



PHARMACYCHECKER PRICE REPORT // JULY 2022

BREATHING IS EXPENSIVE (FOR AMERICANS)

Asthma is the most common chronic condition affecting Americans young and old. The U.S. Centers for Disease Control and Prevention (CDC) reports that 25 million Americans suffer from asthma, and as many as 16 million suffer from chronic obstructive pulmonary disease (COPD).[1] People with both diseases almost always require the use of inhalers, which have become prohibitively expensive for many American families. PharmacyChecker data shows that treating asthma and COPD can be made more affordable through vetted mailorder pharmacies located in other countries. These accredited “international online pharmacies” deliver inhalers to American residents for less than a fourth of U.S. pharmacy prices.

This month’s PharmacyChecker drug price report analyzes both the price and country of origin of 30 inhalers listed by the U.S. FDA as “Drug Treatments for Asthma and Chronic Obstructive Pulmonary Disease that Do Not Use Chlorofluorocarbons.”[2] The data shows that 77 percent of brand inhalers sold in the United States are manufactured outside the United States. Ten out of the 30 inhalers (33%) have generic availability on U.S. pharmacy shelves, which did not always equate to significant consumer savings compared to the international mailorder pharmacy price. Of the 27 brand inhalers accessible at accredited online pharmacies, international mail-order prices were 78.37% lower than average U.S. pharmacy retail prices.

Key Takeaways

- Seventy-seven percent of brand inhalers sold in the United States are manufactured outside the United States.
- Ten out of the 30 inhalers (33%) had generic availability on U.S. pharmacy shelves.
- Of the 27 brand inhalers accessible at safe online pharmacies, international mail order prices were 78.37% lower than average U.S. pharmacy retail prices.

Why do inhalers cost so much?

Despite it being part of its stated mission, the FDA does not consider affordability when evaluating whether a prescription drug should come to market.[3] This is in stark contrast to drug efficacy and cost-effectiveness assessments conducted by other high-income countries.[4] The United States Patent and Trademark Office (USPTO) rewards the most minor of tweaks to drugs – changes that drug companies too often use to keep a lucrative brand pharmaceutical product's hold on the market.[5] In the case of inhalers, that means taking a medicine that has been around for decades and getting creative with the pumps, delivery systems, and production processes – [6] perhaps making the inhaler *ultra-portable*, for example.[7] “Each time a molecule is put in a new inhaler or combined with another medicine,” writes Elisabeth Rosenthal, “the amount delivered into the lungs or through the skin may change, even though that often has an imperceptible effect on patients.”[8]

In 1987, the United States signed an international environmental agreement to phase out chlorofluorocarbons (CFCs), which were then commonly used as propellants in aerosol canisters, including inhalers. It was only at the end of 2008 that the FDA placed a ban on all inhalers containing CFCs, giving pharmaceutical companies plenty of time to prepare a new propellant formulation and accompanying patent strategies.[9]

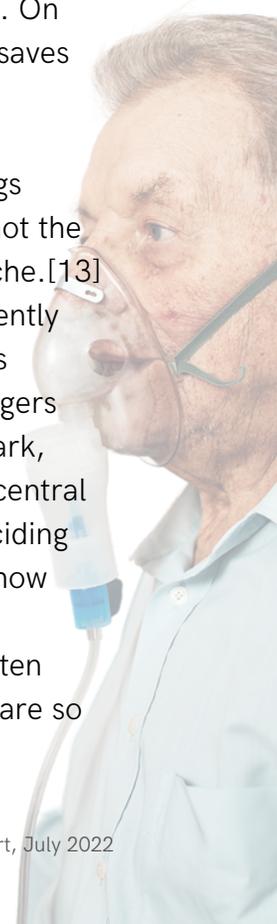
Prices immediately went from \$13-17 per

CFC inhaler to \$38-53 for the new, branded hydrofluoroalkane (HFA) inhalers. [10] PharmacyChecker found that the retail price of ProAir HFA more than doubled, from \$41.84 in 2009 to \$100.17 in 2022. An analysis published in the Journal of the American Medical Association found that average prices for newly marketed prescription drugs, in general, grew tenfold from 2008 to 2021.[11]

Prolonging the period that a drug company is allowed market exclusivity inevitably impacts patients' finances – and health. About three in ten (29%) American adults do not take their medicines as prescribed due to high costs.[12]

In 2022, as found in PharmacyChecker's analysis, only 33% of the inhalers that do not use CFCs face generic competition. Proair HFA is one of them. The generic is \$52.00 on average in U.S. pharmacies, a 48% savings compared to the brand. On average, inhaler generic availability saves patients 40.85%.

As if drug manufacturers' sly dealings weren't enough, they are certainly not the sole culprit in our drug price headache.[13] The Federal Trade Commission recently launched a probe into the suspicious practices of pharmacy benefit managers (PBMs).[14] PBMs, like CVS Caremark, Express Scripts, and OptumRx, are central to the private insurance market, deciding which drugs go on formularies and how much to reimburse payers. Lack of transparency in these practices is often cited as another reason drug prices are so high.



Brand Inhaler Prices and Generic Availability at U.S. pharmacies vs. International Online Pharmacies, 2022

Brand Inhaler (generic)	US generic availability	Strength	US Retail Price	International Mail Order Price	International Savings
Tudorza Pressair (aclidinium bromide)	no	400mcg	\$756.74	\$92.99	87.71%
Proventil HFA (albuterol sulfate)	yes	6.7g of 90mcg	\$96.82	N/A	
Ventolin HFA (albuterol sulfate)	yes	18g of 90mcg	\$77.86	\$26.61	65.82%
ProAir HFA (albuterol sulfate)	yes	8.5g of 90mcg	\$100.17	\$39.95	60.12%
ProAir Respiclick (albuterol sulfate)	no	0.65g of 90mcg	\$94.00	\$39.95	57.50%
Combivent Respimat (albuterol sulfate & ipratropium bromide)	no	20mcg/100mcg	\$512.00	\$58.99	88.48%
Duoneb (albuterol sulfate & ipratropium bromide)**	yes	3ml of 0.5mg/3mg/3ml	\$172.00	\$83.99	51.17%
Brovana (arformoterol tartrate)	yes	2ml vials of 15mcg/2ml	\$1,379.36	N/A	
QVAR (beclomethasone dipropionate)	no	10.6g of 80mcg	\$308.00	\$69.68	77.38%
Pulmicort Turbohaler (budesonide)	no	180mcg	\$311.00	\$59.00	81.03%
Pulmicort Flexhaler (budesonide)	no	90mcg	\$232.00	\$34.95	84.94%
Symbicort (budesonide & formoterol fumarate)	yes	160mcg/4.5mcg	\$449.00	\$43.20	90.38%
Alvesco (ciclesonide)	no	160mcg	\$315.00	\$68.99	78.10%
Breo Ellipta (fluticasone furoate & vilanterol trifenate)	no	100mcg/25mcg	\$460.00	\$64.99	85.87%
Flovent HFA (fluticasone propionate HFA)	no	110mcg	\$289.00	\$29.96	89.63%
Flovent Diskus (fluticasone propionate)	no	100mcg	\$258.00	\$27.99	89.15%
Perforomist (formoterol fumarate)	yes	2ml of 20mcg/2ml	\$1,355.66	N/A	
Arcapta Neohaler (indacaterol)	no	75mcg	\$309.08	\$89.95	70.90%
Atrovent HFA (ipratropium bromide)	no	12.9g of 17mcg	\$525.14	\$36.00	93.14%
Xopenex (levalbuterol sulfate)	yes	3ml vials of 1.25mg/3ml	\$299.97	\$23.90	92.03%
Asmanex (mometasone furoate)	no	220mcg	\$271.67	\$96.95	64.31%
Asmanex Twisthaler (mometasone furoate)	no	220mcg	\$291.03	\$87.99	69.77%
Dulera (mometasone furoate & formoterol fumarate)	no	200mcg/5mcg	\$391.80	\$159.99	59.17%
Striverdi Respimat (olodaterol)	no	2.5mcg/actuation	\$281.00	\$85.95	69.41%
Serevent Diskus (salmeterol xinafoate)	no	50mcg	\$498.18	\$94.99	80.93%
ADVAIR Diskus (salmeterol xinafoate/fluticasone propionate)	yes	250mcg/50mcg	\$469.38	\$57.60	87.73%
ADVAIR HFA (salmeterol xinafoate/fluticasone propionate)	yes	115mcg/21mcg	\$450.00	\$44.99	90.00%
Spiriva Respimat (tiotropium bromide)	no	2.5mcg/actuation	\$525.00	\$84.99	83.81%
Spiriva Handihaler (tiotropium bromide)	no	18mcg	\$589.61	\$35.92	93.91%
Incruse Ellipta (umeclidinium)	no	62.5mcg	\$424.00	\$95.68	77.43%
Anoro Ellipta (umeclidinium & vilanterol)	no	62.5mcg/25mcg	\$533.00	\$136.29	74.43%
				Average Savings:	78.37%

PharmacyChecker Research July 2022. Prices listed are per inhaler. Average U.S. Retail Pharmacy Prices from GoodRx.com and Drugs.com; U.S. Coupon Prices from PharmacyChecker.com and GoodRx.com; International Pharmacy Prices from PharmacyChecker.com. Sample of inhalers based on those identified by the FDA as "Drug Treatments for Asthma and Chronic Obstructive Pulmonary Disease that Do Not Use Chlorofluorocarbons."

Importing Inhalers From Foreign Countries

The PharmacyChecker report shows that 77 percent of brand inhalers sold in the United States are manufactured elsewhere. Those countries of origin include Germany, the United Kingdom, Singapore, Ireland, Sweden, France, Italy, and Switzerland.

Five inhalers in the dataset are manufactured in Germany, a country where regulators use collective negotiation to set drug wholesale and retail prices.[15] Should a patient in the United States decide to import their medication from a vetted international online pharmacy, they will spend 85.75% less than the price of the German-made medication sold at their local U.S. pharmacy.

Price of German-made Brand Name Inhalers Sold in U.S. Pharmacies vs. International Mail Order Prices, 2022

Brand Name	US Generic Availability	Strength	Average US Retail Price	International Mail Order Price	International Savings	Manufacturing Origin
Combivent Respimat	no	20mcg/100mcg	\$512.00	\$58.99	88.48%	Germany
Atrovent HFA	no	12.9g of 17mcg	\$525.14	\$36.00	93.14%	Germany
Striverdi Respimat Inhalation Spray	no	2.5mcg/actuation	\$281.00	\$85.95	69.41%	Germany
Spiriva Respimat Inhalation Spray	no	2.5mcg/actuation	\$525.00	\$84.99	83.81%	Germany
Spiriva Handihaler	no	18mcg	\$589.61	\$35.92	93.91%	Germany

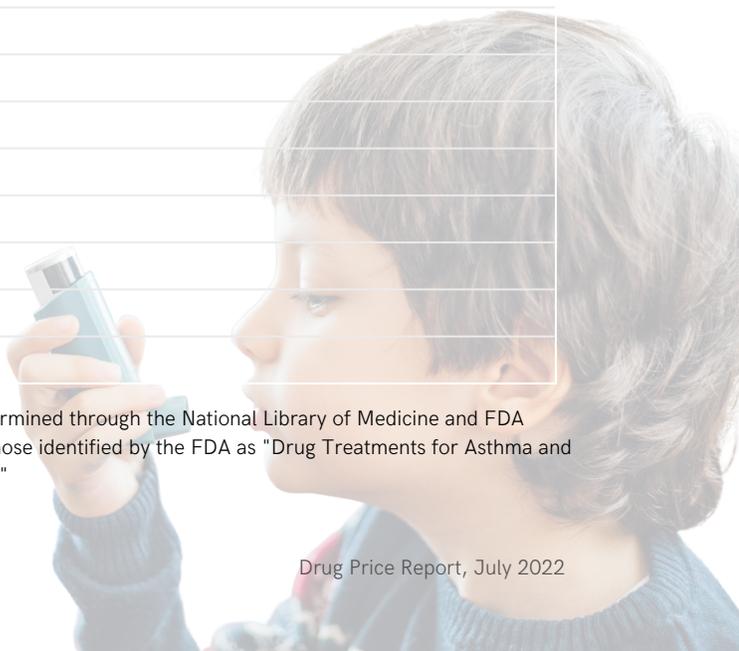
PharmacyChecker Research July 2022. Sources: Country of manufacture determined through the National Library of Medicine and FDA Labeling Package Insert drug information. Identification of inhalers based on those identified by the FDA as "Drug Treatments for Asthma and Chronic Obstructive Pulmonary Disease that Do Not Use Chlorofluorocarbons."

Most brand products sold in the United States are manufactured in other countries that have comparable if not stronger systems of pharmaceutical manufacturing than the U.S., but the pharmaceutical supply chain is constantly evolving.[16] Breztri, an aerosol inhalant COPD treatment, sold in the United States is manufactured by drug company AstraZeneca in France. [17] In June 2022, AstraZeneca announced that they plan to build a manufacturing facility in Qingdao, China to produce Breztri.[18] This does not necessarily mean future Breztri on U.S. shelves will be made in China, but it's certainly of interest to those concerned about the drug supply chain. China leads as the top country from which bulk pharmaceutical ingredients are imported into the U.S. – mostly for generic and over-the-counter medications.[19]

Manufacturing Locations of Inhalers Sold in the United States, 2022

Brand Name	Where the Brand is Made
Tudorza Pressair	USA
Proventil HFA	Made in Italy. Formulated in USA. Actuator made in USA.
Ventolin HFA	UK
ProAir HFA	Ireland
ProAir Respiclick	Ireland
Combivent Respimat	Germany
Duoneb Inhalation Solution	USA
Brovana Inhalation Solution	USA
QVAR	Ireland
Pulmicort Turbohaler	Product of Sweden
Pulmicort Flexhaler	Manufactured in Sweden; Product of Netherlands
Symbicort Inhalation Aerosol	France
Alvesco Inhalation Aerosol	UK
Aerospan HFA	Discontinued
Breo Ellipta	USA
Flovent HFA	Singapore
Flovent Diskus	USA
Foradil Aerolizer	Discontinued
Perforomist Inhalation Solution	USA
Arcapta Neohaler	Switzerland
Atrovent HFA	Germany
Xopenex	USA
Asmanex Inhalation Aerosol HFA	Made in Singapore; Formulated in the UK; Actuator made in Germany
Asmanex Twisthaler	Singapore
Dulera Inhalation Aerosol	UK (actuator made in Germany)
Striverdi Respimat Inhalation Spray	Germany
Serevent Diskus	USA
ADVAIR Diskus	England
ADVAIR HFA	USA
Spiriva Respimat	Germany
Spiriva Handihaler	Germany
Incruse Ellipta	Singapore
Anoro Ellipta	USA

PharmacyChecker Research July 2022. Sources: Country of manufacture determined through the National Library of Medicine and FDA Labeling Package Insert drug information. Identification of inhalers based on those identified by the FDA as "Drug Treatments for Asthma and Chronic Obstructive Pulmonary Disease that Do Not Use Chlorofluorocarbons."



Ordering Inhalers From Foreign Countries Through Online Pharmacies

PharmacyChecker's report found that international mail order prices of inhalers are 78.37% lower than average U.S. pharmacy retail prices. The way inhalers are priced and marketed varies across the globe. Jeffrey Poirier is the Vice President of the PharmacyChecker Verification Program, in which online pharmacies are vetted and monitored for high standards of pharmacy practice. He shared his thoughts concerning the soaring price of inhalers in the United States:

"The prices of inhalers in the USA are much too expensive for such critical medications. Patients are forced to seek alternative ways to obtain their inhalers. PharmacyChecker can help by providing a source of verified online pharmacies that can access the same or similar inhalers from other countries at reduced prices."



Inhaler prices, strengths, and brand names vary across countries. We asked Jeff some questions from patients who are interested in understanding how to import inhalers.

1. Why are inhalers so much cheaper at online pharmacies?

Different countries pay different prices for the same medications. Online pharmacies give you access to these medications at reduced prices from other countries.

2. My Symbicort prescription is for an 80mcg/4.5mcg inhaler. I see that some PharmacyChecker-accredited websites say that 100mcg/6mcg is equivalent. Is that true?

Because inhaler strengths also vary across countries, any changes such as the strength of the active ingredients would need to be approved by your prescriber. These changes would generally be considered clinically equivalent and are due to different marketing strategies in different countries.

3. Why is the name of my inhaler different in New Zealand? Are they the same?

Even the marketed brand names of inhalers

differ across countries. You should always refer to the active ingredients and their strengths to determine if they are equivalent.

4. The generic of my inhaler is not available at US pharmacies, but is available at an accredited online pharmacy... and it's much cheaper than the brand. Can I order a generic if the generic isn't approved in the USA?

If the active ingredients are the same and your prescriber has approved a generic, you should be able to obtain the generic from another country even if it is not available at U.S. pharmacies.

5. If my doctor writes a prescription for a certain strength, but the strength sold at the pharmacy is slightly different, will they still fill my prescription?

Any changes in strength should be approved by your prescriber.

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