Implementing an INSPIRED Approach to Care for Patients Living with Advanced COPD

Change Package for the INSPIRED COPD Outreach Program™
Acknowledgements
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Why Did CFHI Develop This Change Package?

In Canada, chronic obstructive pulmonary disease (COPD) is the chronic disease most responsible for hospital admissions (CIHI, 2015). It is a leading cause of morbidity and mortality in Canada (Statscan, 2012; Statscan, 2011) and is soon to be the third leading cause of death worldwide (WHO, 2008). Approximately 804,043 Canadians (Statscan, 2015) aged 35 and older report being diagnosed with COPD, however this number is underestimated as COPD symptoms are often under-recognized, COPD is under-diagnosed, and susceptible patients are underscreened for the disease (Statscan, 2014; Tan et al., 2011). A nationwide Canadian Lung Association report card gave most Canadian provinces poor or failing grades for COPD care (Canadian Lung Association, 2005). In Canada, acute COPD exacerbations (AECOPDs) account for more than $750-million a year in hospital-based costs – an estimate that does not include the costs of routine care (Mittmann et al., 2008).

In the last two decades, Canada has been a leader in self-management interventions aiming to improve care and support patients and families living with COPD. In the early 2000s, Canadian studies were the first to establish that implementing COPD self-management interventions with a written Action Plan and communication with a healthcare professional (e.g., case manager) could reduce hospital admissions by 40% and emergency department (ED) visits by 60% as compared to standard care (Bourbeau et al., 2003). Furthermore, it was demonstrated that these interventions had the potential to save healthcare costs (Bourbeau et al., 2006). The INSPIRED COPD Outreach Program™ was developed to implement self-management interventions that are integrated, coordinated, and patient-centred.

INSPIRED COPD Outreach Program™ Background & Context

The INSPIRED COPD Outreach Program™ was developed and implemented at the Queen Elizabeth II Health Sciences Centre in Halifax, Nova Scotia in 2010 as a way to improve care transitions from hospital-to-home for COPD patients and families following hospital discharge. The goal was to provide support to enable patients and families to better manage their advanced COPD at home, decrease their sense of isolation and distress, and reduce their dependency on ED and inpatient healthcare services.

David, a 75-year-old Halifax INSPIRED patient recalls what it felt like during an AECOPD: “It’s panic time when it strikes. You can’t breathe, you’re gasping for air. It is unbelievable, until it happens to you.” Before enrolling in the INSPIRED COPD Outreach Program™, he had five hospital visits within 14 months, and could not climb five stairs continuously. Since completing the program, he can ascend 15 stairs and self-manage his symptoms well enough to go away on vacation. This is just one example of how the INSPIRED COPD Outreach Program™ is positively impacting patients.

In addition to patients and families reporting improved experiences of care, feeling more confident in managing their symptoms, being willing to discuss goals of care, and experiencing significant improvements in quality of care transitions from hospital to home, six months after enrollment in the INSPIRED program in Halifax, 131 patients had 60% fewer ED visits, 63% fewer hospital admissions and 62% fewer hospital days (see Rocker & Verma, 2014). The reduction in
hospitalizations translates into an estimated cost saving of $977,000 – more than three times the annual operating costs of the INSPIRED program. These reductions continued into the 12-month patient follow-up (93 patients) resulting in 52% fewer ED visits, 55% fewer hospital admissions and 61% fewer hospital days compared to 12 months prior to program enrollment.

In spring 2014, INSPIRED was recognized by Accreditation Canada with a ‘Leading Practice’ designation as a noteworthy example of high-quality leadership and service delivery in COPD care.

CFHI, in partnership with Boehringer Ingelheim Canada Ltd. (BICL), launched the 12-month INSPIRED Approaches to COPD: Improving Care and Creating Value collaborative in September 2014. The goal was to provide seed funding, coaching, educational materials, and tools to 19 teams from 10 provinces to improve care and support for patients and families living with advanced COPD. This change package summarizes knowledge and resources from this pan-Canadian collaborative and the INSPIRED COPD Outreach Program™ into key elements to provide holistic, accessible, patient-centred care for patients and families living with COPD. This package is intended as a process guide for healthcare providers aiming to adopt this innovation and improve care for Canadians living with COPD.

How to Use This Change Package

This package provides a review of the INSPIRED COPD Outreach Program™ and, the interventions that are key to providing more holistic, accessible, patient-centred care for those living with advanced COPD. These are as follows:

1. Optimization of medications and Action Plan prescription [as per Canadian Thoracic Society (CTS) Guidelines]
2. Continuity of care across hospital-to-home transitions
3. Individualized, coordinated, and proactive care that includes:
   a. In-home COPD-related self-management education
   b. In-home psychosocial/spiritual support
   c. In-home opportunity for advance care planning (ACP)
   d. Phone access to team support during working hours
   e. Monthly phone follow-up for three months after scheduled home visits
4. Liaison and partnership building with community and allied healthcare support services
5. Monitoring/evaluation for quality assurance purposes

The INSPIRED COPD Outreach Program™ is not inclusive of all COPD management best practices. For example, smoking cessation and pulmonary rehabilitation are not incorporated as specific interventions within the program, although patients are referred to community-based resources as appropriate. Given the significant inter- and intra-professional variation within healthcare organizations, the interventions outlined in this change package are meant to serve as a process guide, with interventions that can be tailored to support the specific needs of the patients within a particular setting and resource base.

The change process requires support. For these interventions to be effective, organizations should assemble an interdisciplinary team comprised of a respirologist (or other physician champion skilled in this area), a spiritual care provider (SCP) or social worker, a certified COPD educator, a coordinator, and a program evaluator. The educator role can be played by a registered nurse or registered respiratory therapist (RRT) that has been designated as a certified respiratory educator (CRE). The SCP role can be played by anyone with specific training in end-of-life care, ACP, and psychosocial/spiritual support.
What This Change Package Includes

- **INSPIRED COPD Outreach Program™ driver diagram**: provides a visual model of the theory of change behind the INSPIRED program. It breaks down the improvement goal into Primary Drivers (improvement areas that need to be addressed to achieve the outcome) and Secondary Drivers (specific interventions);
- **Key change concepts**: The Secondary Drivers are further broken down into Key Change Concepts that outline the elements of each intervention;
- **Relevant tools and resources**; and
- **Appendices.**
Aim/ Primary Outcome:

Provide more holistic, timely, accessible, patient-centred care for people living with advanced COPD

Primary Drivers:

- Improve quality and continuity of care across the hospital-to-home transition
- Enhance and support patient and family illness self-management capacity related to troublesome symptoms and acute exacerbations
- Enhance community-based care and interdisciplinary support that includes effective liaison with patients’ primary care providers
- Provide opportunities for patients/families to engage in personally relevant and clinically informed goals of care planning through to the end-of-life

Secondary Drivers:

- Elements of the associated primary driver. They can be used to create projects or change packages that will affect the primary driver.

Referral & Intake

In hospital, the INSPIRED team:
- Identifies patients with advanced COPD (Medical Research Council (MRC) stages 4-5)
- Receives referrals from hospital staff or community
- Visits enrolled patients to introduce the program
- Contacts patient within 48-72 hours of discharge to coordinate first home visit by the RRT

Home visits (2), the RRT:
- Provides holistic assessment (functional) and tailors self-management education to patient’s context and capacity
- Delivers and explains/reviews CTS Action Plan
- Establishes meaningful goals of care for the patient and their family
- Conducts monthly phone follow-up for three months; additional follow-up as appropriate

Home visits (2), the SCP:
- Assesses coping, reviews hopes, fears, identifies ongoing concerns, shares relevant findings with INSPIRED team for follow-up
- Facilitates ACP discussions with patient and family member/proxy if desired [helping patient to complete PD, if willing]

Follow-up:
- INSPIRED team refers patient to appropriate community resources
- Phone access to team support during working hours
- Six and 12 month check-in
- Additional follow-up if appropriate when patient visits the ED, is admitted to hospital for an AECOPD, or if requested by the patient, their family, or other healthcare providers

Measures:

Aim: Improvement in illness/care experience as assessed by patients and families living with advanced COPD

Primary Drivers – Outcome measures: E.g., quality of transitions of care, ED visit rate, hospital admission rate, experience with the program, etc.

Secondary Drivers – Process measures: E.g., % of patients with a personal directive (PD), % of patients for which palliative care was involved, etc.

Provide opportunities for patients/families to engage in personally relevant and clinically informed goals of care planning through to the end-of-life

Improving quality and continuity of care across the hospital-to-home transition
### Change Concepts and Ideas

#### SECONDARY DRIVERS

#### KEY CHANGE CONCEPTS

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<th>REFERRAL AND INTAKE</th>
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| • Proactively identify patients with advanced COPD | 1. Receive referral form from medical resident, attending physician, or inpatient staff (occasional referrals from the respirology department or community)  
2. Review ED patient list daily to identify any patients with a diagnosis of COPD or Pneumonia  
3. Encourage ward staff to refer suitable patients |
| • Enroll identified patients in program; optimize medications; develop AECOPD Action Plan | 1. Review history and confirm COPD diagnosis with CTS guidelines (by respirologist where available). Record MRC score [Scores of 4 or 5 indicate moderate to severe COPD]  
2. Introduce the program to the patient and obtain consent to enroll her/him in the program  
   • Provide an information sheet and phone number for the patient to access team support during working hours | **Tip:** *Use key speaking points to introduce the reason for visit, e.g.,: “Our aim is to help you stay out of the hospital.”; “We would like to help you better control your breathing or get the most out of your inhaled medications.”; “This program is a way of checking up on how you are doing after your discharge.”*  
3. Write note in chart about whether patient accepts or declines participation  
4. Ensure patient’s medications are optimized (as per CTS guidelines; note current medications, allergies)  
5. Physician who is familiar with the patient completes CTS Action Plan which is provided to the COPD educator in preparation for initial home visit  
6. Check for the patient discharge summary/electronic health record  
7. Contact patient within ~48 hours following discharge to schedule first home visit with RRT  
8. Update patient’s program chart (electronic health record, if available) and include a copy of Action Plan |

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<th>BASELINE MEASUREMENT</th>
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| • Assessment of patient using key metrics before starting the program | 1. Phone patient (after hospital discharge before first home visit) to complete the INSPIRED COPD Outreach Program™ Hopes and Expectations Interview Guide, Care Transitions Measure 3-item questionnaire (CTM-3)© as well as intervention-specific baseline questionnaires over the telephone (see Appendix B for Measurement Plan). For example, the Halifax INSPIRED team used the following additional measures:  
   • Patient Health Questionnaire 4-item questionnaire (PHQ-4)©  
   • The COPD Helplessness Index (CHI) |

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Tip: Have a member of the team that will be involved in the patient’s care conduct the baseline assessment to use it as an opportunity to develop a relationship

2. Collect baseline efficiency data on the following outcomes:
   - Frequency of ED visits/visit rate for COPD per year (before enrollment)
   - COPD admission rate (12 months prior to program)
   - Cumulative number of bed days (12 months prior to program)
   - Unplanned COPD readmission rate (after 30 days, 60 days, 6 months, 1 year)

**HOME VISITS**

<table>
<thead>
<tr>
<th>Home visits (2), the RRT:</th>
<th>Home Visit 1 – First RRT home visit (approx. 1 week post-discharge, 1-1.5 hours in length):</th>
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<tbody>
<tr>
<td>• Provides holistic functional assessment and tailors self-management education to patient's capacity and context</td>
<td>1. Explain program, ensure consent signed</td>
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<tr>
<td>• Delivers and explains/reviews Action Plan</td>
<td>2. Begin discussion re: COPD and assess knowledge of disease</td>
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<td>• Co-creates goals of care that are meaningful to the patient and their family</td>
<td>3. Review CTS Action Plan (<a href="#">Appendix C</a>)</td>
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<td>4. Review signs and symptoms of impending AECOPD and what to do and who to call if it occurs</td>
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<td>5. Discuss breathlessness management with the patient and family. Cover the following techniques:</td>
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<td>• Hand held fans</td>
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<td>• Pursed lip breathing</td>
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<td>• Energy conservation</td>
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<td>• Coping with anxiety/panic</td>
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<td>• Avoiding triggers</td>
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<td>6. Explain COPD education materials (e.g., KRAMES Go-to-Guide for Living Well with COPD™, Living Well With COPD™ education modules)</td>
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<td>7. Conduct physical assessment:</td>
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<td></td>
<td>• Blood oxygen saturation (SpO₂) at rest and exertion</td>
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<td>• Auscultation</td>
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<td>• Vital signs (heart rate, respiratory rate, blood pressure, temperature)</td>
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<td>• Mobility/ MRC dyspnea score</td>
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<td></td>
<td>8. Review respiratory medication and patient adherence:</td>
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<td>Home visits (2), the SCP:</td>
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| - Provides deliberate, organized communication to identify values, coping, hopes, fears, ongoing concerns, in order to guide personal care decisions  
| - Facilitates ACP discussions with patient and family member/proxy, if desired (helping patient to complete a PD if asked)  
| - Shares relevant findings with INSPIRED team for follow-up |  

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<th>Home Visit 1 – First SCP home visit (varies with patient ~1 – 1.5 hours):</th>
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<td>1. Build therapeutic alliance</td>
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**Tips:**

- Listen more than talk – what does the patient/caregiver want to talk about?
- Develop rapport, trust – verbalize empathy “you sound angry about that” – acknowledge and seek insight into emotions
- Solicit illness experience
- Embed visit in the idea that COPD is more than a ‘lung’ disease, e.g., affects activities, family, relationships; “There may be other kinds of support/services that would help and that we may be able to arrange if we understand how COPD has affected your life.”
- Inquire about hopes and fears, and goals of care. What keeps the patient going? What are their biggest concern(s)?
- Assess gaps in care – What has not been mentioned by/to others? What would make things better/easier?

2. Introduce ACP discussion

**Tips:**

- Use natural (patient/caregiver invoked) segues (e.g., fear of being a burden to loved ones; anxiety over “loss of control”; hopes and fears regarding the future; justice concerns)
- Inquire about past experiences: previous ED visits or hospital admissions; family members or friends with COPD; death of family member or friend (“what was that like?”; “was it a ‘good’ death?”)
  
a) **If patient is ready to discuss ACP:**

- Introduce the topic [intubation; cardio-pulmonary resuscitation (CPR)] and get into more detail in the next visit
- Provide print materials and recommend reviewing before next visit

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<th>9. Determine smoking status</th>
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<td>10. Send letter to family physician and respirolog (if involved)</td>
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<tr>
<td>11. Note if any follow-up or referrals are required (e.g., contacting other healthcare providers)</td>
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**Home Visit 2 – Second RRT home visit (within 1-2 weeks of visit 1, ~ 1 hour should be less than first visit):**

1. Continue COPD self-management education (completing and reinforcing components of visit 1)
2. Follow-up on any issues identified in visit 1
3. Schedule additional visits and/or determine follow-up plan:
   - SCP visit
   - Telephone follow-ups (or home visits)
• Introduce PD template, CPR/No CPR, help with breathing, Living Well with COPD™, goals of care designation
• Recommend that one or more family members attend visit 2 (if patient is comfortable)
• Encourage patient to keep list of questions and concerns
• Mention that some patients find it helpful to discuss questions with their family physician
• Encourage patient to discuss PD with their family physician

b) *If the patient is not ready to discuss ACP:*
• Reassure patient that it is fine not to talk about it and that it will not affect care
• Offer second visit if further emotional or spiritual support is needed
• Discuss other topics of interest to patient
• Keep ‘care door’ open for future discussions
• Provide caregiver with resources if they are comfortable and wanting to know more

3. Summarize findings from the visit (e.g., concerns patient expressed, items to follow-up, referrals, psychosocial/spiritual support)
4. Ask if there are other concerns or questions
5. Thank them for their time and for having you in their home
6. Mention when/how you will be in touch to schedule another visit (if visit 2 is needed)
7. Remind them of team contact information

**Home Visit 2 – Second SCP home visit:**
1. Reconnect via informal “chit chat”

*Tip: Ask open-ended questions (e.g., “How have you been since our last visit?”)*

2. a) If not ready for ACP (from previous visit or follow-up phone call), important to be a resource in other ways
   • Follow-up on themes raised in first visit, provide information, emotional and/or relational support
   b) If patient is comfortable with ACP, reintroduce ACP materials left during previous visit
   • Discuss: values, goals of care, care and decision-making preferences, help with completing a PD (e.g., delegate, instructional, both)

3. Address concerns raised by patients and/or caregivers and arrange follow-up with necessary resources:
   • Breathing concerns – flag to RRT to follow-up
   • Other referrals, e.g., social worker, physiotherapist, occupational therapist, mental health, pulmonary rehabilitation
   • Discussion with Medical Director
Psychosocial support in the moment (e.g., feelings of grief, guilt, anger/frustration, loneliness)
- Discussion with team members if complex care
- Assess need for another home visit – leave the door open
- Remind patient about team contact information

**FOLLOW-UP CALLS**

- Refer patient to appropriate community resources
- Call patient for monthly check-ins for three months; additional follow-up as appropriate

**Immediate follow-up after RRT home visit 2:**
1. Call patient three times (one month apart)
2. Follow template (e.g., “Have you been to the hospital or family doctor?”; “Have you or your physician used the Action Plan?”; “Is there anything to assist with?”)
3. Mention follow-up as needed following third phone call
   - Remind patients there are no more planned visits (may result in follow-up visit, as needed)
   - Remind patients they can call anytime and that follow-up will be ensured if they are admitted to the hospital or return to the ED
   - Mention that you will call at 12 months (post-enrollment), and nine months for patients who are at higher risk for readmission (as identified by the risk assessment follow-up tool – Appendix C)
   - Send letter to their family physician, with a reminder of Action Plan expiry date and encouraging renewal
4. Review Action Plan, as needed
5. Refer to other resources, as needed
   - Allied health professionals (e.g., physiotherapist, occupational therapist, social worker)
   - Pulmonary rehabilitation
   - Community supports
   - Mental health
   - Smoking cessation

**FOLLOW-UP MEASUREMENT**

- Assessment of change in patient responses on key variables after completing program

1. Phone patient after second follow-up phone call to conduct post-evaluation of questionnaires asked at baseline. **Tip: The individual conducting the follow-up assessment should be a professional that was not involved in providing care during the intervention.**
2. Measure changes in the following areas (refer to Appendix B):
   - % change in ED visits
   - % change in hospital admissions
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|   | • % change of days in hospital  
|   | • Hopes and Expectations Interview Guide (whether these have been met; overall program experience)  
|   | • Change score for CTM-3  
|   | 3. Measure changes vis-à-vis specific appropriateness of care measures  
| **LONG-TERM FOLLOW-UP CALLS** | **Long-term follow-up (scheduled):**  
|   | 1. Phone patients at 12 months post-enrollment (or nine months for patients who are at higher risk for readmission based on follow-up assessment tool)  
|   | 2. Ask about use of Action Plan  
|   | 3. Remind them that the Action Plan expires in one year  
|   | 4. Review any questions or concerns and reinforce phone support and visits if needed in the future  
|   | **Long-term follow-up (unscheduled):**  
|   | 1. Follow-up phone call or visit by RRT when deemed beneficial if: a) patient visits the ED or is admitted with an AECOPD or Pneumonia; b) if patient or family requests additional follow-up |
Resources

CFHI INSPIRED Resources

- INSPIRED Model of Care for Patients with Advanced COPD (1-hr CFHI On Call webinar) http://www.cfhi-fcass.ca/Elearning/OnCall/INSPIRED.aspx
- INSPIRED Approaches to COPD (Five-part CFHI online workshop) http://www.cfhi-fcass.ca/Elearning/online-workshops/INSPIRED

Patient Experience Videos

- Canadian Foundation for Healthcare Improvement (2015). INSPIRED Approaches to COPD. Canada: CFHI. Available at: https://www.youtube.com/watch?v=DJxBwQFU9Hk

Respiratory Care Tools and Guidelines

- Canadian Thoracic Society – Guidelines, Standards, Tools and Resources:
- Krames Patient Education:
  - Krames Go-to Guide for Living Well with COPD
- Living Well with COPD:
  - http://www.livingwellwithcopd.com/
**Articles & Reports**


Statistics Canada (2012). Table 102-0563 - Leading causes of death, total population, by sex, Canada, provinces and territories, annual, CANSIM (database). Available at: http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&searchType=ByValue=1&id=1020563

Statistics Canada. (2011). Table 102-4309- Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups, occasional (number unless otherwise noted), CANSIM (database). Available at: http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&searchType=ByValue=1&id=10204309

Statistics Canada (2015) CANSIM table 105-0501 and Catalogue no. 82-221-X Available at: http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/health105a-eng.htm


List of Appendices

Appendix A – INSPIRED COPD Outreach Program™ Flow Chart
Appendix B – INSPIRED Measurement and Data Collection Plan
Appendix C – INSPIRED COPD Outreach Program™ Forms:
   1. INSPIRED Overview
   2. INSPIRED Referral Form
   3. INSPIRED Information Sheet
   4. INSPIRED Consent Form
   5. INSPIRED Intervention Checklist
   6. INSPIRED First Visit Letter
   7. INSPIRED Demographic Form
   8. INSPIRED Assessment Form
   9. INSPIRED Contact Information
   10. INSPIRED Electronic Process Note
   11. Opioid Info Brochure
   12. Health Links
   13. Using a Handheld Fan for Shortness of Breath
   14. INSPIRED Personal Directive Template
   15. INSPIRED Transition Letter
   16. INSPIRED Telephone Checklist
   17. INSPIRED 12-month Follow-up
   18. Oxygen Alert Card
   19. Oxygen Alert Brochure
   20. INSPIRED Risk for Readmission Assessment
   21. INSPIRED Spiritual Care Provider Home Visit Guide
   22. INSPIRED Hopes and Expectations Interview Guide
Appendix A – INSPIRED COPD Outreach Program™ Flow Chart

Referral Received or patient flagged via EDIS email. Review eligibility Reasons to exclude might be multiple co-morbidities (that may be best dealt with by other teams) i.e. High decreased, CHF, severe heart dysfunction, can be determined by Medical Director if in question. Send referral to RAX NUMBER [original stays on in-patient chart, Admin puts in INSPIRED mailbox], have referral stamped & dated.

Review medical history (use HPR & in-patient chart) to confirm eligibility. Meet with patient/family, provide info sheet, business card & RRT name. Make chart note stating “Thanks for referral,” other details & INSPIRED phone #. Obtain signed consent (if possible) while pt in hospital, otherwise on 1st RRT 1st home visit (keep consent on INSPIRED chart).

Update Medical Director while patient still in pt. Provide Hx, allergies, current inhaled meds (view to optimize), state current antibiotic, prednisone use (leave this info for Medical Director). Medical Director (if covering MD) provides Action Plan (to be put on INSPIRED mailbox when completed). AP not given to patients until 1st RRT home visit.

Prior to patient’s discharge, obtain photocopies of Med Reconciliation Forms (admission and discharge), Discharge Summary, and Action Plan. Place copies on INSPIRED chart, hold original Action Plan until after RRT visit.

Provide Coordinator with name, address, & phone number of patient, & who will be primary RRT. S/he will assign a confidential patient identifier.

**INSPIRED COPD Outreach Program™ Interventions**

RRT contacts patient within 48 hours of discharge to arrange first clinical visit (ideally within 1 week of hospital discharge). Letter to clinician/HPR if patient refuses service. RRT is unable to get in touch with patient after 3 phone calls, or visit delayed longer than 1 month. Place copies of refused/eligible referrals and notes in Coordinator’s mailbox & she will update Refused/Ineligible Reference Binder.

**First RRT visit:** Obtain/confirm signed consent. Visit as per RRT assessment form and intervention checklist. Provide info re: team phone. Reinforce importance of GP visits and continuity. Promote that future Action Plans be completed by GP. Documentation/Communication for first visit: Document visit in INSPIRED chart & complete required paperwork. Keep intervention checklist on left side of chart and always on top. Draft visit letter and send to Medical Director to proof. Once complete, letter (with electronic signature embedded) is emailed to Admin. Admin will print, fax to GP and others. Then “chart check” & send to Medical Records for scanning to HPR. Letter/labels place in INSPIRED mailbox. RRT advises Coordinator re: visit #, date, & any other pertinent details.

Phone contact: All phone “interventions” used to be written on a progress note in INSPIRED chart. Send a letter to GP and other clinicians in the patient’s circle of care if appropriate. Advise Coordinator of phone contact.

**Second RRT visit:** Education follow-up, complete interventions as per checklist and complete RRT assessment form if not done on first visit. May schedule additional educational visits if necessary. Update team Advance Care Planning Facilitator and Program Coordinator when RRT visits are complete.

**Documentation/Communication for visit 2:** Document 2nd visit in chart (progress note and checklist) and if new issues identified (i.e., visit involved more than following up on disease self-management education) then formal letter needs to go to GP, clinicians, and HPR.

Visits for psychosocial/spiritual assessments and Advance Care Planning: Approximately 2 visits as per identified need. Documentation/Communication for visit 1 & 2: Complete intervention checklist in INSPIRED chart. Complete progress note (written or electronic) and put in INSPIRED chart. If Personal Directive completed, provide original copy to Admin/Program Coordinator S/he will copy for patient’s family (could be more than 1 copy), our INSPIRED chart. HPR one to include with GP Transition Letter. Update Program Coordinator when these visits are complete, visit dates, any pertinent details.

Monthly phone follow-up as beginning one month after final RRT visit. Complete phone checklist. Advise Coordinator when visits/calls are complete. S/he will send Transition Letter (including Personal Directive if completed) to pt, clinicians, and HPR.

Follow-up phone call 12 months after the Action Plan was written to ensure that Action Plan is renewed, to reinforce education, and to initiate additional follow up if required.
Appendix B – INSPIRED Measurement and Data Collection Plan

This measurement plan sets out the core measures that demonstrate whether a specific change will lead to an improvement as well as a template for data collection. Organizations should work toward collecting these measures in four core quality improvement (QI) domains. Organizations may expand their measurement and data collection plan, as needed.

Measurement is for the purpose of improving care. Data collection at regular and frequent intervals, in conjunction with rapid cycles of change; use of sampling to obtain data in real time; and use of analytical approaches such as run charts and control charts are encouraged.

Below is a figure that represents a conceptual overview of the core QI domains that are part of the overall measurement & data collection plan.

Figure 1. Conceptual Overview of the Core Quality Improvement Domains for the INSPIRED COPD Outreach Program™
Table 1. Overview of the INSPIRED Core Operational Measures

<table>
<thead>
<tr>
<th>Core Quality Improvement Domain</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient- and Family-centred Care</td>
<td>Patient and family reported experience with the program (Using adapted INSPIRED COPD Outreach Program Hopes and Expectations Interview Guide for patients and families)</td>
</tr>
<tr>
<td>Coordination of Care</td>
<td>Quality of care transition over the hospital-to-home transition assessing patient/family (individual change Care Transitions Measure-3 score)</td>
</tr>
<tr>
<td>Efficiency of the Healthcare System</td>
<td>ED visits/visit rate for COPD per year</td>
</tr>
<tr>
<td></td>
<td>COPD admission rate</td>
</tr>
<tr>
<td></td>
<td>Cumulative number of bed days per year</td>
</tr>
<tr>
<td></td>
<td>Unplanned COPD readmission rate (within 30 days, 90 days, six months and one year)</td>
</tr>
<tr>
<td>Appropriateness of Care</td>
<td>Organizations are encouraged to identify at least 1-2 measures that are specific to their intervention(s).</td>
</tr>
<tr>
<td></td>
<td>Examples:</td>
</tr>
<tr>
<td></td>
<td>• Percent of patients who received Proper COPD diagnosis via spirometry testing and, if possible, validation of the clinical interpretation</td>
</tr>
<tr>
<td></td>
<td>• Percent of patients who received Smoking cessation counselling</td>
</tr>
<tr>
<td></td>
<td>• Percent of patients who received appropriate Medication prescription: bronchodilators (BD) (short- and/or long-acting) for all; combination of long-acting beta-agonists (LABA) + inhaled corticosteroids (ICS) for prevention of exacerbations</td>
</tr>
<tr>
<td></td>
<td>• Percent of patients who had a self-management Action Plan (AP) for exacerbations: teaching/education, written AP, prescription</td>
</tr>
<tr>
<td></td>
<td>• Percent of patients who were referred to pulmonary rehabilitation</td>
</tr>
</tbody>
</table>

The Halifax INSPIRED team has used the following measures to assess program efficacy:

- Patient Health Questionnaire 4-item questionnaire© (PHQ-4)
- The COPD Learned Helplessness Index (CHI)
- General Self-Efficacy Scale (GSE)
## Measurement & Data Collection Plan

**Date last updated:** ______________________________  **Organization Name:** ____________________________________________________________________________________

**Aim Statement:** ________________________________

**Target Population:** ______________________________

### Core Quality Improvement Domains

<table>
<thead>
<tr>
<th>Measures</th>
<th>Data Sources &amp; Specifications</th>
<th>Baseline Data</th>
<th>Improvement Targets</th>
<th>When Will Data Be Collected?</th>
<th>Who will Collect Data?</th>
<th>How Will Data Be Shared With The Team/Staff/Organization?</th>
</tr>
</thead>
</table>
| **Patient- and Family-centred Care** | • Patient and family reported experience with the program | INSPIRED COPD Outreach Program™ Hopes and Expectations Interview Guide for patients and families includes questions related to:  
- Support needed to better manage COPD  
- Experience with the program  
- Helpfulness of the program | Insert baseline data collection. | Establish initiative-specific improvement targets. | Pre, post, and possibly at mid-point |
| **Coordination of Care** | • Quality of care transition over the hospital-to-home transition assessing patient/family (individual CTM change score):  
  o Critical understanding  
  o Importance of preferences  
  o Management preparation  
  o Existence of a written and understandable care plan | • The 3-Item Care Transitions Measure  
  o The CTM-3 is known to predict return to hospital and/or ED as well as discriminate among hospitals known to differ in performance in this area.  
  Specifications:  
  - **Population:** Discharged target population.  
  - **Timing:** Between 48 hours and 6 weeks post discharge. Teams should measure this consistently depending on their intervention.  
  - **Sampling:** All discharges between the first and last days of the month are eligible for sampling.  
  - **Scoring:** The score reflects the overall quality of the care transition, with lower scores indicating a poorer quality transition, and higher scores indicating a better transition. | | Pre-post |
| **Efficiency of the Healthcare System** | • ED visits/visit rate for COPD per year | Administrative data, e.g., Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI) | | | |
Specify specific operational definitions for each of the efficiency measures.

<table>
<thead>
<tr>
<th>Efficiency Measure</th>
<th>Data Source</th>
<th>Collection Intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD admission rate</td>
<td>Administrative data, e.g., Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI)</td>
<td>Organization to specify collection intervals, e.g., monthly, quarterly.</td>
</tr>
<tr>
<td>Cumulative number of bed days per year</td>
<td>Administrative data, e.g., Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI)</td>
<td>Organization to specify collection intervals, e.g., monthly, quarterly.</td>
</tr>
<tr>
<td>Unplanned COPD readmission rate (within 30 days, 90 days, 6 months and 1 year)</td>
<td>Administrative data, e.g., Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Canadian Institute for Health Information (CIHI)</td>
<td>Organization to specify collection intervals, e.g., monthly, quarterly.</td>
</tr>
</tbody>
</table>

Appropriateness of Care

Identify at least 1-2 measures specific to intervention(s).

Examples:
- Percent of patients who received proper COPD diagnosis via spirometry testing and, if possible, validation of the clinical interpretation
- Percent of patients who received smoking cessation counselling
- Percent of patients who received appropriate medication prescription: bronchodilators (BD) (short- and/or long-acting) for all; combination of long-acting beta-agonists (LABA) + inhaled corticosteroids (ICS) for prevention of exacerbations
- Percent of patients who had a self-management Action Plan (AP) for exacerbations: teaching/education, written AP, prescription
- Percent of patients who were referred to pulmonary rehabilitation

Determine appropriate data source and calculation.

Organization to specify collection intervals, e.g., weekly, monthly.
Measurement Guidelines:
Measurement is a critical part of testing and implementing changes; measures tell you whether the changes you are making actually lead to improvement. The measurement & data collection plan is intended for you to complete in order to set out the key measures that will demonstrate whether your specific quality improvement initiative will lead to improvement. Measurement for improvement should not be confused with measurement for research. See http://www.ihi.org/resources/Pages/HowtoImprove for more resources from the Institute for Healthcare Improvement (IHI) on the Science of improvement: establishing measures.

Measurement & Data Collection Plan Definitions & Tips:
Three Types of Measures
1) **Process measures** (sometimes considered ‘intermediate outcomes’) – measures activities, how the system works. This type of measure captures the basic performance of a process.
   - Process measures are a means to an end and indicate if a system is performing as planned. They address how key parts or steps of the system are performing, indicating if the improvement is on track, and are linked to obtaining outcomes.
   - Process measures can be further classified as: measures of technical processes (e.g., how a treatment or intervention is delivered); and measures of interpersonal processes (e.g., the extent to which the intervention is delivered as planned). For example:
     - At the patient level: Levels of motivation to change and self-management confidence and competency to change behaviour or specific behaviour change; or
     - At the healthcare system level: Percent of patients receiving a post-discharge follow-up visit for hospitalized COPD patients, or the results of the CTM®, which measure the extent to which patients are being prepared to participate in post-hospital self-care activities.

2) **Outcome measures** – are the ultimate aims of your intervention and should be spelled out in your aim statements. How does your improvement impact the values of patients, their health and wellbeing? What are impacts on other stakeholders such as payers, employees, or the community? Outcome measures can be thought of as patient-reported and clinical outcomes.
   - Patient-reported and clinical outcomes refer to the end points of care, such as an improvement in patient function, recovery or survival. Patient-reported outcome measures (PROMs) are the voice of the patient. They are reported by patients and indicate what is ultimately better because of the improvement. E.g., improved patient experience or care, improved health-related quality of life, reduced anxiety and depression, reduced frequency of COPD exacerbations.

3) **Balancing measures** (sometimes considered Health system outcomes) – these measures capture whether changes designed to improve one part of the system are causing new
problems in other parts of the system. E.g., ensuring the hospital length of stay is not decreasing as a result of an increase in ED visits and/or hospital admissions.

**Data sources:** Identify data sources that will be used to collect the information.
- Integrate data collection for measures into your daily work.
- Include the collection of data with another current work activity (for example, pain scores with other vital signs; data from office visit flow sheets).
- Develop an easy-to-use data collection form, or make information system input and output easy for all stakeholders.
- Clearly define roles and responsibilities for ongoing data collection.
- Set aside time to review data with all those involved.
- Think about whether you need to collect data from any specific stakeholder groups.

**Baseline Data:** Identify if baseline data is available that will serve as a benchmark to compare and assess your progress.
- Aim to collect baseline data at the beginning of your intervention.
- Prioritize the questions that are most important to your IP team and key stakeholders.
- Focus on the most important subgroups in the possible population – those most important to the results of your initiative.

**Targets:** For some of your measures, it may be helpful to set targets to help assess progress toward achieving your outcomes. Targets can be a raw number related to the amount of a service provided (e.g., 15 patients enrolled in a program) or a percentage improvement in an activity or process (e.g., 10% reduction in hospital length of stay). Baseline measurement is critical for measuring progress against targets, so also consider which measures are available and realistic for target-setting.

**Frequency of Data Collection:** When/how often will you collect the data? Who will be responsible? What population/system data can be collected at regular time intervals? What is an appropriate interval, given the context of the project?

**Data Analysis:** Establish early on who will be responsible for collecting the data. Consider how the data will be reported and to whom and how measures will be displayed?
Additional Measures and/or Tools to Consider

Measures
- Patient Self-Efficacy (percentage score for UCOPD, Understanding COPD Questionnaire)
- Patient: Specific Behaviour Change: e.g., adherence to medication, proper Action Plan taken in the event of an acute exacerbation of COPD (AECOPD)
- Patient: Health-related quality of life (e.g., overall score for the CAT, COPD Assessment Test)
- Intensive/intermediate care unit (ICU/IMCU) use
- Personal directive (PD) & palliative care use
- Decedents’ length of stay (median), ICU/IMCU use (%), development of PDs (%) & palliative care involvement (%)

Tools
- Lung Information Needs Questionnaire (LINQ)
- Chronic Respiratory Disease Questionnaire
- Hospital Anxiety and Depression Scale
- Herth Hope Index
- Patient Assessment of Chronic Illness Care (PACIC/ACIC)
- St. George’s Respiratory Questionnaire