The Caribbean Public Health Agency is the Caribbean region’s collective response to strengthening health systems and addressing public health challenges which threaten development.

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Module 5
Systems for Monitoring

Module 4
Access To Essential Medication

Module 3
Guidance For Persons With Diabetes (PwD) & Caregivers

Module 2
Healthy Lifestyle Counselling

Module 1
Evidence-Based Treatment Protocols for Diabetes

CARPHA Guidelines For Management of Diabetes In Primary Care In The Caribbean
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List of Abbreviations

ACE Angiotensin Converting Enzyme
ACEI ACE inhibitors
ADA American Diabetes Association
ARB Angiotensin Receptor Blockers
BMI Body Mass Index
CARPHA Caribbean Public Health Agency
CVD Cardiovascular Disease
CCFP Caribbean College of Family Practitioners
DCCT Diabetes Control and Complications
DKA Diabetic Ketoacidosis
DKD Diabetic Kidney Disease
DM Diabetes
DPN Distal Symmetric Polyneuropathy
DPP-4 Dipeptidyl Peptidase 4 Inhibitor
EMB Evidence Based Medicine
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>EML</td>
<td>Essential Medical List</td>
</tr>
<tr>
<td>ESRD</td>
<td>End Stage Renal Disease</td>
</tr>
<tr>
<td>FBS</td>
<td>Fasting Blood Sugar</td>
</tr>
<tr>
<td>GDM</td>
<td>Gestational Diabetes</td>
</tr>
<tr>
<td>GLP-1</td>
<td>Glucagon like Peptide 1 Receptor Agonist</td>
</tr>
<tr>
<td>HBA1c</td>
<td>Glycosylated Haemoglobin</td>
</tr>
<tr>
<td>HDL</td>
<td>High-Density Lipoproteins</td>
</tr>
<tr>
<td>HHS</td>
<td>Hyperglycaemic Hyperosmolar Syndrome</td>
</tr>
<tr>
<td>IDF</td>
<td>International Diabetes Federation</td>
</tr>
<tr>
<td>IGT</td>
<td>Impaired Glucose Tolerance</td>
</tr>
<tr>
<td>IFG</td>
<td>Impaired Fasting Glucose</td>
</tr>
<tr>
<td>LDL</td>
<td>Low-Density Lipoproteins</td>
</tr>
<tr>
<td>Meds</td>
<td>Medications/Medicines</td>
</tr>
<tr>
<td>NCD</td>
<td>Non-Communicable Disease</td>
</tr>
<tr>
<td>NICE</td>
<td>National Institutes for Health and Care Excellence</td>
</tr>
<tr>
<td>NGSP</td>
<td>National Glycohaemoglobin Standardization Programmeme</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>OECS</td>
<td>Organization of Eastern Caribbean States</td>
</tr>
<tr>
<td>OGTT</td>
<td>Oral Glucose Tolerance Test</td>
</tr>
<tr>
<td>PAHO</td>
<td>Pan American Health Organization</td>
</tr>
<tr>
<td>PCP</td>
<td>Primary Care Physician</td>
</tr>
<tr>
<td>PES</td>
<td>Problem, Etiology, Signs and Symptoms</td>
</tr>
<tr>
<td>PHQ-2</td>
<td>Patient Health Questionnaire - 2</td>
</tr>
<tr>
<td>PPS</td>
<td>OECS Pharmaceutical Procurement Service</td>
</tr>
<tr>
<td>PWD</td>
<td>Persons With Diabetes</td>
</tr>
<tr>
<td>RPG</td>
<td>Random Plasma Glucose</td>
</tr>
<tr>
<td>T1DM</td>
<td>Type 1 Diabetes Mellitus</td>
</tr>
<tr>
<td>T2DM</td>
<td>Type 2 Diabetes Mellitus</td>
</tr>
<tr>
<td>TZDs</td>
<td>Thiazolinediones</td>
</tr>
<tr>
<td>UHC</td>
<td>Universal Health Coverage</td>
</tr>
<tr>
<td>WDF</td>
<td>World Diabetes Foundation</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>WINDREF</td>
<td>Windward Islands Research and Education Foundation</td>
</tr>
</tbody>
</table>
Preface

The CARPHA Guidelines on the Management of Diabetes in Primary Care in the Caribbean provide a strategic approach to improving diabetes health outcomes, by providing simple directives on key aspects of care for persons with diabetes (PWD).

In 2018, the OECS Health Unit, as part of the Strategic Pillar ‘Healthy Environments and Health Empowerment,’ and consistent with the emphasis placed on Non-communicable Diseases (NCDs) in the region, collaborated with CARPHA and WINDREF and secured funding from the World Diabetes Foundation for the implementation of the “OECS Diabetes, Prevention and Care Project.” A key component of the project, required to support its implementation, was the updating of clinical practice guidelines for the management of diabetes. The collaborators viewed this project as opportune, as it allowed for the review and update of the CARPHA Management of Diabetes in Primary Care in the Caribbean.

Previous versions of these guidelines were produced in 1995, 1998 and 2006. However, with rapid advancements in research, resulting in new international guidelines and treatment protocols, there was a need for an updated document to be produced. Consistent with its remit to provide an accurate, timely and relevant evidence-base for public health decision-making, the Caribbean Public Health Agency teamed up with the Organisation of Eastern Caribbean States to expedite the production of the revised guidelines, aligning them with current WHO strategies on Non-communicable Disease (NCD) treatment and management, including the WHO HEARTS and WHO’s Package of Essential Package of Non-communicable Disease Interventions (WHO PEN).
High-quality, evidence-informed clinical practice guidelines bridge the gap between policy, best practice, local contexts and client choice. They have been upheld as an essential part of quality medical practice and have been defined as ‘a convenient way of packaging evidence and presenting recommendations to health care decision makers,’ improving effectiveness and quality of care, by standardising clinical practices, and reducing costly and preventable mistakes and adverse events.

This newest version of the CARPHA guidelines has been extensively modified from its previous format and uses a modular approach which includes five modules.

- Module 1: EVIDENCE-BASED TREATMENT PROTOCOLS
- Module 2: GUIDING LIFESTYLE CHANGES
- Module 3: GUIDANCE FOR PERSONS WITH DIABETES (PWD) AND CAREGIVERS
- Module 4: ACCESS TO ESSENTIAL MEDICINES
- Module 5: SYSTEMS FOR MONITORING

These modules are intended for use by clinicians, caregivers, policymakers and programme managers. Each one focuses on complementary aspects of care of diabetes in the health system, and targets different cadres of workers and care providers for management of diabetes. Target users may vary, based on context, existing health systems and national priorities in CARPHA Member States, and recommendations made in each of the modules may require adaptation for implementation at country level. Ultimately, the revised guidelines seek to support the efforts of Ministries of Health, to strengthen and standardise the management of diabetes in primary care and improve outcomes in care of diabetes, regionally.
Acknowledgements

The Caribbean Public Health Agency and the Organisation of Eastern Caribbean States acknowledge, with appreciation, the World Diabetes Foundation (WDF) and the several regional individuals and agencies whose contributions were indispensable to the successful completion of these revised guidelines:

Dr. Avery Hinds and Dr. Lisa Monrose, the Consultants who were instrumental in the development of this revised document.

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• Ms. Anica Sanoir – Caribbean Certified Diabetes Educator
• Health Professionals, who participated in the peer review consultations
• Mr. Sherlan Gittens, responsible for the graphics and layout of the guidelines
The revised CARPHA Guidelines take a modular approach to providing guidance on the Management of Diabetes in Primary Care in the Caribbean.

**Module 1: EVIDENCE-BASED TREATMENT PROTOCOLS**
Targets primary care physicians, nurse-practitioners and any other health care provider who is directly involved in the medical management of diabetes. This module aims to give updated algorithms on care, incorporating the most recent recommendations in the care of diabetes.

**Module 2: GUIDING LIFESTYLE CHANGES**
Intended for all persons on the health team, who provide care and lifestyle-counselling to persons living with diabetes (PWD). It is specifically geared toward physicians, dietitians, nutritionists, nurses, community aides and home-help. This module covers all aspects of lifestyle that directly impact target outcomes. Therefore, diet, physical activity, weight management and mental health are addressed in this module.

**Module 3: GUIDANCE FOR PERSONS WITH DIABETES (PWD) AND CAREGIVERS**
Aims to inform to persons living with diabetes (PWD) and all persons involved in their care, with or without a medical or health care background. This module should be particularly useful to community nurses, home-help, community aides, and other community caregivers,
especially those involved in caring for PWD in their homes and can serve as a directory of topics relevant to caregivers. It addresses topics such as foot care, self-monitoring of blood glucose, identification and management of low blood glucose (hypoglycaemia) and high blood glucose (hyperglycaemia).

**Module 4: ACCESS TO ESSENTIAL MEDICATION**
Targets physicians, nurses, pharmacists and personnel involved in ensuring the efficiency of health system procurement mechanisms. It provides information on the various classes of medicine available for care of diabetes, issues related to their availability, as well as the risks, benefits and cautions that should be considered in their use.

**Module 5: SYSTEMS FOR MONITORING**
Targets all health care providers but is of particular relevance to Primary Care Managers and those involved in health systems evaluations. It focuses on monitoring and reporting information on the prevention and management of T2DM, and the implementation of the guidelines using standardised indicators and data collection tools.

Table I, below, summarises the scope and highlights the target users of each module.
<table>
<thead>
<tr>
<th>Modules of the Management of Diabetes in Primary Care Guidelines</th>
<th>What does it cover?</th>
<th>Module 1 Evidence Based Treatment Protocols</th>
<th>Evidence Based Treatment Protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1 Evidence Based Treatment Protocols</td>
<td>Documentation of protocols aimed at standardizing the clinical approach to the management of T2DM in primary care.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Module 2 Guiding Lifestyle Changes</td>
<td>Information on lifestyle interventions that target the four modifiable risk factors for diabetes.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Module 3 Guidance for PWD &amp; Caregivers</td>
<td>Information for Persons With Diabetes (PWD) and lay caregivers related to the care of diabetes.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Module 4 Access to Essential Medications</td>
<td>Information on medicines and technologies available for diabetes management and their supply-chain management at the primary care facility level.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Module 5 Systems for Monitoring</td>
<td>Monitoring and reporting information, standardized indicators and data collection tools for use in the prevention and management of T2DM.</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
The Client-Centred Approach to Chronic Care

Diabetes is a chronic illness which extends across an individual’s lifespan. The goal of all clinicians and persons on the health team should therefore be to deliver optimal and evidence-based care and support. The Chronic Care Model, endorsed by PAHO/WHO, emphasises the importance of the team approach to the care of all Chronic Non-communicable Diseases (CNCDs) and further underscores the integral role of high-level policy support in optimising the delivery of care to persons with chronic illnesses. This framework informs the approaches recommended in these guidelines and is both endorsed and encouraged by CARPHA and the OECS as a mechanism for improving the standard of health care delivered to people of the region.

The Chronic Care Model identifies patient-centeredness, effectiveness, efficiency, equity and timeliness as essential elements of efficient health service delivery for people with this chronic illness. From as early as the 1980’s, the approach to the care of “clients” has undergone a paradigm shift from the doctor-centred model, to one which gives more focus, autonomy and involvement to the recipient of health care services, initially called “patient-centred care.” Moria Stewart et al (2003), highlighted that persons receiving care preferred this model and reported improved satisfaction, outcomes, and health care utilisation with this approach. As archetypes, relating to health care delivery continued to evolve, and the shared role of health care providers and recipients in decision-making became more widely accepted, and the terminology describing health care participants was updated. “Patients” are now called “clients,” a term recognising the
more empowered role they play in their own health care. Rather than passively presenting to be “fixed” by a doctor, they are recognised as an integral part of the health care team for their treatment. These guidelines will therefore utilise the terms “persons with diabetes” (PWD) and “clients” in reference to the recipients of health care services for diabetes.

At each visit, health care providers need to remember that clients are individuals, with the circumstances of their lives constantly changing. The natural progression of the disease process also means that recommended management will almost certainly need to be adjusted periodically. Early involvement of the wider team of health professionals in the prevention and management of the complications of diabetes is a critical risk mitigation strategy, the success of which hinges upon the cooperation of educated, motivated clients and integrated, coordinated providers of health care. At each point of care, it behoves the care-provider, to seek an integrated understanding of the client’s world and to solicit feedback alongside the provision of their recommendations for improving management. Each member of the health team must recognise that managing the non-clinical (emotional, social, economic, psychological) needs and life issues of the client plays an important role in ensuring successful outcomes and must understand the relevance of tailoring their care to suit their individual clients.

Integrating the individual client-centred approach into the broader framework of the Chronic Care Model will, necessarily, take varying forms in different Member States and will require the adaptation of both systems and individuals to new ways of executing health care functions; but the benefits to be derived at both the individual and the systemic level from improving the quality of health care delivery have been shown, in many other jurisdictions greatly, to outweigh the costs.
Methodology of Guideline Development

The guidelines adopted the most recent recommendations from organisations including the International Diabetes Federation (IDF), American Diabetes Association (ADA), World Health Organization (WHO), the UK NICE Guidelines and other relevant sources. Instrumental documents included, but were not limited to the: IDF 2017 Clinical Practice Recommendations for Managing T2DM in Primary Care; ADA Standards of Medical Care in Diabetes (2018 & 2019 iterations); WHO Guidelines on 2nd and 3rd Line Medicines and Types of Insulin for Control of Blood Glucose Levels in Non-pregnant Adults with Diabetes and the WHO HEARTS technical package for Cardiovascular Disease management in primary health care.

The updating of the guidelines utilised an iterative process for review and adhered to the Institute of Medicine’s (IOM) standards for developing trustworthy clinical practice guidelines. The IOM recommends that a Guidelines Development Group should be multidisciplinary and balanced, including methodological experts, clinicians, and populations expected to be affected, and should adopt strategies that increase effective participation. This was facilitated through the multidisciplinary CARPHA Expert Committee, who reviewed the draft iterations of the guidelines; and the broad stakeholder consultation, held in Saint Lucia, which allowed key end-users to provide feedback on the utility of the guidelines. Both internal and external review committees were developed to ensure that the final iteration of the guidelines was satisfactory. Additionally, WINDREF coordinated and facilitated a regional ‘Training of Trainers’ workshop in Grenada, which also provided and opportunity for attendees, health care professionals
involved in the management of diabetes, to give feedback on an early draft of the guidelines, accommodating broad-based reviewer input.

A consultant, based at the OECS Health Unit, was secured to update the guidelines and the CARPHA expert working group, who had drafted the first iteration of the guidelines was engaged for peer review to ensure that the most current and rigorous scientific evidence was included. The consultant, through a desk review, used the latest published version of the current guidelines for the management of Type 2 Diabetes around the world, limiting the selection to guidelines that were available in English.
MODULE 2
Healthy Lifestyle Counselling
Introduction

Lifestyle changes such as deliberate weight management, consumption of a healthy diet, increased physical activity and regular exercise should be the first line of treatment for persons living with DM and should be maintained throughout the life-course of the client. The Diabetes Prevention Program (DPP) demonstrated that, in persons with Impaired Glucose Tolerance (IGT) (or “pre-diabetes”), sustained modification of diet and physical activity patterns, inclusive of modest weight loss, reduced progression to avert DM by 58% over an initial 3-year period and that significant reductions in progression were still evident after 15 years, albeit at lower proportions (27%) (Knowler et al., 2002).

Lifestyle changes are also shown to delay microvascular complications such as blindness, kidney and nerve disease and macrovascular disease including erectile dysfunction, heart disease and diabetic foot disease. The International Diabetes Federation Atlas, 2017 (IDF 2017) recommends that persons with T2DM, from the time of diagnosis, improve their lifestyle to reach metabolic targets as soon as possible. In T2DM clients with milder glycaemic derangements (HbA1c <7%) physicians have the option of recommending the commencement of lifestyle changes without starting metformin for 3-6 months to determine whether glycaemic targets can be achieved and maintained without pharmacotherapy. However, prolonged periods of hyperglycaemia must be avoided.

The team-based care approach is integral to aiding clients in implementing and maintaining the substantial modifications to their lifestyles which are necessary for meaningful and sustained risk-reduction in T2DM. The primary care physician focuses service on the domains of clinical evaluation; therapeutic intervention; joint goal-setting; and advice on general lifestyle changes, in concert with
the wider multidisciplinary team which provides detailed guidance; group-training; and self-management support to clients in initiating, monitoring and sustaining the behavioural changes necessary to improve their health and well-being. This module expands on approaches to engaging clients on the journey toward sustainable lifestyle change, providing specific guidance on nutritional evaluation and counselling; general guidelines around physical activity; and tips on self-monitoring, self-care and risk-reduction related to cigarettes and alcohol.

Supporting Lifestyle Modification

Clients benefit most when their health care team engages their participation in the process of their care and facilitates the development of their skills in communication, negotiation and self-regulation, as these all contribute to improvements in client self-management and joint decision-making. Understanding the stages of behaviour change and utilising techniques to support clients’ movement from one stage to the next in the behaviour change process is critical to the success of lifestyle interventions. Counselling, motivational interviewing, and use of group education techniques are therefore critical skillsets for members of the care team in supporting lifestyle modification.

Models of Behaviour Change

Diabetes is a chronic medical condition. Converting knowledge to practice can be challenging. The reality is that not everyone is ready or willing to change. Lifestyle counselling by health care team members encourages clients to change undesirable and unhealthy habits. Persons need to unlearn old habits and attempt to replace
them with new healthier habits.

It is paramount that each member of the health care team has a working understanding of the Trans-theoretical Behaviour Change Model. Before change can be realised, each client should be assessed to determine their position and state of readiness to change. Thereafter, appropriate strategies and tools can be used to facilitate action toward achieving maintenance leading to the new healthy habits becoming routine. Persons attempting to adopt a new habit often make several attempts before the behaviour becomes a natural part of their life and it is important to remember that persons may be demoralised from previous failed attempts.

Providing Support to Clients to Encourage Behaviour Change

In supporting clients’ transition from one stage of the behaviour change cycle to the next it is important to:

» Engage communication skills during client encounter. This is achieved by active listening, observing non-verbal cues and by asking open questions;

» Assess clients’ knowledge, attitude and practices for each aspect of lifestyle change;

» Identify current nutrition and lifestyle practices that require change

» Prioritise nutrition and lifestyle change needs

» Educate clients on the importance of lifestyle changes, specific to their current condition

» Discuss possible changes and how they can be made with clients (It is important to be practical and realistic when encouraging clients toward lifestyle change)
The following figure illustrates the stages outlined in the Transtheoretical Model of Change:

- **Pre contemplation**: Not considering change in the next 6 months
- **Contemplation**: Considering change in the next 6 months
- **Preparation**: Preparing to change in the next 30 days
- **Action**: Actively implementing the change <6months
- **Maintenance**: Struggling to maintain change >6months
- **Identification**: Changes are now routine and automatic

**Motivational Interviewing**

Encouraging the client to adopt a healthier lifestyle requires the use of motivational interviewing. This approach engages the client and emphasises client autonomy (respecting the client’s right and ability to choose), client values and collaboration. Like the client-centred...
clinical approach, it focuses on the client and is characterised by a warm, genuine, respectful and egalitarian stance that is supportive of client self-determination and autonomy.

This module guides the assessment and lifestyle change in the following areas:

- Mental Health
- Nutrition
- Physical Activity and Exercise
- Smoking
- Alcohol Consumption
- Foot Care

In managing persons diagnosed with any type of diabetes, emphasis should be placed on nutrition and lifestyle change as to prevent disease progression. Figures 1 and 2 in the Goal-Setting section below, illustrate the review process associated with lifestyle recommendations for persons presenting with pre-diabetes, those with T1DM, T2DM and those with gestational diabetes.

For clients that have diabetes along with other co-morbidities such as high blood pressure, additional or modified recommendations will be required.

**Counselling**

Counselling skills are useful when speaking with clients. Counselling skills can be divided into two categories:

1. Listening and Learning
2. Confidence and Support

Your listening and learning skills will encourage clients to easily speak about their condition and feelings; help them to know that you are interested in them and motivate them to tell you more. These skills include:

- Using helpful non-verbal communication. Sometimes persons receive these messages even better than the spoken word.
- Asking open questions so you get more than just a “Yes/No” response. These questions usually begin with – “Tell me,” “How?” “What?” “Why?”
- Using responses and gestures which show interest. This tells your client that you are listening and encourages them to continue talking.
- Use reflection (paraphrase) to show that you are keenly listening to them. This encourages a conversation to continue.
- Empathizing with clients shows that you understand how they feel, making them more likely to confide in you.
- Accept what a client thinks and feels but do not agree or disagree. If it is a misconception and you agree, it will not be easy for them to receive correct information; if you disagree, you make them feel foolish and they may not want to return for follow-up counselling.

Your confidence and support skills will help your clients to feel confident and good about themselves, resist pressures from others concerning their condition and decide what is best for them. These skills include

- Recognizing and praising what a client is doing right - For just
attending the session they should be praised as it means that they have made a step forward to change.

- Giving some practical help to make them comfortable

**Client Centred Care**

- Involves the client and caregivers in all management discussions
- Individualizes the approach to care
- Provides culturally appropriate information and educational materials
- Involves the client in the development of realistic lifestyle change plans that factor in their schedule and self-care regime
- Facilitates follow-up visits and modification of goals when necessary
- Schedules on-going education, reviews, support and dialogue to improve acceptance and compliance
- Gives general information about the targeted chronic disease – risk factors, prognosis, treatment and its side effects and
- Suggests workable strategies for positive behaviour change and the adoption of healthy lifestyles

*Adapted from: Protocol for the Nutritional Management of Obesity, Diabetes and Hypertension in the Caribbean, CFNI (2004)*

- Giving only a little information at a time that is relevant to their current condition
- Using language that they can understand; and
- Making one or two suggestions, not commands so that they feel in control and confident that they could manage their condition
• Phrasing and communicating statements positively

The GALIDRAA approach to counselling has proven effective in many settings and captures the essential elements of effective counselling interactions.

• Greet the client with respect and kindness
• Ask open-ended questions
• Listen to what the client and/or caregiver says. Notice body language, use probing questions, and reflect on what the client says to make sure you understand it correctly
• Identify the client’s key problems and help select the most important ones to address (prioritize).
• Discuss options, considering what is realistic and using visual materials to engage the client and/or caregiver in discussion.
• Recommend and negotiate a small, doable action, explaining the rationale and benefits. Ask the client to repeat what he/she understood from the discussion and what action he or she is meant to take.
• Agree to try at home. Make a follow-up appointment and ask the client to repeat the date.
Educating persons living with diabetes on recommended lifestyle changes to maintain normal blood sugar levels and delay the progression of possible complications should not be the sole responsibility of the physician. IDF 2017 guidelines recommend that persons with T2DM should be referred to a diabetes education program at the time of diagnosis and the program should be available at the primary care level. Ideally, there should be a trained diabetes educator at all health facilities.

Alternatively, the primary care physician and another member of the health care team, at a minimum, should organise group education for their clients. This may be better suited to our Caribbean setting. A structured diabetes education programme is the goal. This could be a client-led group or be the mandate of a local, social advocacy group such as the diabetes associations in the respective Member States. These programmes could help to improve the knowledge and skills required by persons living with diabetes to be able to achieve proper self-care and manage their condition. Another benefit of such a programme is that persons living with diabetes can encourage and motivate each other as they strive to achieve mastery.

**Box 2.1: Recommendations Group Education**

- Clients with T2DM should be referred to a diabetes education programme at the time of diagnosis
- The programme should be led by a trained, certified diabetes educator
- Every health facility should have at least one trained diabetes health educator
- Primary care physicians and another health care team member should organise structured group education for their clients
- A structured diabetes education programme is the gold standard and should meet the minimum requirements of the NICE guidelines (NICE 2011, updated 2016)
of the recommended lifestyle changes.

Requirements for Organising a Group Education Programme for Clients

The National Institutes for Health and Care Excellence (NICE) guidelines (2016) recommend that any such programme should meet the following basic requirements:

» Be evidence-based and suit the needs of the client
» Have specific aims and learning objectives that support the client, their family and carers in developing attitudes, beliefs, knowledge and skills to self-manage diabetes
» Have a structured curriculum that is theory-driven, evidence-based, has supporting materials and is written down
» It should be delivered by trained, competent educators who can deliver age-appropriate and correct information to the client
» Should be quality-assured by trained, competent individuals and
» Its outcomes should be audited regularly

Mental Well-being

Depression can affect treatment adherence and worsen prognosis. Persons living with diabetes should be screened with a validated tool such as Patient Health Questionnaire-2 (PHQ-2) (IDF 2017). A PHQ-2 cut off point of 3 is optimal for screening and is indicative of a 75% or greater probability of depression being present. A full psychiatric assessment should be conducted, and appropriate management initiated. These clients should be referred accordingly
NUTRITION MANAGEMENT

Appropriate nutritional intake is integral to the successful co-management of diabetes. The general goals of nutrition management are as follows:

- to maintain near-normal blood-glucose levels by balancing food intake with insulin or oral medication and physical activity levels;
- to provide adequate calories to attain and maintain reasonable weights for adults, normal rates of growth and development in children and adolescents, increased metabolic needs during pregnancy and lactation or recovery from catabolic illnesses;
- to control blood pressure;
- to achieve optimal blood lipid levels;

PHQ-2

Over the past two weeks, how often have you been bothered by any of the following problems?

A. Little interest or pleasure in doing things?

   0 = Not at all
   +1 = Several days
   +2 = More than half the days
   +3 = Nearly every day

B. Feeling down, depressed or hopeless?

   Feeling down, depressed or hopeless?
   0 = Not at all
   +1 = Several days
   +2 = More than half the days
   +3 = Nearly every day
• to prevent, delay or treat acute insulin-related complications such as hypoglycaemia, short-term illness and exercise-related problems;
• to prevent, delay or treat long-term complications of obesity, diabetes or hypertension. These include, but are not limited to, renal disease, neuropathy and cardiovascular disease; and
• to improve health through optimal nutrition.

It is important to remember that a health care team approach must be taken to assist the client in achieving the desired outcomes for optimal health. See appendix 2 for the responsibilities for each team member.

**Nutritional Intake History**

It is important to take a nutritional history on all clients with diabetes. Appendix 1 includes some questions that can be used for this purpose. A ‘Yes’ response to any of these questions can be addressed with advice or education by any member of the health care team (refer to Phase 3 Nutrition Intervention of the Nutrition Care Process for suggestions).

All members of the health care team should support the care of the client by initiating a conversation around lifestyle and measures that the client is willing and able to adopt for desirable health outcomes.

Based on the physician’s clinical findings, some clients will be referred for a comprehensive nutrition assessment and intervention.
The Nutrition Care Process

The Nutrition Care Process, Figure 2, is the systematic approach and the gold standard for conducting an individualised and

Figure 2: The Nutrition Care Process

comprehensive nutrition assessment and developing a care plan. It is used by dietitians or nutritionists with dietetic education and training to provide quality, client-centred medical nutrition therapy for the management of diseases in clinical and community settings. It is therefore, recommended that dietitians or nutritionists with dietetic education complete this process for all clients.

This cyclical NUTRITION CARE PROCESS has four (4) phases/steps, namely:

1. Nutritional Assessment (A): Figure out
2. Nutritional Diagnosis (D): The Problem
3. Nutritional Intervention (I): Figure out what to do
4. Nutritional Monitoring and Evaluation (M & E): Find out if it’s working

**Phase 1 - Nutrition Assessment**

A comprehensive Nutritional Assessment involves collection and documentation of the following:

- Anthropometric data e.g. height, weight, body composition;
- Biochemical data e.g. urine, blood;
- Clinical data e.g. medical history, nutrition-focused physical findings; and
- Dietary data e.g. 24-hour recall, usual intake, food frequency, food diary.

Some of these data will be obtained from the client’s medical record. The remainder will be obtained by interviewing the client or a key contact person/informant. Used collectively, a client profile is established. Assessment leads to identification of key nutritional
problems and into phase 2 of the Nutrition Care Plan.

Nutrition/Dietetic professionals are advised to use standardised forms as available in country or at their health facility. If none is available, see Appendix 1 for a sample form.

**Phase 2 - Nutrition Diagnosis**

This phase identifies nutrition problem/s, root cause/s (etiology) and their related signs and symptoms. This generates the creation of Problem Etiology Signs and Symptoms (PES) Statement(s) to guide phase 3 of the Nutrition Care Plan. A PES statement (or Nutrition Diagnosis Statement) is a structured sentence that describes the specific nutrition problem that the dietitian/nutritionist is responsible for treating and working toward resolving, the cause/s of the problem and the evidence that this problem exists. A PES statement is needed for all nutrition assessments except those with “no nutrition diagnosis.”

Three components make up the PES statement:

- **The Problem (P)** – the Nutrition Diagnosis
- **The Etiology (E)** – the cause/s of the nutrition problem (Nutrition Diagnosis)
- **The Signs and Symptoms (S)** – the evidence that the nutrition problem (Nutrition Diagnosis) exists

International Standardised Terminologies are available for use by practitioners to help with ensuring quality of care and improving outcomes.
Phase 3 Nutrition Intervention

Nutrition intervention is a purposefully planned course of action with the client to positively change a nutrition-related behaviour, condition(s) or other aspects of his/her health status.

Interventions may include but not limited to:

- Individualised diet prescription – a meal plan is calculated for individuals based on their height, weight, age, sex, energy expenditure, weight loss or weight management goals (if any), biochemical data (lab values) and their current medical condition. Dietitians are the only members of the health care team suitably qualified to calculate meal plans.

- Goal Setting - this involves the development of an action plan designed to motivate and guide a person toward achieving their nutrition and health goals.

- Nutrition Education - providing/sharing of information to create awareness or reinforce basic or essential nutrition-related knowledge.

- Nutrition Advice - giving a recommendation about what should be done to address a specific situation.

- Nutrition Counselling - a supportive and collaborative process that involves setting priorities, establishing agreed goals, and next steps. Prioritising and developing personal goals is the basis for monitoring progress and measuring outcomes. This journey is progressive and extends over time. This is done by the dietitian on the health care team.

These interventions should be tailored to meet clients’ needs, although the general goal should be to help the person learn how to adopt desirable and healthy behaviours, make healthy food choices, not to “diet,” and to maintain positive perceptions of food.
Topics for which education and/or advice may be offered include, but are not limited to the following:

- The Caribbean Six Food Groups
- The Daily Caribbean Plate
- Portion versus Serving size
- “Handy” Portions
- Understanding the Food Label
- Meal Planning Tips
- Meal Preparation Tips
- Healthy Snacks (what does this mean and what are they, substitutes that can be made)
- Sugar Content of Commonly Consumed Foods
- Tips for Grocery Shopping

Detailed information on the first five of these topics can be found in the next section of these guidelines, which focuses on key concepts in Nutrition Information.

This information should not be shared all at once, but reinforced and built upon at successive visits, allowing the client time to fully understand what is being presented. A record of what is shared at each session should be given to the client and also kept in his/her file, for continuity and follow-up. The use of culturally relevant resource material (such as social media messages or handouts) can be developed to effectively communicate the topics.
Goal Setting

At each visit, it is important for the health care team members to assist the client with developing one or two SMART (Specific, Measurable, Achievable, Realistic, and Time-based) goals in addition to an action plan. This is more likely to result in compliance and achievement of the desired outcome(s) because the client is in control of the process and has the support of the health care team. At subsequent visits, additional goals may be set.

Goals can be targeted to:

- attain and maintain optimal blood glucose levels in the normal range, to prevent complications of diabetes;
- attain and maintain blood pressure levels that reduce CVD risk; and
- improve health through healthy food choices.

Examples of goals set by the client (with the assistance of the health professional) are:

Between next week Monday and my next visit, I will:

- have a fruit as a snack between my main meals (twice daily);
- refer to my exchange list for guidance on practicing portion control with the staple foods daily; and
- go jogging around the field for 45 minutes, three times per week.
Action plan - I will:

- go to the market on weekends to purchase fruits;
• put the exchange list on my fridge to refer to quickly and keep pictures of this on my phone for ease of accessibility; and

• leave my clothes and sneakers by the back door and change into them as soon as I get home on my workout days.

The table below outlines the targets for blood pressure and biochemical measurements recommended for risk reduction in T2DM

**Phase 4 – Dietary Monitoring and Evaluation**

The final step of the NUTRITION CARE PROCESS is Monitoring and Evaluation. During this phase, it is determined if the client has achieved, or is making progress toward, the planned goals. The effectiveness of the nutrition intervention is monitored by measuring outcomes through collection of data on nutrition indicators. Evaluation involves comparing current findings with previous findings, evaluating the effect of the intervention, identifying outcomes relevant to the nutrition diagnosis and intervention goals, and determining the amount of progress made and whether goals/expected outcomes were met.

The following diagrams give examples of the goal-setting and evaluation processes that can be used:
Client has a variety of foods from the Caribbean 6 Food Groups daily
- Includes 3 main meals and 1-2 healthy snacks per day.
- Main meals are balanced: staple, food from animal and/or legumes & vegetables
- Portion control practiced
- Appropriate meal timing: Breakfast within 1 hour of waking and all other meals 2-3 hours apart

Nutrition

Achieved

Not Achieved
- work with client to achieve goals

Physical Activity

Achieved

Not Achieved

Achieved

Not Achieved
- work with client to achieve goals

Alcohol

Achieved

Compliant

Non-compliant
- provide advice and refer to available support groups/ appropriate medical professional for further assistance

Smoking

Compliant

Non-compliant
- provide advice and refer to available support groups/ e.g. smoking cessation clinic

Foot Care

Compliant

Non-compliant
- provide advice on proper foot care and refer to appropriate medical professional for further care.

- Inspects feet daily
- Open wounds/cuts
- Proper foot wear worn does not walk bare feet
- No tingling or pain in feet

150 minutes of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity aerobic physical activity.
- Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week

10 minutes of vigorous-intensity physical activity or

Example: one alcoholic drink = 5-ounce glass of wine, 1 1/2-ounce “shot” of liquor or 12-ounce beer

Males: No more than two drinks daily
- Women- No more than one drink daily

Figure 3: Lifestyle Change Management: Pre-diabetes & T2DM
Client has a variety of foods from the Caribbean 6 Food Groups daily.
- Eats foods rich in protein, folic acid, iron, and calcium
- Includes 3 main meals and 2 healthy snacks per day.
- Main meals are balanced: staple, food from animal and/or legumes & vegetables
- Portion control practiced
- Appropriate meal timing: Breakfast within 1 hour of waking and all other meals 2-3 hours apart

Engages in both aerobic and resistance exercise most days of the week
- 30 minutes of being physically active (moving) daily

Not Recommended
- Not Recommended

Achieved
- Not Achieved—work with client to achieve goals

Nutrition Alcohol Smoking

Achieved Compliant
- Not Recommended
- Non-compliant—provide advice and refer to available support groups/appropriate medical professional for further assistance
- Not Recommended
- Non-compliant—provide advice and refer to available support groups

Figure 4: Lifestyle Change Management: Gestational Diabetes Mellitus (GDM)
• Client has a variety of foods from the Caribbean 6 Food Groups daily.
  • Includes 3 main meals and 2 healthy snacks per day.
  • Main meals are balanced: staple, food from animal and/or legumes & vegetables
  • Portion control practiced
  • Appropriate meal timing in relation to type of Insulin

• Children and youth aged 5–17 should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily.
  • Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone*, at least 3 times per week.
  • Practices Self Monitoring Blood Glucose (SMBG) before and after engaging exercise

• For persons legally allowed to consume alcohol
  • Males: 2 drinks per day
  • Women- 1 drink per day
  • Example: one alcoholic drink = 5-ounce glass of wine, 1 1/2-ounce “shot” of liquor or 12-ounce beer

• Adjusts well to lifestyle changes
  • Has support from family/relative/carer

• Not Achieved-
  • work with client and carer (if under age 18) to achieve goals and refer client to Nutritionist/Dietitian

• Achieved
  • Not Achieved-
  • work with client and carer (if under age 18) to achieve goals

• Compliant
  • Non-compliant-
  • provide advice and refer to available support groups/appropriate medical professional for further assistance

• Achieved
  • Not Achieved-
  • provide advice and refer to available support groups e.g. smoking cessation clinic

• Compliant
  • Non-compliant-
  • provide advice and refer to available support groups/appropriate medical professional for further assistance

• Not recommended
  • Not Achieved-
  • provide advice and refer to available support groups e.g. smoking cessation clinic

• Coping well, provide encouragement
  • Not coping well-
  • provide advice and refer to available mental health professional

Figure 5: Lifestyle Change Management: T1DM
Nutritional Information – Guiding Healthy Choices

Clients benefit from specific guidance on how to identify food groups, measure portion sizes and assess nutritional content of packaged foods. The information below can be discussed and shared with clients to aid their understanding and decision-making where dietary choices are concerned.

Guidance on portion-sizes:

- Carbohydrates can be taken in portions the same size as the top of your closed fist
- Vegetables in quantities equivalent to a fist-full
- Fats in volumes equal to the one joint of your thumb
- Proteins in amounts the size of the palm of your hand
A healthy diet comprises foods from all the 6 Caribbean food groups listed below.

- **Staples** e.g. bread, dasheen, cassava, rice
- **Legumes/ nuts** e.g. peas, beans & nuts
- **Fruit** e.g. orange, banana,
- **Dark green leafy and yellow vegetables**
- **Food from animals** e.g. chicken & fish, milk, cheese
- **Fats** e.g.

All meals are built around 4 of these food groups: Legumes, staples, food from animals and vegetables. The nutrients found in each food group is further discussed in Appendix II.

Eat smaller portions.
A portion of food is the amount of food one chooses to eat.
A serving is the amount of food recommended by the manufacturer in the Nutritional Facts Label.
Eating smaller portions is key in achieving normal blood sugars and achieving weight loss. Portion sizes can be estimated by using your hands as follows:

![Hand diagram showing portion sizes](image-url)
Vegetables and Carbohydrates
(1 cup)

Carbohydrates
e.g. potato/
pasta/rice

VEGETABLES

PROTEIN

STARCHES
When placing food onto a plate, divide the plate into 4 equal sections

- ¼ for starches (provision, rice)
- ¼ for protein (fish, chicken, peas & beans, etc.)
- ¼ for cooked vegetables (carrots, okra, cabbage, etc.)
- ¼ for raw vegetables (lettuce, cucumber, tomato, etc.)

<table>
<thead>
<tr>
<th>When to eat</th>
<th>What to eat</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Always have breakfast - Eating something in the morning is breaking the fast. It is advised that persons start each new day with something to eat as this helps to fuel the body.</td>
<td></td>
</tr>
<tr>
<td>- Do not miss meals</td>
<td></td>
</tr>
<tr>
<td>- Eat on time</td>
<td></td>
</tr>
<tr>
<td>- That is 3-4 hours apart</td>
<td></td>
</tr>
<tr>
<td>Meals should be evenly distributed throughout the day. Breakfast, lunch and dinner should be taken at fairly regular times with mid-morning, mid-afternoon and bedtime snacks. This is especially important for clients treated with insulin. Breakfast like a king, lunch like a prince and dinner like a pauper.</td>
<td></td>
</tr>
<tr>
<td>- Increase water intake</td>
<td></td>
</tr>
<tr>
<td>- Fish, white meat (chicken, turkey)</td>
<td></td>
</tr>
<tr>
<td>- Vegetables</td>
<td></td>
</tr>
<tr>
<td>- Fruits in moderation</td>
<td></td>
</tr>
<tr>
<td>- Legumes should be encouraged</td>
<td></td>
</tr>
<tr>
<td>- Complex carbohydrates/unprocessed carbohydrates</td>
<td></td>
</tr>
<tr>
<td>- High fibre foods</td>
<td></td>
</tr>
<tr>
<td>- At least 5 portions of fruits and vegetables are recommended daily, to reduce NCD (WHO)</td>
<td></td>
</tr>
<tr>
<td>- Healthy Snacks</td>
<td></td>
</tr>
<tr>
<td>- Fruit</td>
<td></td>
</tr>
<tr>
<td>- Vegetables</td>
<td></td>
</tr>
<tr>
<td>- Roasted chickpeas</td>
<td></td>
</tr>
<tr>
<td>- Popcorn</td>
<td></td>
</tr>
</tbody>
</table>
What to avoid eating

- Avoid Sugary foods
- Avoid juice, soft drinks or any sweetened drinks
- MOVE TO A BOX WHICH STATES LIMIT
- Limit foods cooked with oil and butter (fried foods, pastry, roti etc.)
- Limit using too much salt

Read food labels (know the Nutritional Facts)

Before consuming any packaged food, it is recommended that we should read the nutritional facts on the food label and decide if this is a food we should consume and how much of it we should eat.

Step 1: HOW MANY SERVINGS ARE IN THE PACKAGE?

- The package food comes in will suggest the serving size and how many servings are in the package
- If you eat twice the amount recommended by the package, then you are eating twice the calories
- E.g. in the label shown below there are 2 servings in the container; if you ate all the food in the package you would have consumed twice the calories of one serving

Step 2: CHECK THE CALORIES IN A SERVING.

- The package will tell you how many calories are in a serving of the food item
- If trying to lose weight, it is recommended that you cut down on the number of calories consumed

Step 3: LIMIT SALT (SODIUM), SUGARS & FATS

- Aim for foods having low daily values (less than 5%) for these nutrients

Step 4: ENSURE IT HAS SUFFICIENT VITAMINS AND FIBRE

- Aim for foods having high daily values for these (more than 20%)

Step 5: CHECK THE NUTRITIONAL VALUE BASED ON THE PERCENT DAILY VALUES (DV)

- The nutritional facts are based on the total number of calories estimated for an entire day of eating
• This label says that its daily value contribution of these foods is based on a 2000 calorie diet
• Thus, by looking on the right side of the nutrition facts label, you can quickly tell how much of your daily calorie intake you would get from eating the recommended serving size of that food item
• A low daily value is 5% or less
• A high daily value is 20% or more
• Most persons aiming for weight loss are encouraged to have 1500, or fewer, calories daily and may have to eat even smaller amounts than suggested on the food package to stay within their recommended daily calorie intake

Your nutritionist will help you with these calculations, so that you don’t have to do them on your own!

Step 6: LOOK AT THE INGREDIENT LIST
• All food packaging should clearly list all the ingredients contained in the food
• Proteins and carbohydrates are often listed along with their daily value contribution

Note 4 grams sugar = 1 teaspoon sugar

The foods we eat provide calories. Calories are basically converted into energy in our bodies. A basic concept is that the foods we eat should provide only the energy we need to function and carry out our activities.

To avoid weight gain, energy intake (calories) should be equal to energy expenditure!

Your nutritionist can help you calculate what your energy needs, determine how you can obtain the right quantity of calories without gaining weight or how to make alterations to calorie intake to achieve weight loss.
Following the instructions above, it can be seen that by looking on the right side of the nutrients of the food package, you can quickly tell how much that food in the recommended serving size, will contribute to your calories for a day.

- A low Daily Value is 5% or less
- A high Daily Value is 20% or more
- Most persons for weight loss are encouraged a 1500 or less calories daily and may have to eat even less than the recommended serving size of the food to stay within their recommended daily calorie intake.

### Nutrition Facts

<table>
<thead>
<tr>
<th>Serving size 1 cup (228g)</th>
<th>Servings Per Container 2</th>
</tr>
</thead>
</table>

#### Amount Per Serving

<table>
<thead>
<tr>
<th>Calories</th>
<th>250</th>
<th>Calories from Fat 110</th>
</tr>
</thead>
</table>

#### % Daily Value*

<table>
<thead>
<tr>
<th>Total Fat 12g</th>
<th>18%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturated Fat 3g</td>
<td>15%</td>
</tr>
<tr>
<td>Trans Fat 3g</td>
<td></td>
</tr>
<tr>
<td>Cholesterol 30mg</td>
<td>10%</td>
</tr>
<tr>
<td>Sodium 470mg</td>
<td>20%</td>
</tr>
<tr>
<td>Total Carbohydrate 31g</td>
<td>10%</td>
</tr>
</tbody>
</table>

#### Get Enough of these nutrients

- Dietary Fiber 0g | 0% |
- Sugars 5g |
- Protein 5g |

#### Limit these nutrients

- Vitamin A | 4% |
- Vitamin C | 2% |
- Calcium | 20% |
- Iron | 4% |

#### 5% or less is low

#### 20% or more is high

---

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higer or lower depending on your calorie needs.

<table>
<thead>
<tr>
<th>Calories</th>
<th>2,000</th>
<th>2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than 65g</td>
<td>80g</td>
</tr>
<tr>
<td>Sat Fat</td>
<td>Less than 20g</td>
<td>25g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 300mg</td>
<td>300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2,400mg</td>
<td>2,400mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
<td>375g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
<td>30g</td>
</tr>
</tbody>
</table>

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**Footnote**
The images below give relevant examples of foods from the 6 food groups, regionally, as well as familiar packaging and presentations in our settings.
A calorie or kilocalorie is a unit of energy used in the body. Nutrient-dense meals are those that provide several nutrients without providing too many calories. Calorie-dense meals do the opposite – provide many calories per gram, while delivering relatively few nutrients.

Energy density breakfast options compared:

Lower Energy Density
This 450-gram breakfast delivers 500 k calories, for an energy density of 1.1 (500 kcal / 450g = 1.1 kcal/g)

Higher energy density
This 144-gram breakfast also delivers 500 kcalories, for an energy density of 3.5 (300 kcal / 144g = 3.5 kcal/g)
STEP 3: Nutritional Guidelines/Fundamental Food Concepts

Staples
Bread (from whole grain or enriched flour), wheat flour, corn (maize), cornmeal, dried cereals, macaroni, spaghetti, rice, cereal porridges

Starchy fruits, roots, tubers/ground provisions: banana, plantain, breadfruit, yam, potato, dasheen, coco, eddoe, cassava
Fruits
Mango, guava, citrus, (orange, grapefruit, limes, tangerine, pineapples, West Indian cherry, pawpaw/papaya, golden apple, Jew/June, plumb, sugar apple, sweet sop
Legumes

Kidney beans, gungo/pigeon beans, black eye peas, cow peas, other dried peas and beans, pea nuts, cashew nuts, sesame seeds, pumpkin seeds.
Food From Animals

meat, poultry, fish, (fresh, canned, pickled, dried)
milk, cheese, yoghurt, egg, liver, heart, tripe, (offal), trotters, feet, tail, head
Vegetables

Dark, green, leafy and yellow vegetables:
Callaloo/spinach, dasheen leaves, cabbage bush, pak, choy, string beans, carrot

Other Vegetables:
Squash, cho-cho (Christophine, chayote, cucumber, tomato, garden, egg/aubergine)
Fats and Oils

Cooking and salad oils, butter, margarine, shortening, ghee, coconut cream/milk, meat fat, nuts, avocado pear, Jamaican ackee.
Fasting

In several religions and cultural contexts, persons will fast for prolonged periods as part of prayer and religious rites. If the individual who is fasting has T2DM, special cautions should be adhered to. Fasting is not advised for persons with T2DM who have:

- poor glycaemic control including severe hypoglycaemia;
- recent episodes of unawareness;
- acute illness;
- pregnancy;
- experienced hyperosmolar, hyperglycaemic coma in the last 3 months;
- unexplained ketoacidosis in the last 3 months; and
- chronic kidney disease stage 3 or greater.

Clients taking insulin or sulphonylureas need to adjust their dosage and timings to reduce the risk of hypoglycaemia, during periods of fasting. Persons with T2DM who meet no specific contra-indications to fast are advised to self-monitor their blood sugar levels during those times of fasting. If the blood glucose is <70mg/dL (3.9mmol/L) or >300mg/dL (16.7mmol/L), then the fasting exercise should be stopped.
Physical Activity Guidelines

WHO Recommendations for Physical Activity

What is Physical Activity?

Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical inactivity (lack of physical activity) has been identified as one of the leading risk-factor for obesity and global mortality. There is a strong link between physical inactivity and diabetes; thus, this is one of the main aspects of lifestyle change that should be emphasised and implemented.

Regular and adequate levels of physical activity in adults can reduce the risk of diabetes, depression and other medical conditions. It also improves bone health and is a main determinant of energy expenditure. This is fundamental to energy balance and weight control.

The term “physical activity” should not be mistaken for “exercise.” Exercise, is a subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Physical activity includes exercise as well as other activities which involve bodily movement and are done as part of playing, working, active transportation, house chores and recreational activities.

Inactive people should start with small amounts of physical activity and gradually increase duration, frequency and intensity, over time. Inactive adults and those with disease limitations will have added health benefits when they become more active. WHO recommends physical activity for all persons by age group. The
recommendations by the various categories follow.

For children and young people, physical activity includes play, games, sports, transportation, chores, recreation, physical education, or planned exercise, in the context of family, school, and community activities. These recommendations are relevant to all healthy children aged 5–17 years, unless specific medical conditions indicate otherwise, irrespective of gender, race, ethnicity, or income level. Whenever possible, children and youth with disabilities should meet these recommendations.

**Recommendation for Children and youth aged 5-17 years**

1. They should accumulate at least 60 minutes of moderate - to vigorous-intensity physical activity daily.
2. Amounts of physical activity greater than 60 minutes provide additional health benefits.
3. Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week. Weight bearing exercises is not recommended for this age group.

Health care providers are encouraged to understand the types and amounts of physical activity appropriate for children considering their abilities. If children are not currently engaged in physical activity, they should begin even with amounts below the recommended levels, which will bring more benefits than doing none at all. It is recommended that they start with small amounts of physical activity and gradually increase duration, frequency and intensity, over time. The concept of accumulation refers to meeting the goal of 60 minutes per day by performing activities in multiple shorter bouts, spread throughout the
day (e.g. 2 bouts of 30 minutes), then adding together the time spent during each of these bouts.

These guidelines are relevant to all healthy adults aged 18–64 years, unless specific medical conditions indicate otherwise, irrespective of gender, race, ethnicity or income level. They also apply to individuals in this age range with chronic non-communicable conditions, not related to mobility, such as diabetes.

Pregnant, postpartum women and persons with cardiac events may need to take extra precautions and seek medical advice before striving to achieve the recommended levels of physical activity for this age group.

Inactive people should start with small amounts of physical activity and gradually increase duration, frequency and intensity, over time.

Recommendations for adults aged 18-64

1. Adults aged 18–64 should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity.

2. Aerobic activity should be performed in bouts of at least 10 minutes long.

3. For additional health benefits, adults should increase their moderate-intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity activity.

4. Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week.
Inactive adults and those with disease limitations will have added health benefits when they become more active.

These guidelines are relevant to all healthy adults aged 65 years and above, unless specific medical conditions indicate otherwise,

Recommendations for older adults of 65 years and above age group

Physical activity includes leisure time physical activity, transportation (e.g. walking or cycling), occupational (if the individual is still engaged in work), household chores, play, games, sports or planned exercise, in the context of daily, family, and community activities.

1. Older adults should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity.

2. Aerobic activity should be performed in bouts of at least 10 minutes long.

3. For additional health benefits, older adults should increase their moderate-intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity activity.

4. Older adults, with poor mobility, should perform physical activity to enhance balance and prevent falls on 3 or more days per week.

5. Muscle-strengthening activities, involving major muscle groups, should be done on 2 or more days a week.

6. When older adults cannot do the recommended amounts of physical activity due to health conditions, they should be as physically active as their abilities and conditions allow.
irrespective of gender, race, ethnicity or income level. They are also relevant to individuals in this age range with chronic NCD conditions or with disabilities.

Individuals with specific health conditions, such as diabetes, may need to take extra precaution and seek medical advice before trying to achieve the recommended levels of physical activity for older adults.

*Appendix 3 contains pictorial representations of different intensities of physical activity and can be used as a patient education reference.*

**Guidelines for Self-Management**

The management of diabetes rests heavily with the individual and his/her ability to cope with the challenges of living with diabetes. One important management tool is education. Clients who understand what to do and why it should be done, are more likely to be motivated to participate in achieving and maintaining good health outcomes. The following are useful guidelines to assist the client with self-management:

1. Ensure that the client understands what is diabetes: types, signs and symptoms, the causes and management of:
   a. hypoglycaemia;
   b. hyperglycaemia; and
   c. ketoacidosis.
2. Discuss the role of diet, medication and physical activity in controlling diabetes.
3. Emphasise the role of blood glucose monitoring and use of
the results.
4. Explain conditions under which exercise is not appropriate.
5. Train clients to detect and manage complications.
6. Discuss how/where to access information and resource persons in the community.
7. Teach nutrition label reading – recognising ingredients that mean sugar or carbohydrate.
8. Explain managing the diet in special circumstances e.g. travel, parties, eating out, illness.
9. Demonstrate the use of foods and food groups and their use in formulating meal plans.
10. Explain the importance of self-care in achieving optimal results.
Four critical times to assess, provide and adjust diabetes self-management education and support

1. At diagnosis
   - Newly diagnosed. All newly diagnosed individuals with type 2 diabetes should receive DSME/S
   - Ensure that both nutrition and emotional health are approximately addressed in education or make separate referrals

2. Annual assessment of education, nutrition and emotional needs
   - Needs review of knowledge, skills and behaviors
   - Long-standing diabetes with limited prior education
   - Change in medication, activity or nutritional intake
   - HbA1c out of target
   - Maintain health outcomes
   - Unexplained hypoglycemia or hyperglycemia
   - Planning pregnancy or pregnant
   - For support to attain and sustain behavior change(s)
   - Weight or other nutrition concerns
   - New life situations and competing demands

3. When new complicating factors influence self-management
   - Change in:
     - Health conditions such as renal disease and stroke, need for steroid or complicated medication regimen
     - Physical limitation such as visual impairment, dexterity issues, movement restriction
     - Emotional factors such as anxiety and clinical depression
     - Basic living needs such as access to food, financial limitations

4. When transitions in care occur
   - Change in:
     - Living situations such as inpatient or outpatient rehabilitation or now living alone
     - Medical care team
     - Insurance coverage that result in result in treatment change
     - Age-related changes affecting cognition, self-care, etc.

Cigarettes and Diabetes

Cigarettes have been demonstrated to contain a range of toxins and cancer-causing agents (including arsenic, carbon monoxide, formaldehyde and ammonia) or to generate them upon combustion. Nicotine is the addictive chemical in cigarettes and the main reason that quitting smoking poses such a challenge for many clients. On smoking a cigarette, some immediate effects on the body include:

- Increase in heart rate/pulse;
- Rise in blood pressure;
- Rise in blood glucose levels (hyperglycaemia);
- Increase in plasma free fatty acids; and
- Decrease coronary blood flow.

Cigarette-smoking is associated with increased risks of oral, throat, lung, gastrointestinal and other cancers; peripheral vascular disease; and erectile dysfunction.

Thus, it is clear that smoking cigarettes has negative impacts on overall health. Additionally, persons who smoke cigarettes are 30-40% more likely to develop diabetes. Persons who are already diabetic and smoke are more likely to have difficulty controlling their diabetes and more prone to the complications of diabetes. These complications include:

- Coronary Heart disease
- Kidney disease
- Damage to the small vessels of the eyes (retinopathy)
• Damage to the nerves, especially in the feet (peripheral neuropathy)
• Poor blood supply to the legs, which is often the cause of infections and ulcerations of the foot that can lead to amputations.

IDF 2017, as well as several guidelines including the Hearts 2018, recommend avoiding smoking. There are many health benefits to not smoking and numerous health risks associated with keeping the habit.

Clients who have diabetes and smoke, should therefore be reminded at each encounter, of the risks associated with smoking cigarettes and be encouraged to stop. Each client needs to be assessed as to where in the behavioural change model they are, with regards to quitting the habit and then assisted to move to the next step.

**Cannabis and Diabetes**

There is less evidence available for the effects of marijuana on diabetes. In most persons, cannabis may act as an antiemetic. However, with persons in whom cannabis has the opposite effect of precipitating vomiting; persons should be aware that this can lead to severe dehydration and DKA emergency.

Persons who experience extreme hunger (get “the munchies”) when they use cannabis, are more likely to over eat or, to eat high caloric foods that can lead to elevated blood sugar levels and discourage weight loss.
Alcohol and Diabetes

Alcohol is widely consumed in the Caribbean and has many cultural nuances. Alcohol in and of itself does not cause diabetes, however, if someone with diabetes consumes alcohol it will affect their blood sugar levels.

The normal recommendations for alcohol consumption are that females may have one unit of alcohol daily and men, 2 units. What is a unit? It would depend on the type of alcohol consumed. One beer, one 5fl oz glass of wine and one 1.5fl oz shot of rum are all the equivalent of one unit of alcohol.

Harmful use of alcohol includes drinking high levels daily and drinking to intoxication. If someone who has diabetes drinks alcohol in moderation, it may slightly elevate the blood sugar levels. But if alcohol is consumed in excessive amounts in a person with diabetes, it will cause the blood sugar levels to drop to very low and the person may experience a HYPO episode.

Drinking on an empty stomach may worsen the effects further, as the alcohol is absorbed a lot quicker. The liver is put under a lot of strain as it tries to manage the body’s blood sugar levels and rid the body of the alcohol at the same time.

The lifestyle questionnaire would give the client’s consumption of alcohol.

Box 2.3: Recommendations Alcohol and Diabetes

• Avoid excessive alcohol use and limit intake to 1-2 units per day
• If alcohol is being taken in excess or if clients cannot use self-control, to limit its use, then consumption should be stopped entirely
• Alcohol should be avoided if client is on a low caloric diet
• Persons with very high levels of triglycerides or signs of liver inflammation should also avoid alcohol altogether

IDF 2018
alcohol levels. However, if you think the client may have problems controlling their alcohol intake, they should be questioned using the CAGE questionnaire.
Have you ever had an **EYE OPENER**? i.e. a drink first thing in the morning?

Have you ever tried to **CUT DOWN** on your drinking?

Have you ever gotten **ANGRY** or annoyed when others speak about your drinking?

Have you ever felt **GUILTY** about your drinking?

Figure 6: The CAGE Questionnaire
The Role of the Health Care Team

Delivery of health care to persons with diabetes is an individualised venture, as the interventions in the immediate aftermath of a T2DM diagnosis are aimed at modifying risk behaviours, identifying incipient complications and forestalling target organ damage that has not yet occurred. While risk factors and potential complications may be identified by the evaluating physician in the initial history, physical examination and clinical investigations, the management of the health issues identified, requires a team approach. Key to this approach is the involvement of the relevant professionals at appropriate junctures to reduce behavioural and biological risks and mitigate impact of pathological changes in susceptible organs, tissues and systems. The certified diabetes educator (CDE) plays a crucial capacity-building role in equipping the new T2DM client to handle the arguably, monumental changes that accompany both the diagnosis and initiation of management of a client with T2DM. CDEs provide support to clients in navigating the unfamiliar territory of the diabetes self-management, including: self-monitoring of blood glucose, self-administration of medications, monitoring of side-effects of medications and looking out for symptoms of complications. The CDE also plays a role in helping to coordinate interactions between the client and other members of the care-team, with emphasis on supporting the lifestyle modifications that are essential to reducing the rates of complications experienced by persons with diabetes. In the ideal setting, the client, the primary-care physician, and the certified diabetes educator interact extensively in the processes of goal-setting, evaluation and referral to other members of the team for timely intervention, as may be required.

The following figure provides a visual model of the team-based care approach.
The over-arching concept of the care-model is that the client, in conjunction with the primary care physician and the certified diabetes educator, or diabetes nurse, will engage in joint assessment and decision-making regarding the need for and frequency with which each of the relevant services will be accessed. The core interventions for all clients involve the modification of dietary and physical...
activity practices and self-monitoring and care. Those embarking on pharmacological management will additionally need to ensure adherence to the regimens prescribed. The services providing this core support are depicted as part of the inner tier of management support. Assessment, prevention and management of target organ damage is the domain of the array of clinical specialists depicted as part of the supporting, outer tier of the model. General access or referral criteria for each of the core and supporting tier services are summarised in the figure below, and expanded upon in Appendix 2.

<table>
<thead>
<tr>
<th>Service</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIABETOLOGIST OR ENDOCRINOLOGIST</strong></td>
<td>Persons with poor metabolic control. Persons with multiple morbidities/need complex treatment. Persons who need more than 3 GLDs and need resetting of targets. Persons with atypical presentation/suggestion of other endocrinopathy (e.g. Cushings syndrome).</td>
</tr>
<tr>
<td><strong>OPHTHALMOLOGIST</strong></td>
<td>Persons with reduced visual acuity with/without retinopathy. All persons with diabetes should be referred every 1-2 yrs for a thorough retinal assessment.</td>
</tr>
<tr>
<td><strong>NEPHROLOGIST</strong></td>
<td>Persons with Diabetic Kidney Disease stg 4 or 5 (e.g. GFR&lt;30 ml/min/1.73m2). Persons with rapid fall in e.g. GFR. Persons with unexplained heavy proteinuria +haematuria.</td>
</tr>
<tr>
<td><strong>NEUROLOGIST</strong></td>
<td>Persons with refractory pain as a result of peripheral neuropathy.</td>
</tr>
<tr>
<td><strong>VASCULAR SURGEON</strong></td>
<td>Persons with severe intermittent claudication.</td>
</tr>
<tr>
<td><strong>OBSTETRICIAN</strong></td>
<td>Women of reproductive age who wish to become pregnant (Blood glucose control should be optimal in order to reduce maternal and foetal risk).</td>
</tr>
<tr>
<td><strong>DIETITIAN</strong></td>
<td>All PWD who are embarking on dietary modification to achieve glycaemic, lipid, or weight control.</td>
</tr>
</tbody>
</table>
It is only with the coordinated support of the health care team, that clients will reap the full preventive benefit of the recommended lifestyle adjustments in this module.
REFERENCE LIST


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HEARTS Technical package for Cardiovascular Disease management in Primary Care; Module 2; Evidence based protocols

HEARTS Technical package for Cardiovascular Disease management in Primary Care; Module 3; Access to essential Medicines and technology

HEARTS Technical package for Cardiovascular Disease management in Primary Care; Module 4; Team based care


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NICE Managing a diabetic foot

NICE Reducing the risk of developing a diabetic foot problem. OECS/ PPS medical Products list 2017-2019


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Appendices
# Sample Client Nutrition Assessment Form

## Subjective

<table>
<thead>
<tr>
<th>Name:</th>
<th>Registration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td>Registration:</td>
</tr>
<tr>
<td>Sex:</td>
<td>F</td>
</tr>
<tr>
<td>Address:</td>
<td>Health Centre:</td>
</tr>
<tr>
<td>Date:</td>
<td>Tele#:</td>
</tr>
<tr>
<td>Rel:</td>
<td>Referred by:</td>
</tr>
<tr>
<td></td>
<td>Referral Date:</td>
</tr>
</tbody>
</table>

- Have you ever had prior nutrition counselling? Y N
- GI problems: N V C D Chewing Swallowing Acid Reflux
- Food Allergies/ Food Intolerances? Y N
- Do you use any vitamin/ mineral/herbal supplement? Y N
- Appetite: Good | Fair | Poor
- Do you eat out? If Y, what & how often? N Y [B L D]
- Are you following any special diet? Y N
- What do you think about your diet? Satisfactory | Unsatisfactory | Concerns
- What do you think about your weight? Satisfactory | Unsatisfactory | Concerns
- Have you had any recent weight changes?

## Social Hx:

<table>
<thead>
<tr>
<th>Family Hx</th>
<th>DM</th>
<th>HTN</th>
<th>CVD</th>
<th>Renal</th>
<th>Cancer</th>
<th>Other</th>
</tr>
</thead>
</table>

- Occupation
- Do you smoke? Y N
- Do you use alcohol? Y N
- Do you exercise or do any physical activity? Y N
- How many people do you live with?...
- Who does the cooking?...
- Who do you eat with?
- Family age group: ≤5 | 6-12 | 13-19 | 20-35 | 36-59 | >60
- Are the following present? Stove | Refrigerator | Pipe-borne water

### Abbreviation Conventions:

- N V C D = Nausea Vomiting Constipation Diarrhoea
- B L D = Breakfast Lunch Dinner
## Food Intake Evaluation:

<table>
<thead>
<tr>
<th>Time &amp; Meal</th>
<th>Menu Items</th>
<th>24hr. Recall □</th>
<th>Food Groups &amp; No. Of Portions</th>
<th>C</th>
<th>P</th>
<th>F</th>
<th>Kcal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awake:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedtime:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usual Intake □</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Breakfast</strong></td>
<td></td>
<td></td>
<td>Staples</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Legumes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Snack</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lunch</strong></td>
<td></td>
<td></td>
<td>Fruit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Snack</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dinner</strong></td>
<td></td>
<td></td>
<td>Meat</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Milk</td>
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<td></td>
</tr>
<tr>
<td><strong>Bedtime</strong></td>
<td></td>
<td></td>
<td>Fat</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total (g)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Seasonings and Condiments</strong></td>
<td></td>
<td></td>
<td>Kcal</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
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<td></td>
<td>%</td>
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</tr>
</tbody>
</table>

Is this pattern the same on the weekend? If no, how does it differ?

Daily Water Intake: ____________________  Other beverages consumed: ____________________

**FOOD FREQUENCY:**

<table>
<thead>
<tr>
<th>Legumes □/wk □/mo</th>
<th>Nuts □/wk □/mo</th>
<th>Provision □/wk □/mo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fruits □/wk □/mo</th>
<th>Fresh Vege □/wk □/mo</th>
<th>Cooked Vege □/wk □/mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicken □/wk □/mo</td>
<td>Fish □/wk □/mo</td>
<td></td>
</tr>
<tr>
<td>Eggs □/wk □/mo</td>
<td>Milk □/wk □/mo</td>
<td></td>
</tr>
<tr>
<td>Yoghurt □/wk □/mo</td>
<td>Cheese □/wk □/mo</td>
<td></td>
</tr>
<tr>
<td>Sausages □/wk □/mo</td>
<td>Smoked Herring □/wk □/mo</td>
<td></td>
</tr>
<tr>
<td>Salted fish □/wk □/mo</td>
<td>Other Meats □/wk □/mo</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Local fried street foods □/wk □/mo</th>
<th>Pies/Pastries □/wk □/mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fried Foods (KFC, Jeps, Fried pies) □/wk □/mo</td>
<td>Household cooking frequency: __________ per wk __________ per day</td>
</tr>
</tbody>
</table>

Are there any other items that you snack on? ____________________
OBJECTIVE:
Dx: ..................................................... Medical Hx: ..................................................
Meds: .....................................................

Labs: HbA1C ........................................... BP .................................. BG .................................
................................. HDL ................................ LDL ............................
................................. Tri .................................. Tot Chol ........................
................................. Bun .................................. Crea ............................

Physiological Phase: □ Growth □ Pregnancy □ Lactation □ Aging □ Diet Order:

Ht: ........................................ Wt: ................................ IBW: ......................... %IBW: .....................

Frame Size: S M L DBW: ................... BMI: ................................ UBW: .....................

Adj. body weight (ABW) = ((actual wt. ( ) – DBW ( ) x 0.25 ( ) ) + DBW ( )) = .............


Energy Needs: M: 66 + 13.73 IBW ( ) + 5.3 H ( ) – 6.83 A ( ) = ............. x (A.F.) =

F: 655 + 9.63 IBW ( ) + 1.83 H( ) – 4.73 A ( ) = ............. x (A.F.) =

Other nutrient needs:

ASSESSMENT:
Is the current nutritional intake and caloric consumption adequate? Y □ N □

If No, why: ..................................................

Anthropometrics analysis: ..................................................

Client’s goals: ..................................................

Food-drug interactions: ..................................................

Lab analysis: ..................................................

Clinical observations: ..................................................

Client’s stage of change: Pre-contemplation Contemplation Preparation Action Maintenance

P.E.S. Statement: ..................................................
**PLAN:**

Recommended Dietary Pattern & Distribution

<table>
<thead>
<tr>
<th>Food Group</th>
<th>No. of portions</th>
<th>kcal</th>
<th>CHO</th>
<th>Prot</th>
<th>Fat</th>
<th>Breakfast</th>
<th>Mid-AM</th>
<th>Lunch</th>
<th>Mid-PM</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staples</td>
<td></td>
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<td>Legumes</td>
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<td>Meat</td>
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<tr>
<td>Veggies</td>
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<td>Fruits</td>
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<td>Milk</td>
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<td>Fat</td>
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<tr>
<td>Other</td>
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<tr>
<td>Total (g)</td>
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</tr>
</tbody>
</table>

MD Diet Rx implemented? [ ] Y [ ] N Dietitian’s Diet Rx implemented? [ ] Y [ ] N

Counselling with patient [ ] and significant other [ ]

Educational Materials Given:

Short Term Goals/Long Term Goals:

Exercise Goals: Activity __________________________ Frequency: __________________________

Behaviour Modification/Suggestions/Comments:
APPENDIX 2

RESPONSIBILITIES OF HEALTH CARE TEAM MEMBERS IN NUTRITIONAL CARE

The importance of a team approach to health care has been magnified, in view of the multi-faceted nature of many diseases. The combined efforts, knowledge, attitudes and skills of the team can help to ensure safe and effective Nutritional Care, particularly in the Caribbean where the availability of nutritionists and dietitians is limited. Team members also learn about the contribution of other team members and learn how to delegate and/or refer responsibilities to the most appropriate members of the team. The fact that the client is a very important team member should not be overlooked.

The following are responsibilities of different members of the health care team in the nutritional management of persons with chronic diseases. The list should not be considered exhaustive.

The Physician
• Diagnoses medical problems
• Performs medical procedures
• Co-ordinates and prescribes therapy
• Assumes overall supervision of the team
• Reviews/approves guidelines and clients’ management protocol
• Refers clients for specialised Nutritional Care.

Nurse Practitioner
• Diagnoses medical problems
• Co-ordinates client management
• Refers clients for specialised Nutritional Care

Nutrition Personnel
• Takes responsibility for Nutritional Care
• Assesses nutrition status
• Determines nutrient needs
• Recommends appropriate diet therapy
• Prepares care plan in collaboration with client
• Instructs client on the diet and care plan
• Monitors Nutritional Care process
• Evaluates effectiveness of nutrition intervention
• Provides training and nutrition intervention for the other members of the health care team
• Refers clients to other members of the health care team as indicated
• Documents all relevant details in client’s medical records

Note: In the absence of trained nutrition personnel, the physician, nurse practitioner and nurse will:
• ¾ coordinate instructions and ensures that any written information regarding diet/nutritional care is explained and sent home with clients
• ¾ provide basic nutrition information to clients

The Nurse
• Assumes a central role in overall care and communicates with relevant members of the health care team
• Communicates with clients/care-givers on relevant aspects of Nutritional Care and explains procedures and plan. Ensures that other nurses assume their roles in the Nutritional Care of the client
• Ensures documentation of all relevant information

The Pharmacist
• Recommends appropriate drug therapy
• Acts as a liaison to identify and inform the team, as well as the client and significant others, about possible drug-nutrient interactions and side effects of medications
• Educates the client on appropriate procedures for taking certain drugs e.g. before or after meals, or avoiding certain foods while taking the medication

The Community Health Aid
• Visits clients at home
• Monitors client’s self-care
• Refers client from community to health centre

Source: Protocol for the Nutritional Management of Obesity, Diabetes and Hypertension in the Caribbean, CFNI/PAHO 2004
APPENDIX 3
LEVELS OF PHYSICAL ACTIVITY

Physical Activity is any bodily movement produced by the skeletal muscles that uses energy. Movements can range from sports, to chores and lifestyle activities.

Level: LIGHT INTENSITY
A person who is active at a Light Intensity level should be able to sing while doing the activity.
Level: MODERATE INTENSITY
Level: VIGOROUS INTENSITY
A person who is active at a Vigorous Intensity level is usually too winded or out of breath to carry on a conversation.