

Chronic Obstructive Pulmonary Disease Integration Care Path/Model for Chatham-Kent

Prepared by the Chatham-Kent COPD Working Group
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Background

Chronic health conditions are rapidly increasing the overall burden of disease in Ontario and the Erie St. Clair region. A chronic condition, such as Chronic Obstructive Pulmonary Disease (COPD) is characterized by complex causality, multiple risk factors, a long latency period, a prolonged course of illness, functional impairment or disability, and in most cases, the unlikelihood of cure. The definition of COPD is a combination of several different but related diseases, principally chronic bronchitis and emphysema, which are primarily characterized by difficulty in breathing.

The Global Initiative for Chronic Obstructive Lung Disease (GOLD) defines COPD as “a preventable and treatable disease with some significant extra pulmonary effects that may contribute to severity in individual patients. Its pulmonary component is characterized by airflow limitation that is not fully reversible. The airflow limitation is usually progressive and associated with an abnormal inflammatory response of the lung to noxious particles or gases”.

COPD has considerable impact on the quality of life of the patient, involving long-term medical care, frequent hospital admissions for treatment of exacerbations and, often resulting in premature death. As with many chronic conditions, COPD not only affects the patient, but also has significant impact on the family and caregiver(s).

Worldwide, cigarette smoking is the most commonly encountered risk factor for COPD. A nihilistic attitude toward COPD continues among some health care providers, due to the relatively limited success of primary and secondary prevention (i.e. avoidance of factors that cause COPD or its progression) and the prevailing notion that COPD is largely a self-inflicted disease.

In recent years the presence of co-morbid conditions in patients with COPD has become a focus of research. These patients are at increased risk of Ischemic Heart Disease (IHD), osteoporosis, depression, diabetes, glaucoma, and sleep disorders. This increased risk reflects shared risk factors (principally tobacco smoking), aging, genetic susceptibility, and as yet undetermined factors. COPD itself has extra-pulmonary effects such as weight loss, nutritional abnormalities and skeletal muscle dysfunction, which may lead to co-morbid conditions. More severe COPD is associated with higher cardiovascular morbidity, and mortality than less severe COPD. The presence of COPD may increase risk for other diseases such as lung cancer.

To better address the needs of COPD patients in the Erie St. Clair region, initially an Erie St. Clair LHIN - Chatham-Kent COPD Working Group (CK COPD Working Group) was established in April 2012. Chatham-Kent was selected as the starting point based on a review of utilization information that indicated high rates of admission and readmission to hospital for COPD patients, as well as elevated emergency department (ED) visits for this group, as a means of managing their condition. Chatham-Kent was also chosen as the initial planning geography due to the relatively small number of providers involved in the provision of COPD supports, and their willingness to work together to identify and share innovative ways to reduce variations in care and improve quality, including patient experience. The CK COPD Working Group, co-chaired with Chatham-Kent Health Alliance (CKHA) and Erie St. Clair LHIN staff, was comprised of a consumer representative, a physician, a pharmacist and COPD providers from across the Erie St. Clair region including, Community Health Centers (CHCs), Family Health Teams (FHTs), the Chatham Kent Health Alliance, the Erie St Clair Community Care Access Centre (CCAC), Public Health Unit, ProResp, Asthma Research Group Incorporated (ARGI), and Glaxo-SmithKline (see [Appendix A](#) - CK COPD Working Group Membership and [Appendix B](#) - CK COPD Service Inventory).

The CK COPD Working Group met regularly from April to September 2012. This report contains information advanced by the group including: a COPD service inventory for CK, a summary of best practice resources for COPD care and management, the results of a Strengths, Weakness, Opportunity, and Threat (SWOT) analysis conducted for this area, COPD standard care path interventions by day of treatment, and new integrated care model/path for COPD patients residing in the Chatham-Kent area. The integrated care model proposed by the CK COPD Working Group, and lessons learned on how to improve COPD patient care and experiences will be expanded to the wider Erie St. Clair region in December 2012. Finally, the working group advanced an Electronic Medical Record (EMR) tool that will be used to standardized and track performance both from a service provision efficiency standpoint and COPD patient outcome improvement perspective.

Description of Current State – Issue Identification

The current care model/service sector for COPD in Chatham-Kent and Erie St. Clair LHIN-wide in general, is insufficient for optimal management of the disease. Evidence shows that admission and readmission rates for people with COPD remain high in Chatham-Kent, and that emergency department visits for COPD are elevated for this area. This represents a significant cost to the health care system both in terms of service provision and also on the impact of quality of life for people with COPD.

In May 2012, the CK COPD Working Group completed a SWOT analysis for the COPD care sector in CK (see [Appendix C](#) for SWOT Detailed Results). The findings on the 'weaknesses' component indicated the following issues/concerns:

- A general lack of awareness of community COPD services across the health care system in CK
- Care Pathways were fragmented and not integrated, both across organizations and between health care professionals/groups, resulting in fragmented access to services
- A need for more evidence-based COPD care consistently available across COPD service providers and primary care practitioners in CK
- A need for better standardization of COPD assessment processes and formats
- Across CK the quality of COPD programming tends to differ based on financial or staffing resources
- Physician awareness of COPD programming and the referrals process is weak
- A need for improved collaboration with primary health care providers
- A need for better follow-up with the CK COPD population on the management of their disease
- Due to a lack of service coordination there are inconsistency issues in terms of provider COPD knowledge, education and management of the disease
- Patients are not being referred to specialist care in a timely manner (i.e. to a Respirologist)
- The CK COPD population that does not have a primary care provider continue to receive episodic care through the emergency department
- Need more emphasis on prevention in primary care setting
- Need to improve patient self-management skills (through COPD care action plans)
- Community not aware of COPD educational supports/groups provided by community partners and CHC
- Other agencies and COPD providers are not aware of what each other is doing
- Need for increased provider training and education in the treatment and management of COPD
- Limited real time data to support the delivery and management of COPD services, has resulted in duplication and considerable time spent in locating required information

The SWOT analysis also identified opportunities for improvement:

- Provide a simplified central intake and referral process/mechanism for COPD clients covering the entire municipality of CK
- Ensure that all COPD care management programs are based on best practices and offer the same (standardized) opportunities for patients enrolled
- Provision of more evidence-based COPD care across the health care system
- Ensure that all patients with COPD have equal access to programming and are encouraged to participate
- Increase awareness of available COPD services and the referrals process within the health care provider community and wider general public realm
- Improve referrals to specialized care to make them more timely
- Ensure better collaboration with primary care physicians and nurse practitioners (NPs)
- Work better as a group/system (improved coordination) to follow the prescreening tests for COPD to catch the disease in its early stages
- Ensure more awareness of COPD services and management practices is available to the general public and the health professionals/care community
- Greater focus on performance and improving patient outcomes (identification of indicators/metrics to measure success, improved quality of life, patient satisfaction and efficient health care resource utilization)

COPD Key Metrics

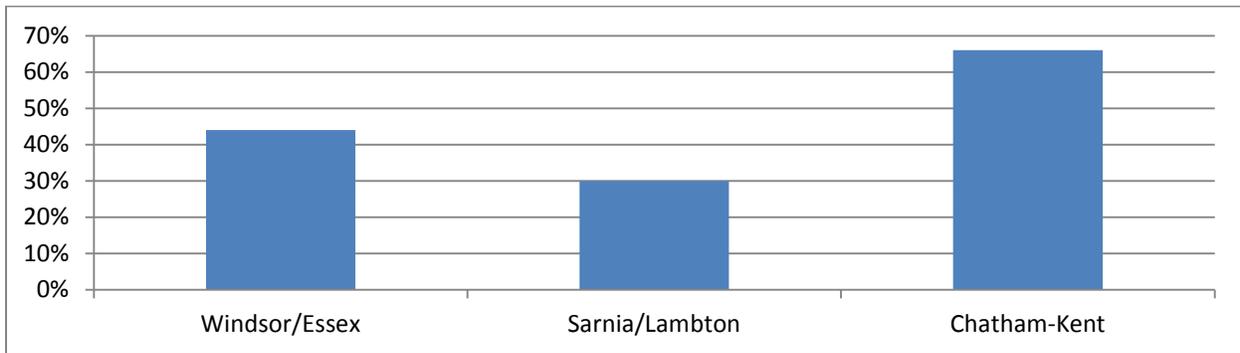
When compared to Ontario averages, there are significant variances that impact the health service needs of Erie St. Clair residents, including:

In Chatham-Kent – High rates of chronic diseases:

- 66% more likely to have COPD
- 33% more likely to have circulatory diseases (e.g. congestive heart failure [CHF])
- 20% more likely to have diabetes

Data Source: ICES 2006/07 Report, Statistics Canada 2007/08

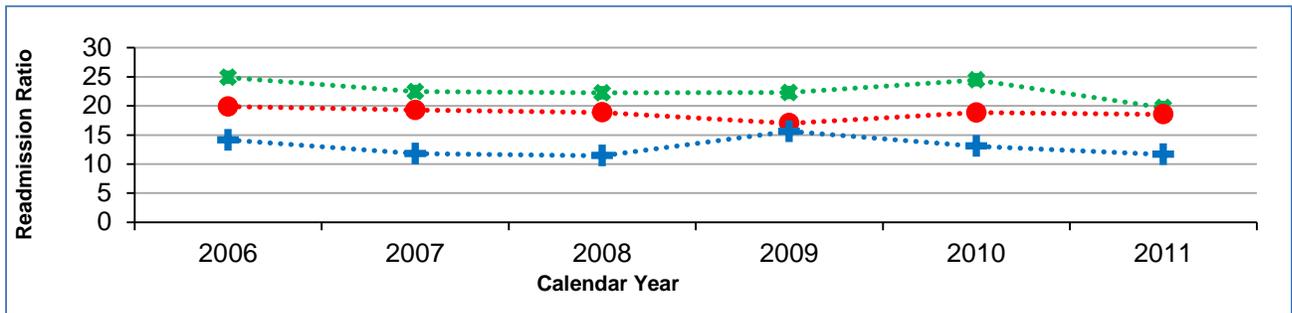
Table 1: Erie St. Clair Region Comparison – Likelihood of COPD Prevalence



Analysis: When comparing COPD across the Erie St. Clair region, Chatham-Kent has the greatest likelihood of this chronic disease

Data Source: ICES 2006/07 Report, Statistics Canada and Lambton County 2008 Health Status Report Likelihood of COPD Prevalence by County (Source - ICES 2006/07 Report)

Table 2: Erie St. Clair LHIN - 30 Day Readmission Rate to Hospital by Most Responsible Diagnosis of Chronic Obstructive Pulmonary Disease (COPD), Congestive Heart Failure (CHF), and Diabetes

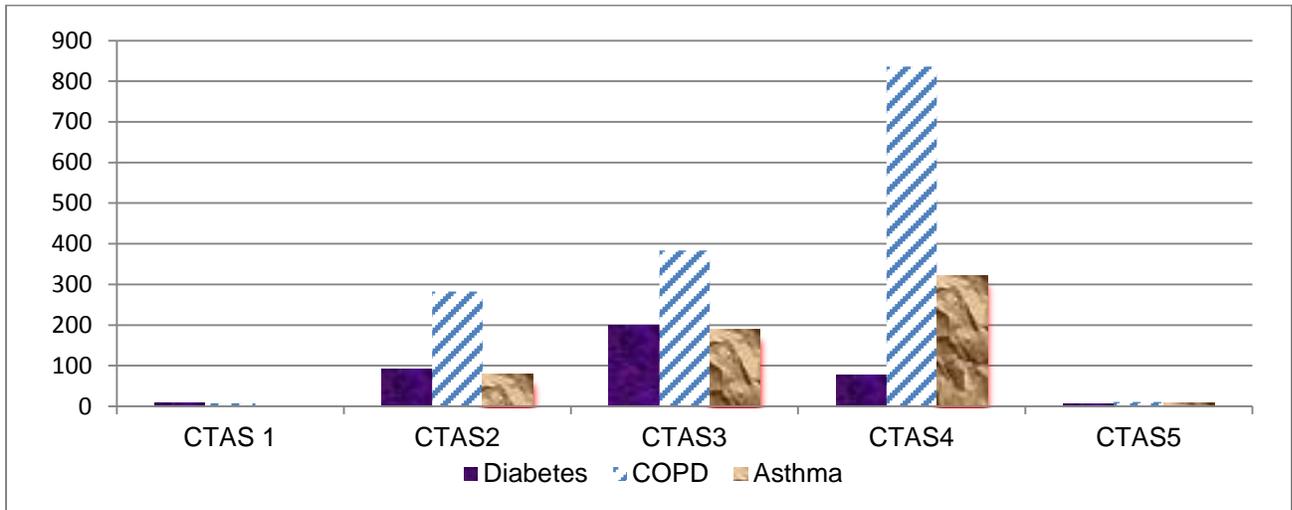


Legend: x - CHF ● - COPD + - Diabetes

Analysis: Unlike CHF and diabetes where the 30 day readmission rates to hospital are decreasing over the years, COPD 30 day readmission rates continue to be consistent

Data Source: ESC LHIN Internal Stocktake reports (based on Erie St. Clair LHIN Hospital Data)

Table 3: Emergency Department visits to Chatham-Kent Health Alliance by Triage Level



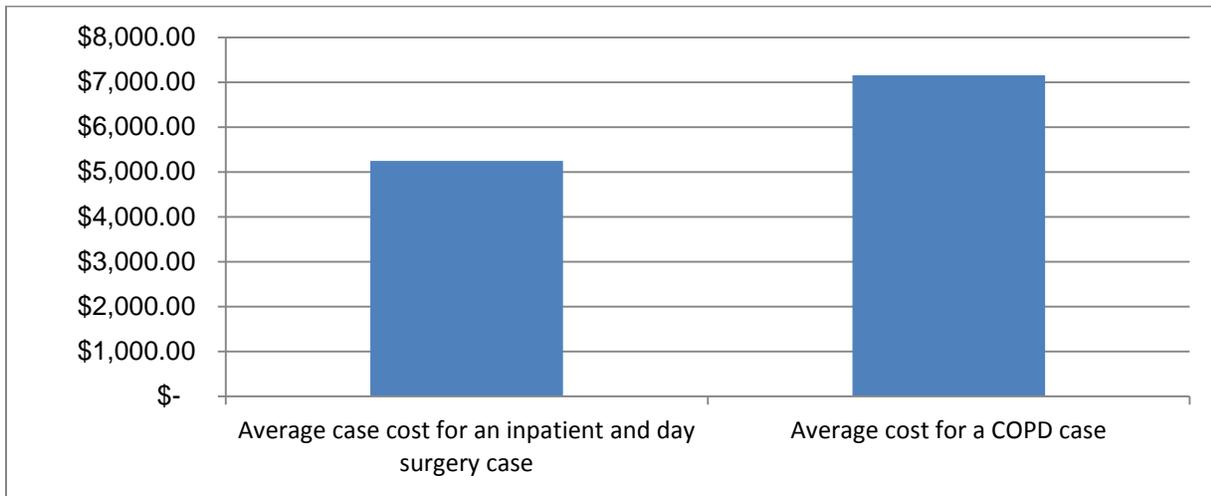
Legend: Canadian Triage Acuity Scale (CTAS):

- Level 1 – Resuscitation/Life Threatening
- Level 2 – Emergent/Potentially Life-Threatening
- Level 3 – Urgent/Potentially Serious
- Level 4 – Less Urgent/Semi-Urgent
- Level 5 - Non-Urgent

Analysis: CTAS Level 4 – Less Urgent/Semi-Urgent is the greatest level of COPD visits to the CKHA emergency department. With health service providers utilizing tools such as the COPD Pathway at the primary care level, this should aid in the future reduction of emergency department visits

Data Source: Canadian Institute for Health Information – National Ambulatory Care Reporting System Fiscal 2009/2010

Table 4: Chatham-Kent Health Alliance Case Cost Comparison



Analysis: Ministry of Health and Long-Term Care (MOHLTC) funding for the average inpatient and day surgery case at Chatham-Kent Health Alliance is \$5,245.00. The actual cost for the care of a COPD patient at Chatham-Kent Health Alliance is \$7,154.00. The development of a COPD Care pathway and support of best practices across the spectrum of care will assist in the reduction of COPD related health care costs

Data Source: Case Costing Cohort Hospital Comparison - Acute Inpatient and LOS vs. HBAM Expected (HSIMI 2012)

What Are We Trying to Achieve

The model of care (care path) for COPD proposed in this report is an articulation of best practice care for those at risk of or with diagnosed COPD across the continuum of care. This new COPD model of care represents a fundamental shift away from an acute to a more integrated approach across the entire continuum of health care. The focus is on improving service integration through the advancement of optimal evidence-based pathways of care, clear role differentiation and lead accountabilities. A key success factor is an approach that results in the improved case management of long-term conditions through better self-management and overall maintenance, supporting enhanced alignment with primary care. The model builds on the knowledge and capacity of the current services provided to the people of CK with COPD and evidence-based best practice as documented in the Canadian Thoracic Society (CTS) Clinical Practice Guidelines (see [Appendix D](#) - Summary of Best and Promising Practices for COPD Care and Management).

The overall purpose of the CK COPD planning exercise has been to identify and share innovative ways to reduce variations in care and improve overall quality, including the patient experience. Other key aims include:

- To develop a structured care management pathway for patients with COPD
- To reduce hospital admissions by using/applying evidence-based effective treatment guidelines (best-practices) Erie St. Clair LHIN-wide
- To facilitate the early and accurate diagnosis, assessment and management of patients with COPD in the community including prompt exacerbation management
- To remove barriers between primary and secondary care
- Ensure that patients admitted to hospital can be triaged effectively and discharged early with appropriate in-home supports
- Increased more timely discharges to community
- Decreased overall length of stay (LOS) of COPD hospitalized patients
- To provide continued appropriate support to patients and families in the community following discharge
- To encourage self-management and empowerment of the patient and family
- To provide patient and family centered end-of-life care using a team approach
- Embed the case management approach into primary care
- Advance a unified vision of COPD care for CK (and eventually Erie St. Clair LHIN-wide)

Integrated COPD Model of Care for Chatham-Kent

As previously noted, the current care model for COPD in the Erie St. Clair region is, in general, insufficient for optimal management of the disease. Single disease guidelines often fall short for diseases such as COPD that have prominent systemic manifestations and frequent co-morbidities contributing to disease burden. Coordination of services is often inadequate, especially at the time of the COPD exacerbation, which is characterized by high morbidity, increased healthcare utilization and increased mortality risk. An integrated care model for COPD will reduce these inefficiencies.

Integrated care can be thought of as a concept bringing together inputs, delivery, management, and organization of services related to diagnosis, treatment, care, rehabilitation, and health promotion. At the organizational level, integration is viewed as an organizational process of coordination that seeks to achieve seamless and continuous care, tailored to the patient's needs and based on a holistic view of the patient.

A prominent goal of integrated care is improved access, and decreased fragmentation of care, thereby increasing efficiency and quality of care and resulting in better outcomes and greater user satisfaction. This requires partnering, communication, and coordination among healthcare professionals, patients, and their families. The integration of services can be horizontal (e.g. among multi-hospital systems at the same level of healthcare delivery) or vertical (at different hierarchical levels such as hospital based specialists, primary care providers, outpatient pulmonary rehabilitation staff, and homecare professionals).

On one level, integrated care means giving the right patient the right therapy at the right time. This can include smoking cessation therapies, the promotion of a healthy lifestyle, including regular exercise and increased activity, optimal pharmacotherapy, collaborative self-management strategies, palliative therapy, and end-of-life care. Additionally, integrated care improves access to care and reduces fragmentation of care through partnering, communication, and coordination among healthcare professionals, patients, and their families.

Integration at the time of the COPD exacerbation includes:

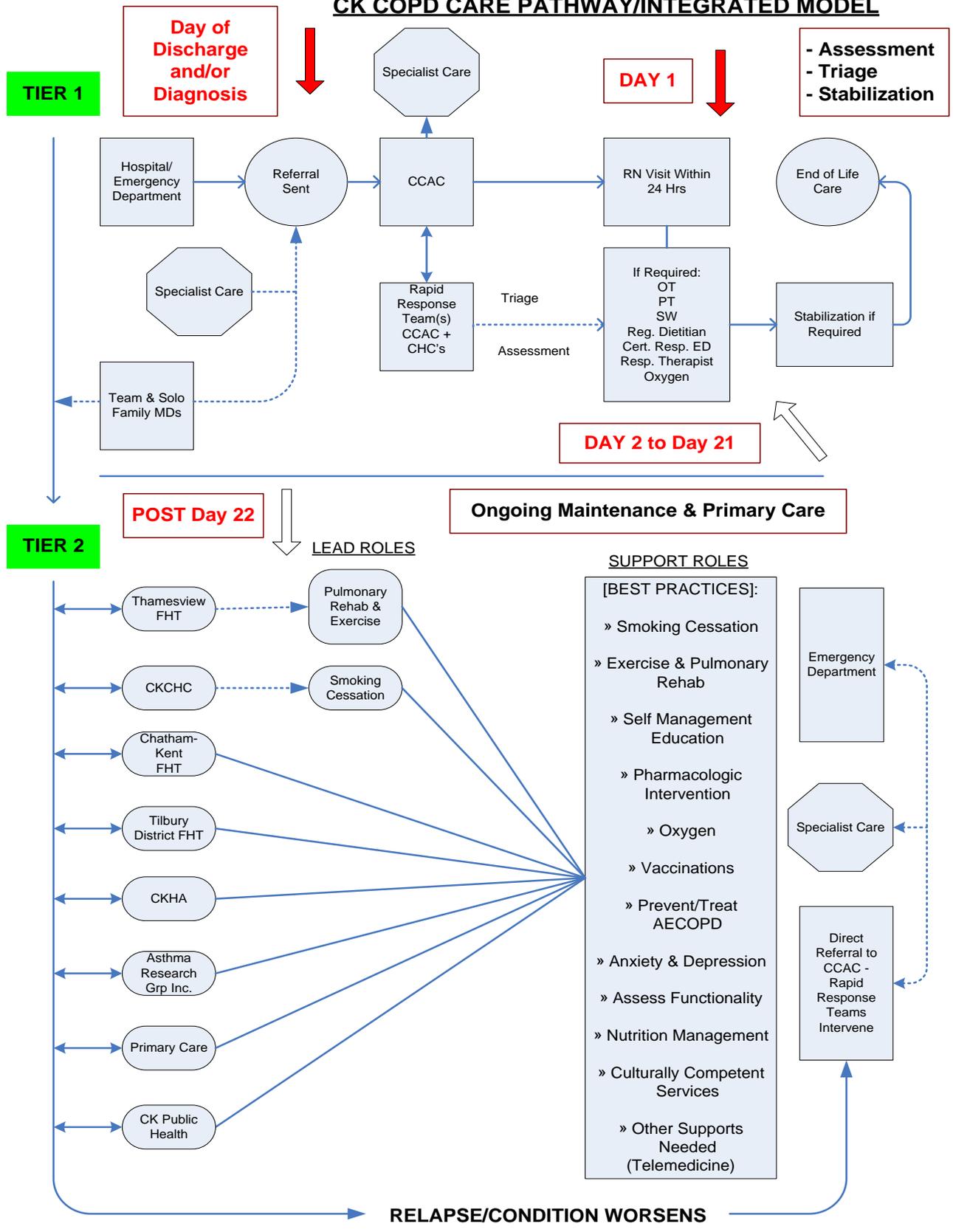
- a comprehensive assessment of the patient at hospital discharge,
- proper discharge planning, early discharge services,
- a self-management plan,
- sharing this plan with all pertinent healthcare providers,
- utilization of professionals for case management, and
- facilitation of the exchange of information with modern information technology.

Many of these services and the dimensions outlined below must be considered in advancing an integrated approach to COPD across the continuum of care:

1. Early Identification of patients and standardized assessment (system access)
2. Delivery system design (coordination and integration opportunities)
3. Clinical information system (treatment options)
4. Decision support (client record, data management, evaluation)
5. Community resources (level and alignment)
6. Healthcare organizational roles and accountabilities
7. Integrated client care paths (patient flow)
8. Networking and Evaluation

The COPD care pathway (integrated model of care) envisioned for CK through this planning process considers the above dimensions as well as advancing the following main objectives: improving overall system accountability, improving the health of the COPD population, better managing the costs of COPD care, promoting innovation in this area, and addressing capacity issues and longer term sustainability.

CK COPD CARE PATHWAY/INTEGRATED MODEL



The above COPD Care Pathway/Integration Model describes the ideal healthcare path for COPD patients across the spectrum of disease severity, towards which we are working in Chatham-Kent and Erie St. Clair LHIN-wide. Any clinician in acute or primary care can refer patients to the continuum of care that the model describes. It is anticipated that initially, suitable patients will be primarily identified during hospital inpatient episodes for exacerbations or at specialist clinic appoints. Over time, referrals will be encouraged and accepted from all points in the continuum, most importantly from primary care.

Essentially, the above COPD Care Pathway/Integration Model contains two Tiers: Tier I – the ‘Assessment, Triage and Stabilization Phase’, and Tier II – focusing on a ‘Maintenance and Primary Care Phase’ with an emphasis on best practice adherence. Tier I seeks to simplify patient access to care through one key service provider, the Community Care Access Centre. This phase may last up to 21 days and aims to complete a detailed assessment of the patient’s disease severity, complications, functional status and their ability to manage their condition. It also aims to enable access to all recommended interventions as appropriate to the patient’s current needs and preferences. At the completion of Phase I, all member of the patient’s care team will have a detailed understanding of:

- the patient’s condition, its severity and symptoms,
- the patient’s personal and health-focused goals,
- daily activities to meet these goals (medications, exercise, diet, relaxation),
- planned activity to prevent deterioration and optimize function, and
- early signs that indicate an exacerbation and actions to be taken by each party.

Tier I also has capacity to rapidly respond to a newly diagnosed (or newly discharged) patient, and provide immediate education, home support and heightened resources as required in order to prevent a return visit to the emergency department in the short-term.

Over the past few years, the Erie St. Clair LHIN has established Rapid Response (mobile) Teams. One is located in Sarnia/Lambton through the CCAC called the Geriatric Rapid Response Team (GRRT). More recently, mobile teams have been established through the CHC’s in Windsor/Essex, Chatham-Kent and Sarnia/Lambton (Grand Bend and North Lambton) called Chronic Disease Management Teams. These teams will intervene quickly as needed with high risk patients to help to restore, maintain or develop their functional performance and facilitate care giving and thereby prevent emergency department visits, delay institutionalization, and facilitate reintegration into the community.

These teams can also be deployed in the Tier 2 phase (post 21 days) - when a person with COPD has experienced a relapse or is showing early signs of exacerbation. This would require a direct referral to the CCAC, and immediate action or rapid response from the team to initiate an assessment, as well as provide the necessary intervention to stabilize the patient and keep them in their home environment with supports. In both Tier 1 and Tier 2 the CCAC would be the main entry point (or referral agency) for assessing the need for rapid response and deploying or making a referral for this level of intervention.

Table 5: COPD Care Path (High Level Program Elements – Discharge to Day 21)

| Day of Discharge from Hospital (Patient Requirements): |
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| <p>Patient Outcomes:</p> <ul style="list-style-type: none"> ➤ Patient/family fully understands the correct use of medications and spacing device ➤ Oxygen requirements established and arranged if necessary ➤ Activity tolerance established for home maintenance ➤ Patient has an established COPD action plan if applicable ➤ Patient understands discharge expectations ➤ Patient is provided with written COPD patient discharge plan ➤ Patient expects contact from team member and follow-up arranged with contact information provided ➤ Patient will know who to call should they need help |
| <p>Assessments:</p> <ul style="list-style-type: none"> ➤ Baseline vital signs established ➤ Baseline oxygen saturation established ➤ Baseline chest sounds established ➤ Baseline mental status established ➤ Arterial blood gases (ABGs) assessed if applicable as per guidelines ➤ All above results will be included on the discharge plan provided/clinical passport for information transfer ➤ Passport provided to the client to inform future care providers of previous health history |
| <p>Consultation:</p> <ul style="list-style-type: none"> ➤ Complete CCAC referral (to assess need for home supports) ➤ Home equipment/arrangements established ➤ Patient receives reminder to make follow up appointment with primary care provider (and remember to bring your written discharge plan with you to this appointment) |

Day 1 - First Home Day (Initial CCAC Home Visit – Patient Requirements)

Patient Outcomes:

- Patient using medication(s) correctly
- Patient understands the use of oxygen if required
- Patient understands the need for smoking cessation; link to be made to community supports

Assessment:

- Involve patient and family in assessment and treatment
- Assess inhaler technique and medication delivery (review and teach)
- Assess use of oxygen therapy if required (review and teach)
- Assess smoking status (3 minute empowerment, assess readiness, link to smoking cessation resources)
- CCAC to assess need for home support
- Establish baseline quality score for CAT (quality of life assessment)
- Assess need for referral to other ongoing community supports in the wider health care community
- Determine comorbidities

Education – using standardized resources:

- Symptoms and what to look for
- Action plan development and review (prescriptions for rescue medications included - must be approved by primary care provider e.g. Medical Doctor/Nurse Practitioner)
- Medication use
- Breathing techniques
- Strategies to deal with anxiety and dyspnea cycle
- Exercise tolerance and abilities

Day 2 to Day 21 (Second to Third CCAC Home Visits – Patient Requirements)

Patient Outcomes :

- Patient using medication(s) correctly
- Patient understands the use of oxygen if required
- Patient understands the need for smoking cessation; link to community supports

Assessments:

- Involve patient and family in assessment and treatment
- Assess inhaler technique and medication delivery (review and teach)
- Assess use of oxygen therapy if required (review and teach)
- Assess smoking status (3 minute empowerment, assess readiness, link to smoking cessation resources)
- CCAC to assess need for home support and refer accordingly
- Assess need for referral to other ongoing community supports in the wider health care community
- Determine comorbidities

Consultations:

- Refer to social work, Occupational Therapist (OT), Physiotherapist (PT), Registered Dietitian, Pharmacist, cultural sensitive services
- Transfer of care (e.g. community based programming partners)
- CCAC to determine if 3rd visit is needed
- Visit to primary care provider within 1 week following ED or post discharge from hospital

Activity:

- Increase activity levels/ensure clients know their capability
- Exercise programs
- Pulmonary programs

Education – using standardized resources:

- Symptoms and what to look for
- Action plan review
- Medication use
- Breathing techniques
- Strategies to deal with anxiety and dyspnea cycle
- Exercise tolerance and abilities
- Reinforce program education goals
- Give patient information regarding CK-COPD support group (no referral required)
- Refer to CK-COPD supports group
- Link with community supports
- Links to cultural supports

Following the first 21 days, the patient will enter Tier II, the maintenance and primary care phase, and for the majority of patients this is where they will spend most of their time. The aim of this phase is for ongoing planned and integrated reviews of the patient's progress towards their goals, and clear communication of assessments, interventions and outcomes to all members of the care team including the patient. During this phase, care providers will ensure that patients have appropriate access to professional best practices, and evidence based interventions in a standardized manner across the care continuum. Certain providers will become the designated 'lead' for the advancement and dissemination of a best practice area across the COPD care continuum (i.e. lead for smoking cessation program development, or for exercise program advancement).

Through this model, appointments with different members of the care team will be timed strategically to maximize support, minimize duplication and enable the implementation of an integrated ongoing plan of care. Aspects to be reviewed regularly include:

- spirometry, complications, quit status of current and recent ex-smokers, and functional status,
- actions taken by patient as part of a care plan (exercise, diet, medication, oxygen),
- coping skills, knowledge, quality-of-life and self-management skills,
- self-management plan, and
- patient's progress towards their goals.

The disease impact of COPD on the person's life varies widely depending on disease severity, coping skills, available support and other comorbidities. The model reflects that the care team providers also vary according to care needs. All patients will be expected to have a General Practitioner (GP) as their primary medical caregiver. In addition to the GP, those with higher disease impact will have some or all of the following professionals in their maintenance care team: community health nurse, community or acute care based allied health professionals (OT, PT, social worker [SW]), respiratory therapist (RRT), RN, certified respiratory educator (CRE), and registered dietitian. For those with severe COPD who frequently use inpatient or emergency department services, the community-based CCAC Case Manager will function in the role of care coordinator with the aim of providing regular and as-needed access to intensive support to improve quality of life and promote more appropriate resource usage.

A final phase that the model describes is the period of time during which the patient experiences an increase in the intensity of care required due to an exacerbation of COPD. If not managed effectively the patient's condition could worsen resulting in a relapse requiring a direct referral to the CCAC and immediate action. The emphasis of this phase is on the recognition of the early signs of exacerbation by the General Practitioner and/or allied maintenance team member, and prompt action initiated as described in the patient's self-management plan. Rapid access to the appropriate level of assessment, interventions, and support quickly follows patient-initiated changes as per the plan. Assessment may take the form of GP review, intervention from the rapid response team, rapid access to respiratory therapist or emergency department visit depending on the severity of current symptoms. This phase (relapse), if requiring a hospitalization, will typically take from 2 to 6 weeks to transpire, following which the patient re-enters the maintenance/primary care phase after baseline care requirements are reassessed and their self-management plan is re-established.

Table 6: Aims for the Chatham-Kent COPD Program (Clinical Value Compass)

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| <p><u>Clinical Outcomes:</u></p> <ul style="list-style-type: none"> ➤ Oximetry stable ➤ BP stable ➤ RR stable ➤ Cognitive Stable ➤ Medications efficacious ➤ Spirometry values acceptable - discuss ➤ Improve CAT score ➤ Increase distance walked (6 minute walk test) ➤ Improved quality of life ➤ MRC Scale | <p><u>Cost Outcomes:</u></p> <ul style="list-style-type: none"> ➤ Reduced readmissions ➤ Reduced admissions ➤ Reduced ED visits ➤ Reduced Acute, Complex Continuing Care (CCC), Rehab Patient Days per 1000 population |
| <p><u>Functional Outcomes:</u></p> <ul style="list-style-type: none"> ➤ Patient/family confident in managing disease/symptoms ➤ Patient/family can take on a greater proportion of self-care ➤ Patient understands and manages the triggers of an illness event ➤ Patient can undertake appropriate activities of daily living ➤ Patient/family has safety plan/contingency plan in place for flare-ups etc. | <p><u>Patient Satisfaction Outcomes:</u></p> <ul style="list-style-type: none"> ➤ Process assisted client ➤ Process met patient needs ➤ Process met patient's expectations ➤ Client would purchase service if required ➤ Patient/family reassured about his/her capability to live fully with the disease |

COPD Electronic Assessment Tool

An electronic medical record (EMR) is a digital version of the traditional paper-based medical record for an individual. The EMR represents a medical record within a single facility, such as a doctor's office or a clinic. There are a number of different types of digitized health records that contain most of the same types of information. A personal health record (PHR), for example, is health-related documentation maintained by the individual to which it pertains. An electronic health record (EHR) is an official health record for an individual that is shared among multiple facilities and agencies. The EHR provides the essential infrastructure required to enable the adoption and effective use of new healthcare modalities and information management tools such as integrated care, evidenced-based medicine, computer-based decision support, care planning, and pathways and outcomes analysis.

There are many functions associated with patient electronic health records. Not only is the record used to document patient care, but the record is also used for planning, research, quality improvement purposes and patient safety. The greatest challenge in attempting to integrate and standardize healthcare delivery (through best practice uptake) is to provide comprehensive, reliable, relevant, accessible, and timely patient information to each member of the healthcare team, whether in primary, or secondary care and whether a doctor, nurse, allied health professional or patient/consumer.

The EHR has several distinct advantages over paper health records. One definite advantage is the fact that there are increasing storage capabilities for longer periods of time. Also, the EHR is accessible from remote sites to many people at the same time, and retrieval of the information is almost immediate. The record is continuously updated, and is available concurrently for use everywhere. Information is immediately accessible at any unit workstation whenever it is needed. Currently, the paper record represents massive fragmentation of clinical health information. This not only causes the cost of information management to increase but also fragmentation leads to even greater costs due to its adverse effects on current and future patient care.

The EHR can also provide medical alerts and reminders. EHR systems have some built-in intelligence capabilities, such as recognizing abnormal lab results, or potential life-threatening drug interactions. Research findings supporting diagnostic tests and the EHR can link the clinician to protocols, care plans, critical paths, literature databases, pharmaceutical information, and other databases of healthcare knowledge. Another benefit to an EHR is that it allows for customized views of information relevant to the needs of various specialties. The EHR is far more flexible, allowing its users to design and utilize reporting formats tailored to their own special needs, as well as organize and display data in various ways. As a management tool, the EHR can provide information to improve risk management and assessment outcomes.

Although some systems may seem costly, the gains in efficiency far offset the costs. Chart chasing is eliminated, as is duplicate data entry of the same information on multiple forms. Highly paid, skilled clinicians no longer are delayed by the search for elusive paper charts, and usable outcome information becomes available without several days of data compilation. The patient is more satisfied, because previous information is available so the patient does not have to continually provide the same information over and over again.

However, just as there are advantages associated with the EHR there are also disadvantages and obstacles in its implementation. Some of the disadvantages include the startup costs, which can be excessive at a time when healthcare organizations need to reduce their costs, and allocating capital to information systems is still a challenge. Another disadvantage to an EHR is that there may be a substantial learning curve, and it is helpful if the users have some type of technical knowledge. One of the more challenging issues confronting EHRs is the fact that physicians must be the users of the system, performing data entry (e.g., orders, progress notes), as well as information retrieval if they are to realize the benefits of interactive decision support. Confidentiality and security issues are concerns associated with both the paper health record and the EHR. There has been much discussion about this topic and although the patient record must be protected, the patient must also be aware that the record has to be accessible to the professionals who use the records to provide medical care. Another potential obstacle in the implementation of an EHR is the lack of standardized terminology, system architecture, and indexing. A final consideration that may be an obstacle to implementation is “usability”. The designers of EHR systems have only just begun to consider the needs of the users. There must be tools to enable the clinicians to retrieve and understand data relevant to their decision-making tasks. In other words, systems must be user friendly; otherwise these systems will not be easily accepted, nor will they be used to their fullest capacity.

In the Erie St. Clair region, the University of Windsor - Centre for Smart Community Innovation (CSCI) and the ARGI, teamed up to produce an ‘Assessment Tool’ (EHR) for COPD. This tool, which runs on an IBM Domino/Lotus Notes client configuration, provides the essential infrastructure required to enable the adoption and effective use of a customized database with secure electronic remote and internal access capabilities. As a data collection and data reporting management tool, this EMR has the potential to support and advance integrated care, evidenced-based best practice, computer-based decision support, care planning and pathways and outcomes analysis.

Currently, the COPD EHR is being used by the Erie St. Clair CCAC and the COPD Priisme Project at five FHTs across the Erie St. Clair LHIN. Preliminary reports on its capabilities and application suggest that it can be utilized across multiple provider sites and patient locations through secure remote laptop computers, and encrypted synchronization of datasets on a dedicated server. Standard user prompts include assessment of key educational objectives, development of a personalized self-management plan, prompts for physician recommendations and ongoing measurement of data outcomes and key indicators of success including:

- Symptom control
- Healthcare utilization
- Diagnosis confirmed, suspected, rule out
- COPD related absenteeism and physical limitation
- Current medications – COPD
- Smoking history – stage of quitting, Fagerstrom Test, pack years
- Comorbidities
- Environmental assessment and triggers
- Oxygen use, SpO2, vitals, sleep disturbance
- Vaccinations, nutritional issues
- Spirometry data
- QoL – CAT score

In August 2012, the CCAC and ARGI provided an overview and demonstration of the COPD assessment tool to the CK COPD Working Group, which was generally well received. The tool appears to be comprehensive and relatively easy to use, and has the capacity to represent information in a ‘dash board’ format for ease of interpretation. As well, the tool can also generate customized planning reports for a variety of audiences (e.g. clinicians, the patient, planners, researchers, funders, etc.). Other conclusions resulting from the demonstration are that:

- Patient’s health information is available in one place, when and where it is needed. The assessment tool places accurate and complete information about the patient’s health and medical history at the provider’s fingertips. With EHRs, providers can give the best possible care, at the point of care. This can lead to a better patient experience and, most importantly, better patient outcomes.

- The COPD assessment tool can help providers make efficient, effective decisions about patient care based on best practice evidence through:
 - Improved aggregation, analysis, and communication of patient information
 - Clinical alerts and reminders
 - Support for diagnostic and therapeutic decisions
 - Built-in safeguards against potential adverse events

- Patient participation is especially important in managing and treating chronic conditions such as COPD. Quick and easy communication between patients and providers may help providers identify symptoms earlier. As well, it can position providers to be more proactive by reaching out to patients.

- With the COPD assessment tool, providers can have reliable access to a patient's complete health information. This comprehensive picture can help providers diagnose patients' problems sooner.

- The assessment tool can also have beneficial effects on the health of groups of patients. Providers who have electronic health information about the entire population of patients they serve can look more meaningfully at the needs of patients who:
 - Suffer from a specific condition
 - Are eligible for specific preventive measures
 - Are currently taking specific medications

- The COPD assessment tool also may serve to decrease the fragmentation of care by improving care coordination. EHRs have the potential to integrate and organize patient health information and facilitate its instant distribution among all authorized providers involved in a patient's care. This is especially important with patients who are:
 - Seeing multiple specialists/care providers
 - Making transitions between care settings
 - Receiving treatment in emergency settings

- Finally, the assessment tool likely can reduce overall costs to the health care system. Administrative tasks, such as retrieving and filing record, filling out forms, and processing care requests, represent a significant percentage of health care costs. EHRs can increase practice efficiencies by streamlining these tasks. Because EHRs contain all of a patient's health information in one place, it is less likely that providers will have to spend time ordering and reviewing the results of unnecessary or duplicate tests and medical procedures. Less utilization also means lower costs.

Performance

Table 7: Performance Objectives, Actions and Indicators

| Objectives: | Actions: | Indicators: |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Establish Accountability to Patients</p> | <ul style="list-style-type: none"> ○ Improve access to care ○ Improve the delivery of patient care ○ Advance barrier free services ○ Better manage earlier stages of COPD ○ Make informed choices about treatment options ○ Incorporate patient experience into planning and care | <ul style="list-style-type: none"> ○ Reduction in Alternate Level of Care (ALC) rates ○ Reduced ED visits ○ Reduced repeat ED visits ○ Reduce long-term care (LTC) admissions ○ Percent of patients part of an integrated care model ○ Percent reduction in duplication of care for individuals with COPD ○ Smoking cessation strategies/outcomes |
| <p>Improve the Health of the COPD population</p> | <ul style="list-style-type: none"> ○ Improve access through care coordination / integration ○ Improve and standardize assessment processes and formats ○ Improve self-management options ○ Advance multidisciplinary approach to COPD care ○ Better alignment with primary care ○ Increased provider training and education in treatment and management of COPD | <ul style="list-style-type: none"> ○ Linkage through Home First ○ Percent of COPD patients receiving early access to care and appropriate referrals ○ Percent of clients receiving multidisciplinary care (OT, PT, SW, RD, RRT assessments) ○ Percent of providers receiving additional training and education ○ Percent reduction in exacerbations ○ Improvement in CAT score (COPD assessment tool) ○ Percent of clients enrolled in a group exercise program ○ Percent increase in regular use of medications ○ Percent patients who show improvement in exercise tolerance (i.e. after pulmonary rehab program via 6 minute walk test) |

| Objectives: | Actions: | Indicators: |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manage the Costs of COPD Care | <ul style="list-style-type: none"> ○ Advance a sustainable system of COPD care in Erie St. Clair region ○ Develop processes and tools to monitor and forecast costs of COPD care in the region ○ Align funding for COPD with quality care ○ Improve modeling of future population needs-given the expectation of COPD rates rising to 2020 | <ul style="list-style-type: none"> ○ Reduced hospital readmissions (%) ○ Actual funding -specially for COPD is within 10% of expected funding across the system ○ Assess absenteeism – financial costs on clients and families |
| Promote Innovation in COPD Care | <ul style="list-style-type: none"> ○ Improve data collection needed for informed decision making ○ Advance evidence based best practices system wide for COPD care ○ Advance an integrated care model for COPD Erie St. Clair LHIN-wide | <ul style="list-style-type: none"> ○ Pilot new ways to organize COPD services that allow for innovations in care ○ Report on update of best practices system-wide |
| Capacity Building | <ul style="list-style-type: none"> ○ Advance clinical and program leadership Erie St. Clair LHIN-wide ○ Advance a performance management framework for COPD ○ Expand data management, analysis and reporting capacity Erie St. Clair LHIN-wide ○ Promote continuous quality improvement across the COPD system | <ul style="list-style-type: none"> ○ Advance and implement a framework for continuous quality improvement ○ Enhance capacity for data collection and detailed funding and costing forecasts ○ Launch improved (integrated) regional leadership model |

Table 7 contains a number of strategic objectives and a comprehensive listing of potential indicators that can be tracked/measured for the COPD population. For the purpose of limiting and focusing the list and aligning with the Erie St. Clair Strategic Plan the following measures and targets have been established for COPD for the next 3 years:

Table 8: COPD 3-Year Performance Targets for Key Measures

| Measures: | Target Current Actual: | Three-Year Target: |
|----------------------------------------------------------------------------------|-----------------------------------|---------------------------|
| Reduce 30 day re-admissions for COPD Erie St. Clair LHIN-wide | 24.5% | 12% |
| Reduce admissions per 100,000 population Erie St. Clair LHIN-wide, age 35+ | 417.6 | 330 |
| Reduce emergency visits per 100,000 population Erie St. Clair LHIN-wide, age 35+ | 1,246.7 | 944 |

Conclusions and Recommendations

This section of the report offers some practical recommendations focusing on implementation, performance and further advancement of the COPD Care Pathway/ Integrated Model. These directions have been subdivided into key strategic themes aimed at overall improvements at both the system and clinical level (i.e. access, quality of care, performance, cost effectiveness, coordination and integration, accountability, etc.)

Improved Access:

In order to improve and simplify access and reduce confusion on how to enter the COPD community health care system it is recommended that:

1. *the COPD Care Pathway/Integrated Model for Chatham-Kent (developed through this process) be implemented and endorsed by all COPD care providers in the Chatham-Kent region*

This care pathway supports the CCAC as becoming the main referral organization for all COPD clients being discharged to community from hospital, for all newly diagnosed COPD clients by community care physicians, and for clients who experience a relapse and/or whose condition worsens and could benefit from rapid reassessment and intervention.

There is some flexibility in this direction for Physicians who currently practice at FHTs and/or CHCs. COPD patients assessed by these professionals can either be directly admitted into CHC and/or FHT care or sent to the CCAC for a higher level of care intervention for up to a 21 day period, at the Physicians discretion.

In order to improve access in rural and more remote sections of the Erie St. Clair region for persons who may have mobility and/or access issues (e.g. lack of transportation) it is recommended that:

- 2. the COPD care providers work closely with Ontario Tele-health Network staff and the Erie St. Clair LHIN to advance an OTN strategy that supports COPD care in Chatham-Kent with a view to Erie St. Clair LHIN-wide coverage.*

Improved Quality of Care:

In order to improve overall quality of care for COPD patients it is recommended that:

- 3. all COPD service providers initiate 'best practices' for the key areas identified in the "Chatham-Kent COPD Care Pathway/Integrated Model (Smoking Cessation, Exercise, Self-Management Education, Pharmacologic Intervention, Oxygen, Vaccinations, Prevent/Treat AECOPD, Anxiety/Depression Management, Assessing Functionality, and Provision of Culturally Competent Services).*

It is further recommended that:

- 4. all COPD providers work with the Erie St Clair LHIN and Health Quality Ontario - bestPATH Program to advance a "System Quality Improvement Plan" for COPD care in Chatham-Kent.*

bestPATH is Health Quality Ontario's newest initiative, aimed at improving the experience of care and outcomes for Ontarians with complex chronic illness while promoting appropriate resource utilization. bestPATH offers providers from all sectors — acute care, primary care, home care, long-term care and community services — quality improvement (QI) resources, evidence-informed recommendations, and a framework to collect and report on outcomes that will help them to deliver more integrated care. bestPATH will be implemented in partnership with Local Health Integration Networks (LHINs)

Improved System Performance:

In order to improve COPD care system performance and consumer satisfaction, there is a need to ensure that care across the region is standardized and is built on evidence based best practices. Also that client's entering the care system, have equal opportunities to receive the same level of quality care. Equally important, is the ability to measure the impact that these directions are having on improving patient outcomes. Toward this end it is recommended that (pending a Consolidated Health Information Systems/CHIS review):

5. *the COPD Electronic Assessment Tool (Electronic Health Record) described in this report be implemented across the COPD care system in Chatham-Kent as a means of tracking/measuring client and system level improvements (to be used as a contingency until CHIS completes its review).*

As previously stated, the Electronic Health record (EHR) is an official health record for an individual that is shared among multiple facilities and agencies. The EHR provides the essential infrastructure required to enable the adoption, and effective use of new healthcare modalities and information management tools such as integrated care, evidenced-based medicine, computer-based decision support, care planning and pathways, as well as outcomes analysis. The current EHR for COPD under consideration for implementation in the CK region was developed by the University of Windsor (CSCI) and ARG1. It runs on an IBM Domino/Lotus Notes platform. It is recommended that:

6. *the COPD EHR tool be reviewed by the CHIS team to determine if it meets the wider regional application and privacy needs of the LHIN in providing and assessing care to the COPD population, and if it is consistent with the overall directions of the Province regarding their EMR plans, directions and future capabilities.*

Improved Cost Effectiveness:

Cost effectiveness is generally associated with system performance and the ability to measure the impact of a given change. Key health care system goals of the COPD planning exercise, related to cost effectiveness are:

- to introduce best practices and accountabilities that will reduce 30 day re-admissions for the COPD population Erie St. Clair LHIN-wide,
- to reduce admissions per 100,000 population Erie St. Clair LHIN-wide (aged 35+), and
- to reduce emergency visits per 100,000 population Erie St. Clair LHIN-wide (aged 35+).

It is recommended that the COPD care support system providers in Chatham-Kent agree to address the following Erie St Clair LHIN-wide strategic COPD improvement targets:

7. *to reduce 30 day re-admissions for the COPD population Erie St. Clair LHIN-wide from 24.5% to 12% in the next 3 years;*
8. *to reduce admissions per 100,000 population Erie St. Clair LHIN-wide (aged 35+) from 417.6 to 330 within 3 years;*
9. *to reduce emergency visits per 100,000 population Erie St. Clair LHIN-wide (aged 35+) from 1,246.7 to 944 within 3 years.*

Note that further work will be done with Erie St. Clair LHIN performance staff to determine the precise local targets for these metrics for Chatham-Kent adjusted for population size.

Improved Coordination and Integration:

The COPD Care Path/Integrated Model improves system coordination, and to some degree functional integration through the specification of clear patient management directions from day of discharge from hospital to ongoing maintenance and primary care provided in the community. The Pathway outlines a structured, 2 tiered approach to COPD patient care management, helping to clearly differentiate roles, and accountabilities by day of intervention. For Tier 1 - the CCAC has been identified as the lead community care provider for patients from day of discharge and/or diagnosis through day 21. In this role, they will ensure rapid access to care (Geriatric Rapid Response Team and CHC Chronic Disease Management Teams), and follow up (within 24 hours by an RN), as well as ensure access to allied health professionals (OP, PT, SW, registered dietitian, CRE, oxygen providers) as needed for the short-term to help prevent the need for repeat ED visits. The CCAC will also manage the end-of-life care needs of the COPD population. The approach to care and support for end-of-life COPD patients will require a model of service delivery developed in collaboration with GP's, the Palliative Care Network, and other relevant groups to ensure that it respects the rights and decisions of the patient and their family/caregivers. Toward this end it is recommended that:

10. *the CCAC work closely with the Palliative Care Network to advance an end-of-life care management protocol (including a consideration of applied advance directives planning) and referral process for the COPD population in need of this level of intervention.*

For Tier 2, post day 22 - ongoing maintenance and primary care, all the health care providers that have been identified will ensure that the best practices which are outlined on the care path are being followed, and that the COPD patient's 'Action Plan' is being monitored and adjusted as needed. To support better integration and overall efficiency, 'lead roles' have been identified for certain providers in the application and knowledge advancement of evidence-based best practices and quality enhancement in the region. These 'lead' agencies will become the go to experts in certain areas resulting in a reduction in role duplication and improved overall system efficiency. For the Chatham-Kent COPD system it is recommended that:

11. *the Chatham-Kent CHC become the Lead Agency for expertise in advancing smoking cessation knowledge for the area; and*
12. *the Thamesview FHT become the Lead Agency for advancing/developing and supporting a pulmonary rehab and exercise education program for the area.*

Note that the pulmonary rehab and exercise *education* program will be developed and implemented in partnership with the CK CHC.

Improved Patient Outcomes:

The referral care pathway also considers the appropriate and timely utilization of the 'rapid response teams' (both the GRRT and CHC Chronic Disease Management teams), and management of acute exacerbations of COPD. This is typically the period of time during which the patient experiences an increase in the intensity of care required. If not managed in a timely, effectively manner the patient's condition could worsen resulting in a relapse requiring a visit to the ED and possible admission. To help ensure appropriate, coordinated utilization of the rapid response teams it is recommended that:

13. *the CCAC become the main referral organization for the rapid response teams and that they advance a referral protocol with all involved COPD care partners (including physicians) and Erie St. Clair LHIN staff to more formally manage this resource.*

The protocol is intended to offer timely interventions to avoid ED care when appropriate.

Improved Communications and Accountability:

Through the implementation of the EHR it is anticipated that the COPD system will improve its capacity to monitor patients progress/outcomes and adherence to their care action plans, as well as providing system level reports on performance and overall improvements/and return on investment assessments. To improve communications, and regularly monitor system accountability it is recommended that:

14. *the COPD health care providers in Chatham-Kent provide regular (quarterly) performance reports to Erie St. Clair LHIN staff in the form of a COPD system scorecard to be developed by the COPD provider working group lead by the CCAC as the main entry point into the community COPD care system*

In concluding this report, the Chatham-Kent COPD Working Group has attempted to advance a COPD Care Path/Integrated Model of Care that better supports the following benefits to patients and care givers:

- Provides care closer to home, including care in the home
- Simplifies access to the COPD care system
- Reduces anxiety and improves confidence
- Improves self-management opportunities
- Reduces exacerbations and aims to reduce hospital attendances
- Provides earlier diagnosis and intervention
- Improves health and well-being/quality of life
- Attempts to align provider roles and reduce duplication
- Provides consistency in the management of care across the pathway
- Improves the overall continuity of care

The ultimate role of the Erie St Clair LHIN – Chatham Kent COPD Working Group is to support promising and best practices that will improve access to an appropriate continuum of supports for individuals with COPD that will result in improved population health outcomes generally for this cohort. The eventual goal is to extend successes and learning from this exercise Erie St. Clair LHIN-wide to benefit the entire region.

Appendices:

Appendix A -CK COPD Working Group Membership

| Name | Title | Organization |
|------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sherri Saunders | Manager of Service Integration, Co-Chair COPD working group | Chatham-Kent Health Alliance Respiratory Health Centre |
| Amanda Bechard | Registered Nurse, Aging at Home | Chatham-Kent Community Health Centre |
| Michelle Bogaert | Smoke Free Ontario Coordinator | Chatham-Kent Public Health |
| Karla Comartin | Certified Asthma Educator | Tilbury District Family Health Team |
| Jennifer DeMars | Manager | ProResp |
| Al Erison | COPD Patient | |
| Madonna Ferrone | Coordinator ARG/PCAP | Asthma Research Group Incorporated |
| Kelley Ilisevic | Senior Director Project Management, Human Resources and Organizational Development | Erie St. Clair Community Care Access Centre |
| Janet Johnston | Pharmacist | Chatham-Kent Health Alliance |
| Gail King | Clinical Coordinator Physiotherapy, EMG, Chiropody, Cardiac Rehab, Cardiac Clinic | Chatham-Kent Health Alliance |
| Barb Lather | Business & Program Manager | Thamesview Family Health Team |
| Dr. Martin Lees | Primary Care Lead Erie St. Clair | Erie St. Clair LHIN |
| Laura Liebrock | Health Promoter for City Centre Health Care | City Centre Health Care |
| Bernie Muise | Health Care Manager | Glaxo-SmithKline Inc. |

Appendix A – CK COPD Working Group Membership (cont'd)

| Name | Title | Organization |
|------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Marianne Myers | Occupational Therapist, Aging At Home | Chatham-Kent Community Health Centre |
| Ivan Nicoletti | Case Manager | Erie St. Clair Community Care Access Centre |
| Corinne Pollard | Nurse Practitioner Emergency Services | Chatham-Kent Health Alliance CKHA Nurse Practitioner Led Clinic at Sydenham Campus/Wallaceburg |
| Roslynn Walpole | Branch Manager for Chatham & Windsor | Vital Aire |
| Rebecca Whiting | Registered Respiratory Therapist | Thamesview Family Health Team |
| Kristen Williams | Chief Executive Officer | Chatham-Kent Community Health Centre |
| Alec Anderson | Health Sys. Design Manager, Co-Chair COPD working group | Erie St. Clair Local Health Integration Network |
| Sandra Lariviere | Project Manager | Erie St. Clair Local Health Integration Network |
| Gertie Mai Muise | Aboriginal Lead | Erie St. Clair & South-West Local Health Integration Networks |
| MaryAnn Stirling | Administrative Assistant | Erie St. Clair Local Health Integration Network |

Appendix B - CK COPD Service Inventory

Organization: **ARGI and Chatham-Kent FHT**

Person Completing Inventory: Madonna Ferrone

| COPD Working Group Service Inventory | |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program Name(s): | Chatham Kent FHT COPD Program partnered program with ARGI |
| Brief Service Description: | COPD Program focusing on High Risk COPD patients utilizing high amounts of health care services. The program includes: individual assessment, education for COPD – medications – exercise – health lifestyle, smoking cessation, care plan development with patient, action plan collaboration with patient and health care provider (HCP), referrals to community services as required, collaboration with physician and NP for care plan development. |
| Catchment Area: | Entire Chatham-Kent County for rostered patients of Chatham-Kent FHT |
| Population Served: | |
| Eligibility Requirements: | COPD |
| Access Method: | Referral from HCP or self-referral |
| Staffing Level: | 0.2 FTE |
| Funding/Budget: | Annualized funding for 2 years to 2013 – grant, not part of operating budget. |

Organization: CKHA, Respiratory Health Centre & ARGI partnership with Chatham-Kent FHT

Person Completing Inventory: Sherri Saunders

| COPD Working Group Service Inventory | |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program Name(s): | Chatham-Kent Health Alliance, Respiratory Health Centre's COPD program + partnered programming with ARGI (2 days per week) |
| Brief Service Description: | <p>COPD education is offered mostly in a group although I do some one-on-one COPD individualized counseling for individuals. Zofe Roberts, RRT, CRE, coordinates, present, recruit and organize the COPD education series. There is an education team which is outlined in our attached brochure.</p> <p>The COPD series consists of 6 classes (2 hours each). In a fiscal year we run the series 6 times, usually with 2 series run at a time (i.e. morning group & afternoon group). These sessions are offered offsite in Chatham, Wallaceburg & Tilbury. In Tilbury, the Tilbury District Family Health Team is our location and our community partner. The education team health care provider's (HCP's) do presentations on their respective topics.</p> <p>COPD support group has been established for individuals with COPD in partnership with RHC, Thamesview FHT, CKCHC, the Lung Association, Vital Aire & ProResp). This support group runs 3rd Tuesday of each month from 1330-1500hours for any patient with COPD in our CK community.</p> <ul style="list-style-type: none"> • Attachments include: <ul style="list-style-type: none"> a) COPD education series patient information b) COPD education series outline c) RHC referral for COPD d) COPD support group flyer e) RHC/Respiratory Health Centre brochure – overview of all services offered • Smoking cessation counseling is offered to any of the RHC patients either individually or within a group. CKHA has partnered with the CKPHU/Chatham-Kent Public Health Unit for some of the group smoking programs that are offered. In addition, any individual who is interested in quitting within the next month is welcome to come for individualized smoking cessation counseling (a series of 3 visits is offered while they are in the quit process). • Instruction on proper use of a respiratory device (inhaler, aero chamber, etc.) is also offered to anyone who uses one or needs/wants help. • Some individuals with COPD and other respiratory diseases do not qualify for oxygen by arterial blood gases but have significant desaturation during exertion. Assessment for exertional hypoxemia is offered to them as a means to obtain oxygen and the respective funding for it. <p>Two days per week, Zofe Roberts is contracted to ARGI as the CRE to offer COPD programming to the Chatham-Kent Family Health Team (CKFHT). Programming is focused on High Risk COPD patients utilizing high amounts of health care services. The program includes: individual assessment, education for COPD – medications – exercise – health lifestyle, smoking cessation, care plan development with patient, action plan collaboration with patient and HCP, referrals to community services as required, collaboration with physician and NP for care plan development.</p> |

Organization: CKHA, Respiratory Health Centre & ARGI partnership with Chatham-Kent FHT – cont'd

Person Completing Inventory: Sherri Saunders

| | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Catchment Area: | Municipality of Chatham-Kent for RHC & rostered patients of Chatham-Kent FHT for ARGI contracted services |
| Population Served: | |
| Eligibility Requirements: | COPD |
| Access Method: | Referral from HCP (physician, NP, etc.); ARGI contracted services will also take self-referrals |
| Staffing Level: | 0.6 FTE RHC & 0.4 FTE ARGI contacted services |
| Funding/Budget: | 0.6 FTE RHC is funded by Chatham-Kent Health Alliance Fund 1/base funding (no external revenue sources) estimated at \$66 907 annually for 2012/2013 0.4 FTE ARGI contracted services = annualized Funding for 2 years to 2013 – grant, not part of operating budget. |

Organization: CKHA (1)

Person Completing Inventory: Corinne Pollard PHC-NP

| COPD Working Group Service Inventory | |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program Name(s): | NP Clinic- Sydenham Campus |
| Brief Service Description: | Provide primary care to patients focusing on health promotion and disease promotion. Focus on chronic disease diagnosis and management with consultation with Chatham-Kent internist and primary care physician. Collaboration with CK Diabetes Education, dietician and Zofie Roberts for COPD and Asthma care |
| Catchment Area: | Chatham Kent |
| Population Served: | Unattached patients in the Wallaceburg Area |
| Eligibility Requirements: | No primary care provider |
| Access Method: | Applications available in the Wallaceburg ED or registration. Currently downsizing NP clinic with the eventual closure once the transfer of patients to the CHC as CHC staffing expands. |
| Staffing Level: | 3 FTEs - 3-NPs with secretarial support |
| Funding/Budget: | Annualized Funding (2010-11) |

Organization: **CKHA (2)**

Person Completing Inventory: Janet Johnston

| COPD Working Group Service Inventory | |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program Name(s): | COPD Education Series |
| Brief Service Description: | 6 weeks – 2 hours/week sessions CRE, RT, physiotherapist, pharmacist, dietitian, social worker, occupational therapist, oxygen suppliers – Program is coordinated by CRE –each week a representative from a different profession teaches pulmonary rehab skills. These skills are reviewed each week Offered 3 times a year – 2 spring and 1 fall session |
| Catchment Area: | Chatham Wallaceburg (also offered in Tilbury) |
| Population Served: | Chatham Kent |
| Eligibility Requirements: | Diagnosis of COPD – any stage |
| Access Method: | (e.g. Physician Referral Needed) Physician Referral |
| Staffing Level: | All employees of CKHA except ProResp and Vital Aire |
| Funding/Budget: | Annualized Funding (2010-11) – see Zofe Roberts CRE, RT at CKHA |

Organization: **Chatham-Kent Community Health Centres**

Person Completing Inventory: Sonia Teeuwen

| COPD Working Group Service Inventory | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program Name(s): | COPD Pulmonary Maintenance Program |
| Brief Service Description: | Follow support provided to clients after they have completed an education series on COPD. The client receives support from an RN on a scheduled basis (home visits and phone calls). The support offered includes education clarification, medication administration reviews, breathing technique reviews, general health concerns, help develop coping skills, etc. |
| Catchment Area: | Chatham-Kent and Walpole Island |
| Population Served: | Anyone with COPD |
| Eligibility Requirements: | Diagnosis of COPD |
| Access Method: | Referral to Aging At Home Program (can be self, physician, nurse, family, etc. referrals) |
| Staffing Level: | 1 FT RN, 0.5 T |
| Funding/Budget: | Annualized Funding (2010-11) |
| COPD Working Group Service Inventory | |
| Program Name(s): | COPD Education Series – “Fresh Start with COPD” |
| Brief Service Description: | 6 weeks – 2 hours/week sessions CK CHC RN, OT, RD, SW, NP, Vital Aire/ProResp representative. Program is coordinated by OT/RN –each week a representative from a different profession teaches pulmonary rehab skills. These skills are reviewed each week Offered 2-3 times a year |

Organization: Chatham-Kent Community Health Centres – cont'd

Person Completing Inventory: Sonia Teeuwen

| | |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Catchment Area: | Chatham-Kent and Walpole Island |
| Population Served: | Anyone with COPD, including their family members if desired. |
| Eligibility Requirements: | Diagnosis of COPD |
| Access Method: | Referral to class (can be self, physician, nurse, family, etc. referrals) |
| Staffing Level: | RN, OT, RD, SW, NP, Admin |
| Funding/Budget: | AAH Funding |
| COPD Working Group Service Inventory | |
| Program Name(s): | COPD Support Group |
| Brief Service Description: | COPD support group has been established for individuals with COPD in partnership with RHC, Thamesview FHT, the Lung Association, Vital Aire & ProResp. This support group runs 3rd Tuesday of each month from 1330-1500hours at the CK CHC for any patient with COPD in our CK community. Refreshments provided; education, socialization and networking. |
| Catchment Area: | Municipality of Chatham-Kent |
| Population Served: | People with COPD and their families/caregivers living in the municipality of Chatham-Kent |
| Eligibility Requirements: | Diagnosis of COPD or family member/caregiver of someone with a diagnosis of COPD |
| Access Method: | Registration completed through the Lung Association or just walk in |
| Staffing Level: | RN and one other from other organization |
| Funding/Budget: | Donations from organizations involved |
| COPD Working Group Service Inventory | |
| Program Name(s): | Spirometry |
| Brief Service Description: | Perform Spirometry Pre and Post bronchodilator as indicated. Determine smoking status. Counsel regarding nicotine replacement therapy and provide education at a suitable level to the patient's age and understanding. The PCP will be notified of results of the assessment |
| Catchment Area: | Municipality of Chatham-Kent |
| Population Served: | Clients of the CK CHC |
| Eligibility Requirements: | Must have confirmed /suspected diagnosis of COPD. Criteria for confirmed COPD as per CTS COPD Guidelines: spirometry testing showing a post bronchodilator FEV1/FVC>0.7. Suspected COPD patient with significant smoking history (>10 pack/years) who presents with progressive exertional dyspnea, cough +/- sputum production, and frequent respiratory infections |

Organization: Chatham-Kent Community Health Centres – cont’d

Person Completing Inventory: Sonia Teeuwen

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|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Access Method: | Physician referral required or NP (working under medical directive) |
| Staffing Level: | 1 RN |
| Funding/Budget: | AAH Funding |
| COPD Working Group Service Inventory | |
| Program Name(s): | Nicotine Replacement Therapy (NRT) |
| Brief Service Description: | Can provide NRT to clients who wish to quit smoking as part of the STOP Study. Medical directive in place to provide this. Staff who are dispensing are all TEACH or equivalent trained. |
| Catchment Area: | Clients of the CK CHC |
| Population Served: | Clients of the CKCHC – including clients of the AAH |
| Eligibility Requirements: | Clients of the CKCHC – including clients of the AAH team who are smokers and wish to quit, |
| Access Method: | Referral from HCP or self |
| Staffing Level: | 1 Addictions Counselor, 2 NPs, 2 RN, 1 RPN. |
| Funding/Budget: | Smoking Treatment for Ontario Patients (STOP) Study through CAMH |
| COPD Working Group Service Inventory | |
| Program Name(s): | Master Your Health – Stanford Chronic Disease Self-Management |
| Brief Service Description: | MYH enables clients with chronic disease to self-manage - scripted Runs 2 hours a week for 6 weeks – 2/year at minimum. Workbooks are provided to participants (funded through the LHIN) Snacks/refreshments provided |
| Catchment Area: | Municipality of Chatham-Kent |
| Population Served: | People with any chronic disease living in the CK community |
| Eligibility Requirements: | People with any chronic disease living in the CK community |
| Access Method: | Self or HCP referral |
| Staffing Level: | 2 staff trained to deliver - 2RNs, 1SW |
| Funding/Budget: | Base funding |
| COPD Working Group Service Inventory | |
| Program Name(s): | Primary Care |

Organization: Chatham-Kent Community Health Centres – cont'd

Person Completing Inventory: Sonia Teeuwen

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| Brief Service Description: | The CK CHC provides primary care to all clients Access to the following services are available to all clients, including those with COPD <ul style="list-style-type: none"> ➤ Vaccination clinics (open to all community members) ➤ Nutrition counseling and classes (classes are open to all) ➤ Functional assessment via OT/PT available to all ➤ Telemedicine – received approval and funding, program to be developed. ➤ Smoking Cessation – 1:1 counselling provided by TEACH trained staff members ➤ Exercise – various group programs available to all ➤ Prevent/Treat AECOPD – devise action plans and provide scripts for rescue medications in accordance to action plans through AAH RN (diverting ER visits and hospital admissions) ➤ Anxiety/Depression – various groups/programs available to all ➤ Culturally Competent Services – CHC staff have received additional training to provide culturally safe care ➤ Program and Services are always provided FREE OF CHARGE |
| Catchment Area: | CK Community |
| Population Served: | Clients and CK Community |
| Eligibility Requirements: | Client of CHC (target population) or COPD/Falls for AAH program |
| Access Method: | Self-referral or HCP |
| Staffing Level: | CHC Team |
| Funding/Budget: | Base Funding and AAH Funding (all) |

Note: the CH FHT - AAH Team consists of 1FTE RN, 1 FTE OT, 1 FTE PT, 1 FTE Admin.

Organization: Chatham-Kent Public Health Unit

Person Completing Inventory: Michelle Bogaert

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| COPD Working Group Service Inventory | |
| Program Name(s): | Smoking Treatment for Ontario Patients (STOP) Program on the Road |
| Brief Service Description: | A one night workshop offering 5 weeks of FREE <i>Nicotine Replacement Therapy</i> NRT (patch). Participants register, attend a workshop at which there is a presentation lasting approximately one hour in length and receive their NRT. Follow up is done by Centre for Addiction and Mental Health CAMH. The current local programs are made possible by a partnership between (CAMH), CK Public Health and the CK Community Health Centres. A total of four workshops will held by April 4, 2012 The provincial STOP program is made possible by a partnership between CAMH and the Ministry of Health and Long Term Care. |
| Catchment Area: | Chatham-Kent. |
| Population Served: | 1. Community at large 2. Targeted low income priority population |

Organization: Chatham-Kent Public Health Unit (cont'd)

Person Completing Inventory: Michelle Bogaert

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| Eligibility Requirements: | <p>Must be 18+ years of age, a Canadian resident, daily smoker, smoked daily in the last three months, smoke 10+ cigarettes a day, have a quit day in the next 30 days.</p> <p>Must not: be pregnant or breast feeding, have used NRT (gum, patch, lozenge, or inhaler in the past 30 days, not have participated in program in last 6 months, have taken Champix in the past 7 days, Cannot have participated in the last 6 months, have any medical or psychiatric issues/problems such as heart attack in the past 2 weeks, life threatening arrhythmias, recent cerebral vascular incident, severe or worsening angina pectoris or sever psychiatric condition not well controlled.</p> |
| Access Method: | Phone to register and complete assessment. |
| Staffing Level: | <p>0.02 FTE Health Educator \$1,300.00</p> <p>0.02 FTE Secretary \$ 800.00</p> <p>0.03 FTE Nurse Practitioner \$2,250.00</p> <p>Based on at total of: 1 Health Educator, 2 Secretaries, and 3 Nurse Practitioners per workshop.</p> |
| Funding/Budget: | <p>Annualized funding (2010-11)</p> <p>\$4,350.00 estimation for one workshop.</p> |

Organization: ESC CCAC

Person Completing Inventory: Ivan Nicoletti

| COPD Working Group Service Inventory | |
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| Program Name(s): | Community COPD Teams |
| Brief Service Description: | <p>The Community COPD Teams integrated program is based on developing a service for COPD clients within the ESC LHIN catchment area. It has been commissioned by the ESC LHIN Aging at Home Initiative.</p> <p>The project is built upon a platform with a unique partnership between Erie St. Clair CCAC, local Community Health Centres and Family Health Teams. The partnership brings together clinical leadership and community care experience to ensure that the comprehensive support provided will significantly improve care and quality of life for individuals with COPD. The project will utilize experience and knowledge from a multidisciplinary team approach and deliver a sustainable service, engrained on evidenced based best practice.</p> <p>The overall vision is to develop and establish an integrated model of care built around COPD clients within Erie St. Clair LHIN catchment. The vision is based on:</p> <ul style="list-style-type: none"> • Improving the overall Quality of Life for COPD clients • Providing clients with the tools, knowledge and skills to self-manage their disease • Improving access for clients to local community based programs • Connecting clients to health promotion and prevention strategies i.e. smoking cessation, pulmonary rehabilitation |

Organization: ESC CCAC – cont'd

Person Completing Inventory: Ivan Nicoletti

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| Brief Service Description: (cont'd) | <ul style="list-style-type: none"> Seamless care pathways based on Canadian Respiratory Guidelines/ Canadian Thoracic Society (CTS) best practices Reducing healthcare utilization, specifically unplanned ED visits and hospitalizations Continuous evaluation via outcome measurements <p>Our vision not only focuses on the best integrated care possible, but also to be champions in Chronic Disease Management and in the delivery of community based care. The demonstration of successful outcomes will create the potential for implementation into other areas of chronic disease management.</p> |
| Catchment Area: | Sarnia – Lambton, with intent to implement in Chatham- Kent and Windsor Essex. |
| Population Served: | Adults diagnosed with COPD |
| Eligibility Requirements: | COPD Diagnosis |
| Access Method: | By referral through any of the participating organizations – no physician signature required for Erie St. Clair CCAC. |
| Staffing Level: | 1 FTE RRT, 1 FTE Coordinator, 0.5 FTE OT, 1 FTE TA |
| Funding/Budget: | Annualized funding (2010-11) |

Organization: ProResp

Person Completing Inventory: Jennifer Demars

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| COPD Working Group Service Inventory | |
| Program Name(s): | ProResp Inc. |
| Brief Service Description: | Dedicated to provide quality community respiratory services with a compassionate, client centered approach. Services, care and education provided are home oxygen therapy; Continuous Positive Airway Pressure (CPAP) therapy; inhalation (wet aerosol) therapy; and, airway management supplies (tracheostomy and suction supplies). |
| Catchment Area: | Chatham Kent |
| Population Served: | All ages – infant to geriatric. |
| Eligibility Requirements: | Physician Prescription required for oxygen therapy. Ministry of Health's Home Oxygen Program and Assistive Device Program Medical Criteria; self or private insurance pay requires a physician prescription only for oxygen therapy |
| Access Method: | Physician prescription Required - Physician offices/Family Health Teams and Centres, Hospital, CCAC, long-term care home, community care agencies, self-referrals |
| Staffing Level: | Regulated health professionals for all clinical aspects of respiratory services – Manager is an RRT; Service Technicians for equipment delivery and maintenance; customer service representative for client reception and office administration |
| Funding/Budget: | Private company – business focus is respiratory care and service resulting in a focus on those suffering with COPD |

Organization: Thamesview Family Health Team

Person Completing Inventory: Barb Lather

| COPD Working Group Service Inventory | |
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| Program Name(s): | Respiratory Wellness Program |
| Brief Service Description: | Perform Spirometry Pre and Post bronchodilator as indicated. Determine smoking status. Counsel regarding nicotine replacement therapy and provide education at a suitable level to the patient's age and understanding. Follow up appointments will be made and each assessment and session will be documented in the patient's chart in Xwave as a separate note. The PCP will be notified of results of the assessment and any other pertinent information which comes up during any of the sessions. |
| Catchment Area: | Chatham, Dresden, Thamesville, Blenheim, Bothwell, Moraviantown, Tupperville, Tilbury, Wallaceburg, Wheatley |
| Population Served: | 23,000 |
| Eligibility Requirements: | Must be a patient of Thamesview Family Health Team Must have confirmed /suspected diagnosis of COPD. Criteria for confirmed COPD as per CTS COPD Guidelines: spirometry testing showing a post bronchodilator FEV1/FVC>0.7. Suspected COPD patient with significant smoking history (>10 pack/years) who presents with progressive exertional dyspnea, cough +/- sputum production, and frequent respiratory infections |
| Access Method: | Physician Referral Required. |
| Staffing Level: | 1 Nurse Practitioner, 1 Respiratory Therapist, 2.5 Registered Nurses |
| Funding/Budget: | Annualized funding (2010-11) |

Organization: Tilbury Family Health Team

Person Completing Inventory: Karla Comartin

| COPD Working Group Service Inventory | |
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| Program Name(s): | Lung Health Program |
| Brief Service Description: | Provision of information on the disease process of COPD and how to self-manage its care. Assist to ensure the proper use of inhalers by the patients. Assist to ensure proper medication is provided and adjustment of the dosage of medication is done based on patients symptoms. |
| Catchment Area: | Chatham Kent |
| Population Served: | COPD |
| Eligibility Requirements: | Diagnosis of COPD. Both patients and non-patients are able to attend the COPD classes. |
| Access Method: | (e.g. Physician Referral Needed) Physician, NP, Nurse Educator referral. |
| Staffing Level: | # of FTEs by Type We have a regular part time RN and a pharmacist that is there one day a week. |
| Funding/Budget: | Annualized funding (2010-11) |

Organization: **Vital-aire**

Person Completing Inventory: Roslynn Walpole

| COPD Working Group Service Inventory | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Program Name(s): | |
| Brief Service Description: | One on one teaching/coaching with drug therapy, oxygen therapy, breathing techniques, safety, travel, exercise |
| Catchment Area: | Windsor/Essex; Chatham/Kent Counties |
| Population Served: | Diagnosed with any respiratory ailment |
| Eligibility Requirements: | Respiratory diagnosis, valid HC#, |
| Access Method: | (e.g. Physician Referral Needed) Need referral from physician, CCAC, Nurse Practitioner, RT dept/hospital, |
| Staffing Level: | # of FTEs by Type 4 FT RRT's on staff |
| Funding/Budget: | Annualized funding (2010-11) Private company |

Appendix C - SWOT Detailed Results

Strengths of Current COPD System:

- Evidence based COPD guidelines are available and being implemented (CTS COPD Guidelines, GOLD guidelines)
- Respiratory therapists are CRE certified
- Easy access to COPD education for patients in familiar surroundings is available
- COPD Program offered by an expert education team of HCP'S
- COPD programming and education is now available in Chatham, Wallaceburg and Tilbury
- COPD Education Series (6 weeks) at CHC for all community members
- Use professionals from many disciplines to teach various topics
- Smoking cessation programs are available (STOP Program, Nicotine replacement, motivational interviewing)
- Some COPD program exist in primary care
- Primary care appointments are held in evening hours to increase access to those who work
- Follow up appointments are prompt with respiratory therapist or family physician
- Recently implemented CAT (COPD Assessment Tool) as outcome measure
- Good access to spirometry testing
- Movement to electronic data outcome patient care
- All physicians and IHPs use the same EMR allowing consistency of care for the patient as well as being interfaced with the hospital
- Notes are completed at the time of visit and real time information is provided in a timely manner
- Use of an electronic assessment tool – standardized data collection, evaluation of outcomes, information sharing
- LHIN has identified COPD as an important disease to tackle for health care utilization and quality of life
- Collaboration Seems to be effective
- Collaborative effort through a multidisciplinary team
- Same day accessibility for patients needing urgent care
- Pulmonary Maintenance Program (PMP) at CHC for all community members
- COPD Support Group- partners
- CHC Aging at Home program is a mobile unit (RN and OT provide home visits)
- The mobile unit model is based on an integrated inter-professional approach
- Integrated referral system/process from hospital setting to COPD Team within 24 hours of discharge (either admitted or ED visit)
- 24 hour / 7 days per week emergency coverage is provided
- COPD wellness program and self-management programs

Weaknesses:

- General lack of awareness of community services
- Need for more evidence-based care consistently across all primary care providers in CK
- Need for better standardization of COPD assessment processes and formats
- Across Chatham Kent the quality of programming tends to differ (based on financial or staffing resources)
- Physician program awareness and referrals to programs needs to be strengthened
- Need better follow-up with the COPD population on their management of their disease
- Transportation barriers for patients to access COPD programs
- There are “compliance” weaknesses in regards to proper use of inhaler
- There are issues in terms of COPD knowledge, education and management of the disease
- Patients not being referred to a specialist i.e.: Respirologist or respiratory company soon enough
- Population with no primary care provider who continue to receive episodic care through the Emergency Department
- Aging physician population in the community- potential for increasing numbers of patients with no primary care provider
- Need more emphasis on prevention in primary care setting(smoking cessation)
- Need to improve self-management skills (action plans)
- Measuring tools for COPD are sometimes difficult to use
- Not many referrals to CHC programs (COPD PMP, Falls Prevention)
- Community not aware of COPD Educational supports/groups provided by Community partners and CHC
- Other agencies not aware of what each other are doing
- Majority of education sessions held during the day, difficult for working individuals to attend,
- Some patients choose not to participate in Education sessions/classes
- Spirometry appointments for diagnosis of COPD difficult for working individuals to access
- Not all patients have access to the right medications – if no drug plan and under age 65
- Clients with COPD may not be aware of the seriousness of disease (lack of info provided at time of diagnosis)
- Lack of early diagnosis and intervention in primary care settings
- Lack of Respirologist access in Chatham-Kent, clients have to travel out of CK for service
- At patient discharge after a COPD exacerbation, Order Sets cannot handle referrals to different agencies
- Need for increased provider training and education in the treatment and management of COPD
- Need for more electronic outcome based care (identification of indicators/metrics to measure)

Opportunities for Improvement:

- One central intake for COPD clients and disperse to community agencies
- Ensure that all programs are based on expert recommendations and offer the same opportunities for patients enrolled
- Ensure that all patients with COPD have access to programming and are encouraged to participate
- Healthcare professional follow-up, increase awareness and referrals to the programs that are offered to this population
- Increase awareness of the COPD group in our community
- An awareness campaign promoting COPD facts
- Referrals to specialized care sooner
- One referral to a central COPD rehab program would make sure that all discharged patients were referred
- Provision of more evidence-based care
- Using experts for additional care and better collaboration with primary care physician and NP
- More outcome based care (identification of indicators/metrics to measure, inclusive of Quality of life, patient satisfaction and health care utilization)
- Working better as a group/system to follow the prescreening tests for COPD to catch the disease early in its early stages
- More awareness of COPD to general public
- Awareness and education provided to health professionals/community
- Potential to offer group education in areas that best meet community's needs – free of charge
- Coordination of patient education and assessment by primary care provider (PCP)- i.e.: patient attends appointment with PCP which includes short education session regarding disease process, smoking cessation, treatment- done by PCP or allied health professional
- Provide education regarding smoking cessation in the ED to identified smokers

Threats Facing Sector:

- Financial restraints
- Growing population of COPD (aging population) without appropriate funding to manage
- Health care providers trying to learn everything about all diseases in primary care (impossible to be experts at all diseases)
- Access to medications – financial impacts
- Lack of primary care providers in Chatham-Kent
- Lack of Respiriologist in Chatham-Kent
- Client compliance with treatment and follow up
- Physicians may not refer to the program
- Reduced access to testing - reduction in hours for spirometry at Sydenham Campus
- High unemployment rate and higher mental health population - increase number of smokers in that population
- Low levels of education in the community – result is individuals that are less likely to follow healthy lifestyle practices
- Low socio-economic status
- Fear of relinquishing ownership of patients
- Social determinants of health- lack of or no mode of transportation, no money for medication, care, or to get to care, and lack of social support systems
- Provider safety when on home visits due to high rate of mental illness clients at CHC
- Younger clients being diagnosed (30yrs old)
- Teenage smoking rates increasing
- System partners may not be interested in participating in activities associated with integrated program
- Misinformation and myths about COPD that make it difficult for patients to understand
- Emergency Department bogged down with patients that could be monitored at home

Appendix D - Summary of Best and Promising Practices for COPD Care and Management

| Practice Reference: | Brief Description: |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2011 CTS Guideline: Managing Dyspnea in patients with advanced COPD | Evidence based guidelines that provide recommendations for the management of advanced COPD (Fev1 <50%, MRC 4-5) and refractory dyspnea. Document reviews use of antidepressants, opioids, chest wall vibration, walking aids and continuous O2. |
| 2010 CTS Guideline: Optimizing pulmonary rehab (PR) in COPD | Evidence based guidelines that provide recommendations for the use of PR in COPD. Compares home based to hospital based programs, reviews benefits of aerobic and resistance training, length of PR programs, benefits, who should participate and when to initiate PR. |
| 2008 Update CTS Guideline: Highlights for Primary Care- Recommendations for Management of COPD | Completed on master list. |
| 2010 – RNAO Best Practice Guidelines: The 6th Vital Sign in Individuals with COPD. | Recommendations for nursing providers that assists both practitioners and patients in decision making about appropriate healthcare. Highlights the nursing assessment and management of stable and unstable dyspnea. |
| A multidisciplinary approach to the treatment and management of chronic obstructive pulmonary disease. VOL. 50 NO. 3, APRIL 2008 BC MEDICAL JOURNAL | Highlights the importance of a multidisciplinary team approach with primary care provider involvement, from early diagnosis to end-of-lofe-care. Highlights spirometry, education, PR, smoking cessation and nutritional advice. |
| Effects of Home Based Pulmonary Rehab in Patients with COPD. Annals of Internal Medicine VOL 149, number 12, 16 Dec 2008. | Research completed that compared effects of home vs. hospital based PR. Both interventions produced similar results. Home based PR is a useful equivalent alternative to outpatient PR in patients with COPD. |
| The Nonpharmacologic Treatment of Chronic Obstructive Pulmonary Disease. Proc Am Thorac Soc Vol 4. pp 549–553, 2007 | Highlights the importance of PR use, positive outcomes and recommended components of a PR program. |

| Practice Reference: | Brief Description: |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2008 Canadian Thoracic Society (CTS) COPD Guidelines and Highlights for Primary Care: Recommendations for Management of COPD | Evidence based Canadian guidelines for COPD. Provide up to date information for patients to receive optimal care that is evidence based. Key messages: targeted screening spirometry to establish a diagnosis and initiate prompt management to improve dyspnea and activity limitations. Evidence based algorithms in preventing and managing acute exacerbations. Spirometry testing showing a post bronchodilator FEV1/FVC<0.07 Includes screening, evaluation, management, and pharmacology for COPD. |
| Global Initiative for COPD (GOLD) Global strategy for the diagnosis, management and prevention of COPD Revised 2011 | Evidence base information on the diagnosis and management of COPD from a global perspective |
| Spirometry for Health Care Providers (GOLD) | Document includes information about spirometry, importance of spirometry in the management of COPD, explain interpretation of spirometry results |
| OLA COPD Care Map | Evidence based – Developed as a provincial initiative for Primary Care physicians and NP's |
| ARGI – COPD Electronic Tool | Electronic tool, evidence based able to pull over 150 data elements for COPD and/or Asthma – Being used in Primary Care at 5 FHT, Solo Physician offices, Windsor-Essex CHC and will be starting with CCAC |
| Living Well with COPD | Hospital based COPD education program for patients – Developed in Quebec |
| 5 A's | Ask, Advise, Assess, Assist and Arrange |
| CTS questionnaire for current or ex-smokers over the age of 40 as per CTS Canadian Lung Health Team | Any patients answering yes to any of these questions automatically move into the program and are set up with NRT if they smoke |
| 2010 CTS Guidelines Optimizing Pulmonary Rehabilitation IN COPD | Speaks to studies done regarding comparisons of non-hospital to hospital based pulmonary rehabs, studies about length of pulmonary rehabs, and when to initiate pulmonary rehab. |
| 2011 CTS Guideline: Managing Dyspnea in patients with advanced COPD | |
| 2010 CTS Guideline: Optimizing pulmonary rehab in COPD | |

| Practice Reference: | Brief Description: |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2010 – RNAO Best Practice Guidelines: The 6th Vital Sign in Individuals with COPD. | |
| A multidisciplinary approach to the treatment and management of chronic obstructive pulmonary disease. VOL. 50 NO. 3, APRIL 2008 BC MEDICAL JOURNAL | |
| Effects of Home Based Pulmonary Rehab in Patients with COPD. Annals of Internal Medicine VOL 149, number 12, 16 Dec 2008. | |
| The Nonpharmacologic Treatment of Chronic Obstructive Pulmonary Disease. Proc Am Thorac Soc Vol 4. pp 549–553, 2007 | |
| RNAO Best Practice http://www.rnao.org/Storage/29/2338_Final_-_revised_smoking.pdf | Minimal contact intervention: At every point of contact patients receive minimal contact intervention using Ask, Advise Assist and Arrange protocol. |
| Ottawa Model http://www.ottawamodel.ca/en_main.php | Similar to minimal contact intervention, at all points of contact patients are offered cessation support including free NRT. Support phone calls are received after patients are discharged. |
| Smokers' Helpline-Canadian Cancer Society http://www.smokershelpline.ca/?gclid=COyL7PSU4q4CFQ0DQAodyH_XQ | Smokers' Helpline offers cessation support on-line, texting and by phone. |

| Practice Reference: | Brief Description: |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Smoking Treatment for Ontario Patients (STOP) http://www.stopstudy.ca/ | <p>The Smoking Treatment for Ontario Patients (STOP) Study is a research project that aims to discover the most effective methods of delivering free smoking cessation medication and counseling support to smokers across Ontario. Our approach is to use the existing healthcare infrastructure as well as new and innovative means to reach smokers from all parts of the province.</p> <p>Well-validated research studies have shown that using medications such as Zyban® (bupropion), Champix® (varenicline), and Nicotine Replacement Therapy (NRT) patch, gum, lozenge and inhaler can double the chances of quitting smoking. Since its inception in 2005, the STOP Study has provided free smoking cessation medication and counseling support to over 65,000 Ontario smokers who wanted to quit smoking.</p> <p>This program is made possible by a partnership between the Centre for Addiction and Mental Health (CAMH) and the Ministry of Health and Long-Term Care.</p> |
| COPDTrec + Education Module | <p>Programs offered several times a year by the Lung Association. Teaches essentials in basic COPD education and components of a COPD educational program. The Education module helps participants learn best teaching approaches for patients with COPD.</p> <p>The entire program to become a CRE takes months and includes an exam offered once a year, but the COPD management module is offered several times a year. Enduring that all people involved in setting up a COPD program have either attended these courses or are Certified Respiratory Educators would help see that the same opportunities are provided to all patients in all locations.</p> |
| The Human and Economic Burden of COPD: A leading cause of hospital admission in Canada | February 2010; Canadian Thoracic Society by Susannah Benady |