MINISTRY OF HEALTH & WELLNESS

NATIONAL SCREENING GUIDELINES FOR PRIORITY NON-COMMUNICABLE DISEASES (NCDs) IN PRIMARY HEALTH CARE

2nd Edition

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INTRODUCTION TO SCREENING GUIDELINE DOCUMENT

This guideline document is organized into 9 chapters. The introduction to the screening guidelines for the priority non-communicable diseases (NCDs) gives an overview of the priority NCDs included in this document. The status of each NCD is provided and the approach taken in developing the guidelines is articulated. Chapters 2 to 8 are the guidelines for the 7 priority NCDs included: Chapter 1: Introduction to the screening guidelines; Chapter 2: Hypertension and Cardiovascular Disease; Chapter 3: Depression; Chapter 4: Diabetes Mellitus Type 2; Chapter 5: Breast Cancer; Chapter 6: Cervical Cancer; Chapter 7: Colorectal Cancer; and Chapter 8: Prostate Cancer.

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GLOSSARY

BRCA 1/2	refer to human genes that produce tumour suppressor proteins that help repair damaged DNA.
FIT	is faecal immunochemical test, a newer faecal occult blood test that uses a specific antibody for human haemoglobin.
FIT-DNA	is a combination of the faecal immunochemical test and a second test that looks for cancerous DNA in an individual's stool. It is done every 1-3 years to check for colon cancer.
Follow up	refers to the action indicated when an abnormal screening test result is received. The person is referred for further care and then returns to primary care for continued screening. It addresses the return to or continued screening.
Full medical profile - MD	is Full Medical Profile for Major Depression, as described in Protocol for the Management of Common Mental Disorders (2013): Major Depression. See Appendix 4 for the summary.
Primary care	is defined as the first contact in accessible, continued, comprehensive and coordinated care. First-contact care is accessible at the time of need.
Primary health care	as defined by WHO includes three components: "(1) meeting people's health needs through comprehensive care throughout the life course, (2) systematically addressing the broader determinants of health and (3) empowering

	individuals, families and communities to optimize their health (WHO web page)”
Referral	describes the actions to be taken when further action is required at a different point of care in the healthcare system from “where” the initial screening was performed.
Screening	is "the presumptive identification of unrecognized disease or defect by the application of tests, examinations or other procedures which can be applied rapidly”.

ABBREVIATIONS

MoHW	Ministry of Health and Wellness
BMI	Body Mass Index
BP	Blood Pressure
BSA	Breast Self-Awareness
CBE	Clinical Breast Examination
CVD	Cardiovascular Disease
DRE	Digital Rectal Examination
FBG	Fasting Blood Glucose
FIT	Faecal Immunochemical Test
FPG	Fasting Plasma Glucose
GDM	Gestational Diabetes Mellitus
gFOBT	Guaiac – Faecal Occult Blood Test
HPV	Human Papillomavirus
hrHPV	high risk Human Papillomavirus
KADS	Kutcher Adolescent Depression Scale
M&E	Monitoring and Evaluation
NCDs	Non-communicable diseases
NGO	Non-Governmental Organisation
NPHL	National Public Health Laboratory
OGTT	Oral Glucose Tolerance Test
PAHO	Pan American Health Organisation
Pap	Papanicolaou
PHC	Primary Health Care
PHQ	Patient Health Questionnaire
PPP	Public Private Partnership
PSA	Prostate Specific Antigen
STI	Sexually Transmitted Infection
VIA	Visual Inspection with Acetic Acid Test
WHO	World Health Organization

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PREFACE

Countries across the world continue to face the large financial burden of providing care for persons affected by Non-Communicable Diseases (NCDs), the burden of which has increased significantly over the last decade and is predicted to continue this trend for the next two decades or more.

Reducing the burden of NCDs is a colossal task that will require not only public health interventions but commitment from governments to have funding available to adequately address this public health issue, as well as the participation of non-health sectors and non-governmental partners. The Public Health machinery has a pivotal role to play as the main vehicle to drive the changes that are necessary. These guidelines have been developed and are based on some core concepts which include:

- The Essential Public Health Functions, defined as "diagnosing and investigating health problems and health hazards in the community, in order to manage as well as prevent their spread and lessen their impact on the population (1)."
- Screening, the presumptive identification of unrecognized disease in an apparently healthy, asymptomatic population by means of tests, examinations or other procedures that are readily applied. It plays a key role in protecting the overall health of the population and advancing public health goals (2).
- The Life Course Approach which emphasizes a temporal and social perspective, looking back across an individual's or a cohort's life experiences or across generations for clues to current patterns of health and disease, whilst recognizing that both past and present experiences are shaped by the wider social, economic, and cultural context. The life course approach is used to study the physical and social hazards during gestation, childhood, adolescence, young adulthood, and midlife that affect chronic disease risk and health outcomes in later life. It aims to identify the underlying biological, behavioural, and psychosocial processes that operate across the life span (3).

- Continuum of care conceptually involves an integrated system of care that guides and tracks patients over time through a comprehensive array of health services spanning all levels of intensity of care. In patients with a disease, this covers all phases of illness from diagnosis to the end of life (4).

These core concepts, functions and framework form the foundation for the creation of the Ministry of Health and Wellness (MoHW) NCD Screening Guidelines outlined in the subsequent chapters of this document. These guidelines are a user-friendly tool that will assist health care providers in improving the quality of services that are available and recommended for the citizens of Jamaica. The MoHW anticipates that with full implementation there will be tangible results that translate into a healthy population that can effectively contribute to the development of Jamaica.

INTRODUCTION

Non-Communicable Diseases (NCDs) have been identified as a priority for action at the international, regional, and national levels. A key strategy for the prevention and control of NCDs being employed by the Ministry of Health and Wellness (MOHW), Jamaica, is the early detection and diagnosis of these diseases. This strategy has been employed because there is well-established evidence that early detection (screening and early diagnosis) of cardiovascular disease (CVD) (e.g. hypertension), diabetes, depression and breast, cervical and colorectal cancers can reduce premature mortality due to these NCDs.

In order to drive this strategy of early detection and diagnosis, the MOHW has developed through wide stakeholder consultations, the National Screening Guidelines for the Primary Health Care Screening of certain priority NCDs namely, hypertension and cardiovascular disease, diabetes, breast cancer, cervical cancer, colorectal cancer, prostate cancer, and depression. The guidelines were developed utilizing two main approaches: i) the life course approach and ii) the continuum of care. The life course approach aims to identify the underlying processes that operate across the life span of the individual. The continuum of care tactic involves an integrated system of care which links and tracks beneficiaries to the various levels of the health care delivery system in Jamaica.

Screening offers the most cost-effective opportunity for the health care system to identify disease at a stage when treatment is more effective and long-term complications can be delayed or avoided. These screening guidelines establish evidence-based approaches which have been adapted to accommodate the local realities and resources of Jamaica.

The guidelines also provide tools for monitoring of their implementation across the primary health care infrastructure of the four (4) Regional Health Authorities.

1.2 Status of NCDs in Jamaica

Non-Communicable Diseases account for the top five (5) leading causes of death in Jamaica. In 2020, three (3) main NCD-groups accounted for 13,623 or 61.9% of all deaths (22,022) in persons 5 years and older (cardiovascular disease 6825 or 32.4%; cancer 3969 or 18.9%; and diabetes 2829 or 13.4%) (5).

Metabolic risk factors for NCDs are also high and continue to increase in both adults and adolescents. In relation to mental health and well-being, students 13-15 years old who attempted suicide decreased from 2008 to 2016 but the rates are still considered high (6).

Many Jamaicans are also unaware that they have an NCD until they are diagnosed in advanced stages of the diseases with severe disability or die prematurely from their condition. This was evidenced in findings which indicate that 4 out of 10 persons with raised blood pressure and diabetes were unaware of their condition (6). More women than men are aware of their disease status, and are obese, whilst more men than women smoke and abuse alcohol. The occurrence of NCDs also increases with age and NCDs develop at different stages of the life course.

- **Hypertension**

  Hypertension is one of the major health issues facing Jamaica as defined in the Jamaica Health and Lifestyle Survey III (2016-2017). The results of this survey indicated that 57.6% of the over 15 years population was hypertensive; the prevalence was as follows among the sexes: 58.3% of all males and 57.6% of all females were hypertensive (6). The data further suggested that this disease was more prevalent among the rural population at 35.2%, than the urban population at 33%.

- **Depression**

  The prevalence of depression in Jamaica in 2008 was 20.3% or 1 in 5 persons (6), while in 2016, the prevalence was 14.3% or 1 in 7 persons (6). In the general population almost twice as many females, 18.5%, were depressed compared to men, 9.9% (6).

  Data from the 2008 Jamaica Health and Lifestyle survey shows that the rate of depression in persons with chronic illnesses was between 20-30%. Among these persons with chronic illnesses, the rate was the same for persons with a history of diabetes, hypertension, cancers, asthma, and high cholesterol (25%), lower among persons with obesity (20%) and higher in persons with a history of heart attack and stroke (30%) (6).

  Suicide attempts and ideation are proxies for depression and other mental health disorders. In 2008, 2.0% of the female population and 1.7% of males reported suicidal ideation (6). Suicide attempts in teenagers 13-15 years old is considered to be high even though there had been some decrease from 22% in 2010, to 18.3 % in 2016 (8) (9).

- **Diabetes Mellitus**

  It is estimated that 14% of all Jamaicans are currently living with Diabetes Mellitus (DM). In 2018 it was estimated that 12% of Jamaicans had pre-diabetes with a higher prevalence among women (13.3%) than men (10.7%) putting them at higher risk of developing DM. In 2018 DM represented the 4th (14%) leading cause of mortality among Jamaicans and 25% of Jamaicans that have DM may not know their status (6). This narrative focuses mainly on the preventability of type 2 DM as an avenue for positively affecting this indicator, however, diabetes has implications for health over the life course and proper screening and management of DM is crucial for improving health outcomes (6)(10).

- **Breast Cancer**

  In Jamaica, there were an estimated 1327 new cases of breast cancer in 2022. This was 17.7% (1 in 6) of all new cancer cases and 35% (1 in 3) of new cancer cases in women (42). Although screening for breast cancer is undertaken in Jamaica, there is presently no national mammography-based screening programme. A national cancer registry was launched in 2018 (40). This should be used to monitor the incidence of breast cancer in Jamaica over time as the screening guideline is implemented (11)(12).

- **Cervical Cancer**

  For cervical cancer, there were approximately 376 new cases reported in Jamaica in 2022. This was 5.0% (1 in 20) of all new cancer cases and 9.9% (1 in 10) of new cancer cases in women (42). Mortality from cervical cancer in women for all ages has fluctuated over the 30-year period, 1980 to 2011. In 2011, the all-age mortality rate was 15.1/100,000 and the age-standardised mortality rate was 14.9/100,000. Deaths increased consistently with age, from age 30 years old. From 1980 to 2011, the number of deaths in the age group from 40 to 75 years old increased, but the mortality rates decreased in all age groups (11)(12).

- **Colorectal**

  There were approximately 793 new cases of colorectal cancer in 2022. This was 10.6% (1 in 10) of all new cancer cases (42). From 1980 to 2011, the number of deaths in the age range 45 to 75 years increased and the mortality rates also increased in all age groups in males and females. The percentage of deaths from colorectal cancer is highest in females and males aged 60-64 years old. Colorectal cancer represents the 3rd leading cause of death among all cancers, the 2nd leading cause of death among men and the 3rd leading cause of death among women (42).

- **Prostate**

  In Jamaica, there were approximately 1,599 new cases of prostate cancer in 2022. This was 21.3% (1 in 5) of all new cancer cases and 43.1% (2 in 5) of new cases in men. The highest number of prostate cancer deaths occurred in men between the ages of 55 to 85 years of age (13). Over the period 1980 to 2011, the number of deaths in persons aged 50 years old and greater, has shown a steady increase while the mortality rates have also been increasing in all the older age groups (11) (12).

1.3 Purpose

The main purpose of this guideline is to provide the technical guidance for the early detection, referral, and follow-up of priority NCDs – breast, cervical, colorectal, and prostate cancers; depression, diabetes mellitus type 2, and high blood pressure – at the primary health care (PHC) level. The long-term goal of the guidelines is to contribute to reduction in premature mortality due to NCDs by a third by 2030, in keeping with Sustainable Development Goal 3.4.

1.4 Target Audience

These guidelines are intended primarily for members of the primary health care team. These include doctors, family nurse practitioners, public health nurses, registered nurses, midwives, contact investigators, community health aides, health promotion/ education officers and other professionals in the health sector who have responsibility for the delivery of screening and early detection services for NCDs at the primary health care level. Other individuals working in the management of NCD screening programmes including programme managers at the parish, regional and national levels will find the guidelines useful for programme management, which is inclusive of resource allocation

and monitoring and evaluation of the performance of programmes for the prevention and control of NCDs.

1.5 How to Use the Manual

This manual is the summarized version of a wider set of documents developed to guide the health worker and health facility team in both the public and private sector on screening for NCDs. It should be available at every primary care facility and health care personnel should familiarize themselves with the content and apply this to patient encounters. It should be strategically located so it can function as a quick reference in instances where there are challenges in the management of any case that falls within the subject areas covered.

The manual provides information on risk classification and special considerations for the NCDs that have been included.

For reference and use during the patient encounter the user will be required to:

a) identify the patient's age and stage along the life course.
b) classify the patient based on risk (average or high risk) for the NCD being reviewed.
c) identify the recommended screening test for the patient, appropriate to their life course stage, age, and risk classification.

Each table also contains useful comments that will provide further clarity on the recommended screening approach as well as special considerations that should be taken. These guidelines include useful appendices that provide additional tools that may be required for assessment of the patient. An algorithm for screening and follow-up of each of the priority NCDs is included as a guide at the end of each chapter. The algorithm is to be utilized as a quick tool to recall the screening recommendations explained in the chapter.

This manual should not be read in isolation of other documents and guidance developed by the Ministry of Health and Wellness for the management of NCDs**.** The table below represents a key for locations where the interventions for the selected NCDs should be addressed.

Terms	**Meaning**
Level 1	Speaks to Community and District Health Centres
Level 2	Speaks to Comprehensive Health Centres
Community	The community can refer to the household or any institution (church, school, mosque) or organization (youth clubs, sport clubs, elderly clubs) where outreach activities are carried out
Yes	This is an indication that the intervention (is recommended) at this level
N/A	This is an indication that the intervention (is not recommended) at the level

Definitions for target groups for intervention throughout the life course are provided below:

- **Children:** This group refers to individuals 0-9 years of age.
- **Adolescence:** This group refers to individuals aged 10 years to 19 years.
- **Adulthood:** This group refers to individuals 20 years to 59 years of age.
- **The Elderly (Late Adulthood):** This group refers to adults who are 60 years of age or older.
- **Pregnant & Post-Partum:** This group refers to females who are pregnant (all stages of pregnancy from conception to delivery) and up to 6 weeks post-delivery.

In some priority NCDs there will be reference to other subgroups based on the evidence surrounding the appropriate starting point for the initiation of screening.

2.1 Risk Groups for the Screening of Hypertension and Cardiovascular Disease (CVD)

Life Course Stage	Risk Group	Definition of the Group
Childhood and Adolescence	**Average Risk**	Children and adolescents without symptoms of high blood pressure with or without risk factors.
	High Risk	Children and adolescents with elevated body mass index. Other risk factors to consider include low birth weight, male sex, ethnicity, and a family history of hypertension. Prematurity, sleep disordered breathing and chronic kidney disease are also major risk factors. There may also be comorbidity with diabetes mellitus.
Adulthood	**Average Risk**	Asymptomatic adults aged ≥18 years without known hypertension with or without risk factors.
	High Risk	Persons at increased risk for high blood pressure are those who have elevated blood pressure (120-129/<80 mm Hg) and those who are overweight or obese. Persons living with HIV who are 50 years and older are also at greater risk for high blood pressure.

Life Course Stage	Risk Group	Definition of the Group
Adult Female during Pregnancy	**Average Risk**	Pregnant women without a known diagnosis of pre-eclampsia.
	High Risk	All clinical conditions associated with increased risk include a history of eclampsia or pre-eclampsia (particularly early-onset pre-eclampsia), previous adverse pregnancy outcome, maternal comorbid conditions (type 1 or 2 diabetes, gestational diabetes, chronic hypertension, renal disease, and auto-immune diseases), and multifoetal gestation. Other risk factors include nulliparity, obesity, being of African descent, low socioeconomic status, and advanced maternal age.
Late Adulthood (Elderly)	**Average Risk**	Asymptomatic adults aged ≥ 60 years without known hypertension with or without risk factors.
	High Risk	Persons at increased risk for high blood pressure are those who have elevated blood pressure (120-129/<80 mm Hg), those who are overweight or obese, and those of African descent.

(14) (15) (16)

Cardiovascular Risk Prediction

Use of risk prediction charts to estimate total cardiovascular risk is a major advance on the older practice of identifying and treating individual risk factors, such as raised blood pressure (hypertension) and raised blood cholesterol (hypercholesterolemia). The total risk approach acknowledges that many cardiovascular risk factors tend to appear in

clusters; combining risk factors to predict total cardiovascular risk is consequently a logical approach to deciding who should receive treatment (39).

WHO convened an effort to develop, evaluate and illustrate revised risk models to help adapt cardiovascular disease risk prediction approaches to low-income and middle-income countries. Revised WHO cardiovascular disease risk prediction charts that have been adapted to the circumstances of 21 global regions (7). Charts adapted for Caribbean countries (Antigua and Barbuda, Bahamas, Belize, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Lucia, Puerto Rico, Suriname, Trinidad and Tobago, Saint Vincent, and the Grenadines) are provided in **Appendix 3. These charts apply to persons • 40 years**.

The charts provide only approximate estimates of CVD risk in people who do not have symptoms of coronary heart disease (CHD), stroke or other atherosclerotic disease. Risk prediction charts may tend to underestimate CV risk in individuals who have already experienced a CV event or have very high levels of individual risk factors. These individuals already belong to the high-risk category, and include individuals:

- with established angina pectoris, coronary heart disease, myocardial infarction, transient ischaemic attacks, stroke, or peripheral vascular disease, or who have had coronary revascularization or carotid endarterectomy.
- with left ventricular hypertrophy (shown on electrocardiograph) or hypertensive retinopathy (grade III or IV)
- persons without established CVD who have a total cholesterol ≥ 8 mmol/l (320 mg/dl) or low-density lipoprotein (LDL) cholesterol ≥ 6 mmol/l (240 mg/dl) or TC/HDL-C ratio > 8
- without established CVD who have persistent raised blood pressure (>160–170/100–105 mmHg)
- with diabetes, plus overt nephropathy or other significant renal disease
- with known renal failure or impairment (39)

Cardiovascular Risk Assessment

See **Appendix 3** for a guide to a comprehensive clinical CV assessment.

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
2.2 Childhood and Adolescence	**Health Promotion & Prevention**				
	● Education on risk factors of Hypertension especially in relation to diet, exercise, use of alcohol & tobacco	Yes	Yes	Yes	
	● Promote Jamaica Moves Programme in Schools (or other school-based programme for healthy lifestyle promotion)	Yes	Yes	Yes	
	● Advocate for Health and Family Life Education to be a part of school curriculum (life skills education)	Yes	Yes	Yes	
	● Advocate for school feeding programmes to have balanced diets and school canteen policies that look at healthy options	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
Stage across the Life Course		**Location where the intervention should/can be addressed**			
		Community	**1**	**2**	**Comments**
	● Take blood pressure with sphygmomanometer and appropriate cuff **every two years**	N/A	Yes	Yes	If reading is normal give date for the next consult according to risk group. Patients who are high risk should be counselled on their risk for developing CVD. Counselling should focus on diet (reducing salt intake, incorporating fruits and vegetables in their diet, reducing fatty foods, reducing carbonated beverages); tobacco cessation; physical activity. **See Appendix 1** (blood pressure reference values for children and adolescents) If the blood pressure reading is elevated a full medical (includes past medical history, family history and physical examination, including eye examination) and work up (blood count, renal function, urine test, electrocardiogram) must be done and the patient referred to a Specialist Clinic for appropriate care. **See Appendix 2** (BMI-for-age chart)
	● BMI annually	N/A	Yes	Yes	
	High Risk:				
	● Take blood pressure with sphygmomanometer and appropriate cuff **once per year**	N/A	Yes	Yes	
	● BMI annually	N/A	Yes	Yes	

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
2.3 Adulthood	**Health Promotion & Prevention**				
	● Advocate for enforcement of tobacco legislation	N/A	N/A	N/A	
	● Health education on risk factors: smoking, alcohol use, diet, and exercise	Yes	Yes	Yes	
	● Advocate for spaces for exercise in communities and workspaces	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Take blood pressure reading with sphygmomanometer and appropriate cuff	Yes	Yes	Yes	
	● BMI annually	Yes	Yes	Yes	
	● Reading should be done once annually	Yes	Yes	Yes	
	High Risk:				
	● Take blood pressure reading with sphygmomanometer and reading should be done at minimum once annually, special consideration for persons on medication that have elevated blood	Yes	Yes	Yes	

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
Stage across the Life Course		**Location where the intervention should/can be addressed**			
		Community	**1**	**2**	**Comments**
	pressure should have readings done at each clinic encounter. ● Take family history and personal history, especially for persons over 50 years at first encounter. Pay attention to history of stroke, angina/heart attack, heart failure				test, lipid profile, blood glucose, electrocardiogram) must be done and the patient evaluated for initiation of treatment. All obese persons and others who fall in the high-risk group should be counselled on diet, exercise, and lifestyle changes and referred to a dietician/nutritionist. They should also be counselled on the risk for developing CVD. If abnormal lipid, or blood glucose etc. consider initiation of treatment.
	● BMI annually	Yes	Yes	Yes	
	● Conduct testing for lipid profile, blood glucose, microalbumin annually	N/A	Yes	Yes	
2.4 Adult Female during Pregnancy	**Health Promotion & Prevention**				
	● Education on diet, exercise, smoking and alcohol use	Yes	Yes	Yes	
	● Educate on early admission into antenatal clinic (before 12 weeks) and continuous attendance	Yes	Yes	Yes	
	● Educate on hypertension in pregnancy (danger signs)	Yes	Yes	Yes	

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
Stage across the Life Course		**Location where the intervention should/can be addressed**			
		Community	**1**	**2**	**Comments**
	Screening & Early Diagnosis				
	Average Risk Group:				
	● Take blood pressure reading with sphygmomanometer and appropriate cuff	Yes	Yes	Yes	
	● Reading should be done at every clinic visit. ● Take family history and personal history at first encounter. Pay attention to history of stroke, angina/ heart attack, heart failure	N/A	Yes	Yes	
	● Urine protein at every clinic visit	N/A	Yes	Yes	
	● BMI annually	N/A	Yes	Yes	
	High Risk Group:				
	● Take blood pressure reading with sphygmomanometer and appropriate cuff (with patient seated for at least 5 minutes before reading is taken).	N/A	Yes	Yes	

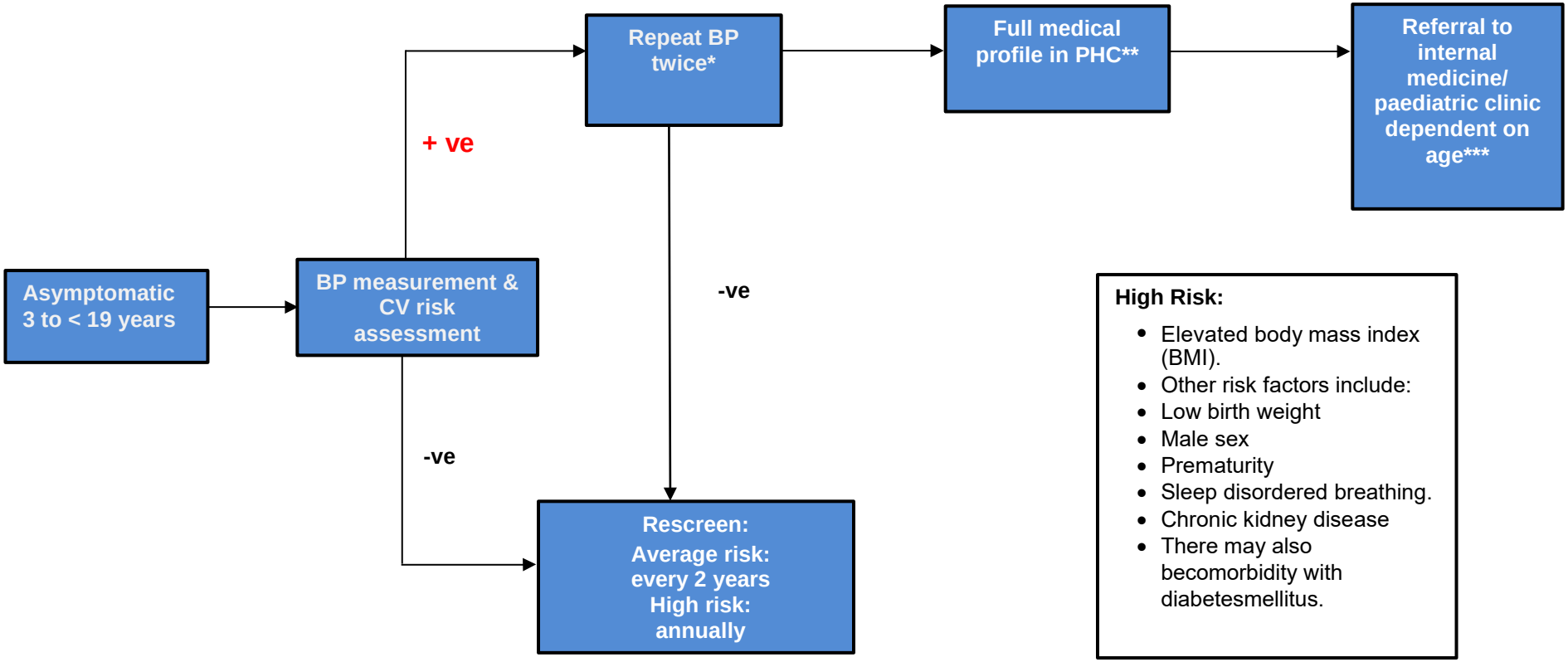
NON-COMMUNICABLE DISEASES					
HYPERTENSION					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● Take family history and personal history at first encounter. Pay attention to history of stroke, angina/ heart attack, heart failure and also pregnancy induced hypertension.				management according to obstetric guidelines.
	● Reading should be done at every clinic visit	N/A	Yes	Yes	
	● Urine protein at every clinic visit	N/A	Yes	Yes	
2.5 Late Adulthood (Elderly)	**Health Promotion & Prevention**				
	● Health education on risk factors: smoking, alcohol use, diet, and exercise	Yes	Yes	Yes	
	● Advocate for spaces for exercise in communities with special amenities to cater to this population	Yes	Yes	Yes	
	● Advocate for Tobacco legislation	Yes	Yes	Yes	

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● Advocate for residential facilities for the elderly to have policies that address nutrition and exercise for the elderly	N/A	N/A	N/A	
	Screening & Early Diagnosis				
	Average Risk Group:				
	● Take blood pressure reading with sphygmomanometer and appropriate cuff (with patient seated for at least 5 minutes before reading is taken).	Yes	Yes	Yes	
	● BMI annually	Yes	Yes	Yes	
	● Reading should be done once annually	Yes	Yes	Yes	
	High Risk Group:				
	● Take blood pressure reading with sphygmomanometer and appropriate cuff	Yes	Yes	Yes	

NON-COMMUNICABLE DISEASES					
HYPERTENSION					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● Reading should be done at minimum once annually; special consideration for persons on medication that can increase blood pressure who should have readings done at each clinic encounter	N/A	Yes	Yes	If reading is normal give date for the next consult according to risk group If the blood pressure reading is elevated, the full medical (which includes past medical history, family history and physical examination) plus work up (blood count, renal function, urine test, lipid profile, blood glucose, electrocardiogram) must be done and the patient referred to chronic disease clinic. For those already in a Specialist Clinic for any clinical condition that predisposes them to develop hypertension as a secondary condition, consultation with the internal medicine specialist on appropriate management of this condition is recommended. All obese persons and others who fall in the high-risk group should be counselled on diet, exercise, and lifestyle changes and referred to a dietician/nutritionist. They should
	● BMI annually	Yes	Yes	Yes	
	● Conduct testing for lipid profile, blood glucose, microalbumin annually. ● Take family history and personal history. Pay attention to history of stroke, angina/heart attack, heart failure	N/A	Yes	Yes	

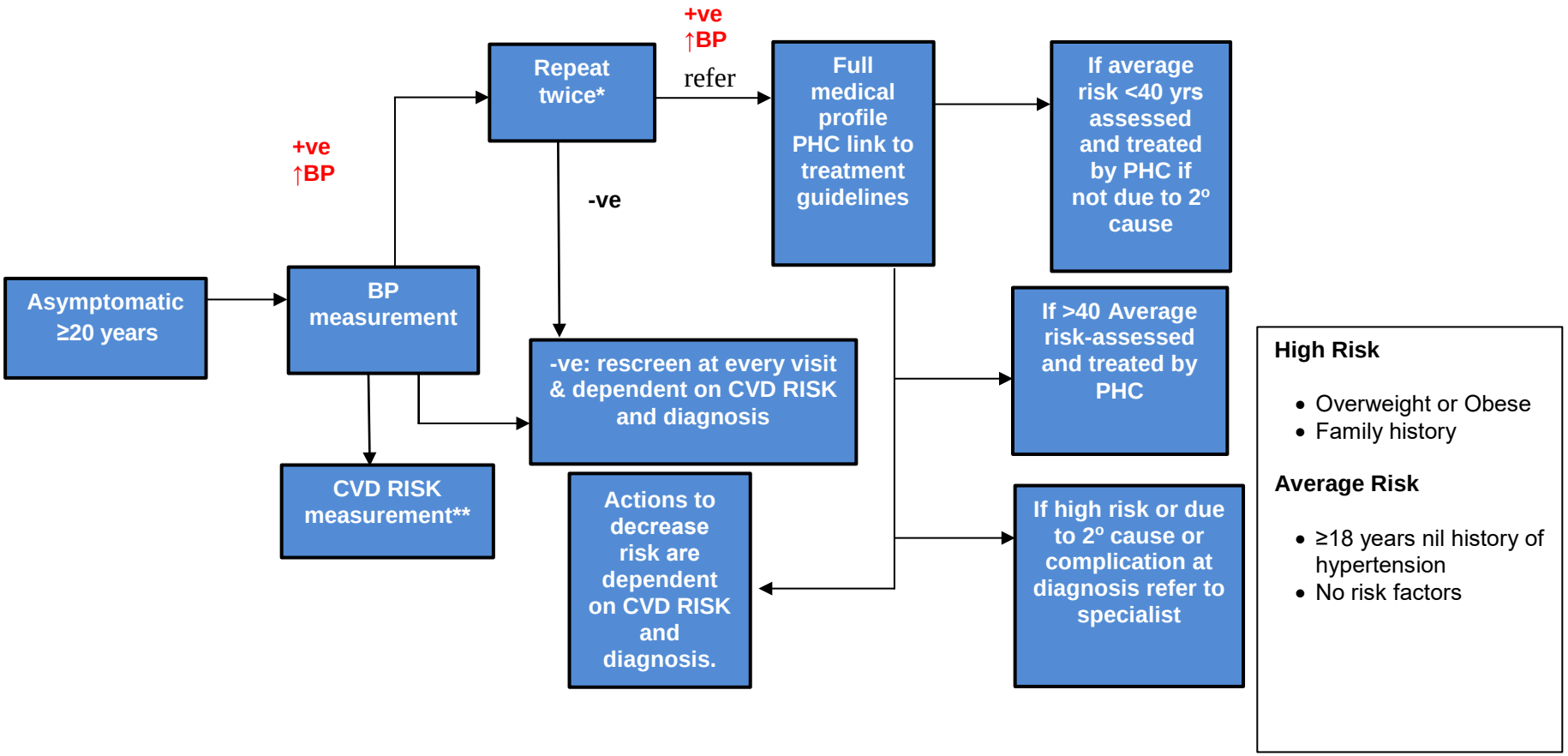
NON-COMMUNICABLE DISEASES					
HYPERTENSION					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
					also be counselled on their risk for developing CVD

Figure 1: Algorithm for Screening, Referral and Follow Up in Children and Adolescents at Average and High Risk for High Blood Pressure



Abbreviations: PHC, primary health care, ***-ve, negative*** *(≤ 120/≤ 80 mmHg),* ***+ve, positive*** *(> 120/> 80 mm Hg)*
** different times, different settings if possible*
***See Appendix 3 for WHO CV risk prediction charts and clinical assessment guide.*

Figure 2: Algorithm, Screening, Referral and Follow Up in Adults at Average and High Risk for High Blood Pressure and CVD Risk

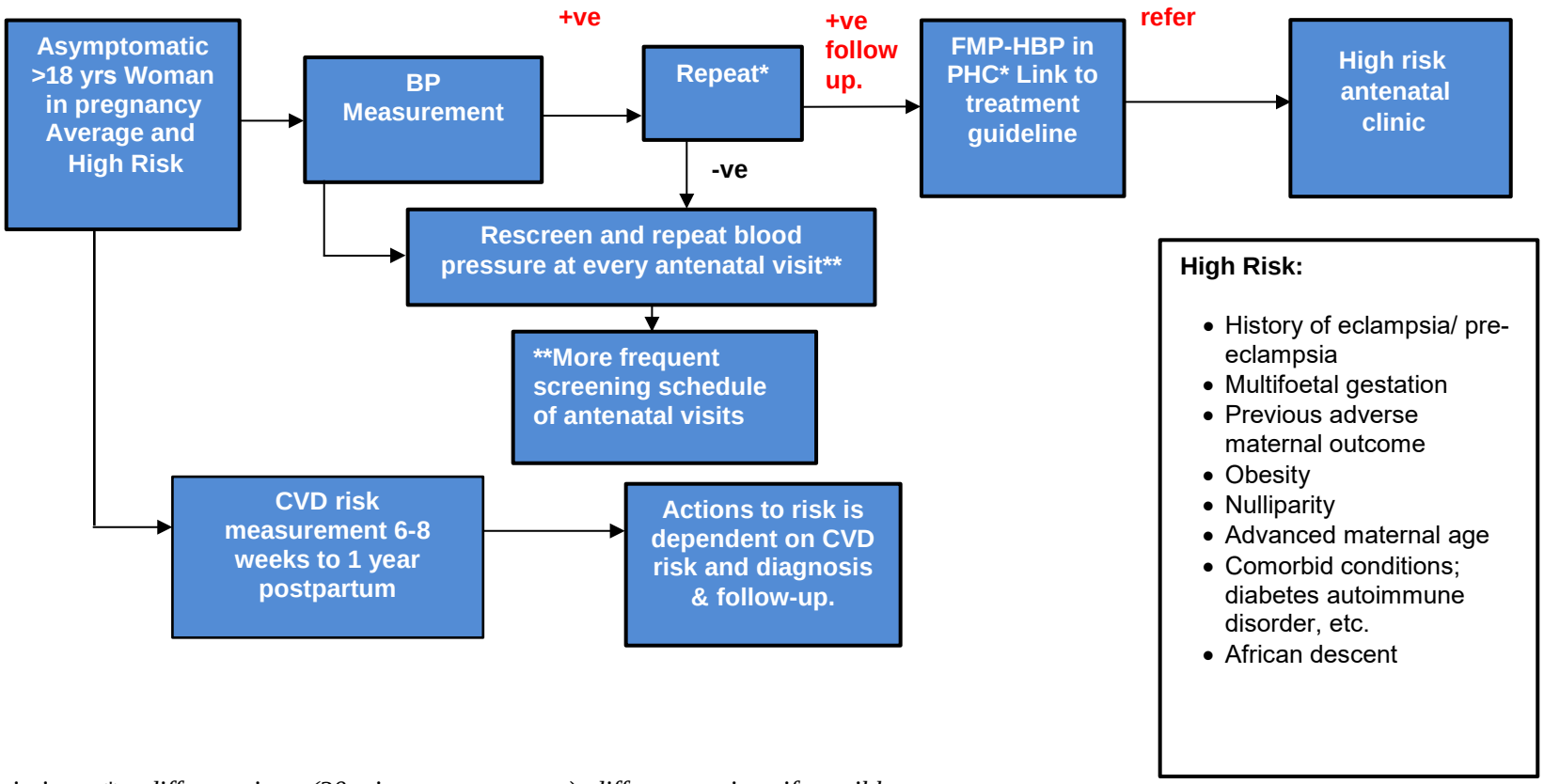


Abbreviations: PHC, primary health care, ***-ve, negative*** *(<120/<80 mmHg),* ***+ve, positive*** *(>120/>80 mm Hg)*

**at different times, different settings if possible*

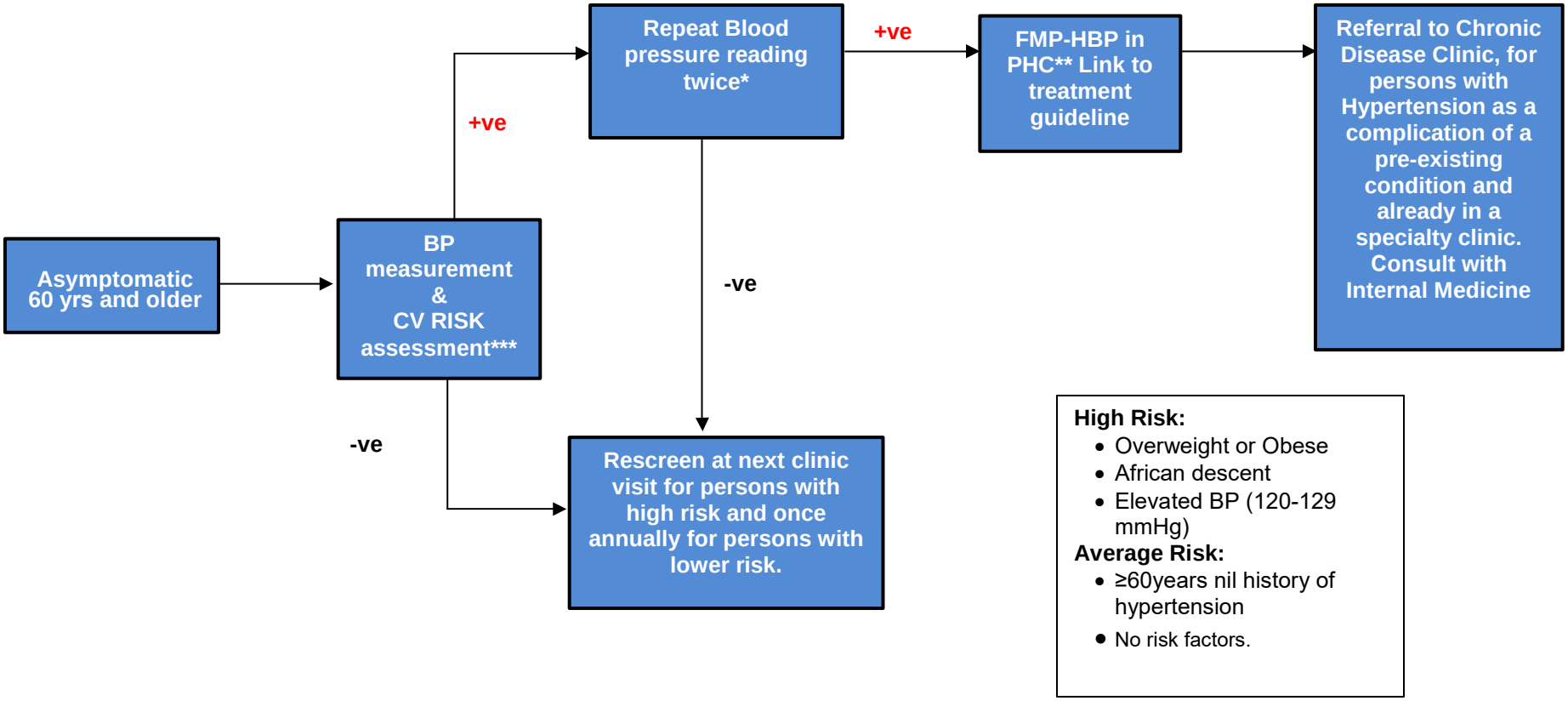
*** See Appendix 3 for WHO CV risk prediction charts and clinical assessment guide*

Figure 3: Algorithm for Screening, Referral and Follow up in Pregnant Women at Average and High Risk for High Blood Pressure and CVD Risk



*Abbreviations: *at different times (30 mins or more apart), different settings if possible*
FMP-HBP, full medical profile for high blood pressure; PHC, primary health care,* *-ve negative*** *(SBP <140 mmHg or DBP <90 mmHg before or after 20 weeks gestation) +****ve positive*** *(SBP ≥ 140 mmHg or DBP ≥ 90 mmHg before or after 20 weeks gestation)*
*** for the pregnant teenager*

Figure 4: Algorithm for Screening, Referral and Follow Up in the Elderly at Average and High Risk for High Blood Pressure and CVD Risk



Abbreviations: FMP-HBP, full medical profile for high blood pressure; PHC, primary health care, ***-ve, negative*** *(< 120/< 80 mmHg),* ***+ve, positive*** *(≥ 120/≥ 80 mmHg)*

**at different times (30 minutes or more apart), different settings if possible*

****See Appendix 3 for WHO CV risk prediction charts and clinical assessment guide*

3.1 Risk Groups and Special Considerations for Depression Screening

Life Course Stage	Risk Group	Definition of the Group
Adolescence	Average Risk	No history of chronic illness or mental disorder, active in school and other social activities, good family support (dual parent homes).
	High Risk	Single parent homes, history of chronic illness or mental disorder, abuse, significant traumatic life events which include relocations, new school, new community, separation of parents, substance abuse, poor socioeconomic background, low-income households, personal history of teenage pregnancy, sexual minorities. Children in state care.
Adulthood	Average Risk	No personal or family history of mental disorder, good social and family support, employed, married.
	High Risk	Patients with other NCDs, personal or family history of mental disorder, persons with disabilities, poor socioeconomic background, low income, single parenthood, sexual minorities, poor social and family support, history of negative life events such as loss of a close friend or relative, relationship disputes, intimate partner violence, job loss, etc.
Pregnant / Post-Partum Females	Average Risk	Married, good family support, no history of chronic disease and mental illness, good socioeconomic background, employed.
	High Risk	Patients with other NCDs, unemployed, history of chronic illnesses, history of substance abuse, previous personal history of postpartum depression, childcare stress, unintended pregnancy, poor self-esteem, low socioeconomic background, relationship disputes, intimate partner violence, adolescent pregnancy, poor family support.

Life Course Stage	Risk Group	Definition of the Group
Late adulthood (elderly)	Average Risk	No history of chronic illness, no personal nor family history of mental disorder, physically and socially active.
	High Risk	Risks are similar to that of the adult group. Others include patients with other NCDs, physical disability, no children and lack of family and social support.
Special Considerations	All children and adolescents who are suspected of depression should be referred to a Specialist Clinic. Adolescents and children may present with non-typical presentations such as increased aggression, withdrawal, decreased performance in school etc. Take a detailed history of previous episodes of major depression, family history, history of drug use, current medication, and previous response to antidepressants. Ask about vegetative symptoms (sleep, appetite, libido). Always evaluate suicide risk. Medical Profile for depression includes full physical examination to rule out other disorders. Investigations may include Complete Blood Count, Blood Chemistry (UE) Renal Function Test, Glucose and Endocrine panel e.g. Thyroid Function Test, Basic Drug Screening (Alcohol, Cocaine, Marijuana, Heroine). Other investigations such as CT Brain scan may be indicated based on neurological examination findings. **See Appendix 4**	
Patient Health Questionnaire (PHQ)-2	(1) During the past month, have you been bothered most of the time by feeling down, depressed, or hopeless? Yes No (2) During the past month, have you been bothered most of the time by having little interest or pleasure in doing things? Yes No If "**No" to both**, patient is unlikely to have major depression. If "**Yes" to either**, proceed with the follow up medical profile and PHQ-9 (**See Appendix 4 and Appendix 6**)	

(17), (18), (19)

NON-COMMUNICABLE DISEASES					
Depression					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
3.2 Adolescence	**Health Promotion & Prevention**				
	● Education on Mental Health and Depression (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on strategies to maintain good mental health	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screen annually with KADS-6 ● If KADS-6 negative, score <6 (repeat annually)	N/A	Yes	Yes	
	1. If positive a score 6 or >, carry out full medical profile (if no other cause detected) and refer to a Specialist Clinic	N/A	Yes	Yes	
	High Risk:				
	2. Screen three times yearly with KADS-6 3. If KADS-6 negative, repeat in 4 months	N/A	Yes	Yes	
	4. If KADS-6 positive, carry out full medical profile (if no other cause detected) and refer to a Specialist Clinic	N/A	Yes	Yes	

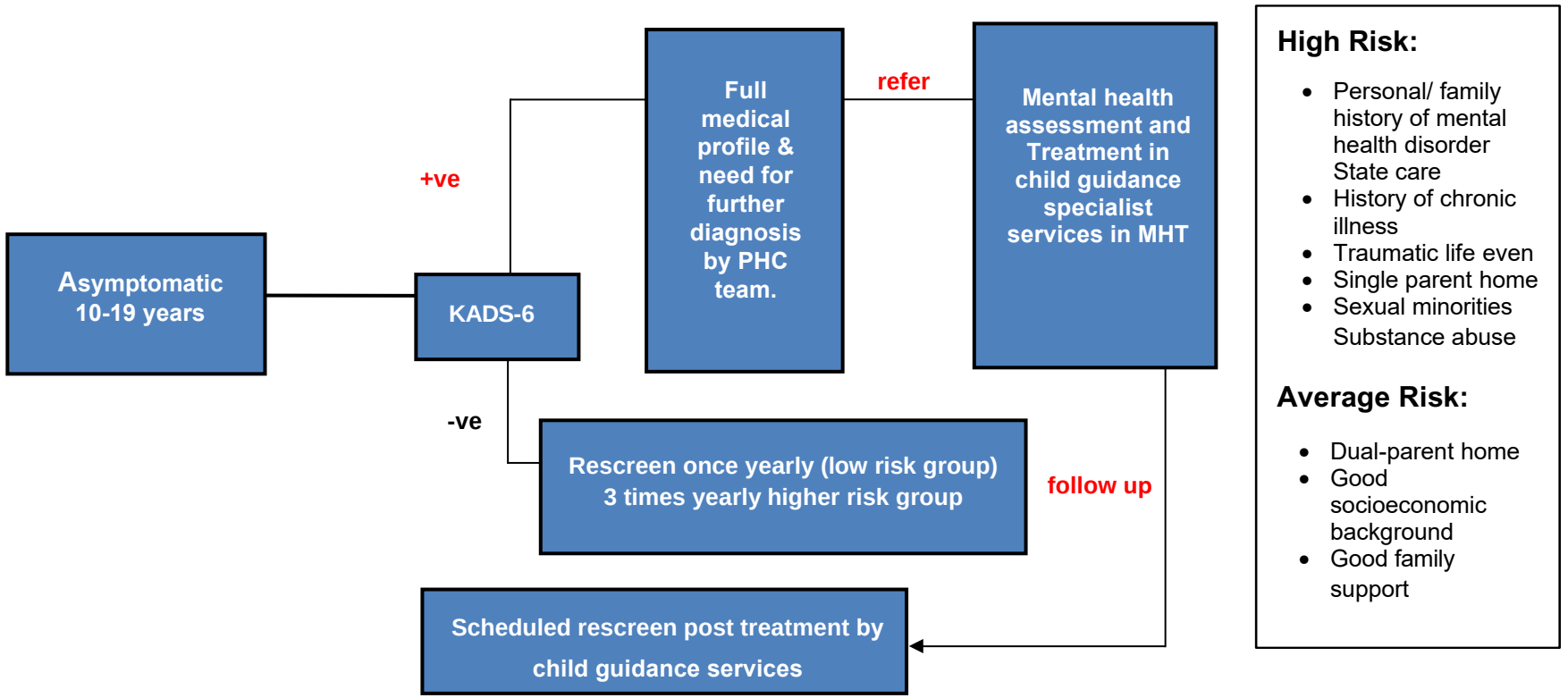
NON-COMMUNICABLE DISEASES					
Depression					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
3.3 Adulthood	**Health Promotion & Prevention**				
	5. Education on Mental Health and Depression (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	6. Education on strategies to maintain good mental health	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	7. Screen annually with PHQ-2 8. If PHQ-2 negative, repeat annually	N/A	Yes	Yes	
	9. If positive, screen with PHQ-9, and carry out mental status examination	N/A	Yes	Yes	
	10. If PHQ-9 negative, rescreen annually.	N/A	Yes	Yes	
	11. If PHQ-9 positive carry out full medical profile (if no other cause detected, treatment should be initiated by the primary care physician; complex cases should be referred to a Specialist Clinic). Follow up				

NON-COMMUNICABLE DISEASES					
Depression					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	based on plan of care from the specialist.				inadequate response to multiple treatments, and those presenting with psychotic symptoms.
	High Risk:				
	12. Screen twice yearly with PHQ-2 13. If PHQ-2 negative, repeat in 6 months	Yes	Yes	Yes	
	14. If PHQ-2 positive, screen with PHQ-9	N/A	Yes	Yes	
	15. If PHQ-9 negative, screen in 6 months	N/A	Yes	Yes	
	16. If PHQ-9 positive, carry out full medical profile (if no other cause detected, treatment should be initiated by the primary care physician; complex cases should be referred to a Specialist Clinic). Follow up based on plan of care from the specialist.	N/A	Yes	Yes	
3.4 Pregnant / Post-Partum Females	**Health Promotion & Prevention**				
	17. Education on Mental Health and Depression (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	18. Education on strategies to maintain good mental health	Yes	Yes	Yes	
	Screening & Early Diagnosis				

NON-COMMUNICABLE DISEASES					
Depression					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	19. Screening should be done at each antenatal and postnatal visit with PHQ-2	N/A	Yes	Yes	
	20. If PHQ-2 negative, repeat at subsequent visit	N/A	Yes	Yes	
	21. If PHQ-2 positive, screen with PHQ-9	N/A	Yes	Yes	
	22. If PHQ-9 negative, repeat screen within 3 months	N/A	Yes	Yes	
	23. If PHQ-9 positive carry out full medical profile (if no other cause detected, treatment should be initiated by the primary care physician; complex cases should be referred to a Specialist Clinic). Follow up based on plan of care from the specialist.	N/A	Yes	Yes	
3.5 Late Adulthood (Elderly)	**Health Promotion & Prevention**				
	24. Education on Mental Health and Depression (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	25. Education on strategies to maintain good mental health	Yes	Yes	Yes	
	Screening & Early Diagnosis				

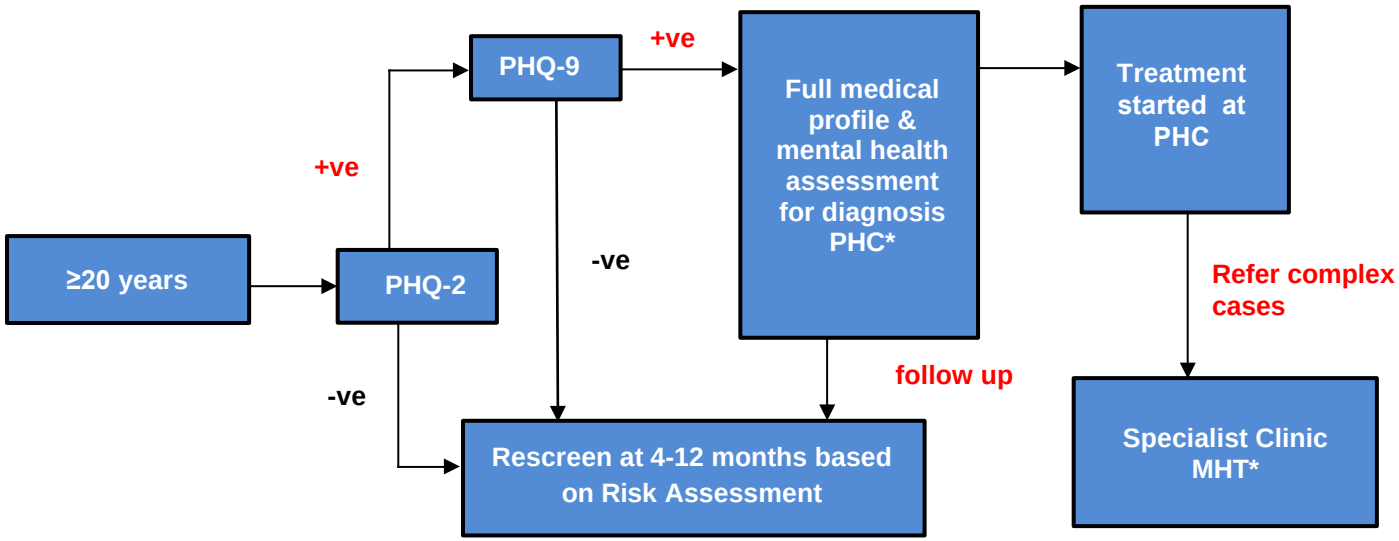
NON-COMMUNICABLE DISEASES					
Depression					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	26. Screen 2-4 times yearly with PHQ-2 (based on clinical assessment of risk) 27. If PHQ-2 negative, repeat in 6 months	N/A	Yes	Yes	Average risk patients can be screened twice yearly. High risk patients should be screened 4 times yearly.
	● If PHQ-2 positive, screen with PHQ-9	N/A	Yes	Yes	
	● If PHQ-9 negative, screen in 3-4 months	N/A	Yes	Yes	
	● If PHQ-9 positive, carry out full medical profile (if no other cause detected, treatment should be initiated by the primary care physician; complex cases should be referred to a Specialist Clinic). Follow up based on plan of care from the specialist.	N/A	Yes	Yes	

Figure 5: Algorithm for Screening Referral and Follow Up in Adolescents at Average and High Risk for Major Depression



*Abbreviations: *MHT, Mental Health Team; PHC, primary health care; -ve, KADS-6 negative = score <6; +ve, KADS-6 positive score= 6 or >*
** Adolescents at high risk should be screened at least annually*

Figure 6: Algorithm for Screening Referral and Follow Up in Adults, Pregnant Women and Post-partum at Average Risk and High Risk for Major Depression



High Risk:
- Personal/ family history of mental health disorder
- Poor socioeconomic background
- History of chronic illness
- Disabilities
- Negative life event
- Single parent
- Sexual minorities
- Substance abuse
- Antenatal and postnatal women

Average Risk:
- Good socioeconomic background
- Good family/ friend support
- Married
- Employed

***Abbreviations**: PHQ- 2, Patient Health Questionnaire 2; PHQ-2 +ve, positive = yes either question; PHQ-2 negative, -ve, negative = no to both questions; PHQ-9 +ve, positive = score 5 or >5; PHQ-9 -ve, negative = <5; PHC, primary health care; MHT, Mental Health Team;*
**Criteria for referral to the MHT is in the mhGAP for management of common mental health disorders in primary care.*
***Rescreen: High Risk Groups, twice annually; Average Risk Groups, annually; The Elderly, 2-4 times per year; Pregnant & Post-partum, each antenatal & postnatal visit*

4.1 Risk Groups and Special Considerations for the Screening of Diabetes Mellitus (DM) Type 2

Life Course Stage	Risk Group	Definition of the Group
Childhood & Adolescence	**Average Risk Group**	Children and adolescents without symptoms (asymptomatic) of Diabetes Mellitus and without risk factors
	High Risk Group	**Children and adolescents without symptoms (asymptomatic) of Diabetes Mellitus with risk factors:** Elevated body mass index. Screening would be within the school medical undertaken for all entrants to secondary schools and for all overweight and obese children and adolescents who fulfil the criteria for screening for diabetes: Classification of high-risk child/adolescent: ● Obese – BMI-for-age z-score >2 using WHO Child Growth Standards ● Overweight – BMI-for-age z-score >1 to 2 using WHO Child Growth Standards **Plus**, **two** or **more** additional risk factors: ● Family history of type 2 diabetes in first degree and second degree relative

Life Course Stage	Risk Group	Definition of the Group
		● Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidaemia, polycystic ovary syndrome, or small-for-gestational-age birth weight) ● Maternal history of diabetes or Gestational Diabetes (for the child's gestation)
Adulthood and Late Adulthood	**Average Risk Group**	**Adults with no risk factors should start screening at 45y** (20)
	High Risk Group	**Adults • 30y with risk factors:** Overweight or obese (BMI >25 kg/m^2) and among adults who have one or more of the following risk factors: ● First-degree relative with diabetes ● History of Cardiovascular Disease (CVD) ● Hypertension (BP ≥mmHg or on therapy for hypertension) ● HDL cholesterol level, <0.90 mmol/L (35 mg/dL) and/or a triglyceride level >2.82 mmol/L (250 mg/dL) ● Women with polycystic ovary syndrome

Life Course Stage	Risk Group	Definition of the Group
		• Physical inactivity • Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
Adult Female during Pregnancy	**Average Risk Group**	**Asymptomatic antenatal with low risk of DM.**
	High Risk Group	**Asymptomatic antenatal with high risk of DM.** Risk factors that increase a woman's risk for developing Gestational Diabetes Mellitus (GDM) includes: • Obesity • Increased maternal age (≥35) • History of GDM • Women with a history of macrosomia • Family history of diabetes
Late Adulthood (Elderly)	**Average Risk**	Adults ≥60yrs with no risk factors
	High Risk	Same as general adult population

(20) (21)

NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
4.2 Childhood & Adolescence	**Health Promotion & Prevention**				
	● Education on risk factors of Diabetes Mellitus in adolescents and children with focus on lifestyle changes such as nutrition, exercise, and sedentary lifestyles	Yes	Yes	Yes	
	● Operational policy action plan to reduce prevalence of overweight and obesity among the paediatric population	N/A	Yes	Yes	
	● Promote Jamaica Moves Programme (or other similar healthy lifestyle programme) at the community level and in schools	Yes	N/A	N/A	School health programmes are a favourable entry point for testing for what will be mostly an in-school population (school medical)

NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	Screening & Early Diagnosis				
	Average Risk:				
	● Children and adolescents without symptoms of Diabetes Mellitus without risk factors are **not** screened for diabetes	N/A	N/A	N/A	
	High Risk:				
	● Screen with Fasting Blood Glucose (FBG) and Oral Glucose Tolerance Test (OGTT 2hr Post Prandial)	Yes	Yes	Yes	
	● If negative rescreen every 2 years.	Yes	Yes	Yes	
4.3 Adulthood and Late Adulthood	**Health Promotion & Prevention**				
	● Education on risk factors of Diabetes Mellitus in the adult	Yes	Yes	Yes	

NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	population with focus on lifestyle changes such as nutrition, exercise, and sedentary lifestyles				
	● Operational policy action plan to reduce prevalence of overweight and obesity among the adult population.	N/A	N/A	N/A	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screening should start at age ≥45 years old with FBG and OGTT	Yes	Yes	Yes	
	● If negative, rescreen **every 2 years**				

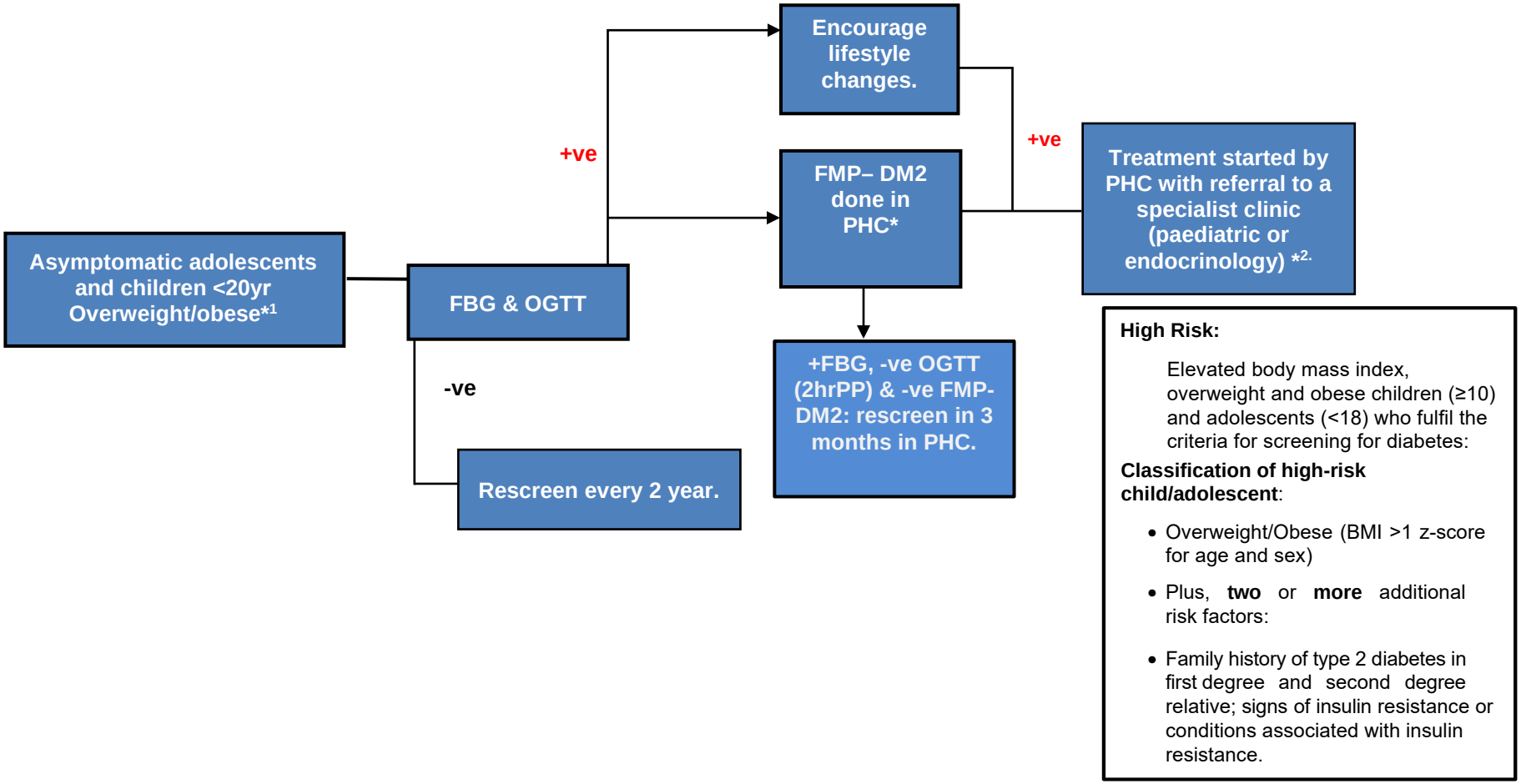
NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	High Risk:				
	● Screening should start at age ≥ 30 years old with FBG and OGTT	Yes	Yes	Yes	
	● If negative, rescreen **annually** for all high-risk adults.	Yes	Yes	Yes	
4.4 Adult Female during Pregnancy	**Health Promotion & Prevention**				
	● Education on diet, exercise, smoking and alcohol use	Yes	Yes	Yes	
	● Educate on early admission into antenatal clinic (before	Yes	Yes	Yes	

NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	12 weeks) and continuous attendance				
	● Educate on Diabetes in pregnancy and subsequent follow-up in post-partum.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screening at 24 to 28 weeks gestation with O'Sullivan's Test; Cardiovascular Disease (CVD) risk assessment should also be done and referral for further care as indicated.	N/A	Yes	Yes	

NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● If O'Sullivan is positive at 24 weeks, perform a 2hr OGTT for diagnosis	N/A	Yes	Yes	If OGTT is negative patient should be rescreened at 28 weeks with O'Sullivan test Women diagnosed with GDM should be screened for Type 2 DM at 6 weeks postpartum. **(see diabetes management guidelines for referral criteria).**
	High Risk:				
	● Screening at first antenatal visit with O'Sullivan's Test is indicated; CVD risk assessment should also be done as indicated (22)	N/A	Yes	Yes	
	● If O'Sullivan's Test is negative at first antenatal visit, rescreen at 24 to 28 weeks' gestation.	N/A	Yes	Yes	

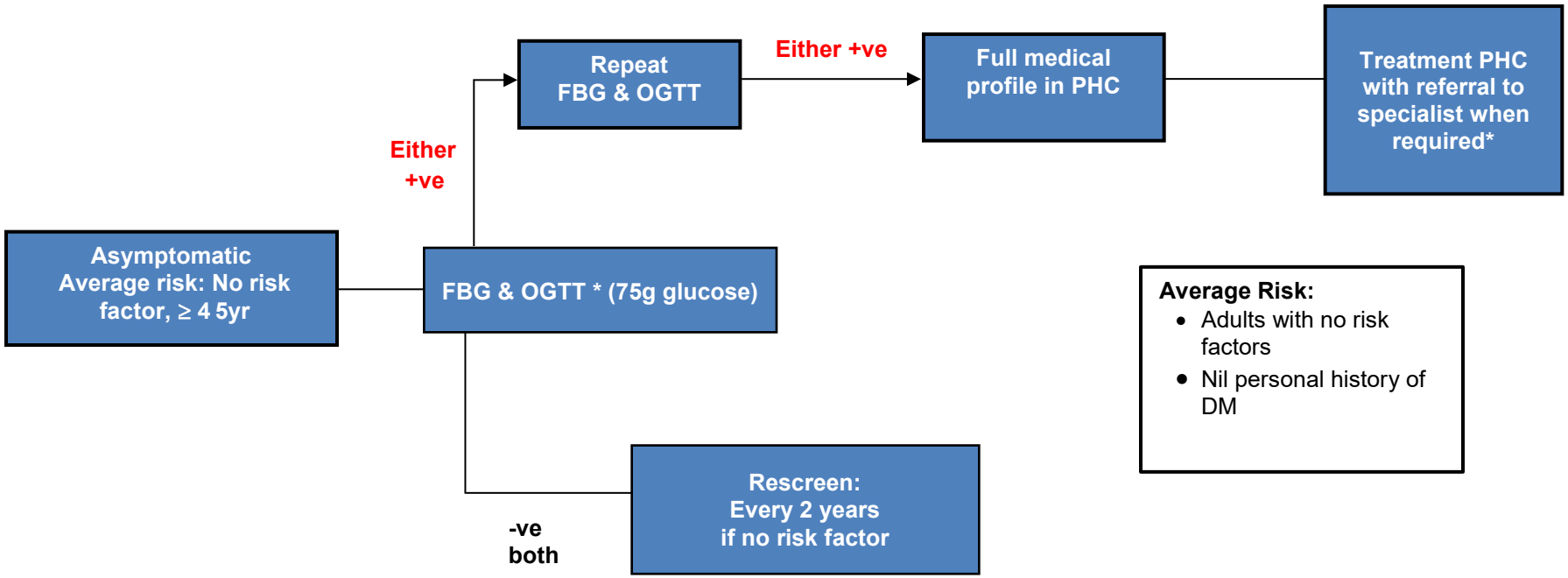
NON-COMMUNICABLE DISEASES					
DIABETES MELLITUS TYPE 2					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
					If O'Sullivan's Test is positive at 24 weeks gestation, the patient then should be further screened with OGTT. If OGTT is positive, refer to an Obstetric Specialist (high-risk) Clinic for continued management.

Figure 7: Algorithm, for Screening Referral and Follow-up in Children and Adolescents at High Risk for Diabetes Mellitus Type 2



Abbreviations: FMP-DM2, Full medical profile for Diabetes Mellitus Type 2; PHC, primary health care; ***-ve, negative*** *(Fasting Blood Glucose or Oral Glucose Tolerance Test normal)* ***+ve, positive*** *(elevated Fasting Blood Glucose or Oral Glucose Tolerance Test)*
**1plus 2 or more risk factors; *2See clinical management guideline*

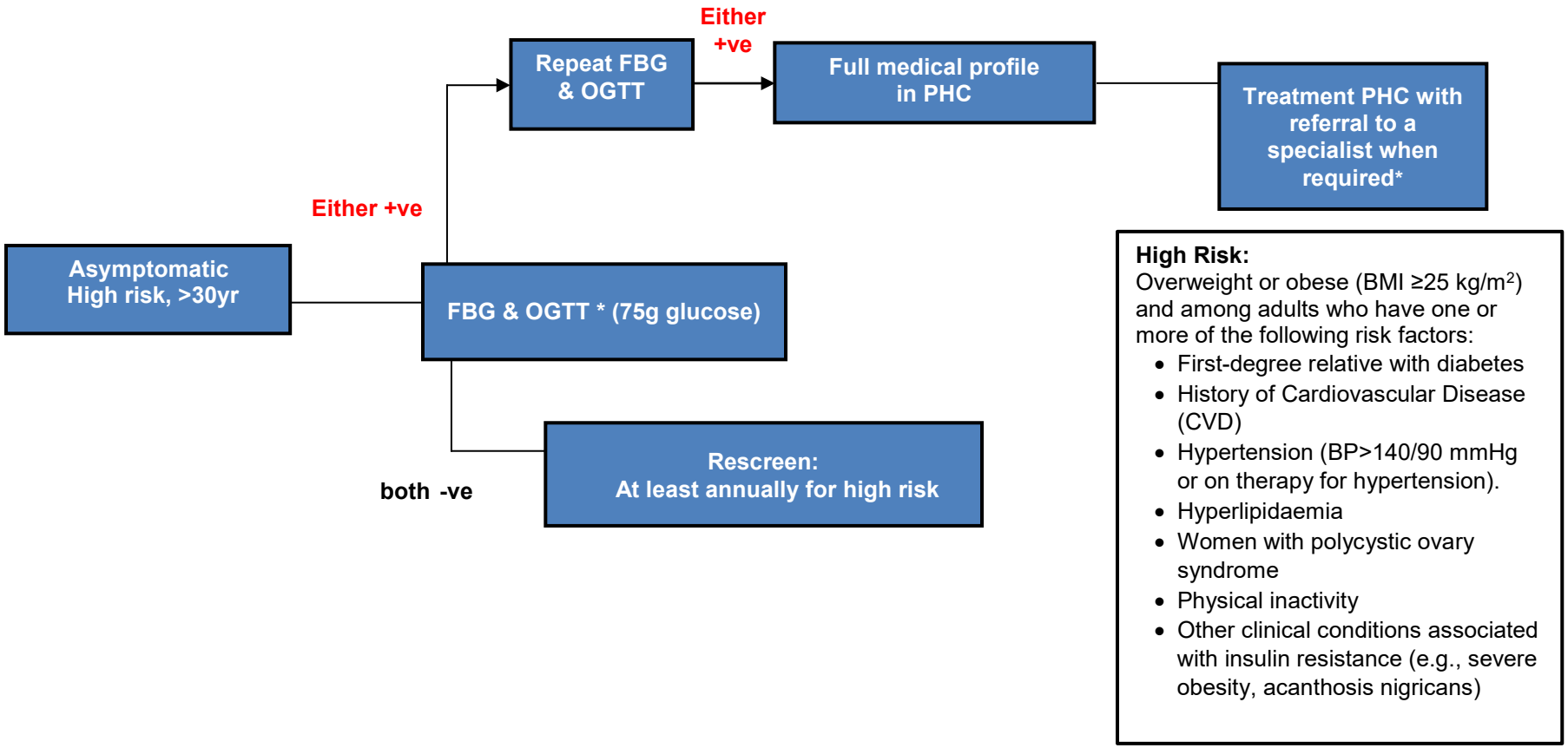
Figure 8: Algorithms for Screening Referral and Follow-up in Adults at Average Risk for Type 2 Diabetes Mellitus



Abbreviations: PHC, primary health care; ***-ve, negative*** *(normal Fasting Blood Glucose or Oral Glucose Tolerance Test);* ***+ve positive*** *(elevated Fasting Blood Glucose or Oral Glucose Tolerance Test)*

**Criteria for specialist care from the clinical management guideline*

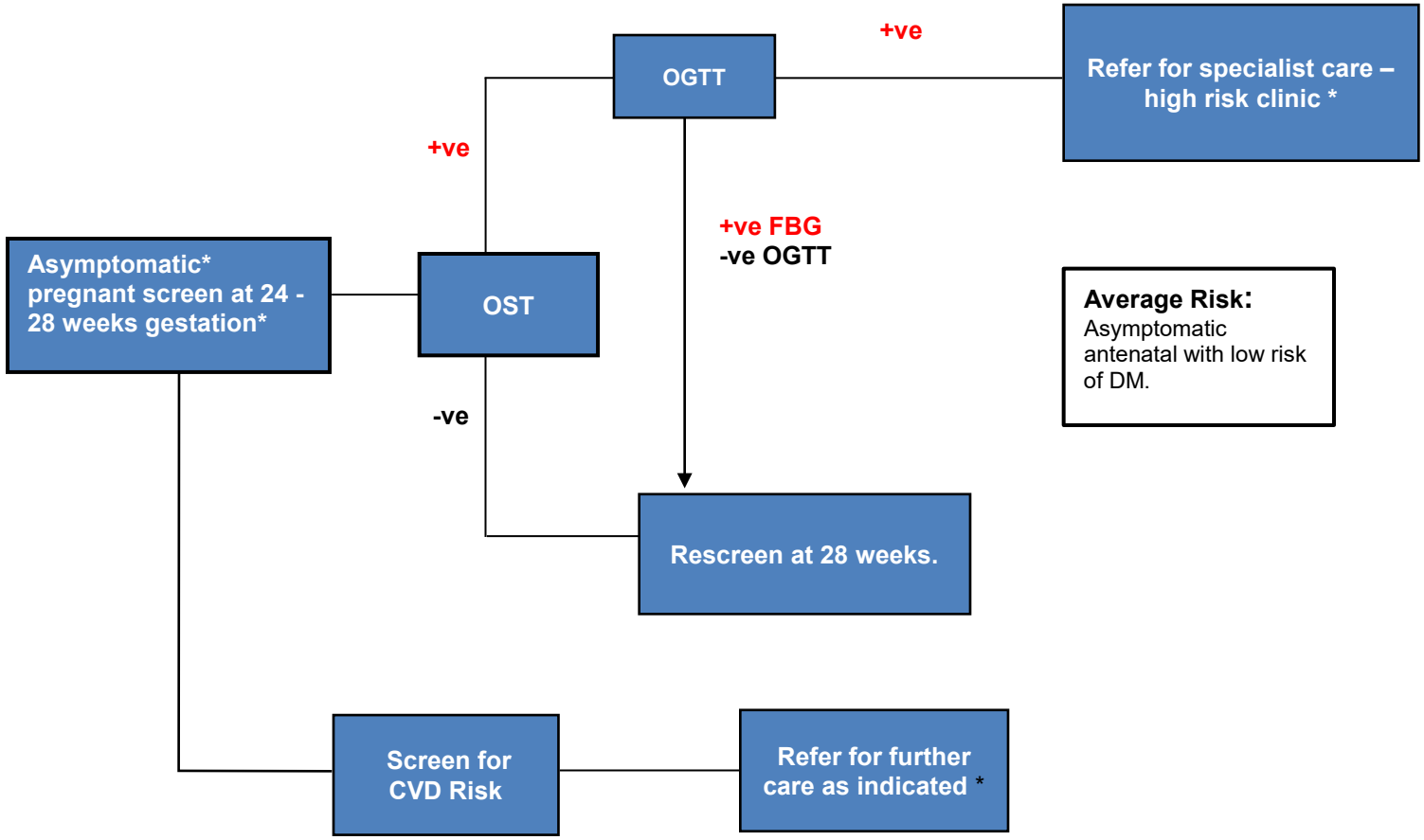
Figure 9: Algorithms for Screening Referral and Follow-Up in Adults at High Risk for Diabetes Mellitus Type 2



Abbreviations: PHC, primary health care, ***-ve, negative*** *(normal Fasting Blood Glucose or Oral Glucose Tolerance Test);* ***+ve positive*** *(elevated Fasting Blood Glucose or Oral Glucose Tolerance Test)*

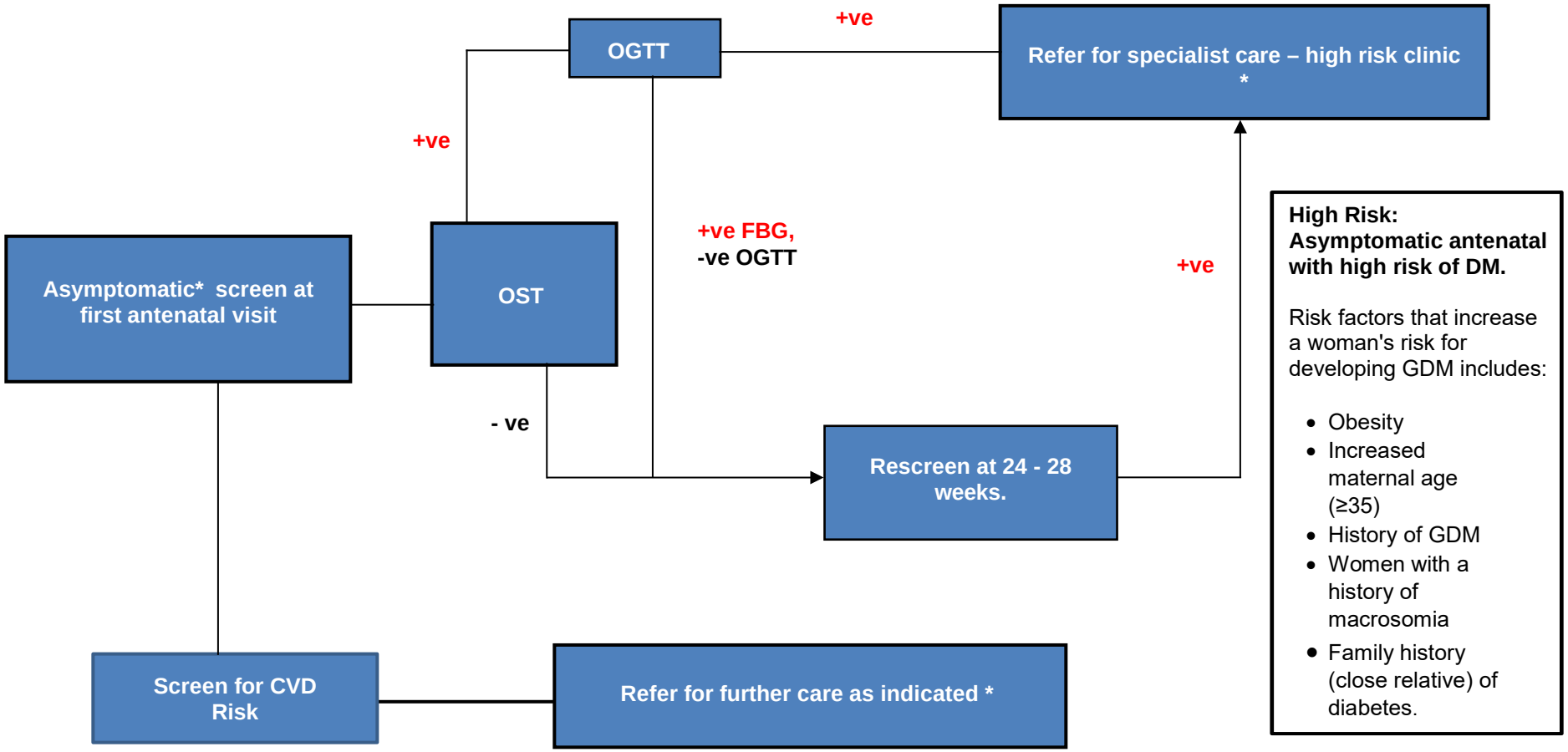
**Criteria for specialist care from the clinical management guideline*

Figure 10: Algorithm for Screening Referral and Follow Up in Women at Average Risk for Diabetes in Pregnancy



Abbreviations: OST – O'Sullivan's Test; FBG, Fasting Blood Glucose; OGTT, Oral Glucose Tolerance Test; ***-ve, negative*** *(normal, O' Sullivan Test, Fasting Blood Glucose or Oral Glucose Tolerance Test;* ***+ve, positive*** *(elevated O'Sullivan, Fasting Blood Glucose or Oral Glucose Tolerance Test) * Further care would need to be identified to manage CVD risk*

Figure 11: Algorithm for Screening Referral and Follow Up in Women at High Risk for Diabetes in Pregnancy



Abbreviations: OST – O'Sullivan's Test; FBG, Fasting Blood Glucose; OGTT, Oral Glucose Tolerance Test; ***-ve, negative*** *(normal, O' Sullivan Test, Fasting Blood Glucose or Oral Glucose Tolerance Test);* ***+ve, positive*** *(elevated O' Sullivan, Fasting Blood Glucose or Oral Glucose Tolerance Test) *Further care would need to be identified to manage CVD risks*

5.1 Risk Groups and Special Considerations in Screening for Breast Cancer

Indicator	Considerations
Risk Assessment	Increasing age is the most important risk factor for most women
Screening Tests	Digital or film mammography as the primary method for breast cancer screening would be based on availability. Conventional digital screening mammography has about the same diagnostic accuracy as film overall, although digital screening seems to have comparatively higher sensitivity but the same or lower specificity in women age <50 years.
Starting and Stopping Ages for women who are at average risk for breast cancer	Most of the benefit of mammography results from biennial screening during ages 50 to 69 yrs. In women aged 40 to 49 yrs while at risk for breast cancer death, the number of deaths averted is smaller than that in older women and the number of false-positive results and unnecessary biopsies is larger. The balance of benefits and harms is likely to improve as women move from their early to late 40s. **Continue screening until life expectancy is less than 10 years.**

Indicator	Considerations
Screening in women at higher risk for breast cancer	Women at higher risk are defined as such based on: ● Family history ● Prior diagnosis of breast cancer ● Chest radiation between ages 10 – 30 years of age ● Genetically tested (BRCA 1 & 2 mutation (17) and other mutations including TP53 (25) – testing is not indicated in the primary care setting. All women should have a risk assessment at the age of 30 years by a health care professional to ascertain whether or not they are candidates for the accelerated high risk screening regimen. The risk assessment (based on the criteria above) should be done in the primary health care setting. For those deemed to be at high risk, simultaneously request an MRI adjunct to mammography and refer to a Specialist in Secondary Health Care for further management. Ultrasound can be used as adjunct to mammography if the high-risk woman is unable to do an MRI

Indicator	Considerations
Screening in Men	Men may develop breast cancer and should be encouraged to feel their breast and chest wall and report to their doctor any lumps or change. Men who have a BRCA1 and BRCA 2 gene mutation, men who have elevated levels of oestrogen due to certain conditions such as liver disease, men on drug treatment for prostate cancer are at increased risk for breast cancer. Other risk factors include obesity. Doctor may recommend **screening** with mammography for those men with a BRCA 2 or BRCA1 mutation (23).

CANCERS					
BREAST CANCER					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
5.2 Adolescence to 39 years	**Health Promotion & Prevention**				
	● Education on Breast Cancer (signs & symptoms. risk factors, screening)	Yes	Yes	Yes	
	● Breast Self-Awareness (BSA)	Yes	Yes	Yes	

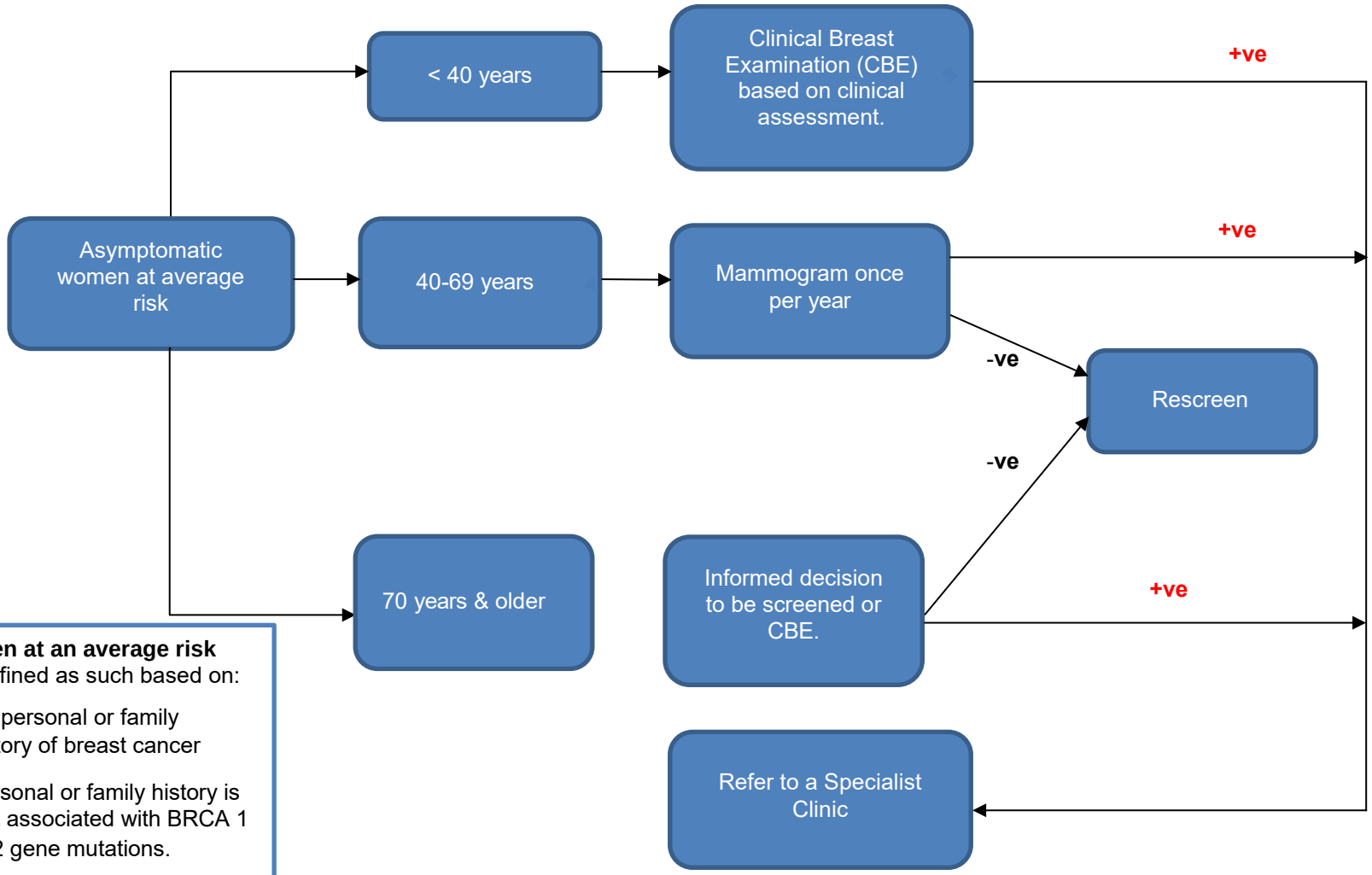
CANCERS					
BREAST CANCER					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
					a health care provider who will conduct a CBE and investigate as necessary.
	Screening & Early Diagnosis				
	Average Risk:				
	● Mammogram Screening for Breast Cancer is not recommended.	N/A	N/A	N/A	
	● Clinical breast examination (CBE) is to be done based on clinical assessment. If positive, refer to specialist in secondary health care for evaluation.	Yes	Yes	Yes	
	High Risk:				
	● Screen mammography & MRI as adjunct and refer to Specialist in secondary health care (ultrasound can be used as adjunct to mammography if the MRI cannot be done)	N/A	N/A	N/A	

CANCERS					
BREAST CANCER					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
5.3 Adult Female (Age 40-69 years)	**Health Promotion & Prevention**				
	● Education on Breast Cancer (signs & symptoms. risk factors, screening)	Yes	Yes	Yes	
	● Breast Self-Awareness (BSA)	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Mammogram should be done **once per year**	Yes	Yes	Yes	

CANCERS					
BREAST CANCER					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● If negative, continue screening annually				the patient. Screening should be offered in secondary care. The net benefit in women aged 50 to 69 years is high. Screening should be offered in secondary care. The structure or design of this process is determined the specialist in secondary care. All positive tests should be referred to a specialist clinic; high risk women must be referred to a specialist clinic
	● If positive, refer to Specialist in secondary health care for management				
	High Risk:				
	Screen mammography & MRI as adjunct **and** refer to Specialist in secondary health care **(ultrasound can be used as adjunct to mammography if the MRI cannot be done)** .	N/A	N/A	Yes	
5.4 Late Adulthood (Older Female ≥70 years)	**Health Promotion & Prevention**				
	● Education on Breast Cancer (signs & symptoms. risk factors, screening)	Yes	Yes	Yes	
	● Breast Self-Awareness (BSA)	Yes	Yes	Yes	

CANCERS					
BREAST CANCER					
		Location where the intervention should/can be addressed			
		Community	1	2	Comments
					SBEs are encouraged; any changes detected should trigger a visit to a health care provider who will conduct a CBE and investigate as necessary.
	Screening & Early Diagnosis				
	● Routine screening not recommended; informed decision to screen or CBE; **Screening can continue until life expectancy is less than 10 years**	N/A	N/A	N/A	Regarding mammography, evidence in women aged ≥70 years is minimal, and the balance of benefits and harms cannot be determined. Give choice to make an informed decision to be screened. Screening can continue until life expectancy is < 10 years

Figure 12: Algorithm for Screening, Referral and Follow Up in Women at Average Risk for Breast Cancer

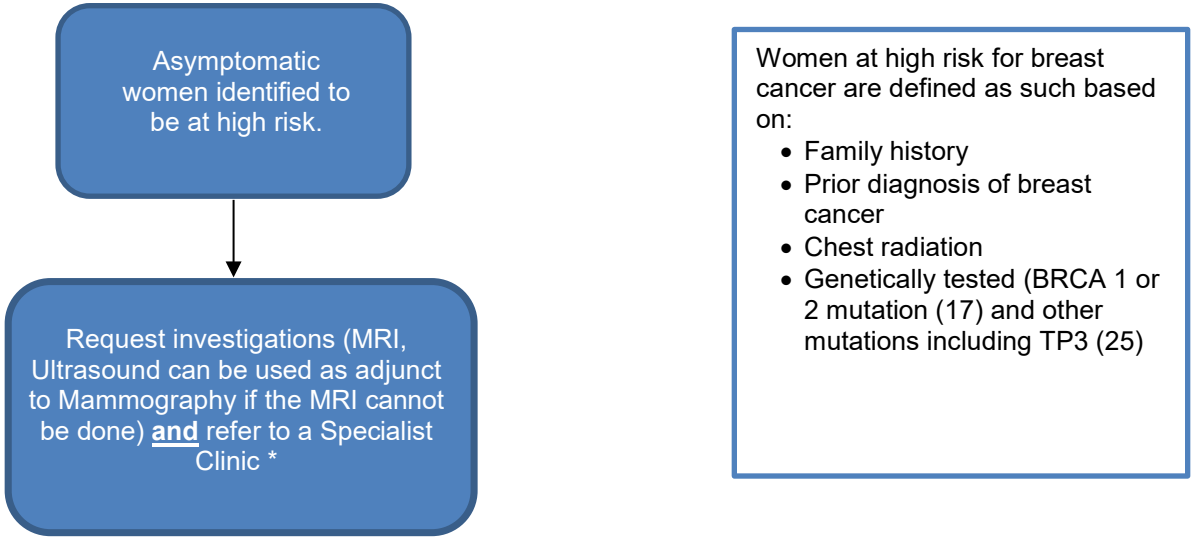


Women at an average risk are defined as such based on:

- No personal or family history of breast cancer
- Personal or family history is **not** associated with BRCA 1 or 2 gene mutations.
- No chest radiation

Abbreviations: -ve, negative, +ve, positive

Figure 13: Algorithm for Screening, Referral and Follow up in Women at High Risk for Breast Cancer



**High risk women should be referred to a Specialist Clinic. Screening test should be indicated as a baseline.*

6.1 Risk Groups and Special Considerations in Screening for Cervical Cancer

Indicator	Considerations
Risk Assessment	All women aged 21 to 65 years are at risk for cervical cancer because of potential exposure to high-risk HPV types (hrHPV) through sexual intercourse and should be screened. It should be cautioned that women at average risk should not have a false sense of security that they will not have an HPV infection or cervical cancer. Adequate counselling is required by the health care provider about the possibility of still having an HPV infection and subsequently cervical cancer. Given the low uptake of cervical smears, opportunistic screening is recommended in all settings inclusive of Sexually Transmitted Infection (STI) Clinics. Certain risk factors further increase risk for cervical cancer, including HIV infection, a compromised immune system, in-utero exposure to diethylstilboestrol, and previous treatment of a high-grade precancerous lesion or cervical cancer. Women with these risk factors should receive individualized follow-up.
Screening Tests	Screening with cervical cytology alone or primary testing for hrHPV alone, can detect high-grade precancerous cervical lesions and cervical cancer. Clinicians should focus on ensuring that women receive adequate screening, appropriate evaluation of abnormal results, and indicated treatment, regardless of which screening strategy is used.

Indicator	Considerations
Treatment	High-grade cervical lesions may be treated with excisional and ablative therapies. Early-stage cervical cancer may be treated with surgery (hysterectomy) or chemotherapy.
Women at High Risk for Cervical Cancer	Women with HIV infection, a compromised immune system, in utero exposure to diethylstilboestrol, and previous treatment of a high-grade precancerous lesion or cervical cancer should be screened annually and receive individualized follow-up. HIV positive women should ideally be screened with HPV. Screening should be commenced in HIV positive women/transmen at the age of diagnosis even if they are diagnosed below the age of 21 years.
Special Considerations for Other Groups	Transmen 21 years or older who have been sexually active should be screened for cervical cancer if he retains a cervix. For those who have undergone hysterectomy, screening will be depended on the type of hysterectomy. Transmen should be screened based on the interventions along the life course model and their individual risk assessment.

(26), (27), (28)

CANCERS					
CERVICAL CANCER					
		Location where the intervention should/can be addressed			
		Community	1	2	Comments
6.2 Childhood & Adolescence	**Health Promotion & Prevention**				
	● Education on HPV (STI)	Yes	Yes	Yes	
	● Education on Cervical Cancer (signs & symptoms, risk factors, prevention, and screening)	Yes	Yes	Yes	
	● Vaccination (HPV) 2 doses within a 6-month period (9-14 years)	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	● Screening not recommended	N/A	N/A	N/A	
6.3 Adult Female (20-29 years)	**Health Promotion & Prevention**				
	● Education on HPV (STI)	Yes	Yes	Yes	
	● Education on Cervical Cancer (signs & symptoms, risk factors, prevention, and screening)	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screen for cervical cancer every 3 years with Cytology. If negative, continue screening	Yes	Yes	Yes	
	● If positive, refer to a Specialist Clinic				

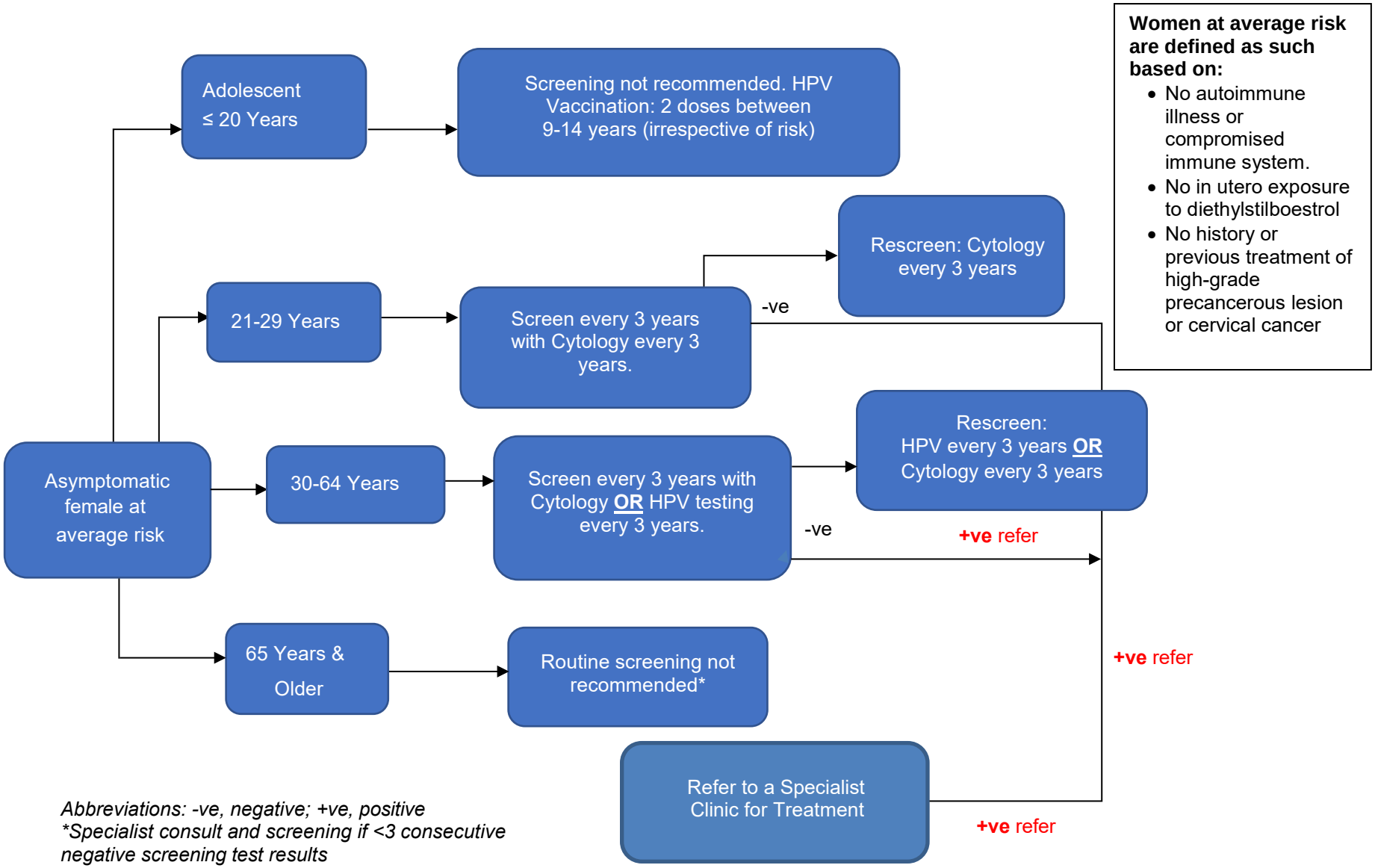
CANCERS					
CERVICAL CANCER					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
					should be referred to a Specialist Clinic. In Cytology if signs of infection, treat and repeat Cytology in 6 months. If negative, rescreen every 3 years
	High Risk:				
	● Screen with Cytology once per year.	Yes	Yes	Yes	
	● If positive, refer to a Specialist Clinic for treatment	N/A	Yes	Yes	
6.4 Adult Female (30-49 years)	**Health Promotion & Prevention**				
	● Education on HPV (STI)	Yes	Yes	Yes	
	● Education on Cervical Cancer (signs & symptoms, risk factors, prevention, and screening)	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screen for cervical cancer every 3 years with Cytology alone or	Yes	Yes	Yes	

CANCERS					
CERVICAL CANCER					
		Location where the intervention should/can be addressed			
		Community	1	2	Comments
	with HPV testing every 3 years alone (with risk assessment)				should be referred to a Specialist Clinic. In Cytology if signs of infection, treat and repeat Cytology in 6 months. Special considerations should be taken with the woman who is HIV positive, immuno-compromised, etc. If negative, rescreen every year (high risk) and every 3 years (average risk)
	● If positive, refer to a specialist clinic for treatment	Yes	Yes	Yes	
	High Risk:				
	● Screen once per year with Cytology or HPV testing	Yes	Yes	Yes	
	● If positive, refer a specialist clinic for evaluation and treatment	Yes	Yes	Yes	
6.5 Adult Female (Menopausal & Immediate Post-Menopausal 50-64 years)	**Health Promotion & Prevention**				
	● Education on HPV (STI)	Yes	Yes	Yes	
	● Education on Cervical Cancer (signs & symptoms, risk factors, prevention, and screening)	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screen for cervical cancer every 3 years with Cytology alone or with HPV testing alone (with risk assessment)	Yes	Yes	Yes	

CANCERS					
CERVICAL CANCER					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● If positive, refer to a Specialist Clinic for treatment.	Yes	Yes	Yes	In Cytology if signs of infection, treat and repeat Cytology in 6 months. Special considerations should be taken with the woman who is HIV positive, immuno-compromised, etc. If negative rescreen every 1 year (high risk) and every 3 years (average risk)
	High Risk:				
	● Screen once per year with Cytology or HPV testing	Yes	Yes	Yes	
	● If positive, refer to a Specialist Clinic for evaluation and treatment	N/A	N/A	N/A	
6.6 Adult Female (65 years and older)	**Health Promotion & Prevention**				
	● Education on Cervical Cancer (emphasis on per vaginal bleeding)	Yes	Yes	Yes	Health promotion done at clinics, clubs, religious groups etc., within the community.
	Screening & Early Diagnosis				
	Average Risk:				
	● Routine screening is not recommended	N/A	N/A	N/A	All PV bleeds should be referred to a Specialist Clinic. Women who have had 3 consecutive negative screens prior to age 65 are not recommended to be rescreened.

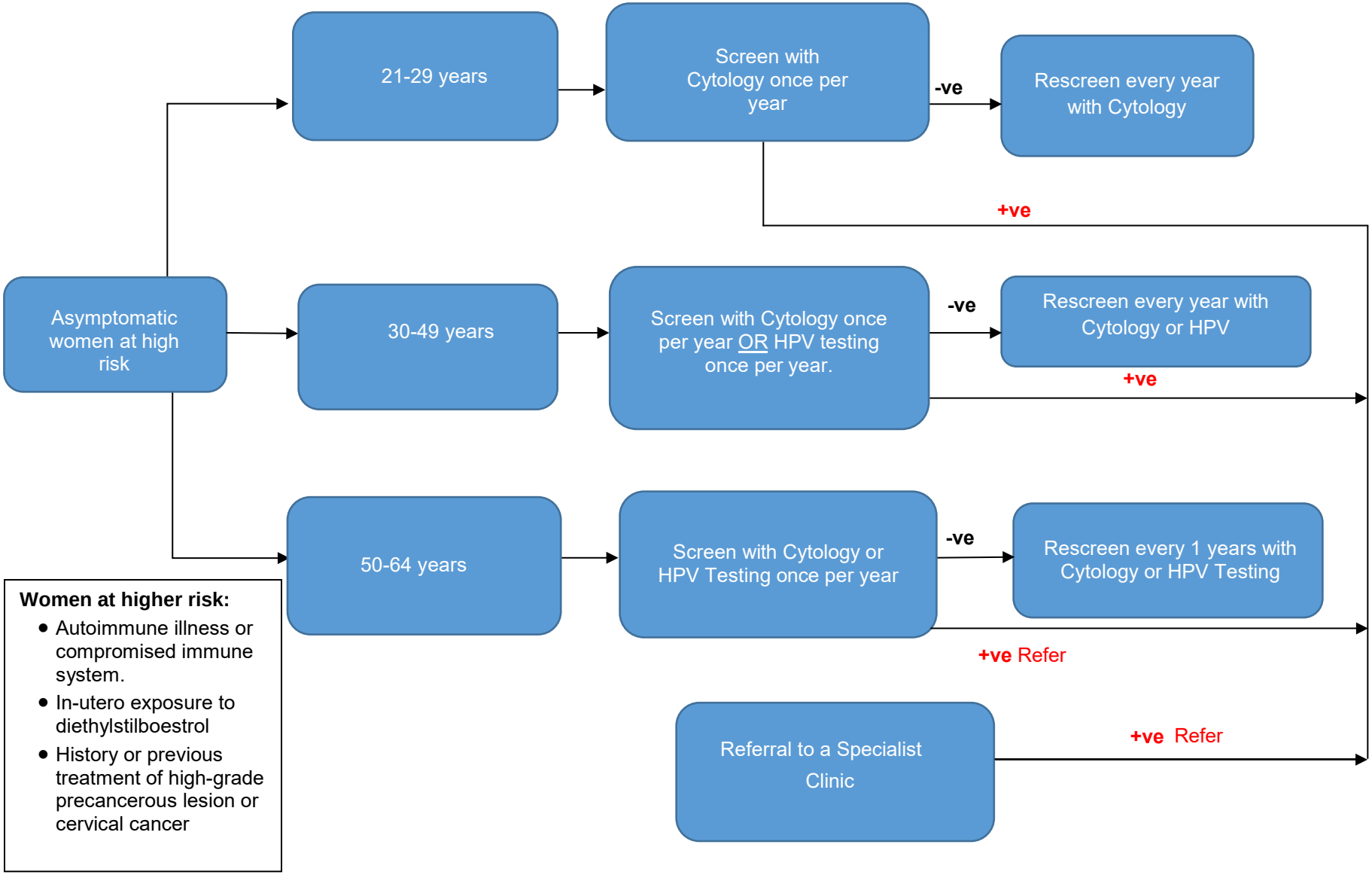
CANCERS					
CERVICAL CANCER					
		Location where the intervention should/can be addressed			
		Community	1	2	Comments
					Consider specialist consult and screening based on risk assessment for women with less than 3 consecutive negative screening tests prior to age 65

Figure 14: Algorithm for Screening, Referral and Follow Up in Women at Average Risk for Cervical Cancer



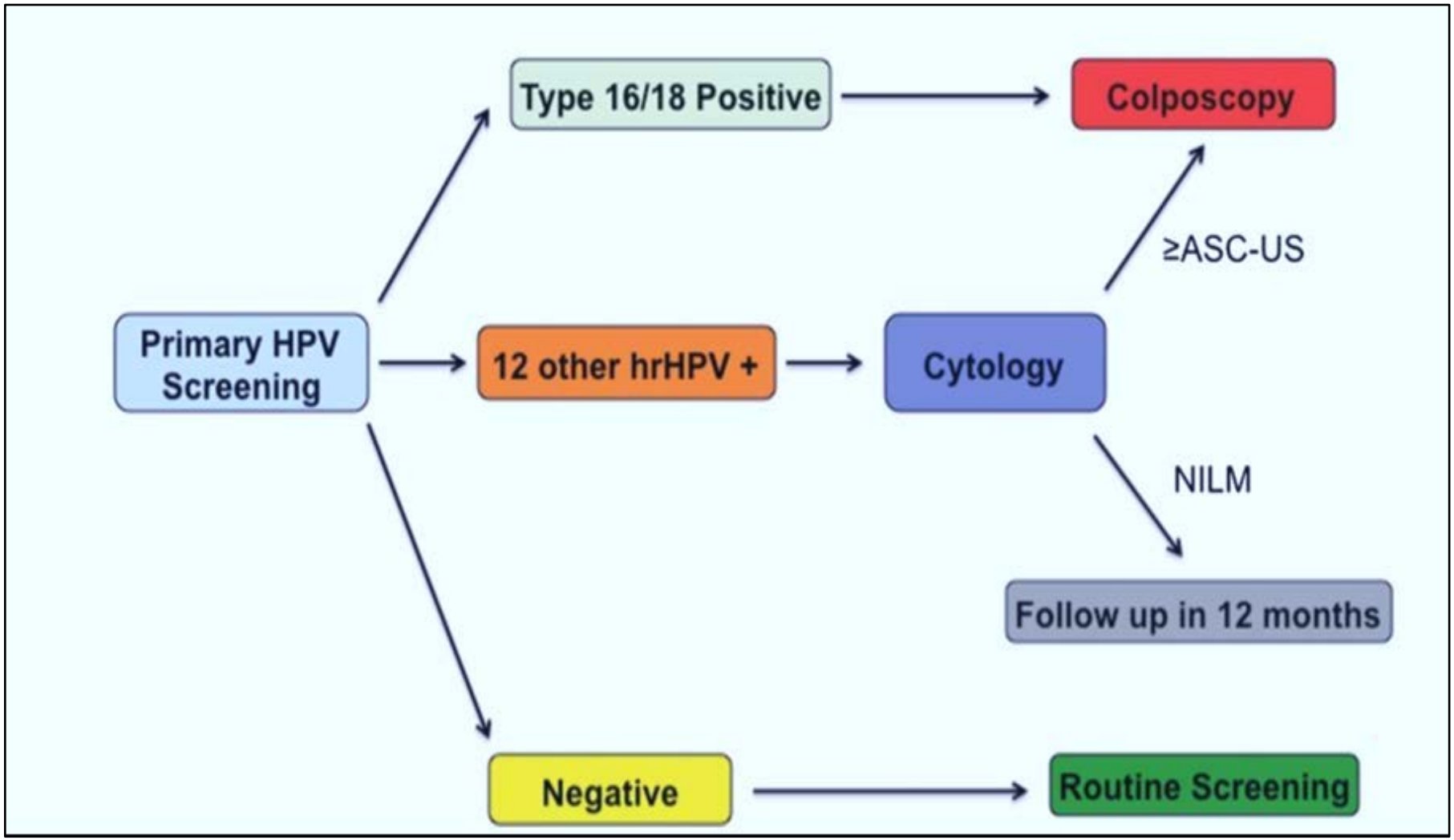
Abbreviations: -ve, negative; +ve, positive
**Specialist consult and screening if <3 consecutive negative screening test results*

Figure 15: Algorithm for Screening, Referral and Follow Up in Women at High Risk for Cervical Cancer



Abbreviations: -ve, negative, +ve, positive

Figure 16: Recommended Primary HPV Screen and Treat Algorithm



Adopted from (29)

7.1 Risk Groups and Special Considerations in Screening for Colorectal Cancer

Indicator	Considerations
Risk Assessment	**Average Risk Group**: Asymptomatic adults 45 years and younger who do not have a personal or family history of known genetic disorders that predispose them to a high lifetime risk of colorectal cancer. No personal or family history of colorectal cancer or polyps. **High Risk Group**: Familial adenomatous polyposis (FAP), inflammatory bowel disease (Crohn's Colitis, Ulcerative Colitis), personal history of polyps and family history (first degree relatives) of polyps and colorectal cancer, symptomatic or asymptomatic adult with history of known genetic predisposition to a high lifetime risk of colorectal cancer (such as Lynch syndrome, Hereditary Nonpolyposis Colorectal Cancer, (HNPCC). Older age incidence increases over 50 years. Associated risk factors are low fibre intake, obesity, diabetes, smoking, male sex, and black race.
Screening Tests	The screening tests to detect early-stage colorectal cancer, includes stool-based tests – Guaiac Faecal Occult Blood Test (gFOBT), Faecal Immunochemical Test (FIT), and FIT-DNA; direct visualization tests (flexible sigmoidoscopy, alone or combined with FIT; colonoscopy); CT colonography, and serology tests. The FIT test has the highest yield. The colonoscopy has high sensitivity.

Indicator	Considerations
Special Considerations	Clients who are 76 years and older who have never been screened may be offered screening if they are in good physical state, and free from significant comorbid conditions. Risk benefit analysis should be done, and the screening options discussed. There should be a low threshold for consultation and referral to a Specialist Clinic. FIT-DNA is not currently recommended for population-based screening. CT colonography is to be considered only in select cases when colonoscopy is contraindicated or not accepted and should not be used as a substitute for direct visualization tests.
Starting and Stopping Ages	The evidence suggests a starting age of 45y for the Jamaican population where >90% is of African descent. The age at which the balance of benefits and harms of colorectal cancer screening becomes less favourable varies based on a patient's life expectancy, health status, comorbid conditions, and prior screening status.
Treatment and Interventions	Treatment of early-stage colorectal cancer generally consists of local excision or simple polypectomy for tumours limited to the colonic mucosa or surgical resection (via laparoscopy or open approach) with anastomosis for larger, localized lesions.

Adapted from (29)

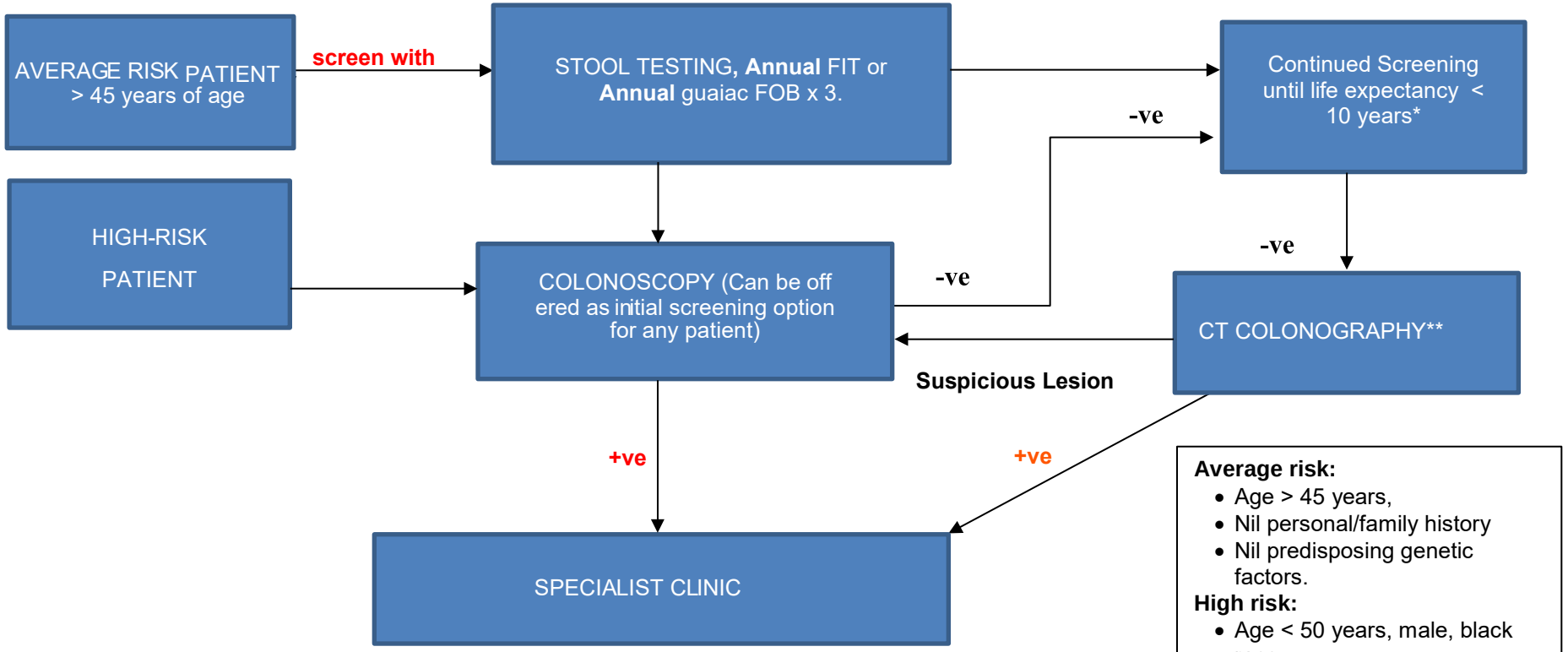
CANCERS					
Colorectal Cancer					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
7.2 Adolescence	**Health Promotion & Prevention**				
	● Education on Colorectal Cancer (signs & symptoms, risk factors, screening).	Yes	Yes	Yes	
	● Education on risk factor reduction, diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Routine screening is not recommended	N/A	N/A	N/A	
	High Risk:				
	● For adolescents with FAP, screening should start at 12 years of age with colonoscopy	N/A	N/A	N/A	All high-risk patients in this age group including adolescents with FAP should be referred to a Specialist Clinic and followed up based on treatment plan outlined by the specialist
7.3 Adulthood (age 20-44 years)	**Health Promotion & Prevention**				
	● Education on Colorectal Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on risk factor reduction diet, exercise, smoking etc.	Yes	Yes	Yes	

CANCERS					
Colorectal Cancer					
		Location where the intervention should/can be addressed			
		Community	1	2	Comments
	Screening & Early Diagnosis				
	Average Risk:				
	● Routine screening not recommended	N/A	N/A	N/A	.
	High Risk:				
	● Screening recommended in patients with certain genetic disorders such as HNPCC with colonoscopy and referral to a Specialist Clinic	N/A	Yes	Yes	All high-risk patients in this age group should be referred to a Specialist Clinic and followed up based on treatment plan outlined by the specialist
7.4 Adulthood (age 45- 74 years).	**Health Promotion & Prevention**				
	● Education on Colorectal Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on risk factor reduction diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	● Screen with stool-based test: gFOBT x 3 or FIT **yearly.** ● If stool test is positive, refer for colonoscopy (may be available at a Specialist Clinic)	N/A	Yes	Yes	

CANCERS					
Colorectal Cancer					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● If colonoscopy positive refer to a Specialist Clinic	N/A	Yes	Yes	days prior to sample collection, avoid, red meat, beets, broccoli, grapefruit, cantaloupe, carrots, cucumber, Vitamin-C enriched foods and beverages. Faecal immunochemical testing (FIT) can be done yearly on a sample. Where colonoscopy is offered at a Specialist Clinic then positive stool tests should be referred directly to the Specialist Clinic Stool test combined with Flexible Sigmoidoscopy can be used for screening, instead of colonoscopy, however, should be done every 5 years. All patients may be offered colonoscopy as initial screening test. If the colonoscopy is contraindicated or not accepted, consult a specialist, consider CT
	● If colonoscopy is negative, rescreen every 10 years with colonoscopy.	N/A	Yes	Yes	
	High Risk:				
	● Screen with colonoscopy. ● If positive, refer to a Specialist Clinic	N/A	Yes	Yes	
	● If negative, rescreen <5 years depending on risk assessment or plan of care established by specialist consult	N/A	Yes	Yes	

CANCERS					
Colorectal Cancer					
		Location where the intervention should/can be addressed			
		Community	1	2	Comments
					colonography and/or direct referral to a Specialist Clinic Follow up screening should be based on risk assessment or plan of care put in place by the specialist.
7.5 Adulthood (age 75 years or older)	**Health Promotion & Prevention**				
	● Education on Colorectal Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on risk factor reduction diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	● Routine screening not recommended	N/A	N/A	N/A	
	● If a clinical decision is made to screen, the preferred modality should be via **Colonoscopy**	N/A	Yes	Yes	

***Figure 17*: Algorithm for the Screening and Follow Up of Adults at Average or High Risk for Colorectal Cancer**



Abbreviation: *-ve,* negative; *+ve,* positive
Rescreen Average Risk Patients with negative colonoscopy every 10 years; rescreen High Risk Patient with negative Colonoscopy < 5 years depending on risk assessment **Colonoscopy incomplete OR not available OR patient unwilling
Source: Modified (30)

8.1 Risk Groups and Special Considerations in Screening for Prostate Cancer

Indicator	Considerations
Risk Assessment	**Average Risk:** Asymptomatic men less than 40 years, of non-African descent, who do not have a family history of prostate cancer in a first degree relative under 65y; no previous personal history of prostate cancer. **High Risk**: Symptomatic men or asymptomatic men with a family history of prostate cancer (age of first degree relative under 65y), previous personal history of prostate cancer. Men with BRCA1 or BRCA2 mutation (any 1 or combination of these factors). Associated risk factors (or factors which accelerate prostate cancer progression) include obesity, high fat diet, physical inactivity, and smoking. Older age (>50y) and males of African descent are at higher risk for Prostate Cancer.
Screening Tests	Screening for prostate cancer begins with a digital rectal examination (DRE). Suspicious DRE examinations require further evaluation by a specialist. The prostate-specific antigen (PSA) screening test measures the amount of PSA protein in the blood. An elevated PSA level may be caused by prostate cancer but can also be caused by other conditions, including an enlarged prostate (benign prostatic hyperplasia) and inflammation of the prostate (prostatitis). Some men without prostate cancer may therefore have false-positive results. Men with an elevated PSA test result may undergo a transrectal ultrasound-guided core-needle biopsy of the prostate to diagnose prostate cancer.
Treatment	The 3 most common treatment options for men with screen-detected, localized prostate cancer are surgical removal of the prostate gland (radical prostatectomy), radiation therapy (external-beam radiation therapy, proton beam therapy, or brachytherapy), and active surveillance.

Indicator	Considerations
Special Considerations for Other Groups	Prostate cancer screening in transgender women should be based on guidelines for non-men and based on the life course approach. If a prostate exam is indicated, both rectal and approaches may be considered. Transgender women who have undergone vaginoplasty have prostate anterior to the vaginal wall, and a digital neovaginal exam examination may be more (29) It should be noted that when PSA testing is performed in transgender women with low testosterone levels, it may be appropriate to reduce the upper limit of normal to 1.0 ng/ml. (28)

CANCERS					
Prostate Cancer					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
8.2 Adolescence	**Health Promotion & Prevention**				
	● Education on Prostate Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on risk factor reduction - diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	● Routine screening is not recommended				
8.3 Adulthood (age 20-39 years)	**Health Promotion & Prevention**				
	● Education on Prostate Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on risk factor reduction - diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	● Routine screening not recommended				
8.4 Adulthood (age 40- 69 years)	**Health Promotion & Prevention**				
	● Education on Prostate Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	

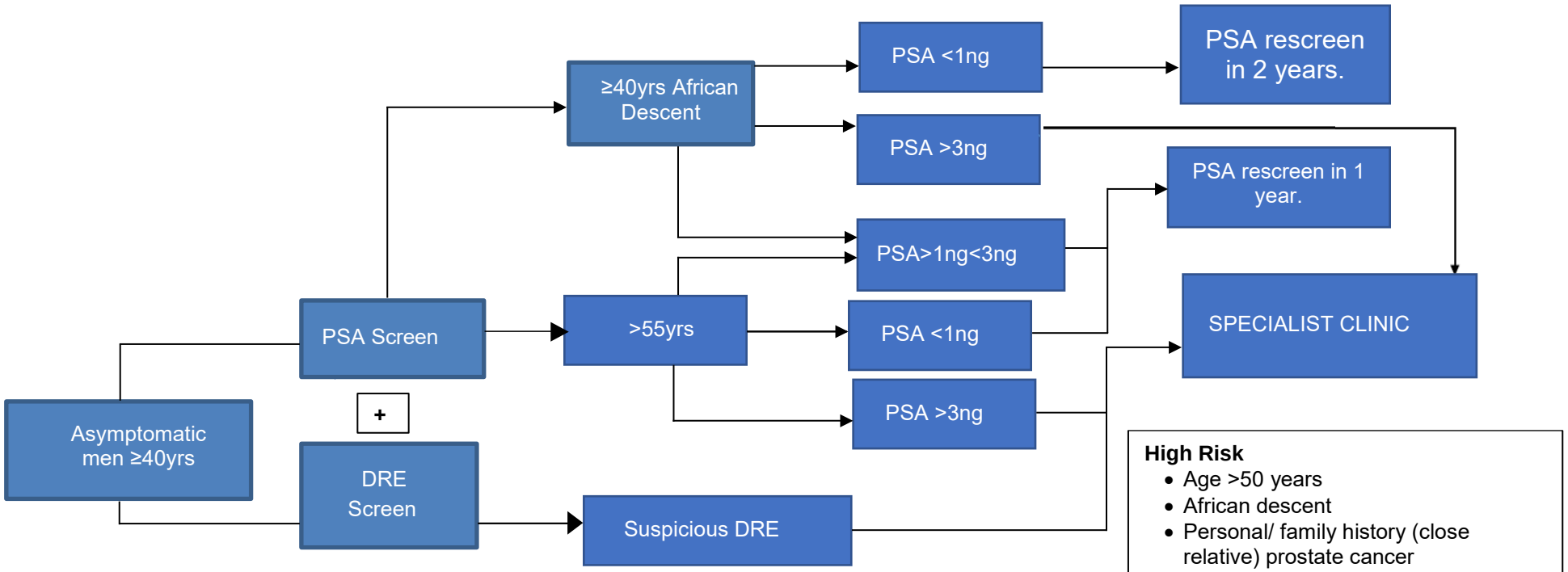
CANCERS					
Prostate Cancer					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● Education on risk factor reduction - diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				
	Average Risk:				
	Screen using DRE & PSA (with prior PSA Counselling) **every 2. years** ● If both negative, repeat in 2 years	Yes	Yes	Yes	
	● If suspicious DRE, refer to a Specialist Clinic	Yes	Yes	Yes	
	● If PSA > 3ng, refer to a Specialist Clinic	Yes	Yes	Yes	
	● If PSA <3ng but >1ng, repeat PSA in a year	Yes	Yes	Yes	
	● If PSA<1ng, screen every 2 years	Yes	Yes	Yes	
	High Risk:				
	● Men aged **40- 54 years** screen **every 2 years.**	Yes	Yes	Yes	

CANCERS					
Prostate Cancer					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	● Men aged **>55 years** screen **yearly**				yearly if age greater than 55 and every 2 years if age less than 55
	● Screen using DRE & PSA (with prior PSA counselling)	Yes	Yes	Yes	
	● If suspicious DRE, refer to a Specialist Clinic	Yes	Yes	Yes	
	● If PSA >3ng, refer to a Specialist Clinic	Yes	Yes	Yes	
	● If PSA <3ng but >1ng, repeat PSA yearly	Yes	Yes	Yes	
	● If PSA <1ng, repeat test based on age (1-2 years)	Yes	Yes	Yes	
8.5 Adulthood (age 70 years or older)	**Health Promotion & Prevention**				
	● Education on Prostate Cancer (signs & symptoms, risk factors, screening)	Yes	Yes	Yes	
	● Education on risk factor reduction - diet, exercise, smoking etc.	Yes	Yes	Yes	
	Screening & Early Diagnosis				

CANCERS					
Prostate Cancer					
		Location where the intervention should/can be addressed			
		Community	**1**	**2**	**Comments**
	Routine screening is not recommended. ● If a clinical decision is made to screen, then a PSA and DRE should be done	N/A	N/A	N/A	Screening is most appropriate for those healthy enough to undergo treatment and those without comorbid conditions that significantly limit their life expectancy. All suspicious DRE and PSA >3ng should be referred to a Specialist Clinic

(31)(32)(36) (37)

***Figure 18*: Algorithm for Screening Referral and Follow Up of Men at Average and High Risk of Prostate Cancer**



Abbreviations: DRE, Digital Rectal Examination; PSA, Prostate Specific Antigen

**All suspicious Digital Rectal Exam (DRE) / PSA> 3ng should be referred to a Specialist Clinic; other tests to assist with the work up of the patient may be requested but should not delay referral to a Specialist Clinic*

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APPENDICES

APPENDIX 1: Screening of Blood Pressure Values Requiring Further Evaluation in Children & Adolescents

Age	BP in mmHg			
	Female		Male	
	SBP	DBP	SBP	DBP
1	98	54	98	52
2	101	58	100	55
3	102	60	101	58
4	103	62	102	60
5	104	64	103	63
6	105	67	105	66
7	106	68	106	68
8	107	69	107	69
9	108	71	107	70
10	109	72	108	72
11	111	74	110	74
12	114	75	113	75
⩾13 y	120	80	120	80

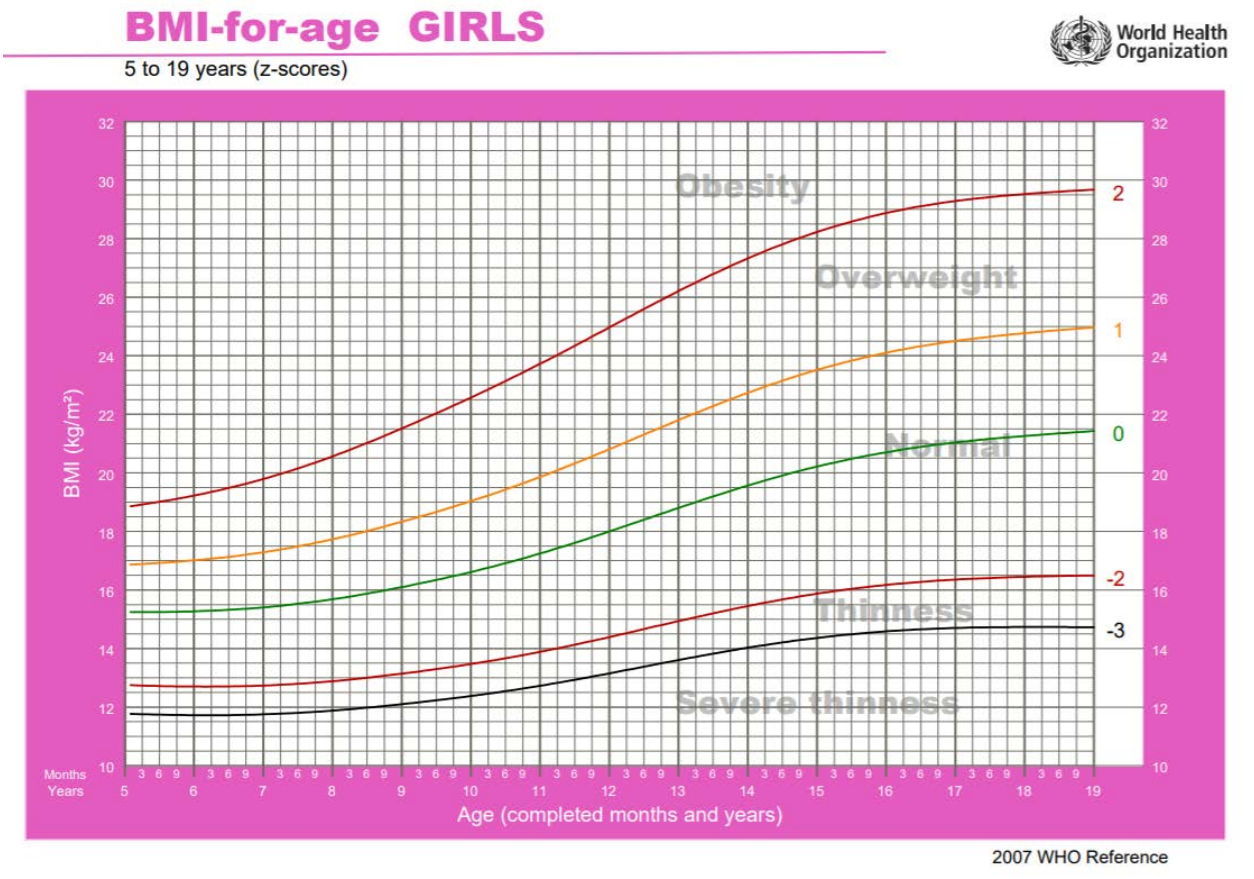
Adopted from: American Pediatric Association (38)

Blood pressure readings equal or above the values in the table require repeat readings and further evaluation with BP percentile Chart

APPENDIX 2: Body Mass Index for Age (Z-score)

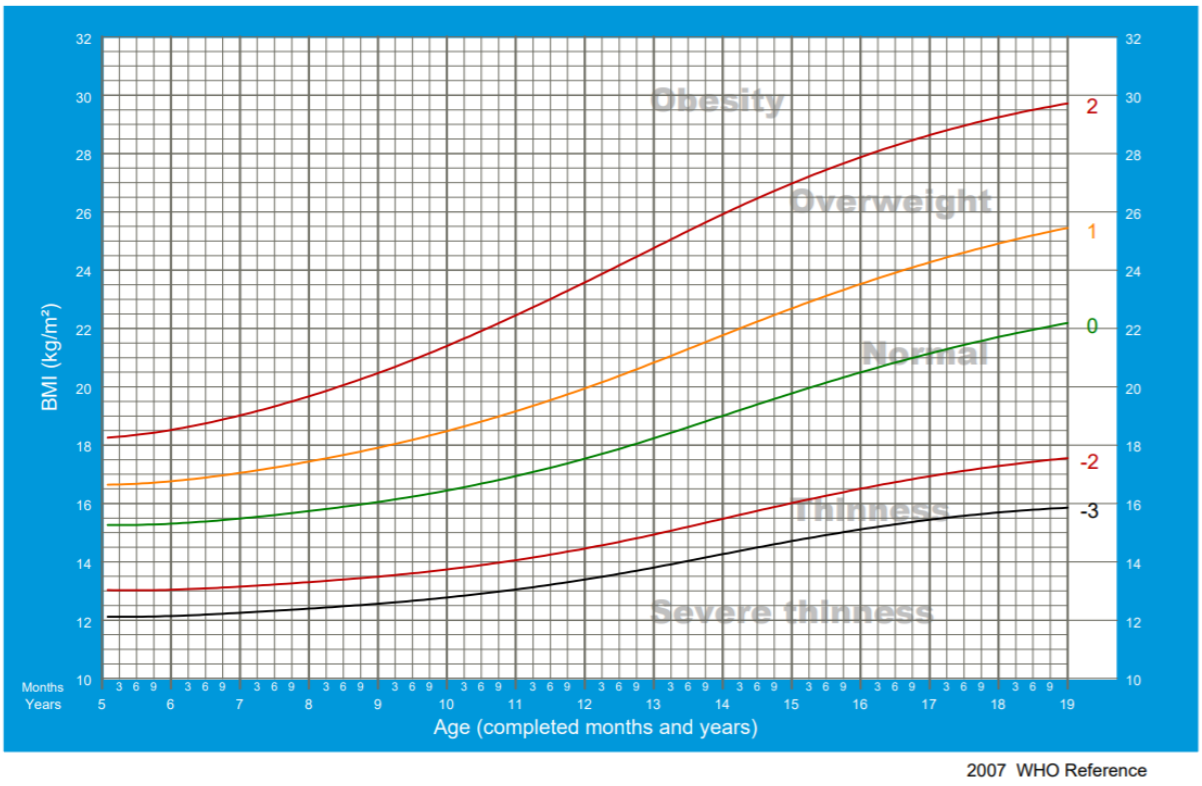
BMI Status Category	Z-Score Range
Obesity	Above 2
Overweight	2 to above 1
Normal	1 to -2
Thinness	Below -2 to -3
Severe Thinness	Below -3

Girls[1]



[1] World Health Organization (2007). *Growth reference 5-19 years.* Retrieved from World Health Organization: https://www.who.int/growthref/who2007_bmi_for_age/en/

Boys[2]



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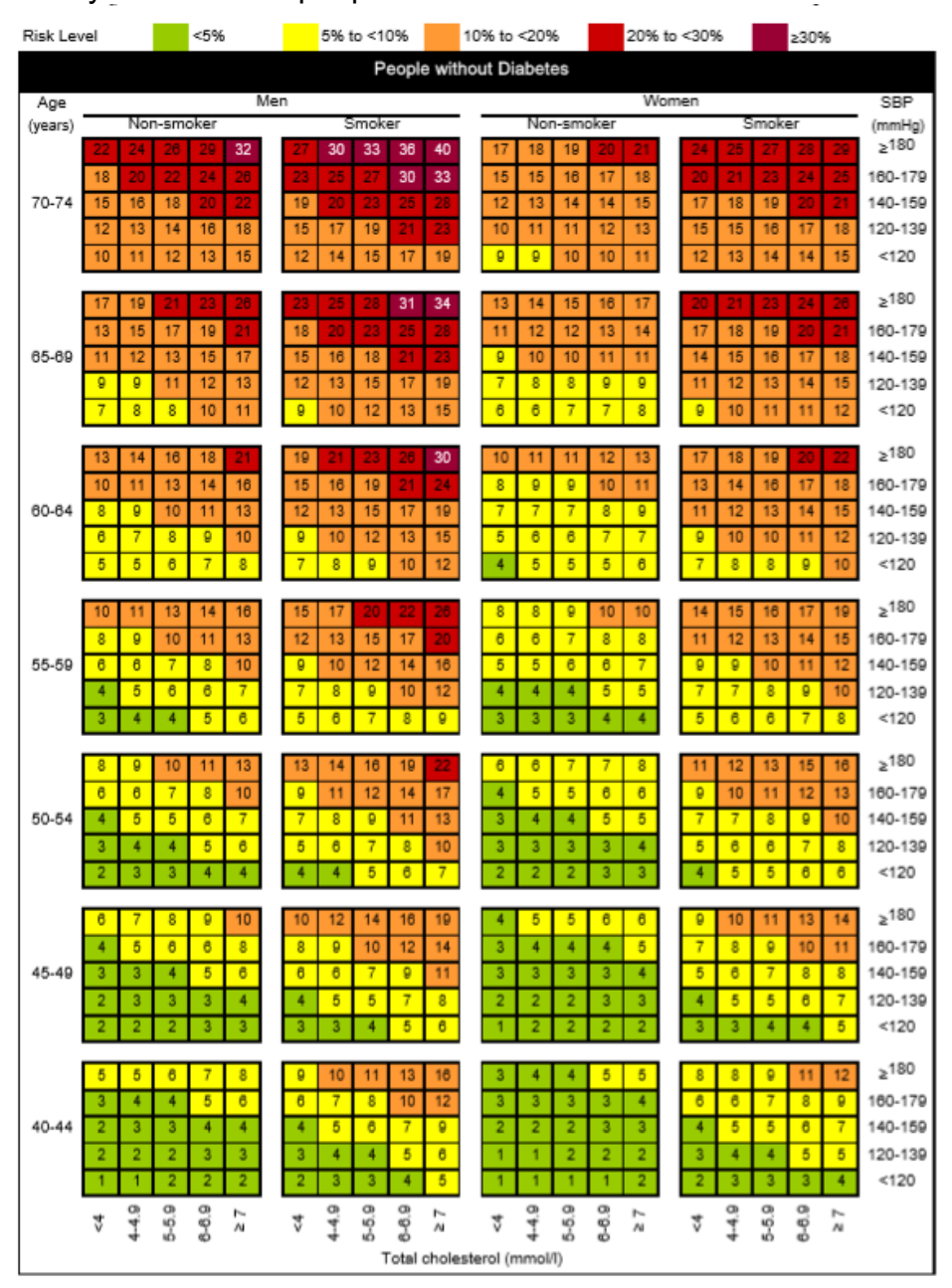
APPENDIX 3: World Health Organization Cardiovascular Disease Risk Prediction and Assessment

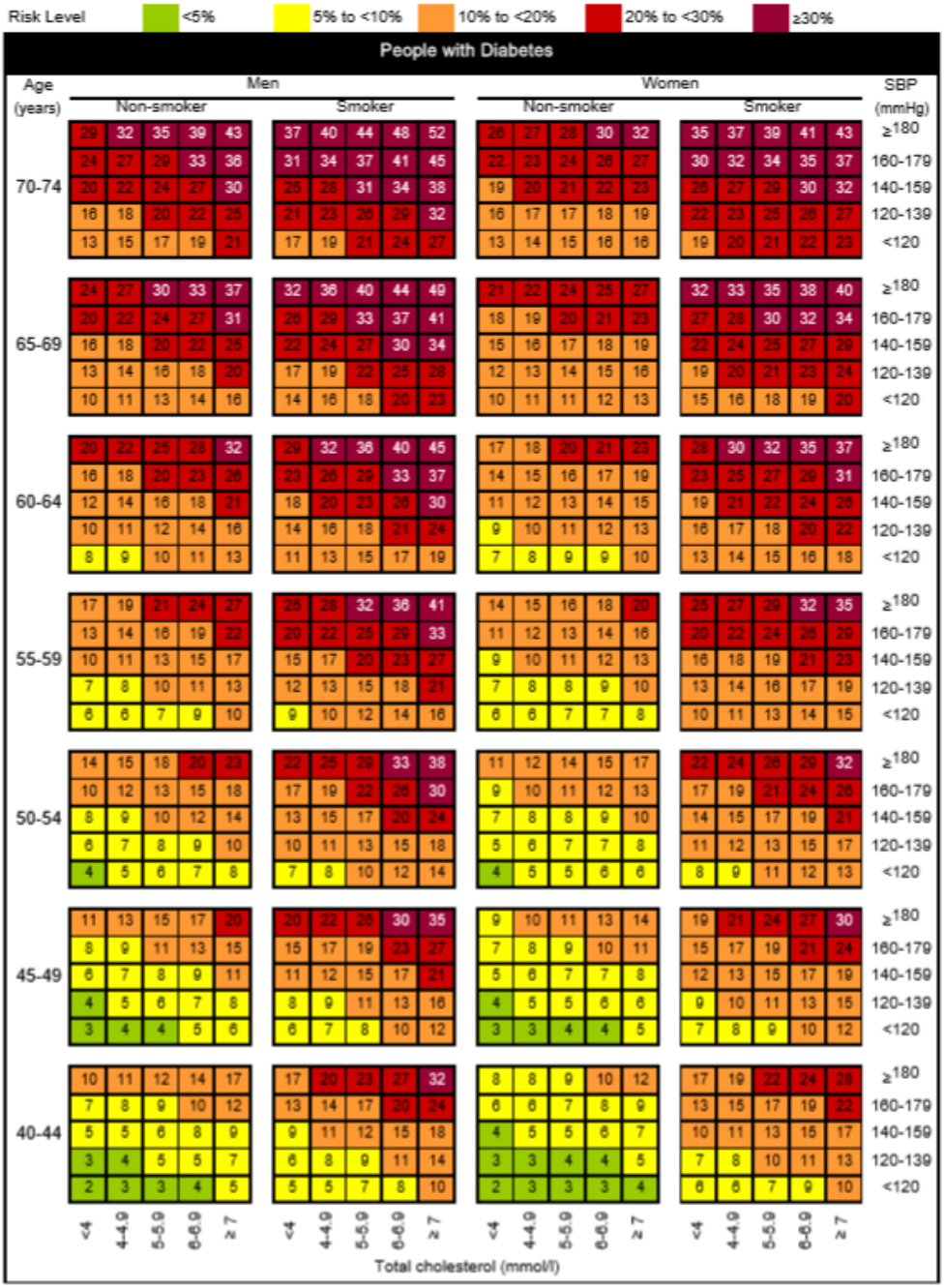
1. CV Risk Prediction Charts - Caribbean

A) Laboratory-based chart: people without diabetes[3]



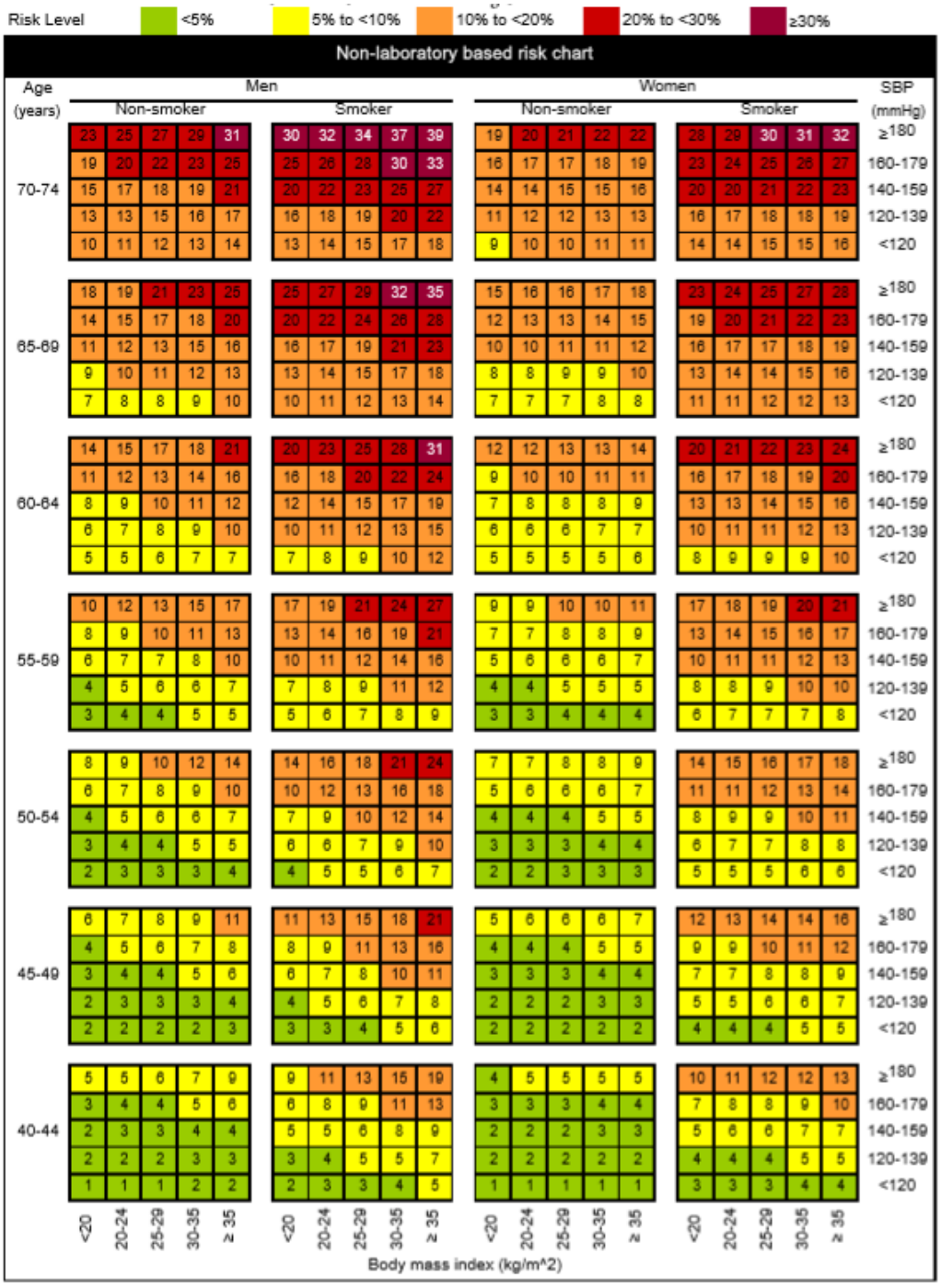
[3] World Health Organization (2019). WHO updates Cardiovascular Risk Charts. Retrieved from World Health Organization: https://www.who.int/news-room/detail/02-09-2019-who-updates-cardiovascular-risk-charts

B) Laboratory-based chart: people with diabetes[4]



[4] World Health Organization (2019). WHO updates Cardiovascular Risk Charts. Retrieved from World Health Organization: https://www.who.int/news-room/detail/02-09-2019-who-updates-cardiovascular-risk-charts

C) Non-laboratory-based chart[5]



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2. Comprehensive Clinical Assessment for CV Risk

Clinical assessment should be conducted with the aims to:

1. search for all CV risk factors and clinical conditions that may in uence prognosis and treatment.
2. determine the presence of target organ damage (heart, kidneys, and retina)
3. identify those at high risk and in need of urgent intervention.
4. identify those who need special investigations or referral (e.g. those with secondary hypertension)

Clinical History	Full Physical Examination
● current symptoms of coronary heart disease, heart failure, cerebrovascular disease, peripheral vascular disease, diabetes, and renal disease ● information on the use of drugs known to raise blood pressure (oral contraceptives, nonsteroidal anti-in ammator drugs, cocaine, amfetamine, erythropoietin, cyclosporins and steroids) ● family history of high blood pressure, diabetes, dyslipidaemia, coronary heart disease, stroke, and renal disease ● personal history of coronary heart disease, heart failure, cerebrovascular disease, peripheral vascular disease, diabetes, gout, bronchospasm, sexual dysfunction, and renal disease ● symptoms suggestive of secondary hypertension, i.e. hypertension caused by an underlying condition. ● information on behaviour, including tobacco use, physical activity and dietary intake of fat, salt, and alcohol. ● personal, psychosocial, occupational, and environmental factors that could in uence the course and outcome of long-term care	● careful measurement of blood pressure ● measurement of height and weight, and calculation of body mass index (BMI) ● measurement of waist and hip circumference for calculation of waist–hip ratio ● examination of the cardiovascular system, particularly for heart size, evidence of heart failure, evidence of disease in the carotid, renal and peripheral arteries, and physical signs suggestive of coarctation of the aorta, particularly in young people with hypertension ● examination for features of secondary hypertension ● examination of the lungs for congestion ● examination of the abdomen for bruits, enlarged kidneys and other masses. ● examination of the optic fundi and of the central and peripheral nervous system for evidence of cerebrovascular disease and complications of diabetes

(39)

APPENDIX 4: Summary Full Medical Profile - Major Depression

Clinical Interview

At least five of the following symptoms should be present during the same – two-week period.

- Depressed mood, as indicated by either subjective report e.g., appears tearful (irritable mood in children and adolescents).
- Markedly diminished interest or pleasure in all, or almost all, activities.
- Significant weight loss or gain
- Insomnia or increased need for sleep
- Observable psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional)
- Diminished ability to think or concentrate, or indecisiveness.
- Recurrent thoughts of death, recurrent suicidal ideation, plans of suicide.

Take a detailed history: history of previous episodes of major depression, family history, history of drug use, current medication, and previous response to antidepressants. Ask about vegetative symptoms (sleep, appetite, libido). Always evaluate suicidal risk.

Conduct physical examination.	**Do mental status examination.**

Laboratory investigations: There is no lab investigation that is diagnostic of Major Depression. Do complete blood count (CBC), Renal Function Test, HIV and Thyroid Function Tests and consider basic drug screen (cocaine, heroin, marijuana alcohol) or any other test as indicated based on the physical examination and history.

Associated features: Look for associated features such as tearfulness, anxiety symptoms, somatic symptoms e.g. headaches, abdominal pain, lower back pain, etc.

The disorder may result in impairment in functioning e.g. sexual problems, interpersonal problems etc.
Consider differential diagnosis. 1. Other psychiatric disorders e.g. adjustment disorder with depressed mood and schizoaffective disorder. 2. Substance induced depression e.g. alcohol induced depression. 3. Medication induced depression - may be caused by oral contraceptives, corticosteroids, levodopa, opiates indomethacin benzodiazepines, cimetidine, propranolol, anticholinesterases. 4. Depression due to a medical condition e.g. hypothyroidism, cancer of the head of the pancreas, left anterior stroke, Parkinson's disease, and tuberculosis. 5. Normal bereavement may present with symptoms of major depression. This last for less than six months.
This is a fairly common problem in the adolescent and tends to resemble the adult presentation, but much less so in the pre-adolescent. Depressed adolescents are at risk for a variety of problems later in life including poor social relationships and suicide. In general, behavioural, and disrupted attachment symptoms are more common at the younger ages while cognitive and emotional problems are more common at older ages.

Source: Protocol for management of common mental disorders 2013

APPENDIX 5: 6-Item Kutcher Adolescent Depression Scale: KADS-6

NAME:_____ **DATE:**_____

OVER THE LAST WEEK, HOW HAVE YOU BEEN "ON AVERAGE" OR "USUALLY" REGARDING THE FOLLOWING:

1. **Low mood, sadness, feeling blah or down, depressed, just can't be bothered.**

□	□	□	□
a) Hardly Ever	b) Much of the time	c) Most of the time	d) All of the time

2. **Feelings of worthlessness, hopelessness, letting people down, not being a good person.**

□	□	□	□
a) Hardly Ever	b) Much of the time	c) Most of the time	d) All of the time

3. **Feeling tired, feeling fatigued, low in energy, hard to get motivated, have to push to get things done, want to rest or lie down a lot.**

□	□	□	□
a) Hardly Ever	b) Much of the time	c) Most of the time	d) All of the time

4. **Feeling that life is not very much fun, not feeling good when usually would feel good, not getting as much pleasure from fun things as usual.**

□	□	□	□
a) Hardly Ever	b) Much of the time	c) Most of the time	d) All of the time

5. Feeling worried, nervous, panicky, tense, keyed up, anxious.

□	□	□	□
a) Hardly Ever	b) Much of the time	c) Most of the time	d) All of the time

6. Thoughts, plans or actions about suicide or self-harm.

□	□	□	□
a) Hardly Ever	b) Much of the time	c) Most of the time	d) All of the time

TOTAL SCORE: _____

6 - item KADS scoring:

In every item, score:

- Hardly Ever = 0
- Much of the time = 1
- Most of the time = 2
- All of the time = 3

then add all 6 item scores to form a single Total Score.

Interpretation of total scores:

Total scores **at or above 6**	Suggest 'possible depression' (and a need for more thorough assessment)
Total scores **below 6**	Indicate 'probably not depressed'.

APPENDIX 6: Patient Health Questionnaire 9-Items (PHQ-9)

Name: **Date:**

Over the last *2 weeks*, how often have you been bothered by any of the following problems?

Questions	*Not at all*	*Several days*	*More than half the days*	*Nearly every day*
● Little interest or pleasure in doing things	0	1	2	3
● Feel down, depressed, or hopeless	0	1	2	3
● Trouble falling or staying asleep, or sleeping too much	0	1	2	3
● Feeling tired or having little energy	0	1	2	3
● Poor appetite or overeating	0	1	2	3
● Feeling bad about yourself, or that you are a failure or have let yourself or your family down	0	1	2	3
● Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
● Moving or speaking so slowly that others could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
● Thoughts that you would be better off dead, or of hurting yourself.	0	1	2	3

TOTAL SCORE = _____ + _____ + _____

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

- Patients may complete questionnaires at baseline and at regular intervals (e.g., every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
- Add up score by column. For every: Several days = 1 More than half the days = 2 Nearly every day = 3
- Add together column scores to get a TOTAL score.
- Refer to the accompanying **PHQ-9 Scoring Box** to interpret the TOTAL score.
- Results may be included in patient files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

Scoring: add up all checked boxes on PHQ-9

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

Interpretation of Total Score

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
0-27	Severe depression