COPD Provincial Full Bundle Implementation

Chronic Obstructive Pulmonary Disease Full Bundle Implementation Toolkit

Alberta Health Services
Cardiovascular Health & Stroke Strategic Clinical Network™

Alberta Health Services
Medicine Strategic Clinical Network™

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September 2021

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This toolkit has been prepared by the Clinical Pathway Support Unit (CPSU)

This work is sponsored by the Medicine Strategic Clinical Network™ and the Cardiovascular Health & Stroke Strategic Clinical Network™

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Chronic Obstructive Pulmonary Disease Full Bundle Implementation Toolkit

This package is a comprehensive toolkit designed to help you implement the Chronic Obstructive Pulmonary Disease (COPD) Acute Admission Orders, along with supporting resources, into your acute care facility.

Grounded on evidence based clinical pathway care for COPD patients, the objective of the full bundle is to improve care across the continuum from hospital admission through discharge into the community and primary care settings.

Background:

Patients with heart failure and chronic obstructive pulmonary disease (COPD) account for the highest hospital admission rates of all chronic diseases in Alberta. Individuals with these conditions experience long hospital stays, readmissions to hospital and frequent emergency room visits.

A provincial initiative is underway aimed at implementing and evaluating evidence based clinical pathways for heart failure and COPD. The objective is to improve care across the continuum from hospital admission through discharge into the community and primary care settings.

Supported by the Cardiovascular Health & Stroke Strategic Clinical Network™ (SCN), Medicine SCN™, and the Respiratory Health and Heart Failure provincial working groups, this initiative seeks to coordinate efforts within acute, community, and primary care to enhance management and timely follow-up.

Red Deer Regional Hospital, the proof of concept site, started this approach in February of 2017. Several sites have joined this initiative over the years and opportunity continues for additional sites to participate in this implementation of heart failure and COPD full bundles.

A coordinated, purposeful approach to implementation is recommended which includes collaboration between front line staff, patients, families, physicians, primary care, management and community care. Efforts to engage all stakeholders will serve to promote successful implementation and sustainability of this evidence based care.

This toolkit will focus on the COPD component of this initiative.

Continuum of Care:

Clinical pathways are tools used to guide evidence-based health care. Their implementation reduces the variability in clinical practice and can improve outcomes[1].

Individuals with COPD, like all of us, may require access to health care at any point throughout life. Clinical pathways seek to address the broad range of care which may be required throughout a patient's journey.

The continuum of care covers the delivery of health care over a broad period of time which may refer to care provided from prevention to end of life. Addressing the complete continuum of care would be an overwhelming and complex mission to start. Given this, the provincial COPD clinical pathway team has chosen to focus efforts on the time period from acute hospital admission through discharge into the community and primary care setting (out to approximately 2 weeks post discharge). The COPD Full Bundle addresses this time period as indicated on the graphic on page 9.

Sites, communities and zones are encouraged to build additional linkages, relationships and supports further out into community and primary care. As these components of the pathway continue to be developed, COPD patients will be able to experience enhanced care.

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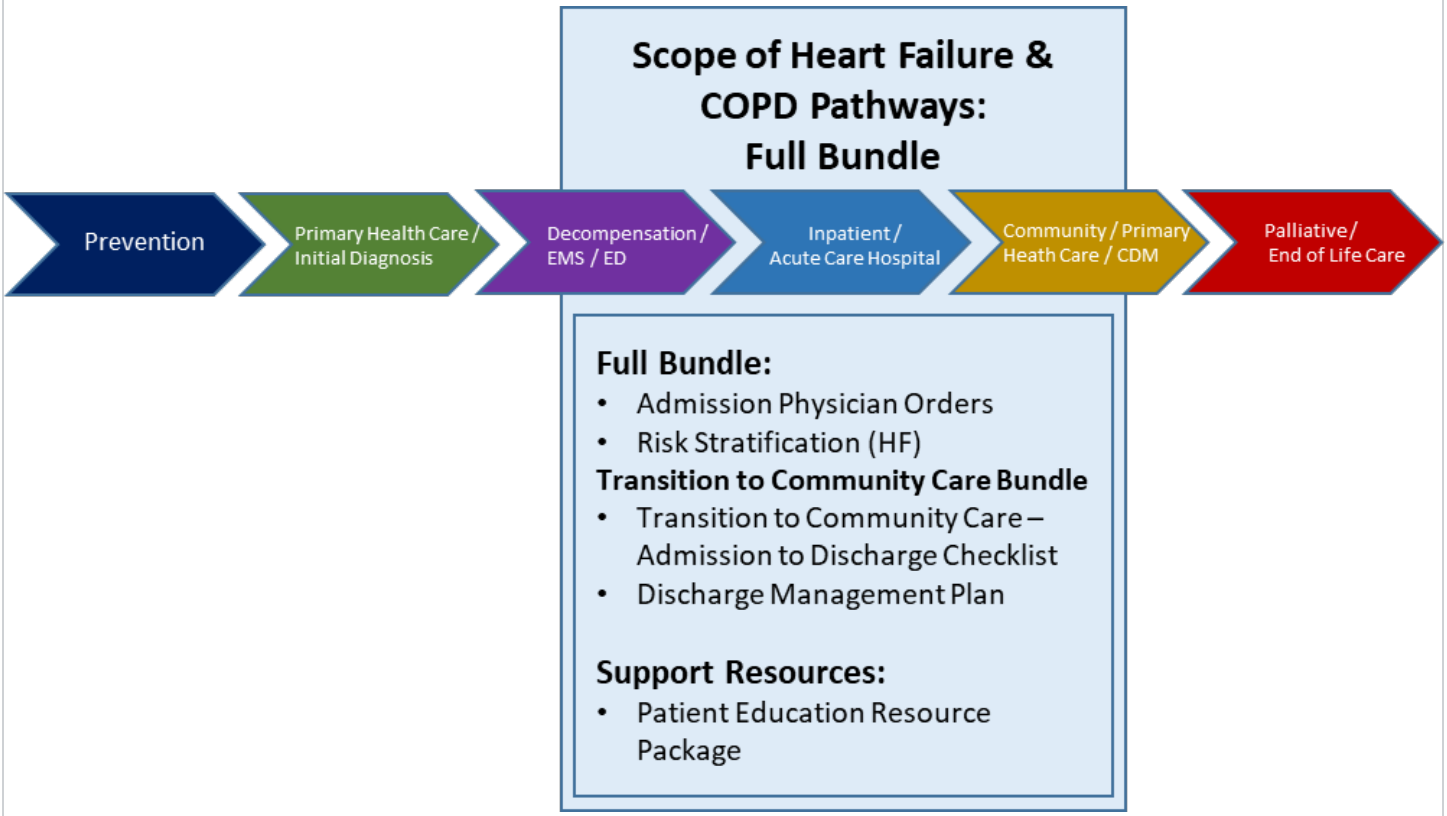
[1]: Lawal et al (2016). BMC Medicine, 14(35):1-5.
Rotter et al (2010). Cochrane Database of Systematic Reviews, 3:1-170.
Kwan (2004). Cochrane Database of Systematic Reviews, 4: 1-71.


Scope of Heart Failure & COPD Pathways: Full Bundle
Prevention
Primary Health Care / Initial Diagnosis
Decompensation / EMS / ED
Inpatient / Acute Care Hospital
Community / Primary Heath Care / CDM
Palliative / End of Life Care
Full Bundle:
• Admission Physician Orders
• Risk Stratification (HF)
Transition to Community Care Bundle
• Transition to Community Care – Admission to Discharge Checklist
• Discharge Management Plan
Support Resources:
• Patient Education Resource Package

COPD Full Bundle: Components

The COPD Full Bundle includes 3 components.

The '**Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) Admission Adult'** (3 pages) physician orders is the first components of the bundle and are to be reviewed, completed and signed by the admitting physician.

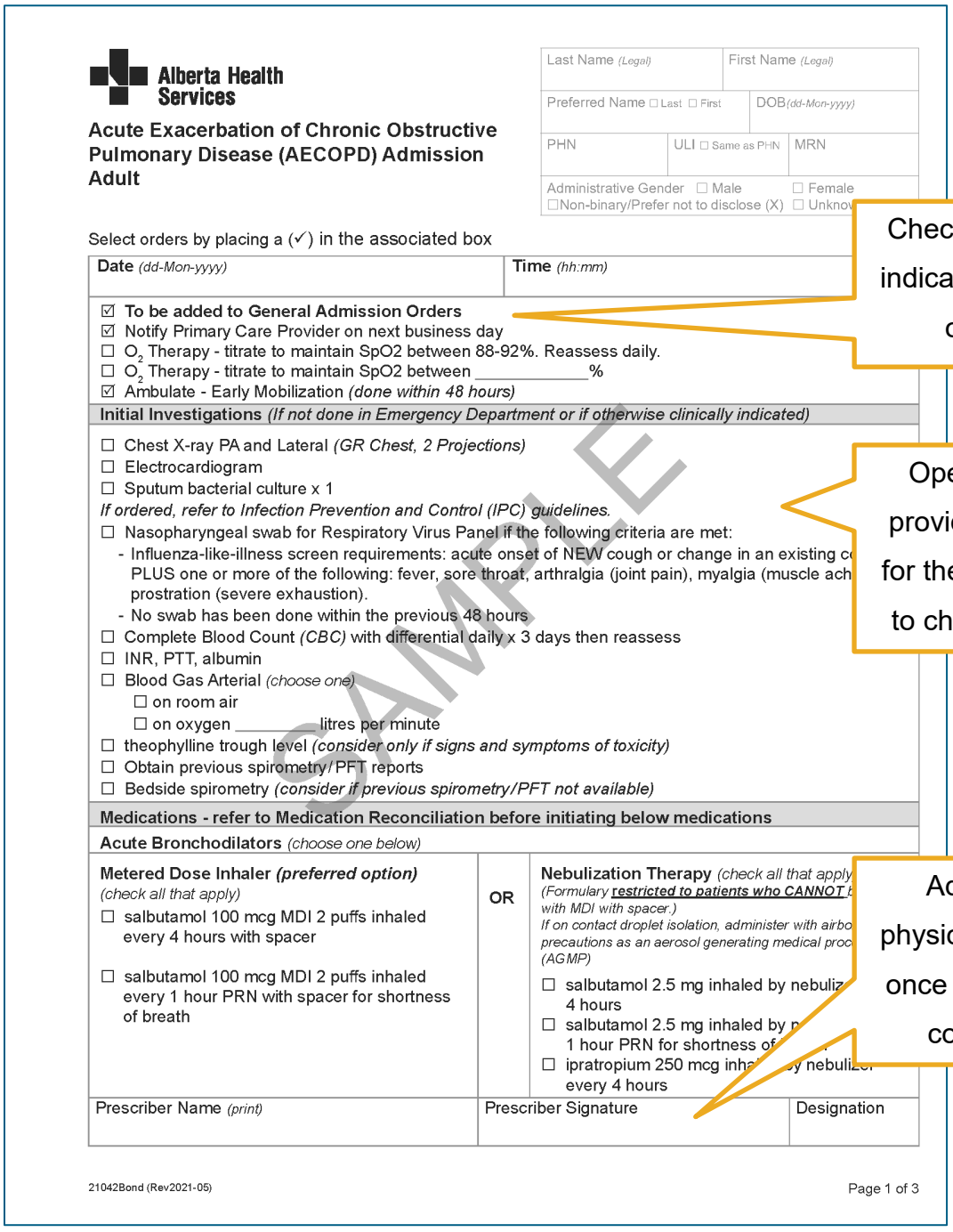
All other components are support resources for health care providers and patients.

Brief Description

Components	Description	Completed By
Admission Physician Orders	Evidence based acute admission full bundle recommendations	Physician
Transition to Community Care - Admission to Discharge Checklist	Tool to assist staff identify and record completion of activities related to COPD patient care	Health Care Provider(s)
Discharge Management Plan	- Resource to review with COPD patient prior to hospital discharge. Identifies key messages, resources and follow up information. - Provide copy to patient, family or caregiver upon discharge	Health Care Provider(s)

AECOPD Admission Adult Physician Orders: Page 1

To be reviewed, completed and signed by the admitting physician.



Alberta Health Services

Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) Admission Adult

Last Name *(Legal)*	First Name *(Legal)*
Preferred Name ☐ Last ☐ First	DOB *(dd-Mon-yyyy)*
PHN	ULI ☐ Same as PHN / MRN
Administrative Gender ☐ Male ☐ Female ☐ Non-binary/Prefer not to disclose (X) ☐ Unknow	

Select orders by placing a (✓) in the associated box

Date *(dd-Mon-yyyy)*	**Time** *(hh:mm)*

☑ **To be added to General Admission Orders**
☑ Notify Primary Care Provider on next business day
☐ O_2 Therapy - titrate to maintain SpO2 between 88-92%. Reassess daily.
☐ O_2 Therapy - titrate to maintain SpO2 between _____%
☑ Ambulate - Early Mobilization *(done within 48 hours)*

Initial Investigations *(If not done in Emergency Department or if otherwise clinically indicated)*

☐ Chest X-ray PA and Lateral *(GR Chest, 2 Projections)*
☐ Electrocardiogram
☐ Sputum bacterial culture x 1
If ordered, refer to Infection Prevention and Control (IPC) guidelines.
☐ Nasopharyngeal swab for Respiratory Virus Panel if the following criteria are met:
- Influenza-like-illness screen requirements: acute onset of NEW cough or change in an existing c
PLUS one or more of the following: fever, sore throat, arthralgia (joint pain), myalgia (muscle ach
prostration (severe exhaustion).
- No swab has been done within the previous 48 hours

☐ Complete Blood Count *(CBC)* with differential daily x 3 days then reassess
☐ INR, PTT, albumin
☐ Blood Gas Arterial *(choose one)*
☐ on room air
☐ on oxygen _____ litres per minute
☐ theophylline trough level *(consider only if signs and symptoms of toxicity)*
☐ Obtain previous spirometry/PFT reports
☐ Bedside spirometry *(consider if previous spirometry/PFT not available)*

Medications - refer to Medication Reconciliation before initiating below medications

Acute Bronchodilators *(choose one below)*

Metered Dose Inhaler ***(preferred option)*** *(check all that apply)*	OR	**Nebulization Therapy** *(check all that apply* *(Formulary **restricted to patients who CANNOT** b* *with MDI with spacer.)* *If on contact droplet isolation, administer with airbo* *precautions as an aerosol generating medical proc* *(AGMP)*
☐ salbutamol 100 mcg MDI 2 puffs inhaled every 4 hours with spacer		☐ salbutamol 2.5 mg inhaled by nebuliz 4 hours
☐ salbutamol 100 mcg MDI 2 puffs inhaled every 1 hour PRN with spacer for shortness of breath		☐ salbutamol 2.5 mg inhaled by n 1 hour PRN for shortness of
		☐ ipratropium 250 mcg inha y nebuliz every 4 hours

Prescriber Name *(print)*	Prescriber Signature	Designation

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SAMPLE

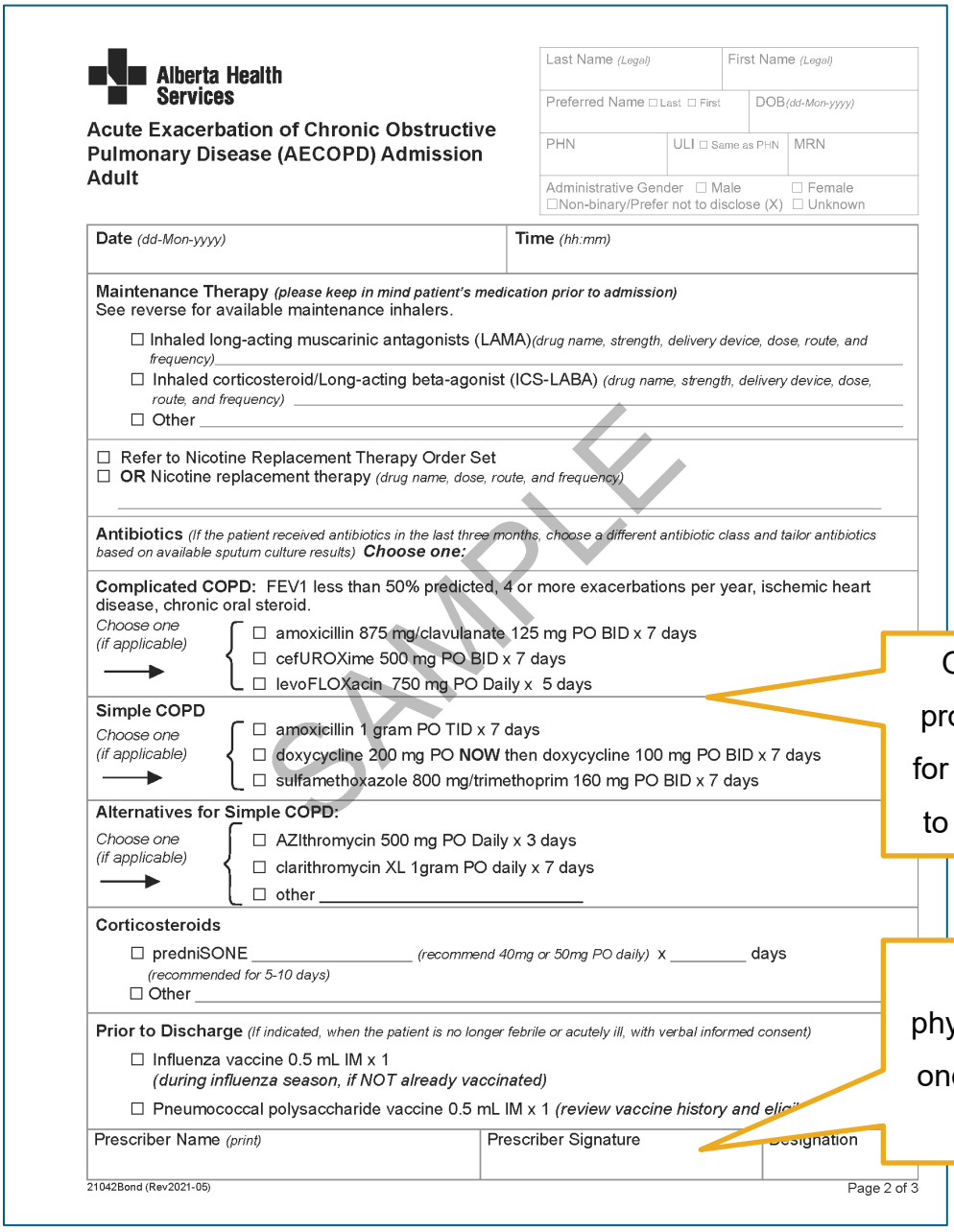
Checked boxes indicate required orders

Open boxes provide options for the physician to choose from

Admitting physician to sign once orders are complete

AECOPD Admission Adult Physician Orders: Page 2

To be reviewed, completed and signed by the admitting physician. Information regarding maintenance inhaler therapy and specific restrictions is indicated on reverse side (see Appendix 1)



Alberta Health Services

Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) Admission Adult

Last Name *(Legal)*	First Name *(Legal)*
Preferred Name ☐ Last ☐ First	DOB *(dd-Mon-yyyy)*
PHN	ULI ☐ Same as PHN / MRN
Administrative Gender ☐ Male ☐ Female ☐ Non-binary/Prefer not to disclose (X) ☐ Unknown	

Date *(dd-Mon-yyyy)* | **Time** *(hh:mm)*

Maintenance Therapy ***(please keep in mind patient's medication prior to admission)***
See reverse for available maintenance inhalers.

- ☐ Inhaled long-acting muscarinic antagonists (LAMA) *(drug name, strength, delivery device, dose, route, and frequency)* _____
- ☐ Inhaled corticosteroid/Long-acting beta-agonist (ICS-LABA) *(drug name, strength, delivery device, dose, route, and frequency)* _____
- ☐ Other _____

- ☐ Refer to Nicotine Replacement Therapy Order Set
- ☐ **OR** Nicotine replacement therapy *(drug name, dose, route, and frequency)*

Antibiotics *(If the patient received antibiotics in the last three months, choose a different antibiotic class and tailor antibiotics based on available sputum culture results)* ***Choose one:***

Complicated COPD: FEV1 less than 50% predicted, 4 or more exacerbations per year, ischemic heart disease, chronic oral steroid.

Choose one (if applicable) →
- ☐ amoxicillin 875 mg/clavulanate 125 mg PO BID x 7 days
- ☐ cefUROXime 500 mg PO BID x 7 days
- ☐ levoFLOXacin 750 mg PO Daily x 5 days

Simple COPD

Choose one (if applicable) →
- ☐ amoxicillin 1 gram PO TID x 7 days
- ☐ doxycycline 200 mg PO **NOW** then doxycycline 100 mg PO BID x 7 days
- ☐ sulfamethoxazole 800 mg/trimethoprim 160 mg PO BID x 7 days

Alternatives for Simple COPD:

Choose one (if applicable) →
- ☐ AZIthromycin 500 mg PO Daily x 3 days
- ☐ clarithromycin XL 1gram PO daily x 7 days
- ☐ other _____

Corticosteroids

- ☐ predniSONE _____ *(recommend 40mg or 50mg PO daily)* x _____ days *(recommended for 5-10 days)*
- ☐ Other _____

Prior to Discharge *(If indicated, when the patient is no longer febrile or acutely ill, with verbal informed consent)*

- ☐ Influenza vaccine 0.5 mL IM x 1 *(during influenza season, if NOT already vaccinated)*
- ☐ Pneumococcal polysaccharide vaccine 0.5 mL IM x 1 *(review vaccine history and eli…*

Prescriber Name *(print)*	Prescriber Signature	…signation

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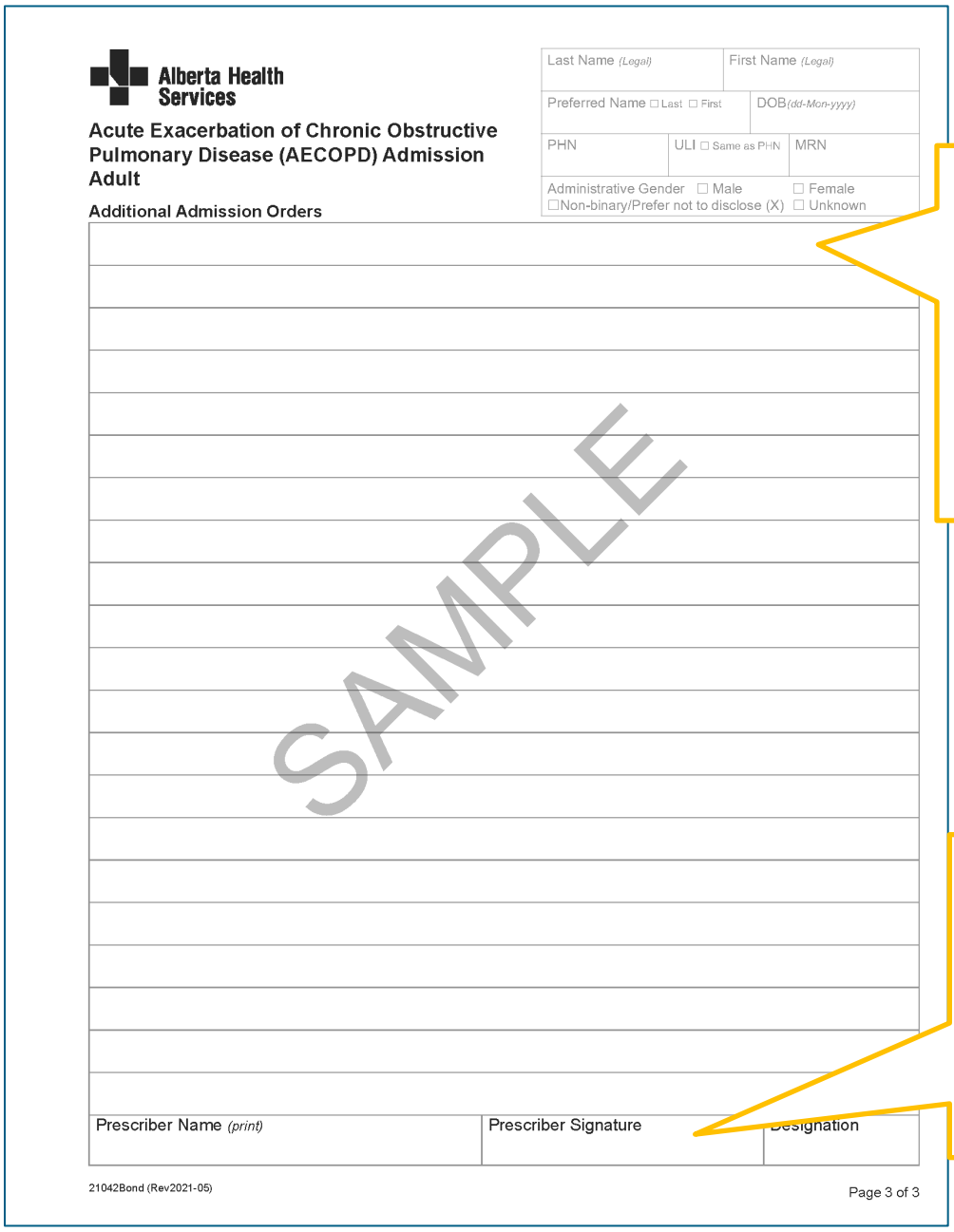
SAMPLE

Open boxes provide options for the physician to choose from

Admitting physician to sign once orders are complete

AECOPD Admission Adult Physician Orders: Page 3

Blank page for additional orders (as required). To be completed and signed by the admitting physician.



Alberta Health Services

Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) Admission Adult

Additional Admission Orders

Last Name *(Legal)*	First Name *(Legal)*
Preferred Name ☐ Last ☐ First	DOB *(dd-Mon-yyyy)*
PHN	ULI ☐ Same as PHN / MRN
Administrative Gender ☐ Male ☐ Female ☐ Non-binary/Prefer not to disclose (X) ☐ Unknown	

SAMPLE

Prescriber Name *(print)*	Prescriber Signature	Designation

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Blank spaces for the physician to write additional orders (as required)

Admitting physician to sign once orders are complete (as required)

Full Bundle Components: A Closer Look

This section will review the following Full Bundle components which will assist sites with implementation of the 'AECOPD Admission Adult' physician orders:

- Transition to Community Care - Admission to Discharge Checklist
- Discharge Management Plan

Transition to Community Care - Admission to Discharge Checklist:

This checklist is a tool to assist health care providers identify and record completion of activities related to COPD patient care.

Care providers are encouraged to use this form as a resource for communication among staff, confirmation of activity completion, and record of unique circumstances.

Please check the appropriate 'Yes' or 'Not indicated' column when an item is addressed. If the activity is not completed, provide additional comments beside the item or checkmark the appropriate box in the 'Not indicated' section at the bottom of the page.

This form, and the Discharge Management Plan form (described below), can be used for data collection. Clear rational and comments will assist to clarify item completion. Sites participating in the provincial implementation of this program will be asked to send a copy of these 2 forms to central office for data analysis.

Transition to Community Care - Admission to Discharge Checklist (COPD):

Ensure most appropriate and available health care provider completes identified items

Alberta Health Services

Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) Admission Adult Transition to Community Care Admission to Discharge Checklist

Last Name *(Legal)*	First Name *(Legal)*
Preferred Name ☐ Last ☐ First	DOB *(dd-Mon-yyyy)*
PHN	ULI ☐ Same as PHN / MRN
Administrative Gender ☐ Male ☐ Female ☐ Non-binary/Prefer not to disclose (X) ☐ Unknown	

Start at Admission	Date *(dd-Mon-yyyy)* / Time *(hh:mm)*	Completed	Not indicated*	Initials
	Consultations *(For all consultations, utilize the most appropriate/available health care provider(s) at your site to deliver services)*			
	Screen for Malnutrition			
	Screen for Frailty			
	Screen for Cognitive status			
	Refer to Transition/Discharge Services if anticipated need at discharge			
	Inform Respiratory Therapy of patient admission & referral for assessment of Home Oxygen requirements			
	Activate COPD Education Team			
	Consider involving the following healthcare providers as necessary: ■ Social Worker ■ Speech Language Pathologist for swallow assessment			
	COPD Education and Self-Care Instructions – *use teach-back technique to reinforce learning*			
	Ambulate – Early Mobilization *(done within 48 hours)*			
	Provide and review COPD education resources with patient/caregiver ☐ Inhaler Techniques ☐ COPD Medicines ☐ COPD: Learning to Breathe Easier ☐ COPD: Avoiding your Triggers			
	Patient demonstrates proper inhaler technique			
	Discharge Plan			
	Complete Discharge Management Plan			
	Follow-up as Required			
	Assess tobacco use of patient ■ Provide tobacco cessation counselling and resources where appropriate ■ Refer to tobacco cessation program where appropriate			
	Notify Primary Care Provider of discharge *(include designated supportive living and home care, where appropriate)*			
	Provide Primary Care Provider with Discharge Summary and AECOPD Discharge Management Plan *(Form 21045)*			

*Check 'Not Indicated' only if item would NOT benefit the patient. Identify reason by placing a (✓) in t appropriate box
☐ Recently completed
☐ End-of-life
☐ Deceased
☐ Service/assessment is unavailable
☐ Other, Specify reason(s):_____

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Complete any time during hospital stay

Review each resource with patient. Check and initial when complete.

If unable to complete any item, indicate why in comment section

Make every effort to provide hospitalization information to other providers

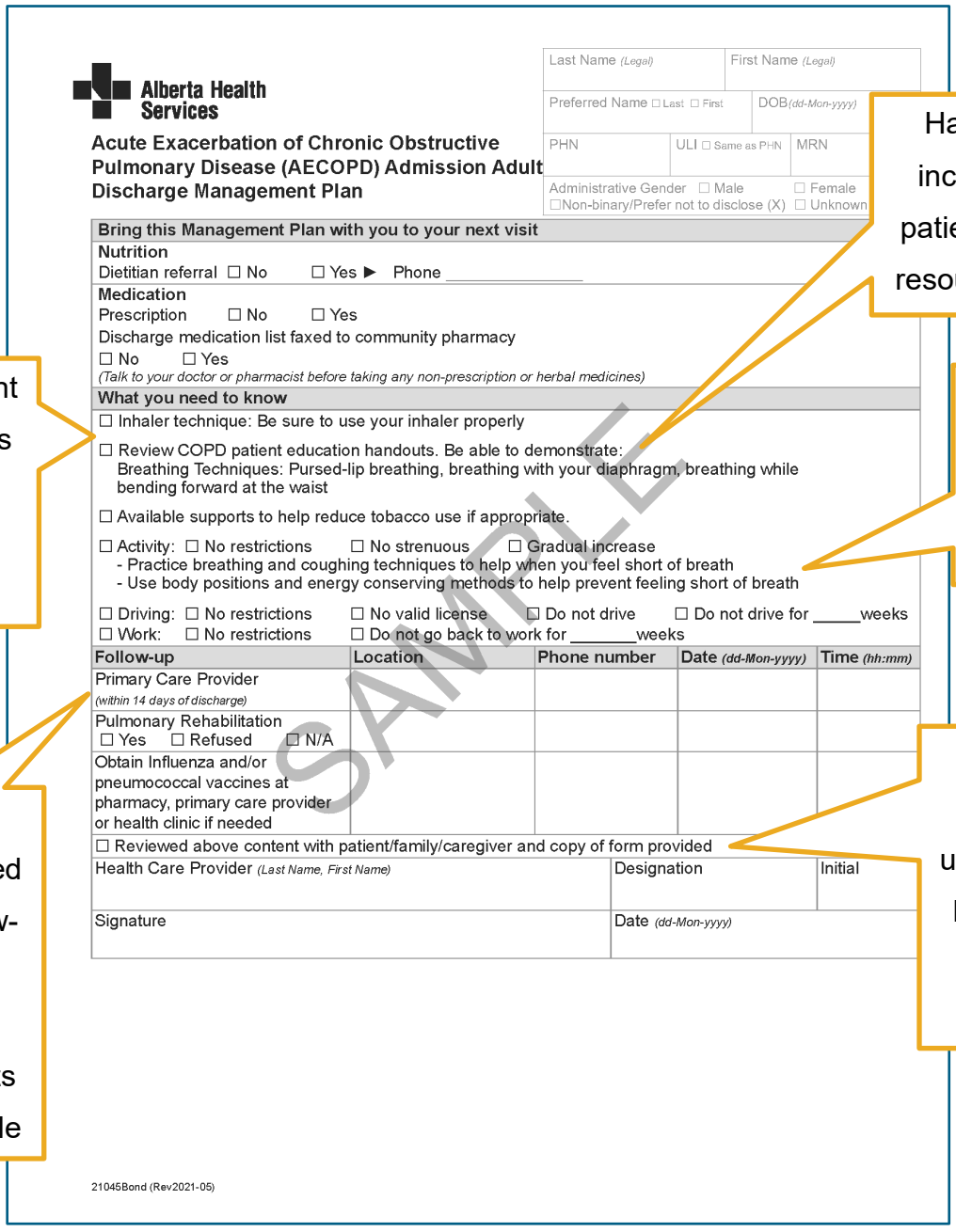
Discharge Management Plan:

The final page included in the Full Bundle is the Discharge Management Plan (DMP). This resource is to be reviewed with the patient and/or care provider prior to hospital discharge. Key messages, resources and follow up information is identified as a reminder to the patient and adequate understanding should be assessed. Patient education handouts are referenced to ensure all resources are taken with the patient upon discharge.

Recommended follow-up appointments should be indicated in the Follow-up section. Try to confirm appointments are booked prior to hospital discharge if possible. If unable, ensure patient and/or care giver are able to arrange independently.

Ensure you review with the patient and/or caregiver to ensure adequate understanding prior to discharge. A copy of this form is to be given to the patient for reference and for communication with other health care providers. Encourage the patient to take this plan to the next health care visit.

Discharge Management Plan (AECOPD):



Alberta Health Services

Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) Admission Adult Discharge Management Plan

Last Name *(Legal)*	First Name *(Legal)*	
Preferred Name ☐ Last ☐ First	DOB *(dd-Mon-yyyy)*	
PHN	ULI ☐ Same as PHN	MRN
Administrative Gender ☐ Male ☐ Female ☐ Non-binary/Prefer not to disclose (X) ☐ Unknown		

Bring this Management Plan with you to your next visit

Nutrition
Dietitian referral ☐ No ☐ Yes ▶ Phone _____

Medication
Prescription ☐ No ☐ Yes
Discharge medication list faxed to community pharmacy
☐ No ☐ Yes
(Talk to your doctor or pharmacist before taking any non-prescription or herbal medicines)

What you need to know

☐ Inhaler technique: Be sure to use your inhaler properly

☐ Review COPD patient education handouts. Be able to demonstrate:
Breathing Techniques: Pursed-lip breathing, breathing with your diaphragm, breathing while bending forward at the waist

☐ Available supports to help reduce tobacco use if appropriate.

☐ Activity: ☐ No restrictions ☐ No strenuous ☐ Gradual increase
- Practice breathing and coughing techniques to help when you feel short of breath
- Use body positions and energy conserving methods to help prevent feeling short of breath

☐ Driving: ☐ No restrictions ☐ No valid license ☐ Do not drive ☐ Do not drive for _____weeks
☐ Work: ☐ No restrictions ☐ Do not go back to work for _____weeks

Follow-up	Location	Phone number	Date *(dd-Mon-yyyy)*	Time *(hh:mm)*
Primary Care Provider *(within 14 days of discharge)*				
Pulmonary Rehabilitation ☐ Yes ☐ Refused ☐ N/A				
Obtain Influenza and/or pneumococcal vaccines at pharmacy, primary care provider or health clinic if needed				

☐ Reviewed above content with patient/family/caregiver and copy of form provided

Health Care Provider *(Last Name, First Name)*	Designation	Initial
Signature	Date *(dd-Mon-yyyy)*	

SAMPLE

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Handouts are included in the patient education resource package

Ensure patient demonstrates inhaler and breathing techniques

Ensure patient has opportunity to review

Indicate recommended time to follow-up. Book follow-up appointments when possible

Confirm patient understanding. Provide copy of form to patient

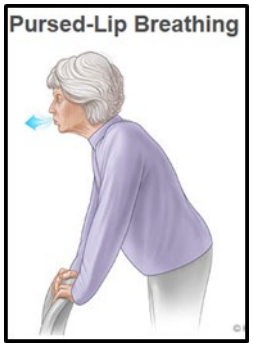
Patient Education Resource Package (COPD)

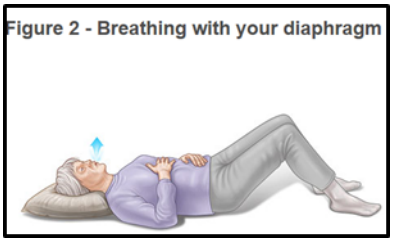
A COPD Education Resource Package is available to support patient education efforts.

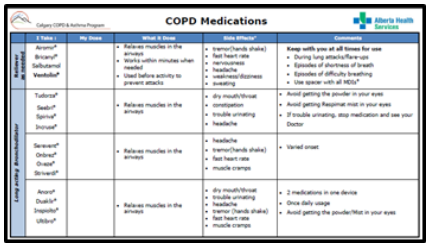
Included are 6 recommended patient education resources:

1. Avoiding Your Triggers
2. Learning to Breathe Easier
3. Living Well Online Education Resources
4. COPD Medications
5. Influenza Vaccine
6. Pneumococcal Vaccine

Resource Samples:







To Order:

COPD Education Resource Package (Item #104870):
Contact Data Group at https://dol.datacm.com/

- Items may also be ordered separately. See next page for ordering information.

Tobacco cessation resources should be ordered in advance and available on site when required for patient education.

- AlbertaQuits brochure (Tobacco009)
- Let's Talk About Tobacco (Tobacco007)

Contact AlbertaQuits.ca

To Download:

Access resources on-line at Primary Health Care Resource Centre - AHS

Patient Education Resource Package: COPD

Order from Data Group at: https://dol.datacm.com/

FORM / ITEM # (Order #)	Title / Description
104870	COPD Patient Education Resource Package
Individual Items	
COPD-1	Instruction Page
COPD-2	Avoiding Your Triggers
COPD-3	Learning to Breathe Easier
COPD-4	Living Well Online Education Resources
COPD-5	COPD Medications
104800	Influenza Vaccine
104536	Pneumococcal Vaccine

Living Well with COPD Resources

The **Living Well with COPD** program is designed to help physicians and healthcare professionals to develop a partnership with their patients that will promote and facilitate the self-management of their disease. For people with a chronic disease, self-management is a treatment goal in itself, and not just a treatment option. Some sites are using the following “Living Well with COPD” resources for patient education.

- Living Well with COPD: A plan of action for life – A Learning Tool for Patients and their Families
- Living Well with COPD: A plan of action for life – Summary Guide

Patient Education Resources available from the Primary Health Care – Resource Centre

You can also download patient education resources from the COPD section on the Primary Health Care - Resource Centre

1. Visit the PHC Resource Centre.
2. Under Chronic Diseases & Conditions, go to COPD
3. Here you’ll find COPD resources under Provider Resources

Integrated Model of Care

The COPD clinical pathway seeks to facilitate the implementation of evidence based COPD care from hospital admission through to discharge and transition into community and primary care. The full bundle is unable to address the entire continuum of care so focuses up to 2 weeks from hospital discharge.

Additional community programs, supports and primary care services continue to provide COPD care in an effort to support COPD patients within their communities. Shared care plans, communication strategies, and collaboration between heath care providers should continue in an effort to prevent readmission to the hospital or emergency department.

Integrating acute, community and primary care services through the collaboration of healthcare providers, patients, families and managers will support COPD patients on the road to recovery and sustained health.

Community Care

Many support services for COPD patients may be available within your community. Health care providers are often unaware of these supports or don't have processes in place to easily access this care for their patients.

Sites are encouraged to compile a comprehensive list of available community support services including Alberta Health Services (AHS) programs (chronic disease management, pulmonary rehab, tobacco reduction, public health, social services, mental health, etc.), primary care network (PCN) programs, non-profit / non health affiliated programs, community agencies, and other organizations which may address the many social determinants of health.

Communication pathways and referral processes should be put in place to streamline access and support within programs.

Primary Care Integration

This clinical pathway initiative stimulates conversations among acute, primary and community care healthcare providers to promote integration across transitions of care for all chronic disease patients. It provides an opportunity for collaborative work and can lay the groundwork for further assimilation with the management of other chronic diseases.

Local primary care networks (PCNs) are a key partner in supporting the care of patients. Promoting awareness, engagement and collaboration with primary care stakeholders is essential to the successful implementation of the full bundle. This can be sought through email notifications, educational sessions, and presentations at regularly scheduled meetings. For example, medical meetings/rounds (primary care, internal medicine, general medicine, hospitalists, etc.) and manager/leadership meetings.

Primary Health Care Leadership Engagement

Primary Health Care (PHC) may have varying levels of interest and involvement throughout the proposed work on implementation of the full bundle.

It’s recommended that formal communication with local, zone and provincial PHC programs be initiated when considering participation in this initiative.

Approach to Implementation

To support this initiative, it's recommended a Local Improvement Team (LIT) be established. A site executive sponsor, local leads, primary care partners and key stakeholders should be involved.

It's recommended both the HF and AECOPD Full Bundles be implemented together given the similarities and efficiencies.

Objective of Local Improvement Team

To successfully implement evidence based COPD best practice within the identified site(s), surrounding community and primary care settings, by utilizing the full bundle, available local resources and provincial clinical pathway team support.

The LIT will work to identify areas of potential need and will inform the provincial clinical pathway team if additional support is required.

Local Improvement Team (LIT): Functions and Responsibilities

Suggested Local Improvement Team Members	
Executive Sponsor	Unit clerk – Medicine or Emergency Department
Lead (COPD) (Clinical Lead-Respiratory)	Emergency Department Clinical Educator / Pharmacist
Frontline nurse - Medicine/Pulmonary	Clinical Inpatient Educator – Medicine/Pulmonary
Inpatient Manager - Medicine	ED Manager
Respiratory Educator	Rehab representation – OT Clinical Lead / PT Clinical Lead
Manager Pulmonary Unit	Pharmacy Manager - Inpatient
RT Manager	Transitional Care representative
Hospitalist*	Discharge Inpatient Planning representative
COPD physician*	Inpatient Dietitian
Family Medicine / Primary Care physician*	PCN representative

- Champion COPD full bundle implementation and advocate for positive change
- Facilitate and promote local physician and staff engagement in the Quality Improvement work around COPD patient care improvements
- Engage all staff members in implementation of the COPD full bundle
- Promote COPD best practice guidelines based on the acute care full bundle
- Identify opportunities for patient and family engagement
- Develop action plans to address specific care gaps identified within the full bundle
- Participate in teleconferences with provincial project team as needed
- Hold regular improvement team meetings as needed to discuss changes, improvements and activities relating to improvement goals/opportunities
- Provide representatives to participate in Innovative Learning Collaborative sessions if applicable

* Representatives need only attend LIT meetings on an ‘as need’ basis

Evidence Documents

The **Full Bundle** is grounded upon evidence based recommendations.

A document describing COPD evidence, including references, is available to provide additional information.

COPD Data Analysis

The average and median length of stay (LOS) data for larger facilities within Alberta are identified below. This reflects **fiscal 2019/20** information where COPD was the primary diagnosis. Data provided by AHS Tableau.

Site	COPD Discharge	Average LOS	Median LOS
Royal Alexandra Hospital	875	6.4	5
Rockyview General Hospital	575	6.9	5
Peter Lougheed Centre	481	7.4	5
Foothills Medical Centre	459	7.2	5
University Of Alberta Hospital (WMC)	458	7.4	4
Grey Nuns Community Hospital	406	6.0	4
Misericordia Community Hospital	394	6.1	5
Sturgeon Community Hospital	372	6.9	5
Red Deer Regional Hospital Centre	334	7.8	5
South Health Campus	333	6.7	5
Chinook Regional Hospital	302	8.8	6
Medicine Hat Regional Hospital	225	7.6	6
Queen Elizabeth II Hospital	157	7.5	4
Northern Lights Regional Health Centre	96	5.8	4
Westlock Healthcare Centre	86	11.8	6
St. Mary's Hospital	57	9.2	6
Barrhead Healthcare Centre	40	10.4	7

COPD Data Analysis (cont.)

The 7 and 30 Day hospital readmission rates for discharged COPD patients is provided below. Data tracks those patients with COPD as the primary diagnosis. This information is tracked over a 4 year period (2016-2020).

Zone	Fiscal Year	COPD Hospital Discharges	7-Day Readmits	7-Day Readmits (%)	30-Day Readmits	30-Day Readmits (%)
South	2016/17	534	21	4.3%	69	14.3%
	2017/18	533	29	6.1%	71	14.9%
	2018/19	551	36	7.2%	85	16.9%
	2019/20	526	20	4.2%	67	13.9%
Calgary	2016/17	1860	84	4.9%	295	17.3%
	2017/18	1955	81	4.5%	310	17.4%
	2018/19	1830	85	5.0%	339	19.9%
	2019/20	1848	91	5.3%	330	19.4%
Central	2016/17	402	14	4.1%	63	18.3%
	2017/18	416	17	4.7%	64	17.7%
	2018/19	382	14	4.4%	56	17.6%
	2019/20	391	14	4.1%	60	17.7%
Edmonton	2016/17	2516	124	5.4%	458	20.1%
	2017/18	2601	160	6.8%	511	21.7%
	2018/19	2363	132	6.1%	447	20.8%
	2019/20	2505	139	6.0%	451	19.5%
North	2016/17	333	15	5.2%	44	15.2%
	2017/18	351	13	4.1%	54	17.2%
	2018/19	348	13	4.2%	54	17.3%
	2019/20	379	20	6.0%	61	18.2%

Provincial data will continue to be captured by the COPD Dashboards. These dashboard provide users with information regarding Inpatient (IP) admissions and readmissions with COPD to healthcare facilities across Alberta.

Healthcare providers and decision makers can use this data to identify the healthcare resource utilization in order to facilitate better services and to optimize resource utilization.

It is anticipated implementation of the evidence based full bundle will have a positive impact on reducing hospital length of stay and readmission rates.

Evaluation

Throughout implementation, it's important to evaluate your processes, successes and challenges. Sites are encouraged to gather data regarding specific items of care and work together with the Local Improvement Team (LIT) to improve measures.
The COPD Menu of Metrics (Appendix 3) identities those items sites are encouraged to track. Initially the key items are:

- **Full Bundle use**
    - Complete Full Bundle use or separate use of the Transition to Community Care Bundle alone
- **Patients who were given the COPD education package with instruction**
    - Activities: Breathing and coughing techniques, body positions, inhaler technique

Once the full bundle is being used within your site, the LIT will be able to track specific items, identify problem areas, and focus their efforts to improve care where needed.

Data can be captured from the following support resources:

- Transition to Community Care - Admission to Discharge Checklist (ADC)
- Discharge Management Plan (DMP)

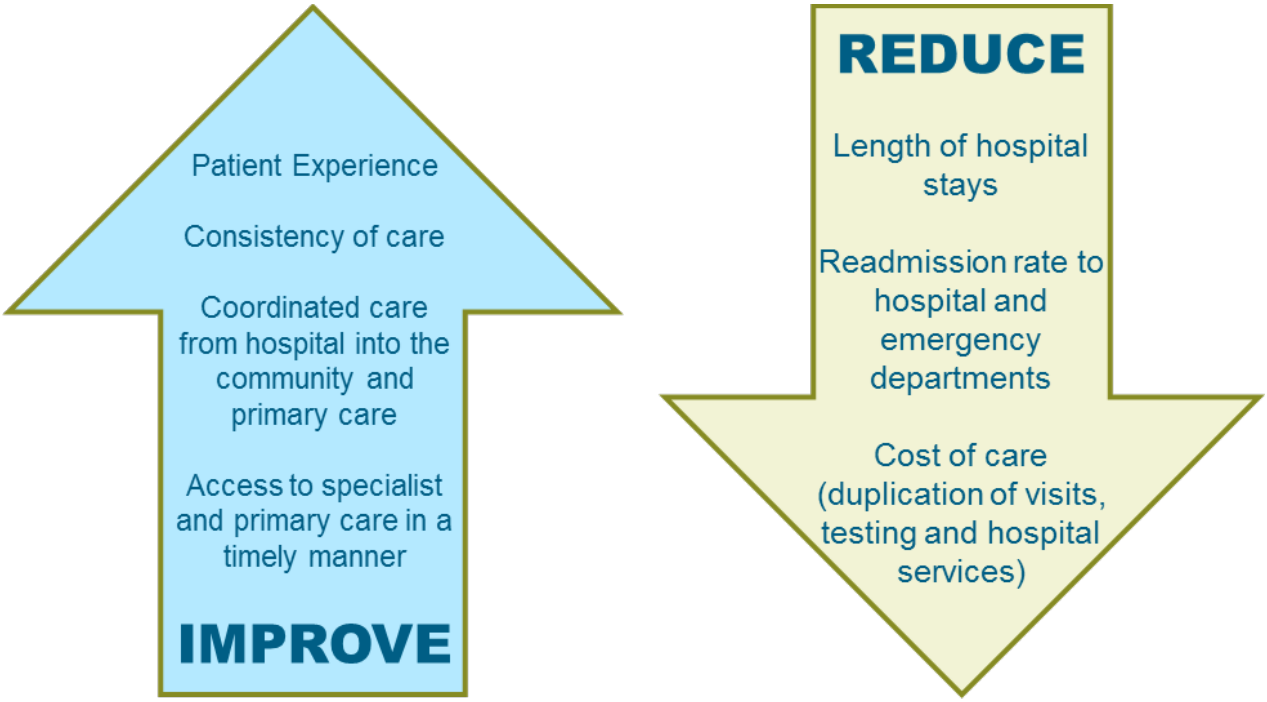
Sites participating in the coordinated provincial implementation of the COPD clinical pathway care are asked to send the ADC and DMP to central office for data capture and analysis. Please refer to Appendix 4, which describes this process.

A Data Dictionary is available to assist in the evaluation process (Appendix 5).

Anticipated Outcomes

Many positive outcomes are anticipated following implementation of the evidence based items included in this full bundle. As a result, patients may experience an enhanced quality of life and health care facilities may report reduced healthcare costs.
The following outcomes are anticipated:

What Difference Can it Make?



Partnership for Research and Innovation in the Health System (PRIHS) Project

PRIHS is a partnership between Alberta Innovates - Health Solutions (AIHS) and Alberta Health Services (AHS) aimed at improving health outcomes for patients across Alberta by funding specific research projects. There is a PRIHS project associated with this COPD full bundle:

'**A pragmatic multi-centre trial of the effectiveness and cost-effectiveness of an evidence based COPD discharge bundle, delivered alone or enhanced through a dedicated care coordinator'.**

Following a systematic review to identify evidence-based components incorporated in COPD discharge care bundles, a technique to reach consensus, and targeted focus groups, a COPD discharge bundle was developed which includes the following 7 items:

COPD Discharge Bundle

1. Ensure patient has demonstrated adequate inhaler technique
2. Send discharge summary to family physician office and arrange follow-up
3. Optimize and reconcile prescription of respiratory medications
4. Provide a written discharge management plan, and assess patient's and care giver's comprehension of discharge instructions
5. Refer to pulmonary rehabilitation
6. Screen for frailty and comorbid conditions
7. Assess smoking status, provide counselling and refer to smoking cessation program, where appropriate

These 7 items constitute a single intervention, the 'COPD Discharge Care Bundle'. The bundle has been integrated into the COPD full bundle content available at all sites. Only 5 select sites within Alberta will be implementing the complete PRIHS protocol. The PRIHS protocol includes COPD patient randomization to regular care or enhanced case management with a care navigator.

Partnership for Research and Innovation in the Health System (PRIHS) Project

Study Objective:

The aim of the PRIHS project is to assess the effectiveness and cost-effectiveness of an evidence-based COPD discharge care bundle, delivered alone or facilitated by a dedicated care coordinator, to reduce Emergency Department and hospital readmissions, and improve patient-centered and economic outcomes.

Study Design:

This is a multi-centre study taking place in 5 Alberta hospitals which provide emergency, and hospital care for patients with acute exacerbations of COPD (AECOPD). All sites participating in the PRIHS study will identify patients meeting the necessary study criteria. Patients will be randomized to receive a COPD discharge care bundle alone (the regular COPD Full Bundle) or a COPD discharge care bundle enhanced through a dedicated care navigator. The patient-level selection criteria for the study are patients aged 50 and older, cognitively intact, with COPD as the main reason for the episode of care at Emergency Department (ED) and/or hospital discharge.

Patients randomized to the care navigator will receive enhanced care management which includes a follow-up phone contact at 48-72 hours and again at 7-10 days. The care navigator will ask questions and provide information and assistance as needed.

Care Navigator Phone Follow-Up: • **48-72 hours** • **7-10 days**	**Sample Questions asked by the Care Navigator:** 1. **Do you recall a discussion about this information?** 2. **Did you see your family doctor after you have been back home from hospital/ED?** 3. **Were you contacted by pulmonary rehabilitation program?** 4. **Are you a smoker?**

Partnership for Research and Innovation in the Health System (PRIHS) Project

Randomization Process:

Approximately 50% of the COPD patients admitted to hospital are randomized, following discharge, to receive care from the site-specific care navigator. For the duration of the project, patient data is sent to the Provincial Analyst. Using a randomization algorithm, the Analyst will randomly assign the patients a care navigator or no navigator. The Analyst will then contact the site-specific care navigators to identify the randomized patients needing follow-up communication, as described above.

The care navigators will document their call conversation (i.e., patient answers to the questions, notes, etc.) with the patient as per a provided spreadsheet. On a monthly basis, the care navigators will send their spreadsheets to the Provincial Analyst for analysis associated with the PRIHS project and archiving.

PRIHS Study Team Contact Information:

Sites participating in the PRIHS study will be contacted by the PRIHS research team and will be provided with detailed study information.

For additional information regarding the PRIHS study please contact:

Lesly Deuchar at Lesly.Deuchar2@albertahealthservices.ca

Clinical Pathway Support Unit: Provincial Team

Alberta Health Services (AHS) strongly supports the Heart Failure and COPD clinical pathway work due to the positive impact it could have on patient outcomes, quality of life, reduced hospital stay, reduced readmissions and resulting financial savings.

Provincial support resources have been made available to assist zones and sites with full bundle implementation and clinical pathway care.

A provincial Clinical Pathway Support Unit (CPSU) including project managers and consulting specialists in clinical practice, knowledge translation, primary care and data analysis are accessible for zone support.

Contact Information

For additional information or support regarding COPD clinical pathway care or full bundle implementation, contact the Clinical Pathway Support Unit (CPSU) at: copdpathway@ahs.ca

Appendixes

Appendix 1: AECOPD - Maintenance Inhaler Therapy

Alberta Health Services

Maintenance Inhaler Therapy

Drug	Brand	Available Strengths	Delivery Device	Ordering Dose
Long-Acting Muscarinic Antagonists (LAMA)				
tiotropium	Spiriva HandiHaler	18 mcg/dose	DPI	1 puff daily
tiotropium	Spiriva Respimat	2.5 mcg/dose	SMI	2 puffs daily
aclidinium	Tudorza Genuair	400 mcg/dose	DPI	1 puff BID
glycopyrronium	Seebri Breezhaler	50 mcg/dose	DPI	1 puff daily
umeclidinium	Incruse Ellipta	62.5 mcg/dose	DPI	1 puff daily
Long-Acting Beta-Agonists (LABA)				
salmeterol	Serevent Diskus	50 mcg/dose	DPI	1 puff BID
formoterol	Oxeze Turbuhaler	6 mcg/dose	DPI	1-2 puffs BID
indacaterol	Onbrez Breezhaler	75 mcg/dose	DPI	1 puff daily
Combination LAMA-LABA *(Restricted use: see criteria 1, 2 below)*				
glycopyrronium-indacaterol	Ultibro Breezhaler	50 mcg-110 mcg/dose	DPI	1 puff daily
aclidinium-formoterol	Duaklir Genuair	400 mcg-12 mcg /dose	DPI	1 puff BID
tiotropium-olodaterol	Inspiolto Respimat	2.5 mcg-2.5 mcg/dose	SMI	2 puffs daily
umeclidinium-vilanterol	Anoro Ellipta	62.5 mcg-25 mcg/dose	DPI	1 puff daily
Combination Inhaled corticosteroid - Long-Acting beta-agonist (ICS-LABA)				
fluticasone propionate-salmeterol	Advair Diskus *Restricted use: see criteria 1,2 below*	500 mcg-50 mcg/dose 250 mcg-50 mcg/dose	DPI DPI	1 puff BID 1 puff BID
mometasone-formoterol	Zenhale	200 mcg-5 mcg/dose 100 mcg-5 mcg/dose	MDI MDI	1-2 puffs BID 1-2 puffs BID
budesonide-formoterol	Symbicort Turbuhaler *Restricted use: see criteria 1,2 below*	200 mcg-6 mcg/dose	DPI	2 puffs BID
fluticasone furoate-vilanterol	Breo Ellipta *Restricted use: see criteria 1,2 below*	100 mcg-25 mcg/dose	DPI	1 puff daily
Combination ICS-LAMA-LABA				
Fluticasone furoate-umeclidinium-vilanterol	Trelegy Ellipta *Restricted use: see criteria 3 below*	100 mcg-62.5 mcg-25 mcg/dose	DPI	1 puff daily

Source: AHS Provincial Drug Formulary

Restriction Criteria: Only use identified medication for,

1. Maintenance treatment of moderate to severe COPD (i.e.,FEV1 less than 80% predicted) **AND** inadequate response to a long-acting bronchodilator, **OR**
2. Maintenance treatment of severe COPD (i.e., FEV1 less than 50% predicted).
3. Long-term maintenance treatment of COPD, including bronchitis and/or emphysema in patients who are not controlled on optimal dual inhaled therapy (i.e. LAMA-LABA or ICS-LABA)

Legend
DPI – Dry powder inhaler
MDI – Metered dose inhaler
SMI – Soft mist inhaler

Version Date: April 14, 2021

Appendix 2: Evidence Documents

To obtain a copy of the COPD Full Bundle Evidence Document, please send a request to copdpathway@ahs.ca

Appendix 3: Menu of Metrics

To obtain a copy of the COPD Menu of Metrics, please send a request to copdpathway@ahs.ca

Appendix 4: Data Capture Process

Follow instructions on the below data cover page to send data to the Data Analyst.

DATA COVER PAGE
Hospital Data Submission

Send data to: hfcopd-data@ahs.ca

From (Unit): _____

Number of Pages (including cover): _____

Please **include the following** documents in a single scan for **each** discharged patient:

1. **Pathway:**
   - ☐ COPD
   - ☐ Heart Failure

2. **Discharge date** of patient (DD-MMM-YYYY): _____

3. **Uptake Information**:
   - ☐ **Full Bundle** used

     Checklist of data forms to include in submission:
     - ☐ Completed Data Cover Page (this form)
     - ☐ Patient Demographics (e.g., Inpatient Registration)
     - ☐ Physician Admission Orders (optional)
     - ☐ Transition to Community Care - Admission to Discharge Checklist (TCC-ADC)
     - ☐ Discharge Management Plan (DMP)

   - ☐ **Transition to Community Care Bundle** used
     ****NO Physician Admission Orders used**

     Checklist of data forms to include in submission:
     - ☐ Completed Data Cover Page (this form)
     - ☐ Patient Demographics (e.g., Inpatient Registration)
     - ☐ Transition to Community Care - Admission to Discharge Checklist (TCC-ADC)
     - ☐ Discharge Management Plan (DMP)

If you have any questions, please contact:
hfcopd-data@ahs.ca

Appendix 5: Data Dictionary

To obtain a copy of the COPD Data Dictionary, please send a request to copdpathway@ahs.ca