

# **Stemming the Tide:**

Health PEI  
Chronic Disease Prevention  
and Management Framework  
2013–2018

**Health PEI**  
One Island Health System

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## Message from the CEO of Health PEI



### Chronic Disease Policy Framework

I am pleased to share with you *Stemming the Tide: Preventing and Managing Chronic Disease in Prince Edward Island*. This document describes an integrated chronic disease prevention and management framework that serves as an overarching approach to guide chronic disease care in Prince Edward Island. *Stemming the Tide* is guided by nine principles that focus on prevention, evidence-based clinical practice guidelines, patient-centered care, integration and coordination, team-based care, partnerships, leveraging technology, evaluation, and sustainability. It will guide Health PEI over the next five years as we work to plan and deliver services for the prevention and management of chronic disease to improve patient outcomes and reduce pressures on the health care system.

Health PEI has made significant investments to primary care services and chronic disease programs throughout the province. These investments have resulted in: 1) improved access to primary care services close to home, 2) services provided by interdisciplinary and collaborative teams, 3) additional training for health care providers to enhance their skills in providing self-management support, 4) enhanced education for patients, and 5) ongoing planning for an electronic medical record. Over the past few years, we have increased focus on a number of chronic diseases including diabetes, chronic obstructive pulmonary disease (COPD), hypertension and stroke due to the burden of these conditions on patients and families, and due to the cost of treating these illnesses. In the coming years we will continue to work collaboratively with our health system and community-based partners to promote health and improve outcomes in these and other chronic diseases.

Sincerely,

A handwritten signature in black ink, appearing to read 'R Wedge', written in a cursive style.

Dr. Richard Wedge  
CEO, Health PEI

# Executive Summary

Prince Edward Island and other jurisdictions across Canada are experiencing a serious and growing burden of chronic disease. The increasing prevalence of people at risk of, or living with chronic disease and multiple co-morbidities are challenging the sustainability of the health care system. Prevention and management of these conditions is essential for improving the underlying health status of the population, reducing financial pressures on the health system and for the benefit of the provincial economy as a whole.

The incidence of chronic disease is due largely to risk factors prevalent in the population (i.e. tobacco use, physical inactivity, unhealthy eating habits, obesity and alcohol abuse) and to an aging population. It is well established that health and the ability to make healthy choices are greatly affected and/or limited by other social and economic determinants of health such as living conditions, education, income, employment and poverty. Addressing the broad determinants and focusing on the physical, social and economic environments to reduce inequalities are crucial to improve the overall health status of Islanders.

Although much has been accomplished over the past several years to prevent and improve the management of chronic disease, continued efforts and strategies are needed to: 1) address the current and growing rates of chronic disease, 2) enhance the quality of chronic disease care, 3) improve patient outcomes, and 4) reduce pressures on health care services.

This document describes an integrated chronic disease prevention and management framework that serves as an overarching approach to chronic disease care in PEI. The Framework was endorsed by the Executive Leadership Team of Health PEI and will guide the organization and delivery of services for the prevention and management of chronic disease. The framework is based on the Expanded Chronic Care Model which is an evidence-based model comprised of several key elements that have been shown to be effective in improving processes of care, clinical outcomes and creating efficiencies in health care utilization. The vision, goals and guiding principles for integrated chronic disease prevention and management in PEI are included as well as current and future priorities for the next five years.

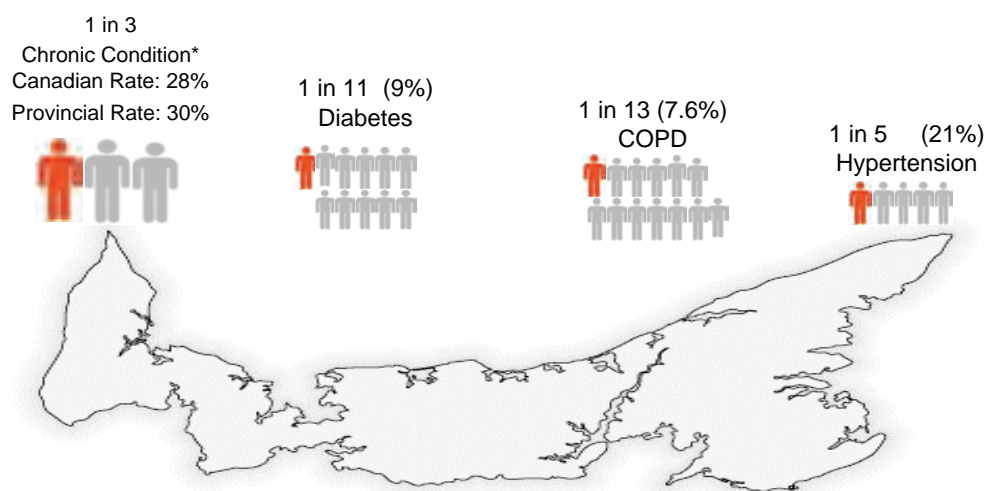
## 1.1 Introduction

Almost one in three Islanders over the age of 12 are living with a chronic disease and many more are at risk of developing one or more of these conditions.<sup>1,4</sup> Chronic diseases tend to progress over time, require ongoing management over a period of years or decades and involve a coordinated response from a range of health care providers.<sup>2</sup> Lifelong education, monitoring, treatment and support are needed to help patients develop the knowledge, skills and confidence they need to successfully manage their condition and avoid serious complications from their illness.<sup>3</sup> Effective strategies are needed to enhance quality of care, improve patient outcomes, and to reduce pressures on the health care system.

## 1.2 Burden of Disease

The Chief Public Health Officer's Report and Health Trends (2012) outlines the worrying trends in prevalence of chronic disease in PEI.<sup>1</sup> About 9% of Islanders (aged 20 and over) have been diagnosed with diabetes and about 1 in 5 (21%) (aged 20 and over) are living with hypertension. The prevalence of these diseases and others, including chronic obstructive pulmonary disease (COPD) as well as new cancer cases has been increasing over time.<sup>1,4,5</sup> The proportion of Islanders diagnosed with COPD (aged 35yrs+) increased by 43% between 2000 and 2008 from 5.3% to 7.6% and research has shown that mortality rates for COPD are likely underestimated.<sup>12</sup>

**Figure 1: Chronic Disease Rates on Prince Edward Island**



Sources: PEI DHW, Chief Public Health Office (2012). Data from the Chronic Disease Surveillance System (CDSS), 2008 and Statistics Canada, Canadian Community Health Survey (2009/10). \*Includes arthritis, asthma, heart disease/stroke, diabetes and/or cancer.

In addition, cancer, heart disease and stroke are the leading causes of death in PEI and Canada.<sup>1</sup> According to a recent Canadian Institute for Health Information (CIHI) report (2012) many of these deaths could potentially be avoided through primary, secondary or tertiary prevention.<sup>6</sup>

## 1.3 Impact on the Health Care System and the Economy

The cost of treating chronic disease is seriously challenging the sustainability of the health care system. Individuals with chronic disease use more health care services including nurses, physicians and specialists than those without these conditions and make more visits to the emergency room.<sup>7,8</sup>

They are also admitted and readmitted to hospital more often each year due to exacerbations and complications from chronic diseases such as COPD, angina, asthma and heart failure.<sup>8,9,10</sup> Compared to Canada, PEI has had consistently higher rates of hospitalizations for ambulatory care sensitive conditions (ACSC's), commonly referred to as avoidable hospitalizations (see Appendix 1). ACSC's are defined as the age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care prevents or reduces the need for hospitalization.<sup>6</sup> Enhancing community-based primary care services can help prevent or delay the onset of health complications, emergency room visits and hospitalizations associated with these conditions, as demonstrated by the recent COPD Pilot Project.<sup>11,12,13</sup>

Chronic diseases impact the provincial economy by negatively affecting wages and earnings, labor supply and productivity, and increasing the probability of unemployment and early retirement.<sup>14,15</sup> PEI and other jurisdictions are anticipating labor force declines over the next two decades and unless the current trends in chronic disease are curbed the labor supply and productivity problem will only be exacerbated.<sup>16,17</sup>

## 2.0 Drivers of the Rising Tide

The incidence of chronic disease is due largely to key risk factors in the population (i.e. tobacco use, physical inactivity, unhealthy eating habits, alcohol abuse, and obesity) and an aging demographic.<sup>1,3,14,15,18,19,20</sup> Islanders are less likely than Canadians to consume the recommended number of fruits and vegetables per day and almost half of the Island population aged 12 and over (48.2%) report being inactive.<sup>1,4</sup> These trends have contributed to an obesity rate in PEI of 21.7% which is significantly higher than the Canadian rate of 18.1%.<sup>1,4</sup> In turn, obesity increases the risk of many co-morbidities such as diabetes, hypertension, cardiovascular disease, stroke and cancer. Although great strides have been made in tobacco reduction, tobacco use increased from 16.2% in 2010 to 19.1% in 2011 (aged 15yrs+).<sup>21</sup>

## 2.1 Determinants of Health, Vulnerable Populations and Inequalities

It is well established that health and the ability to make healthy choices is greatly affected and/or limited by social and economic factors such as living conditions, education, income, employment and poverty, that influence health behaviors, health outcomes and utilization of health care services.<sup>22-30</sup> The association between ill health and socio-economic status (SES) follows a social gradient: the lower the socio economic status, the less likely an individual will engage in health promoting behaviors and the more likely they are to have poor health.<sup>22-30</sup> Canadians with lower income are less likely to be physically active or eat five or more fruits and vegetables per day and more likely to use tobacco, skip meals due to financial concerns and more likely to live with chronic disease.<sup>22,25</sup> Addressing the physical, social and economic environments to reduce inequalities is crucial to improve the overall health status of Islanders.

### Determinants of Health

- Income and social status
- Social support networks
- Education
- Gender
- Employment and working conditions
- Social and physical environments
- Culture
- Personal health practices and coping skills
- Biology and genetic endowment
- Healthy child development
- Health services

### **3.0 Evidenced-Based Frameworks for Addressing Chronic Disease**

Evidence-based models or frameworks have been proposed to provide guidance for health systems to improve the quality of chronic disease care and to create efficiencies for the health care system.<sup>31-36</sup> Integrated, patient-centred models emphasize greater patient responsibility, patient empowerment and the central role that patients have in managing their care. Patients work collaboratively with their health care provider to share decision-making, build knowledge and self-management skills, identify barriers and develop goals and action plans to improve their health. These types of models can improve service quality and are effective at reducing unnecessary hospital visits and admissions.<sup>31-36, 38,39</sup>

One of the most recognized and adopted models for improving chronic disease care is the Chronic Care Model (CCM).<sup>31,33,34</sup> The overarching goal of the CCM is to create productive interactions between informed, activated patients, and prepared pro-active healthcare teams.<sup>31</sup> Productive interactions are characterized by assessment of self-management skills, self-confidence and clinical status; collaborative goal-setting and problem solving resulting in a shared-care action plan; and active sustained follow-up.<sup>40</sup>

The CCM consists of six components including self-management support, delivery system design, decision support, clinical information systems, community resources and policies, and health care organization. Components of the CCM have been implemented around the world and have been successful in improving self-care and clinical outcomes as well as demonstrating more efficient use of health care services.<sup>33,34,36</sup> Health PEI endorsed a modified version of the CCM, called the Expanded Chronic Care Model (ECCM) which places greater emphasis on partnerships and interactions with the community and on population health, health promotion and prevention.<sup>41,42</sup> See Appendix 2 for the ECCM elements.

### **4.0 Overall Vision, Goals and Principles of the PEI CDPM Framework**

#### **Vision**

Healthier people, enhanced chronic disease prevention and management and decreased chronic disease in PEI.

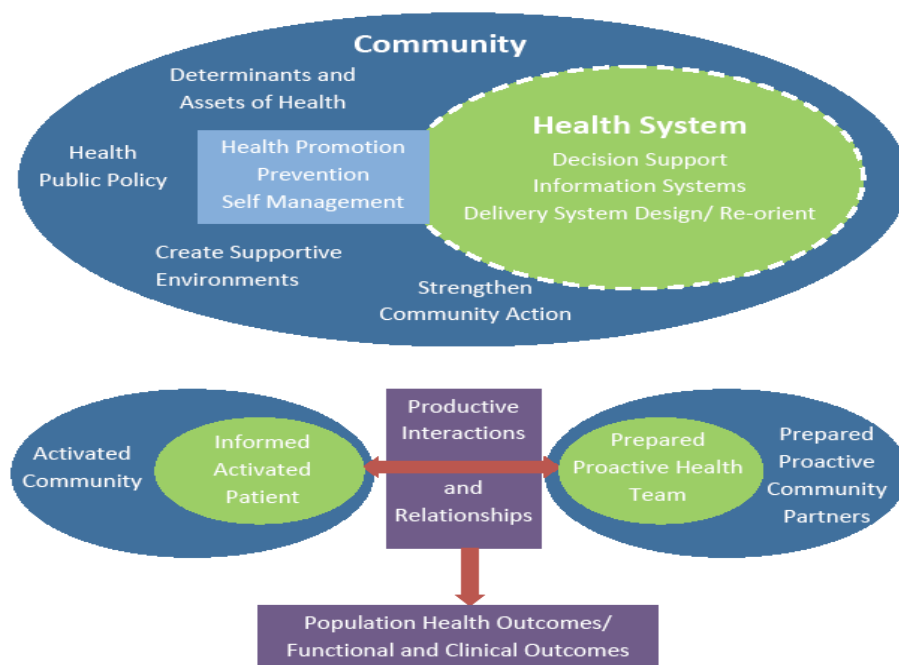
#### **Overarching Goals**

- Develop a patient-centered, integrated and sustainable approach to the prevention and management of chronic disease.
- Create informed, engaged, and activated patients and communities, and prepared, proactive health teams and community partners.
- Reduce disparities to improve chronic disease prevention and management.

## Goals

- Integrate health promotion and illness prevention across the health continuum
- Provide self-management support to empower and activate patients to manage illness
- Incorporate evidence-based and patient-centered practice in chronic disease care
- Identify gaps and facilitate training and education to health providers to enhance their skills in providing self-management support to patients
- Enhance coordination and work towards a seamless flow within and across care settings for patients with chronic disease
- Enhance integration with community-based services

**Figure 2: Expanded Chronic Care Model of Prince Edward Island**



## Guiding Principles

- **Prevention:** Prevention and self-management support is integrated across the continuum of care to prevent and reduce exacerbations and complications, improve outcomes and reduce avoidable visits to the emergency room and hospital.
- **Evidence-based:** Planning and delivery of chronic disease services are based on proven and most recent evidence of best practice.
- **Patient-centered:** The delivery of chronic disease services are congruent with the preferences, needs and values of patients. The patient is an active participant in the decision-making regarding their care and is responsible for management of their condition with support from health care providers.



- **Integration and Coordination:** Increased integration within the health system and community to increase prevention and coordination and reduce duplication.
- **Team-Based Care:** Service delivery through interdisciplinary teams to facilitate the right provider at the right time to improve service quality and to deliver efficient services.
- **Partnerships:** Enhanced integration and partnering with community-based services to promote health and well-being, including self-management support.
- **Leverage Technology:** Optimal use of technology to support population-based care, improve outcomes and to guide performance improvement.
- **Evaluation:** Ongoing research to keep abreast of new and promising practices and evaluating programs to aid decision-making and program improvements.
- **Sustainable:** Monitoring programs and services to meet patient needs, achieve intended results, and delivered as efficiently as possible.

## 5.0 Focus of Efforts to Date

A COPD Pilot Project was implemented in 2010 to enhance quality of life, empower COPD patients to take control of their illness, and improve health outcomes. Patients are provided with education and enhanced access to services by an interdisciplinary team to help them manage their illness, and prevent or reduce exacerbations. The program is based on the Canadian Thoracic Society Clinical Practice Guidelines. The evaluation demonstrated a reduction in visits to ER, reduced length of hospital stay for participants, as well as high satisfaction with the program. The project is now being implemented across the Province.

A Hypertension Pilot project has also been implemented in Central Queens and Souris Health Centres and is expected to be rolled out across the province in 2013/14. The purpose of the project is to improve outcomes for those at risk of, and living with hypertension by promoting awareness and self-management of the disease, and embedding the Canadian Hypertension Education Program (CHEP) Clinical Guidelines into practice.

The Provincial Diabetes Program has enhanced services to clients through the introduction of a collaborative model of diabetes care in physician offices across PEI. A diabetes database was launched in June 2012 which will promote proactive preventive care and follow-up for patients.

In 2009 the Government of PEI committed to investing three million dollars to implement an integrated organized stroke care model for PEI based on the recommendations outlined in the *PEI Integrated Stroke Strategy* (2006). Many components of organized stroke care (OSC) founded on the *Canadian Best Practice Recommendations for Stroke Care* have since been implemented in PEI including emergency stroke protocols, implementation of t-PA, Provincial Acute Stroke Unit, enhanced Provincial Stroke Rehabilitation Services and a Secondary Stroke Prevention Clinic.

## 6.0 Future Areas of Focus

While much has been accomplished in recent years to improve chronic care more work is needed to enhance integration, prevention and self-management support. Other overall initiatives that will be explored and undertaken over the next 3-5 years include:

- Developing strategies for the prevention and management of obesity
- Developing an integration strategy for addressing co-morbidity
- Community re-integration and provincial expansion of stroke prevention services.
- Developing strategies to respond to complex cases of chronic disease (i.e. case management)
- Developing strategies and partnerships to respond to the needs of vulnerable populations
- Enhancing integration of health system services with community-based programs (non-governmental organizations)
- Developing a plan to respond to the needs of unaffiliated patients with chronic disease
- Improving the transition of care between acute care, primary care and home care
- Developing and leveraging technologies to improve disease management and reporting

## 7.0 Conclusion


Much has been accomplished over the past decade to prevent illness and enhance self-management support for Islanders. Future efforts will continue to build on this previous work to improve health, enhance integration, improve outcomes and create efficiencies. Appendix 2.0 outlines the current work underway in PEI. This policy framework serves as a guide to addressing the growing epidemic of chronic disease in PEI and the subsequent negative impact on utilization of health care services.

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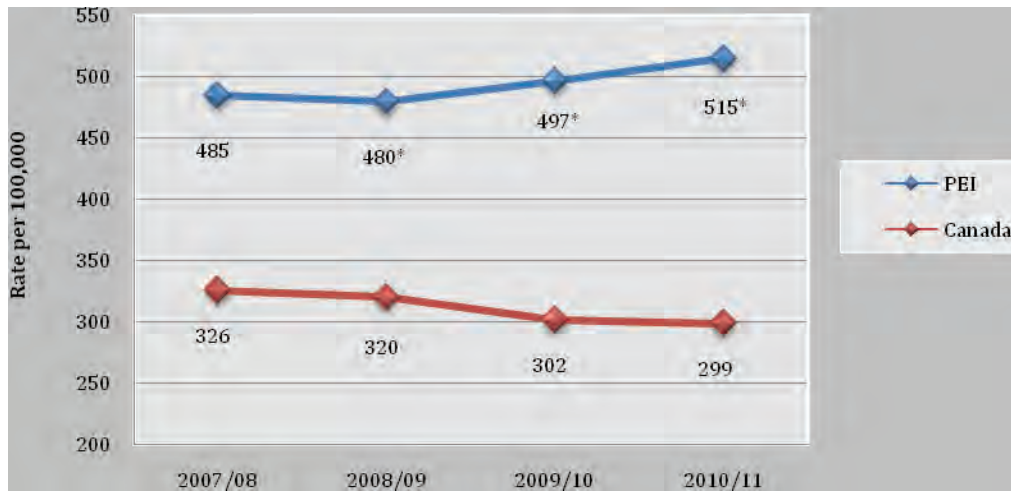
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# Appendix 1

## Trends in Ambulatory Care Sensitive Conditions in PEI and Canada 2007/08 to 2010/11



Ambulatory Care Sensitive Condition Hospitalization Rates

Source: Discharge Abstract Database, CIHI, 2007/08 – 2010/11. \*Significantly different from Canada

## Appendix 2

### Description of Each Component of the ECCM

ECCM Component	Description of ECCM Component	Key Component Elements	In Progress or Implemented
<b>Self-Management Support/Develop Personal Skills</b>	<ul style="list-style-type: none"> <li>• Support provided to client to provide education, increase knowledge, skills and confidence needed to effectively manage their condition</li> <li>• Collaborative vs. paternalistic approach</li> <li>• Patient empowerment. Clients have skills and confidence and assume greater responsibility for health care decisions</li> <li>• Emphasis on the importance of the central role that patients have in managing their health</li> <li>• Enhancing skills and capacities for personal health and wellness</li> <li>• Organize resources to provide support</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of education and supportive interventions to increase patient's skills and confidence in managing their illness</li> <li>• Patient education and motivational counseling</li> <li>• Support based on patient's level of readiness</li> <li>• Collaboration and shared decision-making</li> <li>• Effective SM support strategies: <b>Regular assessment</b> <b>Goal setting</b> <b>Action plans</b> <b>Problem solving</b></li> </ul>	<ul style="list-style-type: none"> <li>• COPD &amp; Hypertension Project</li> <li>• Goal setting and action plans with patients</li> <li>• 'Passport to Health' education resource for patients</li> <li>• Living a Healthy Life Self-Management Program</li> <li>• Secondary Stroke Prevention Clinic</li> <li>• Ambulatory Stroke Rehab Services</li> <li>• Go! PEI</li> <li>• Smoker's Helpline</li> <li>• Ottawa Model Smoking Cessation</li> <li>• Quit Care Program</li> <li>• Coping Skills Groups in selected Community Mental Health sites</li> <li>• Mindfulness Based Cognitive Therapy group for recurrent depression in East MH</li> <li>• Provincial Diabetes Program integrated into primary care</li> <li>• Screening Programs – e.g. Colorectal/Pap</li> <li>• Pulmonary Reconditioning –PCH</li> </ul>
<b>Delivery System Design/Reorient Health Services</b>	<ul style="list-style-type: none"> <li>• Changes to the organization of care to support effective and efficient chronic disease self-management</li> <li>• Focus on teamwork and an expanded scope of practice to support chronic care</li> <li>• Expansion of mandate to support individuals and communities in a more holistic way</li> <li>• Culturally relevant services</li> <li>• Emphasis on quality improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Interdisciplinary teams with clearly defined roles that support patient self-management</li> <li>• Regular meetings and collaborative practice</li> <li>• Planned interactions and follow-up for patients</li> <li>• Case management for complex cases</li> <li>• Advocacy on behalf of and with vulnerable populations.</li> <li>• Emphasize quality of life and clinical outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Interdisciplinary Teams Formed</li> <li>• Regular Meetings of Teams</li> <li>• Collaborative Team Practice</li> <li>• Team Development Training</li> <li>• Creation of Five Primary Care Networks</li> <li>• Collaborative diabetes physician office visits</li> <li>• Insulin adjustment certification for diabetes educators</li> <li>• Role of Nurse Practitioners in Primary Care</li> <li>• Spirometry testing certification program for Primary Care Nurses</li> <li>• Translation/Interpretation Services</li> <li>• Working with Community Partners (e.g. Heart and Stroke).</li> </ul>



<b>ECCM Component</b>	<b>Description of ECCM Component</b>	<b>Key Component Elements</b>	<b>In Progress or Implemented</b>
<b>Decision Support</b>	<ul style="list-style-type: none"> <li>Ensuring that health care providers have access to and knowledge of evidence-based guideline and information from which to base practice and decision-making</li> <li>Ensuring providers have training and tools needed to support decision making</li> <li>Arranging support from specialists to primary health care</li> <li>Informing patients about guidelines</li> <li>Integrating strategies for facilitating community capacity to stay healthy</li> </ul>	<ul style="list-style-type: none"> <li>Embed CPG's in practice</li> <li>Use decision support tools (e.g. care pathways, CPG's, screening tools, action plans, client readiness assessment, PACIC, ACIC, PCRS and other tools)</li> <li>Ensure health provider training (e.g. behavioral change, motivational interviewing, minimal intervention)</li> <li>Specialist service support integrated into PHC</li> <li>CPG's in plain language for patients</li> <li>Development of health promotion and prevention best practice guidelines</li> </ul>	<ul style="list-style-type: none"> <li>COPD &amp; Hypertension Project (care paths, action plans)</li> <li>Training in Minimal Intervention</li> <li>Literacy Training</li> <li>Diversity Training</li> <li>Quick Reference Guide for Health Care Providers</li> <li>National Certification for Diabetes Educators</li> <li>Mental Health Shared Care</li> <li>Clinical Nurse Leads In Place</li> <li>Collaborative Primary Mental Health Care in Networks</li> <li>Clinical flow sheets for chronic disease that incorporates CPGs (HTN, diabetes)</li> <li>COPD Tree</li> <li>TIA and Non-Disabling Stroke Algorithm</li> <li>Use of Screening Tools •Mental Health First Aid</li> <li>INR – Staff Taking INR Program</li> </ul>
<b>Clinical Information System</b>	<ul style="list-style-type: none"> <li>Clinical information systems such as registries and electronic health records to manage chronic illness and preventive care</li> <li>Information systems are based on CPG's to ensure evidence-based care</li> <li>Provides appt/test reminders and flags/ targets specific patients or groups of patients</li> <li>Essential for patient and patient population monitoring, and proactive care</li> <li>Can track both patient and provider performance</li> <li>Creation of broadly based information systems to include community data beyond the healthcare setting</li> </ul>	<ul style="list-style-type: none"> <li>Clinical Information Systems in place (EMR/ Registries)</li> <li>Improve utilization of data for proactive preventive care for patients</li> <li>Integrated systems for surveillance and monitoring</li> <li>Use of patient registries for performance measurement and for proactive contact of patients for follow-up</li> <li>Performance measurement for patient population and for health care providers</li> <li>Use of broad community needs assessments that take determinants of health into account</li> </ul>	<ul style="list-style-type: none"> <li>EMR planning ongoing</li> <li>National Chronic Disease Surveillance System- Provincial and Network Reports on Prevalence of Four Chronic Conditions to Date</li> <li>Diabetes Clinical Information Database</li> <li>Central Repository for Stroke Data</li> <li>MS Access Database for Colorectal Screening</li> </ul>

<b>ECCM Component</b>	<b>Description of ECCM Component</b>	<b>Key Component Elements</b>	<b>In Progress or Implemented</b>
<b>Community Resources and Policies</b>	<ul style="list-style-type: none"> <li>• Creating, coordinating and maintaining important linkages and partnerships with the community to refer patients and provide additional support for patients to effectively self-manage their illness</li> <li>• Building healthy public policy to improve population health, creating supportive environments and strengthening community action to set priorities, and achieve goals to improve the health of the community.</li> <li>• Encourage patients to participate in community programs</li> <li>• Community action and engagement</li> <li>• Community programs integrated with health care services</li> <li>• Advocating for/building health public policy and providing supportive environments</li> </ul>	<ul style="list-style-type: none"> <li>• Collaboration/Referrals/Partnerships/Linkages with the Community</li> <li>• Communication of programs</li> <li>• Create inventory of community resources and programs and ensure that health providers are aware of the services available</li> <li>• Encourage patients to participate in community programs</li> <li>• Developing policies that improve health (e.g. walking paths, smoking policies)</li> </ul>	<ul style="list-style-type: none"> <li>• Community programs in place</li> <li>• Non-Governmental Organization session to inform them of the Networks</li> <li>• Community Primary Care Services Survey in Place</li> <li>• Non-Governmental Organization participation in pilot (COPD &amp; hypertension)</li> <li>• Cardiac Education program (Heart &amp; Stroke)</li> <li>• Heart Healthy Clinic – QEH</li> <li>• Congestive Heart Failure Clinic- QEH</li> <li>• Quick Reference Guide to Encourage Referral to Community Agencies</li> <li>• Wellness Strategy in development</li> <li>• Smoke-free Places Legislation Enforced</li> <li>• Ottawa Model for Smoking Cessation Program rolled out in PEI hospitals and planning further roll-out in primary care</li> <li>• Passport to Health Resource</li> <li>• Living a Healthy Life Program</li> <li>• Go PEI!</li> </ul>
<b>Health System Organization</b>	<ul style="list-style-type: none"> <li>• Create organized efforts to improve chronic disease care. High quality care supported at all levels</li> <li>• Shift from reactive to proactive measures that focus on prevention for patients with and without chronic disease</li> </ul>	<ul style="list-style-type: none"> <li>• Committed leadership and resources</li> <li>• Organizational goals for chronic care</li> <li>• Supportive policy development</li> <li>• Patient safety. Open and systematic handling of errors and quality problems</li> <li>• Reward teams for quality</li> <li>• Develop agreements that facilitate care coordination within and across organizations</li> <li>• Visible support from senior leaders</li> <li>• Develop incentives based on quality of care</li> </ul>	<ul style="list-style-type: none"> <li>• Funding increase to Primary Health Care</li> <li>• Primary Care Steering Committee</li> <li>• Integrated Chronic Disease Prevention and Management Committee</li> <li>• Primary Health Care Networks</li> <li>• Nurse Practitioners in Primary Care</li> <li>• Insulin adjustment policy for diabetes educators</li> <li>• Complaints and compliments policy</li> <li>• Full disclosure policy</li> <li>• Quality teams structure</li> <li>• Community Needs Survey implemented and reported</li> <li>• Organized Stroke Care Model</li> </ul>

