Geriatric Modules with Learning Objectives in the Comprehensive Geriatric Program

Basic Concepts Module 1: The Impact of Aging

After successful completion of this learning module, pharmacists will be better able to:

- Discuss medication- and health-related challenges faced by seniors and provide practical solutions for overcoming barriers to optimal healthcare
- Compare and contrast care-related issues for seniors living in the community and those living in long-term care facilities
- Explain the importance of caregiver involvement in senior care and describe ways in which this can be implemented
- Use expertise in geriatrics to fill gaps in healthcare that exist as a result of a lack of specialized healthcare practitioners
- Discuss the limitations of clinical practice guidelines for frail older patients
- Describe how pharmacists can support seniors and their families through the end-of-life transition

Basic Concepts Module 2: Effect of Physiologic Changes on Medication Therapy

Upon completion of this module, pharmacists will be better able to:

- Describe how changes in parameters such as blood flow and motility that occur with age affect absorption of certain medications, and the clinical implications of this effect
- Discuss the physiologic changes associated with aging that impact the distribution of certain medications in the body, related clinical implications, and how pharmacists can proactively prevent associated drug-related problems
- Outline the specific physiologic changes that occur with aging that affect medication metabolism, how this affects therapy, and how pharmacists can ensure safety with these changes in mind
- Describe renal changes that impact on medication elimination, their specific effects, the implications of these changes, and related interventions that pharmacists can make to optimize therapy
• List other types of physiologic changes that typically occur with aging and how they affect medication therapy

Basic Concepts Module 3: Communication Considerations in Geriatric Care

Upon completion of this module, pharmacists will be better able to:
• Discuss the barriers to communication with seniors and provide practical strategies for overcoming these barriers
• Review the role of the caregiver for an elderly patient and how healthcare providers can help to ease the burden that is commonly experienced by community-based caregivers
• Outline the importance of follow-up with the patient and/or the caregiver to ensure the success of the care plan
• Describe methods of follow-up and ways to promote a productive dialogue
• Discuss how pharmacists can ensure ongoing communication and collaboration with other healthcare providers to enhance the care of seniors

Basic Concepts Module 4: General Principles of Geriatric Disease Management I

Upon completion of this module, pharmacists will be better able to:
• Describe examples of how diseases can present atypically in older patients and the impact this can have on the care of these patients
• Discuss the concept of geriatric syndromes and the importance of identifying these symptoms in seniors
• Introduce five common geriatric syndromes: cognitive impairment, urinary incontinence, falls, sleep problems, and nutritional issues and discuss their manifestation, management, and how they impact the complexity of the care needs of older patients

Basic Concepts Module 5: General Principles of Geriatric Disease Management II

Upon completion of this module, pharmacists will be better able to:
• Discuss the unique elements of a geriatric assessment and the pharmacist’s role in geriatric assessment and care
• Describe assessment tools that can be used to evaluate functioning, pain, depression, and cognitive impairment and discuss how pharmacists can incorporate these tools into practice
Basic Concepts Module 6: General Principles of Geriatric Disease Management III

Upon completion of this module, pharmacists will be better able to:

- Describe the components of a pharmaceutical care plan, including the determination of outcomes, the therapeutic plan, and follow-up
- Discuss how goals and outcomes of therapy need to be individualized and appropriate for the older patient
- Outline the clinical decision-making process for evaluating therapeutic alternatives
- Describe strategies for teaching older patients and caregivers about the care plan and their respective roles
- Outline the importance of outcome monitoring and how this can be achieved by pharmacists
- Discuss how to communicate a pharmaceutical care plan through documentation

Basic Concepts Module 7: Identifying and Managing Medication-Related Problems

Upon completion of this module, pharmacists will be better able to:

- Describe the most common types of drug-related problems experienced by seniors and how pharmacists can help to prevent and/or resolve them, specifically:
  - Discuss how overuse of medications can create poor outcomes in older patients
  - Describe why medication underuse can affect outcomes in older patients
  - Review the importance of avoiding misuse of medications in this population and what this means
  - Review the most common adverse drug events that occur in seniors and how they can be managed
  - List some common types of drug interactions that occur in older patients and how they can be managed
  - Discuss common reasons for non-adherence to medication therapies in older patients and some suggested ways to improve adherence
Basic Concepts Module 8: Optimizing Medication Therapy in Older Patients

Upon completion of this module, pharmacists will be better able to:

- Proactively approach a medication review with an older patient to identify potential drug-related problems
- Describe the types of medications that are considered potentially inappropriate for older patients according to the Beers criteria
- Recognize when medications are not appropriate for a senior based on concomitant medications and disease states according to the Beers criteria
- List medications that should be used with caution in older patients and explain the reason for this according to the Beers criteria
- Discuss principles of prescribing for seniors and how to collaborate with physicians on medication therapy management (e.g., new therapies, recommendations to change therapy).
Nutrition Module 1: Fluid and Electrolyte Disorders in the Geriatric Population

After successful completion of this education module, pharmacists will be better able to:

- Discuss the general pathophysiology of dehydration, as well as the signs and symptoms and the management of dehydration in the geriatric population
- Review the homeostasis mechanisms of sodium, potassium, calcium, and phosphorus
- Describe the symptoms associated with imbalance of sodium, potassium, calcium, and phosphorus
- Review general management strategies for morbidities associated with imbalance of sodium, potassium, calcium, and phosphorus

Nutrition Module 2: Nutrition Issues in the Geriatric Population

After successful completion of this education module, pharmacists will be better able to:

- Define malnutrition and its association with the three primary causes of unintentional (involuntary) weight loss in the geriatric population
- Characterize the nature and impact of drug-nutrient interaction on nutrition status in older adults
- Review the various means of enteral feeding and the indications, benefits, and drawbacks of each
- Recommend a specific enteral feeding formula type according to needs of the older patient
- Discuss principles associated with the delivery of medications via enteral feeding tubes

Psych Module 1: Psychiatric Disorders in the Geriatric Population - Anxiety Disorders in the Geriatric Population

After successful completion of this education module, pharmacists will be better able to:

- Describe the most common types of anxiety and related disorders experienced by older people, including phobias, generalized anxiety disorder and social anxiety disorder, and briefly discuss less common types, including obsessive compulsive disorder, panic disorder and post-traumatic stress disorder
- Describe the pathophysiology and risk factors for anxiety and related disorders in older people
- Discuss the clinical presentation of anxiety and related disorders and the challenges with diagnosis
- Review pharmacologic and non-pharmacologic approaches to treatment of anxiety and related disorders in older people

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• Review the monitoring and follow-up plan for older patients with anxiety and related disorders

**Psych Module 2: Psychiatric Disorders in the Geriatric Population - Behavioural and Psychological Symptoms of Dementia**

After successful completion of this education module, pharmacists will be better able to:

• Describe the types of behavioural disturbances that occur with dementia
• Discuss ways to approach behavioural disturbances to address causes and triggers
• Determine when medications should be used to manage behavioural disturbances and specific agents that can be considered
• Review the monitoring and follow-up plan for patients with behavioural disturbances

**Psych Module 3: Psychiatric Disorders in the Geriatric Population - Depression and Other Mood Disorders in Older Adults**

After successful completion of this education module, pharmacists will be better able to:

• Discuss the prevalence of depression, its risk factors and how it can be identified in older people
• Review the challenges with diagnosis and the implications of not managing depression in older people
• Review the non-pharmacologic approaches to management of depression in older people
• Outline drug therapies for depression and special considerations for older patients
• Review the monitoring and follow-up plan for older patients with depression

**Psych Module 4: Psychiatric Disorders in the Geriatric Population - Schizophrenia and Other Psychotic Disorders in Older Adults**

After successful completion of this education module, pharmacists will be better able to:

• Describe the characteristics of primary and secondary psychotic disorders—including schizophrenia—and their prevalence in older people
• Describe the differences between early, late and very late onset schizophrenia
• Review the risk factors for psychoses in older people
• Review the pharmacologic treatment options for psychoses in older people
• Discuss the non-pharmacologic management of psychoses in older people
• Review the monitoring parameters and follow-up plan for older patients with psychoses
Psych Module 5: Psychiatric Disorders in the Geriatric Population - Sleep Disturbances in Older People

After successful completion of this education module, pharmacists will be better able to:

- Describe the types, etiology and prevalence of sleep disturbances that occur in older people
- Discuss the potential complications of sleep problems in older people
- Discuss the non-pharmacologic management strategies for sleep disturbances in older patients
- Outline when medication use is appropriate and review the safe use of medications to manage sleep disturbances
- Review the monitoring parameters and follow-up plan for older patients with sleep disturbances

Psych Module 6: Psychiatric Disorders in the Geriatric Population - Substance Abuse in Older People

After successful completion of this education module, pharmacists will be better able to:

- Discuss the prevalence of substance abuse, the types of substances abused in older people, and the risk factors of substance abuse
- Discuss the identification of, and screening for, substance abuse in older adults
- Review the management approaches to supporting older patients with substance abuse issues
- Discuss the role of the pharmacist in the context of the interdisciplinary team in preventing, identifying and managing substance abuse in older patients
Oncology Module 1: Oncology - Breast and Prostate Cancer

After successful completion of this education module, pharmacists will be better able to:

- Describe the general pathophysiology of cancer as well as pathophysiology that is specific to breast cancer and prostate cancer
- Review the implications of breast cancer in older individuals and of prostate cancer (which is normally a disease of older men)
- Educate patients about their particular stage of disease and implications for treatment
- Discuss treatment principles of breast cancer and prostate cancer

Oncology Module 2: Oncology - Leukemias and Skin Cancers

After successful completion of this education module, pharmacists will be better able to:

- Describe the etiologies, demographics and major types of leukemia
- Discuss the symptoms and distinguishing features of leukemias in older individuals
- Review treatment strategies for each of the major types of leukemia
- Summarize the features of non-melanoma skin cancers and malignant melanoma
- Review treatment strategies for non-melanoma skin cancers and malignant melanoma

Dermatology Module 1: Dermatologic Disorders Dermatologic Conditions in Older Patients, Part I

Upon successful completion of this module, the pharmacist will be able to:

- Discuss the etiology, presentation and management of the following skin conditions in older patients:
  - xerosis
  - dermatitis
  - pruritus
- Outline the medications that are associated with drug-induced skin disorders
- Describe the types of reactions that can occur and how they present
- Discuss the management strategy for patients who experience drug-induced skin disorders
Dermatology Module 2: Dermatologic Disorders Dermatologic Conditions in Older Patients, Part II

Upon successful completion of this module, the pharmacist will be able to:

- Discuss the etiology, presentation and management of fungal infections of the skin in older patients
- Describe the causes and presentation of pressure ulcers in older patients
- Review the risk factors for pressure ulcers in older patients and strategies for prevention
- Discuss the management of pressure ulcers in older patients, including routine care and treatment of complications

Module 1: Infectious Diseases - Introduction, Nosocomial Infection and Drug Resistance

After successful completion of this education module, pharmacists will be better able to:

- Identify infection in older patients
- Select and dose antibiotic agents for older patients who present with infection
- Describe the risk factors for nosocomial infection in the older patient
- Prevent and treat common nosocomial infections including CDAD, catheter-related UTI, SSI, and HAP
- Describe strategies to manage MRSA infection
- Participate in antimicrobial stewardship to reduce drug resistance

Module 2: Infectious Diseases - Immunization, Influenza and Community-acquired Pneumonia

After successful completion of this education module, pharmacists will be better able to:

- Describe the role and importance of immunization in the elderly population
- Discuss the current National Advisory Committee on Immunization (NACI) recommendations for adult immunization related to influenza, pneumococcal, tetanus, and herpes zoster
- Explain the rationale for, and importance of, annual immunization for influenza
- Differentiate influenza from the common cold
- Recommend treatment for influenza and prevention
- Recommend treatment for community-acquired pneumonia
Module 3: Infectious Diseases - Bone and Joint Infections

After successful completion of this education module, pharmacists will be better able to:

- Describe the common bacteria responsible for osteomyelitis, septic arthritis, and prosthetic joint infections
- Assess clinical features to identify osteomyelitis, septic arthritis, and prosthetic joint infections
- Develop a treatment plan for treating osteomyelitis, septic arthritis, and prosthetic joint infections
- Identify patients in whom chronic suppressive therapy might be used for bone and joint infections

Module 4: Infectious Diseases - Skin and Soft Tissue and Ophthalmic Infections

After successful completion of this education module, pharmacists will be better able to:

- Describe the pathophysiology of herpes zoster infection including important clinical sequelae
- Recommend treatment for herpes zoster infection and postherpetic neuralgia
- Implement prevention strategies for patients at risk for pressure ulcers
- Treat skin and soft tissue infections such as pressure ulcers, cellulitis, erysipelas, and diabetic foot infections
- Provide care to patients with symptoms consistent with conjunctivitis

Module 5: Infectious Diseases - Gastrointestinal and Genitourinary Infections

After successful completion of this education module, pharmacists will be better able to:

- Describe the approach to assessment and treatment of asymptomatic bacteriuria
- Identify symptoms associated with uncomplicated UTI
- Recommend treatment for patients experiencing an uncomplicated UTI
- Describe the pathophysiology of diverticulitis
- Recommend care for prevention and treatment of diverticulitis
- Identify and treat thrush
Module 6: Infectious Diseases - HIV/AIDS and Tuberculosis

After successful completion of this education module, pharmacists will be better able to:

- Identify older patients at risk for tuberculosis
- Discuss the importance of considering tuberculosis in older patients who have signs and symptoms of disease
- Recommend and monitor treatment of tuberculosis in an older patient
- Describe the pathophysiology of HIV infection
- Monitor older patients being treated for HIV infection
- Describe common opportunistic infections seen in HIV-infected patients
- Recommend treatment for common opportunistic infections including candidiasis, pneumocystis, Cytomegalovirus disease, and Mycobacterium avium complex

Genitourinary Module 1: Genitourinary/Renal Disorders

After successful completion of this learning module, pharmacists will be able to:

- Describe the pathophysiology of kidney disease in older patients and how renal function is measured
- Differentiate between acute kidney injury and chronic kidney disease with respect to descriptions, potential causes, markers, and complications
- Discuss the staging and screening for chronic kidney disease and describe the difference between diabetic and non-diabetic chronic kidney disease

Genitourinary Module 2: Genitourinary/Renal Disorders

- Discuss the management of both acute kidney injury and chronic kidney disease, including the role of dialysis
- Review principles of medication dosing based on level of renal impairment
- Outline the management of end-stage renal disease in older people
Genitourinary Module 3: Genitourinary/Renal Disorders

After successful completion of this learning module, pharmacists will be able to:
- Describe the pathophysiology, clinical presentation, and diagnosis of benign prostatic hyperplasia (BPH) in older men.
- Discuss the management of BPH, including medication and non-pharmacologic approaches.
- Review the monitoring and follow-up plan for older patients with BPH.

Genitourinary Module 4: Genitourinary/Renal Disorders: Sexual Dysfunction in Older Adults

After successful completion of this education module, pharmacists will be better able to:
- Describe the most common types of sexual problems (and their causes) that occur in both men and women in their later years
- Review the management of sexual dysfunction in older women
- Review the management of sexual dysfunction in older men, with a focus on erectile dysfunction
- Discuss the monitoring parameters and follow-up plan for older patients with sexual dysfunction

Genitourinary Module 5: Genitourinary/Renal Disorders Urinary Problems in Older Adults

After successful completion of this learning module, pharmacists will be better able to:
- Describe the pathophysiology and clinical presentation of the different types of urinary incontinence
- Discuss the causes and management considerations of urinary retention in older patients
- Review the pharmacologic treatment options for urinary incontinence in older patients
- Discuss the non-pharmacologic management of urinary incontinence in older patients
- Review the monitoring parameters and follow-up plan for older patients with urinary incontinence and urinary retention
Hematology Module 1: Hematology Basics and Overview of Anemia

After successful completion of this module, pharmacists will be better able to:

- Discuss the basic principles of hematopoiesis
- Assess the results of the various laboratory tests associated with analysis of red blood cells
- Review the causes of various types of anemia and associated laboratory test results
- Discuss general symptoms of anemia
- Review the features of unexplained anemia in the elderly and anemia of chronic disease

Hematology Module 2: The Anemias

After successful completion of this module, pharmacists will be better able to:

- Identify laboratory test results that would suggest the type of anemia a person may be afflicted with (e.g., iron deficiency, vitamin B12 deficiency, folic acid deficiency)
- Discuss the causes and symptoms of iron deficiency anemia and how it is distinguished from anemia of chronic disease through laboratory testing
- Recommend management strategies for correcting iron deficiency anemia
- Review the causes and symptoms of macrocytic anemias (vitamin B12 and/or folic acid deficiency) and strategies for management
- Discuss the causes of anemias resulting from impaired hemoglobin production and strategies for managing sideroblastic anemia
- Review the causes and symptoms of hemolytic anemia and management strategies

Hematology Module 3: Arterial Thromboembolic Disorders: Acute Coronary Syndrome and Stroke

After successful completion of this module, pharmacists will be better able to:

- Describe acute coronary syndrome, ischemic stroke, and associated pathophysiology
- Discuss risk factors and symptoms of acute coronary syndrome and ischemic stroke
- Review assessment of acute coronary syndrome and ischemic stroke
- Discuss management of acute coronary syndrome issues and ischemic stroke
- Describe the etiology, symptoms and signs, and management of peripheral arterial disease
Hematology Module 4: Disorders of Clotting Function That Cause Bleeding

After successful completion of this module, pharmacists will be better able to:

- Review the mechanisms of blood clotting and symptoms of abnormal blood clotting
- Recommend laboratory tests used to diagnose the cause of abnormal blood clotting
- Identify drugs that have the potential to cause drug-induced thrombocytopenia
- Recommend a treatment approach for correction of bleeding secondary to warfarin use
- Discuss causes, symptoms, and treatment of circumstances associated with abnormal blood clotting such as von Willebrand disease, hemophilia, vitamin K deficiency, disseminated intravascular coagulation, and immune thrombocytopenia

Hematology Module 5: Venous Thromboembolism and Treatment Options

After successful completion of this module, pharmacists will be better able to:

- Discuss the causes of venous thromboembolism (VTE)
- Identify risk factors and symptoms of VTE
- Recommend assessment strategies for VTE
- Recommend treatment and prevention strategies for VTE
- Recommend treatment strategies for heparin-induced thrombocytopenia

Endocrine/Exocrine Module 1: Endocrine/Exocrine Disorders in the Older Patient: Characterizing Type 2 Diabetes in the Older Patient

Upon successful completion of this module, pharmacists will be able to:

- Discuss the pathogenesis and pathophysiology associated with type 2 diabetes, especially as they relate to older individuals
- Review factors which increase the risk of type 2 diabetes
- Review the role of monitoring in the management of type 2 diabetes
- Discuss the role of nutrition therapy in the management of type 2 diabetes
- Discuss the role of physical activity in the management of type 2 diabetes
Endocrine/Exocrine Module 2: Endocrine/Exocrine Disorders in the Older Patient: Pharmacological Treatment of Type 2 Diabetes

After successful completion of this module, pharmacists will be better able to:

- Describe the major principles of antihyperglycemic therapy in the treatment of type 2 diabetes
- Review safety concerns associated with hypoglycemia in older individuals
- Discuss the benefits and risks of the currently available antihyperglycemic agents
- Individualize treatment in older patients with type 2 diabetes based on suitability of various treatment regimens to circumstances of patient

Endocrine/Exocrine Module 3: Endocrine/Exocrine Disorders in the Older Patient: Adrenal Disorders

After successful completion of this module, pharmacists will be better able to:

- Describe the physiological mechanisms at play in the hypothalamic pituitary axis that control the secretion of cortisol
- Discuss the causes, symptoms and management of Cushing syndrome
- Review etiologies of adrenal insufficiency and management strategies
- Discuss causes, symptoms and management of hyperaldosteronism
- Describe the pathophysiology and symptoms of a pheochromocytoma

Endocrine/Exocrine Module 4: Endocrine/Exocrine Disorders in the Older Patient: Thyroid Disorders

After successful completion of this education module, pharmacists will be better able to:

- Describe the physiological mechanisms that control the secretion and activity of thyroid hormones
- Discuss the causes and symptoms of hypothyroidism and hyperthyroidism
- Review activities that lead to the diagnosis of hypothyroidism and hyperthyroidism
- Discuss and implement strategies for management of hypothyroidism and hyperthyroidism
- Review unique aspects of thyroid disorders in older patients.
Endocrine/Exocrine Module 5: Endocrine/Exocrine Disorders in the Older Patient: Menopause - Focus on HRT

After successful completion of this education module, pharmacists will be better able to:
- Describe the physiological mechanisms that promote the changes associated with menopause
- Review the causes and symptoms of urogenital aging and management strategies
- Discuss vasomotor symptoms and management strategies
- Facilitate individualized assessment of the benefits and risks of HT use

Endocrine/Exocrine Module 6: Endocrine/Exocrine Disorders in the Older Patient: Paget's Disease

After successful completion of this education module, pharmacists will be better able to:
- Review the epidemiology associated with Paget's disease
- Describe the physiological mechanisms that promote the changes associated with Paget's disease
- Discuss the symptoms of Paget's disease
- Recommend strategies for the treatment of Paget's disease

Endocrine/Exocrine Module 7: Endocrine/Exocrine Disorders in the Older Patient: Syndrome of Inappropriate Antidiuretic Hormone (SIADH)

After successful completion of this education module, pharmacists will be better able to:
- Describe the pathogenesis and etiology of SIADH, including drug-related causes
- Review criteria for diagnosis of SIADH
- Discuss the clinical consequences of SIADH
- Review individualized treatment options for a patient with SIADH
Cardiovascular Disease Module 1- General Considerations in Cardiovascular Health/Disease in Older Patients

Upon successful completion of this module, pharmacists will be able to:

- Describe how physiological changes with aging affect cardiovascular health
- Outline the incidence and prevalence of cardiac arrhythmias, coronary artery disease, heart failure, hypertension, myocardial infarction, and peripheral vascular disease in older adults
- Discuss overall risk reduction strategies for cardiovascular disease in older patients
- Review common adverse effects of cardiovascular medications and management approaches
- Outline the role of natural health products and supplements for cardiovascular health in older patients
- Review adherence approaches for older patients who are taking medications for cardiovascular conditions

Cardiovascular Disease Module 2: Cardiac Arrhythmias

Upon successful completion of this module, pharmacists will be able to:

- Describe the pathophysiology and clinical presentation of the types of cardiac arrhythmias that are more common in older patients
- Review the medication and non-pharmacological therapies for the treatment of arrhythmias in older patients
- Outline medication therapies that may be considered inappropriate in older patients with arrhythmias
- Discuss the role of anticoagulants/antiplatelet drugs in the prevention of stroke in patients with atrial fibrillation
- Review the monitoring and follow-up plan for older patients with arrhythmias
Cardiovascular Disease Module 3: Coronary Artery Disease

Upon completion of this module, pharmacists will be able to:

- Describe the pathophysiology and clinical presentation of coronary artery disease in older patients
- Review the treatment of coronary artery disease with specific considerations for older patients
- List medication therapies that may be considered inappropriate for older patients with coronary artery disease
- Review the monitoring and follow-up plan for older patients with coronary artery disease

Cardiovascular Disease Module 4: Heart Failure

Upon completion of this module, pharmacists will be able to:

- Define heart failure as a syndrome, explain why it occurs, and discuss the clinical presentation of heart failure in older patients
- Review the treatment of heart failure with specific considerations for older patients
- List medication therapies that may be considered inappropriate for older patients with heart failure
- Review the monitoring parameters and follow-up plan for older patients with heart failure

Cardiovascular Disease Module 5: Dyslipidemia

Upon successful completion of this module, pharmacists will be able to:

- Describe the pathophysiology and clinical presentation of dyslipidemia in older patients
- Discuss screening for cardiovascular risk as it applies to seniors and the need for individualization of therapeutic recommendations
- Review the treatment of dyslipidemia according to the 2016 Canadian Cardiovascular Society guidelines, with specific considerations for older patients
- Discuss non-pharmacological approaches to the management of dyslipidemia
- Review the monitoring parameters, treatment targets, and follow-up plan for older patients with dyslipidemia
Cardiovascular Disease Module 6: Hypertension and Hypotension

Upon successful completion of this module, pharmacists will be able to:

- Describe the risk factors and potential secondary causes of hypertension in older patients
- Discuss the potential causes of hypotension and associated risks in older patients
- Discuss hypertension management, both medication and non-pharmacologic in accordance with the most recent Canadian Hypertension Education Program (CHEP) recommendations
- Review management strategies for hypotension
- Review monitoring parameters, treatment targets, and the follow-up plan for older patients with hypertension

Cardiovascular Disease Module 7: Myocardial Infarction and Unstable Angina

Upon completion of this module, pharmacists will be better able to:

- Describe the pathophysiology and clinical presentation of ACS (myocardial infarction and unstable angina) in older patients
- Discuss acute treatment and secondary prevention of myocardial infarction and unstable angina in seniors
- Discuss senior-specific considerations for treatment and prevention of ACS
- Review monitoring parameters, treatment targets, and the follow-up plan for older patients with myocardial infarction and unstable angina

Cardiovascular Disease Module 8: Peripheral Arterial Disease

Upon completion of this module, pharmacists will be able to:

- Describe the pathophysiology and clinical presentation of peripheral arterial disease
- Discuss treatment of peripheral arterial disease, including specific considerations for this population
- Discuss non-pharmacological approaches to management of peripheral arterial disease
- Review monitoring parameters and the follow-up plan for older patients with peripheral arterial disease
Respiratory Disorders in Older Individuals Module 1: Respiratory Disorders Background: Allergic Rhinitis

After successful completion of this module, pharmacists will be better able to:

- Discuss the symptoms of seasonal and perennial allergic rhinitis
- Distinguish allergic rhinitis from other forms of rhinitis in the senior population
- Recommend management of allergic rhinitis according to persistence and severity of symptoms
- Consider specific issues associated with treatment options in seniors

Respiratory Disorders in Older Individuals Module 2: Asthma Background

After successful completion of this module, pharmacists will be better able to:

- Define asthma and its pathophysiology
- Assess the signs and symptoms of asthma and asthma control
- Discuss distinguishing features of asthma and COPD
- Recommend treatment of asthma according to the asthma management continuum

Respiratory Disorders in Older Individuals Module 3: Asthma Medications

After successful completion of this module, pharmacists will be better able to:

- Recommend treatment of asthma according to the asthma management continuum
- Distinguish between the various classes of medications used to treat asthma
- Discuss the indications, adverse effects, and place in therapy of medications used to treat asthma
- Discuss the role of omalizumab in the management of asthma
Respiratory Disorders in Older Individuals Module 4: COPD Background

After successful completion of this module, pharmacists will be better able to:

- Define COPD and its pathophysiology
- Assess the signs and symptoms of COPD
- Discuss the potential comorbidities of COPD
- Identify COPD issues that are more prevalent in older individuals

Respiratory Disorders in Older Individuals Module 5: Management of COPD

After successful completion of this module, pharmacists will be better able to:

- Discuss the management goals of COPD
- Recommend non-pharmacotherapeutic approaches to COPD management
- Recommend guideline-based pharmacotherapy strategies
- Discuss the mechanism of action, dosing, and onset of effect of the classes of medications used to treat COPD
- Identify COPD medication issues that are more prevalent in older individuals

Musculoskeletal Module 1: Musculoskeletal Disorders: Pain Management

Upon successful completion of this module, pharmacists will be able to:

- Describe the types and common causes of pain that affect older people
- Discuss the presentation of pain in older patients
- Describe methods of pain assessment that can be used with older patients
- Review the pharmacotherapeutic approaches to pain management for older patients
- Outline the role of non-drug therapies for pain in older people
- Discuss special considerations for pain management in older patients, including potentially inappropriate medications
Musculoskeletal Module 2: Musculoskeletal Disorders: Gout

Upon successful completion of this module, pharmacists will be able to:
- Describe the pathophysiology and clinical presentation of gout
- Review the risk factors for gout
- Discuss lifestyle interventions that are recommended for the management of gout
- Outline the role of pharmacologic therapy for gout, including special considerations for older patients
- Review the monitoring and follow-up plan for older patients with gout

Musculoskeletal Module 3: Musculoskeletal Disorders: Osteoarthritis

Upon successful completion of this module, pharmacists will be able to:
- Describe the pathophysiology and clinical presentation of osteoarthritis
- Review the pharmacological treatment of osteoarthritis of the hand, hip and knee including special considerations for older patients
- Discuss non-pharmacological strategies for the management of osteoarthritis in older patients
- Review the monitoring parameters and follow-up plan for older patients with osteoarthritis

Musculoskeletal Module 4: Musculoskeletal Disorders: Osteoporosis

Upon successful completion of this module, pharmacists will be able to:
- Describe the pathophysiology and clinical presentation of osteoporosis in older patients
- Discuss the concept of ten-year fracture risk assessment as a tool to guide the treatment plan
- Review the pharmacological treatment options for osteoporosis in older patients
- Discuss the implications of risk of falls for older patients with osteoporosis and strategies to prevent falls and fractures
- Discuss non-pharmacological approaches to the management of osteoporosis
- Review the monitoring parameters and follow-up plan for older patients with osteoporosis
**Musculoskeletal Module 5: Musculoskeletal Disorders: Rheumatoid Arthritis**

Upon successful completion of this module, pharmacists will be able to:

- Describe the pathophysiology and clinical presentation of rheumatoid arthritis
- Review the extra-articular manifestations of rheumatoid arthritis
- Discuss treatment of rheumatoid arthritis including the use of disease-modifying anti-rheumatic therapies and symptomatic treatments such as NSAIDs
- Review non-pharmacological approaches to the management of rheumatoid arthritis
- Review the monitoring parameters and follow-up plan for older patients with rheumatoid arthritis

**Parkinson’s Disease Module PD1: Pathophysiology, Diagnosis and Epidemiology**

Upon completion of this module, pharmacists will be better able to:

- Discuss the epidemiology of Parkinson’s disease
- Describe the pathophysiology of Parkinson’s disease
- Review other movement disorders that can manifest like Parkinson’s disease
- Discuss how the diagnosis of Parkinson’s disease is made, describing the nature of the major symptoms
- Describe the clinical course of Parkinson’s disease
- Outline the impact of Parkinson’s disease on the patient, family, and caregivers and on the healthcare system

**Parkinson’s Disease Module PD2: Managing Non-Motor Symptoms I**

Upon completion of this module, pharmacists will be better able to:

- Outline the incidence of cognitive impairment and dementia in Parkinson’s disease and how it is characterized
- List medications that can exacerbate cognitive impairment
- Describe how dementia can be managed in patients with Parkinson’s disease
- Outline the incidence of depression in Parkinson’s disease and identify challenges in diagnosis and treatment
- Describe the rationale for the choice of drug therapy for patients with comorbid depression and Parkinson’s disease
- Outline the incidence, causes, and nature of hallucinations that occur in patients with Parkinson’s disease
- Discuss the treatment approach for hallucinations associated with Parkinson’s disease
Parkinson's Disease Module PD3: Managing Non-Motor Symptoms II

Upon completion of this module, pharmacists will be better able to:

- Describe the types of urinary dysfunction that patients with Parkinson’s disease experience and their incidence
- Discuss how to manage urinary dysfunction in patients with Parkinson’s disease
- Outline the incidence and management approaches of constipation in people with Parkinson’s disease
- Discuss the incidence of orthostatic hypotension and special concerns in patients with Parkinson’s disease
- Review the treatment of orthostatic hypotension
- Describe the significance of erectile dysfunction in patients with Parkinson’s disease and treatment considerations
- Review the types of sleep disorders that occur with Parkinson’s disease and their incidence
- Discuss the management approach for sleep disorders

Parkinson's Disease Module PD4: Medication Management in Parkinson’s Disease Patients

Upon completion of this module, pharmacists will be better able to:

- Discuss specific criteria for potentially inappropriate medications (PIMs) that apply to patients with Parkinson’s disease and provide safer alternatives to inappropriate medications when possible
- Describe drug-related problems that are common in patients with Parkinson’s disease, due to the nature of the disease, and typical medication therapies
- Perform medication reviews with patients who have Parkinson’s disease and their caregivers
- Review the ways in which pharmacists can be involved in the care of patients with Parkinson’s disease

Parkinson's Disease Module PD5: Treatment of Parkinson’s Disease Part I

Upon completion of this module, pharmacists will be better able to:

- Discuss initiation of drug therapy in patients with Parkinson’s disease, when it should be started, and how the initial medication is chosen
- Review what is known about neuroprotective therapies for Parkinson’s disease
- Discuss the treatment goals for patients with Parkinson’s disease
- Outline the mechanism of action, role, adverse effects and dosing of levodopa
- Review the mechanism of action, role, and adverse effects of dopamine agonists
- Compare and contrast the dopamine agonists used in Canada
Parkinson's Disease Module PD6: Treatment of Parkinson’s Disease Part II

Upon completion of this module, pharmacists will be better able to:

- Discuss the mechanism of action, role, adverse effects, and dosing of the following medications used for the treatment of Parkinson’s disease:
  - a. monoamine oxidase-B inhibitors
  - b. anticholinergics
  - c. amantadine
  - d. COMT inhibitor, entacapone
- Describe how non-drug therapies are used for the treatment of Parkinson’s disease, including surgery, exercise, occupational therapy, speech-language therapy, and psychological support

Parkinson's Disease Module PD8: Monitoring Patients with Parkinson’s Disease

Upon completion of this module, pharmacists will be better able to:

- Discuss the role of the patient diary and how it can be used to optimize treatment of Parkinson’s disease
- Describe rating scales for motor symptoms of Parkinson’s disease and discuss when and how they are used
- Review rating scales for non-motor symptoms of Parkinson’s disease and discuss when and how they are used
- Outline when and how cognitive status should be assessed for patients with Parkinson’s disease
- Discuss the importance of medication adverse effects monitoring and strategies for ensuring this is done in a timely and effective manner to prevent drug-related problems for patients
Parkinson’s Disease Module PD7: Managing Motor Complications

Upon completion of this module, pharmacists will be better able to:

- Discuss in general the motor complications that occur in Parkinson’s disease with chronic use of levodopa and the theories that explain why this occurs
- Describe how the motor fluctuations, including “wearing off” and “on-off” manifest and the strategies that can be used to improve patient outcomes
- Define and describe dyskinesias and the different types that occur with Parkinson’s disease, as well as how they can be managed
- Describe how freezing affects patients with advanced Parkinson’s disease and how it can be minimized

Dementia Module 1: Dementia and Delirium

Upon completion of this module, pharmacists will be better able to:

- Compare and contrast the features and characteristics of dementia and delirium
- Discuss the features of mild cognitive impairment and “cognitive impairment, not dementia” and how they relate to dementia
- Discuss the risk factors for delirium and how it can be prevented
- Outline how delirium is managed

Dementia Module 2: Defining Dementia and Delirium Part II

Upon completion of this module, pharmacists will be better able to:

- Discuss the diagnosis, features, pathophysiology, and epidemiology of:
  - Alzheimer’s disease
  - Lewy body dementia and Parkinson’s disease dementia
  - Vascular dementia
  - Frontotemporal lobe dementia
Dementia Module 3: Dementia and Delirium

Upon completion of this module, pharmacists will be better able to:
- Discuss screening for dementia and the differential diagnoses
- Describe the tools that are used to assess cognitive function including:
  - Folstein mini-mental status examination
  - Montreal cognitive assessment
  - Clock drawing test
  - Brief cognitive assessment tool
  - General practitioner assessment of cognition
  - Mini-Cog
  - Memory impairment screen
- List the different criteria used to diagnose cognitive impairment and dementia
- Discuss the clinical course of dementia as defined by commonly used staging tools

Dementia Module 4: Prevention of Dementia

Upon completion of this module, pharmacists will be better able to:
- Discuss the risk factors for dementia
- Describe how to reduce risk of dementia, with focus on the following risk factors:
  - Smoking
  - Hypertension
  - Dyslipidemia
  - Diabetes
  - Lifestyle
- Discuss the evidence to support the use of medications and supplements for primary prevention of dementia

Dementia Module 5: Treatment of Cognitive Loss

Upon completion of this module, pharmacists will be better able to:
- Discuss the key elements of patient/family/caregiver education on treatment of dementia
- Discuss the use of cholinesterase inhibitors for dementia, in general, as well as outlining when to start therapy, how to choose an agent or switch agents, monitoring, and when to stop therapy
• Review each of the cholinesterase inhibitors, including donepezil, galantamine, and rivastigmine with respect to the following:
  o Mechanism of action
  o Efficacy
  o Adverse effects
  o Precautions and contraindications
• Describe the role of memantine in the treatment of dementia and discuss the following:
  o Mechanism of action
  o Efficacy
  o Adverse effects
  o Precautions and contraindications
  o Monitoring
• Discuss the role of ginkgo biloba for dementia

Dementia Module 6: Treatment of Behavioural and Psychological Symptoms of Dementia I

Upon completion of this module, pharmacists will be better able to:
• Review the types of behavioural and psychological symptoms (BPSD) that can occur with dementia and discuss which are treatable with medications;
• Discuss the principles of management of BPSD, including when to use pharmacotherapy
• Describe the role of cholinesterase inhibitors and memantine for BPSD
• Discuss depressive symptoms, how they manifest in patients with dementia and management considerations
• Review sleep disturbances, how they manifest in patients with dementia, and how they should be managed
Dementia Module 7: Treatment of Behavioural and Psychological Symptoms of Dementia II

Upon completion of this module, pharmacists will be better able to:

- Discuss the manifestation and triggers for agitation in patients with dementia and when medication therapy is indicated
- Compare the drug therapies used to treat agitation and aggressive behaviour with respect to evidence to support their use, mechanism of action, and adverse effects/precautions
- Review strategies for management of BPSD that are not amenable to drug therapy

Dementia Module 8: Support Strategies for Patients with Dementia and Their Caregivers

Upon completion of this module, pharmacists will be better able to:

- Implement communication approaches for patients with dementia and their caregivers/families
- Discuss the basic concepts of advance care planning and end-of-life care
- Review approaches and topics of education for caregivers of patients with dementia
- Outline safety risks for patients with dementia and how to minimize them

Dementia Module 9: The Pharmacist’s Role in Management of Patients with Dementia and Delirium

Upon completion of this module, pharmacists will be better able to:

- Identify and resolve potential drug-related problems that occur with patients who have cognitive impairment
- Counsel patients and caregivers on medication therapies for the treatment of cognitive impairment and related symptoms
- Screen patients for early signs of dementia
- Discuss his/her role in the context of the interdisciplinary team caring for patients with cognitive impairment
- Provide support to patients and caregivers in the community
Module Gastro1: Gastrointestinal Disorders Older Individuals

After successful completion of this education module, pharmacists will be better able to:

- Identify symptoms of dyspepsia that suggest an older individual may be suffering from GERD or PUD
- Assess the need for referral of a patient to his/her physician for follow-up of GERD or PUD symptoms
- Discuss causative and exacerbating factors related to GERD and PUD, with a focus on older patients
- Recommend non-pharmacological and pharmacological strategies for management of GERD and PUD in older individuals
Module Gastro2: Gastrointestinal Disorders Older Individuals

After successful completion of this education module, pharmacists will be better able to:

- Discuss the most likely causes of diarrhea in older patients and how it can be prevented and managed
- Review the causes of constipation in the older person along with prevention and management approaches
- Outline the potential contributors to nausea and vomiting in older patients as well as strategies for minimizing and managing these symptoms
- Define and describe the symptoms of irritable bowel syndrome and the management approaches in older people

Module Gastro3: Gastrointestinal Disorders Older Individuals

After successful completion of this education module, pharmacists will be better able to:

- Discuss the prevalence of cholelithiasis, pancreatitis, hepatitis, and cirrhosis in older populations
- Review the pathogenesis of cholelithiasis, pancreatitis, hepatitis, and cirrhosis
- Outline symptoms of cholelithiasis, pancreatitis, hepatitis, and cirrhosis
- Discuss management principles of cholelithiasis, pancreatitis, hepatitis, and cirrhosis
Module Gastro4: Gastrointestinal Disorders Older Individuals

After successful completion of this education module, pharmacists will be better able to:

- Discuss the prevalence of IBD in older populations
- Review the pathogenesis of IBD and how CD differs from UC
- Outline symptoms of CD and UC in the general and geriatric populations
- Recommend non-pharmacological and pharmacological strategies for management of CD and UC