

Supplemental Table S1: Commonly used maintenance medications in COPD

Drug group	Drug
Inhaled corticosteroids (ICS)	Ciclesonide
	Beclomethasone
	Budesonide
	Mometasone
	Fluticasone
Long-acting $\beta$ -agonist (LABA)	Arformoterol
	Formoterol
	Indacaterol
	Olodaterol
	Salmeterol
Long-acting muscarinic antagonist (LAMA)	Acidinium
	Glycopyrronium
	Tiotropium
	Umeclidinium
Combination LABA/LAMA in one device	Formoterol/acidinium
	Formoterol/glycopyrronium
	Indacaterol/glycopyrronium
	Vilanterol/umeclidinium
	Olodaterol/tiotropium
Combination LABA/ICS in one device	Formoterol/beclomethasone
	Formoterol/budesonide
	Formoterol/mometasone
	Salmeterol/fluticasone
	Vilanterol/fluticasone
Short-acting $\beta$ -agonist (SABA)	Fenoterol
	Levalbuterol
	Salbutamol (albuterol)
	Terbutaline
Short-acting muscarinic antagonist (SAMA)	Ipratropium
	Oxitropium
Combination SABA/SAMA in one device	Fenoterol/ipratropium
	Salbutamol/ipratropium
Methylxanthines	Aminophylline
	Theophylline
Phosphodiesterase-4 inhibitors	Roflumilast

Supplemental Table S2: COPD drug availability in Canada and Alberta

drug_din	copd_class	brand_name	manufacturer	compound_names	ATC	description	strength	original_market_date	current_status_date	current_status	Alberta_Drug_Benefit_List_Status	Alberta_date_listed
02248307	ICS	FLONASE ALLERGY RELIEF	GSK	FLUTICASONE	R01AD08	Suspension- nasal-spray	50 MCG / ACT	2017-02-01		Marketed	NOT LISTED	
02446561	ICS	ARNIUTY ELLIPTA	GLAXOSMITHKLINE INC	FLUTICASONE	R01AD12	Powder- Inhalation, Oral	100 MCG / ACT	2016-01-26		Marketed	REGULAR BENEFIT	2017-02-01
01974432	ICS	RHINOCORT AQUA 100MCG	ASTRA PHARMA INC.	BUDESONIDE	R01AD05	Metered-Dose Aerosol- nasal	100 MCG / ACT	1993-12-31	1999-07-29	Cancelled Post Market	NOT LISTED	
02238465	ICS	NASONEX	MERCK CANADA INC	MOMETASONE	R01AD09	Spray, Metered Dose- Nasal	50 MCG / ACT	1998-09-15	2013-01-02	Marketed	RESTRICTED BENEFIT	2001-01-01
02298589	ICS	AVAMYS	GLAXOSMITHKLINE INC	FLUTICASONE	R01AD12	Spray, Metered Dose- Nasal	27.5 MCG / ACT	2007-10-22		Marketed	NOT LISTED	
02228300	ICS	RIVANASE AQ.NASAL SPRAY 50MCG/METERED DOSE	LABORATOIRE RIVA INC	BECLOMETHASONE	R01AD01	Metered-Dose Aerosol- nasal	50 MCG / ACT	1997-08-27	2017-07-05	Dormant	NOT LISTED	
02237245	ICS	FLOVENT DISKUS	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Powder- Inhalation	100 MCG / ACT	1998-04-02	2003-12-22	Marketed	NOT A BENEFIT	
02296071	ICS	RATIO-FLUTICASONE	TEVA CANADA LIMITED	FLUTICASONE	R01AD08	Metered-Dose Pump- Nasal	50 MCG / ACT	2007-06-07	2013-04-17	Marketed	NOT LISTED	
02035324	ICS	RHINOCORT TURBUHALER 100 MCG/DOSE	ASTRAZENECA CANADA INC	BUDESONIDE	R01AD05	Powder- Inhalation- Nasal	100 MCG / ACT	1993-12-31	2001-03-20	Marketed	REGULAR BENEFIT	1994-04-01
02237246	ICS	FLOVENT DISKUS	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Powder- Inhalation	250 MCG / ACT	1998-04-02	2003-01-06	Marketed	REGULAR BENEFIT	1998-10-01
02303671	ICS	OMNARIS	ASTRAZENECA CANADA INC	CICLESONIDE	R01AD13	Spray, Metered Dose- Nasal	50 MCG / ACT	2008-04-10	2018-05-03	Marketed	NOT A BENEFIT	
02242029	ICS	QVAR	VALEANT CANADA LP/VALEANT CANADA S.E.C.	BECLOMETASONE	R03BA01	Metered-Dose Aerosol- inhalation	50 MCG / ACT	2000-05-29	2014-08-11	Marketed	REGULAR BENEFIT	2000-10-01
00851752	ICS	PULMICORT TURBUHALER	ASTRAZENECA CANADA INC	BUDESONIDE	R03BA02	Powder (Metered Dose)- inhalation	200 MCG / ACT	1990-12-31	2000-11-07	Marketed	REGULAR BENEFIT	1992-01-01
02216531	ICS	BECLOVENT - AEM 50MCG/AEM	GLAXO WELLCOME INC.	BECLOMETASONE	R03BA01	Metered-Dose Aerosol- inhalation	50 MCG / ACT	1998-03-30	2000-05-24	Cancelled Post Market	NOT LISTED	
02446588	ICS	ARNIUTY ELLIPTA	GLAXOSMITHKLINE INC	FLUTICASONE FUROATE	R01AD12	Powder- Inhalation- Oral	200 MCG / ACT	2015-12-14		Marketed	REGULAR BENEFIT	2017-02-01
02403587	ICS	APO-MOMETASONE	APOTEX INC	MOMETASONE	R01AD09	AQUEOUS SUSPENSION. 140 DOSES. Spray, Metered Dose- Nasal	50 MCG / ACT	2013-03-25		Marketed	REGULAR BENEFIT	2014-01-02
02237244	ICS	FLOVENT DISKUS	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Powder- Inhalation	50 MCG / BLIST	1998-04-02	2015-10-09	Cancelled Post Market	NOT A BENEFIT	
00872318	ICS	RATIO-BECLOMETHASONE AQ	RATIOPHARM INC DIVISION OF TEVA CANADA LIMITED	BECLOMETHASONE	R01AD01	Spray-nasal	50 MCG / ACT	1995-12-31	2010-05-21	Cancelled Post Market	NOT LISTED	
02294745	ICS	APO-FLUTICASONE	APOTEX INC	FLUTICASONE	R01AD08	Spray, Metered Dose- Nasal	50 MCG / ACT	2007-07-05		Marketed	NOT LISTED	
02172712	ICS	MYLAN-BECLO AQ	MYLAN PHARMACEUTICALS ULC	BECLOMETHASONE	R01AD01	Metered-Dose Aerosol, Suspension- nasal	50 MCG / ACT	1995-12-31	2010-06-25	Marketed	REGULAR BENEFIT	1996-04-01
02285614	ICS	ALVESCO	ASTRAZENECA CANADA INC	CICLESONIDE	R03BA08	Aerosol, Metered Dose- Inhalation FOR ORAL INHALATION ONLY - Powder- inhalation	200 MCG / ACT	2006-09-27	2017-10-03	Marketed	REGULAR BENEFIT	2007-04-01
02438690	ICS	ASMANEX TWISTHALER	MERCK CANADA INC	MOMETASONE	R03BA07	Powder- inhalation	100 MCG / ACT	2015-04-08		Marketed	RESTRICTED BENEFIT	2015-11-01
02285606	ICS	ALVESCO	ASTRAZENECA CANADA INC	CICLESONIDE	R03BA08	Aerosol, Metered Dose- inhalation	100 MCG / ACT	2006-09-27	2017-10-11	Marketed	REGULAR BENEFIT	2007-04-01
02237247	ICS	FLOVENT DISKUS	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Powder- Inhalation	500 MCG / ACT	1998-04-02	2002-12-19	Marketed	REGULAR BENEFIT	1998-10-01
02243595	ICS	ASMANEX TWISTHALER	MERCK CANADA INC	MOMETASONE	R03BA07	FOR ORAL INHALATION ONLY-Powder- Inhalation	200 MCG / ACT	2011-12-21		Marketed	REGULAR BENEFIT	2013-02-01
02213583	ICS	FLOVENT INHALERS - AEM INH- ORL 25MCG/AEM	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Metered-Dose Aerosol- Inhalation- oral	25 MCG / ACT	1998-11-27	2003-06-10	Cancelled Post Market	NOT LISTED	
00851760	ICS	PULMICORT TURBUHALER	ASTRAZENECA CANADA INC	BUDESONIDE	R03BA02	Powder (Metered Dose)- inhalation	400 MCG / ACT	1992-12-31	2001-03-23	Marketed	REGULAR BENEFIT	1993-10-01
00852074	ICS	PULMICORT TURBUHALER	ASTRAZENECA CANADA INC	BUDESONIDE	R03BA02	Powder (Metered Dose)- inhalation	100 MCG / ACT	1990-12-31	2000-10-13	Marketed	REGULAR BENEFIT	1992-01-01
02213613	ICS	FLOVENT INHALERS - AEM INH- ORL 250MCG/AEM	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Metered-Dose Aerosol-Inhalation, Oral	250 MCG / ACT	1998-09-21	2003-03-27	Cancelled Post Market	NOT LISTED	
02230648	ICS	MYLAN-BUDESONIDE AQ	MYLAN PHARMACEUTICALS ULC	BUDESONIDE	R01AD05	Spray, Metered Dose- Nasal	100 MCG / ACT	1997-02-12	2010-06-24	Marketed	REGULAR BENEFIT	1997-10-01
02231923	ICS	RHINOCORT AQUA	MONEIL CONSUMER HEALTHCARE DIVISION OF JOHNSON & JOHNSON INC	BUDESONIDE	R01AD05	Spray, Metered Dose- Nasal	64 MCG / ACT	1997-09-17	2018-06-09	Marketed	NOT LISTED	
02213672	ICS	FLONASE - AEM-SUS NAS 50MCG/MD	GLAXOSMITHKLINE INC	FLUTICASONE	R01AD08	Metered-Dose Pump- Nasal	50 MCG / ACT	1993-03-12	2017-04-07	Cancelled Post Market	NOT LISTED	
01978926	ICS	PULMICORT NEBUAMP 0.5 MG/ML	ASTRAZENECA CANADA INC	BUDESONIDE	R03BA02	Suspension-inhalation	0.5 MG / ML	1992-12-31	2002-12-15	Marketed	REGULAR BENEFIT	1993-10-01
02449811	ICS	SANDOZ MOMETASONE	SANDOZ CANADA INCORPORATED	MOMETASONE	R01AD09	SUSPENSION -Spray, Metered Dose- nasal	50 MCG / ACT	2016-07-27		Marketed	REGULAR BENEFIT	2016-11-01
02244292	ICS	FLOVENT HFA	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Metered-Dose Aerosol- Inhalation, Oral	125 MCG / ACT	2001-12-20		Marketed	REGULAR BENEFIT	2002-10-01
02244291	ICS	FLOVENT HFA	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Metered-Dose Aerosol- Inhalation, Oral	50 MCG / ACT	2001-12-20		Marketed	REGULAR BENEFIT	2009-07-01
02213605	ICS	FLOVENT INHALERS - AEM INH- ORL 125MCG/AEM	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Metered-Dose Aerosol- Inhalation, Oral	125 MCG / ACT	1998-08-18	2003-06-10	Cancelled Post Market	NOT LISTED	
02465957	ICS	TEVA-BUDESONIDE	TEVA CANADA LIMITED	BUDESONIDE	R03BA02	Suspension- inhalation	0.5 MG / ML	2017-11-08		Marketed	REGULAR BENEFIT	2018-05-01

Supplemental Table S2: COPD drug availability in Canada and Alberta

drug_din	copd_class	brand_name	manufacturer	compound_names	ATC	description	strength	original_market_date	current_status_date	current_status	Alberta_Drug_Benefit_List_Status	Alberta_date_listed
02243596	ICS	ASMANEX TWISTHALER	MERCK CANADA INC	MOMETASONE	R03BA07	FOR ORAL INHALATION ONLY- Powder- Inhalation	400 MCG / ACT	2011-12-21		Marketed	REGULAR BENEFIT	2013-02-01
02238796	ICS	APO-BECLOMETHASONE NASAL SPRAY	APOTEX INC	BECLOMETHASONE	R01AD01	METERED DOSE SPRAY	50 MCG / ACT	1998-10-07		Marketed	REGULAR BENEFIT	1999-10-01
01978918	ICS	PULMICORT NEBUAMP 0.25 MG/ML	ASTRAZENECA CANADA INC	BUDESONIDE	R03BA02	Suspension-Inhalation	0.25 MG / ML	1992-12-31	2000-01-29	Marketed	REGULAR BENEFIT	1993-10-01
02417316	ICS	APO-CICLESONIDE	APOTEX INC	CICLESONIDE	R01AD13	Spray, Metered Dose- Nasal	50 MCG / ACT	2016-11-25		Marketed	NOT LISTED	
02242030	ICS	QVAR	VALEANT CANADA LP/VALEANT CANADA S.E.C.	BECLOMETASONE	R03BA01	Metered-Dose Aerosol- Inhalation	100 MCG / ACT	2000-05-29	2014-05-26	Marketed	REGULAR BENEFIT	2000-10-01
02241003	ICS	MYLAN-BUDESONIDE AQ	MYLAN PHARMACEUTICALS ULC	BUDESONIDE	R01AD05	Spray, Metered Dose- Nasal	64 MCG / ACT	1999-11-23	2011-04-21	Marketed	NOT A BENEFIT	
02244293	ICS	FLOVENT HFA	GLAXOSMITHKLINE INC	FLUTICASONE	R03BA05	Metered-Dose Aerosol- inhalation oral	250 MCG / ACT	2001-12-20		Marketed	REGULAR BENEFIT	2002-10-01
02432889	ICS	DYMISTA	BGP PHARMA ULC	AZELASTINE HYDROCHLORIDE, FLUTICASONE PROPIONATE	R01AD58	Spray, Metered Dose- Nasal	137 MCG / ACT	2015-03-31	2018-07-31	Marketed	NOT A BENEFIT	
02229099	ICS	PULMICORT NEBUAMP 0.125 MG/ML	ASTRAZENECA CANADA INC	BUDESONIDE	R03BA02	Suspension-Inhalation	0.125 MG / ML	1997-05-30	2000-01-29	Marketed	REGULAR BENEFIT	1998-04-01
02230898	LABA	FORADIL DRY POWDER CAPSULES FOR INHALATION	NOVARTIS PHARMACEUTICALS CANADA INC	FORMOTEROL	R03AC13	Capsule- Inhalation	12 MCG	1997-07-08		Marketed	REGULAR BENEFIT	1999-10-01
02214261	LABA	SEREVENT DISKHALER DISK (50MCG/DOSE)	GLAXOSMITHKLINE INC	SALMETEROL	R03AC12	Powder- Inhalation -oral	50 MCG / ACT	1998-02-11	2017-09-20	Cancelled Post Market	NOT LISTED	
02376938	LABA	ONBREZ BREEZHALER	NOVARTIS PHARMACEUTICALS CANADA INC	INDACATEROL	R03AC18	CAPSULE CONTAINING FREE-FLOWING POWDER FOR ORAL INHALATION	75 MCG	2012-03-05		Marketed	REGULAR BENEFIT	2013-12-01
02237225	LABA	OXEZE TURBUHALER	ASTRAZENECA CANADA INC	FORMOTEROL	R03AC13	POWDER FOR INHALATION	6 MCG / ACT	1998-03-12	2016-06-01	Marketed	REGULAR BENEFIT	2000-07-01
02237224	LABA	OXEZE TURBUHALER	ASTRAZENECA CANADA INC	FORMOTEROL	R03AC13	POWDER FOR INHALATION	12 MCG / ACT	1998-03-12	2016-06-01	Marketed	REGULAR BENEFIT	1999-10-01
02231129	LABA	SEREVENT DISKUS (50MCG/DOSE)	GLAXOSMITHKLINE INC	SALMETEROL	R03AC12	POWDER FOR INHALATION	50 MCG / ACT	1998-04-01	2003-01-16	Marketed	REGULAR BENEFIT	1999-10-01
02211742	LABA	SEREVENT (25MCG/ACTUATION)	GLAXOSMITHKLINE INC	SALMETEROL	R03AC12	Metered-Dose Aerosol- Inhalation, Oral	25 MCG / ACT	1998-04-09	2006-07-12	Cancelled Post Market	NOT LISTED	
02409720	LAMA	TUDORZA GENUAIR	ASTRAZENECA CANADA INC	Acridinium Bromide	R03BB05	FOR ORAL INHALATION. 1 INHALER WITH 30 ACTUATIONS & 1 INHALER WITH 60 ACTUATIONS	400 MCG / ACT	2013-09-13	2016-04-04	Marketed	REGULAR BENEFIT	2014-11-01
02246793	LAMA	SPIRIVA	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	TIOTROPIUM BROMIDE	R03BB04	Capsule- Inhalation	18 MCG	2002-11-21		Marketed	REGULAR BENEFIT	2005-12-01
02394936	LAMA	SEEBRI BREEZHALER	NOVARTIS PHARMACEUTICALS CANADA INC	Glycopyrronium bromide	R03BB06	Capsule- Inhalation	50 MCG	2013-01-14		Marketed	REGULAR BENEFIT	2013-12-01
02435381	LAMA	SPIRIVA RESPIMAT	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	TIOTROPIUM BROMIDE	R03BB04	FOR ORAL INHALATION WITH RESPIMAT INHALER ONLY.	2.5 MCG / ACT	2014-12-19		Marketed	REGULAR BENEFIT	2016-05-01
02423596	LAMA	INCRUSE ELLIPTA	GLAXOSMITHKLINE INC	UMECLIDINIUM BROMIDE	R03BB07	POWDER FOR ORAL INHALATION	62.5 MCG / ACT	2015-04-27		Marketed	REGULAR BENEFIT	2016-02-01
02418401	LABA/LAMA	ANORO ELLIPTA	GLAXOSMITHKLINE INC	VILANTEROL AND UMECLIDINIUM BROMIDE	R03AL03	POWDER FOR ORAL INHALATION	62.5 MCG / ACT	2014-03-14		Marketed	STEP THERAPY/ SPECIAL	2017-02-01
02441888	LABA/LAMA	INSPIOLO RESPIMAT	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	OLODATEROL AND TIOTROPIUM BROMIDE	R03AL06	FOR ORAL INHALATION. WITH INSPIOLO RESPIMAT INHALER	2.5 MCG / ACT	2015-05-29		Marketed	STEP THERAPY/ SPECIAL AUTHORIZATION	2017-02-01
02418282	LABA/LAMA	ULTIBRO BREEZHALER	NOVARTIS PHARMACEUTICALS CANADA INC	INDACATEROL AND GLYCOPYRRONIUM BROMIDE	R03AL04	Capsule- Inhalation	50 MCG, 110 N	2014-03-05		Marketed	STEP THERAPY/ SPECIAL AUTHORIZATION	2017-02-01
02439530	LABA/LAMA	DUAKLIR GENUAIR	ASTRAZENECA CANADA INC	FORMOTEROL AND ACILDINIUM BROMIDE	R03AL05	Powder (Metered Dose)- inhalation	400 MCG / ACT	2015-07-09		Marketed	STEP THERAPY/ SPECIAL	2017-02-01
02245126	LABA/ICS	ADVAIR 125	GLAXOSMITHKLINE INC	SALMETEROL AND FLUTICASONE	R03AK06	Aerosol, Metered Dose- inhalation	125 MCG / ACT	2001-12-21		Marketed	STEP THERAPY/ SPECIAL	2017-02-01
02361752	LABA/ICS	ZENHALE	MERCK CANADA INC	FORMOTEROL AND MOMETASONE	R03AK09	Suspension	5 MCG / ACT.	2011-03-10		Marketed	NOT A BENEFIT	
02240835	LABA/ICS	ADVAIR 100 DISKUS	GLAXOSMITHKLINE INC	SALMETEROL AND FLUTICASONE	R03AK06	Powder- Inhalation	100 MCG / ACT	1999-09-24	2002-03-12	Marketed	STEP THERAPY/ SPECIAL	2017-02-01
02444186	LABA/ICS	BREO ELLIPTA	GLAXOSMITHKLINE INC	VILANTEROL AND FLUTICASONE FUROATE	R03AK10	Powder- Inhalation	200 MCG / ACT	2015-10-02		Marketed	STEP THERAPY/ SPECIAL	2017-02-01

Supplemental Table S2: COPD drug availability in Canada and Alberta

drug_din	copd_class	brand_name	manufacturer	compound_names	ATC	description	strength	original_market_date	current_status_date	current_status	Alberta_Drug_Benefit_List_Status	Alberta_date_listed
02245127	LABA/ICS	ADVAIR 250	GLAXOSMITHKLINE INC	SALMETEROL AND FLUTICASONE	R03AK06	Aerosol, Metered Dose- inhalation	250 MCG / ACT	2001-12-21		Marketed	STEP THERAPY/SPECIAL	2017-02-01
02361760	LABA/ICS	ZENHALE	MERCK CANADA INC	FORMOTEROL AND MOMETASONE	R03AK09	Aerosol, Metered Dose- inhalation	5 MCG / ACT	2011-06-17		Marketed	NOT A BENEFIT	
02240837	LABA/ICS	ADVAIR 500 DISKUS	GLAXOSMITHKLINE INC	SALMETEROL AND FLUTICASONE	R03AK06	Powder- Inhalation	500 MCG / ACT	1999-09-24	2002-03-08	Marketed	STEP THERAPY/SPECIAL	2017-02-01
02245386	LABA/ICS	SYMBICORT 200 TURBUHALER	ASTRAZENECA CANADA INC	FORMOTEROL AND BUDESONIDE	R03AK07	Powder- Inhalation	200 MCG / ACT	2002-02-08		Marketed	STEP THERAPY/SPECIAL	2017-02-01
02240836	LABA/ICS	ADVAIR 250 DISKUS	GLAXOSMITHKLINE INC	SALMETEROL AND FLUTICASONE	R03AK06	Powder- Inhalation	250 MCG / ACT	1999-09-24	2002-04-03	Marketed	STEP THERAPY/SPECIAL	2017-02-01
02408872	LABA/ICS	BREO ELLIPTA	GLAXOSMITHKLINE INC	VILANTEROL AND FLUTICASONE FUROATE	R03AK10	POWDER IN BLISTERS FOR ORAL INHALATION	100 MCG / ACT	2013-11-29		Marketed	STEP THERAPY/SPECIAL	2017-02-01
02361744	LABA/ICS	ZENHALE	MERCK CANADA INC	FORMOTEROL AND MOMETASONE	R03AK09	SUSPENSION	5 MCG / ACT	2011-06-20	2017-03-16	Dormant	NOT LISTED	
02245385	LABA/ICS	SYMBICORT 100 TURBUHALER	ASTRAZENECA CANADA INC	FORMOTEROL AND BUDESONIDE	R03AK07	Powder- Inhalation	100 MCG / ACT	2002-02-08		Marketed	STEP THERAPY/SPECIAL	2017-02-01
00874086	SABA	NOVO-SALMOL INHALER 100MCG/AEM	NOVOPHARM LIMITED	SALBUTAMOL	R03CC02	Metered-Dose Aerosol- oral	100 MCG / ACT	1991-12-31	2005-08-10	Cancelled Post Market	NOT LISTED	
00897345	SABA	VENTOLIN NEBULES P.F. SOL 2.5MG/2.5ML	GLAXO CANADA INC	SALBUTAMOL	R03AC02	Liquid-Inhalation	2.5 MG / 2.5 ML	1991-12-31	2000-08-02	Cancelled Post Market	NOT LISTED	
02419858	SABA	SALBUTAMOL HFA	SANIS HEALTH INC	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	2014-02-13		Marketed	REGULAR BENEFIT	2014-06-01
02146851	SABA	APO-SALVENT TABLETS - 4MG	APOTEX INC	SALBUTAMOL	R03CC02	Tablet	4 MG	1995-12-31	2018-07-12	Cancelled Post Market	REGULAR BENEFIT	1995-11-01
01926934	SABA	TEVA-SALBUTAMOL STERINEBS P.F.	TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Solution- inhalation	1 MG / ML	1992-12-31	2012-07-06	Marketed	REGULAR BENEFIT	1993-07-01
02212390	SABA	VENTOLIN ORAL LIQUID	GLAXOSMITHKLINE INC	SALBUTAMOL	R03CC02	Liquid-oral	0.4 MG / ML	1998-12-01	2009-01-19	Cancelled Post Market	NOT LISTED	
02173360	SABA	TEVA-SALBUTAMOL STERINEBS P.F.	TEVA CANADA LIMITED	SALBUTAMOL	R03CC02	Solution- inhalation	2 MG / ML	1995-12-31	2012-07-05	Marketed	REGULAR BENEFIT	2007-07-01
02232987	SABA	MYLAN-SALBUTAMOL RESPIRATOR SOLUTION	MYLAN PHARMACEUTICALS ULC	SALBUTAMOL	R03AC02	Solution- inhalation	5 MG / ML	1997-11-26	2012-10-19	Cancelled Post Market	NOT LISTED	
02214997	SABA	VENTODISK 200MCG	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Powder- Inhalation	200 MCG / BLIS	1989-12-30	2007-04-03	Cancelled Post Market	NOT LISTED	
02239366	SABA	RATIO-SALBUTAMOL	TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Solution- inhalation	2 MG / ML	2000-02-29	2018-06-22	Cancelled Post Market	NOT LISTED	
02213419	SABA	VENTOLIN NEBULES P.F. - 2.5MG/2.5ML	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Solution- inhalation	2.5 MG / 2.5 ML	2000-05-21	2003-07-23	Marketed	REGULAR BENEFIT	1998-03-01
02239365	SABA	RATIO-SALBUTAMOL	TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Solution- inhalation	0.5 MG / ML	2000-02-29	2013-07-05	Marketed	NOT LISTED	
00851841	SABA	RATIO-SALBUTAMOL	RATIOPHARM INC DIVISION OF TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	1989-12-31	2009-07-17	Cancelled Post Market	NOT LISTED	
02213486	SABA	VENTOLIN RESPIRATOR SOLUTION	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Solution- inhalation	5 MG / ML	1998-12-01	2002-08-26	Marketed	REGULAR BENEFIT	1999-01-01
02022125	SABA	VENTOLIN NEBULES P.F. LIQ INH 1.25MG/2.5ML	GLAXO CANADA INC	SALBUTAMOL	R03AC02	Liquid-Inhalation	1.25 MG / 2.5 ML	1993-12-31	2002-11-05	Cancelled Post Market	NOT LISTED	
02232570	SABA	AIROMIR	VALEANT CANADA LP/VALEANT CANADA S.E.C.	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	1998-08-13	2015-06-10	Marketed	REGULAR BENEFIT	2010-06-01
02208229	SABA	PMS-SALBUTAMOL	PHARMASCIENCE INC	SALBUTAMOL	R03AC02	Solution- inhalation	1 MG / ML	1996-12-31	2010-05-07	Marketed	REGULAR BENEFIT	1996-11-01
02236932	SABA	PHL-SALBUTAMOL RESPIRATOR SOLUTION	PHARMEL INC	SALBUTAMOL	R03AC02	Solution- inhalation	1 MG / ML	1998-02-16	2016-10-08	Cancelled Post Market	NOT LISTED	
01986864	SABA	RATIO-SALBUTAMOL	TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Solution- inhalation	1 MG / ML	1993-12-31	2018-05-18	Cancelled Post Market	NOT LISTED	
02215004	SABA	VENTODISK 400MCG	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Powder- Inhalation	400 MCG / BLIS	1989-12-30	2007-04-03	Cancelled Post Market	NOT LISTED	
02091186	SABA	PMS-SALBUTAMOL ORAL LIQUID	PHARMASCIENCE INC	SALBUTAMOL	R03AC02	Solution- oral	0.4 MG / ML	2003-05-28	2017-08-03	Dormant	NOT LISTED	
02245669	SABA	APO-SALVENT CFC FREE	APOTEX INC	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	2002-08-22		Marketed	REGULAR BENEFIT	2003-04-01
02241497	SABA	VENTOLIN HFA	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	2001-11-22		Marketed	REGULAR BENEFIT	2010-04-01
02243115	SABA	VENTOLIN DISKUS	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Powder- Inhalation	200 MCG / ACT	2001-01-02	2002-03-08	Marketed	NOT LISTED	
02326450	SABA	TEVA-SALBUTAMOL HFA	TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	2009-12-31	2018-03-21	Marketed	NOT A BENEFIT	
00860808	SABA	RATIO-SALBUTAMOL	TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Solution- inhalation	5 MG / ML	1989-12-31	2018-05-18	Cancelled Post Market	NOT LISTED	
00786616	SABA	BRICANYL TURBUHALER	ASTRAZENECA CANADA INC	TERBUTALINE	R03AC03	Powder (Metered Dose)- inhalation	0.5 MG / ACT	1990-12-31	2001-04-06	Marketed	REGULAR BENEFIT	1992-01-01
02069571	SABA	PMS-SALBUTAMOL	PHARMASCIENCE INC	SALBUTAMOL	R03AC02	Solution- inhalation- oral	5 MG / ML	1994-12-31	2017-08-03	Dormant	NOT LISTED	
02208237	SABA	PMS-SALBUTAMOL	PHARMASCIENCE INC	SALBUTAMOL	R03AC02	Solution- inhalation	2 MG / ML	1996-12-31	2010-05-07	Marketed	REGULAR BENEFIT	2007-07-01
02046741	SABA	APO-SALVENT 5MG/ML	APOTEX INC	SALBUTAMOL	R03AC02	Solution- inhalation- oral	5 MG / ML	1994-12-31	2017-08-04	Dormant	NOT LISTED	
02231430	SABA	ASMAVENT NEBULES P.F.	TECHNILAB PHARMA INC.	SALBUTAMOL	R03AC02	liquid- inhalation	2.5 MG / 2.5 ML	1997-06-27	2001-09-05	Cancelled Post Market	NOT LISTED	

Supplemental Table S2: COPD drug availability in Canada and Alberta

drug_din	copd_class	brand_name	manufacturer	compound_names	ATC	description	strength	original_market_date	current_status_date	current_status	Alberta_Drug_Benefit_List_Status	Alberta_date_listed
02154412	SABA	SANDOZ SALBUTAMOL	SANDOZ CANADA INCORPORATED	SALBUTAMOL	R03AC02	Solution- inhalation	5 MG / ML	1995-12-31	2017-05-25	Cancelled Post Market	NOT LISTED	
02208245	SABA	PMS-SALBUTAMOL	PHARMASCIENCE INC	SALBUTAMOL	R03AC02	Solution- inhalation	0.5 MG / ML	1996-12-31	2010-05-07	Marketed	REGULAR BENEFIT	2010-06-01
02244914	SABA	RATIO-SALBUTAMOL HFA	RATIOPHARM INC DIVISION OF TEVA CANADA LIMITED	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / DOS	2001-11-09	2010-08-02	Cancelled Post Market	NOT LISTED	
00790419	SABA	APO-SALVENT AEM 100MCG	APOTEX INC	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	1989-12-31	2017-08-04	Dormant	NOT LISTED	
02213427	SABA	VENTOLIN NEBULES P.F. - 5MG/2.5ML	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Solution- inhalation	5 MG / 2.5 ML	2000-10-02	2004-04-26	Marketed	REGULAR BENEFIT	2007-07-01
02231488	SABA	APO-SALVENT STERULES	APOTEX INC	SALBUTAMOL	R03AC02	Solution- inhalation	1 MG / ML	1997-06-25	2017-08-04	Dormant	NOT LISTED	
02231678	SABA	APO-SALVENT STERULES	APOTEX INC	SALBUTAMOL	R03AC02	Solution- inhalation	2 MG / ML	1998-10-02	2017-08-04	Dormant	NOT LISTED	
01945203	SABA	VENTOLIN NEBULES PF SOL 5MG/2.5ML	GLAXO CANADA INC	SALBUTAMOL	R03AC02	liquid- inhalation	5 MG / 2.5 ML	1992-12-31	2001-08-01	Cancelled Post Market	NOT LISTED	
02213451	SABA	VENTOLIN I.V. INFUSION SOLUTION 5.0MG SALBUTAMOL IN 5ML (1000MCG/ML)	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Solution- Intravenous	1 MG / ML	1999-05-24	2002-11-19	Marketed	NOT LISTED	
02146843	SABA	APO-SALVENT TABLETS - 2MG	APOTEX INC	SALBUTAMOL	R03AC02	Tablet	2 MG	1995-12-31	2018-07-12	Cancelled Post Market	REGULAR BENEFIT	1995-11-01
02213478	SABA	VENTOLIN INHALER	GLAXOSMITHKLINE INC	SALBUTAMOL	R03AC02	Metered-Dose Aerosol- inhalation	100 MCG / ACT	1997-09-30	2003-01-22	Cancelled Post Market	NOT LISTED	
02026759	SAMA	ATROVENT UDV 125MCG/ML	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation- oral	125 MCG / ML	1993-12-31	2008-09-18	Cancelled Post Market	NOT LISTED	
02239627	SAMA	PMS-IPRATROPIUM	PHARMASCIENCE INC	IPRATROPIUM BROMIDE	R03BB01	Solution- nasal	21 MCG / ACT	1999-04-15		Marketed	REGULAR BENEFIT	1999-10-01
02126222	SAMA	APO-IPRAVENT SOLUTION - INH 250MCG/ML	APOTEX INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1994-12-31		Marketed	REGULAR BENEFIT	1995-04-01
00824216	SAMA	ATROVENT NASAL AEROSOL 20MCG/AEM	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	IPRATROPIUM BROMIDE	R03BB01	Inhalation, nasal- aerosol	20 MCG / ACT	1989-12-31	1999-08-09	Cancelled Post Market	NOT LISTED	
02163713	SAMA	ATROVENT NASAL SPRAY	SANOFI-AVENTIS CANADA INC	IPRATROPIUM BROMIDE	R01AX03	Solution- nasal	42 MCG / ACT	1996-02-02	2018-11-13	Cancelled Post Market	NOT LISTED	
02231135	SAMA	PMS-IPRATROPIUM	PHARMASCIENCE INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	125 MCG / ML	1997-07-29	2001-06-08	Marketed	SPECIAL	2001-04-01
02097168	SAMA	RATIO-IPRATROPIUM UDV	TEVA CANADA LIMITED	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1995-12-31	2018-05-18	Cancelled Post Market	NOT LISTED	
02231494	SAMA	APO-IPRAVENT STERULES	APOTEX INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1998-07-09	2017-08-04	Dormant	NOT LISTED	
02216221	SAMA	TEVA-IPRATROPIUM STERINEBS	TEVA CANADA LIMITED	IPRATROPIUM BROMIDE	R03BB01	1ML & 2ML SINGLE-USE VIALS	250 MCG / ML	1998-03-04	2012-07-12	Marketed	SPECIAL	2014-01-10
02231244	SAMA	PMS-IPRATROPIUM	PHARMASCIENCE INC	IPRATROPIUM BROMIDE	R03BB01	1ML UNIT DOSE	250 MCG / ML	1997-07-29	1997-10-29	Marketed	SPECIAL	2014-01-10
02237135	SAMA	PHL-IPRATROPIUM - 2ML POLYNEB	PHARMEL INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1998-02-17	2016-10-25	Cancelled Post Market	NOT LISTED	
02231785	SAMA	NU-IPRATROPIUM PLASTIC AMPULES 250 MCG/ML	NU-PHARM INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1997-12-03	2012-09-04	Cancelled Post Market	NOT LISTED	
02097176	SAMA	RATIO-IPRATROPIUM UDV	TEVA CANADA LIMITED	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	125 MCG / ML	1997-12-04	2018-05-18	Cancelled Post Market	NOT LISTED	
02246084	SAMA	IPRAVENT	AA PHARMA INC	IPRATROPIUM BROMIDE	R01AX03	Solution- nasal	42 MCG / ACT	2002-12-03	2014-05-28	Marketed	NOT LISTED	
02163705	SAMA	ATROVENT NASAL SPRAY	SANOFI-AVENTIS CANADA INC	IPRATROPIUM BROMIDE	R01AX03	Solution- nasal	21 MCG / ACT	1995-12-31	2018-11-13	Cancelled Post Market	REGULAR BENEFIT	1996-11-01
02246083	SAMA	IPRAVENT	AA PHARMA INC	IPRATROPIUM BROMIDE	R01AX03	Solution- nasal	21 MCG / ACT	2002-12-03	2017-07-28	Dormant	NOT LISTED	
01950681	SAMA	ATROVENT UDV SOL INH 250MCG/ML	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1992-12-31	2008-04-16	Cancelled Post Market	NOT LISTED	
02231245	SAMA	PMS-IPRATROPIUM	PHARMASCIENCE INC	IPRATROPIUM BROMIDE	R03BB01	2ML UNIT DOSE	250 MCG / ML	1997-07-30	1997-10-29	Marketed	SPECIAL	2014-01-10
02237134	SAMA	PHL-IPRATROPIUM - 1ML POLYNEB	PHARMEL INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1998-02-17	2016-10-25	Cancelled Post Market	NOT LISTED	
00731439	SAMA	ATROVENT	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1988-12-31	2007-10-11	Cancelled Post Market	NOT LISTED	
02231136	SAMA	PMS-IPRATROPIUM	PHARMASCIENCE INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1997-07-15	2014-01-30	Marketed	REGULAR BENEFIT	2010-06-01
02239131	SAMA	MYLAN-IPRATROPIUM SOLUTION	MYLAN PHARMACEUTICALS ULC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	250 MCG / ML	1998-12-04	2018-07-12	Cancelled Post Market	REGULAR BENEFIT	1999-10-01
02247686	SAMA	ATROVENT HFA	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	IPRATROPIUM BROMIDE	R03BB01	Metered-Dose Aerosol- Inhalation	20 MCG / ACT	2004-03-24		Marketed	REGULAR BENEFIT	2004-10-01
02097141	SAMA	RATIO-IPRATROPIUM INHALATION SOLUTION	RATIOPHARM INC DIVISION OF TEVA CANADA LIMITED	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation- nasal	250 MCG / ML	1994-12-31	2009-07-17	Cancelled Post Market	NOT LISTED	
02243827	SAMA	APO-IPRAVENT STERULES	APOTEX INC	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	125 MCG / ML	2001-08-28	2017-08-04	Dormant	NOT LISTED	
02210479	SAMA	NOVO-IPRAMIDE - LIQ 0.25MG/ML	NOVOPHARM LIMITED	IPRATROPIUM BROMIDE	R03BB01	Solution- inhalation	.25 MG / ML	1996-12-31	2015-10-26	Cancelled Post Market	NOT LISTED	

Supplemental Table S2: COPD drug availability in Canada and Alberta

drug_din	copd_class	brand_name	manufacturer	compound_names	ATC	description	strength	original_market_date	current_status_date	current_status	Alberta_Drug_Benefit_List_Status	Alberta_date_Listed
02240072	SAMA	RATIO-IPRATROPIUM	RATIOPHARM INC DIVISION OF TEVA CANADA LIMITED	IPRATROPIUM BROMIDE	R01AX03	Metered-Dose Pump- nasal	21 MCG / ACT	1999-09-28	2008-08-01	Cancelled Post Market	NOT LISTED	
02148633	SABA/SAMA	DUOVENT UDV	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	FENOTEROL AND IPRATROPIUM BROMIDE	R03AL01	Inhalation, Oral	0.3125 MG / ML	1995-12-31	2017-01-31	Cancelled Post Market	NOT LISTED	
02419106	SABA/SAMA	COMBIVENT RESPIMAT	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	SALBUTAMOL AND IPRATROPIUM BROMIDE	R03AL02	FOR ORAL INHALATION. FOR USE ONLY WITH COMBIVENT RESPIMAT INHALER	20 MCG / ACT	2014-09-16		Marketed	NOT A BENEFIT	
02272695	SABA/SAMA	TEVA-COMBO STERINEBS	TEVA CANADA LIMITED	SALBUTAMOL AND IPRATROPIUM BROMIDE	R03AL02	Solution- inhalation	0.5 MG / 2.5 ML	2005-11-18	2012-07-17	Marketed	REGULAR BENEFIT	2010-06-01
02231675	SABA/SAMA	COMBIVENT UDV	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	SALBUTAMOL AND IPRATROPIUM BROMIDE	R03AL02	Solution- inhalation	0.5 MG / 2.5 M	1997-07-25	2010-11-02	Marketed	REGULAR BENEFIT	1999-04-01
02266393	SABA/SAMA	APO-SALVENT-IPRAVENT STERULES	APOTEX INC	SALBUTAMOL AND IPRATROPIUM BROMIDE	R03AL02	Solution- inhalation	0.5 MG / 2.5 M	2006-08-25	2017-08-04	Dormant	NOT LISTED	
02163721	SABA/SAMA	COMBIVENT INHALATION AEROSOL	BOEHRINGER INGELHEIM (CANADA) LTD LTEE	SALBUTAMOL AND SODIUM CROMOGLICA	R03AK04	Metered-Dose Aerosol- inhalation oral	20 MCG / ACT	1995-12-31	2007-10-02	Cancelled Post Market	NOT LISTED	
02243789	SABA/SAMA	RATIO-IPRA SAL UDV	TEVA CANADA LIMITED	SALBUTAMOL AND IPRATROPIUM BROMIDE	R03AL02	Solution- inhalation	0.5 MG / 2.5 M	2002-05-14	2013-08-16	Marketed	NOT LISTED	
00317225	Methyl	RATIO-THEO-BRONC	RATIOPHARM INC DIVISION OF TEVA CANADA LIMITED	THEOPHYLLINE, COMBINATIONS EXCL. PSYCHOLEPTICS	R03DA54	Syrup	10 MG / ML, 1	1964-12-31	2015-10-26	Cancelled Post Market	NOT LISTED	
01966219	Methyl	THEOLAIR	VALEANT CANADA LP/VALEANT CANADA S.E.C.	THEOPHYLLINE	R03DA04	Solution-oral	80 MG / 15 ML	1992-12-31	2014-02-25	Marketed	REGULAR BENEFIT	1993-01-01
02360128	Methyl	THEO ER	AA PHARMA INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	600 MG	2011-06-23		Marketed	NOT A BENEFIT	
02014270	Methyl	PHYLLCONTIN	PURDUE PHARMA	AMINOPHYLLINE	R03DA05	Tablet (Extended-Release)	225 MG	1993-12-31	2011-08-04	Cancelled Post Market	NOT LISTED	
00692700	Methyl	APO-THEO-LA SRT 300MG	APOTEX INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	300 MG	1993-12-31		Marketed	REGULAR BENEFIT	1994-04-01
00692689	Methyl	APO-THEO-LA SRT 100MG	APOTEX INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	100 MG	1993-12-31		Marketed	REGULAR BENEFIT	1994-04-01
02230085	Methyl	TEVA-THEOPHYLLINE SR	TEVA CANADA LIMITED	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	100 MG	1998-04-16	2018-05-08	Cancelled Post Market	NOT LISTED	
02230087	Methyl	TEVA-THEOPHYLLINE SR	TEVA CANADA LIMITED	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	300 MG	1998-04-16	2018-05-08	Cancelled Post Market	NOT A BENEFIT	
02230086	Methyl	TEVA-THEOPHYLLINE SR	TEVA CANADA LIMITED	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	200 MG	1996-12-19	2018-05-08	Cancelled Post Market	NOT LISTED	
00460982	Methyl	THEO-DUR 100 MG	ASTRAZENECA CANADA INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	100 MG / SRT	1979-12-31	2001-11-21	Cancelled Post Market	NOT LISTED	
00692697	Methyl	APO-THEO-LA SRT 200MG	APOTEX INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	200 MG	1993-12-31		Marketed	REGULAR BENEFIT	1994-04-01
02014165	Methyl	UNIPHYL	PURDUE PHARMA	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	400 MG	1987-12-31		Marketed	REGULAR BENEFIT	1994-05-01
02014289	Methyl	PHYLLCONTIN-350	PURDUE PHARMA	AMINOPHYLLINE	R03DA05	Tablet (Extended-Release)	350 MG	1993-12-31	2011-08-04	Cancelled Post Market	NOT LISTED	
02014181	Methyl	UNIPHYL	PURDUE PHARMA	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	600 MG	1987-12-31		Marketed	REGULAR BENEFIT	1994-06-01
00627410	Methyl	ELIXIR DE THEOPHYLLINE	LABORATOIRE ATLAS INC	THEOPHYLLINE	R03DA04	Elixir	80 MG / 15 ML	1985-12-31		Marketed	NOT LISTED	
02360101	Methyl	THEO ER	AA PHARMA INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	400 MG	2011-06-23		Marketed	NOT A BENEFIT	
00460990	Methyl	ASTRAZENECA CANADA INC	ASTRAZENECA CANADA INC	THEOPHYLLINE	R03DA04	Tablet (Extended-Release)	200 MG / SRT	1979-12-31	2003-04-29	Cancelled Post Market	NOT LISTED	
02359456	P4-Inhibitor	DAXAS	ASTRAZENECA CANADA INC	ROFLUMILAST	R03DX07	FILM-COATED TABLETS	500 MCG	2010-12-30	2017-07-20	Marketed	NOT A BENEFIT	

Supplemental Table S3: Drug initiation within 30 days after incident event by sex and age for patients with COPD in Alberta, 2010-2016

Group	Female					Male				
	All	35-59	60-69	70-79	≥80	All	35-59	60-69	70-79	≥80
Patient, N	16,772	5,813	3,927	3,494	3,538	16,397	5,839	4,111	3,400	3,047
Patient without drug, n (%)	7,105 (42.4)	2,460 (42.3)	1,590 (40.5)	1,435 (41.1)	1,620 (45.8)	7,398 (45.1)	2,783 (47.7)	1,749 (42.5)	1,480 (43.5)	1,386 (45.5)
Patient with drug, n (%)	9,667 (57.6)	3,353 (57.7)	2,337 (59.5)	2,059 (58.9)	1,918 (54.2)	8,999 (54.9)	3,056 (52.3)	2,362 (57.5)	1,920 (56.5)	1,661 (54.5)
SABA, n (%)	5,811 (60.1)	2,150 (64.1)	1,361 (58.2)	1,190 (57.8)	1,110 (57.9)	5,477 (60.9)	2,030 (66.4)	1,424 (60.3)	1,069 (55.7)	954 (57.4)
SAMA, n (%)	1,390 (14.4)	469 (14)	325 (13.9)	296 (14.4)	300 (15.6)	1,269 (14.1)	403 (13.2)	309 (13.1)	271 (14.1)	286 (17.2)
SABA/SAMA, n (%)	135 (1.4)	43 (1.3)	26 (1.1)	20 (1)	46 (2.4)	108 (1.2)	26 (.9)	22 (.9)	23 (1.2)	37 (2.2)
LABA, n (%)	109 (1.1)	23 (.7)	31 (1.3)	26 (1.3)	29 (1.5)	88 (1)	23 (.8)	23 (1)	23 (1.2)	19 (1.1)
LAMA, n (%)	2,846 (29.4)	611 (18.2)	751 (32.1)	780 (37.9)	704 (36.7)	2,858 (31.8)	673 (22)	791 (33.5)	758 (39.5)	636 (38.3)
LABA/LAMA, n (%)	66 (0.7)	17 (.5)	17 (.7)	19 (.9)	13 (.7)	69 (0.8)	18 (.6)	24 (1)	20 (1)	7 (.4)
LABA/ICS, n (%)	3,978 (41.2)	1,270 (37.9)	1,005 (43)	904 (43.9)	799 (41.7)	3,791 (42.1)	1,256 (41.1)	1,007 (42.6)	796 (41.5)	732 (44.1)
ICS, n (%)	1,693 (17.5)	761 (22.7)	397 (17)	284 (13.8)	251 (13.1)	1,338 (14.9)	556 (18.2)	312 (13.2)	262 (13.6)	208 (12.5)
Methylxanthines, n (%)	18 (0.2)	6 (.2)	5 (.2)	5 (.2)	2 (.1)	19 (0.2)	4 (.1)	7 (.3)	4 (.2)	4 (.2)
PDE4 inhibitors, n (%)	5 (0.1)	0 (0)	2 (.1)	3 (.1)	0 (0)	6 (0.1)	1 (0)	3 (.1)	1 (.1)	1 (.1)

COPD: chronic obstructive pulmonary disease; ICS: inhaled corticosteroids; LABA: long-acting  $\beta$ -agonist; LABA/ICS: combination LABA/ICS in one device; LABA/LAMA: combination LABA/LAMA in one device; LAMA: long-acting muscarinic antagonist; PDE4 inhibitors: phosphodiesterase-4 inhibitors; SABA: short-acting  $\beta$ -agonist; SABA/SAMA: combination SABA/SAMA in one device; SAMA: short-acting muscarinic antagonist

Supplemental Table S4: Drug initiation within 7 days after incident event for patients with COPD in Alberta, 2010-2016

Group	All	2010	2011	2012	2013	2014	2015	2016
Patient, N	33,169	4,292	4,464	4,845	4,621	5,228	4,900	4,819
Patient without drug, n (%)	18,366 (55.4)	2,460 (57.3)	2,424 (54.3)	2,642 (54.5)	2,450 (53)	2,943 (56.3)	2,700 (55.1)	2,747 (57)
Patient with drug, n (%)	14,803 (44.6)	1,832 (42.7)	2,040 (45.7)	2,203 (45.5)	2,171 (47)	2,285 (43.7)	2,200 (44.9)	2,072 (43)
SABA, n (%)	9,341 (63.1)	1,143 (62.4)	1,273 (62.4)	1,386 (62.9)	1,349 (62.1)	1,444 (63.2)	1,373 (62.4)	1,373 (66.3)
SAMA, n (%)	2,259 (15.3)	274 (15)	268 (13.1)	348 (15.8)	322 (14.8)	341 (14.9)	343 (15.6)	363 (17.5)
SABA/SAMA, n (%)	200 (1.4)	23 (1.3)	33 (1.6)	32 (1.5)	25 (1.2)	22 (1)	32 (1.5)	33 (1.6)
LABA, n (%)	140 (1)	12 (.7)	13 (.6)	8 (.4)	13 (.6)	34 (1.5)	28 (1.3)	32 (1.5)
LAMA, n (%)	4,588 (31)	548 (29.9)	638 (31.3)	698 (31.7)	627 (28.9)	761 (33.3)	690 (31.4)	626 (30.2)
LABA/LAMA, n (%)	89 (0.6)	0 (0)	0 (0)	0 (0)	0 (0)	6 (.3)	39 (1.8)	44 (2.1)
LABA/ICS, n (%)	6,061 (40.9)	754 (41.2)	892 (43.7)	951 (43.2)	904 (41.6)	951 (41.6)	870 (39.5)	739 (35.7)
ICS, n (%)	2,427 (16.4)	344 (18.8)	328 (16.1)	395 (17.9)	357 (16.4)	367 (16.1)	313 (14.2)	323 (15.6)
Methylxanthines, n (%)	26 (0.2)	8 (.4)	9 (.4)	5 (.2)	1 (0)	2 (.1)	0 (0)	1 (0)
PDE4 inhibitors, n (%)	7 (0.1)	0 (0)	3 (.1)	0 (0)	1 (0)	0 (0)	2 (.1)	1 (0)

COPD: chronic obstructive pulmonary disease; ICS: inhaled corticosteroids; LABA: long-acting  $\beta$ -agonist; LABA/ICS: combination LABA/ICS in one device; LABA/LAMA: combination LABA/LAMA in one device; LAMA: long-acting muscarinic antagonist; PDE4 inhibitors: phosphodiesterase-4 inhibitors; SABA: short-acting  $\beta$ -agonist; SABA/SAMA: combination SABA/SAMA in one device; SAMA: short-acting muscarinic antagonist



Supplemental Figure S1: Schematic of study design

