

INHALED DRUGS FOR COPD

Inhaled Short Acting Beta(2)-Adrenergic Agonists (SABA)			
Drug	Available dosage forms Trade names	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Salbutamol	Metered-Dose Inhalers: <i>Ventolin HFA, Airomir HFA, Salbutalmol HFA (various generics)</i>	100 mcg/actuation 1–2 puffs inhaled TID–QID PRN; maximum 8 puffs (800 mcg)/day	YES – brand names covered with valid no substitution \$5-\$8 for 200 doses
	Dry Powder Inhaler: <i>Ventolin Diskus</i>	200 mcg/actuation 1–2 actuation TID–QID PRN; maximum 4 actuactions (800 mcg)/day	NO \$10-\$12 for 60 doses
	Nebules: <i>Ventolin, Ventolin Preservative Free, Salbutamol Preservative Free (various generics)</i>	5 mg/ml (<i>Ventolin</i>) 1 mg/ml or 2 mg/ml (<i>Preservative Free formulations</i>) 2.5-5 mg QID PRN to a maximum dose of 15 mg/day	YES with valid LU code: 256, 257, 258, 259 (<i>Ventolin</i>); 265,266, 267, 268 (<i>Preservative Free formulations</i>) \$2.50 for 10 ml (<i>Ventolin</i>) \$7-\$16 for 20 x 2.5 ml vials (<i>Preservative Free formulations</i>)
Terbutaline	Dry powder inhaler (DPI): <i>Bricanyl Turbulaler</i>	0.5 mg/actuation 1 actuation Q4–6H PRN; maximum 6 actuactions/day	YES \$8-\$10 for 100 doses
Potential Adverse Effects: Tremor, nervousness, hypokalemia, headache, tachycardia, palpitations.			
GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs			

Inhaled Short Acting Muscarinic Antagonists (SAMA)

Drug	Available dosage forms <i>Trade names</i>	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Ipratropium	MDI: <i>Atrovent HFA</i>	20 mcg/actuation Individualize dose—may use PRN or regularly scheduled: 2–4 actuations Q6–8H, up to 6–8 actuations Q6–8H if tolerated; maximum 12 actuations/day	YES \$21-\$25 for 200 doses
	Nebules: <i>Atrovent Unit Dose Vials (UDV), Ipratropium Preservative Free (various generic)</i>	125 mcg/ml 250 mcg/ml 250-500 mcg inhaled TID-QID	NO (<i>Atrovent UDV</i>) YES with LU Code: 265,266, 267, 268 (<i>Preservative Free generics</i>) \$15-\$18 for 20 x 2 ml (125 mcg/ml <i>Preservative Free generics</i>) \$24-28 for 20 x 1 ml (250 mcg/ml <i>Preservative Free generics</i>)
Potential Adverse Effects: Dry mouth, metallic taste, headache, constipation, mydriasis and glaucoma if released into eye; urinary retention. Possible increased risk of cardiovascular events.			

Combination Inhaled Short-Acting Muscarinic Antagonist/ Beta(2)-Adrenergic Agonists (SAMA/SABA)

Drug	Available dosage forms <i>Trade names</i>	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Ipratropium/ salbutamol	Soft mist inhaler (SMI):	20/100 mcg per actuation	NO
	<i>Combivent Respimat</i>	1 actuation QID; additional doses PRN; maximum 6 doses/day	\$31-\$37 for 120 doses
	Nebules: <i>Combivent UDV,</i>	500 mcg/2.5 mg per 2.5 ml 500 mcg/2.5 mg inhaled Q6H PRN; Maximum of 4 nebulas or 2 g per day	YES with LU code: 256, 257, 258, 259 \$25-\$40 for 20 x 2.5 ml

	<i>Teva-Combo sterinebs (generic)</i>		
Potential Adverse Effects: Dry mouth, metallic taste, mydriasis and glaucoma if released into eye; urinary retention. Possible increased risk of cardiovascular events. Tremor, nervousness, hypokalemia, tachycardia, palpitations			
GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs			

Inhaled Long Acting Beta(2)-Adrenergic Agonists (LABA)			
Drug	Available dosage forms Trade names	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Formoterol	DPI: <i>Oxeze Turbuhaler</i>	6 mcg or 12 mcg/actuation 1 actuation Q12H; maximum 48 mcg/day	YES with LU code: 132 \$35-\$55 for 60 doses
	DPI: <i>Foradil Aerolizer</i>	12 mcg capsule for inhalation 1 capsule BID; maximum 48 mcg/day (2 capsules inhaled BID)	YES with LU code: 132 \$53-\$60
	DPI: <i>Onbrez Breezhaler</i>	75 mcg capsule 1 capsule OD	YES with LU code: 443 \$49-\$57 for 30 doses
Salmeterol	DPI: <i>SereVent Diskus</i>	50 mcg/actuation 1 actuation BID	YES with LU code: 132, 391 \$63-\$73 for 60 doses
	SMI: <i>Striverdi Respimat</i>	2.5 mcg/actuation 2 actuations inhaled OD	NO --
Potential Adverse Effects: Tremor, nervousness, hypokalemia, tachycardia, palpitations			
GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs			

Inhaled Long Acting Muscarinic Antagonists (LAMA)

Drug	Available dosage forms <i>Trade names</i>	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Aclidinium	DPI:	400 mcg/actuation	YES
	<i>Turdorza Genuair</i>	1 capsule BID	\$56-\$65 for 60 doses
Glycopyrronium	DPI:	500 mcg/actuation	YES
	<i>Seebri Breezhaler</i>	1 actuation BID	\$56-\$65 for 30 doses
Tiotropium	DPI:	18 mcg/capsule	YES
	<i>Spiriva</i>	1 capsule OD	\$57-\$66 for 30 doses
	SMI:	2.5 mcg/actuation	YES
	<i>Spiriva Respimat</i>	2 actuations OD	\$57-\$66 for 60 doses
Umdeclidinium	DPI:	62.5 mcg/actuation	YES
	<i>Incruse Ellipta</i>	1 actuation OD	\$52-\$61 for 30 doses
Potential Adverse Effects: Dry mouth, cough, headache, constipation, metallic taste, mydriasis and glaucoma if released into eye; urinary retention.			
GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs			

Inhaled Long-Acting Muscarinic Antagonist/Beta(2)-Adrenergic Agonists Combination (LAMA/LABA)

Drug	Available dosage forms <i>Trade names</i>	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Aclidinium/ Formoterol	DPI:	400/12 mcg per actuation	YES with LU: 459
	<i>Duaklir Genuair</i>	1 actuation BID	\$63-\$73 for 60 doses
Tiotropium/ Olodaterol	SMI:	2.5/2.5 mcg per actuation	YES with LU: 459
	<i>Inspiolto Respimat</i>	2 actuations OD	\$67-\$78 for 60 doses

Glycopyrronium/ indacaterol	DPI: <i>Ultibro Breezhaler</i>	110/50 mcg per actuation 1 actuation OD	YES with LU: 459 \$82-\$96 for 30 doses
Umeclidinium/ Vilanterol	DPI: <i>Anoro Ellipta</i>	62.5/25 mcg per actuation 1 actuation OD	YES with LU: 459 \$89-\$103 for 30 doses
Potential Adverse Effects: LAMA: dry mouth, cough, headache, constipation, metallic taste, mydriasis and glaucoma if released into eye; urinary retention. LABA: tremor, nervousness, hypokalemia, tachycardia, palpitations.			
GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs			

Inhaled Corticosteroid/Long-Acting Beta(2)-Adrenergic Agonists Combination (ICS/LABA)			
Drug	Available dosage forms Trade names	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Budesonide/ Formoterol	DPI: <i>Symbicort turbuhaler</i>	100/6 mcg or 200/6 mcg per actuation 2 actuations BID; maximum 8 actuations/day	YES with LU: 330 \$73-\$110 for 120 doses
Fluticasone/ Salmeterol	MDI: <i>Advair*</i>	25/125 mcg or 25/250 mcg per actuation 2 actuations BID	YES with LU: 330 \$107-\$175 for XX doses
	DPI: <i>Advair Diskus, Wilixa Inhub</i>	50/100 mcg per actuation 50/250 mcg per actuation 50/500 mcg per actuation 1 actuation BID	YES with LU: 330 \$89-\$175 XX doses (<i>Advair</i>) \$42-\$83 for XX doses (<i>Wixela Inhub</i>)
Fluticasone/ vilanterol	DPI: <i>Breo Ellipta</i>	100/25 mcg per actuation 200/25 mcg per actuation 1 actuation OD	YES with LU: 456 \$90-\$161 for XX doses
Mometasone/ formoterol	MDI: <i>Zenhale*</i>	50/5 mcg per actuation 100/5 mcg per actuation 200/5 mcg per actuation 2 actuations BID	

* These drugs are not officially indicated for COPD, but may be used in cases where patients cannot tolerate DPI or where patient has mixed asthma/COPD

Potential Adverse Effects: Corticosteroid: oropharyngeal candidiasis and hoarseness (can be prevented by using a spacer with pMDI or by using DPI, and by rinsing mouth after use); skin bruising; cataracts; glaucoma. May decrease bone mineral density and increase fracture risk. **LABA:** tremor, nervousness, hypokalemia, tachycardia, palpitations.

GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs

Inhaled Corticosteroid/Long-Acting Muscarinic Antagonist/Long-Acting Beta(2)-Adrenergic Agonists Combination (ICS/LAMA/LABA)

Drug	Available dosage forms Trade names	Supplied Suggested Dosing	Covered by ODB? Approximate Cost
Fluticasone/ Umeclidinium/ vilanterol	DPI: <i>Trelegy Ellipta</i>	100/62.5/25 mcg per actuation 200/62.5/25 mcg per actuation 1 actuation OD	YES with LU: 567 (100/62.5/25 mcg strength) NO (200/62.5/25 mcg strength) \$143-\$166 for XX doses
Budesonide/ Glycopyronium/ Formoterol	MDI: <i>Breztri Aerosphere</i>	182/8.2/5.8 mcg per actuation 2 actuations BID	NO \$150 for 120 doses

Potential Adverse Effects:

Corticosteroid: oropharyngeal candidiasis and hoarseness (can be prevented by using a spacer with pMDI or by using DPI, and by rinsing mouth after use); skin bruising; cataracts; glaucoma. May decrease bone mineral density and increase fracture risk.

LAMA: dry mouth, cough, headache, constipation, metallic taste, mydriasis and glaucoma if released into eye; urinary retention.

LABA: tremor, nervousness, hypokalemia, tachycardia, palpitations.

GREEN CHOICE: Dry Powder Inhalers (DPI) and soft mist inhalers have been found to have a smaller carbon footprint than MDIs

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