status of diabetes care was carried out in participating health centers as a baseline for the intervention. The study was an audit of medical records using the QUALIDIAB questionnaire promoted by DOTA.

The one-year intervention consisted of in-service training of primary care personnel on diabetes management and foot care, as well as the implementation of a structured diabetes education program. Some other innovations were put in practice by primary health centers in the VIDA project such as: the organization of diabetes clinics, collective medical visit for the Grupos de Ayuda Mutua (diabetic clubs), the use of promotores (health promoters) to carry out diabetes education, as well as the participation of people with diabetes in the project learning sessions.

The intervention was monitored by reviewing clinical charts from 314 patients (204 in clinics receiving the intervention, cases; and 110 patients receiving usual care, controls). HbA_{1c} was tested in the same number of patients.

Results

Figure 8:

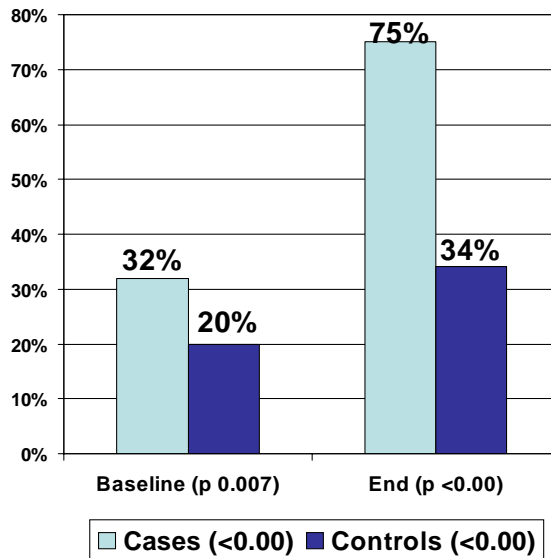


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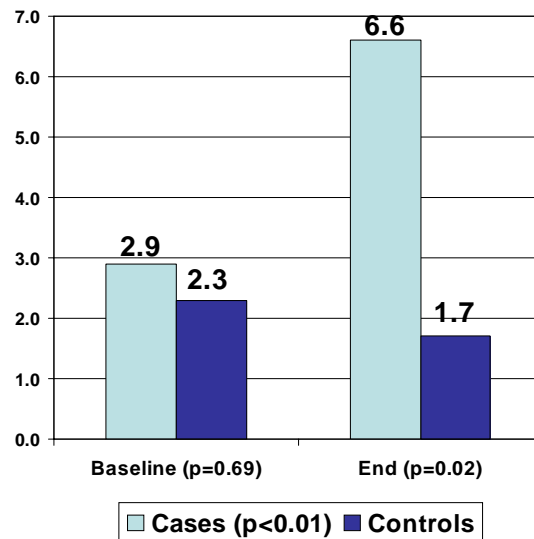
The number of people with diabetes and good control (HbA_{1c}<7) increased from 27% to 40% (p=0.04) among the cases (intervention group) while among the controls (usual care), the number only increased from 24% to 28% (p=0.27). At baseline the mean HbA_{1c} among cases was 8.4% and among controls, 8.6%. It decreased to 7.9% among cases (reduction of 0.5%, p<0.05, statistically significant) and only to 8.5% (reduction of 0.1%, p=0.65, not statistically significant).

Figure 9: Patients with Documented Foot Care Education at Baseline and at the end of the Project



The proportion of patients with foot and eye exam increased significantly among cases but not among controls. Documented foot care education increased to 75% of patients among cases and only to 34% among controls. The proportion of patients using insulin at baseline and the end of the project increased among cases from 2.9% to 6.6% while it decreased from 2.3% to 1.7% among controls.

Figure 10: Insulin Use at Baseline and at the end of the Project



Conclusions

The VIDA project demonstrated that a public health intervention can improve the quality of diabetes care in primary care. A combination of patient education, in-service training for primary care teams and a number of other initiatives generated by participants contributed to the success of the intervention. The methodology motivated primary care teams to identify their problems and find solutions. The participation of people with diabetes was a key element incorporated into the methodology.

Group Work: Improving Quality of Care

Facilitators: Dr. Alberto Barceló, PAHO, Washington, DC

Dr. Gerardo de Cosio, PAHO, Jamaica

Dr. Dalip Ragoobirsingh, U.W.I., Jamaica

Dr. Rhonda Sealey-Thomas, PAHO, Washington, DC

Dr. Nigel Unwin, WHO, Geneva

Mr. Godfrey Xuereb, CFNI-PAHO, Jamaica

Five groups were set up for this activity and the members of each group had to identify priority areas which can be addressed in the coming year to improve quality of care. The five groups identified the following as the priority areas:

Development and use of protocols and guidelines

The CHRC template should be used as a guideline with a wide stakeholder involvement. The process should include plan sensitization and training in the use of these protocols in-country. An assessment of the knowledge of the guidelines by health care workers should also be done. Following this, a plan for training on the use of the protocols should be done with an aim of implementing in countries.

Patient Compliance

Diabetes Education should be further developed, with a focus on health care providers, caregivers including family members of persons living with diabetes, and policy makers. The team approach strategies should be developed by defining the organizational structure and including partnership between diabetes associations and the Ministry of Health. An inventory of human resources should be done and this should lead to identifying teams which can provide on-going training. In addition, lobbying for affordable and accessible resources including medication and testing is needed.

Improvement in Patient Notes

User-friendly data collection instruments need to be designed and adopted. In addition, it needs to be impressed upon care-givers that care needs to be recorded and documented. A flow chart and access to the e-system need to be developed. An audit of record cards is needed; QUALIDIAB may possibly be used to do this. Ethics and confidentiality regarding non-medics input needs to be reviewed. Currently, only personnel who are professionally qualified and registered can legally write on the notes. This would exclude groups of healthcare workers such as nutrition and dietetic assistants/aids, podiatry assistants/aids as well as community health aids.

NGO Involvement (Service clubs and private sector)

These should be consulted in development of guidelines and kept abreast of what is happening. They were identified as key in advocacy.

Need for Increased Foot Care

A review of what is happening in the region should be done with an aim of developing guidelines to improve quality of care in this area.

Integration and Approaches to Nutrition

Strategies for a better involvement of health care professionals in the nutritional management of diabetes need to be developed. In addition, there needs to be a workshop of stakeholders and plans for the dissemination and training of the new protocols need to be devised.

Need for Quality Assessment

A quality department which conducts regular audits needs to be established within the Ministry of Health and ideally within each institution (hospital or health center). In addition, an information system needs to be established. A tool to do the audit needs to be selected and incorporated into all settings; health professionals need to be trained in its use. The results should be used to drive quality improvements

Lack of Educational Workshops and Materials

Workshops are ideal to identify needs and provide monitoring and evaluation. In addition, through workshops, it will be possible to allocate responsibilities and identify internal and external resources. Training materials need to be developed, adapted and updated, especially a guide for trainers.

Resources

To obtain more resources, it is necessary to seek external funding, use media as means of educating donors, perform a needs analysis to identify which areas need priority funding, and negotiate the best prices for supplies.

Workshop Conclusions

Diabetes represents a health, social and economic problem to the Caribbean where the prevalence is of between 10% and 17%. However, in some countries the prevalence of diabetes is still unknown. There is considerable stigma attached to diabetes, especially among young people suffering from the disease.

Diabetes impacts greatly on people with a low socioeconomic income. Diabetes care is sub-optimal in most of the Caribbean. The impact of the disease is therefore even greater in terms of mortality and disability.

Governments in the Caribbean region need to become more aware of the magnitude of the problem of diabetes and its impact in terms of morbidity, mortality, disability as well as the economic and social costs of the disease.

Research results showed that evidence-based diabetes management guidelines are not available to most health providers. Although some efforts have been made by CHRC, the impact of the 1995 guidelines was low. A review of these guidelines is currently underway which should include an implementation strategy, something that was missing in the 1995 CHRC guidelines. The CFNI Protocol for nutritional management of obesity, diabetes and hypertension in the Caribbean will be an added tool which needs to be used alongside the CHRC management guidelines.

Diabetes prevention and control programs are scarce in the Caribbean. There is a need for technical assistance on the development of public health programs for the prevention and control of diabetes and other chronic diseases. The availability of drugs and diabetes supplies is variable. In some countries, government insurance covers their cost while in others they are mostly out-of-pocket expenses.

Human resources related to diabetes care (nutritionists, dietician, podiatrist, endocrinologist, ophthalmologists), public health and epidemiology are severely scarce in the Caribbean, making international collaboration a critical priority. In most Caribbean countries there are no information systems available to monitor diabetes morbidity and disability.

The private sector is a key player in improving quality of diabetes care. The scientific and academic communities are notable stakeholders to be considered in any quality of diabetes care improvement program.

It is abundantly clear that there is a woeful lack of diabetes education at all levels in the Caribbean.

In summary, there is an immediate need to quantify and qualify the extent of the burden of diabetes in the Caribbean. Sound, practical, evidence-based guidelines for the management of diabetes need to be developed. Country-specific or sub-regional diabetes clinical management guidelines must have clearly identified objectives and a target audience. The guidelines should be adequately implemented and involve stakeholders at the country and regional levels. Training in the management of diabetes is extremely important in order to improve the technical capabilities of those responsible

for diabetes care. Diabetes education should not just be aimed at the patients but also at their care givers. In addition, diabetes education should also be aimed at the wider society, as a means of effecting lifestyle changes and in doing so, decreasing the prevalence of diabetes in future generations. The development implications of a growing burden of diabetes needs to be articulated to influence policy makers in making important decisions related to the care of persons with diabetes and their families.

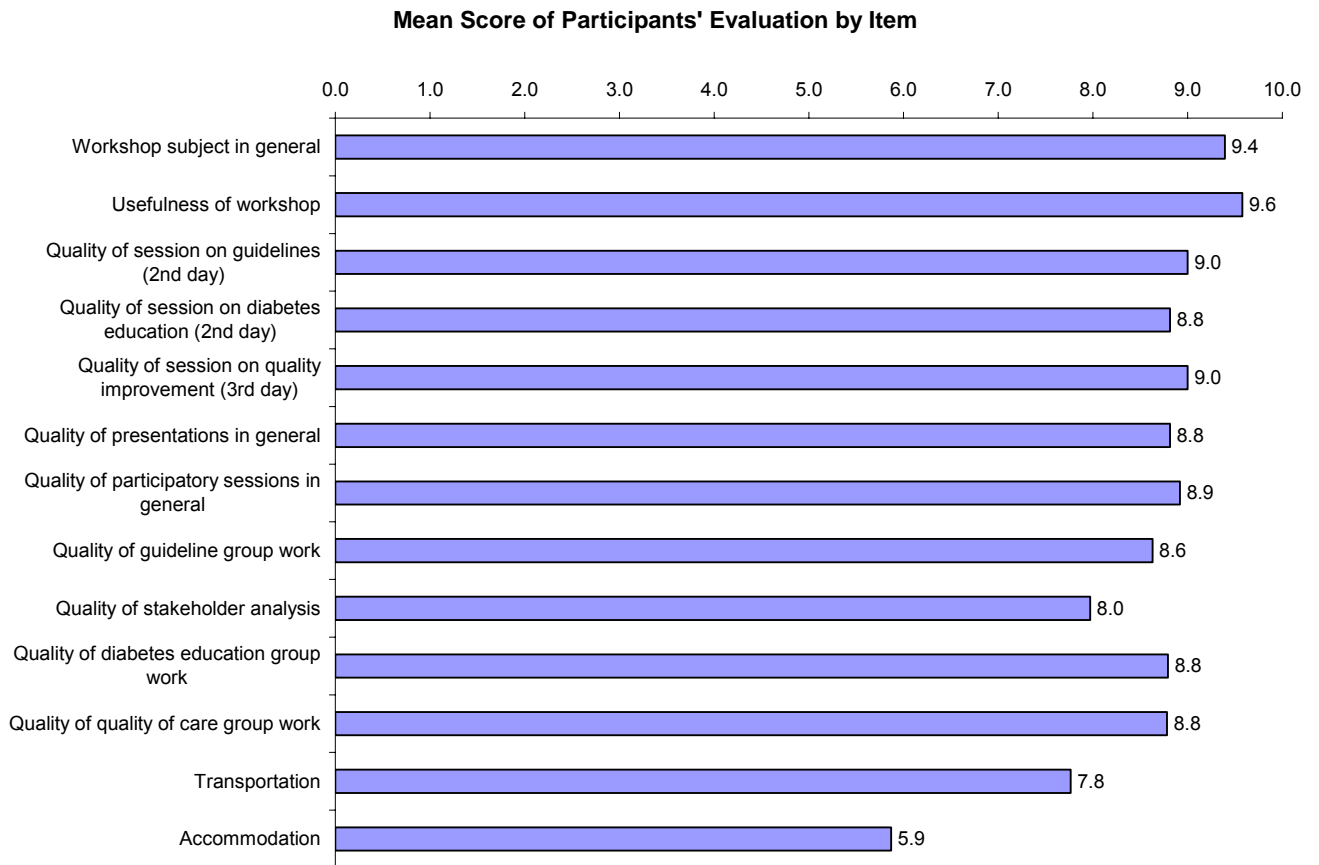
It is evident that in some countries resources are scarce and expensive medical procedures, tests and drugs are not affordable. In other countries where diabetes drugs and supplies are affordable, needs are more related to technical advice than to resources. The private health sector is a major stake holder in the care and treatment for persons with diabetes. We need to find creative ways to involve this critical sector in any attempt to improve diabetes care.

Workshop Recommendations

1. To work with all the related parties to increase awareness of the problem of diabetes in the Caribbean Region. The REDI Project should therefore be implemented in the Caribbean.
2. To continue providing technical advice and guidance to Caribbean countries through periodical learning sessions that bring government officials, members of the diabetes associations and other stakeholders together to identify problems and develop plans to solve them.
3. To provide technical advice to assist countries and sub regional organizations such as CHRC on the development and implementation of evidence-based clinical management guidelines following the IDF Guide for Guidelines.
4. To provide technical assistance for the development of public health programs for the prevention and control of diabetes and other chronic diseases.
5. To facilitate advice on professional training, patient diabetes education, quality improvement programs, diabetes prevention and health information systems with the aim of reducing the impact of diabetes.
6. To improve country technical capabilities that allow the documentation of action and the monitoring of the implemented programs.
7. To implement programs that solve specific problems identified by the IRDC survey in participating clinics and hospitals, in particular the delivery system in Saint Lucia, certain procedures such as height measurement in the Bahamas, and the quality of information in the medical records in Jamaica.
8. Steps should be taken to quantify and qualify the extent of the burden of diabetes in the Caribbean.

Workshop Evaluation

Figure 11:



Technical items evaluated by participants scored from 8.0 to 9.6 points (from a maximum of 10.0). The top evaluated item was the usefulness of the workshop for future work.

The logistical part of the workshop was not very well evaluated mainly due to difficulties with the quality of services and, in general, deficient accommodation facilities.

Open Ended Responses

1. What was the most important technical area discussed?

- Guideline Development (22)
- Quality of Care (6)
- Diabetes Education (5)
- Foot Care (4)
- Information System (1)
- The need to document and report problems identified and resolution effort to resolve problems (1)
- Standardized training of health care professionals (1)

2. What was the least important technical area discussed at this workshop?

- Stakeholder analysis (6)
- Quality Improvement of Care (3)
- Lay Diabetes Educators (1)

3. Do you have any suggestions for the next PAHO-DOTA IRDC workshop and future activities?

Education (5 comments)

- That we include a diabetic (nurse) educators course as well
- Preparation of patient education material
- Improved education of DM to Nurse in Family Island Setting
- Workshops should include training participation of all health care providers.
- Involve more physicians in the education of diabetes & guidelines

Quality (2)

- Application of Quality improvement to the Log Framework
- More information on Quality Assessment

Organization of workshop (6)

- Need early notice to prepare presentation
- List of participants and emails for contact and information sharing
- Must show what has been done by next meeting period
- Evaluation and Implementation of newly acquired knowledge
- Fewer topics with more time allocated to each
- To provide more hand outs of representing countries

Future topics to be included/activities to be done (9)

- Inclusion of primary prevention, emphasis on community-based approaches to prevention
- Training of program managers in information systems.
- Case presentation
- Something on NCD Surveillance and developing registries
- Ethics and confidentiality of patient records
- Review/discuss best practices in clinical management
- Diabetes- economics/ stigma/ occupational health
- Establish regular networking throughout countries
- Stakeholders' involvement

Other workshops (5)

- Workshop that focuses on specifics- such as foot care assistant program
- Next Workshop to be held in Trinidad & more focus on foot care
- Workshop for policy makers to raise awareness of the burden of diabetes
- Empowerment and Psychosocial workshops are needed
- Come to Grand Bahama

4. Is there anything else you want to let the organizers know?

Positive Responses (9)

- I think the entire workshop went very well
- The workshop has motivated me to work and do more in DM care
- Thank you! (2)
- Overall good conference, great interaction, thanks for inviting me
- Information in general from this workshop will be considered. It was very informative
- Keep imparting information
- Good job.
- A good workshop- learning and sharing ideas with other Caribbean countries.

Comments on the venue (6)

- Improve on volume of presenters by having microphone
- Volume of presenters was very low- suggestion: portable microphones
- Poor audio- a lot of times we were unable to hear what the presenters were saying
- Have a physical assessment of accommodation done before choice is made
- Be more careful in selecting venue- this one was very bad
- Physical assessment of accommodation before final decision is made.

Suggestions (8)

- Greater stress on Quality Assessment
- Have countries submit a report of implementation/activities since last workshop
- All observers should have some material as participants if they are to follow through and Pt. Care
- The workshops can develop a regional certification of diabetes team members- educator/nutritionist/foot care assistant
- Continued workshops offered to family Island nurses
- Try to work more on outreach programs going into different countries for assistance, monitoring and evaluation.
- Include Caribbean notion in REDI project
- Please pursue the foot care assistant course

Annex I: Stakeholder Analysis Form

Analysis of the Interested Parties					
Interested Parties	Brief Description	Expectations of the Project	Power (P) (0 to 5)	Value (V) (-3 to + 3)	Effect (P x V) (-15 to +15)
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					

Annex II: Identification and Analysis of the Interested Parties

A fundamental requirement of all the projects is that the objectives reflect the needs of the key interested parties and not only the internal needs of sponsoring or executing institutions. In the majority of the project proposals, there are many parties that have a certain degree of interest in the project. The subject under consideration will affect these parties to a greater or lesser extent, positively or negatively, and they will react according to their own interests and political power. The probability of designing a successful project increases when the key interested parties are identified and taken into account.

The persons in charge of decision-making and the beneficiaries of the project constitute the two principal categories of interested parties that should be considered in the design of the project. The persons in charge of decision-making are the sponsoring or executing institutions, whose interests and objectives should be taken into account. The beneficiaries are the target population. Attention should be directed to the needs, requirements, and circumstances that govern their existence. The participation of the beneficiaries in the design and implementation stages of social projects is particularly important.

Upon undertaking an analysis of the interested parties, variables such as the ones shown below could be considered. The first variable is the degree of participation or the active influence on the projects; in other words, the parties' power and their interest in exercising this power. For this first variable the assignment of numbers is the following: 1 = Low; 2 = Moderately low; 3 = Medium; 4 = Moderately high, and 5 = High.

The second variable is the magnitude of the impact of the project on the interested parties or the importance of the project for the parties. The importance of the project for each interested party determines to a great extent if the power of the interested party will be exercised or not. Naturally, the power can be exercised in favor of or against a project. In order to measure the importance of a project for an interested party the following scheme can be utilized: for positive values 0 = Indifferent; 2 = Low, and 3 = High; for negative values 0 = Indifferent; -2 = Low and -3 = High. Upon multiplying the power of the interested party by the importance of the project, the magnitude of the effect that the interested party can exercise in favor of or against a project can be obtained. Although the obtained values are quantitative, it should be remembered that these values are not the result of a rigorous measurement, but a calculation that has a margin of uncertainty.

The information can be organized as it is indicated in the matrix of the figure.

Annex III: Participatory Technique

- Brainstorming technique (including: written brainstorming session, multivoting technique and nominal group technique); and
- Metaplan

The brainstorming technique session includes three main activities:

1. Brainstorm or written brainstorming session
2. Multivoting session
3. Nominal group technique

I. Brainstorming Session

This type of technique is used to achieve a spontaneous, abundant, and creative generation of ideas or solutions to a subject/problem presented to a working group. It is fundamental that four main rules be observed at all times during the session. Furthermore, these same principles should be observed during the multivoting and nominal technique sessions.

Rules of Participation:

The success of the session depends on the observation and maintenance of these four rules of participation throughout the of teamwork process.

1. Suspend all types of criticisms or judgmental remarks: This rule requires that every participant (including the leader of the group) refrains from voicing any criticisms or judgmental remarks about what other people say during the brainstorming session. No criticism (or self-criticism) is permitted among the participants of the session. Any person that criticizes someone else's ideas (example "that idea seems a little silly") he or she will be explicitly requested to suspend this type of behavior.

2. Free Thinking: This rule suggests that all the barriers or "inhibitions" are left behind during this session. The participants should allow themselves to be spontaneous and creative, offering all sorts of ideas even those that may not seem to make a lot of sense. All the ideas are permitted and duly noted.

3. Quantity over quality: In this type of exercise what is important is to achieve the greatest number of ideas without taking into account their quality. Any idea is important regardless of its quality. The participants should feel comfortable and motivated to say any idea that comes to mind without feeling restrained by the lack of merit of these ideas.

4. Cross-fertilization of ideas: This rule suggests that the participants can create their own ideas based on the ideas of other participants. In other type of sessions this type of behavior may not be considered appropriate or polite ("to steal somebody else's ideas"). However, for this type of session it is accepted and even encouraged in order to generate the greatest number of ideas possible. If the idea of one participant stimulates the idea of another participant both ideas should be written down. It is important to strengthen this rule among the participants of the session in order to avoid competition or rivalry between of the members of the group. The cross-fertilization of ideas makes

possible the exchange and enrichment of different ideas among the participants of the group, in an environment of collaboration and total acceptance.

These rules should be written and explained to the participants of the group. A written copy of the rules should be available at all times during the session. Any participant who does not follow the rules, should be warned by the leader (or another participant) and will be informed as to which rule of participation he/she is not following. It is fundamental that the implementation and strict adherence to this rules takes place because the integrity and the effectiveness of the session depends on them.

Instructions for the Brainstorming Session:

Every participant should have in advance the following information:

1. The problem/topic selected for the session
2. Relevant information related to the discussion topic
3. Copy of the participation rules
4. The exact time and place where the session will take place.

Each group should consist of approximately five to seven people and a group leader.

At the beginning of the exercise, the topic of discussion should be presented again to the group participants, also review the rules of participation, and re-define the topic of discussion if necessary. A practice session is encouraged (5 minutes of brainstorming session on a simple, non-controversial topic of discussion).

For example: Different forms in which a stew can be prepared, or different ways you can build a birdhouse, etc.

a. - Written Brainstorming Session:

The exercise requires that each participant works in silence and that no discussion or comments of any of the ideas take place during this phase of the session. Each person should work individually. Practical jokes, observations, etc. in this phase of teamwork should not be permitted.

Method:

1. Every participant gets a form, a table with three columns and 7 lines, in which they will write down identified problems.
2. Each member should write as quickly as possible 3 problems/ideas in the first row of the table.
3. When all the participants have finished writing their ideas, the ideas are placed in a box (which will be placed on top of the working table), and every participant should take out at random from the box (or container) a new sheet. If a participant finishes before the other people in the group, he/she should wait in silence.

Option: pass the sheet of paper to the person sitting to the right hand side of him/herself (The leader must decide which option will be used).

4. On the next round, each person will pick at random a new sheet, and write 3 more problems. Participants may use the ideas written before on the sheet by a different person, to come up with new ideas (cross-fertilization principle).
5. This process goes on until the seven lines of the form are completed.

(This exercise lasts for approximately 30 minutes)

Break for 10 minutes.

6. When the participants return, each participant takes a sheet of paper. First, each person will take turns reading ideas identified in the form, and cross-out those that are redundant. Each new idea should be written in a flipchart that will be hanged on the wall so that all the participants may see it.

(This exercise lasts for approximately 20 minutes)

b. Multivoting Session

This technique is used to reduce the number of ideas generated at the brainstorming session. During this session, a selection of the most important identified ideas/problems will be done. This technique will help to reduce the number of ideas generated during the session to a more manageable number of approximately 4 to 5 ideas/problems chosen by the group.

Method:

1. A list with the all problems identified during the brainstorming session is taped on the wall.
2. Each participant votes in silence for those ideas/problems that he/she considers more important. Every participant can vote for as many problems/ideas he/she wants.
3. After voting, the group facilitator calls out loud each idea in the list (one by one). At this point, participants are asked to raise their hand when an idea they have selected/voted is being called. A total score is obtained for each problem/idea.
4. Only the ideas/problems with the most number of votes are selected for a second round of voting, and written down on a new sheet of paper (You can also draw a circle around the selected problem from the original sheet of paper in the flip chart)
5. A second voting round takes place with only the problems with the most number of votes. During this second round of voting, each participant can vote for a maximum that cannot exceed half of the total of the ideas pre-selected in the previous round. For example, if in the previous round 20 ideas were chosen, every participant cannot vote/select more than 10 ideas in this second round, and not more than five in the third round, etc.
6. Repeat exercise until 4 or 5 final ideas are obtained.
7. These four or five final ideas are the ideas/solutions selected by the group.

(Time available for this exercise 40 minutes)

Break for 10 minutes

c. - Nominal Ordering Technique

During the third group activity ideas are arranged in order of importance.

Method:

1. Write the 4 or 5 ideas selected during the previous session in a piece of paper and make a copy for each member of the group.
2. The form should be presented in the following way:
 - A. Idea _____
 - B. Idea _____
 - C. Idea _____
 - D. Idea _____

3. Each participant will be asked to write a number from 1 to 4 next to each problem in the list, that will indicate his/her perceived degree of importance of the problem. Note that the higher the number (e.g., 4) the more important the idea. Example: Number 4 indicates the most important problem, 3 the most important second, 2 the following most important and 1 the least important.

Example:

- A. Idea _____ 3
- B. Ideas _____ 4 *** more important
- C. Ideas _____ 2
- D. Ideas _____ 1*** less important

4. The voting sheets are given to the group leader and a total score is computed for each problem with the votes of each member.

Example

- A. 2, 3, 2, 4, 1 = 12
- B. 1, 4, 2, 3, 1 = 11
- C. 3, 1, 3, 3, 4 = 14
- D. 4, 2, 4, 1, 2 = 13

5. The group re-organizes the list of problems in order of importance
 - A. More important third
 - B. More important four
 - C. More important
 - D. More important second

Once the most important ideas/problems have been identified and arranged in order of importance, the team and leader(s) of the group(s) can use this information for the development of a strategic plan or for a cause - effect diagram.

The usefulness of these types of techniques is that they allow for the creation of an enormous quantity of information by the work group, in a very creative and spontaneous fashion. In addition, they allow the group to select and give priority to those ideas that the participants considered to be more important for their countries/regions. If a plan is developed from the ideas selected using these techniques, these activities are more likely to be supported by the participants in the group, since they were part of the process.

II.-Metaplan

Metaplan is a particularly effective method for group work facilitation and organizational analysis, consisting of a specific setting, a whole range of materials and a series of specific procedures. Developed in the 1960s in Germany by Eberhard Schnelle, it is based on the assumption that the subject of a change must be directly involved in both the analysis and planning of future actions, in order to gain effectiveness in the implementation phase. This assumption requires a model of personal involvement that allows the stimulation of individual creativity and at the same time the effective organization of the obtained results. The Metaplan approach, in fact, consists of an original way of visualizing a problem, allowing all participants, from the beginning, to see, examine, discuss, and choose useful elements, and share solutions.

Method:

Participants sit down in a single, arch shaped row, facing one or two large pin-boards. The facilitator turns one board, showing the pre-prepared topic question, written on a banner as a title. Participants are asked to write down their answer(s) on the cards that they have received, using one card per sentence. It is important that they write large and clear enough with a felt-pen, so that cards can be read by all the others: a safe advice is to use a maximum of 10-12 words on 2 lines. The number of cards to be filled by each one depends on the number of participants and the time available; usually it varies between 1 and 3 (with individual exceptions usually allowed).

Once they have finished, participants give their cards to the facilitator, who then starts putting them on the pin-board, one after the other, reading them aloud and making sure that their meaning is clear to everybody. Cards are anonymous, but of course the explanation of a cryptic sentence can always be asked, for the sake of clarity. No card can be rejected because of its content; it is only possible to ask a participant to kindly rewrite his card if it was unreadable, if it turns out that it could be phrased more clearly, or if two or more sentences have been grouped on the same card and they need to be split. In case there is in the group a major objection to the content of a given card, the symbol of a *lightning* shall be put at its side, to signify that there is disagreement in the group about that particular statement.

The skilled facilitator can start grouping cards from the beginning, always involving participants in his decisions. The final grouping of cards will then be completed by the delimitation of each group with the large felt pen, and the naming of each group (using oval shaped or large round cards). This can be the conclusion of a short session. Otherwise, it is possible to draw connections between groups of cards (in order to define a path or a flow chart), or to ask participants to vote the most important or urgent aspect to deal with, by sticking a colored dot on a given group of cards (in order to establish a set of priorities). The following step may then be to split in smaller groups and work on the first two or three selected topics.

If two or more groups of participants have worked in parallel (either on the same, or on different topics), a plenary session will follow, during which a reporter nominated by each group will describe his/her group's production.

Materials

The central element of Metaplan is a 122x150 cm (or 96x150) pin-board, which is double face, bendable, very light and easy to transport. Also essential are: 20,5x9,5 cm cards (1/3 of an A4 sheet) of different colors, special pins, and filter pens with wedged tip (Art. 8050.001/2/3/4 according to the color). Other materials include 118x140 cm (or 91x140) sheets of paper for covering the pin-board, 118x15 cm (or 91x15) paper banners for titles, large filter pens (Art. 8058.001/2/3/4 according to the color), differently shaped and sized cards (round, 9.5, 14 and 19.5 cm diameter; oval, 11x19 cm), glue, 20 mm diameter colored dots (Art. 8078.122/3/4 or 8078.102/3/4 according to the color).

Requirements

A Metaplan session should be carefully planned in terms of number of sessions, number of participants, number of cards to give to each participant, and prompts to write on the banners, to which the participants will be asked to answer.

The group size can vary from 5-6 to as much as 30-40 participants, plus one or two facilitators. The size of the room should be at least 7x5 m, with good light projected on the pin-boards. A number of light chairs corresponding to the number of participants, and one small table are also needed.

The time to run a Metaplan session depends very much on the number of cards that have to be read, interpreted and classified on the board. For 30 cards, an average time of 45 minutes should be allotted. The report should not last more than 5-10 minutes per group, including some comments and discussion.

Advantages and Drawbacks

Metaplan is very effective, in that it usually allows a group to analyze a problem and propose agreed solutions in a relatively short time. Of course this comes at the end of a process during which participants have always been highly involved and activated, like in fact in any other brainstorming activity, but probably more promptly and effectively. Occasionally the result produced is astonishingly well structured and beautifully presented.

The peculiar advantages of Metaplan are linked to the expression of participants' opinions only by writing, which compensates automatically for the shyness of some or the tendency to monopolize the discussion of others. In addition, the fact of writing on single-sentence modules, allows for the plasticity of the product and its adaptability during the grouping phase to the changing opinions of participants, which cannot be the case when participants' opinions are written down on a paper- or a black- or white-board.

Drawbacks are few. There is a potential danger of manipulation by the facilitator, namely: a) when reading the cards, if he/she does not refrain from making any comment (but requests of explanations); b) during the grouping phase, if participants are not involved; c) when labeling the groups of cards.

Another limitation is linked to the preparation that is required beforehand, and to the amount of disposable material that is consumed for each session. This makes Metaplan a relatively costly method in terms of both global time and money required.

Annex IV: Agenda

Sunday 21 November 2004 – 6:30pm: Opening Ceremony:

MC: Dr. Merceline Dahl-Regis, Chief Medical Officer, Ministry of Health, Bahamas

Prayer: Dr. Dalip Ragoobirsingh, University of West Indies, Jamaica

National Anthem: Mr. Antoine Cunningham

Welcome: Dr. Danny Johnson, National Manager CNCD Program

Entertainment

Remarks: Ms. Lynda Campbell, PAHO/WHO, Representative to the Bahamas

Remarks: Dr. Alberto Barceló, Regional Advisor, PAHO Washington DC

Entertainment

Remarks: Mrs. Elma Garraway, Permanent Secretary, Ministry of Health, Bahamas
(Introduction of Keynote Speaker)

Keynote Address: Senator Hon. Dr. Marcus M. Bethel, Minister of Health, Bahamas

Vote of Thanks: Ms. Judith Scavella, CNCD Coordinator, Department of Public Health,
Ministry of Health, Bahamas

Reception

Monday 22 November, 2004

08:30 – 09:00	Registration
<i>Chairperson</i>	<i>Dr. Glenda Maynard, PAHO, Barbados</i>
09:00 – 09:20	Workshop goals, purpose and methodology. <i>Dr. Alberto Barceló, PAHO, Washington DC</i>
09:20 – 09:40	Final Report of An Evaluation of Quality of Diabetes Care <i>Dr. Alberto Barceló, PAHO, Washington DC</i>
09:40 – 10:00	Diabetes Action Now – An Overview <i>Dr. Nigel Unwin, WHO, Geneva</i>
10:00 – 10:20	Coffee break
10:20 – 10:40	The Diabetic Foot in Barbados <i>Dr. Anselm Hennis, Caribbean Health Research Council</i>
10:40 – 11:00	Diabetic Foot Care <i>Mr. Owen Bernard, Diabetes Association, Jamaica</i>
11:00 – 11:20	Diabetes Health Technology Evaluation in Suriname <i>Dr. Virginia Asin-Osostburg, Ministry of Health, Suriname</i>
11:20 – 11:40	Country Presentations
11:40 – 12:30	Country Presentations
12:30 – 14:00	Lunch
14:00 – 16:00	Country Presentations
16:00 – 16:15	Break
16:15 – 17:30	Country Presentations

Tuesday 23 November, 2004

<i>Chairperson</i>	<i>Dr. Gerardo de Cosio, PAHO, Jamaica</i>
09:00 – 09:20	Guide for Guidelines: A guide for clinical guideline development <i>Dr. Nigel Unwin, WHO, Geneva</i>
09:20 – 09:40	Diabetes Clinical Management Guideline: Some Caribbean Experiences (The Bahamas, CHRC)
09:40 – 10:45	Group work: Elaborating a plan for Guideline Development, Update, Implementation and Evaluation in the Caribbean <i>Facilitator: Dr. Nigel Unwin, WHO, Geneva</i>
10:45 – 11:00	Break
11:00 – 12:00	Group Work: Stakeholder Analysis
12:00 – 12:30	Presentation of group work results
12:30 – 14:00	Lunch
14:00 – 15:00	Diabetes Education Initiatives in the Caribbean <ul style="list-style-type: none">• Lay Diabetes Educator: <i>Ms. Lurline Less, Diabetes Association of Jamaica</i>• Nutrition: <i>Mr. Godfrey Xuereb, CFNI-PAHO, Jamaica</i>
15:00 – 15:20	Changing the Face of Diabetes in the Americas: The Regional Diabetes Educational Project (The REDI Project) <i>Dr. Rhonda Sealey-Thomas, PAHO, Washington DC</i>

Wednesday 24 November, 2004

- Chairperson:* Ms. Kathleen Johnson, PAHO, Bahamas
- 08:30 – 08:50 Interventions to improve quality of care: Regional experiences
- VIDA project
Dr. Alberto Barceló, PAHO, Washington, DC
- 08:50 – 10:30 Group work on the delivery of diabetes care
- Facilitators:*
- Dr. Alberto Barceló, PAHO, Washington, DC
Dr. Gerardo de Cosio, PAHO, Jamaica
Dr. Dalip Ragoobirsingh, U.W.I., Jamaica
Dr. Rhonda Sealey-Thomas, PAHO, Washington, DC
Dr. Nigel Unwin, WHO, Geneva
Mr. Godfrey Xuereb, CFNI-PAHO, Jamaica
- 10:30 – 10:50 Coffee Break
- 10:50 – 11:15 Presentation of group work results
- 11:30 – 12:00 Workshop Evaluation & Conclusions
- 12:00 Adjourn

Annex V: List of Participants

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Regrets

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