COLORADO
Prescription Drug Affordability Board
Division of Insurance

Affordability Review Summary Report: Stelara

June 7, 2024

Draft Submitted to: the Colorado Prescription Drug Affordability Board

Table of Contents

Executive Summary

Affordability Review Summary Report Findings

Stelara (ustekinumab), first approved by the United States Food and Drug Administration in 2009, is an interleukin inhibitor and is used to treat plaque psoriasis, psoriatic arthritis, Crohn's disease, and ulcerative colitis. At the time of this publication, none of the FDA-approved indications for Stelara had received an Orphan Drug Act designation. The drug has been granted Orphan Drug Act designations for the treatment of pediatric ulcerative colitis and pediatric Crohn's disease, but the FDA has not approved Stelara to treat these indications.

Therapeutic alternatives for Stelara, as identified through professional medical guidelines, with utilization reported in the Colorado All Payer Claims Database (APCD) in 2022 are: Cosentyx, Ilumya, Siliq, Skyrizi, Taltz, and Tremfya. Patients and caregivers, as well as individuals with scientific and medical training, provided input that patients prefer many treatment options to identify the medications that work for them. When compared to a placebo, Stelara has shown improvements in symptoms for each of its four indications. For some indications, there is evidence that Stelara and its in-class therapeutic alternatives are associated with beneficial treatment effects when compared to other prescription drug treatments not in class.

In passing Senate Bill 21-175, the legislature recognized the importance of evaluating both the effectiveness of a drug, as well as its cost to consumers and the larger health care system. Stelara's wholesale acquisition cost has increased 198.55%, from [redacted] per unit at its launch in September 2009 to [redacted] per unit in January 2024, which is a greater than the increase in inflation for the same time period. Over half (63%) of insurance carriers who submitted information to the Colorado All Payer Claims Database (APCD) reported that Stelara was one of the top 15 prescription drugs that raised premiums for all covered lives. Stelara has also appeared in other states' assessments of the costliest drugs for that state, including contributing to increases in insurance plan spending.

In Colorado in 2022, Stelara was the most utilized drug (1,700 patients) compared to its in-class therapeutic alternatives, Cosentyx (1,128), Ilumya (31), Skyrizi (1,028), Taltz (1,140), and Tremfya (445) and it saw a large increase in utilization from 2018 to 2022 (over 200%). According to 2022 APCD data, Stelara cost $150,176 per patient and over $255,298,495 in total. In that year, the average annual out-of-pocket cost for patients with commercial insurance was $5,875. In 2023, it is estimated that [redacted] of Johnson & Johnson's national gross sales for Stelara was spent on rebates, 340B discounts, manufacturer financial assistance programs, and other price concessions. Worldwide sales for Stelara increased from $9.723 billion in 2022 to $10.858 billion in 2023 (a 11.7% increase), including $6.966 billion in US sales.

The following report and its appendices provide detailed evidence necessary for the Board's consideration of whether Stelara is unaffordable to Coloradans.

Board Deliberation and Vote Summary

After receiving and reviewing evidence in support of the affordability review components set forth in statute and rule, on June 7, 2024, the Colorado Prescription Drug Affordability Board (the Board) acknowledged there was sufficient evidence to proceed with deliberations for the Stelara affordability review. The Board then deliberated whether the use of Stelara was unaffordable for Colorado consumers.

During deliberations, Board members particularly noted that the high out-of-pocket costs of Stelara provided evidence that the drug is unaffordable to Colorado consumers. Deliberation also included discussion of:

- Stelara is an effective and valuable medication with a good safety profile.
- Stelara is the only drug of its therapeutic alternatives to treat ulcerative colitis (UC), showing the role Stelara can play for Inflammatory Bowel Disease patients. While there is a new IL-inhibitor designated to treat UC, it was not considered as a therapeutic alternative for purposes of the affordability review because it is so new.

- Stelara is the highest utilized drug of the therapeutic alternatives, and utilization has significantly increased for commercially insured patients. Medicaid utilization is lower because Stelara is not a first line medication for Medicaid.
- Not all health plans cover this agent and those plans that do often have it on a higher tier, resulting in higher costs for patients.
- Average out-of-pocket costs are very high and are increasing substantially year over year.
- Coinsurance and deductibles are increasing due to higher costs. Payers typically balance their cost with insurance premiums, ultimately passing down costs to consumers in the form of increased premiums.
- Stelara's manufacturer offers patient assistance programs, but that these programs are not guaranteed and may be a burden to consumers.
- Increasing WAC, as well as high gross-to-net-sales, suggesting that rebates may be high and savings are not necessarily being passed onto consumers.

After deliberation and hearing public comment from nine individuals, the Board voted 5-0 that the use of Stelara consistent with the labeling approved by the FDA or with standard medical practice is unaffordable for Colorado consumers.

To view the meeting recording in full, see:

https://us06web.zoom.us/rec/share/QZkuFVYv1LDhbjGUp3UbKkm11YaFAHfyiytMBzhFgFhY11dr-sFmNtqe1TLEbeyg.O3nrfWaLsnxGlOg

Introduction

The Colorado Prescription Drug Affordability Board (the Board) was established in 2021 through the passage of Senate Bill 21-175. Governor Polis appointed five members to the Board in September 2021. Since then, the Board has appointed members to the 15-person Prescription Drug Affordability Advisory Council (the Advisory Council) and hosted a five-part learning series in spring 2022 to provide Board members, Advisory Council members, and interested stakeholders foundational knowledge necessary to implement a successful new prescription drug affordability program. The Board has also promulgated five rules to implement statutory requirements, and developed five policies to guide the program.

One of the Board's duties is to perform affordability reviews of prescription drugs as described in section 10-16-1406, C.R.S. This section outlines the Board's four steps in conducting affordability reviews:(1) identification of eligible drugs, (2) selection of drugs for affordability reviews, (3) conducting affordability reviews on selected drugs, and (4) determining if use of the selected drugs are unaffordable for Colorado consumers.

The first step - identification of prescription drugs eligible for affordability reviews - was completed when the Board approved the final list of prescription drugs eligible for affordability reviews on June 9, 2023. The second step - selection of prescription drugs for affordability reviews - was completed when the Board selected five drugs for affordability reviews on August 4, 2023. This report has been prepared by Board staff to assist the Board in completing the third and fourth steps of the affordability review process for the prescription drug, Stelara.

This report of the affordability review for Stelara was conducted in accordance with 3 CCR 702-9, Part 3.1.E.6. Additionally, this report contains appendices with detailed information for each of the fifteen criteria the Board shall and may consider as a part of its affordability review, to the extent practicable.

Report Structure

About This Report

The main body of the Affordability Review Summary Report is divided into three profiles: a therapeutic and utilization profile; a cost and price profile; and an access to care profile. The profiles contain information from the fifteen statutory and regulatory components the Board considers as a part of an affordability review. The profiles were identified by Board members and Board staff as a way to present affordability review evidence in a commonsense manner. While these profiles incorporate all fifteen components the Board considers during affordability reviews, additional information is provided for each of the fifteen components in the appendices, with each component having an individual appendix. More information on the structure of each profile and the appendices is provided in the sections below.

While several components lend themselves to inclusion in only one profile, three components inform all profiles contained in the Summary Report. Those components, and information regarding the type and volume of feedback Board staff received, are summarized below:

- Input from patients and caregivers - Board staff gathered input from three patients and caregivers at one public meeting on September 26, 2023. Additionally, 15 patients and caregivers completed surveys regarding the health and financial effects of Stelara, and several of these patients and caregivers also attended the public meetings.
- Input from individuals with scientific and medical training - Board staff gathered input from eight individuals with scientific or medical training at one public meeting on September 26, 2023. Additionally, ten individuals with scientific & medical training completed surveys regarding the health and financial effects of Stelara.
- Voluntarily submitted information - two patients, caregivers, and other entities submitted voluntary information. Janssen Biotech, Inc., the manufacturer of Stelara, also voluntarily submitted information. Janssen Biotech, Inc., rebranded as Johnson & Johnson Innovative Medicine in 2023, is a pharmaceutical drug division of Johnson & Johnson. For readability the manufacturer is referred to as Johnson & Johnson throughout the summary report and appendices. Note: no assessment was conducted of the accuracy of voluntarily submitted information or the extent to which the information applies to Coloradans.

Stelara has two different methods of administration, which have different insurance benefit design, coverage, and appear in the claims differently with different cost sharing policies applied. For two indications there is a loading or first dose that is administered intravenously in a medical setting covered through medical benefits with follow up doses administered subcutaneously by the patient covered through pharmacy benefits.[1] The majority of utilization is in the pharmacy benefit or subcutaneous administration and as such the data presented here is primarily from pharmacy claims. Where medical or intravenous administration is included, it is clearly identified in this report. More information is found in Table 1 below.

[1] See appendices A, B, and E for more information

Table 1
Stelara Administration Type Description

Administration	Subcutaneous Administration	Intravenous Administration
Benefit Type	Pharmaceutical	Medical
Claim Type	Pharmaceutical Claims	Medical Claims
NDCs	57894-0060-02, 57894-0060-03, 57894-0061-03	57894-0054-27
HCPCS		J3357, J3358
2022 APCD Utilization[2]	95.07% of Claims; 92.88% of Patients	4.93% of Claims; 23.12% of Patients

Table 1 shows the benefit type, claim type, NDCs, HCPCS and utilization associated with subcutaneous and intravenous administrations of Stelara.

The Summary Report and Appendices may contain proprietary, confidential, and trade-secret information. Such information is redacted in public reports.

Therapeutic and Utilization Profile

The Therapeutic and Utilization Profile includes information about Stelara's clinical efficacy and the people who use it. This section provides information regarding Stelara's indication, utilizer profile, health equity impact, and therapeutic alternatives. Affordability review components present in this profile include information from Appendices B, G, H, I, J, and L.

Price and Cost Profile

The Price and Cost Profile includes information on what different entities on the prescription drug supply chain charge for Stelara, as well as what different entities pay for Stelara. This profile also contains information on Stelara's financial effects on health, medical, and social service costs. Affordability review components present in this profile include information from Appendices A, B, D, E, H, I, J, K, and O.

Access to Care Profile

The Access to Care Profile examines potential access to care concerns related to Stelara and whether there is evidence that the causes of access to care concerns may be related to Stelara's price or cost. This profile includes an examination of potential relationships of changes between utilization, price, and costs as well as information on safety net providers, utilization management requirements, and health benefit plan design. Affordability review components present in this profile include information from Appendices A, B, C, E, F, H, I, J, K, M, and N.

Appendices

This report contains an appendix for each of the fifteen components the Board is to consider as a part of affordability reviews, as well as a last appendix, Appendix P - Data Sources and Limitations. Descriptions of the appendices related to the fifteen affordability review components are outlined below.

[2] Shows the distribution across benefit types by both claims and patients. Note that the percent of patients does not add up to 100% because there are patients who had both medical and pharmacy administration in 2022.

Table 2

Appendices and Relevant Statutory, Rule, and Policy Guidance for Affordability Review Components

Component Name	Component Details
Appendix A: Current WAC & Change in WAC	The Board shall consider the wholesale acquisition cost of the drug. C.R.S. § 10-16-1406(4)(a).
Appendix B: Therapeutic Alternatives	The Board shall consider the cost and availability of therapeutic alternatives to the prescription drug in the state. C.R.S. § 10-16-1406(4)(b).
Appendix C: Price Effect on Access	The Board shall consider the effect of the price on Colorado consumers' access to the prescription drug. C.R.S. § 10-16-1406(4)(c).
Appendix D: Relative Financial Effects	The Board shall consider the relative financial effects on health, medical, or social services costs, as the effects can be quantified and compared to baseline effects of existing therapeutic alternatives to the prescription drug. C.R.S. § 10-16-1406(4)(d).
Appendix E: Patient Copayment & Other Cost Sharing	The Board shall consider the patient copayment or other cost sharing of the drug. C.R.S. § 10-16-1406(4)(e).
Appendix F: Safety Net Providers	The Board shall consider the impact on safety net providers if the prescription drug is available through section 340B of the federal "Public Health Service Act", Pub.L. 78-410. C.R.S. § 10-16-1406(4)(f).
Appendix G: Orphan Drug Status	The Board shall consider orphan drug status. C.R.S. § 10-16-1406(4)(g).
Appendix H: Patients & Caregivers	The Board shall consider input from patients and caregivers affected by the condition or disease that is treated by the prescription drug that is under review by the Board. C.R.S. § 10-16-1406(4)(h)(I).
Appendix I: Individuals with Scientific & Medical Training	The Board shall consider input from individuals who possess scientific or medical training with respect to a condition or disease treated by the prescription drug that is under review by the Board. C.R.S. § 10-16-1406(4)(h)(II).
Appendix J: Voluntarily Submitted Information	The Board shall consider any other information that a manufacturer, carrier, pharmacy benefit management firm, or other entity chooses to provide. C.R.S. § 10-16-1406(4)(i).
Appendix K: Rebates, Discounts, and Price Concessions	The Board may consider estimated manufacturer net-sales or net-cost amounts (including rebates, discounts, and price concessions) for the prescription drug and therapeutic alternatives; and The Board may consider manufacturer financial assistance the manufacturer provides to pharmacies, providers, consumers, and other entities. C.R.S. § 10-16-1406(4)(j); 3 CCR 702-9, Part 3.1.E.2.j.i.
Appendix L: Health Equity	The Board will consider whether the pricing of the prescription drug results in or has contributed to health inequities in priority populations. C.R.S. § 10-16-1406(4)(j); 3 CCR 702-9, Part 3.1.E.2.j.ii.
Appendix M: Information from HCPF	The Board shall consider information from the Department of Health Care Policy and Financing, including additional analyses HCPF conducts relevant to the prescription drug or therapeutic alternative under review; and/or information regarding safety net providers participating in the 340B, including information to assist with gathering input to assess the impact to safety net providers for a prescription drug under review that is available through Section 340B of the Federal "Public Health Service Act", Pub. L. 78-410. C.R.S. § 10-16-1406(4)(j); 3 CCR 702-9, Part 3.1.E.2.j.iii.
Appendix N:	The Board may use information regarding non-adherence to the prescription drug, as well as

Component Name	Component Details
Non-Adherence & Utilization Management	information related to utilization management restrictions placed on the prescription drug. C.R.S. § 10-16-1406(4)(j); 3 CCR 702-9, 3.1.E.2.j.iv.
Appendix O: Pricing Information	The Board may consider any documents and information relating to the manufacturer's selection of the introductory price or price increase of the prescription drug, including documents and information relating to: (a) Life-cycle management; (b) The average cost of the prescription drug in the state; (c) Market competition and context; (d) Projected revenue; (e) The estimated cost-effectiveness of the prescription drug; and (f) Off-label usage of the prescription drug. C.R.S. § 10-16-1406(6). The Board may access pricing information for prescription drugs by: (I) accessing publicly available pricing information from a state to which manufacturers report pricing information; (II) accessing available pricing information from the all-payer health claims database and from state entities; and (III) accessing information that is available from other countries. C.R.S. § 10-16-1406(7)(a).

Stelara Therapeutic and Utilization Profile

The Therapeutic and Utilization Profile includes information about Stelara's clinical efficacy and the people who use it. This section provides information regarding Stelara's indications, utilizer profile, health equity impact, and therapeutic alternatives.

Indication

Stelara has four FDA-approved indications:[3]

- **Plaque Psoriasis (PsO)** - Adult and pediatric patients 6 years or older with moderate to severe plaque psoriasis who are candidates for phototherapy or systemic therapy (FDA approval in September 2009 to treat adults; FDA approval in July 2020 to treat pediatric patients).
- **Psoriatic Arthritis (PsA)** - Adult and pediatric patients 6 years or older with active psoriatic arthritis (FDA approval in September 2013 to treat adults; FDA approval in August 2022 to treat pediatric patients).
- **Crohn's disease (CD)** - adults with moderately to severely active Crohn's disease (FDA approval in September 2016).
- **Ulcerative Colitis** - adults with moderately to severely active ulcerative colitis (FDA approval in October 2019).

For context, all of the FDA-approved indications listed above are autoimmune or autoimmune-related diseases.[4] Plaque psoriasis (PsO) is the most common form of the chronic skin condition, psoriasis.[5] Psoriasis is also associated with psoriatic arthritis (PsA); the majority of patients who develop PsA already have some form of psoriasis (PsO or another psoriasis).[6] Crohn's disease and ulcerative colitis are both types of inflammatory bowel disease (IBD).[7] Stelara is classified by the World Health Organization (WHO) Anatomical Therapeutic Chemical (ATC) classification system as an interleukin inhibitor.[8] Additional information is provided below for each FDA-approved indication.

[3] https://www.drugs.com/history/stelara.html
[4] https://autoimmune.org/disease-information/
[5] https://www.niams.nih.gov/health-topics/psoriasis
[6] https://www.niams.nih.gov/health-topics/psoriatic-arthritis
[7] https://www.cdc.gov/ibd/what-is-IBD.htm#:~:text=Inflammatory%20bowel%20disease%20(IBD)%20is,the%20gastrointestinal%20(GI)%20tract.
[8] https://www.whocc.no/atc_ddd_index/?code=L04AC&showdescription=no

Plaque Psoriasis

Plaque psoriasis (PsO) is the most common type of psoriasis, accounting for more than 80% of cases.[9] PsO affects both men and women, with earlier onset in women and those with a family history. An estimated 60 million people have psoriasis worldwide, and the condition is more common in high income areas and areas with older populations.[10]

The National Psoriasis Foundation describes the appearance of psoriasis plaques as raised, inflamed, and scaly patches of skin that may also be itchy and painful. On white skin, plaques typically appear as raised, red patches covered with a silvery white buildup of dead skin cells or scale. On skin of color, the plaques may appear darker and thicker and more of a purple or grayish color or darker brown. Plaques can appear anywhere on the body, although they most often appear on the scalp, knees, elbows, and torso. Plaques generally appear symmetrically on the body, affecting the same areas of the body on the right and left sides.[11] Patients with PsO may also present with other chronic conditions such as Crohn's disease, psoriatic arthritis, psychological disorders, and uveitis.[12]

Treatment options for PsO include topicals, phototherapy, oral treatments, and biologics. Recognition and management of comorbidities (such as psoriatic arthritis, psychological, cardiovascular and hepatic diseases) is an essential part of holistic care for individuals with psoriasis.[13]

PsO is also the most common clinical form of psoriasis in children.[14] One article reported that approximately 70% of children with psoriasis present with chronic plaque psoriasis.[15] Nearly 40% of adult patients with PsO have reported having the condition in childhood, with at least one-third of the patients showing symptoms of psoriasis before the age of 16 years.[16]

One study states that pediatric patients with PsO are also likely to have various comorbidities such as hyperlipidemia, hypertension, diabetes mellitus, rheumatoid arthritis, and Chrohn's disease. The long-term comorbidities associated with PsO can place a great burden on the physical and mental wellbeing of children with PsO beyond the symptoms themselves, therefore it is encouraged to screen patients periodically and receive treatment not only for their skin lesions but also for comorbidities.[17]

Psoriatic Arthritis

Psoriatic arthritis (PsA) is a chronic, inflammatory disease of the joints and entheses, where tendons and ligaments connect to bone, and is linked to PsO.[18] PsA affects men and women almost equally with a peak age at onset of 40 and 50 years, though it may also affect children.[19] For many people, it starts about 10 years after PsO develops, but some develop PsA first or without ever developing or noticing PsO.[20]

PsA affects multiple organ systems including peripheral and axial joints, skin, and nails, and is associated with comorbidities such as osteoporosis, uveitis, subclinical bowel inflammation, and cardiovascular

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[9] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8140694/

[10] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8140694/

[11] https://www.psoriasis.org/plaque/

[12] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4323693/#:~:text=Comorbidities%20classically%20associated%20with%20psoriasis,have%20been%20associated%20with%20psoriasis.&text=Gelfand%20et%20al.

[13] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8140694/

[14] https://www.uptodate.com/contents/psoriasis-in-children-epidemiology-clinical-manifestations-and-diagnosis?topicRef=112983&source=see_link

[15] https://onlinelibrary.wiley.com/doi/full/10.1111/1346-8138.17049#:~:text=International%20studies%20have%20shown%20that,significantly%20higher%20incidence%20in%20men.

[16] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3132900/

[17] https://onlinelibrary.wiley.com/doi/full/10.1111/1346-8138.17049#:~:text=International%20studies%20have%20shown%20that,significantly%20higher%20incidence%20in%20men.

[18] https://www.psoriasis.org/about-psoriatic-arthritis/

[19] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6758836/

[20] https://www.psoriasis.org/about-psoriatic-arthritis/

disease.[21] Joint pain, stiffness, and swelling are the main symptoms of PsA, and disease flares can alternate with periods of remission.[22] PsA is similar to rheumatoid arthritis in symptoms and inflammation but it tends to affect fewer joints than rheumatoid arthritis.[23]

Diagnosing PsA begins with a physical exam to look for swollen or painful joints, and nail and skin changes. X-rays or scans like ultrasound, MRI or CT can show joint damage. Blood tests may help rule out other diseases, and a skin biopsy can confirm PsO.[24] Though there is no cure, a growing range of treatments are available to help stop the disease progression, lessen pain, protect joints, and preserve range of motion. Early recognition, diagnosis, and treatment of PsA can prevent or limit the extensive joint damage that can occur in later stages of the disease.[25]

Inflammatory Bowel Disease (IBD) Subsets

Inflammatory bowel disease (IBD) is a chronic, recurrent inflammatory condition that can affect any part of the digestive tract with painful symptoms and impact quality of life. IBD is divided into Crohn's disease and ulcerative colitis which are differentiated by their location and depth of involvement in the bowel wall.[26] Both disorders have a genetic predisposition - studies have shown that between 1.5 percent and 28 percent of people with IBD have a first-degree relative, such as a parent, child, or sibling, who also has one of the diseases.[27]

Crohn's Disease

Crohn's disease can affect any part of the GI tract from the mouth to the anus, but most commonly affects the end of the small bowel, the ileum, and the beginning of the colon. It can affect the entire thickness of the bowel wall. Inflammation of the intestine can "skip," or leave normal areas in between patches of diseased intestine. Hallmark symptoms of Crohn's disease include abdominal pain, diarrhea, and fatigue; weight loss, fever, growth failure, anemia, recurrent fistulas, or extraintestinal manifestations can also be presenting features.[28] While symptoms of Crohn's disease can vary from person to person, the type of Crohn's impacts the symptoms and complications patients can experience.[29]

Crohn's disease has steadily increased over the past several decades,[30] and has genetic, immunologic, and environmental influences.[31] Men and women are equally likely to be affected by Crohn's disease, and it is most often diagnosed in adolescents and adults between the ages of 20 and 30, though it can occur at any age.[32] Diagnosis requires multiple streams of information, including history and physical, laboratory tests, endoscopy results, pathology findings, and radiographic tests. In general, it is the presence of chronic intestinal inflammation that solidifies a diagnosis of Crohn's disease.[33]

There is currently no cure for Crohn's disease, and there is no single treatment that works for everyone. Treatment goals include reducing the inflammation that triggers signs and symptoms, and is to improve long-term prognosis by limiting complications. In the best cases, this may lead not only to symptom relief but also to long-term remission. Drug therapies include anti-inflammatory drugs, immunosuppressants, biologics, and antibiotics. If diet and lifestyle changes, drug therapy, or other treatments do not relieve

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[21] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6758836/
[22] https://www.mayoclinic.org/diseases-conditions/psoriatic-arthritis/symptoms-causes/syc-20354076
[23] https://www.hopkinsmedicine.org/health/conditions-and-diseases/arthritis/psoriatic-arthritis
[24] https://rheumatology.org/patients/psoriatic-arthritis
[25] https://www.psoriasis.org/about-psoriatic-arthritis/
[26] https://www.ncbi.nlm.nih.gov/books/NBK470312/
[27] https://www.crohnscolitisfoundation.org/patientsandcaregivers/what-is-crohns-disease/overview
[28] https://journals.lww.com/ajg/fulltext/2018/04000/acg_clinical_guideline__management_of_crohn_s.10.aspx
[29] https://www.crohnscolitisfoundation.org/patientsandcaregivers/what-is-crohns-disease/overview
[30] https://journals.lww.com/ajg/fulltext/2018/04000/acg_clinical_guideline__management_of_crohn_s.10.aspx
[31] https://journals.lww.com/ajg/fulltext/2018/04000/acg_clinical_guideline__management_of_crohn_s.10.aspx
[32] https://www.crohnscolitisfoundation.org/patientsandcaregivers/what-is-crohns-disease/overview
[33] https://journals.lww.com/ajg/fulltext/2018/04000/acg_clinical_guideline__management_of_crohn_s.10.aspx

symptoms, surgery may be recommended. Nearly half of those with Crohn's disease will require at least one surgery.[34]

Ulcerative Colitis

Ulcerative colitis causes inflammation and ulcers in the digestive tract - unlike Crohn's, ulcerative colitis affects only the innermost lining of the colon.[35] Experts are not sure what causes ulcerative colitis but think genes, abnormal immune reactions, the microbiome, and the environment play a role. Research suggests that ulcerative colitis could be triggered by an interaction between a virus or bacterial infection in the colon and the body's immune response.[36]

Ulcerative colitis usually begins before the age of 30, but it can occur at any age. Some people may not develop the disease until after age 60. Ulcerative colitis affects about the same number of women and men, but older men are more likely to be diagnosed than older women. Ulcerative colitis can affect people of any racial or ethnic group.[37] Although white people have the highest risk of the disease, those of Ashkenazi Jewish descent are at even higher risk of developing the disease.[38]

Endoscopic procedures with tissue biopsy are the only way to definitively diagnose ulcerative colitis, though other types of tests can help rule out complications or Crohn's disease.[39] Doctors typically treat ulcerative colitis with medication therapy such as anti-inflammatory drugs, immunosuppressants, biologics, and antibiotics to reduce inflammation in the large intestine and help bring on and maintain remission. In some cases, doctors may recommend surgery to treat ulcerative colitis or complications.[40]

Utilizer Profile

Stelara's utilization has increased since the FDA approved the drug in 2009. According to Colorado's All Payer Claims Database (APCD), 1,700 individuals used Stelara in Colorado in 2022.[41] Additionally, data from the APCD indicates that patients who use Stelara are most commonly insured through commercial insurance (72.25% of patients), followed by patients insured by Medicaid (19.90% of patients), then by patients covered by Medicare Advantage plans (7.86%). APCD utilization estimates can be viewed as low estimates, since data for some self-insured commercial insurance plans (ERISA) and Medicare fee-for-service (FFS) enrollees, as well as uninsured individuals, is not included. See Appendix P for more information.

Table 3
Utilization of Stelara (All Lines of Business/Both Claim Types)

Drug Name	2018	2019	2020	2021	2022
Stelara	683	895	1,092	1,479	1,700

Table 3 shows the total number of utilizers of Stelara by year from 2018 - 2022 for all lines of business and both claim types.

[34] https://journals.lww.com/ajg/fulltext/2018/04000/acg_clinical_guideline__management_of_crohn_s.10.aspx
[35] https://www.crohnscolitisfoundation.org/patientsandcaregivers/what-is-crohns-disease/overview
[36] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6684508/
[37] https://www.crohnscolitisfoundation.org/patientsandcaregivers/what-is-ulcerative-colitis/overview
[38] https://www.crohnscolitisfoundation.org/patientsandcaregivers/what-is-ulcerative-colitis/overview
[39] https://www.mayoclinic.org/diseases-conditions/ulcerative-colitis/diagnosis-treatment/drc-20353331
[40] https://www.mayoclinic.org/diseases-conditions/ulcerative-colitis/diagnosis-treatment/drc-20353331
[41] This figure represents the total number of utilizers of Sterala in 2022, across all payers and both subcutaneous and intravenous administration.

Figure 1
Stelara Utilization by Payer Type[42]

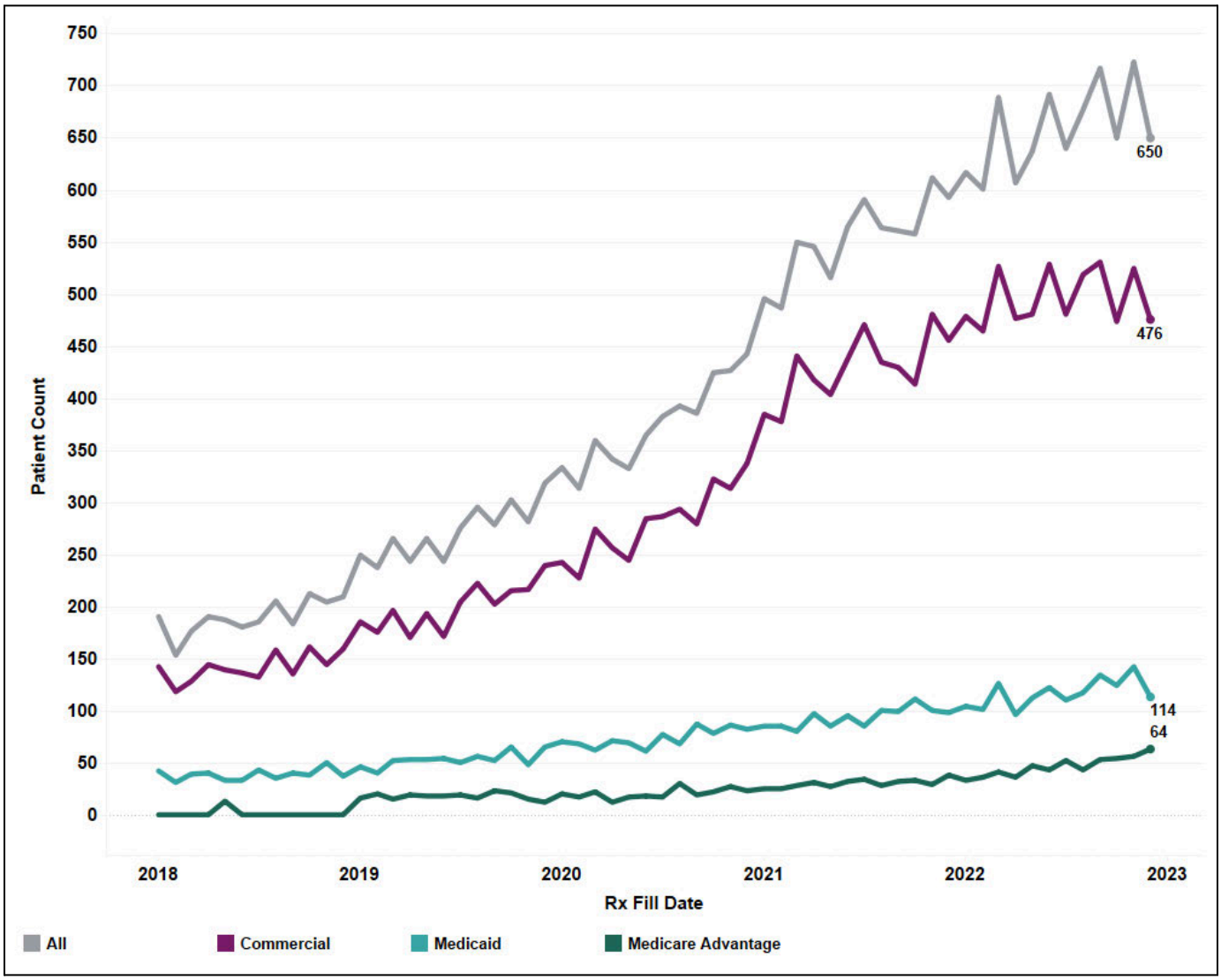


Figure 1 shows the number of patients who filled a prescription for Stelara each month between January 2018 and December 2022, where the purple line represents the number of commercially insured patients, the teal line shows the number of Medicaid patients, the green line shows the number of Medicare Advantage patients, and the gray line shows the total utilization in the Colorado APCD.

[42] The numbers by payer type do not necessarily add up to the 'all' lines of business number as some individuals may have filled two prescriptions under two different payer types in one month.

Figure 2
Insurance Information

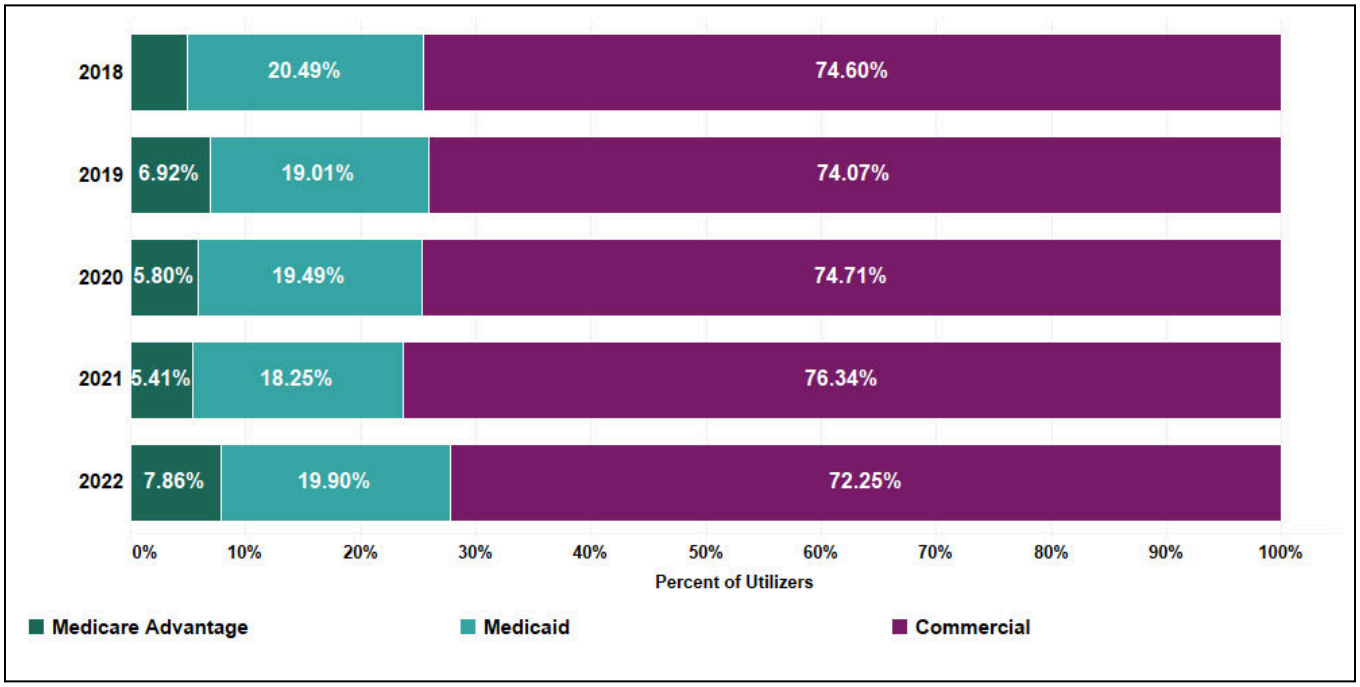


Figure 2 shows Stelara payer mix percentages from 2018 through 2022. This figure shows the percent of patients by payer type and year where green represents patients with Medicare Advantage, teal represents patients with Medicaid, and purple represents patients with commercial insurance. From 2018 through 2022, between 72.25% and 76.34% of Stelara utilizers were commercially insured.

Health Equity Impact

Obtaining prescription drug-specific information regarding health equity can be a complex task. There is evidence that priority populations[43] experience health inequity associated with their use of medications, which causes an increased risk of adverse outcomes including mortality, morbidity burden, quality of life deficit, and patient safety issues.[44] Further, there may be condition- or disease-specific studies that investigate health inequities, but there may not be studies that investigate the impacts of a specific prescription drug. While there was not significant data regarding Stelara specifically, there was data regarding indications Stelara treats. Health equity literature reviews were conducted for four of Stelara's FDA-approved indications and are summarized in the table below. See Appendix L for more information.

[43] The Board's adopted definition of priority populations is: people experiencing homelessness; people involved with the criminal justice system; black people, indigenous people, and people of color; American Indians and Alaska natives; veterans; people who are lesbian, gay, bisexual, transgender, queer, or questioning; people of disproportionately affected sexual orientations, gender identities, or sex assigned at birth; people who have AIDS or HIV; older adults; children and families; and people with disabilities, including people who are deaf and hard of hearing, people who are blind and deafblind, people with brain injuries, people with intellectual and developmental disabilities, people with other co-occurring disabilities; and other populations as deemed appropriate by the Prescription Drug Affordability Board. 3 CCR 702-9, 1.1.C.

[44] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10037618/#:~:text=In%20comparison%20to%20the%20general,16%2C17%2C18%5D.

Table 4

Stelara Health Equity Literature Review Highlights by Indication

Indication	Health Equity Literature Review Highlights
PsO	• Hispanic and Black patients with psoriasis experienced more provider-related bias, stereotyping, misdiagnosis, and delayed diagnosis compared with white patients. Additionally, people with skin of color are underrepresented in clinical trials of psoriasis therapies. • Children with psoriasis are at approximately 20% to ~30% higher risk of developing psychiatric disorders, such as depression and anxiety, than children without any psoriasis diagnosis.
PsA	• One study found that white patients were five times more likely to be diagnosed with psoriatic arthritis compared with Black patients. The disparity in prevalence could potentially be due to underdiagnosis in historically marginalized racial/ethnic groups. • One study reported a significantly higher degree of disease severity and lower use of biologics among Black patients compared with white patients. One study found Black patients were 70% less likely to receive biologics than white patients.
IBD subsets: CD and UC	• One study found that BIPOC patients reported greater difficulties accessing IBD specialists, poorer symptom control, and lower quality of life, and faced challenges in employment, financial stability, and finding social/emotional support. Additionally, they utilized emergency department services more frequently, expressed higher medication concerns, and had increased worries about medication harm. • One study found that patients with low SES had higher rates of annual outpatient physician visits, hospitalizations, intensive care unit admission, corticosteroid and opioid use, and death. It found that 1 in 8 patients with IBD has food insecurity and lacks social support, both of which are associated with higher financial toxicity. • One study found that Black patients use fewer medications for IBD, particularly biologic agents. Racial disparities have also been observed in access to IBD specialist care and higher need for healthcare visits to the emergency department.

During the selection of eligible prescription drugs for affordability reviews, the Board reviewed a Social Vulnerability Index (SVI) Score for all eligible prescription drugs. The SVI score represents the percent of individuals who use Stelara who live in a county with a score above the Colorado average score. Individuals residing in counties with SVI scores higher than the statewide average may be more vulnerable to adverse outcomes due to social conditions in their county. The SVI score measurement is not meant to be a comprehensive assessment of Stelara and health equity. Rather, it is meant to be a contextual snapshot to better understand if the typical patient who uses Stelara lives in a county that has a higher vulnerability to adverse outcomes due to social conditions than the average Colorado county.

In 2022, 47.82% of patients taking Stelara lived in a county with a higher SVI score than the statewide average. This means that patients taking Stelara have a slightly lower likelihood of living in a county with higher vulnerability to adverse outcomes due to social conditions than the average Coloradan. See Appendix L for more information.

Figure 3
Map of Colorado by 2022 SVI Score for Utilizers of Stelara

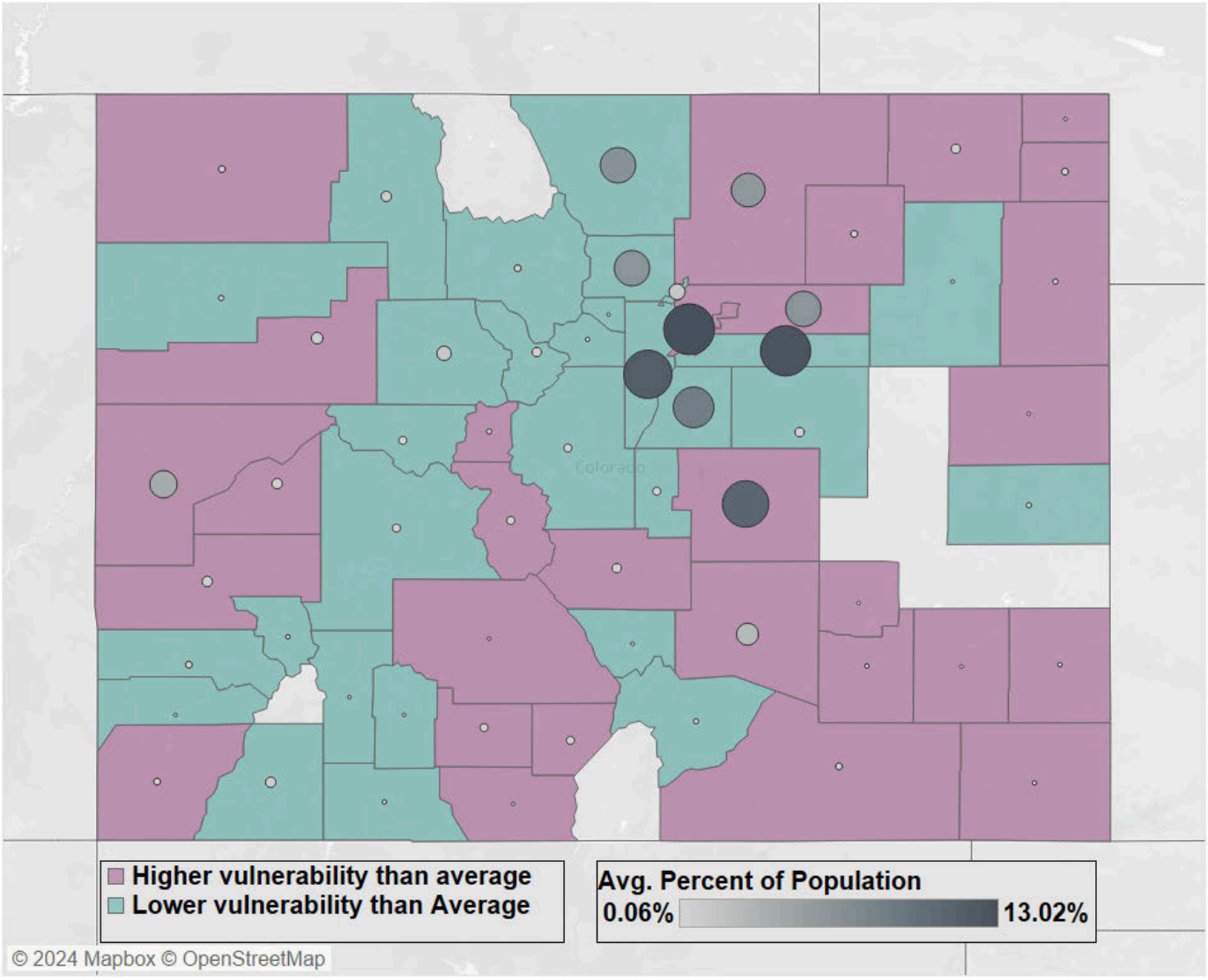


Figure 3 shows a map of Colorado by county, where purple counties indicate higher than average SVI scores and teal counties indicate a lower than average SVI score. Counties without color did not have any patients who used Stelara in 2022 residing in them. The dots on each county show the percent of patients who used Stelara in 2022 by county where a larger, darker dot represents a higher portion of utilizers and smaller, lighter dots represent a smaller portion of the population.

Board staff received patient and caregiver input through an online survey aimed at gathering information regarding the health and financial effects of Stelara. Survey participants could voluntarily provide information regarding whether they were a member of a priority population. Of the 15 national respondents, eleven were members of a priority population, and of the five Colorado respondents, five were members of a priority population.

Therapeutic Alternatives

The Board adopted a definition of therapeutic alternatives as prescription drugs in the same pharmacological or therapeutic class that have been shown through peer-reviewed studies to have similar therapeutic effects, safety profile, and expected outcome when administered to patients in a therapeutically equivalent dose or prescription drugs recommended as consistent with standard medical practice by medical professional association guidelines (3 CCR 702-9, Part 1.1.C). For the purposes of this

affordability review, therapeutic alternatives were identified through the review of medical professional association guidelines. The resulting in-class therapeutic alternatives are summarized in Table 4 below. Information related to Stelara's therapeutic alternatives is contained throughout this summary report and appendices.

Table 5

Stelara Therapeutic Alternatives Details

Non-Proprietary Name	Brand Name	Mechanism of Action	Approved Indication(s) (FDA Approval Date)
bimkizumab-bkzx	Bimzelx	IL-17A/17F	10/17/2023 (PsO in adults only)
secukinumab	Cosentyx	IL-17 inhibitor	1/21/2015 (PsO) 1/15/2016 (PsA)
tildrakizumab-asmn	Ilumya	IL-23 inhibitor	3/20/2018 (PsO in adults only)
mirikizumab-mrkz	Omvoh	IL-23 inhibitor	10/26/2023 (UC)
brodalumab	Siliq	IL-17 inhibitor	2/15/2017 (PsO in adults only)
risankizumab-rzaa	Skyrizi	IL-23 inhibitor	4/23/2019 (PsO in adults only) 1/21/2022 (PsA in adults only) 6/16/2022 (CD)
ixekizumab	Taltz	IL-17A inhibitor	3/22/2016 (PsO) 12/1/2017 (PsA in adults only)
guselkumab	Tremfya	IL-23 inhibitor	7/13/2017 (PsO in adults only) 7/13/2020 (PsA in adults only)

Table 5 shows details of Stelara's therapeutic alternatives and FDA approval dates.

Table 6

Utilization of Stelara and Identified Therapeutic Alternatives[45] (All Line of Business/ Both Claim Types)

Brand Name[46]	2018	2019	2020	2021	2022
Stelara	683	895	1,092	1,479	1,700
Cosentyx	478	727	956	1,149	1,128
Ilumya		*	*	16	31
Taltz	155	274	418	971	1,140
Tremfya	69	122	171	300	445
Skyrizi				459	1,028

Table 6 shows the number of utilizers of Stelara and therapeutic alternatives by year from 2018 - 2022.[47]

[45] These figures represent the total number of utilizers in 2022, across all payers and both claim types.

[46] Only therapeutic alternatives with utilization in the APCD are presented here. Other therapeutic alternatives presented in Table 5, specifically Bimzelx and Omvoh, were too recently approved by the FDA to have utilization in the APCD.

[47] A blank cell indicates no utilization in the APCD for that drug in that year.A * indicates 12 or fewer patients using that drug in that year.

Figure 4

Insurance information for Therapeutic Alternatives (2022)

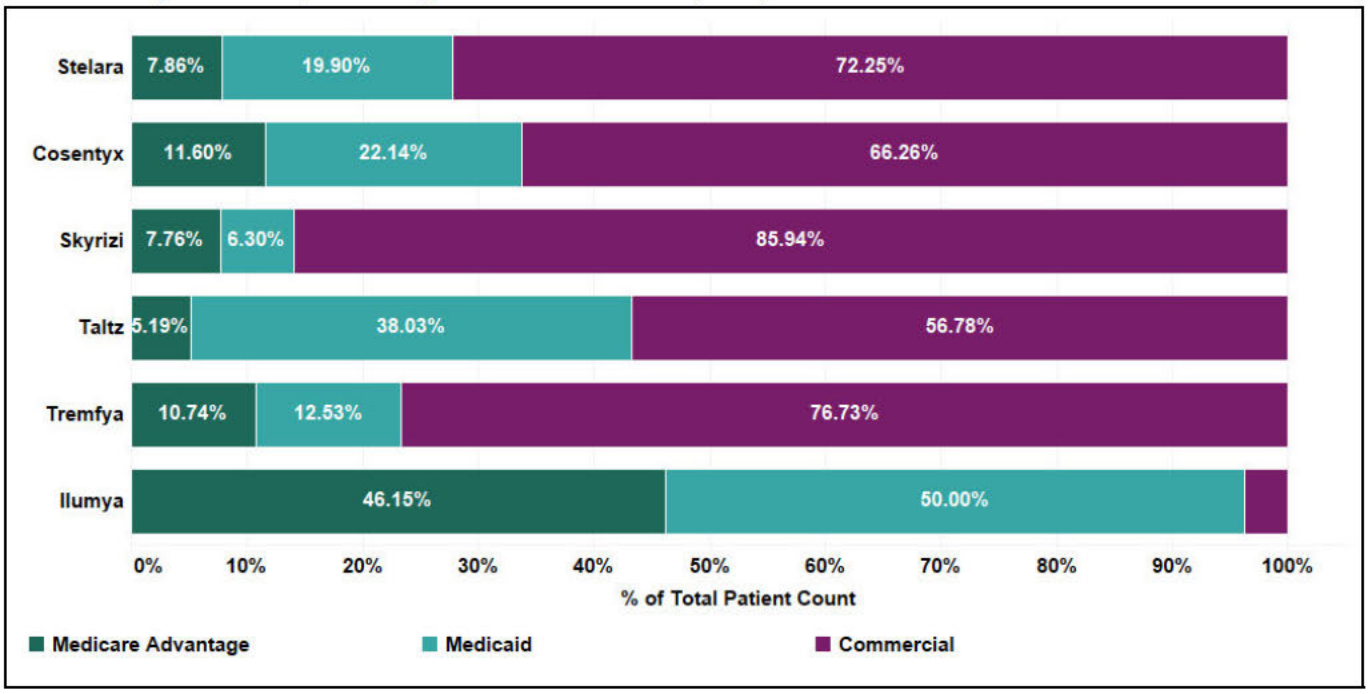


Figure 4 shows the 2022 payer mix for Stelara and its identified therapeutic alternatives. This figure shows the percent of patients by payer type and year where green represents patients with Medicare Advantage, teal represents patients with Medicaid, and purple represents patients with commercial insurance. Stelara had 72.25% of patients covered by commercial insurance, which was lower than Skyrizi and Tremfya, but higher than the other identified therapeutic alternatives.

Stelara Price and Cost Profile

The Price and Cost Profile includes information on what different entities on the prescription drug supply chain charge for Stelara, as well as what different entities pay for Stelara. This profile also contains information on Stelara's financial effects on health, medical, and social service costs. Affordability review components present in this profile include information from Appendices A, B, D, E, H, I, J, K, and O.

Table 7

Stelara's 2022 Price & Cost per Person Statistics (All Lines of Business/Both Claim Types)

Price & Cost Per Person Statistics	Amount
Average WAC per Course of Treatment per Person[48]	[redacted]
Average Paid per Person	$150,176
APPY - Plan Paid	$143,769
APPY - Out-of-Pocket[49]	$7,365

[48] Course of treatment is calculated based on utilization not FDA labeling recommended doses. For course of treatment methodology please see June 9th, 2023 PDAB Board staff memo: https://drive.google.com/file/d/16BFQEB-LMiulmYzhKhxeGjvbFoh88cTs/view?usp=sharing. This estimate uses the January 2024 WAC per unit and 2022 (the most recent data available) utilization of Stelara in the APCD.

[49] Medicaid copayments are $0-$3 for each prescription fill, as a result, Medicaid out of pocket paid amounts are removed from all averages in the data presented in this report, however, it is included in the statewide totals when reviewing the total amount patients paid. Medicaid copay information: https://www.healthfirstcolorado.com/copay/

Table 8
Stelara's 2022 Statewide Price & Cost Statistics (All Lines of Business/ Both Claim Types)

Statewide Price and Cost Statistics	Amount
Total Paid Amount	$255,298,495
Total Plan Paid[50]	$244,406,523
Total Medicaid Paid	$25,609,261
Total Patient Paid[51]	$8,004,589
Gross-to-net Sales Estimates[52]	[redacted]

The current WAC for Stelara is [redacted] per unit, with the most recent update to the WAC in January 2024. The initial WAC was [redacted] in September of 2009. This is a 198.55% increase from September 2009 to January 2024, a 26.53% increase in the past five years, and a 5% increase from 2023. The average course of treatment is [redacted] units per patient per year, making the current WAC per course of treatment [redacted].[53] See Appendix A for more information.

Pursuant to section 10-16-1405, C.R.S., carriers and pharmacy benefit managers submit data about the highest cost prescription drugs to the APCD, including the fifteen prescription drugs that caused the greatest increase to the carrier's premiums. Twelve of the nineteen carriers (63%) who submitted data reported Stelara in the top fifteen drugs that caused the greatest increase to premiums, and nine of these submitters reported Stelara in the top five drugs that caused the greatest increase to premiums. Additionally, prescription drug transparency data from other states indicates Stelara is among the costliest drugs in the state (Maine, Oregon). See Appendix O for more information.

[50] Total Plan Paid represents the amount paid by a patient's primary insurance coverage, even though secondary coverage may have paid an amount. Secondary insurance coverage paid amounts are generally captured in Total Paid Amounts.
[51] Medicaid copayments are $0-$3 for each prescription fill, as a result, Medicaid out of pocket paid amounts are removed from all averages in the data presented in this report, however, it is included in the statewide totals when reviewing the total amount patients paid. Medicaid copay information: https://www.healthfirstcolorado.com/copay/
[52] Gross-to-Net Sales estimates are not available based on administration or claim type. See Appendix K for more information
[53] Course of Treatment methodology outlined in Board Staff Memo from June 6, 2023:
https://drive.google.com/file/d/16BFOEB-LMiulmYzhKhxeGjvbFoh88cTs/view?usp=sharing.

Figure 5
Payer Rank of Stelara Impact on Premiums in 2022

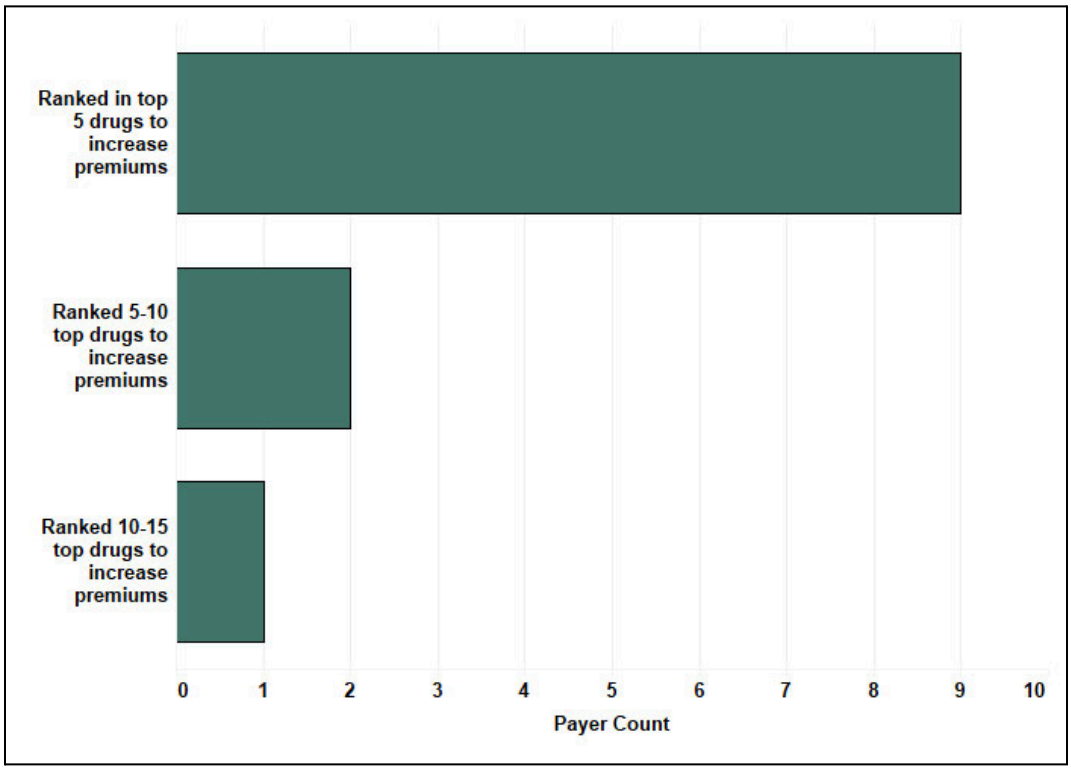


Figure 5 shows the number of payers that ranked Stelara in the top 15 prescription drugs that increased premiums. Nine of nineteen payers indicated that Stelara was in the top 5 drugs to increase premiums. Six of these payers indicated that Stelara was the second highest drug that increased premiums in 2021.

Payers and Pharmacy Benefit Management Firms were required to identify in their submission which 15 drugs caused the highest increases to premiums, however, no additional information was required pursuant to section 10-16-1405(1)(a)(IV), C.R.S. As a result, the specific dollar impact Stelara had on premiums, or how its rank compared to the other 14 prescription drug premium impacts, is unknown.

While this information can be insightful in understanding Stelara's impact to a broader portion of the health care system, Board staff do not recommend the Board heavily weigh this information this year. Per section 10-16-1405, C.R.S., only the top drugs are submitted for each reference, and more data and research would be necessary to understand the actual impacts to premiums and relative impact of each drug for each carrier.

The SEC requires all public companies to file a Form 10-K each year, and a Form 10-Q each quarter. These forms provide a financial snapshot of the company's revenues, assets, and liabilities for the previous year. Johnson and Johnson's 2023 10-K details that Stelara's worldwide total sales increased 11.7% from $9.723 billion in 2022 to $10.858 billion in 2023.[54] See Appendix O for more information.

Out-of-Pocket Estimates

Patient copayment and other cost sharing depends on many factors, including: a patient's insurance coverage, how much has already been contributed to out-of-pocket maximum amounts in a benefit year, and whether the patient receives other assistance to pay for their portion of prescription drug. The APCD provides data on the patient portion of the claim paid for the drug, but does not contain any information on assistance programs. Patients, caregivers, and individuals with scientific or medical training provided input

[54] https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

regarding their experiences with assistance programs through public meetings, surveys, and voluntarily submitted information. See Appendices H, I, and J for more information.

The average annual out-of-pocket cost per person per year for individuals with commercial insurance is $5,875. There was wide variation in monthly average out-of-pocket costs, where 65.70% of individuals covered by commercial insurance paid a total amount between $0-$50 for each prescription fill, though some individuals paid as much as $22,300 - $22,350 for a prescription fill. Figure 5 outlines the annual out-of-pocket amounts for commercially insured individuals by type of out-of-pocket expense. See Appendix E for more details.

Figure 6

Average Commercial Out-of-Pocket Cost Comparison (Pharmacy Claims)

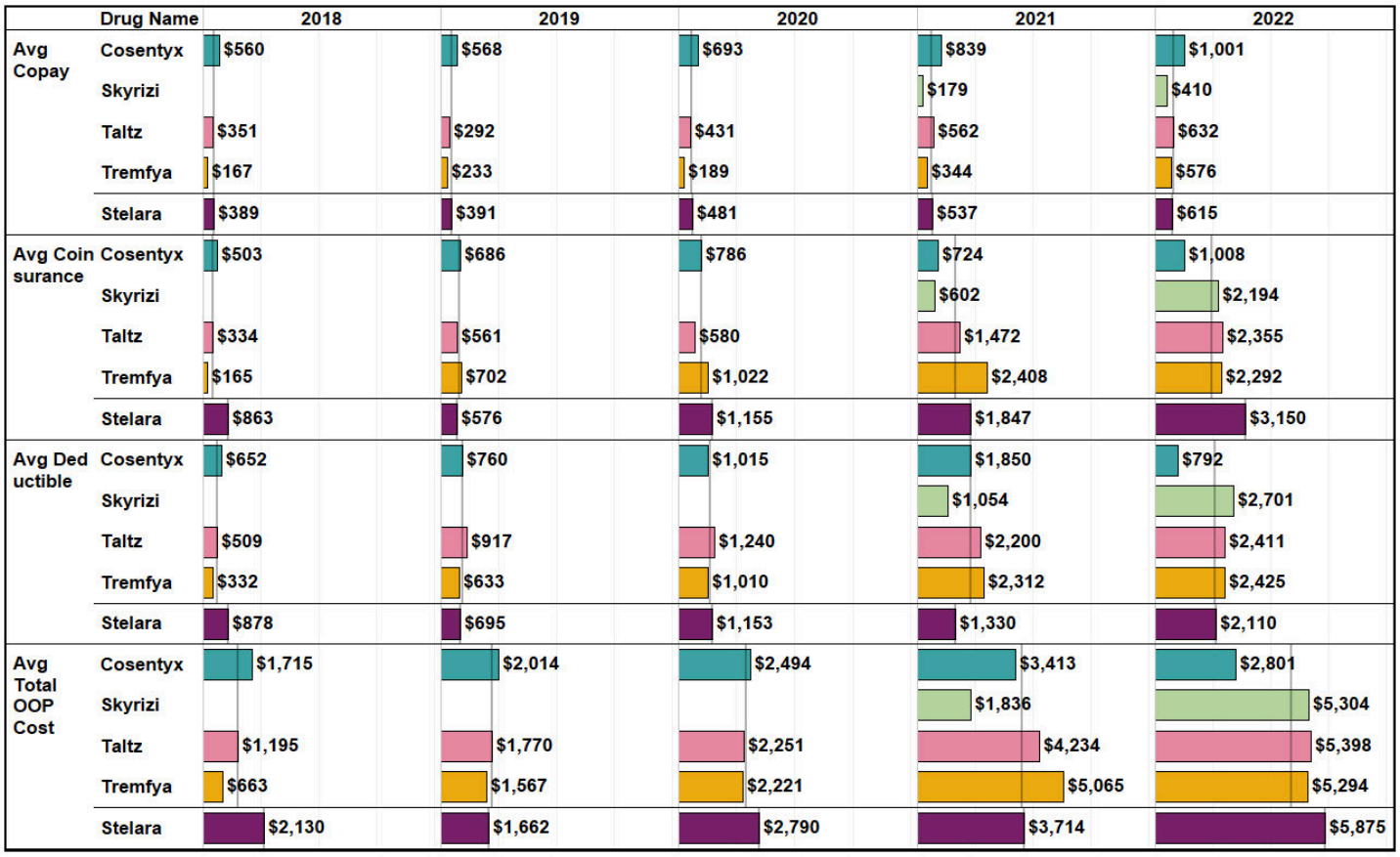


Figure 6 shows each out-of-pocket cost type for commercially insured individuals with Stelara in dark purple and its therapeutic alternatives by year. There is a light gray line that shows the average of the therapeutic alternatives as a comparison to determine if Stelara is more or less expensive than the average of its therapeutic alternatives. For example, the bottom right corner shows the average total out-of-pocket cost in 2022: Stelara was $5,875, which is higher than all of the identified therapeutic alternatives, while the average across all therapeutic alternatives is $4,699.

Another snapshot of out-of-pocket costs for individuals with commercial insurance is summarized below for both Stelara and identified therapeutic alternatives.

Table 9

Average Monthly Commercial Out-of-Pocket Cost Information in 2022 (Pharmacy Claims)

	Stelara	Cosentyx	Ilumya	Skyrizi	Taltz	Tremfya
Average Total OOP Cost	**$489.92**	$257.58	$175.46	$467.29	$235.91	$487.70
Average Coinsurance Amount	**$272.88**	$92.08	$0.00	$199.55	$109.75	$218.11
Average Copay Amount	**$54.91**	$91.91	$175.46	$37.02	$29.26	$54.59
Average Deductible Amount	**$162.14**	$73.59	$0.00	$230.73	$96.90	$215.00
Average Days Supply	**52.6**	31.325	83.3	60.5	30.0	46.2

Table 9 shows average monthly out of pocket expenditures for individuals who are commercially insured.

In 2022, in an average month, an individual with commercial insurance paid a total of $489.92 for Stelara: $162.14 went towards a patient's deductible, $272.88 was paid towards coinsurance, and $54.91 was paid via copayment. Similar information is provided for therapeutic alternatives. These averages are calculated based on claims from the APCD, which does not include information about assistance programs that individuals might use when filling their prescriptions.

Figure 7

Changes in Commercial Out-of-Pocket amounts by Year and Drug 2018-2022 (Pharmacy Claims)

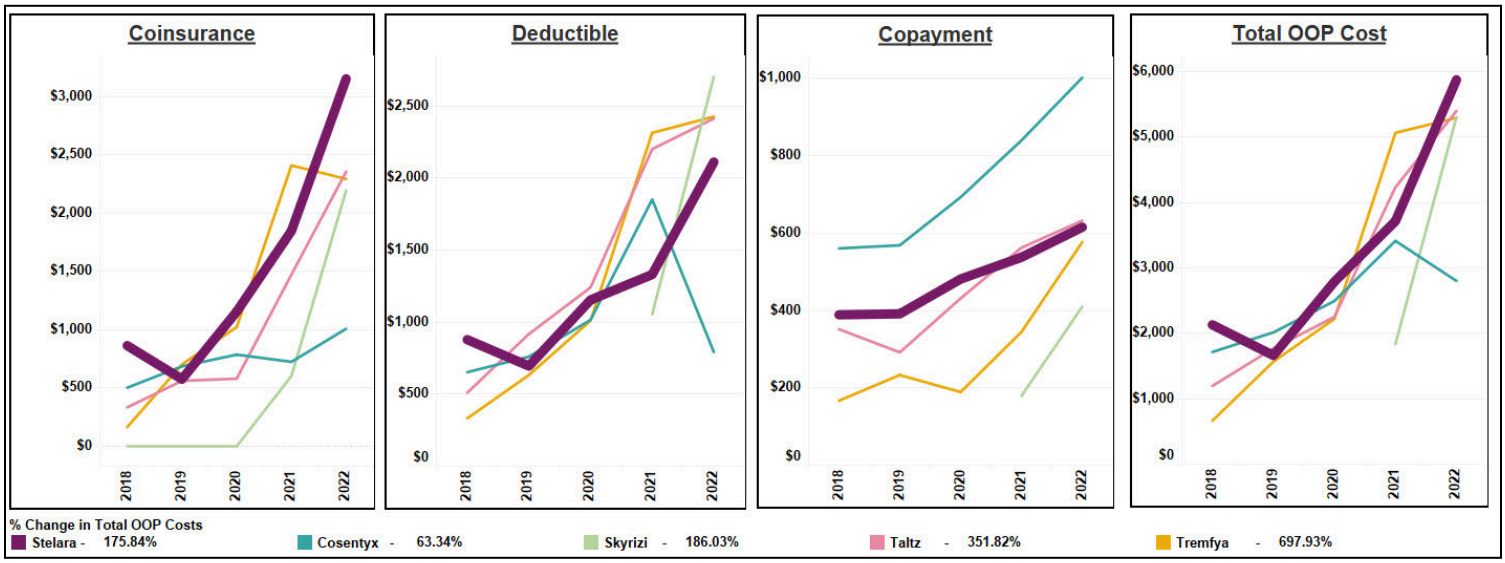


Figure 7 shows the annual change in the annual average OOP amounts comparing Stelara (dark purple) to its therapeutic alternatives. Below the graph, the percent change in total out-of-pocket costs from January 2018 - December 2022 for each drug is indicated. Stelara has the largest total out-of-pocket cost, which is largely driven by the increase in coinsurance and deductibles. While it has the highest total out-of-pocket cost, its increase of 175.84% was lower than the increases of Tremfya and Skyrizi. See Appendix E for more information.

Johnson & Johnson voluntarily reported that 97% of the 294 commercially insured Coloradans who were enrolled in the company's patient assistance program paid $0 to $5 out-of-pocket. See Appendices J and K for more information. Board staff received information in surveys that of five Colorado respondents, four indicated they utilize patient assistance programs, and one respondent reported they have difficulty affording Stelara despite using a patient assistance program. See Appendices H, I, J, and K for more information.

Rebates, Discounts, and Price Concessions Estimates

The gross-to-net sales estimate is a proprietary estimate where SSR Health estimates all price concessions the manufacturer gives, including rebates, 340B discounts, assistance programs, and other price concessions provided by manufacturers compared to gross sales to get a percentage estimate of all discounts. The gross-to-net sales estimate was [redacted] in the first quarter of 2010, which [redacted] in the fourth quarter of 2023. Additionally, in 2021, 18 of 25 carriers reported to the APCD that Stelara was in the top 15 drugs for which the carrier received the largest rebate, and 13 ranked it in the top 5. See Appendix K for more information.

Figure 8

Estimated Total Gross-to-Net Sales

Figure 8 shows the total gross-to-net sales estimate for Stelara and identified therapeutic alternatives. The gross-to-net sales estimate for Stelara has increased to [redacted] in the fourth quarter of 2023, [redacted]

55 [redacted]

Stelara's Health and Financial Effects

One component of affordability reviews is an assessment of the relative financial effects on health, medical, or social service costs, as the effects can be quantified and compared to baseline effects of existing therapeutic alternatives to the prescription drug. Information regarding Stelara's relative financial effects on health, medical, or social service costs is summarized here from literature reviews (Appendix D), input from patients and caregivers (Appendix H), input from individuals with scientific and medical training (Appendix I), and voluntarily submitted information (Appendix J). These summaries are structured to focus first on Stelara's health effects, followed by financial effects.

Stelara's Health Effects

The FDA label provides information on Stelara's impact on the health effects on the indications it is approved to treat. See Appendix D for more information. Patients, caregivers, and individuals with scientific and medical training reported in meetings and surveys regarding health effects. Examples of feedback, including quotes that summarize common themes, are provided below; see Appendix H and Appendix I for more information.

- Stelara has reduced pain and symptoms in the majority of patients of all indications. Other patients reported rejecting Stelara after being on it for a period of time, and their conditions relapsed. One patient at a public input session highlighted that Stelara is an at-home option that provides flexibility to patients.
- The most common side effect of Stelara is increased risk of infection, as it is an immunosuppressant. Other side effects include headaches, bloating, and weight gain.
- *"Stelara has given me a quality of life back I didn't think was possible. It improved my organs and let me be healthy enough to carry a child successfully. Something I didn't think would ever be possible."* - Survey respondent with Crohn's disease and psoriatic arthritis.

Additionally, patients and caregivers provided input regarding therapeutic alternatives. Select answers are summarized below; see Appendix H for more information.

- Participants reported adverse side effects from some therapeutic alternatives such as fever, headache, nausea, hair loss, mental health issues, medically induced psoriasis, stroke, and restrictive lung.

In addition to gathering information from patients, caregivers, and individuals with scientific and medical training, Board staff conducted literature reviews to compile evidence of the clinical effectiveness of Stelara. To do this, Board staff examined studies conducted by Health Technology Assessment (HTAs) organizations. HTA organizations, often found within or supporting governmental agencies in other countries, provide evaluations of both clinical and cost effectiveness of prescription drugs. HTAs can provide consistent and thorough assessments of a prescription drug' clinical effectiveness. See Appendix D for information compiled from six HTA organizations for Stelara's FDA-approved indications.

Stelara's Financial Effects

Understanding a prescription drug's financial effects on health, medical, and social service costs as compared to therapeutic alternatives can be a complex task. HTA organizations conduct evaluations of the effects and impacts of a prescription drug, which may address the direct, intended consequences as well as their indirect, unintended consequences. Nearly all HTA organizations take into account patient, caregiver, and provider perspectives when determining a prescription drug's cost effectiveness. In addition, Board staff were able to gather direct input on Stelara's financial effects on health, medical, and social service costs.

Patients, caregivers, and individuals with scientific and medical training were asked in public meetings and in surveys to share any additional information about how Stelara affects them financially. Participants and respondents shared experiences related to out-of-pocket costs, assistance programs, and utilization management requirements. Select answers are highlighted below; see Appendix H for more information.

- Stelara reduced the amount of time and money spent on going to the doctor, hospital, or needing surgery.
- Stelara allowed patients to work and help support their family.
- The cost of Stelara led patients to cut costs in other areas of their lives to pay for the medication.
- Of four of five Colorado respondents who utilize patient assistance programs, one respondent reported they have difficulty affording Stelara despite using a patient assistance program.

See Appendix H (input from patients and caregivers), Appendix I (input from individuals with scientific and medical training), and Appendix J (voluntarily submitted information) for more detail.

Board staff conducted literature reviews to compile evidence of the cost effectiveness of Stelara. A summary of these organizations, the country where they are found, and their conclusions regarding the clinical effectiveness of Stelara are outlined in Appendix D.

Stelara Access to Care Profile

The Access to Care Profile examines potential access to care concerns related to Stelara and whether there is evidence that the causes of access to care concerns may be related to Stelara's price or cost. This profile includes an examination of potential relationships of changes between utilization, price, and costs as well as information on safety net providers, utilization management requirements, and health benefit plan design.

Price Effect on Access

Stelara's WAC has increased 22 times since it was approved by the FDA in 2009, increasing a total of 198.55% since introduction, an increase that is higher than inflation during the same time period (Figure 9 below). See Appendix A for more information. From 2018 to 2022, APCD data shows a 185.02% increase[56] in Stelara's average annual patient out-of-pocket costs and a 604.30% increase[57] in total patient paid amounts (Table 10 below). See Appendix E for more information. Meanwhile, APCD data shows monthly increases in utilization of Stelara, which appear relatively steady, with an increase of 156.55% from 2018 - 2022[58] (See Figure 10 and Table 10 below).

As of January 29, 2024, there were 39 approved patents for Stelara with the latest expiration date of 9/24/2039.[59] Twenty-four of those patents expired between 2020 and 2023, while 15 will expire between 2026 and 2039.[60] As a result of settlements and other agreements with third parties, the manufacturer does not anticipate the launch of a biosimilar version of Stelara before January 2025 in the United States.[61] Evaluating patents and other sources of exclusivity can be helpful in understanding potential access concerns, because there is evidence that such market conditions are associated with increased drug prices, limited availability, and increased costs to consumers and payers.[62] See Appendix O for more information.

[56] The 185% increase represents all lines of business and pharmacy claims. From 2018 to 2022, there was a 251.45% increase across all lines of business for both claim types, a 175.84% increase in the commercial line of business for pharmacy claims, and a 74.86% increase in the commercial line of business for medical claims.

[57] The 604% increase represents all lines of business and pharmacy claims. From 2018 to 2022, there was a 612.78% increase across all lines of business and both claim types, a 596.46% increase in the commercial line of business for pharmacy claims, and a 283.57% increase in the commercial line of business for medical claims.

[58] The 156.55% increase represents all lines of business and pharmacy claims. From 2018 to 2022, there was a 148.90% increase across all lines of business and both claim types, a 152.49% increase in the commercial line of business for pharmacy claims, and a 119.35% increase in the commercial line of business for medical claims.

[59] I-MAK's 'The Drug Patent Book' https://drugpatentbook.i-mak.org/.

[60] Johnson & Johnson's 2023 SEC 10-K filing: https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

[61] Johnson & Johnson's 2023 SEC 10-K filing: https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

[62] https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-022-00826-4

Table 10

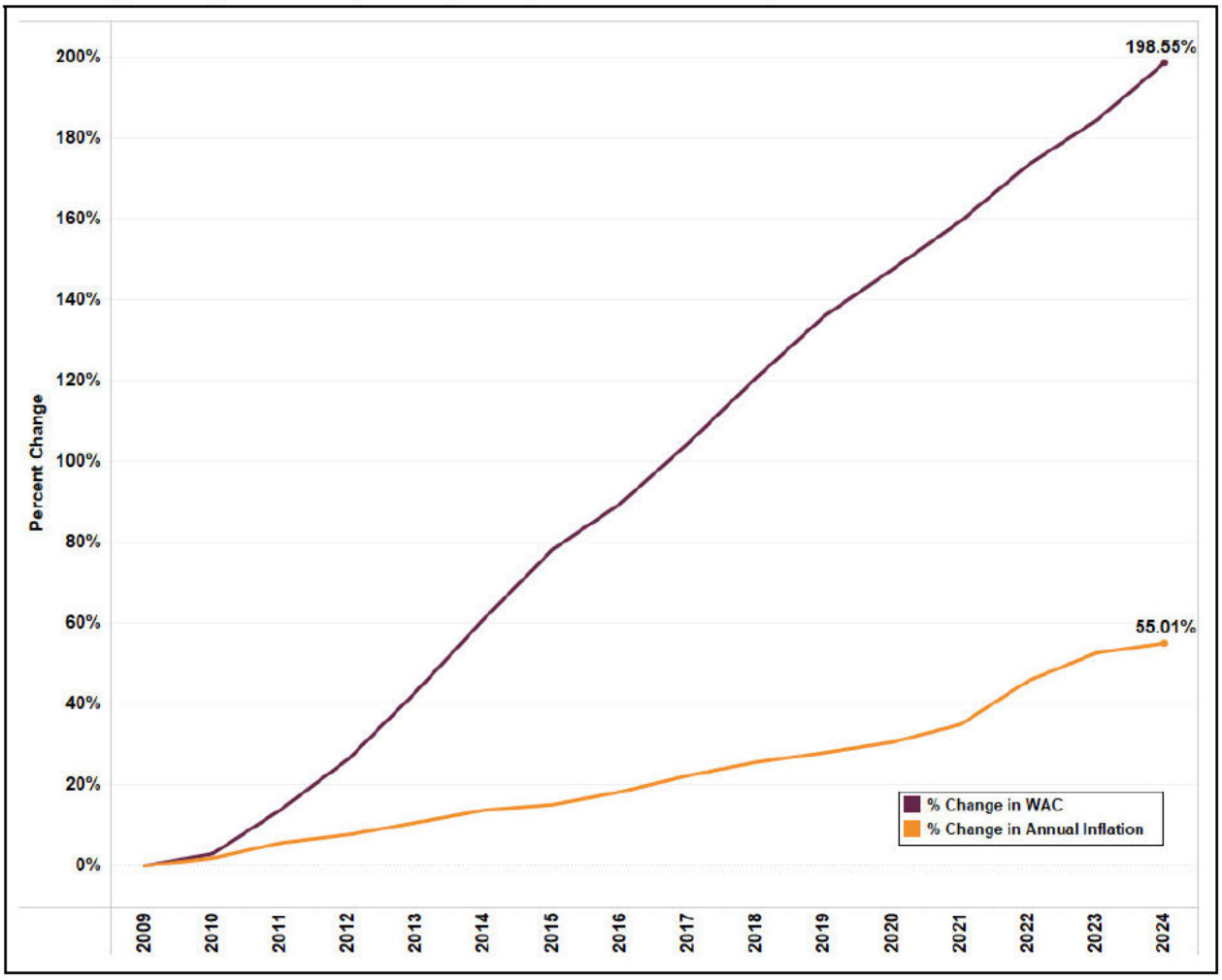
Annual Utilization and Expenditures (All Lines of Business/Pharmacy Claims)

	2018	2019	2020	2021	2022
Patient Count	626	817	1,007	1,346	1,606
Total Paid Amount	$40,946,303	$59,729,276	$101,876,203	$199,079,735	$247,968,382
Average Paid Per Person	$65,409	$73,108	$101,168	$147,904	$154,401
Total Patient Paid	$1,039,413	$1,081,845	$2,272,199	$4,191,826	$7,320,547
Average OOP Cost	$2,584	$2,273	$4,254	$5,407	$7,365
WAC per Unit	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 10 shows the year-over-year increases in the number of patients using Stelara, the total amount paid for Stelara, the average paid per person, the total amount that patients paid, and the average amount that each patient paid.

Figure 9

Percentage Change in WAC (Stelara) Compared to Annual Inflation



For additional context, Figure 9 shows the change in WAC as a percent change (purple) and annual inflation (orange) over the same time frame.[63]

Figure 10

Monthly Commercial Utilizers for Stelara and Therapeutic Alternatives (Both Claim Types)

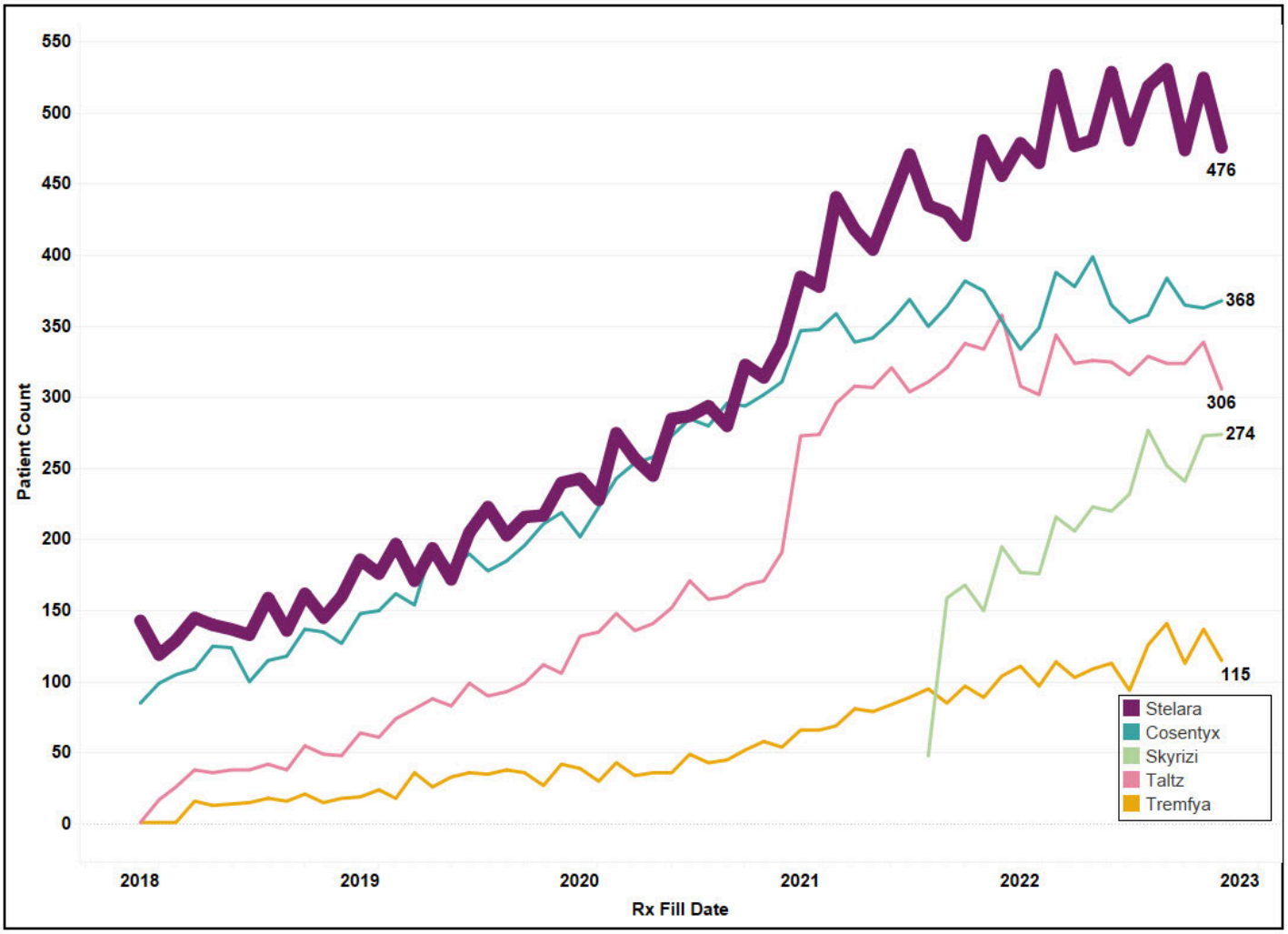


Figure 10 shows the monthly number of commercially insured utilizers of Stelara and therapeutic alternatives. Utilization of Stelara has increased from January 2018 to December 2022 and it is the highest utilized drug when compared to its therapeutic alternatives.

[63] This graphic only contains information for the WAC of the subcutaneous administration of Stelara (administered in pharmacy benefits not medical benefits), this is the most common application of the drug, see Appendix A for more information on Stelara's WAC for intravenous administration.

Figure 11
Monthly Total Paid and Average Total Paid (All Lines of Business / Both Claim Types)

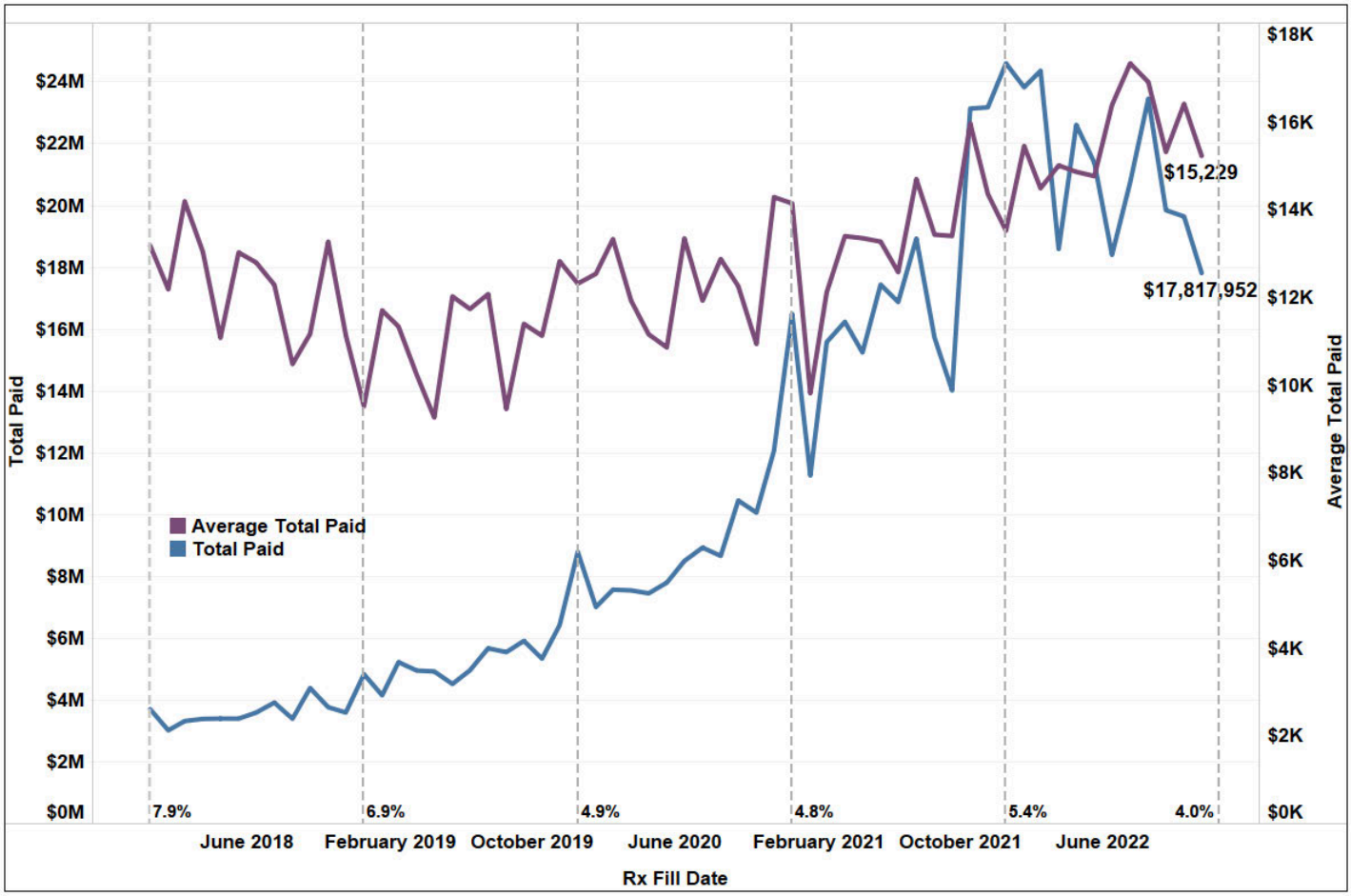


Figure 11 shows the monthly total paid with the blue line (left axis) and the monthly average paid per person with the purple line (right axis) with vertical dotted lines representing when there were increases in WAC with the magnitude of the increase written to the right of the line. There is no visible correlation between the WAC change and the corresponding change in the APCD paid amounts. During this time frame, the number of patients using Stelara increased from 683 in 2018 to 1,700 in 2022.

Safety Net Providers, Utilization Management Requirements, and Health Benefit Plan Design

Individuals with scientific and medical training provided input that safety net providers participate as covered entities in the federal 340B Drug Pricing Program administered by the U.S. Health Resources & Services Administration (HRSA) and dispense Stelara. See Appendix H for more information. No safety net providers volunteered information regarding Stelara's utilization in a safety net setting, nor the nature of the 340B discount for Stelara. See Appendices F, I, and M for more information.

It is difficult to know how many uninsured patients in Colorado have an indication treated by Stelara. See Appendix H for more information.

Patients and caregivers who completed surveys provided the following information regarding utilization management:

Table 11
Survey response: Utilization Management

Survey Prompt	National Responses	Colorado Responses
My insurance plan has dropped or switched my drug coverage after the plan year started.	1 of 15 (6.6%)	1 of 5 (20%)
My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor.	4 of 15 (26.6%)	0 of 5 (0%)
My insurance plan requires prior approval to fill the prescription.	13 of 15 (86.6%)	4 of 5 (80%)
My insurance plan limits my supply of the drug (e.g. only offers a 30 day supply with no 90 day supply option) or number of refills I am able to get.	3 of 15 (20%)	0 of 5 (0%)
I worry that the cost of my prescription will raise my insurance premium.	5 of 15 (33.3%)	2 of 5 (40%)

Utilization management requirements, along with prescription drug formularies, are meant to encourage the use of medically appropriate and cost-effective drug-related products that meet the needs of patient populations.[64] To better understand health benefit plan design coverage and formulary structure, data was accessed by Colorado Division of Insurance (DOI) staff for the affordability review. Data pulled was for carriers in the individual and small group markets for which DOI receives annual rate filings. As such, this data does not describe the entire insurance market in Colorado, but can shed information on benefit plan design and out-of-pocket costs.

Of the ten carriers that submitted filings in 2023, seven carriers cover Stelara. All carriers that cover Stelara require prior authorization. In total, 504 plans provide coverage for Stelara and the majority of carriers that cover Stelara place Stelara on the highest two tiers, meaning a higher portion of the drug is paid by patients than prescription drugs on lower tiers (until the maximum out-of-pocket amount under the plan is paid by the patient). See Appendix E for more information.

64 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10398227/#:~:text=The%20intent%20of%20a%20formulary,the%20needs%20of%20patient%20populations.

Appendix A

Stelara: Wholesale Acquisition Cost

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider the wholesale acquisition cost of the drug. (C.R.S. § 10-16-1406(4)(a)).

Rule: The Board will consider both the current wholesale acquisition cost of the prescription drug and changes in the prescription drug's wholesale acquisition cost over time. (3 CCR 702-9, Part 3.1.E.2.a).

Policy: Information regarding the initial WAC, the current WAC, and changes to WAC over time. (PDAB Policy 04, p.6).

Underlying Methodology: Board staff compiled WAC data for Stelara for the Board's consideration in the following manner:

1. Using AnalySource, staff pulled all effective WAC per unit amounts and dates associated with the drug.
2. Staff calculated the percent change in WAC since launch and in past five years by using the following calculation:
   (Current WAC - Initial WAC) / Initial WAC
3. Staff calculated annual inflation amounts by identifying the Bureau of Labor Statistics' (BLS) Annual Inflation Numbers using the Denver-Aurora-Lakewood area to compare WAC changes over time to inflation.[1]

Data Source(s):

- AnalySource's WAC amount, representing the manufacturer's published catalog or list price for a drug product to wholesalers as reported to First Databank by the manufacturer.
- U.S. Bureau of Labor Statistics for Denver-Aurora-Lakewood for annual inflation numbers.

Considerations and Data Limitations:

- Precise WAC amounts are confidential and may only be shared with the Board, Board staff, and Board contractors.
- The WAC does not consider rebates, discounts, or actual paid amounts.

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[1] https://www.bls.gov/regions/mountain-plains/news-release/ConsumerPriceIndex_Denver.htm. Annual inflation numbers were for all items, not seasonally adjusted, with the current base (1982-40 = 100) and inflation change was calculated on an annual basis.

Stelara: Wholesale Acquisition Cost Evidence

Of Stelara's four FDA approved indications, Crohn's disease and ulcerative colitis require the first dose, or loading dose, to be administered intravenously in a medical setting with follow up doses administered subcutaneously by the patient.[2] These different administrations appear in the claims differently, and medical and pharmaceutical benefits often have different cost sharing policies applied. Much of the data in this report represents the subcutaneously administered drug that is part of the pharmaceutical benefit. Intravenous administration and medical benefit information is indicated where included.

Table A-1

Stelara Administration Type Detail

Administration Type	Subcutaneous Administration	Intravenous Administration
Benefit Type	Pharmaceutical	Medical
Claim Type	Pharmaceutical Claims	Medical Claims
NDCs	57894-0060-02, 57894-0060-03, 57894-0061-03	57894-0054-27
HCPCS		J3357, J3358

Table A-1 shows the benefit type, claim type, and NDCs and HCPCS associated with subcutaneous and intravenous administrations of Stelara.

The current WAC for the subcutaneous administration of Stelara is [redacted] per unit, with the most recent update to the WAC in January 2024. The initial WAC was [redacted] in September 2009. This is a 198.55% increase from September 2009 to January 2024, a 26.53% increase in the past five years, and a 5.00% increase from 2023. The average course of treatment is [redacted] units per patient per year, making the current WAC per course of treatment [redacted][3]

Table A-2

WAC per unit: Date, Price, and Percent Increase for Subcutaneous Administration (Stelara)

Stelara WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	0.00%
[redacted]	[redacted]	4.90%

[2] See Table A-6 and Appendices B and E for more information

[3] For course of treatment methodology please see June 6, 2023 PDAB Board staff memo: https://drive.google.com/file/d/16BFOEB-LMiulmYzhKhxeGjvbFoh88cTs/view?usp=sharing

[redacted]	[redacted]	4.90%
[redacted]	[redacted]	6.90%
[redacted]	[redacted]	4.90%
[redacted]	[redacted]	4.90%
[redacted]	[redacted]	6.90%
[redacted]	[redacted]	6.90%
[redacted]	[redacted]	6.90%
[redacted]	[redacted]	3.90%
[redacted]	[redacted]	6.90%
[redacted]	[redacted]	2.90%
[redacted]	[redacted]	4.90%
[redacted]	[redacted]	7.90%
[redacted]	[redacted]	0.00%
[redacted]	[redacted]	7.90%
[redacted]	[redacted]	6.90%
[redacted]	[redacted]	4.90%
[redacted]	[redacted]	4.80%
[redacted]	[redacted]	5.40%
[redacted]	[redacted]	4.00%
[redacted]	[redacted]	5.00%

Table A-2 shows all historic WAC per unit amounts for the subcutaneous administration and the percent difference of each change.

The current WAC for the intravenous administration of Stelara is [redacted] per unit, with the most recent update to the WAC in January 2024. The initial WAC was [redacted] in September 2016. This is a 26.53% increase from September 2016, a 20.63% increase in the past five years, and a 5.00% increase from 2023.[4]

Table A-3

WAC per Unit: Date, Price, and Percent Increase for Intravenous Administration (Stelara)

Stelara WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	4.90%
[redacted]	[redacted]	4.80%
[redacted]	[redacted]	5.40%
[redacted]	[redacted]	4.00%
[redacted]	[redacted]	5.00%

Table A-3 shows all historic WAC per unit amounts for intravenous administration and the percent difference of each change.

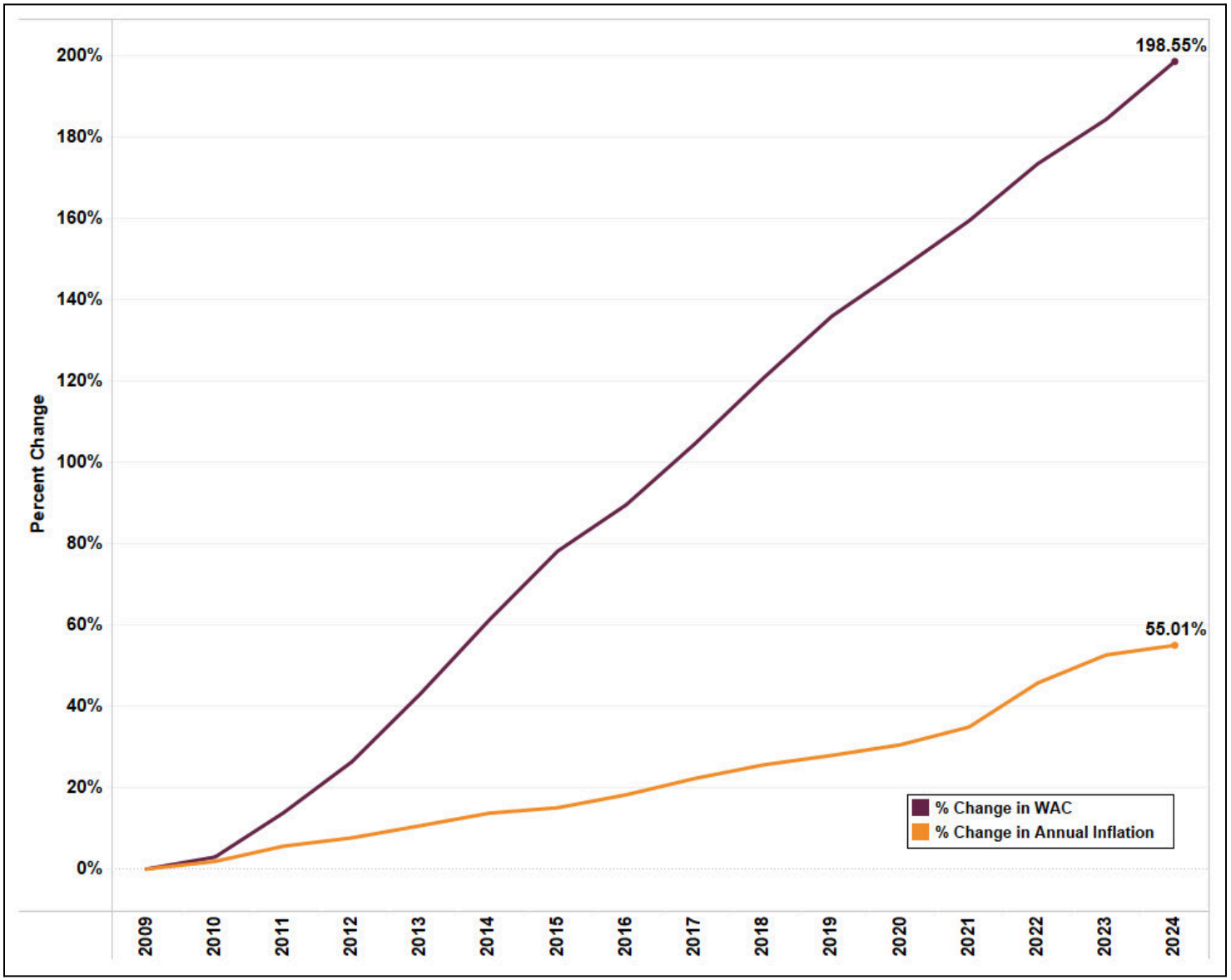
[4] No course of treatment was calculated for the intravenous or medical utilization due to Stelara being typically administered intravenously only once for the loading dose and because it accounts for less than 5% of claims.See Appendix E for more information.

Figure A-1
Change in WAC per Unit Price Subcutaneous Administration (Stelara)

Figure A-1 shows the change in WAC per unit price for the subcutaneous administration since Stelara's initial WAC price in 2009. Note that intravenous administration is not presented in Figure A-1 because it accounts for less than 5% of overall utilization.[5]

[5] See Appendix E for more information on the differences in utilization of the different administration and benefit types of Stelara.

Figure A-2
Percentage Change in WAC for Stelara: Subcutaneous Administration



For additional context, Figure A-2 shows the same change in WAC as a percent change (purple) and annual inflation (orange) over the same time frame.

Figure A-3

WAC per Course of Treatment for Stelara and Therapeutic Alternatives: Subcutaneous Administration

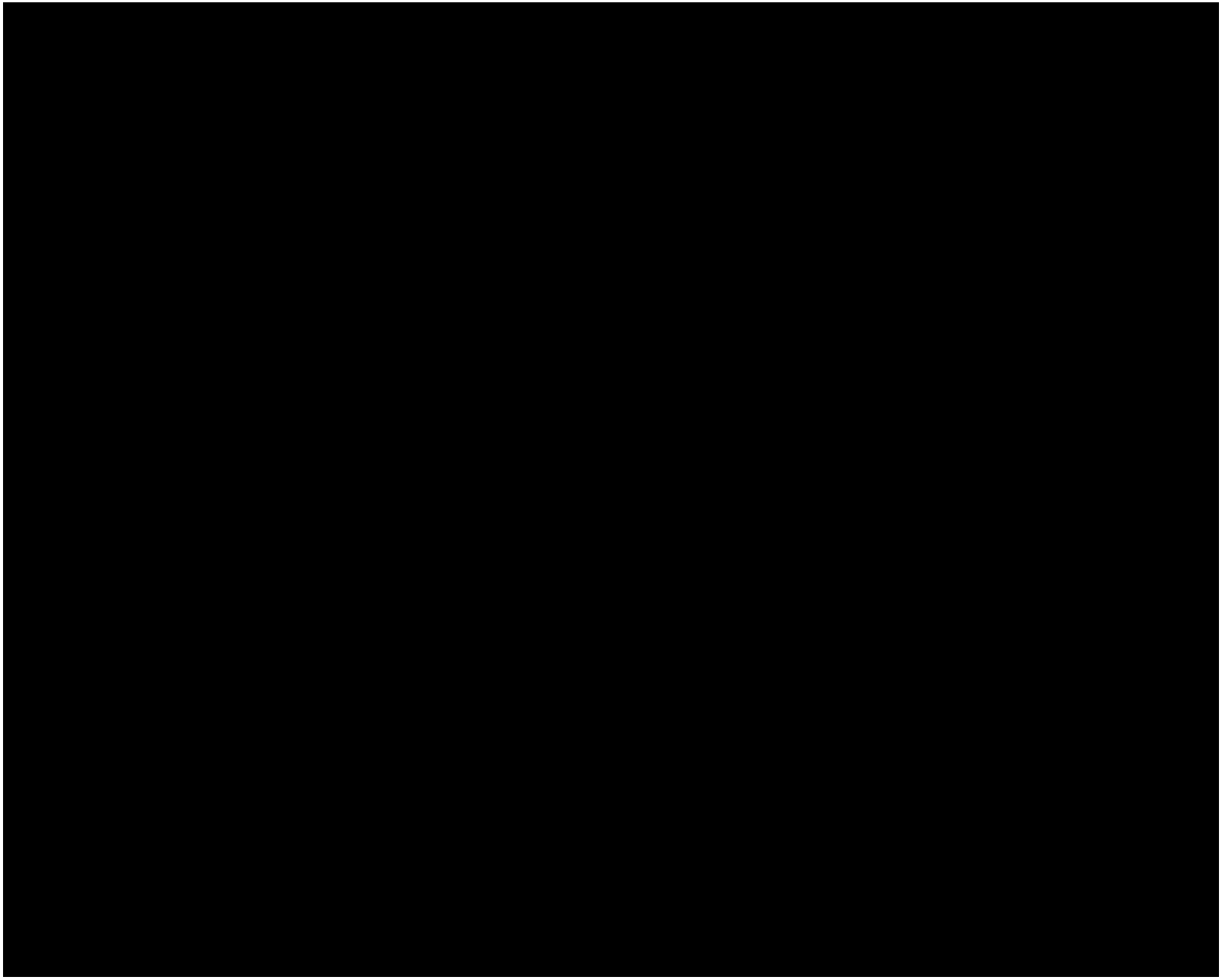


Figure A-3 shows the WAC per course of treatment for the subcutaneous administration of Stelara compared to the subcutaneous administration of its identified therapeutic alternatives.[6] This graphic highlights the changes in WAC for each drug, as listed in Table A-4 below, as well as the WAC per course of treatment of each drug as determined by average utilization in Colorado. If a line does not continue to the end of the figure, it is because the WAC has not changed from the last year displayed.

Table A-4

WAC Changes from Initial and Within the Last 5 Years for Therapeutic Alternatives (Subcutaneous Administration)

Cosentyx[7] WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	62.03%
[redacted]	[redacted]	7.00%
[redacted]	[redacted]	9.14%
[redacted]	[redacted]	7.00%
[redacted]	[redacted]	7.00%

Ilumya WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	4.97%
[redacted]	[redacted]	5.00%
[redacted]	[redacted]	6.00%
[redacted]	[redacted]	6.00%

[6] The course of treatment calculation used in selecting drugs, calculated from 2021 APCD claims experience was used across all time frames to highlight the changes in WAC relative to each drug. For course of treatment methodology please see June 6, 2023 PDAB Board staff memo: https://drive.google.com/file/d/16BFOEB-LMiulmYzhKhxeGjvbFoh88cTs/view?usp=sharing

[7] Only the subcutaneous administration of the 150 mg/0.5mL strength is listed for comparison to Stelara. For more details, please see Table A-5.

Siliq WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	-7.23%
[redacted]	[redacted]	6.00%
[redacted]	[redacted]	9.90%
[redacted]	[redacted]	9.90%
[redacted]	[redacted]	9.90%

Skyrizi[8] WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	7.40%
[redacted]	[redacted]	7.99%
[redacted]	[redacted]	6.50%

Taltz WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	38.66%
[redacted]	[redacted]	5.00%
[redacted]	[redacted]	4.99%
[redacted]	[redacted]	5.00%
[redacted]	[redacted]	5.00%

[8] Only the subcutaneous administration of the 150 mg/mL strength is listed for comparison to Stelara. For more details, please see Table A-5.

Tremfya WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	
[redacted]	[redacted]	17.63%
[redacted]	[redacted]	4.80%
[redacted]	[redacted]	5.40%
[redacted]	[redacted]	5.00%
[redacted]	[redacted]	5.00%

Table A-5

WAC Changes from Initial and Within the Last 5 Years for Therapeutic Alternatives (Intravenous Administration)

Skyrizi WAC per Unit Effective Date	WAC per Unit Price	Percent Increase from Previous Price
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Table A-6

FDA Recommended Dosage by Drug & Indication[9]

Drug Name	Indication	FDA Recommended Dosage
Stelara[10]	Adult and pediatric plaque psoriasis (PsO)	**Adult subcutaneous dosage** • ≤ 100 kg: 45 mg initially and 4 weeks later, followed by 45 mg every 12 weeks • >100 kg: 90 mg initially and 4 weeks later, followed by 90 mg every 12 weeks **Pediatric subcutaneous dosage (6 years and older)** Weight-based dosing is recommended at the initial dose, 4 weeks later, then every 12 weeks thereafter. • <60 kg: 0.75 mg/kg • 60 kg - 100 kg: 45 mg • >100 kg: 90 mg

[9] Bimzelx and Omvoh are therapeutic alternatives that were approved by the FDA in late 2023 and are not included in the WAC evidence in this appendix because of a lack of sufficient data with their recent approvals.

[10] www.accessdata.fda.gov/drugsatfda_docs/label/2024/761044s013lbl.pdf

	Adult and pediatric psoriatic arthritis (PsA)	**Adult subcutaneous dosage** • 45 mg initially and 4 weeks later, followed by 45 mg every 12 weeks. • For patients with co-existent moderate-to-severe plaque psoriasis weighing >100 kg: 90 mg initially and 4 weeks later, followed by 90 mg every 12 weeks. **Pediatric subcutaneous dosage (6 years and older)** Weight-based dosing is recommended at the initial dose, 4 weeks later, then every 12 weeks thereafter. • <60 kg: 0.75 mg/kg • 60 kg or more: 45 mg • >100 kg with coexistent moderate-to-severe plaque psoriasis: 90 mg
	Adult Crohn's disease (CD)	**Intravenous** A single intravenous infusion using weight based dosing • Up to 55 kg: 260 mg (2 vials) • >55 kg to 85 kg: 390 mg (3 vials) • >85 kg: 520 mg (4 vials) **Subcutaneous** A subcutaneous 90 mg dose 8 weeks after the initial intravenous dose, then every 8 weeks thereafter.
	Adult ulcerative colitis (UC)	**Intravenous** A single intravenous infusion using weight based dosing • Up to 55 kg: 260 mg (2 vials) • >55 kg to 85 kg: 390 mg (3 vials) • >85 kg: 520 mg (4 vials) **Subcutaneous** A subcutaneous 90 mg dose 8 weeks after the initial intravenous dose, then every 8 weeks thereafter.
Therapeutic Alternative	**Indication[11]**	**FDA Recommended Dosage**
Bimzelx[12]	Adult plaque psoriasis (PsO)	320 mg (two 160 mg subcutaneous injections) at Weeks 0, 4, 8, 12, and 16, then every 8 weeks thereafter. For patients weighing ≥ 120 kg, consider a dose of 320 mg every 4 weeks after Week 16.
Cosentyx[13]	Adult and pediatric plaque psoriasis (PsO)	**Adult subcutaneous dosage** • 300 mg at Weeks 0, 1, 2, 3, and 4 and every 4 weeks thereafter. Each 300 mg dosage is given as one subcutaneous injection of 300 mg or as two subcutaneous injections of 150 mg. 150 mg dose may be appropriate for some patients. **Pediatric subcutaneous dosage (6 years and older)** Weight-based dosage administered at Weeks 0, 1, 2, 3, and 4 and every 4 weeks thereafter. • < 50 kg (at the time of dosing): 75 mg. • ≥ 50 kg (at the time of dosing): 150 mg.

[11] Information is only provided for indications that Stelara treats for each therapeutic alternative.
[12] www.accessdata.fda.gov/drugsatfda_docs/label/2023/761151s000lbl.pdf
[13] www.accessdata.fda.gov/drugsatfda_docs/label/2023/125504s066,761349s004lbl.pdf

	Adult and pediatric psoriatic arthritis (PsA)	Can be administered with or without methotrexate **Adult subcutaneous dosage** • For adult patients with PsA and with coexistent moderate to severe PsO, use the dosage and administration recommendations for adults with PsO. • For other adult patients with PsA, with a loading dosage is 150 mg at Weeks 0, 1, 2, 3, and 4 and every 4 weeks thereafter. Without a loading dosage is 150 mg every 4 weeks. • If a patient continues to have active PsA, consider increasing the dosage to 300 mg by subcutaneous injection every 4 weeks, administered as . Each 300 mg dosage is given as one subcutaneous injection of 300 mg or as two subcutaneous injections of 150 mg. **Pediatric subcutaneous dosage (2 years and older)** Weight-based subcutaneous dosage in pediatric patients 2 years of age and older with PsA at Weeks 0, 1, 2, 3, and 4 and every 4 weeks thereafter is as follows: • ≥ 15 kg and < 50 kg: 75 mg. • ≥ 50 kg: 150 mg. **Adult Intravenous dosage** • With a loading dosage is 6 mg/kg loading dose given at Week 0, followed by 1.75 mg/kg every 4 weeks thereafter (maintenance dosage). • Without a loading dosage is 1.75 mg/kg every 4 weeks. • Administer as an intravenous infusion over a period of 30 minutes. Total doses exceeding 300 mg per infusion are not recommended for the 1.75 mg/kg maintenance dose in adults with PsA.
Ilumya[14]	Adult plaque psoriasis (PsO)	100 mg administered by subcutaneous injection at Weeks 0, 4, and every 12 weeks thereafter.
Omvoh[15]	Adult ulcerative colitis (UC)	**Induction dosage:** 300 mg administered by intravenous infusion over at least 30 minutes at Weeks 0, 4, and 8. **Maintenance dosage:** 200 mg administered by subcutaneous injection (given as two consecutive injections of 100 mg each) at Week 12, and every 4 weeks thereafter.
Siliq[16]	Adult plaque psoriasis (PsO)	10 mg administered by subcutaneous injection at Weeks 0, 1, and 2 followed by 210 mg every 2 weeks.
Skyrizi[17]	Adult plaque psoriasis (PsO)	150 mg administered by subcutaneous injection at Week 0, Week 4, and every 12 weeks thereafter.
	Adult psoriatic arthritis (PsA)	150 mg administered by subcutaneous injection at Week 0, Week 4, and every 12 weeks thereafter. Can be administered alone or in combination with non-biologic disease-modifying antirheumatic drugs (DMARDs).
	Crohn's disease	**Induction dosage:** 600 mg administered by intravenous infusion over at least one hour at Week 0, Week 4, and Week 8. **Maintenance dosage:** 180 mg or 360 mg administered by subcutaneous injection at Week 12, and every 8 weeks thereafter. Use the lowest effective dosage to maintain therapeutic response.

[14] www.accessdata.fda.gov/drugsatfda_docs/label/2024/761067s018lbl.pdf
[15] https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761279s001lbl.pdf
[16] https://www.accessdata.fda.gov/spl/data/044e3e17-7930-63ae-e063-6294a90acb9b/044e3e17-7930-63ae-e063-6294a90acb9b.xml
[17] https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761105s027,761262s008lbl.pdf

Taltz[18]	Adult and pediatric plaque psoriasis (PsO)	**Adult subcutaneous dosage** 160 mg (two 80 mg injections) at Week 0, followed by 80 mg at Weeks 2, 4, 6, 8, 10, and 12, then 80 mg every 4 weeks **Pediatric subcutaneous dosage (6 years and older)** ● >50 kg: 160 mg (two 80 mg injections) at Week 0, followed by 80 mg every 4 weeks. ● 25-50 kg: 80 mg at Week 0, followed by 40 mg every 4 weeks. ● <25 kg: 40 mg at Week 0, followed by 20 mg every 4 weeks.
	Adult psoriatic arthritis (PsA)	160 mg by subcutaneous injection (two 80 mg injections) at Week 0, followed by 80 mg every 4 weeks. For psoriatic arthritis patients with coexistent moderate-to-severe plaque psoriasis, use the dosing regimen for adult PsO.
Tremfya[19]	Adult plaque psoriasis (PsO)	100 mg administered by subcutaneous injection at Week 0, Week 4 and every 8 weeks thereafter.
	Adult psoriatic arthritis (PsA)	100 mg administered by subcutaneous injection at Week 0, Week 4 and every 8 weeks thereafter. Can be used alone or in combination with a conventional DMARD (e.g. methotrexate)

[18] www.accessdata.fda.gov/drugsatfda_docs/label/2022/125521s024lbl.pdf
[19] https://www.accessdata.fda.gov/spl/data/09bab28f-d731-f2e7-e063-6294a90a1b79/09bab28f-d731-f2e7-e063-6294a90a1b79.xml

Appendix B

Stelara: Therapeutic Alternatives

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider the cost and availability of therapeutic alternatives to the prescription drug in the state. (C.R.S. § 10-16-1406(4)(b)).

Rule: The Board will consider the cost and availability of therapeutic alternatives to the prescription drug in the state. The Board may review any relevant data regarding costs and expenditures related to the prescription drug and its therapeutic alternatives, as well as any relevant data regarding availability and utilization related to the prescription drug and its therapeutic alternatives. (3 CCR 702-9, Part 3.1.E.2.b).

Therapeutic alternative is defined as a drug product that contains a different therapeutic agent than the drug in question, but is the same pharmacological or therapeutic class and has been shown through peer-reviewed studies to have similar therapeutic effects, safety profile, and expected outcome when administered to patients in a therapeutically equivalent dose or has been recommended as consistent with standard medical practice by medical professional association guidelines. (3 CCR 702-9, Part 1.1.C)

Policy: Information containing a list of therapeutic alternatives for the Board's consideration through review and consultation of sources such as the Orange Book, the Purple Book, World Health Organization's anatomical therapeutic classification code system, and peer-reviewed research. Information prepared for the Board's consideration includes:

- The cost of the therapeutic alternative in the state by examining APCD expenditure data or other data sources relevant to cost of the therapeutic alternatives in the state;
- The availability of the therapeutic alternative in the state by examining APCD utilization data or other data sources relevant to the therapeutic alternatives in the state; and
- Rebate data for the therapeutic alternative(s) by examining external databases. (PDAB Policy 04, p. 6).

Underlying Methodology: Board staff and members of the Program on Regulation, Therapeutics, and Law (PORTAL) have compiled data for Stelara and its therapeutic alternatives for the Board's consideration in the following manner:

1. Identified in-class therapeutic alternatives for Stelara.
2. Presented utilization data from 2018-2022, including both units utilized and the number of patients who utilized the prescription drug.
3. Presented expenditure data from 2018-2022, including total paid amount, total plan paid amount, total patient paid amount, average paid per person per year, and average patient out-of-pocket cost per person per year.
4. Examined rebate estimates, when available, for selected prescription drugs and therapeutic alternatives.

Data Source(s): Members of PORTAL assisted Board staff in compiling information on therapeutic alternatives of Stelara. Data sources used to identify therapeutic alternatives include:

- FDA website, which contains information on current FDA labeling for each drug and FDA-approved indication.
- Websites of medical professional organizations for specific disease areas to identify medical association guidelines.
- UpToDate, an online, evidence-based clinical decision support database, to identify therapeutic alternatives that may have been approved since the most recent medical association guidelines.

Considerations and Data Limitations:

- Medical professional association guidelines used in this affordability review component are often unique to a particular indication and authored by different professional associations. As such, these guidelines are not consistently organized or structured.
- Medical professional guidelines may be published every several years. As such, there may be instances where the selected drug or therapeutic alternatives are not in the most recent medical professional association guidelines. If this is the case, it will be noted.

Stelara: Therapeutic Alternatives Evidence

Therapeutic Alternatives Identification

Members of PORTAL identified therapeutic alternatives in the following manner:

1. Identified the Stelara's therapeutic class as defined under the WHO Anatomical Therapeutic Chemical[1] (WHO-ATC) classification system. Only drugs listed in the same therapeutic class as Stelara under this system were evaluated as therapeutic alternatives.
2. Reviewed the current FDA labeling for Stelara and identified each FDA-approved indication. Pediatric and adult indications were reviewed separately if separate medical professional guidelines were available for the respective populations.
3. Identified U.S. medical professional association guideline(s), which rely upon peer-reviewed research, relevant to each FDA-approved indication done via internet search and reviewing the websites of medical professional organizations. If both U.S. and international guidelines were available, use the U.S. guidelines exclusively. If guidelines were available from multiple U.S. organizations, both were included.
4. Located Stelara in the guidelines to determine how the drug is recommended for use. For example, was the drug recommended as first-line treatment or subsequent line after failure of another treatment? Was it recommended for all patients or specific sub-populations? This was compared to the drug's FDA label, documenting any discrepancies and off-label uses.
5. Summarized the guideline recommendations and how the selected drug fits into those recommendations. This included information about how the treatment of different subpopulations may deviate from the standard pathway.
6. Within the guidelines, identified other drugs in the same WHO-ATC drug class that were recommended to be used similarly to the selected drug. For each in-class therapeutic alternative, identified the drug's non-proprietary name and brand name.
7. To identify in-class alternatives approved after guideline publication, reviewed treatment options for each indication via UpToDate[2], an online evidence-based clinical decision support database. If recently approved in-class drugs were identified that were not included in the guidelines, these drugs' labeling were reviewed and included as alternatives if the drug had an FDA-approved indication that matched that of the selected drug.
8. Used the FDA approval history database via Drugs.com to identify the estimated indication approval date for each therapeutic alternative. This date was verified using the Drugs@FDA database[3]. If drugs were recommended in the guidelines but were not FDA-approved for the indication, these will be marked as off-label alternatives.

[1] https://www.whocc.no/atc_ddd_index/
[2] https://www.wolterskluwer.com/en/solutions/uptodate
[3] https://www.fda.gov/drugs/development-approval-process-drugs/drug-approvals-and-databases

Board Consideration of Therapeutic Alternatives to Stelara

During the Board's September 15, 2023 meeting, the Board directed Board staff to narrow data analyses of APCD, WAC, and rebate data for purposes of this component to those therapeutic alternatives that are in the same class as Stelara.[4]

FDA Indication and Therapeutic Alternatives

Stelara's therapeutic class as defined under the WHO-ATC classification system is interleukin inhibitors.[5] The following guidelines were used to identify in-class therapeutic alternatives for all FDA approved indications in Table B-1.[6]

Table B-1
Stelara Indications and Relevant Guidelines

FDA[7] Approved Indications (as of March 18, 2024)	Relevant Guidelines	Guideline Publication Date
Treatment of adults and pediatric patients 6 years of age and older with moderate to severe plaque psoriasis (PsO) who are candidates for phototherapy or systemic therapy	Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics[8]	2/13/2019
Treatment of adults and pediatric patients 6 years of age and older with active psoriatic arthritis (PsA)	2018 American College of Rheumatology/National Psoriasis Foundation Guideline for the Treatment of Psoriatic Arthritis[9]	11/30/2018
Treatment of adult patients with moderately to severely active Crohn's disease	ACG Clinical Guideline: Management of Crohn's Disease in Adults[10] AGA Guidelines[11]	3/27/2018 5/26/2021
Treatment of adult patients with moderately to severely active ulcerative colitis (UC)	ACG Clinical Guideline: Management of Crohn's Disease in Adults[12] AGA Guidelines[13]	2/27/2019 1/13/2020

Table B-1 shows the FDA-approved indication for Stelara and relevant guidelines and publication date.

In-Class Therapeutic Alternatives

The relevant guidelines outlined above identify the following in-class therapeutic alternatives for Stelara:

- Bimzelx[14]
- Cosentyx[15]
- Ilumya[16]

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[4] The Board also gave staff approval to only look at one-dose regimens if the selected drug was also one-dose. That is not the case for Stelara.
[5] https://www.whocc.no/atc_ddd_index/?code=L04AC&showdescription=no
[6] There are currently two FDA-approved biosimilars for Stelara. Because neither are currently available in the US, they are not included in this appendix. https://purplebooksearch.fda.gov/results?query=ustekinumab&title=Stelara
[7] www.accessdata.fda.gov/drugsatfda_docs/label/2024/761044s013lbl.pdf
[8] https://doi.org/10.1016/j.jaad.2018.11.057
[9] https://doi.org/10.1002/art.40726
[10] https://doi.org/10.1038/ajg.2018.27
[11] https://www.gastrojournal.org/article/S0016-5085(21)00645-4/fulltext
[12] https://doi.org/10.1038/ajg.2018.27
[13] https://www.gastrojournal.org/article/S0016-5085(21)00645-4/fulltext
[14] www.accessdata.fda.gov/drugsatfda_docs/label/2023/761151s000lbl.pdf
[15] http://www.accessdata.fda.gov/drugsatfda_docs/label/2023/125504s066,761349s004lbl.pdf
[16] http://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761067s018lbl.pdf

- Omvoh[17]
- Siliq[18]
- Skyrizi[19]
- Taltz[20]
- Tremfya[21]

Bimzelx

- **Non-Proprietary Name:** bimkizumab-bkzx
- **Brand Name:** Bimzelx
- **Mechanism of Action:** IL-17A/17F

Table B-2
Bimzelx: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	New: Bimzelx was approved for adult PsO after guideline publication.	10/17/23 in adults only
Psoriatic arthritis (PsA)	Bimzelx is not FDA-approved for this indication.	
Crohn's disease (CD)	Bimzelx is not FDA-approved for this indication.	
Ulcerative colitis (UC)	Bimzelx is not FDA-approved for this indication.	

Table B-2 shows the indications Bimzelx shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Cosentyx

- **Non-Proprietary Name:** secukinumab
- **Brand Name:** Cosentyx
- **Mechanism of Action:** IL-17 inhibitor

Table B-3
Cosentyx: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Adult and pediatric plaque psoriasis (PsO)	Yes	1/21/2015
Adult and pediatric psoriatic arthritis (PsA)	Yes	1/15/2016
Crohn's disease (CD)	Cosentyx is not FDA-approved for this indication.	
Ulcerative colitis (UC)	Cosentyx is not FDA-approved for this indication.	

Table B-3 shows the indications Cosentyx shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

[17] https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761279s001lbl.pdf
[18] https://www.accessdata.fda.gov/spl/data/044e3e17-7930-63ae-e063-6294a90acb9b/044e3e17-7930-63ae-e063-6294a90acb9b.xml
[19] https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761105s027,761262s008lbl.pdf
[20] http://www.accessdata.fda.gov/drugsatfda_docs/label/2022/125521s024lbl.pdf
[21] https://www.accessdata.fda.gov/spl/data/09bab28f-d731-f2e7-e063-6294a90a1b79/09bab28f-d731-f2e7-e063-6294a90a1b79.xml

Ilumya

- **Non-Proprietary Name:** tildrakizumab-asmn
- **Brand Name:** Ilumya
- **Mechanism of Action:** IL-23 inhibitor

Table B-4
Ilumya: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	Yes	3/20/2018 in adults only
Psoriatic arthritis (PsA)	Ilumya is not FDA-approved for this indication.	
Crohn's disease (CD)	Ilumya is not FDA-approved for this indication.	
Ulcerative colitis (UC)	Ilumya is not FDA-approved for this indication.	

Table B-4 shows the indications Ilumya shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Omvoh

- **Non-Proprietary Name:** mirikizumab-mrkz
- **Brand Name:** Omvoh
- **Mechanism of Action:** IL-23 inhibitor

Table B-5
Omvoh: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	Omvoh is not FDA-approved for this indication.	
Psoriatic arthritis (PsA)	Omvoh is not FDA-approved for this indication.	
Crohn's disease (CD)	Omvoh is not FDA-approved for this indication.	
Ulcerative colitis (UC)	New: Omvoh was approved for adult UC after guideline publication.	10/26/23

Table B-5 shows the indications Omvoh shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Siliq

- **Non-Proprietary Name:** brodalumab
- **Brand Name:** Siliq
- **Mechanism of Action:** IL-17 inhibitor

Table B-6
Siliq: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	Yes	2/15/2017 in adults only
Psoriatic arthritis (PsA)	In guidelines, off-label (not FDA approved)	N/A
Crohn's disease (CD)	Siliq is not FDA-approved for this indication.	
Ulcerative colitis (UC)	Siliq is not FDA-approved for this indication.	

Table B-6 shows the indications Siliq shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Skyrizi

- **Non-Proprietary Name:** risankizumab-rzaa
- **Brand Name:** Skyrizi
- **Mechanism of Action:** IL-23 inhibitor

Table B-7
Skyrizi: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	Yes	4/23/2019 in adults only
Psoriatic arthritis (PsA)	New: Skyrizi was approved for adult PsA after guideline publication.	1/21/2022 in adults only
Crohn's disease (CD)	New: Skyrizi was approved for adult Crohn's after guideline publication.	6/16/2022
Ulcerative colitis (UC)	Skyrizi is not FDA-approved for this indication.	

Table B-7 shows the indications Skyrizi shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Taltz

- **Non-Proprietary Name:** ixekizumab
- **Brand Name:** Taltz
- **Mechanism of Action:** IL-17 inhibitor

Table B-8
Taltz: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	Yes	3/22/2016
Psoriatic arthritis (PsA)	Yes	12/1/2017 in adults only
Crohn's disease (CD)	Taltz is not FDA-approved for this indication.	
Ulcerative colitis (UC)	Taltz is not FDA-approved for this indication.	

Table B-8 shows the indications *Taltz* shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Tremfya

- **Non-Proprietary Name:** guselkumab
- **Brand Name:** Tremfya
- **Mechanism of Action:** IL-23 inhibitor

Table B-9
Tremfya: In-Class Therapeutic Alternatives by Shared Indications

Shared Indications	In Guidelines	FDA Approval Date
Plaque psoriasis (PsO)	Yes	7/13/2017 in adults only
Psoriatic arthritis (PsA)	New: Tremfya was approved for adult PsA after guideline publication.	7/13/2020 in adults only
Crohn's disease (CD)	Tremfya is not FDA-approved for this indication.	
Ulcerative colitis (UC)	Tremfya is not FDA-approved for this indication.	

Table B-9 shows the indications Tremfya shares with Stelara. Therapeutic alternatives may be FDA-approved to treat other indications, but are not included in this table.

Appendix C

Stelara: Price Effect on Consumer Access

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider the effect of the price on Colorado consumers' access to the prescription drug. (C.R.S. § 10-16-1406(4)(c)).

Rule: The Board will consider the effect of price on Colorado consumers' access to the prescription drug by reviewing changes in pricing, expenditure, and utilization over time. (3 CCR 702-9, Part 3.1.E.2.c).

Policy: Information regarding changes in pricing compared to changes in expenditure and utilization over the same time period to analyze potential correlation. Information will also be presented from APCD data and subject matter experts to better understand potential confounding variables, such as:

- When therapeutic alternative(s) were available;
- Changes to patents; and
- Changes in rebate amounts for the prescription drug or therapeutic alternative. (PDAB Policy 04, pp. 6-7).

Underlying Methodology: Board staff have compiled data on price effect on consumer access for the Board's consideration in the following manner:

1. From APCD pharmacy claims, Board staff pulled all claims for Stelara from January 2018 - December 2022.
2. Board staff combined the claims data with WAC data from AnalySource by joining on the month and year of the claim with the effective WAC of the same month and year.
3. Board staff combined the claims and WAC data with the gross-to-net sales estimates from SSR Health by joining the month and year of the claim with the month and year of the quarter estimates in SSR Health.

Data Source(s): Board staff compiled information on price effect on access for the selected prescription drug from the following sources:

- APCD, which provides detail on utilization and expenditure,
- AnalySource for current and historical WAC,
- FDA and Centers for Medicare and Medicaid Services (CMS) for other pricing data,
- FDA website for changes to patents, and
- SSR Health for gross-to-net sales estimates.

Considerations and Data Limitations: Claims-based utilization data shows what health care services were accessed, but this data does not show what health care services were potentially under-accessed or not accessed at all. Qualitative data (such as surveys or anecdotes) may illuminate which health care services were under-accessed or not accessed at all, but there is no validated data source that provides this information.

Stelara: Price Effect on Access Evidence

This appendix provides more detailed information regarding: utilization, price, out-of-pocket costs, and gross-to-net sales estimates, and patent information.

Table C-1

Changes in Stelara Utilization, Expenditure, and Gross-to-Net Sales from 2018-2022 (All lines of business / Pharmacy claims)

	2018	2022	Percent Change
Total OOP Costs	$2,584	$7,365	185.02%
Total Paid Amount	$40,946,303	$247,968,382	505.59%
Patient Count	626	1,606	156.55%
Gross-to-Net Sales	[redacted]	[redacted]	[redacted]
WAC	[redacted]	[redacted]	[redacted]

Table C-1 shows the total OOP costs, the total paid amount, the total number of patients utilizing Stelara, and the gross-to-net sales estimate in 2018 and 2022, with the percent change over that time period. There was a 156.55% increase in the number of patients utilizing Stelara,[1] a 505.59% increase in the total paid amount, and a 185% increase in total Out-of-Pocket expenses[2]. During this timeframe there was a [redacted] Please see appendices A, E, H, and K for more details.

Table C-2

Annual Utilization and Expenditures (All lines of business / Pharmacy claims)

	2018	2019	2020	2021	2022
Patient Count	626	817	1,007	1,346	1,606
Total Paid Amount	$40,946,303	$59,729,276	$101,876,203	$199,079,735	$247,968,382
Average Paid Per Person	$65,409	$73,108	$101,168	$147,905	$154,401

[1] The 156.55% increase represents all lines of business and pharmacy claims. From 2018 to 2022, there was a 148.90% increase across all lines of business and both claim types, a 152.49% increase in the commercial line of business for pharmacy claims, and a 119.35% increase in the commercial line of business for medical claims.

[2] The 185% increase represents all lines of business and pharmacy claims. From 2018 to 2022, there was a 251.45% increase across all lines of business for both claim types, a 175.84% increase in the commercial line of business for pharmacy claims, and a 74.86% increase in the commercial line of business for medical claims.

Total Patient Paid	$1,039,413	$1,081,845	$2,272,199	$4,191,826	$7,320,547
Average OOP Cost	$2,584	$2,273	$4,254	$5,407	$7,365
WAC per Unit	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table C-2 shows the year-over-year increases in the number of patients using Stelara, the total amount paid for Stelara, the average paid per person, the total amount that patients paid, the average amount that each patient paid and the WAC per unit amount.

Figure C-1

Monthly Total Paid and Average Total Paid

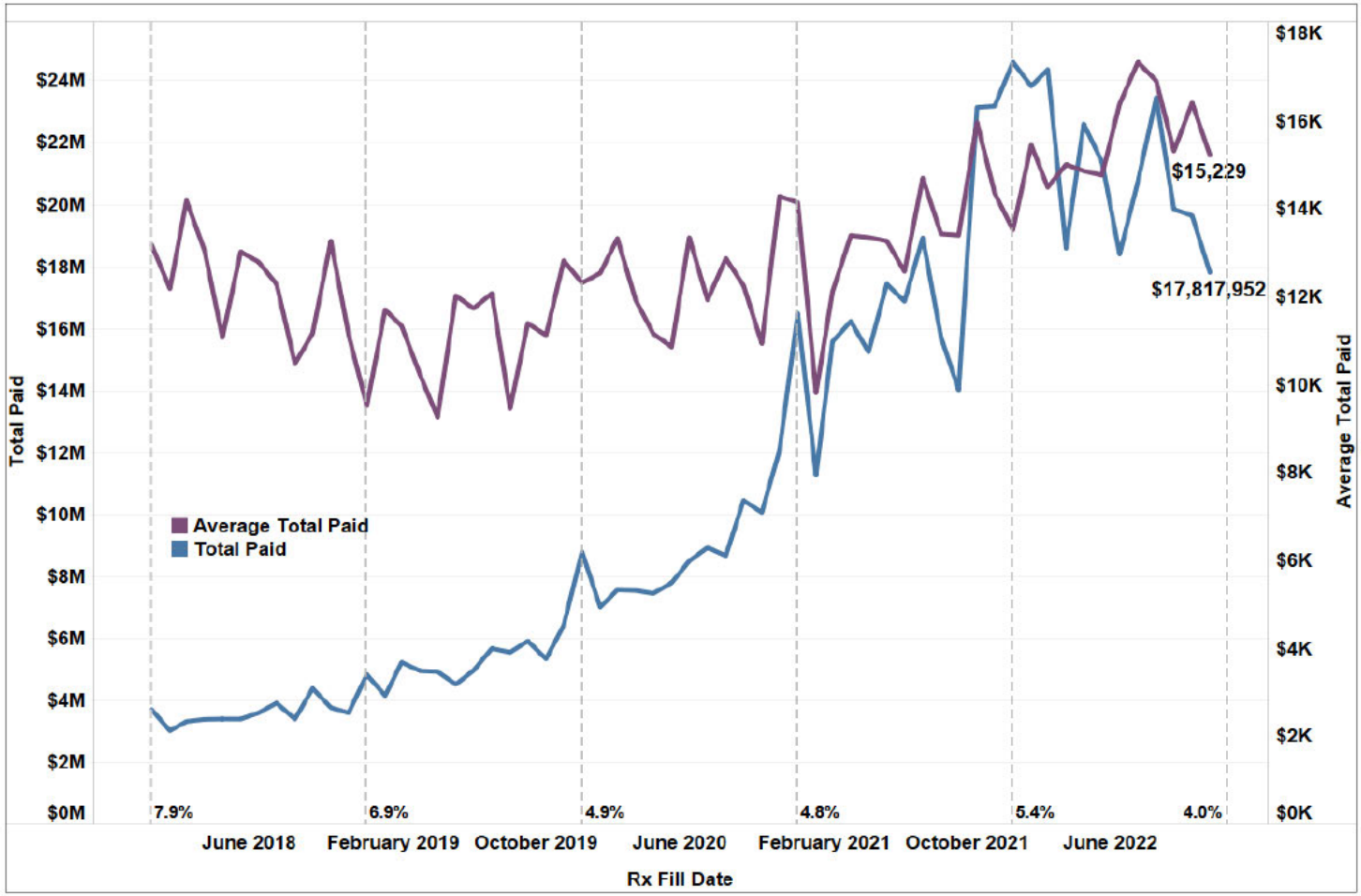


Figure C-1 shows the monthly total paid with the blue line (left axis) and the monthly average paid per person with the purple line (right axis) with vertical lines representing changes in WAC with the magnitude of the change written to the right of the line with an arrow up or down indicating an increase or decrease in the WAC. There is no visible correlation between the WAC change and the corresponding change in the APCD paid amounts. During this time frame, the number of patients using Stelara increased from 626 in 2018 to 1,606 in 2022.

Table C-3

APCD utilization and cost, WAC, and Gross-to-Net Sales Estimates (All lines of business/ Both Claim Types)

Month, Year of Fill Date	Patient Count	WAC per unit	Gross-to-net -sales estimate	Total Paid	Average Paid	OOP Cost	Average Deductible Amount	Average Coinsurance Amount	Average Copay Amount	Average days supply
January 2018	191	[redacted]	[redacted]	$3,703,619	$19,390	$879	$664	$147	$109	56
February 2018	154	[redacted]		$3,022,081	$19,623	$621	$277	$226	$108	53
March 2018	177	[redacted]		$3,320,722	$18,761	$627	$260	$324	$71	49
April 2018	191	[redacted]	[redacted]	$3,390,858	$17,753	$387	$52	$269	$66	53
May 2018	188	[redacted]		$3,401,469	$18,092	$232	$82	$102	$55	54
June 2018	181	[redacted]		$3,399,373	$18,781	$313	$96	$156	$64	56
July 2018	186	[redacted]	[redacted]	$3,595,807	$19,332	$232	$22	$145	$54	52
August 2018	206	[redacted]		$3,919,818	$19,028	$220	$54	$115	$52	56
September 2018	184	[redacted]		$3,395,968	$18,456	$143	$2	$100	$30	56
October 2018	213	[redacted]	[redacted]	$4,388,957	$20,605	$73	$10	$23	$41	54
November 2018	205	[redacted]		$3,768,874	$18,384	$197	$119	$46	$42	58
December 2018	210	[redacted]		$3,598,594	$17,136	$171	$61	$69	$32	59
January 2019	250	[redacted]	[redacted]	$4,836,435	$19,345	$478	$280	$138	$56	55
February 2019	238	[redacted]		$4,154,745	$17,456	$495	$258	$163	$74	55
March 2019	266	[redacted]		$5,226,397	$19,648	$327	$149	$122	$45	62
April 2019	244	[redacted]	[redacted]	$4,955,516	$20,309	$154	$56	$60	$38	54
May 2019	266	[redacted]		$4,927,895	$18,525	$107	$11	$53	$34	62
June 2019	244	[redacted]		$4,520,604	$18,527	$157	$10	$84	$62	52
July 2019	276	[redacted]	[redacted]	$4,964,887	$17,988	$156	$51	$50	$55	55
August 2019	296	[redacted]		$5,675,701	$19,174	$146	$33	$62	$49	58
September 2019	279	[redacted]		$5,551,742	$19,898	$207	$23	$103	$68	57
October 2019	303	[redacted]	[redacted]	$5,914,544	$19,519	$129	$52	$45	$33	55
November 2019	282	[redacted]		$5,340,804	$18,939	$156	$72	$60	$28	52

December 2019	319	[redacted]		$6,425,107	$20,141	$167	$50	$79	$34	57
January 2020	334	[redacted]	[redacted]	$8,793,358	$26,327	$596	$325	$193	$65	54
February 2020	314	[redacted]		$7,010,062	$22,325	$625	$329	$224	$79	52
March 2020	360	[redacted]		$7,571,559	$21,032	$493	$239	$176	$90	54
April 2020	342	[redacted]	[redacted]	$7,549,629	$22,074	$225	$106	$73	$51	52
May 2020	333	[redacted]		$7,454,219	$22,385	$217	$67	$93	$56	58
June 2020	365	[redacted]		$7,798,298	$21,365	$203	$52	$100	$48	58
July 2020	383	[redacted]	[redacted]	$8,501,436	$22,196	$303	$83	$162	$55	55
August 2020	393	[redacted]		$8,933,271	$22,730	$191	$38	$113	$39	55
September 2020	386	[redacted]		$8,664,869	$22,447	$224	$45	$140	$38	53
October 2020	425	[redacted]	[redacted]	$10,454,812	$24,599	$213	$76	$112	$29	55
November 2020	427	[redacted]		$10,065,459	$23,572	$165	$60	$71	$27	51
December 2020	443	[redacted]		$12,073,030	$27,252	$139	$46	$62	$33	51
January 2021	496	[redacted]	[redacted]	$16,491,616	$33,249	$640	$380	$216	$57	54
February 2021	487	[redacted]		$11,268,704	$23,139	$394	$165	$145	$78	50
March 2021	550	[redacted]		$15,584,239	$28,334	$337	$144	$154	$44	55
April 2021	546	[redacted]	[redacted]	$16,237,065	$29,738	$277	$72	$153	$44	55
May 2021	516	[redacted]		$15,247,295	$29,549	$290	$94	$151	$50	58
June 2021	565	[redacted]		$17,440,421	$30,868	$261	$107	$127	$32	52
July 2021	591	[redacted]	[redacted]	$16,878,590	$28,559	$304	$100	$160	$44	56
August 2021	564	[redacted]		$18,930,788	$33,565	$283	$67	$194	$24	56
September 2021	561	[redacted]		$15,728,487	$28,036	$212	$25	$150	$37	55
October 2021	558	[redacted]	[redacted]	$14,018,341	$25,122	$311	$49	$213	$41	55
November 2021	612	[redacted]		$23,138,638	$37,808	$220	$29	$159	$31	50
December 2021	593	[redacted]		$23,176,457	$39,083	$200	$31	$139	$23	52
January 2022	617	[redacted]	[redacted]	$24,598,892	$39,868	$810	$462	$302	$50	53
February 2022	601	[redacted]		$23,827,869	$39,647	$903	$529	$345	$46	50
March 2022	689	[redacted]		$24,358,833	$35,353	$448	$139	$273	$36	55
April 2022	607	[redacted]	[redacted]	$18,596,108	$30,636	$583	$145	$394	$42	52
May 2022	637	[redacted]		$22,609,013	$35,492	$279	$67	$178	$26	54
June 2022	692	[redacted]		$21,381,534	$30,898	$455	$64	$352	$40	55

July 2022	640	[redacted]	[redacted]	$18,403,350	$28,755	$363	$67	$235	$59	53
August 2022	677	[redacted]		$20,751,529	$30,652	$401	$58	$272	$65	52
September 2022	717	[redacted]		$23,457,821	$32,716	$391	$76	$262	$52	53
October 2022	650	[redacted]	[redacted]	$19,849,741	$30,538	$346	$58	$234	$56	51
November 2022	723	[redacted]		$19,645,853	$27,172	$300	$44	$194	$55	52
December 2022	650	[redacted]		$17,817,952	$27,412	$295	$56	$202	$41	51

Table C-3 above shows the monthly amounts of APCD, WAC, and gross-to-net sales estimates for Stelara. Columns in this table are defined below and all columns represent all lines of business and both medical and pharmaceutical claims from APCD data unless otherwise noted:

- **Month, Year of Fill Date:** The month and year the prescription was filled or the drug was administered. All data in this table is aggregated to the month and year.
- **Patient count:** The total number of patients who filled a prescription or received an administration that month.
- **WAC per unit:**[3] The per unit WAC amount that was effective that month.
- **Gross-to-net sales estimate:**[4] The gross-to-net sales estimate of that quarter. Estimates are on a rolling four quarter average, so each estimate covers the previous year. Estimates appear in the first month of each quarter.
- **Total Paid:** The total amount paid for Stelara that month, inclusive of payer(s) and patient paid amounts.
- **Average Paid:** The average paid per person for that month.
- **Out-of-pocket Cost:** The average out-of-pocket cost (total of copayment, coinsurance, and deductible) per person that month.
- **Average Deductible Amount:** The average amount that individuals with commercial insurance and Medicare Advantage coverage paid towards their deductible that month. Note the generally higher amounts at the beginning of each year indicating patients contributing to their deductible with lower amounts later in the benefit plan year when the deductible has been met.
- **Average Coinsurance Amount:** The average amount that individuals with commercial insurance and Medicare Advantage coverage paid towards coinsurance that month.
- **Average Copayment Amount:** The average amount that individuals with commercial insurance and Medicare Advantage coverage paid in copayments that month.
- **Average Days Supply:** The average days supply that was filled with prescriptions that month.
- **Per Unit Cost:** The average per unit cost of the total amount paid per unit distributed.

Patents and Exclusivity

There are several ways for prescription drugs to gain exclusivity, which is a period of time when a brand-name drug is protected from direct generic or biosimilar competition. As of January 29, 2024, there were 39 approved patents for Stelara with the latest expiration date of

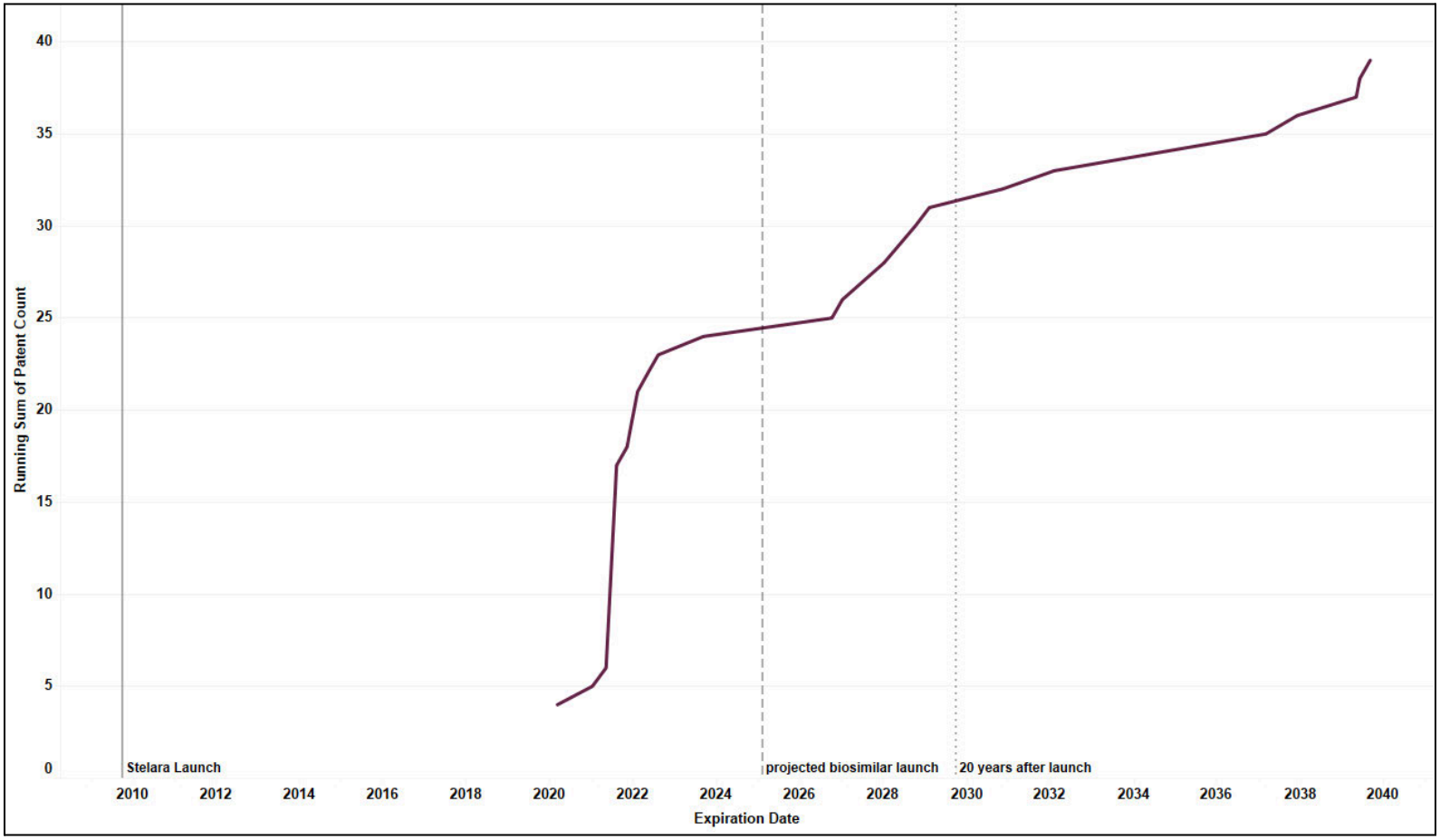
[3] First Databank, AnalySource

[4] SSR Health Estimates

9/24/2039.[5] Twenty-four of those patents expired between 2020 and 2023, while 15 will expire between 2026 and 2039. The latest expiring United States composition of matter patent expired in 2023.[6] As a result of settlements and other agreements with third parties, the manufacturer does not anticipate the launch of a biosimilar version of Stelara before January 2025 in the United States.[7] Evaluating patents and other sources of exclusivity can be helpful in understanding potential access concerns, because there is evidence that such market conditions are associated with increased drug prices, limited availability, and increased costs to consumers and payers.[8]

Figure C-2

Stelara Patents and Expiration dates



[5] I-MAK's 'The Drug Patent Book' https://drugpatentbook.i-mak.org/.

[6] Johnson & Johnson's latest SEC 10-K filing: https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

[7] Johnson & Johnson's latest SEC 10-K filing: https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

[8] https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-022-00826-4

Figure C-2 shows the total number of approved patents for Stelara based on their expiration date with reference lines highlighting 20 years after launch or the typical patent protection window, and the projected launch of approved biosimilars based on the manufacturer's SEC filings.[9]

[9] Johnson & Johnson's latest SEC 10-K filing: https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

Appendix D

Stelara: Relative Financial Effects of the Prescription Drug on Health, Medical, or Social Service Costs

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider the relative financial effects on health, medical, or social services costs, as the effects can be quantified and compared to baseline effects of existing therapeutic alternatives to the prescription drug. (C.R.S. § 10-16-1406(4)(d)).

Rule: To the extent such information can be quantified, the Board may consider the relative financial effects of the prescription drug on broader health, medical, and/or social services costs, compared with therapeutic alternatives and/or no treatment. This may include considering results from external analyses and modeling studies.

- The Board may identify if the literature uses a quality-adjusted life-year analysis or a similar measure that discounts the value of a life because of an individual's disability or age. The Board may use information that uses a quality-adjusted life year analysis to evaluate relative financial effects, but will not use quality adjusted life year analysis to determine an upper payment limit or other appropriate costs of a prescription drug. If quality-adjusted life year analysis is used during affordability review, the Board will acknowledge any health equity impacts to priority populations. (3 CCR 702-9, Part 3.1.E.2.d).

Policy: Information providing an overview of the research regarding the relative financial effects of the prescription drug on health, medical, or social services costs. This will be done by reviewing research that is:

- Publicly available;
- To the extent the Board has funding, data accessible from the Drug Effectiveness Review Project; or
- Is voluntarily provided by manufacturers. (PDAB Policy 04, p. 7).

Underlying Methodology: Board staff compiled data for Stelara for the Board's consideration in the following manner:

1. Staff reviewed the current FDA labeling for each selected drug and identified each FDA-approved indication.
2. Identified relevant medical professional guidelines and manufacturer's purported benefits by indication.
3. Found evidence supporting the purported benefits by indication and compared the clinical effectiveness of therapeutic alternatives to each drug under review.[1]
4. Assessed the financial effects of a drug compared to its therapeutic alternatives.[2] This was completed for this appendix by examining studies with cost effectiveness analyses. Staff will note when studies use a quality-adjusted-life-year (QALY) or similar measure. The Affordability Review Summary Report may incorporate additional information of a prescription drug's financial effects that is not

[1] Staff will note when studies evaluate the clinical effectiveness of a therapeutic alternative that is not being considered by the Board in Appendix B. Further, staff will note when studies compare the clinical effectiveness of each drug under review to a placebo (i.e., when there is not a comparison to a therapeutic alternative).
[2] Id.

reported in this appendix, but was gathered from patients and caregivers, individuals with scientific and medical training, or provided in voluntarily submitted information.

Considerations and Data Limitations: Staff provided citations for any literature utilized to compile evidence for this component, but some studies may need a subscription for the public to access. Additionally, studies frequently outline limitations. Staff will note these limitations and also note any differences in the specific strengths and dosage forms utilized in studies.

Stelara: Relative Financial Effects Evidence

Background

One component of affordability reviews is an assessment of the relative financial effects on health, medical, or social services costs, as the effects can be quantified and compared to baseline effects of existing therapeutic alternatives to the prescription drug. This sort of assessment is commonly referred to as a health technology assessment (HTA), which may be used by organizations or governments to systematically evaluate the effects and impacts of health care technology, or, relevant to this work, prescription drugs.[3] HTAs may address the direct, intended consequences of a prescription drug as well as a drug's indirect, unintended consequences. While some other countries (e.g., the United Kingdom, Canada) use governmental HTAs to guide prescription drug coverage and reimbursement policies, the United States does not have a government-run HTA body.

While the FDA is the primary federal regulator of prescription drugs in the United States, the agency does not take a big role in regulating HTA activities. The focus of FDA approvals for new drugs and biological products is the result of Phase III human trials, which are aimed at determining the dose at which a drug is effective. In general, there is not typically a requirement for a manufacturer to demonstrate that a new drug is superior to existing treatments in order to be approved.

FDA Approved Indications

- Adult and pediatric plaque psoriasis (PsO)
- Adult and pediatric psoriatic arthritis (PsA)
- Moderate to severely active Crohn's disease
- Moderate to severely active ulcerative colitis

Information below is provided by indication when appropriate.

Supporting Evidence, Clinical Effectiveness, and Cost Effectiveness

Supporting evidence, clinical effectiveness information, and cost effectiveness information was compiled from the sources below. These resources allowed for an efficient review of HTA reports, meta-analyses, and secondary resources developed by established domestic and

[3] https://wayback.archive-it.org/org-350/20240307194906/https://www.nlm.nih.gov/nichsr/hta101/ta10103.html

international organizations. This approach allows for consistent review and leveraging established methodologic processes to assess quality and conclusion of evidence.

- **Cochrane Library**:[4] an organization that prepares systematic reviews and meta-analyses for a range of clinical areas, drug classes, and diseases/conditions. Literature in this appendix was pulled by searching Cochrane Reviews for "ustekinumab" and indication and reviewing "Cochrane Reviews" (i.e., not compiling information from Cochrane Protocols, Trials, Editorials, Special Collections, or Clinical Answers). "ustekinumab" and indication.
- **Institute for Clinical and Economic Review** (ICER):[5] a U.S.-based independent non-profit organization that seeks to place a value on medical care by providing comprehensive clinical and cost-effectiveness analyses of treatments, tests, and procedures. Literature in this appendix was pulled by searching ICER Research Assessments for "ustekinumab" and indication. ICER cost-effectiveness recommendations are non-binding for any U.S. federal, state, and local governments.
- **National Institute for Health and Care Excellence** (NICE):[6] a United Kingdom-based governmental institute that provides national guidance and guidelines based on evaluations of efficacy, safety, and cost-effectiveness. Literature in this appendix was pulled by searching published NICE guidance for "ustekinumab" and indication.
- **Canadian Agency for Drugs and Technologies in Health** (CADTH):[7] a Canada-based not-for-profit organization responsible for providing health care decision makers with objective evidence to help make informed decisions about the optimal use of health technologies, including providing advice, recommendations, and tools. Literature in this appendix was pulled by searching Health Technology Assessment and Reimbursement Reviews for "ustekinumab" and indication. CADTH's recommendations are non-binding for federal, provincial, and territorial public drug plans and provincial cancer agencies (with the exception of Quebec).[8]
- **Institute for Quality and Efficiency in Health Care** (IQWiG):[9] a Germany-based governmental agency responsible for assessing the quality and efficiency of medical treatments, including drugs, non-drug interventions, diagnostic and screening methods, and treatment and disease management. Literature in this appendix was pulled by searching Drug Assessment Projects and Reports for "ustekinumab" and indication.
- **International Network of Agencies for Health Technology Assessment** (INAHTA):[10] maintains an **international HTA database** that compiles assessments across jurisdictions. Studies and benefit assessments not already identified from ICER, NICE, CADTH, and IQWiG may be pulled for the Board's review. Only studies with robust English summaries will be summarized in this appendix.

Literature that met the above criteria are displayed below and quoted directly, with page numbers for reference, to summarize clinical effectiveness conclusions and cost-effectiveness conclusions. Additional information beyond these conclusions can be found in the literature itself, which is cited.

[4] https://www.cochranelibrary.com/
[5] https://icer.org/
[6] https://www.nice.org.uk/
[7] https://www.cadth.ca/
[8] https://www.cadth.ca/cadth-reimbursement-reviews
[9] https://www.iqwig.de/en/
[10] https://database.inahta.org/

Priority Populations and QALYs: The Board considered health equity impacts to priority populations of Stelara. Please see Appendix H, Appendix J, and Appendix L for more information. Acknowledging that QALYs may discount the value of life because of an individual's disability or age, the Board has noted when studies utilize QALYs below.

Input from Patients and Caregivers, Input from Individuals with Scientific and Medical Training, and Voluntarily Submitted Information

The FDA released an updated Benefit-Risk Assessment for New Drug and Biological Products: Guidance for Industry on October 20, 2023.[11] This guidance states (pp.12-13):

"FDA recognizes the importance of enabling meaningful patient input to inform drug development and regulatory decision-making, including in the context of FDA's benefit-risk assessment. Patients are experts in the experience of their disease or condition, and they are the ultimate stakeholders in the outcomes of medical treatment. Different types of patient experience data can inform nearly every aspect of FDA's benefit-risk assessment".

This appendix provides a robust overview of the scientific studies of clinical and cost effectiveness of Stelara, with many of the HTA organizations including patient perspectives in some manner. There is additional information contained in Appendix H: Input from Patients and Caregivers, Appendix I: Input from Individuals with Scientific and Medical Training, and Appendix J: Voluntarily Submitted information which may contain additional patient perspectives of the relative financial effects of Stelara on health, medical, and social costs not captured in this appendix. The Board may want to weigh information from all four appendices when evaluating the relative financial effects of Stelara.

Plaque Psoriasis (PsO): Adult and Pediatric

Relevant Medical Professional Guidelines and Manufacturer-Reported Benefits

Relevant Medical Professional Guidelines

Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics.[12]

Manufacturer-Reported Benefits

Information contained in Stelara's FDA label, Section 14 Clinical Studies, reports on the following studies and the resulting primary and key secondary efficacy analyses.[13]

[11] https://www.fda.gov/regulatory-information/search-fda-guidance-documents/benefit-risk-assessment-new-drug-and-biological-products
[12] https://pubmed.ncbi.nlm.nih.gov/30772098/
[13] https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761044s013lbl.pdf

Figure D-1
Adult Study 1 and 2 (Table 8)

Table 8: Clinical Outcomes at Week 12 in Adults with Plaque Psoriasis in Ps STUDY 1 and Ps STUDY 2

	Ps STUDY 1			Ps STUDY 2		
		STELARA®			STELARA®	
	Placebo	45 mg	90 mg	Placebo	45 mg	90 mg
Subjects randomized	**255**	**255**	**256**	**410**	**409**	**411**
PASI 75 response	8 (3%)	171 (67%)	170 (66%)	15 (4%)	273 (67%)	311 (76%)
PGA of Cleared or Minimal	10 (4%)	151 (59%)	156 (61%)	18 (4%)	277 (68%)	300 (73%)

Figure D-1 above outlines the number of adult PsO patients who achieved at least a 75% reduction in psoriasis area and severity index (PASI) score (PASI 75) and treatment success on the Physician's Global Assessment (PGA) when comparing Stelara to placebo.

Figure D-2
Adult Study 1 and 2 (Table 9)

Table 9: Clinical Outcomes by Weight at Week 12 in Adults with Plaque Psoriasis in Ps STUDY 1 and Ps STUDY 2

	Ps STUDY 1			Ps STUDY 2		
		STELARA®			STELARA®	
	Placebo	45 mg	90 mg	Placebo	45 mg	90 mg
Subjects randomized	**255**	**255**	**256**	**410**	**409**	**411**
PASI 75 response *						
≤100 kg	4%	74%	65%	4%	73%	78%
	6/166	124/168	107/164	12/290	218/297	225/289
>100 kg	2%	54%	68%	3%	49%	71%
	2/89	47/87	63/92	3/120	55/112	86/121
PGA of Cleared or Minimal *						
≤100 kg	4%	64%	63%	5%	74%	75%
	7/166	108/168	103/164	14/290	220/297	216/289
>100 kg	3%	49%	58%	3%	51%	69%
	3/89	43/87	53/92	4/120	57/112	84/121

* Patients were dosed with trial medication at Weeks 0 and 4.

Figure D-2 above outlines the response rates of adult PsO patients by weight when comparing Stelara to placebo.

Figure D-3
Pediatric Study 3 (Table 10)

Table 10: Efficacy Results at Week 12 in Pediatric Subjects 12 to 17 years with Plaque Psoriasis in Ps STUDY 3

	Ps STUDY 3	
	Placebo n (%)	STELARA®* n (%)
N	**37**	**36**
PGA		
PGA of cleared (0) or minimal (1)	2 (5.4%)	25 (69.4%)
PASI		
PASI 75 responders	4 (10.8%)	29 (80.6%)
PASI 90 responders	2 (5.4%)	22 (61.1%)

* Using the weight-based dosage regimen specified in Table 1 and Table 2.

Figure D-3 above outlines the efficacy of Stelara compared to placebo for pediatric patients with PsO.

Voluntarily Submitted Manufacturer Information

Johnson & Johnson voluntarily submitted the following information regarding the financial effects of Stelara on health, medical, or social services costs. Information included:

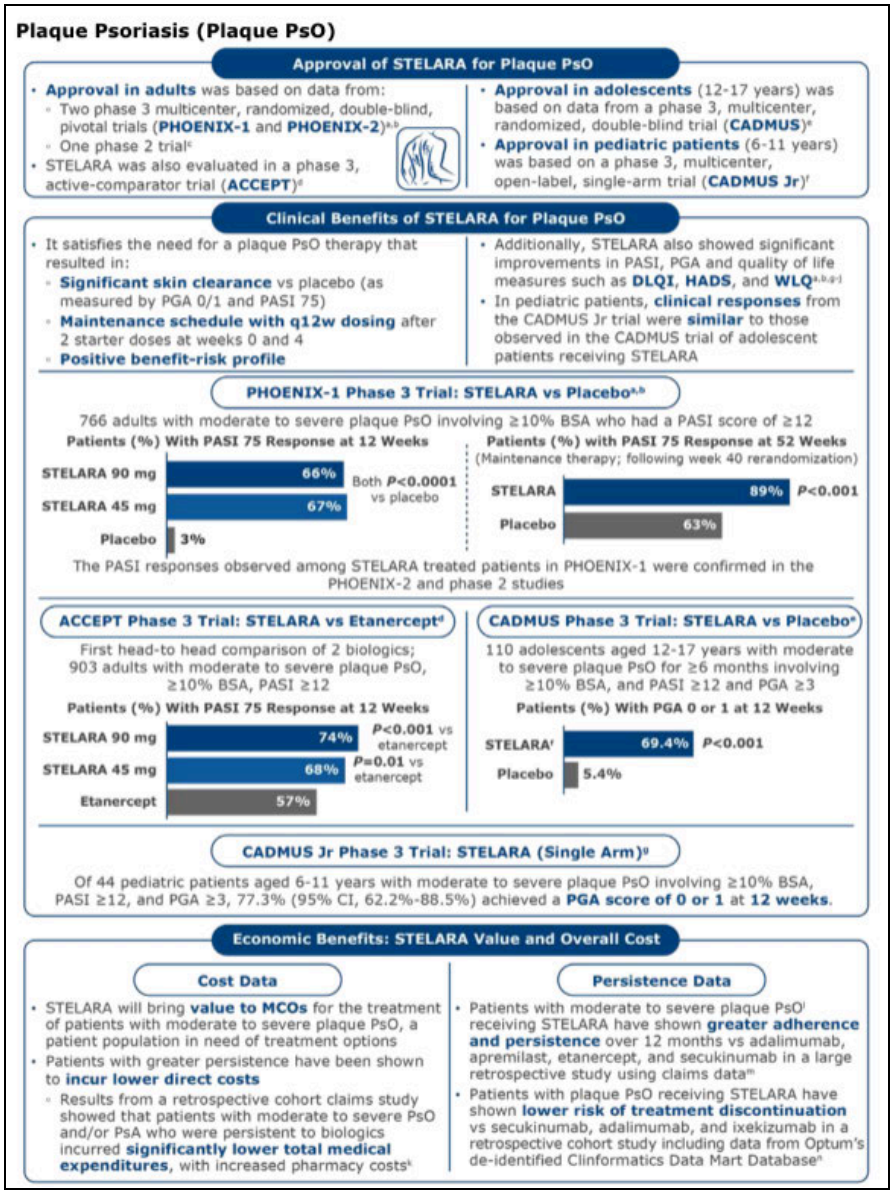
- "STELARA® (ustekinumab) is the only IL-12/23 inhibitor in the US market and is approved for moderate-to-severe Crohn's Disease (CD), moderate-to-severe Ulcerative Colitis (UC), moderate-to-severe Plaque Psoriasis (PsO), and active Psoriatic Arthritis (PsA).
- There are two classes of biologic treatments: TNF-inhibitors and non-TNF-inhibitors. TNF-inhibitors are commonly used as first-line biologics but have the highest level of FDA safety warnings for serious infections and/or cancer.
- STELARA® is a significant therapeutic advance over TNF-inhibitors through its improved long-term safety profile (including no boxed warning and low immunogenicity) and ability to treat patients who do not respond well to TNF-inhibitors. STELARA® also has significantly more patients staying on treatment longer vs. TNF-inhibitors.
- STELARA® has low immunogenicity rates, no routine tuberculosis monitoring requirements, and fewer injections per year vs. TNF-inhibitors.
- STELARA® delivers consistent efficacy and safety, and has a robust and defined clinical profile for many populations across the breadth of indications including specific populations:
    - Elderly patients
    - Pediatric patients with PsO and PsA
    - Obese patients
    - Patients who had inadequate response to prior biologics

- STELARA® does not require any routine blood tests or other routine monitoring. In addition, STELARA® offers the convenience of a self-injection every eight weeks following its IV starter dose in CD/UC, and every 12 weeks following subcutaneous starter doses in PsO and PsA.
- STELARA® offers long-term safety, durability, and efficacy, decreases the use of corticosteroids and immunomodulators, providing a less burdensome treatment option for Colorado patients and their caregivers.
- Extended trials for STELARA demonstrated sustained responses observed through 5 years in CD and lasting symptomatic remission through 4 years in UC. In PsO & PsA,sustained responses to STELARA were observed through 5 years in PsO and consistent response rates through week 100 in PsA. Across all indications, no new safety signals were observed in the long-term study periods."[14]

[14] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view?usp=drive_link

Figure D-4

Figure from Voluntarily Submitted Information from Johnson & Johnson, pp 16[15]



[15] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view?usp=drive_link

Table D-1
Plaque Psoriasis Clinical and Cost Effectiveness Conclusion Summaries

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
Cochrane Library	***Systemic pharmacological treatments for chronic plaque psoriasis: a network meta-analysis: 2023***[16] Infliximab, anti-IL17 drugs (bimekizumab, ixekizumab, secukinumab, and brodalumab), and anti-IL23 drugs except tildrakizumab were significantly more likely to reach PASI 90 than **ustekinumab**, three anti-TNF alpha agents, and deucravacitinib. **Ustekinumab** was superior to certolizumab. Adalimumab, tildrakizumab, and **ustekinumab** were superior to etanercept.	Not applicable.
ICER	***An Updated Look at Treatments for Plaque Psoriasis: 2018***[17] In general, IL-17 agents (brodalumab, ixekizumab, secukinumab) were found to provide comparable-or-better to incremental net health benefit over TNFα drugs (adalimumab, etanercept, certolizumab pegol, infliximab), **ustekinumab**, and apremilast. In direct comparison trials: • **Ustekinumab**, secukinumab, ixekizumab, tildrakizumab, and certolizumab pegol were superior to etanercept. • Secukinumab, brodalumab, ixekizumab, and risankizumab were superior to **ustekinumab**. ***Targeted Immunomodulators for the Treatment of Moderate-to-Severe Plaque Psoriasis: Effectiveness and Value: 2016***[18] In direct comparative trials, **ustekinumab**, secukinumab, and ixekizumab were superior to etanercept for PASI 90 and 100 (Table ES4). Secukinumab and brodalumab were superior to **ustekinumab** in PASI 90 and 100. Finally, a head-to-head comparison of ixekizumab and **ustekinumab** (IXORA-S) showed statistically-significant benefit on all key PASI measures for ixekizumab; this study has not yet been published, however. The results of our analysis showed ixekizumab with the highest relative effectiveness on initial PASI 75 response during induction, followed by	***An Updated Look at Treatments for Plaque Psoriasis: 2018***[19] Using net prices in 2016, most drugs were well within, if not below, the cost-effectiveness range, representing good long-term value for money. Using net prices in 2018, the cost effectiveness for each therapy became less favorable. This change is due in part to increases in net prices between 2016-2018, but the results are not directly comparable due to changes in some model inputs such as the use of different drug discount types and quality of life measures. ICER's value-based price benchmark provides a range associated with the prices needed to achieve long-term cost effectiveness between $100,000 - $150,000 per QALY. Discounts needed to achieve value-based price benchmarks were calculated based on list prices. In contrast to the 2016 report, all of the drugs in 2018 would require discounts from list price to reach value-based price benchmarks. ***Targeted Immunomodulators for the Treatment of Moderate-to-Severe Plaque Psoriasis: Effectiveness and Value: 2016***[20] The base-case results shown in Table ES8 are also graphed in Figure ES2. Drugs that are farther to the right provide the greatest clinical benefit, and drugs higher on the y-axis are more expensive. This chart shows a

[16] https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011535.pub6/full?highlightAbstract=plaque%7Cplaqu%7Cpsoriasi%7Cpsoriasis%7Cstelar%7Cstelara
[17] https://icer.org/wp-content/uploads/2020/10/ICER_Psoriasis_RAAG_080318.pdf - QALY used in this literature.
[18] https://icer.org/wp-content/uploads/2020/10/NE_CEPAC_Psoriasis_Evidence_Report_FINAL_012317.pdf - QALY used in this literature.
[19] https://icer.org/wp-content/uploads/2020/10/ICER_Psoriasis_RAAG_080318.pdf - QALY used in this literature.
[20] https://icer.org/wp-content/uploads/2020/10/NE_CEPAC_Psoriasis_Evidence_Report_FINAL_012317.pdf - QALY used in this literature.

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
	brodalumab, infliximab, secukinumab, **ustekinumab**, adalimumab, and etanercept. Apremilast had the lowest relative effectiveness. The network meta-analysis results are consistent with the results of head-to-head trials where those are available. Physician Global Assessments (PGA) or Investigators Global Assessments (IGA), general assessments of disease activity, were largely consistent with the PASI 75 results. All immunomodulators showed statistically significantly higher proportions of patients with an assessment of 'clear/almost clear' than placebo at the primary endpoint of each trial. In head-to-head trials, **ustekinumab**, secukinumab, and ixekizumab were superior to etanercept; secukinumab, ixekizumab, and brodalumab were superior to **ustekinumab**. Dermatology Life Quality Index (DLQI) results were also generally consistent with the PASI 75. All targeted immunomodulators statistically significantly improved quality of life relative to placebo. Infliximab produced the overall greatest relative benefit and apremilast produced the smallest as measured at the end of the induction period. In head-to-head trials secukinumab and ixekizumab were superior to etanercept; secukinumab was superior to **ustekinumab** in one trial.	general trend towards better results with more expensive therapies. Secukinumab is the most cost-effective agent versus non-targeted therapy. However, estimated cost effectiveness ratios for all the drugs fall into a relatively narrow range, with IL-17A targeted drugs generally providing more QALY gains than TNF-α agents, but at higher cost. **Ustekinumab** appears above the slope of the line formed by more cost effective competitors, indicating that it is estimated to provide fewer QALYs at higher cost, primarily as a result of including higher dosing (90mg) for heavier patients receiving this drug.
NICE	***Ustekinumab for the treatment of adults with moderate to severe psoriasis: 2017***[21] The Committee noted that **ustekinumab** has a different mechanism of action from that of the TNF inhibitors, and heard that the clinical specialists considered that its mechanism of action may be specific in the management of psoriasis. The Committee understood that **ustekinumab** would be considered to be of value by people with psoriasis and their clinicians. The Committee heard from the clinical specialists and patient experts that **ustekinumab** may be easier to use than other biological therapies because it is administered subcutaneously just once every 12 weeks after the first 4 weeks. This could enable people to be given the drug during their routine scheduled clinic visits. The Committee was informed by the patient experts that people with psoriasis do not generally have a problem with the frequency of injections, although they prefer less frequent injections. The Committee accepted that the less frequent dosing for **ustekinumab**, which would allow it to be given during routine scheduled clinic visits, may	***Ustekinumab for the treatment of adults with moderate to severe psoriasis: 2017***[22] The Committee was mindful of the uncertainties in the resource and cost data and the potential methodological limitations of the mixed treatment comparison. It concluded that the estimates of the cost effectiveness of **ustekinumab** compared with supportive care were acceptable. It also concluded that, in comparisons of **ustekinumab** with other biological therapies, the ICERs depended on small differences in costs and benefits that were subject to uncertainty. On balance, the Committee was persuaded that **ustekinumab** should be recommended as a treatment option for people with severe plaque psoriasis when standard systemic therapies have not produced an adequate response, or if a person is intolerant of or has a contraindication to these therapies.

[21] https://www.nice.org.uk/guidance/ta180/chapter/4-Consideration-of-the-evidence - QALY used in this literature.
[22] https://www.nice.org.uk/guidance/ta180/chapter/4-Consideration-of-the-evidence - QALY used in this literature.

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
	also help compliance. The Committee heard from the clinical specialists that **ustekinumab** is a new drug that has been given to far fewer people than the other biological therapies, and therefore its long-term safety profile is less certain. Because of this, the specialists considered that the drug may initially be prescribed more cautiously than existing treatments.	
	Common Drug Review: CEDAC Final Recommendation: 2009[23] The Committee considered the results of a systematic review that included three randomized controlled trials evaluation the effects of **ustekinumab** in patients with chronic moderate to severe plaque psoriasis. All three trials reported the primary outcome of patients achieving a >75% reduction in the Psoriasis Area and Severity Index (PASI) score at 12 weeks.	**Common Drug Review: CEDAC Final Recommendation: 2009**[24] The manufacturer submitted a cost utility analysis comparing **ustekinumab** to etanercept based on the results of the ACCEPT trial where the clinical benefits at 12 weeks were extrapolated over a 10-year time horizon. The manufacturer found **ustekinumab** was less costly (by 14%) when compared to etanercept. Further, they reported a marginal increase in QALYs for **ustekinumab** (3%) when compared to etanercept, although the clinical importance of this gain is unclear.

Emerging Evidence, Clinical Effectiveness, and Cost Effectiveness

There may be ongoing or recently completed clinical trials that the Board may want to consider. To identify more recent clinical studies typically not captured in the studies above, information is provided below for completed Phase III or IV studies found on the National Institute of Health's Clinical Trials website. The results column only contains information if there is a published, peer-reviewed study or poster available.

Table D-2
ClinicalTrials.Gov Completed Phase III and IV Studies Summary

Study Name	Results
Comparative Study of BAT2206 With Stelara® in Patients With Moderate to Severe Plaque Psoriasis: 2023[25]	N/A
*A Double-blind Study to Compare the Efficacy, Safety, and Immunogenicity of the Proposed Biosimilar **Ustekinumab** FYB202 to Stelara® in Patients With Moderate-to-Severe Plaque Psoriasis (VESPUCCI): 2023*[26]	N/A

[23] https://www.cadth.ca/sites/default/files/cdr/complete/cdr_complete_Stelara_June-17-2009.pdf - QALY used in this literature.
[24] https://www.cadth.ca/sites/default/files/cdr/complete/cdr_complete_Stelara_June-17-2009.pdf - QALY used in this literature.
[25] https://clinicaltrials.gov/study/NCT04728360?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&rank=1#publications
[26] https://clinicaltrials.gov/study/NCT04595409?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&rank=2

Study Name	Results
Study of Secukinumab Compared to Ustekinumab in Subjects With Plaque Psoriasis (CLARITY): 2021[27]	This second head-to-head study confirmed the superior efficacy of secukinumab over **ustekinumab** in skin clearance and quality of life through 52 weeks, with safety comparable to that reported in previous trials.[28]
A Study of the Safety and Efficacy of Ustekinumab (CNTO 1275) in Patients With Moderate to Severe Psoriasis: 2013[29]	N/A
A Study to Compare SB17 (Proposed Ustekinumab Biosimilar) to Stelara® in Subject With Moderate to Severe Plaque Psoriasis: 2022[30]	N/A
A Study to Compare the Efficacy and Safety of CT-P43 to Stelara in Patients With Plaque Psoriasis: 2024[31]	CT-P43 demonstrated equivalent efficacy to originator **ustekinumab** in patients with moderate to severe plaque psoriasis, with comparable pharmacokinetic, safety and immunogenicity profiles.[32]
Efficacy, Safety, and Immunogenicity of Subcutaneous DMB-3115 Versus Stelara® in Patients With Moderate to Severe Chronic Plaque Psoriasis (Opportuniti): 2024[33]	N/A

Psoriatic Arthritis (PsO): Adult and Pediatric

Relevant Medical Professional Guidelines and Manufacturer-Reported Benefits

Relevant Medical Professional Guidelines

2018 American College of Rheumatology/National Psoriasis Foundation Guideline for the Treatment of Psoriatic Arthritis[34]

Manufacturer-Reported Benefits

Information contained in Stelara's FDA label, Section 14 Clinical Studies, reports on the following studies and the resulting primary and key secondary efficacy analyses.[35]

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27 https://clinicaltrials.gov/study/NCT02826603?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&rank=3
28 https://pubmed.ncbi.nlm.nih.gov/32365251/
29 https://clinicaltrials.gov/study/NCT00307437?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&rank=7
30 https://clinicaltrials.gov/study/NCT04967508?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&rank=9
31 https://clinicaltrials.gov/study/NCT04673786?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&page=1&rank=10
32 https://pubmed.ncbi.nlm.nih.gov/37991693/
33 https://clinicaltrials.gov/study/NCT04785326?cond=Plaque%20Psoriasis&intr=Ustekinumab&aggFilters=phase:3%204,status:com&page=2&rank=13
34 https://acrjournals.onlinelibrary.wiley.com/doi/10.1002/art.40726
35 https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761044s013lbl.pdf

Figure D-5

Adult Study 1 and 2 (Table 11)

Table 11: ACR 20, ACR 50, ACR 70 and PASI 75 responses in PsA STUDY 1 and PsA STUDY 2 at Week 24

	PsA STUDY 1			PsA STUDY 2		
		STELARA®			STELARA®	
	Placebo	45 mg	90 mg	Placebo	45 mg	90 mg
Number of patients randomized	**206**	**205**	**204**	**104**	**103**	**105**
ACR 20 response, N (%)	47 (23%)	87 (42%)	101 (50%)	21 (20%)	45 (44%)	46 (44%)
ACR 50 response, N (%)	18 (9%)	51 (25%)	57 (28%)	7 (7%)	18 (17%)	24 (23%)
ACR 70 response, N (%)	5 (2%)	25 (12%)	29 (14%)	3 (3%)	7 (7%)	9 (9%)
Number of patients with ≥ 3% BSA[a]	**146**	**145**	**149**	**80**	**80**	**81**
PASI 75 response, N (%)	16 (11%)	83 (57%)	93 (62%)	4 (5%)	41 (51%)	45 (56%)

[a] Number of patients with ≥ 3% BSA psoriasis skin involvement at baseline

Figure D-5 above outlines the proportion of adult patients with PsA who achieved ACR 20, ACR 50,[36] and PASI 75[37] response with Stelara compared to placebo. Responses were consistent in patients who use Stelara alone or in combination with methotrexate and similar in patients regardless of prior TNFα exposure.

[36] The American College of Rheumatology (ACR) response criteria measures improvement in tender or swollen joint counts and improvement in at least three of the following parameters: patient global assessment of disease activity. physician global assessment of disease activity. patient pain scale.

[37] The Psoriasis Area and Severity Index (PASI) score is a tool used by dermatologists to measure the severity of psoriasis and a patient's response to treatment. The PASI score ranges from 0-72, with higher scores indicating greater severity

Figure D-6
Figure 1

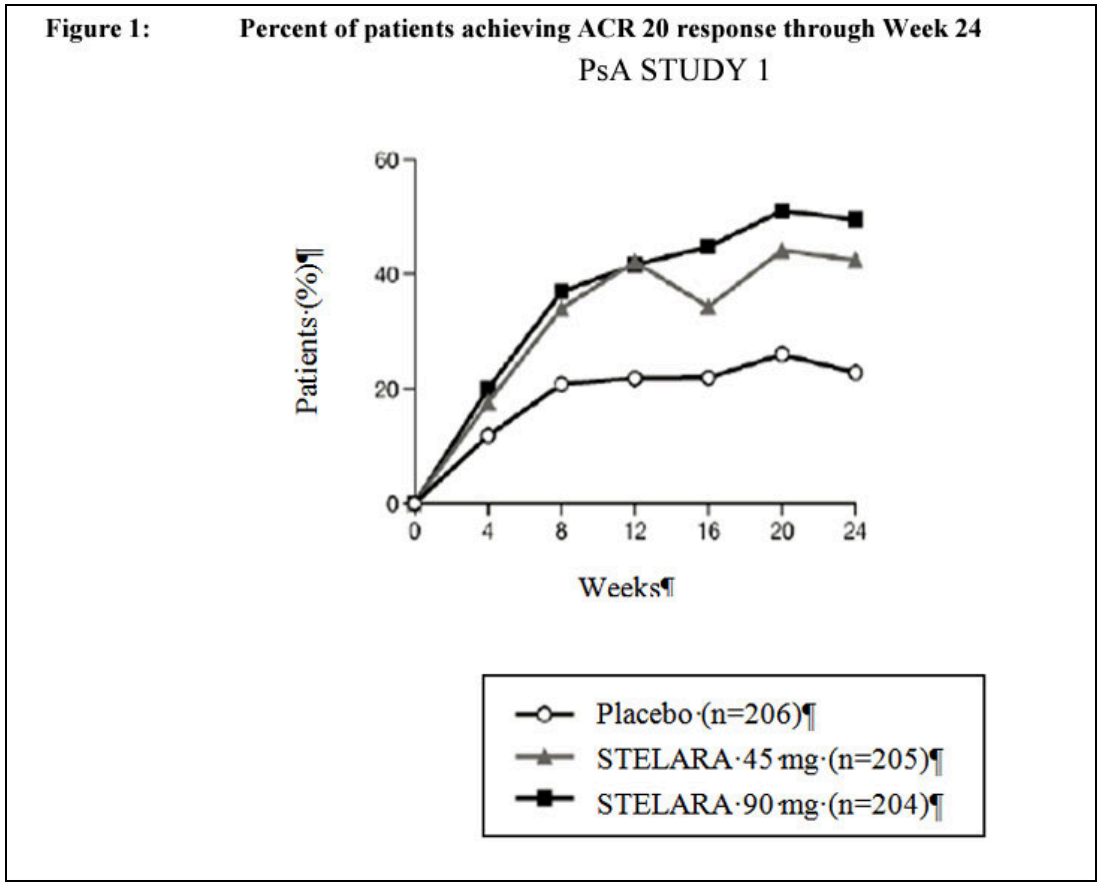


Figure D-6 above shows the percent of patients achieving ACR 20 responses by visit.

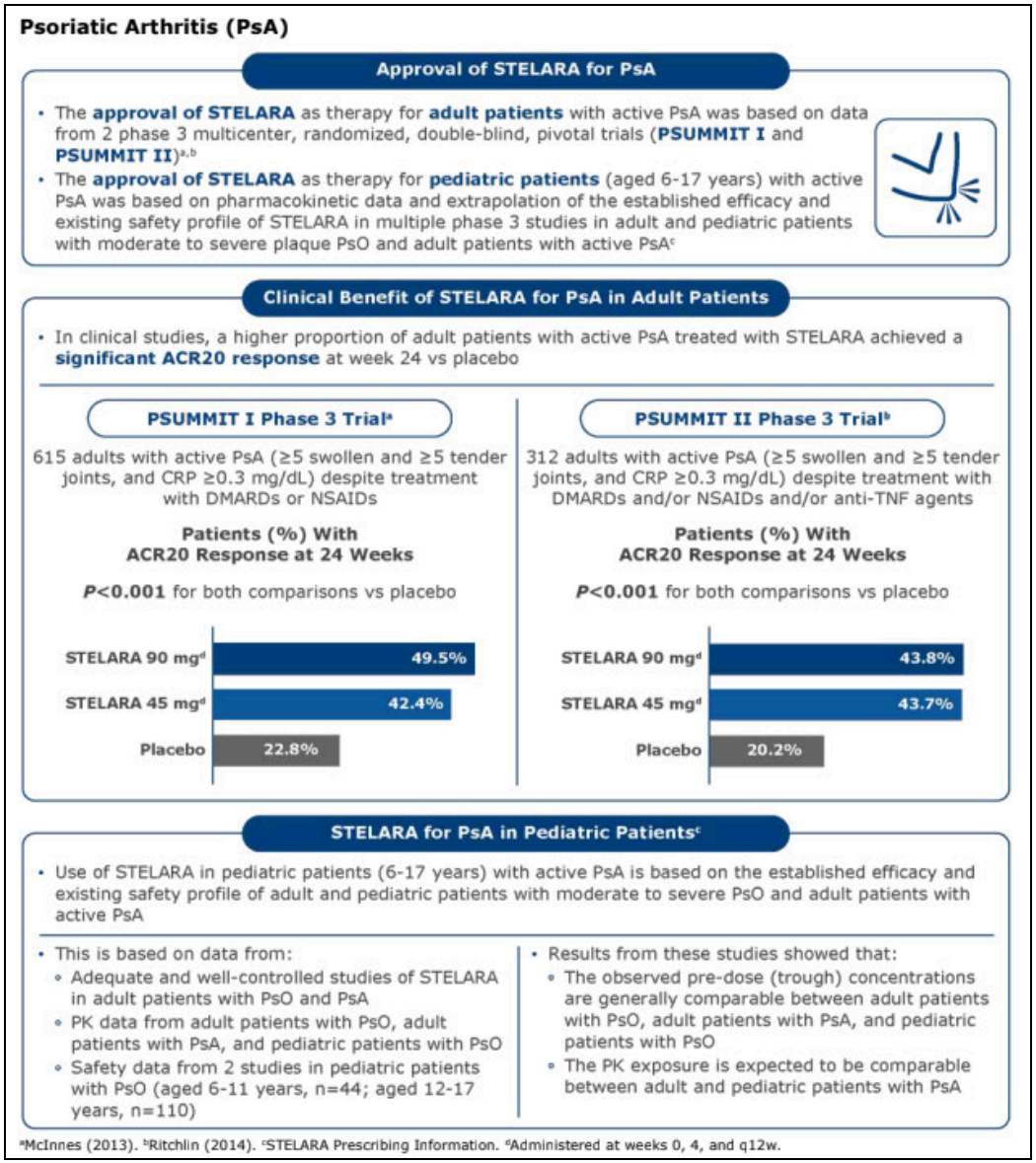
Voluntarily Submitted Manufacturer Information

Johnson & Johnson voluntarily submitted the following information regarding the financial effects of Stelara on health, medical, or social services costs. Information included:

- "STELARA® (ustekinumab) is the only IL-12/23 inhibitor in the US market and is approved for moderate-to-severe Crohn's Disease (CD), moderate-to-severe Ulcerative Colitis (UC), moderate-to-severe Plaque Psoriasis (PsO), and active Psoriatic Arthritis (PsA)."

Figure D-7

Figure from Voluntarily Submitted Information from Johnson & Johnson, pp 17[38]



[38] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view?usp=drive_link

Table D-3
Psoriatic Arthritis Clinical and Cost Effectiveness Conclusion Summaries

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
NICE	***Ustekinumab for treating active psoriatic arthritis: 2017***[39] **Ustekinumab** is recommended as an option, alone or in combination with methotrexate, for treating active psoriatic arthritis in adults only when: • treatment with tumour necrosis factor (TNF) alpha inhibitors is contraindicated but would otherwise be considered (as described in NICE technology appraisal guidance on etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis and golimumab for the treatment of psoriatic arthritis) or • the person has had treatment with 1 or more TNF-alpha inhibitors. **Ustekinumab** is recommended only if the company provides the 90 mg dose of **ustekinumab** for people who weigh more than 100 kg at the same cost as the 45 mg dose, as agreed in the patient access scheme. The Committee concluded that **ustekinumab** is clinically effective compared with conventional management, in both TNF-alpha inhibitor-naive and TNF-alpha inhibitor-exposed populations. However, based on evidence from the company's mixed treatment comparison, it concluded that **ustekinumab** appeared to be less effective than TNF-alpha inhibitors for Psoriasis Area and Severity Index (PASI) 75, PASI 90 and Psoriatic Arthritis Response Criteria (PsARC) response rates, particularly for the joint outcome.	***Ustekinumab for treating active psoriatic arthritis: 2017***[40] The Committee concluded that **ustekinumab** is not a cost effective option in people who have not previously had TNF-alpha inhibitors. **Ustekinumab** was the lowest-cost biological treatment, but was extendedly dominated (that is, was more expensive and less effective than a combination of 2 comparators). The Committee concluded that, with the patient access scheme, **ustekinumab** is a cost effective option for treating psoriatic arthritis: • In people who have not previously had TNF-alpha inhibitors and for whom TNF-alpha inhibitors are inappropriate; the most plausible incremental cost effectiveness ratio (ICER) was £21,900 per quality-adjusted life-year (QALY) gained, compared with conventional management. • In people who have previously had TNF-alpha inhibitors and for whom treatment with a subsequent TNF-alpha inhibitor is appropriate; in the incremental analysis, the most plausible ICER was £25,400 per QALY gained (compared with conventional management). • In people who have previously had TNF-alpha inhibitors and for whom TNF-alpha inhibitors as a class have failed; the most plausible ICER was £25,300 per QALY gained, compared with conventional management.
CADTH	***Common Drug Review Clinical Review Report: 2016***[41] Two manufacturer-sponsored, published, double-blind randomized controlled trials, PSUMMIT1 and PSUMMIT2 (N = 927 total), evaluating the efficacy and harms of **ustekinumab** 45 mg and 90 mg compared with placebo in patients with active psoriatic arthritis were included in the systematic review. In both trials there was a statistically significantly greater proportion of ACR 20 responders at week 24 in both **ustekinumab** 45 mg and 90 mg groups compared with placebo. Patient-reported outcomes showed statistically significant improvements in quality of life (Short Form [36] Health Survey	***Common Drug Review Clinical Review Report: 2016***[42] The manufacturer submitted a cost-utility analysis in which **ustekinumab**, golimumab, infliximab, adalimumab, and etanercept were compared with placebo. The analysis was based mainly on patients' response to treatment, which was estimated using PsARC. In the anti-TNF alpha naive population, **ustekinumab** is associated with an incremental cost per quality adjusted life-year (QALY) gained of $40,958 compared with placebo. When compared with other biologic treatments, **ustekinumab** was less effective (fewer QALYs) but slightly less expensive than adalimumab, etanercept, and

[39] https://www.nice.org.uk/guidance/ta340/chapter/4-Consideration-of-the-evidence - QALYs used in literature.
[40] https://www.nice.org.uk/guidance/ta340/chapter/4-Consideration-of-the-evidence - QALY used in this literature.
[41] www.cadth.ca/sites/default/files/cdr/clinical/SR0359_Stelara_CL_Report.pdf - QALYs used in literature.
[42] www.cadth.ca/sites/default/files/cdr/clinical/SR0359_Stelara_CL_Report.pdf - QALYs used in literature.

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
	[SF-36] physical component), work productivity, and time lost from work.	infliximab. **Ustekinumab** was dominated (more expensive and less effective) by golimumab. In the anti-TNF alpha experienced population, the incremental cost-utility ratio (ICER) for **ustekinumab** compared with placebo was $46,962 per QALY gained.

Emerging Evidence, Clinical Effectiveness, and Cost Effectiveness

There may be ongoing or recently completed clinical trials that the Board may want to consider. To identify more recent clinical studies typically not captured in the studies above, information is provided below for completed Phase III or IV studies found on the National Institute of Health's Clinical Trials website. The results column only contains information if there is a published, peer-reviewed study or poster available.

Table D-4
ClinicalTrials.Gov Completed Phase III and IV Studies Summary

Study Name	Results
A Study of the Safety and Effectiveness of Ustekinumab in Patients With Psoriatic Arthritis: 2015[43]	**Ustekinumab** significantly improved active psoriatic arthritis compared with placebo, and might offer an alternative therapeutic mechanism of action to approved biological treatments., 2015[44]
A Study of the Safety and Efficacy of Ustekinumab in Patients With Psoriatic Arthritis With and Without Prior Exposure to Anti-TNF Agents: 2014[45]	The interleukin-12/23 inhibitor **ustekinumab** (45/90 mg q12 weeks) yielded significant and sustained improvements in PsA signs/symptoms in a diverse population of patients with active PsA, including anti-TNF-experienced PsA patients.[46]

Crohn's Disease

Relevant Medical Professional Guidelines and Manufacturer-Reported Benefits

Relevant Medical Professional Guidelines

ACG Clinical Guideline: Management of Crohn's Disease in Adults[47] and AGA Guidelines[48]

[43] https://clinicaltrials.gov/study/NCT01009086?cond=Psoriatic%20Arthritis&intr=Ustekinumab&aggFilters=phase:3,status:com,studyType:int&rank=1
[44] https://pubmed.ncbi.nlm.nih.gov/23769296/
[45] https://clinicaltrials.gov/study/NCT01077362?cond=Psoriatic%20Arthritis&intr=Ustekinumab&aggFilters=phase:3,status:com,studyType:int&rank=2
[46] https://ard.bmj.com/content/73/6/990
[47] https://doi.org/10.1038/ajg.2018.27
[48] https://www.gastrojournal.org/article/S0016-5085(21)00645-4/fulltext

Manufacturer-Reported Benefits

Information contained in Stelara's FDA label, Section 14 Clinical Studies, reports on the following studies and the resulting primary and key secondary efficacy analyses.[49]

Figure D-8

Trials CD-1 and CD-2 (Table 13)

Table 13: Induction of Clinical Response and Remission in CD-1* and CD-2**

	CD-1 n = 741			CD-2 n = 627		
	Placebo N = 247	STELARA®† N = 249	Treatment difference and 95% CI	Placebo N = 209	STELARA®† N = 209	Treatment difference and 95% CI
Clinical Response (100 point), Week 6	53 (21%)	84 (34%)[a]	12% (4%, 20%)	60 (29%)	116 (56%)[b]	27% (18%, 36%)
Clinical Remission, Week 8	18 (7%)	52 (21%)[b]	14% (8%, 20%)	41 (20%)	84 (40%)[b]	21% (12%, 29%)
Clinical Response (100 point), Week 8	50 (20%)	94 (38%)[b]	18% (10%, 25%)	67 (32%)	121 (58%)[b]	26% (17%, 35%)
70 Point Response, Week 6	75 (30%)	109 (44%)[a]	13% (5%, 22%)	81 (39%)	135 (65%)[b]	26% (17%, 35%)
70 Point Response, Week 3	67 (27%)	101 (41%)[a]	13% (5%, 22%)	66 (32%)	106 (51%)[b]	19% (10%, 28%)

Clinical remission is defined as CDAI score < 150; Clinical response is defined as reduction in CDAI score by at least 100 points or being in clinical remission: 70 point response is defined as reduction in CDAI score by at least 70 points

* Patient population consisted of patients who failed or were intolerant to TNF blocker therapy

** Patient population consisted of patients who failed or were intolerant to corticosteroids or immunomodulators (e.g., 6-MP, AZA, MTX) and previously received but not failed a TNF blocker or were never treated with a TNF blocker.

† Infusion dose of STELARA® using the weight-based dosage regimen specified in Table 4.

[a] $0.001 \leq p < 0.01$

[b] $p < 0.001$

Figure D-8 outlines clinical response (defined as a reduction in CDAI score of greater than or equal to 100 points or CDAI score of less than 150) at Week 6 and clinical remission (defined as a CDAI score of less than 150) in adult patients with Crohn's disease.

[49] https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761044s013lbl.pdf&sa=D&source=docs&ust=1716410446797166&usg=AOvVaw2jvqy-wj1AYsFZjd0hJCeLf

Figure D-9
Trial CD-3 (Figure 14)

Table 14: Clinical Response and Remission in CD-3 (Week 44; 52 weeks from initiation of the induction dose)

	Placebo* N = 131†	90 mg STELARA® every 8 weeks N = 128†	Treatment difference and 95% CI
Clinical Remission	47 (36%)	68 (53%)[a]	17% (5%, 29%)
Clinical Response	58 (44%)	76 (59%)[b]	15% (3%, 27%)
Clinical Remission in patients in remission at the start of maintenance therapy**	36/79 (46%)	52/78 (67%)[a]	21% (6%, 36%)

Clinical remission is defined as CDAI score < 150; Clinical response is defined as reduction in CDAI of at least 100 points or being in clinical remission

* The placebo group consisted of patients who were in response to STELARA® and were randomized to receive placebo at the start of maintenance therapy.

** Patients in remission at the end of maintenance therapy who were in remission at the start of maintenance therapy. This does not account for any other time point during maintenance therapy.

† Patients who achieved clinical response to STELARA® at the end of the induction trial.

a $p < 0.01$

b $0.01 \leq p < 0.05$

Figure D-9 shows results of the maintenance trial of patients who achieved clinical response (≥100 point reduction in CDAI score).

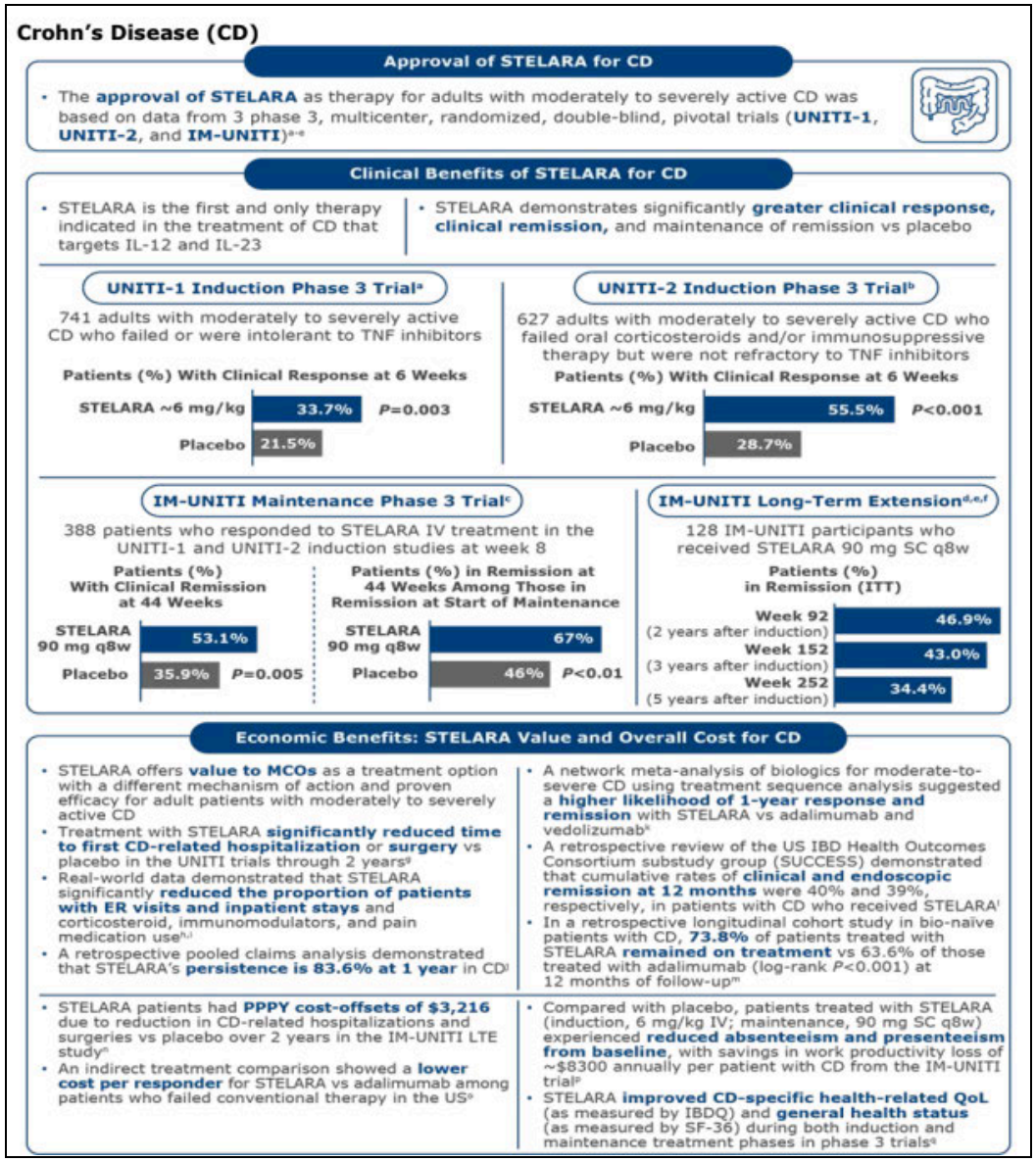
Voluntarily Submitted Manufacturer Information

Johnson & Johnson voluntarily submitted the following information regarding the financial effects of Stelara on health, medical, or social services costs. Information included:

"STELARA® (ustekinumab) is the only IL-12/23 inhibitor in the US market and is approved for moderate-to-severe Crohn's Disease (CD), moderate-to-severe Ulcerative Colitis (UC), moderate-to-severe Plaque Psoriasis (PsO), and active Psoriatic Arthritis (PsA)."

Figure D-10

Figure from Voluntarily Submitted Information from Johnson & Johnson, pp 14[50]



[50] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view?usp=drive_link

Table D-5
Crohn's Disease Clinical and Cost Effectiveness Conclusion Summaries

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
Cochrane	***Anti-IL-12/23p40 antibodies for maintenance of remission in Crohn's disease: 2019***[51] Moderate-certainty evidence suggests that **ustekinumab** is probably effective for the maintenance of clinical remission and response in people with moderate to severe CD in remission without an increased risk of adverse events (high-certainty evidence) or serious adverse events (moderate-certainty evidence) relative to placebo. Further studies are required to determine the long-term efficacy and safety of subcutaneous **ustekinumab** maintenance therapy in Crohn's disease and whether it should be used by itself or in combination with other agents. Future research comparing **ustekinumab** with other biologic medications will help to determine when treatment with **ustekinumab** in CD is most appropriate. Currently, there is an ongoing study that compares **ustekinumab** with adalimumab. This review will be updated when the results of this study become available. ***Anti-IL-12/23p40 antibodies for induction of remission in Crohn's disease 2016***[52] High quality evidence suggests that **ustekinumab** is effective for induction of clinical remission and clinical improvement in patients with moderate to severe Crohn's disease. Moderate to high quality evidence suggests that the optimal dosage of **ustekinumab** is 6 mg/kg. Briakinumab and **ustekinumab** appear to be safe. Moderate quality evidence suggests no increased risk of serious adverse events. Future studies are required to determine the long-term efficacy and safety of **ustekinumab** in patients with moderate to severe Crohn's disease.	Not applicable.
NICE	***Ustekinumab for moderately to severely active Crohn's disease after previous treatment: 2017***[53] **Ustekinumab** is recommended, within its marketing authorisation, as an option for treating moderately to severely active Crohn's disease, that is,	***Ustekinumab for moderately to severely active Crohn's disease after previous treatment: 2017***[54] The Committee was persuaded that cost minimisation was not an unreasonable approach. It noted that in the company analysis, which

[51] https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD012804.pub2/full?highlightAbstract=ustekinumab%7Ccrohn%27s%7Ccrohn
[52] https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD007572.pub3/full?highlightAbstract=ustekinumab%7Ccrohn%27s%7Ccrohn
[53] https://www.nice.org.uk/guidance/ta456/chapter/4-Committee-discussion - QALYs used in literature.
[54] https://www.nice.org.uk/guidance/ta456/chapter/4-Committee-discussion - QALYs used in literature.

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
	for adults who have had an inadequate response with, lost response to, or were intolerant to either conventional therapy or a TNF-alpha inhibitor or have medical contraindications to such therapies. The committee concluded that the results from the **ustekinumab** studies suggest that it is associated with higher rates of response and clinical remission compared with placebo. The committee considered that the company's treatment sequence analysis comparing **ustekinumab** with other biological treatments had many limitations and that the results should be interpreted with caution.	used the confidential pricing arrangement for **ustekinumab** agreed with the Commercial Medicines Unit, **ustekinumab** appeared to have lower total costs in year 1 than comparator treatments when considered at their list price, and therefore **ustekinumab** could be considered a cost effective option for use in the NHS.
CADTH	***Common Drug Review Clinical Review Report: 2017***[55] Three phase III, randomized, placebo-controlled, double-blind trials investigated the effects of **ustekinumab** on treatment induction (UNITI-1 and UNITI-2) or maintenance (IM-UNITI) in patients with moderate-to-severe Crohn's disease. A single IV dose of **ustekinumab** (approximating 6 mg/kg) appears to be significantly superior to placebo for inducing clinical response after six weeks of therapy. Likewise, both the **ustekinumab** 90 mg SC every 12 weeks and every eight weeks maintenance-treatment regimens were statistically significantly superior to placebo in achieving clinical remission and corticosteroid-free remission in patients who had a clinical response at week 8 of induction therapy. Moreover, these results for induction and maintenance therapy with **ustekinumab** were reported in subpopulations of patients with Crohn's disease who had experienced failure of failed conventional therapies only or of TNF antagonist therapies. These findings were considered likely to be clinically meaningful by the clinician expert consulted by CDR. The proportion of patients who experienced at least one adverse event or serious adverse event was similar between the **ustekinumab** and placebo groups across all of the included studies. Nasopharyngitis and upper respiratory tract infection were reported more frequently in ustekinumab-treated patients than in placebo-treated patients, but these did not lead to discontinuation of treatment. Administration-related reactions were relatively rare. There were no studies in which **ustekinumab** has been compared directly with the approved TNF antagonists or vedolizumab for induction of maintenance of Crohn's disease. Three indirect comparisons reviewed by CDR, including one submitted by the manufacturer, were challenging to interpret because of	***CDR PHARMACOECONOMIC REVIEW REPORT FOR STELARA: 2017***[56] The CDR base case for **ustekinumab** when compared with conventional therapy in the population experiencing FCTO resulted in an ICER of $115,474 per QALY gained and in the population experiencing failure of anti-TNF therapy, $131,297 per QALY gained. For the mixed population, **ustekinumab** resulted in an ICER of $119,058 per QALY when compared with conventional therapy. Among the available biologic therapies in patients experiencing FCTO, **ustekinumab** every 12 weeks was the most cost effective, with an ICER of $115,474 per QALY compared with conventional therapy, followed by **ustekinumab** mixed dosage every eight weeks/every 12 weeks, with an ICER of $623,571 per QALY when compared with **ustekinumab** every 12 weeks, then finally by **ustekinumab** every eight weeks, with an ICER of $658,533 per QALY compared with **ustekinumab** mixed dosage. Other biologics were either dominated or subjected to extended dominance. In the patients who had experienced a failure with anti- TNF therapy, the most cost effective treatment was biosimilar infliximab, with an ICER of $90,277 per QALY compared with conventional therapy, followed by **ustekinumab** every 12 weeks with an ICER of $228,571 per QALY compared with biosimilar infliximab. The remaining **ustekinumab** regimens (every eight weeks and mixed dosage) resulted in ICERs of more than $1 million per QALY gained. Remaining biologic therapies (adalimumab, infliximab and vedolizumab) were also dominated or subjected to extended dominance.

[55] www.cadth.ca/sites/default/files/cdr/clinical/SR0501_Stelara_CL_Report.pdf

[56] www.cadth.ca/sites/default/files/cdr/pharmacoeconomic/SR0501_Stelara_PE_Report.pdf - QALY used in this literature.

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
	numerous limitations related to the source data and the NMA methods used to compare treatments. These limitations related to the source data and the NMA methods used to compare treatments. These limitations precluded any definitive conclusions regarding the efficacy and safety of **ustekinumab** compared with TNF antagonists and vedolizumab.	

Emerging Evidence, Clinical Effectiveness, and Cost Effectiveness

There may be ongoing or recently completed clinical trials that the Board may want to consider. To identify more recent clinical studies typically not captured in the studies above, information is provided below for completed Phase III or IV studies found on the National Institute of Health's Clinical Trials website. The results column only contains information if there is a published, peer-reviewed study or poster available.

Table D-6
ClinicalTrials.Gov Completed Phase III and IV Studies Summary

Study Name	Results
Study of Treat to Target Versus Routine Care Maintenance Strategies in Crohn's Disease Patients Treated With Ustekinumab (STARDUST): 2023[57]	Timely escalation of **ustekinumab** therapy for patients with Crohn's disease, based on early endoscopic response, clinical symptoms, and biomarkers, did not result in significantly better endoscopic outcomes at week 48 than symptom-driven decisions alone. Future studies need to confirm if some subgroups of patient might benefit from a treat-to-target strategy with ustekinumab., 2022[58]
A Study to Evaluate Efficacy and Safety of Ustekinumab Re-induction Therapy in Participants With Moderately to Severely Active Crohn's Disease (POWER): 2024[59]	N/A
A Study to Evaluate the Safety and Efficacy of Ustekinumab Maintenance Therapy in Patients With Moderately to Severely Active Crohn's Disease (IM-UNITI): 2020[60]	Patients receiving subcutaneous **ustekinumab** maintained clinical remission through 5 years. No new safety signals were observed., 2022[61]
A Study to Evaluate the Safety and Efficacy of Ustekinumab Induction Therapy in Patients With Moderately to Severely Active Crohn's Disease (UNITI-2): 2017[62]	N/A

[57] https://clinicaltrials.gov/study/NCT03107793?cond=Crohn%27s%20Disease&intr=Ustekinumab&aggFilters=phase:3%204,status:com,studyType:int&rank=2
[58] https://www.thelancet.com/article/S2468-1253(21)00474-X/abstract#%20
[59] https://clinicaltrials.gov/study/NCT03782376?cond=Crohn%27s%20Disease&intr=Ustekinumab&aggFilters=phase:3%204,status:com,studyType:int&rank=4
[60] https://clinicaltrials.gov/study/NCT01369355?cond=Crohn%27s%20Disease&intr=Ustekinumab&aggFilters=phase:3%204,status:com,studyType:int&rank=5
[61] https://www.sciencedirect.com/science/article/pii/S1542356521002032
[62] https://clinicaltrials.gov/study/NCT01369342?cond=Crohn%27s%20Disease&intr=Ustekinumab&aggFilters=phase:3%204,status:com,studyType:int&rank=6

Study Name	Results
A Study to Evaluate the Safety and Efficacy of Ustekinumab in Patients With Moderately to Severely Active Crohn's Disease Who Have Failed or Are Intolerant to Tumor Necrosis Factor (TNF) Antagonist Therapy (UNITI-1): 2016[63]	N/A

Ulcerative Colitis

Relevant Medical Professional Guidelines and Manufacturer-Reported Benefits

Relevant Medical Professional Guidelines

ACG Clinical Guideline: Management of Crohn's Disease in Adults[64] and AGA Guidelines[65]

Manufacturer-Reported Benefits

Information contained in Stelara's FDA label, Section 14 Clinical Studies, reports on the following studies and the resulting primary and key secondary efficacy analyses.[66]

Figure D-11
Trial UC-1 (Figure 15)

Table 15: Proportion of Patients Meeting Efficacy Endpoints at Week 8 in UC-1

Endpoint	Placebo N = 319	STELARA®† N = 322	Treatment difference and 97.5% CI [a]

[63] https://clinicaltrials.gov/study/NCT01369329?cond=Crohn%27s%20Disease&intr=Ustekinumab&aggFilters=phase:3%204,status:com,studyType:int&rank=7
[64] https://doi.org/10.1038/ajg.2018.27
[65] https://www.gastrojournal.org/article/S0016-5085(21)00645-4/fulltext
[66] https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/125504s066,761349s004lbl.pdf

	N	%	N	%	
Clinical Remission*	**22**	**7%**	**62**	**19%**	12% (7%, 18%) [b]
Bio-naïve[ɻ]	14/151	9%	36/147	24%	
Prior biologic failure	7/161	4%	24/166	14%	
Endoscopic Improvement[§]	**40**	**13%**	**80**	**25%**	12% (6%, 19%) [b]
Bio-naïve[ɻ]	28/151	19%	43/147	29%	
Prior biologic failure	11/161	7%	34/166	20%	
Clinical Response[†]	**99**	**31%**	**186**	**58%**	27% (18%, 35%) [b]
Bio-naïve[ɻ]	55/151	36%	94/147	64%	
Prior biologic failure	42/161	26%	86/166	52%	
Histologic-Endoscopic Mucosal Improvement[‡]	**26**	**8%**	**54**	**17%**	9% (3%, 14%) [b]
Bio-naïve[ɻ]	19/151	13%	30/147	20%	
Prior biologic failure	6/161	4%	21/166	13%	

† Infusion dose of STELARA® using the weight-based dosage regimen specified in Table 4.

ɻ An additional 7 patients on placebo and 9 patients on STELARA® (6 mg/kg) had been exposed to, but had not failed, biologics.

* Clinical remission was defined as Mayo stool frequency subscore of 0 or 1, Mayo rectal bleeding subscore of 0, and Mayo endoscopy subscore of 0 or 1 (modified so that 1 does not include friability).

§ Endoscopic improvement was defined as Mayo endoscopy subscore of 0 or 1 (modified so that 1 does not include friability).

† Clinical response was defined as a decrease from baseline in the modified Mayo score by ≥30% and ≥2 points, with either a decrease from baseline in the rectal bleeding subscore ≥1 or a rectal bleeding subscore of 0 or 1.

‡ Histologic-endoscopic mucosal improvement was defined as combined endoscopic improvement (Mayo endoscopy subscore of 0 or 1) and histologic improvement of the colon tissue (neutrophil infiltration in <5% of crypts, no crypt destruction, and no erosions, ulcerations, or granulation tissue).

a Adjusted treatment difference (97.5% CI)

b $p < 0.001$

Table D-11 outlines the number of patients with UC who achieved clinical remission, clinical response, endoscopic improvements, and histologic-endoscopic mucosal improvement for patients using "approximately 6 mg/kg, 130 mg [of Stelara] (a lower dose than recommended), or placebo.

Figure D-12
Trial UC-2 (Table 16)

Table 16: Efficacy Endpoints of Maintenance at Week 44 in UC-2 (52 Weeks from Initiation of the Induction Dose)

Endpoint	Placebo* N = 175†		90 mg STELARA® every 8 weeks N = 176		Treatment difference and 95% CI
	N	%	N	%	
Clinical Remission**	**46**	**26%**	**79**	**45%**	19% (9%, 28%)[a]
Bio-naïve‡	30/84	36%	39/79	49%	
Prior biologic failure	16/88	18%	37/91	41%	
Maintenance of Clinical Response at Week 44†	**84**	**48%**	**130**	**74%**	26% (16%, 36%)[a]
Bio-naïve‡	49/84	58%	62/79	78%	
Prior biologic failure	35/88	40%	64/91	70%	
Endoscopic Improvement§	**47**	**27%**	**83**	**47%**	20% (11%, 30%)[a]
Bio-naïve‡	29/84	35%	42/79	53%	
Prior biologic failure	18/88	20%	38/91	42%	
Corticosteroid-free Clinical Remission‡	**45**	**26%**	**76**	**43%**	17% (8%, 27%)[a]
Bio-naïve‡	30/84	36%	38/79	48%	
Prior biologic failure	15/88	17%	35/91	38%	
Maintenance of Clinical Remission at Week 44 in patients who achieved clinical remission 8 weeks after induction	**18/50**	**36%**	**27/41**	**66%**	31% (12%, 50%)[b]
Bio-naïve‡	12/27	44%	14/20	70%	
Prior biologic failure	6/23	26%	12/18	67%	

‡ An additional 3 patients on placebo and 6 patients on STELARA® had been exposed to, but had not failed, biologics.

* The placebo group consisted of patients who were in response to STELARA® and were randomized to receive placebo at the start of maintenance therapy.

** Clinical remission was defined as Mayo stool frequency subscore of 0 or 1, Mayo rectal bleeding subscore of 0, and Mayo endoscopy subscore of 0 or 1 (modified so that 1 does not include friability).

† Clinical response was defined as a decrease from baseline in the modified Mayo score by ≥30% and ≥2 points, with either a decrease from baseline in the rectal bleeding subscore ≥1 or a rectal bleeding subscore of 0 or 1.

§ Endoscopic improvement was defined as Mayo endoscopy subscore of 0 or 1 (modified so that 1 does not include friability).

‡ Corticosteroid-free clinical remission was defined as patients in clinical remission and not receiving corticosteroids at Week 44.

a p =<0.001

b p=0.004

Figure D-12 outlines results from the maintenance trial of patients who achieved clinical response in UC-1.

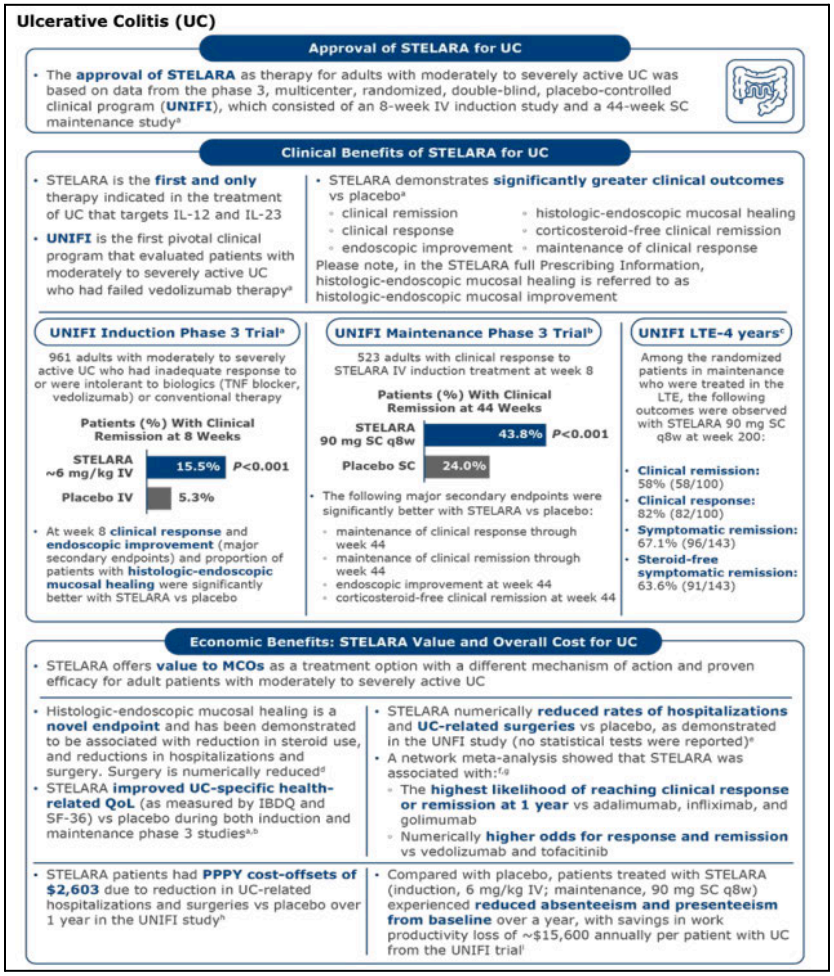
Voluntarily Submitted Manufacturer Information

Johnson & Johnson voluntarily submitted the following information regarding the financial effects of Stelara on health, medical, or social services costs. Information included:

- "STELARA® (ustekinumab) is the only IL-12/23 inhibitor in the US market and is approved for moderate-to-severe Crohn's Disease (CD), moderate-to-severe Ulcerative Colitis (UC), moderate-to-severe Plaque Psoriasis (PsO), and active Psoriatic Arthritis (PsA)."

Figure D-13

Figure from Voluntarily Submitted Information from Johnson & Johnson, pp 15[67]



[67] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view?usp=drive_link

Table D-7
Ulcerative Colitis Clinical and Cost Effectiveness Conclusion Summaries

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
ICER	***ICER Publishes Final Report and Policy Recommendations for Targeted Immune Modulator Therapies for Ulcerative Colitis***[68] During the public meeting, CTAF members voted 12-2 that the evidence was adequate to demonstrate clinical superiority of vedolizumab compared to adalimumab, but they concluded unanimously that evidence was inadequate to demonstrate the clinical superiority of **ustekinumab**. The majority of panelists (14-1) also found the evidence inadequate to distinguish between the benefits of tofacitinib, **ustekinumab**, and vedolizumab.	***ICER Publishes Final Report and Policy Recommendations for Targeted Immune Modulator Therapies for Ulcerative Colitis***[69] For the indication of ulcerative colitis, ICER's recommended health-benefit price benchmark (HBPB) ranges are $5,800-$6,900 per year for adalimumab; $6,300-$7,600 for golimumab; $8,800-$10,900 for infliximab and its biosimilars; $12,600-$15,300 for tofacitinib; $9,000-$17,200 for **ustekinumab**; and $9,200-$12,000 for vedolizumab. Among these therapies, the prices net of rebates for infliximab and its biosimilars come the closest to meeting its HBPB, requiring an additional 25% discount to reach the top end of the recommended price range. The other TIMs require much deeper discounts in addition to their current estimated rebates to reach their respective HBPB ranges (e.g., 85% for adalimumab and 82% for **ustekinumab**). The relatively better cost effectiveness for infliximab and its biosimilars reflects reductions in net pricing for infliximab seen over the past several years due to the effects of biosimilar competition. The HBPB is a price range suggesting the highest US price a manufacturer should charge for a treatment, based on the amount of improvement in overall health patients receive from that treatment, when a higher price would cause disproportionately greater losses in health among other patients in the health system due to rising overall costs of health care and health insurance. In short, it is the top price range at which a health system can reward innovation and better health for patients without doing more harm than good.
NICE	***Ustekinumab for treating moderately to severely active ulcerative colitis: 2020***[70] The clinical and patient experts, and the consultation responses, agreed that there is an unmet need for new non-surgical treatment options because many people have an inadequate response to current therapies or they stop working. The patient expert also noted that **ustekinumab's** mode and frequency of administration during maintenance treatment may be more	***Ustekinumab for treating moderately to severely active ulcerative colitis: 2020***[71] The ICER for **ustekinumab** compared with TNF-alpha inhibitors was higher than what is normally considered to be cost effective. Therefore, **ustekinumab** is not cost effective in people who have TNF-alpha inhibitors as a treatment option. However, the Committee agreed that the most appropriate comparator for **ustekinumab** is vedolizumab. Vedolizumab is used

[68] https://icer.org/news-insights/press-releases/icer-publishes-final-report-and-policy-recommendations-for-targeted-immune-modulator-therapies-for-ulcerative-colitis/
[69] https://icer.org/news-insights/press-releases/icer-publishes-final-report-and-policy-recommendations-for-targeted-immune-modulator-therapies-for-ulcerative-colitis/ - QALY used in this literature.
[70] https://www.nice.org.uk/guidance/ta633/chapter/3-Committee-discussion - QALY used in this literature.
[71] https://www.nice.org.uk/guidance/ta633/chapter/3-Committee-discussion - QALY used in this literature.

Source	Clinical Effectiveness Conclusion	Cost Effectiveness Conclusion
	convenient than that of some other current treatments. The committee concluded that new medical treatment options would be welcome. The UNIFI trial shows that **ustekinumab** is more effective than placebo at inducing and maintaining remission and response in all patients. At the end of induction treatment, rates of clinical remission and response were statistically significantly higher in the ustekinumab 6 mg per kg and 130 mg groups than the placebo group. This was the case for both the non-biologic failure and biologic-failure subgroups, and for the overall ITT population.	usually in current practice when TNF-alpha inhibitors have been inadequately effective or response has been lost, or they have not been tolerated or are considered inappropriate. For this population, the ICERs for **ustekinumab** compared with vedolizumab are within the range that would be considered a cost effective use of NHS resources. Therefore, the Committee concluded that **ustekinumab** can be recommended as an option for treating moderately to severely active ulcerative colitis in adults when conventional therapy or a biological agent cannot be tolerated, or the disease has responded inadequately or lost response to treatment, only if a TNF-alpha inhibitor has failed (that is the disease has responded inadequately or has lost response to treatment) or a TNF-alpha inhibitor cannot be tolerated or is not suitable.
CADTH	***CADTH Common Drug Review: 2020***[72] One double-blind randomized controlled trial (RCT), the UNIFI trial, was included in the review. The study was composed of two phases: an induction phase and a maintenance phase. The induction phase included 961 patients randomized to one of three arms: placebo IV (n = 319), **ustekinumab** IV (weight-based dosing of approximating 6 mg/kg; n = 322), or **ustekinumab** 130 mg (n = 320). Based on one trial, **ustekinumab** is more effective than placebo for inducing and maintaining clinical remission and clinical response, maintaining a corticosteroid-free remission, and inducing and maintaining endoscopic healing in patients who have moderate-to-severe UC despite current or previous treatment with conventional or biologic therapy. Based on one review of ITCs, although with better odds for all outcomes when compared with placebo, **ustekinumab** had no clear superiority over other common comparators with the same indication, although there is still uncertainty due to inconsistency in the body of evidence and risk of bias that decreases our confidence in this result. Although AEs were not different between **ustekinumab** and placebo, the number of events were low and more long-term studies are needed to assess possible harms.	***Pharmacoeconomic Review Report for Ustekinumab: 2020***[73] CADTH reanalyses of the non-biologic failure population determined that CT would be the optimal therapy if the willingness-to-pay (WTP) threshold is up to $53,546 per QALY; thereafter, **ustekinumab** would be the optimal therapy. In the biologic failure population, deterministic reanalyses by CADTH suggest that CT would be the optimal therapy up to a WTP threshold of $63,058 per QALY; thereafter, **ustekinumab** would be the optimal therapy. In the non-biologic failure population, **ustekinumab** had a 13% probability of being the preferred treatment at a WTP threshold of $50,000 per QALY gained and, at that threshold, a price reduction of at least 10% would be required for **ustekinumab** to be considered cost effective. For the biologic failure population, deterministic price reduction analyses suggested that a price reduction of at least 20% may be required for **ustekinumab** to be considered cost-effective at a WTP threshold of $50,000 per QALY gained.

Emerging Evidence, Clinical Effectiveness, and Cost Effectiveness

There may be ongoing or recently completed clinical trials that the Board may want to consider. To identify more recent clinical studies typically not captured in the studies above, information is provided below for completed Phase III or IV studies found on the National Institute of Health's Clinical Trials website. The results column only contains information if there is a published, peer-reviewed study or poster available.

[72] www.cadth.ca/sites/default/files/cdr/clinical/sr0627-stelara-clinical-review-report.pdf

[73] https://www.cadth.ca/sites/default/files/cdr/pharmacoeconomic/sr0627-stelara-pharmacoeconomic-review-report.pdf - QALY used in this literature.

Table D-8
ClinicalTrials.Gov Completed Phase III and IV Studies Summary

Study Name	Results
A Study to Evaluate the Safety and Efficacy of Ustekinumab Induction and Maintenance Therapy in Participants With Moderately to Severely Active Ulcerative Colitis (UNIFI): 2023[74]	**Ustekinumab** was more effective than placebo for inducing and maintaining remission in patients with moderate-to-severe ulcerative colitis., 2019[75]

[74] https://clinicaltrials.gov/study/NCT02407236?cond=Ulcerative%20Colitis&intr=Ustekinumab&aggFilters=phase:3%204,status:com,studyType:int&rank=2
[75] https://pubmed.ncbi.nlm.nih.gov/31553833/

Appendix E

Stelara: Patient Copayment and Other Cost Sharing

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider the patient copayment or other cost sharing that is associated with the prescription drug and typically required pursuant to health benefit plans issued by carriers in the state. (C.R.S. § 10-16-1406(4)(e)).

Rule: The Board will consider the copayment and other cost sharing data, across different health benefit plan designs, to the degree such information is available in the APCD, including copayment, coinsurance, deductible, and/or any other copayment and cost sharing data. (3 CCR 702-9, Part 3.1.E.2.e).

Policy: Information from ACPD data, in aggregate and by payer, for out-of-pocket costs; other data sources that approximate out-of-pocket costs not captured in APCD data; and out-of-pocket analyses will examine up to five years of data and will be consistent across all prescription drugs. (PDAB Policy 04, p. 7).

Underlying Methodology: Board staff have compiled data on patient copayment and other cost sharing for the Board's consideration in the following manner:

1. From APCD pharmacy and medical claims, board staff pulled all claims for Stelara and relevant insurance coverage information for the patients on those claims from January 2018 - December 2022.
2. Using this claims data and insurance plan information, reviewed out-of-pocket amounts by deductible, copay, and coinsurance separately for pharmacy and medical claims as the differences in benefits impact the out-of-pocket amounts.
3. Using this claims data and insurance plan information, reviewed the out-of-pocket cost amounts by payer type (commercial, Medicare Advantage, or Medicaid) and plan type (high deductible plans or not)
4. Using information from the Colorado Division of Insurance (DOI), summarized DOI-regulated plans rate filings relevant to Stelara.

Data Source(s): Board staff compiled information on patient copayment and other cost sharing for the selected prescription drug from the following sources:

- APCD for patient out-of-pocket cost amounts from January 2018 - December 2022.
- Publicly available information on manufacturer assistance programs, and
- Colorado Division of Insurance (DOI) rate filing information for Colorado health benefit plans, which aggregates data including from plans and benefits and prescription drug templates.

Considerations and Data Limitations: Variation in commercial out-of-pocket costs might reflect different plan designs more than differing costs of the drug, which could impact certain patient's affordable access to the selected drug. Additionally, publicly available manufacturing assistance program information is limited.

APCD data limitations include, in regards to out-of-pocket spending, claims data includes the amount the patient was charged, it does not include how the patient paid for their portion of the drug. Data sources do not contain information on patients' use of an assistance program.

Stelara: Patient Copayment and Other Cost Sharing Evidence

Background

Patients typically pay for covered prescription drugs in three different ways, all of which are considered patient out-of-pocket (OOP) payment types:

- Copayment: a fixed amount paid for a covered health care service.
- Coinsurance: a percentage of costs paid for a covered health care service.
- Deductible: a total amount paid for covered health care services by a patient, after which insurance pays for the majority of remaining health care services in the remaining plan year.

Health benefit plan design can have a significant impact on both the amount a patient pays for prescription drugs and when in the plan year a patient may pay more for a prescription drug. For example, a patient's cost sharing for prescription drugs might be higher during the beginning of their plan year and then drop significantly after the patient has met their deductible amount.

Health benefit plan designs typically have the most flexibility, and therefore most variability, in the commercially insured market. While there is some variability in plan design for Medicare Advantage and Medicaid, there is very limited variability in patient copayment and cost sharing for patients covered by Medicaid. For the vast majority of patients covered by Health First Colorado (Colorado's Medicaid Program) administered by the Colorado Department of Health Care Policy and Financing, patient prescription drug copayments are between $0-$3 for each prescription drug fill and most individuals with Medicaid coverage do not have deductibles or coinsurance.[1] Since this patient out-of-pocket cost amount is very small relative to individuals with other types of insurance, it has the potential to skew the average Coloradan's out-of-pocket costs much lower than what a typical individual with commercial insurance might pay. As such, Medicaid patient out-of-pocket amounts are removed from estimates of the average out-of-pocket dollar amounts. Medicaid patient out-of-pocket amounts are included in total spend estimates, and Medicaid patients are included in utilization estimates.

Lastly, as previously mentioned, the APCD contains claims data regarding how much a patient was charged for a prescription drug; it does not include information on how the patient paid. If a patient utilized an assistance program, such as Johnson & Johnson's or a foundation-based assistance program, that information would not be evident in the APCD. While there is no database that routinely and consistently collects information about patient assistance programs, patients, caregivers, and Stelara's manufacturer provided some information. See Appendices H and J for more information.

Average Patient Payments

Information regarding the average patient payment is provided below in a variety of ways to better understand the different types of patient payments (i.e., copayment vs deductible vs coinsurance) and different amounts over time. Of Stelara's four FDA approved indications, Crohn's disease and ulcerative colitis have the first dose, or loading dose, administered intravenously in a medical setting with follow up doses administered subcutaneously by the patient.[2] These different administrations appear in the claims differently, and medical and pharmaceutical

[1] https://www.healthfirstcolorado.com/copay/

[2] See appendices A and B for more information

benefits often have different cost sharing policies applied. The majority of the data presented in this appendix shows the patient cost sharing of the pharmaceutical or subcutaneous administration of Stelara because that is the most common administration.When medical or intravenous administration is included, it is separated and labeled as such.

Ilumya and Siliq are identified therapeutic alternatives with very low utilization in the APCD (i.e., utilization was less than 30 patients in 2022); where appropriate, they have been removed as comparators in this appendix due to this low utilization. Skyrizi, another identified therapeutic alternative, was approved by the FDA in 2021, and only has sufficient utilization in the APCD in 2021 and 2022, so it is removed from some graphics showing changes over longer time periods and is included in others where appropriate. It is the only identified therapeutic alternative that has an intravenous loading dose and is therefore provided as the only comparator for Stelara's intravenous administration. There have been two additional therapeutic alternatives identified, Bimzelx and Omvoh, both of which were approved in 2023 and therefore have no claims utilization in the APCD and are not included in this appendix.[3]

Table E-1
Stelara Administration Type Description

Administration	Subcutaneous Administration	Intravenous Administration
Benefit Type	Pharmaceutical	Medical
Claim Type	Pharmaceutical Claims	Medical Claims
NDCs	57894-0060-02, 57894-0060-03, 57894-0061-03	57894-0054-27
HCPCS		J3357, J3358
2022 APCD Utilization[4]	95.07% of Claims; 92.88% of Patients	4.93% of Claims; 23.12% of Patients

Table E-1 shows the benefit type, claim type, NDCs, HCPCS, and utilization associated with subcutaneous and intravenous administrations of Stelara.

[3] See Appendix B for more information.

[4] Shows the distribution across benefit types by both claims and patients. Note that the percent of patients does not add up to 100% because there are patients who had both medical and pharmacy administration in 2022.

Figure E-1

Changes in Patient Out-of-Pocket Amounts from January 2018-December 2022 (Pharmacy Claims)

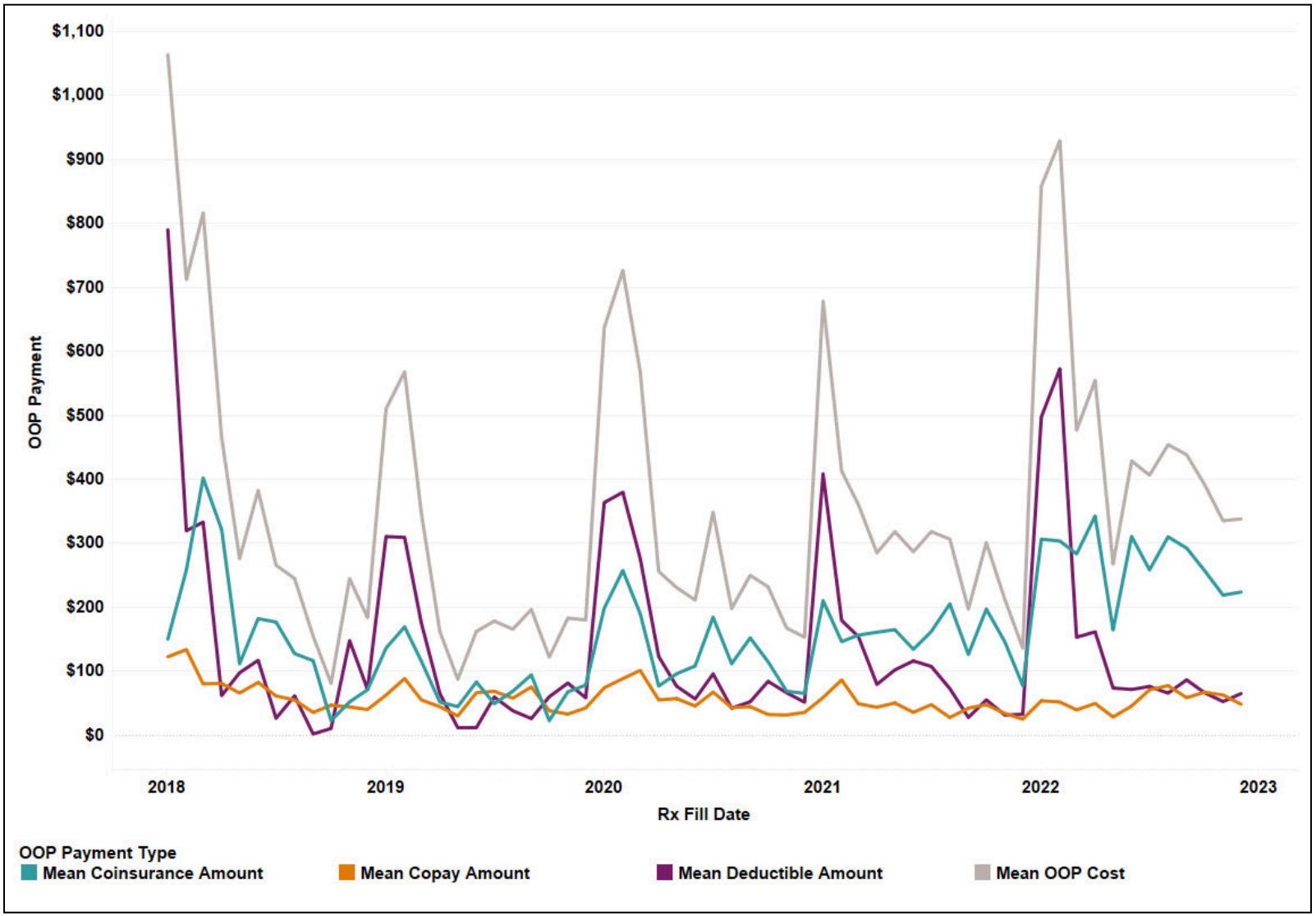


Figure E-1 shows the average out-of-pocket amount for the pharmacy claims for commercially insured patients, where the orange line shows the monthly average copayment amount, the purple line shows the monthly average deductible amount, the teal line shows the monthly average coinsurance amount, and the gray line shows the monthly average total out-of-pocket amount. The deductible has a clear increase at the beginning of each plan year as patients pay more to hit their deductible.

Figure E-2
Average Commercial Out-of-Pocket Cost Comparison (Pharmacy Claims)

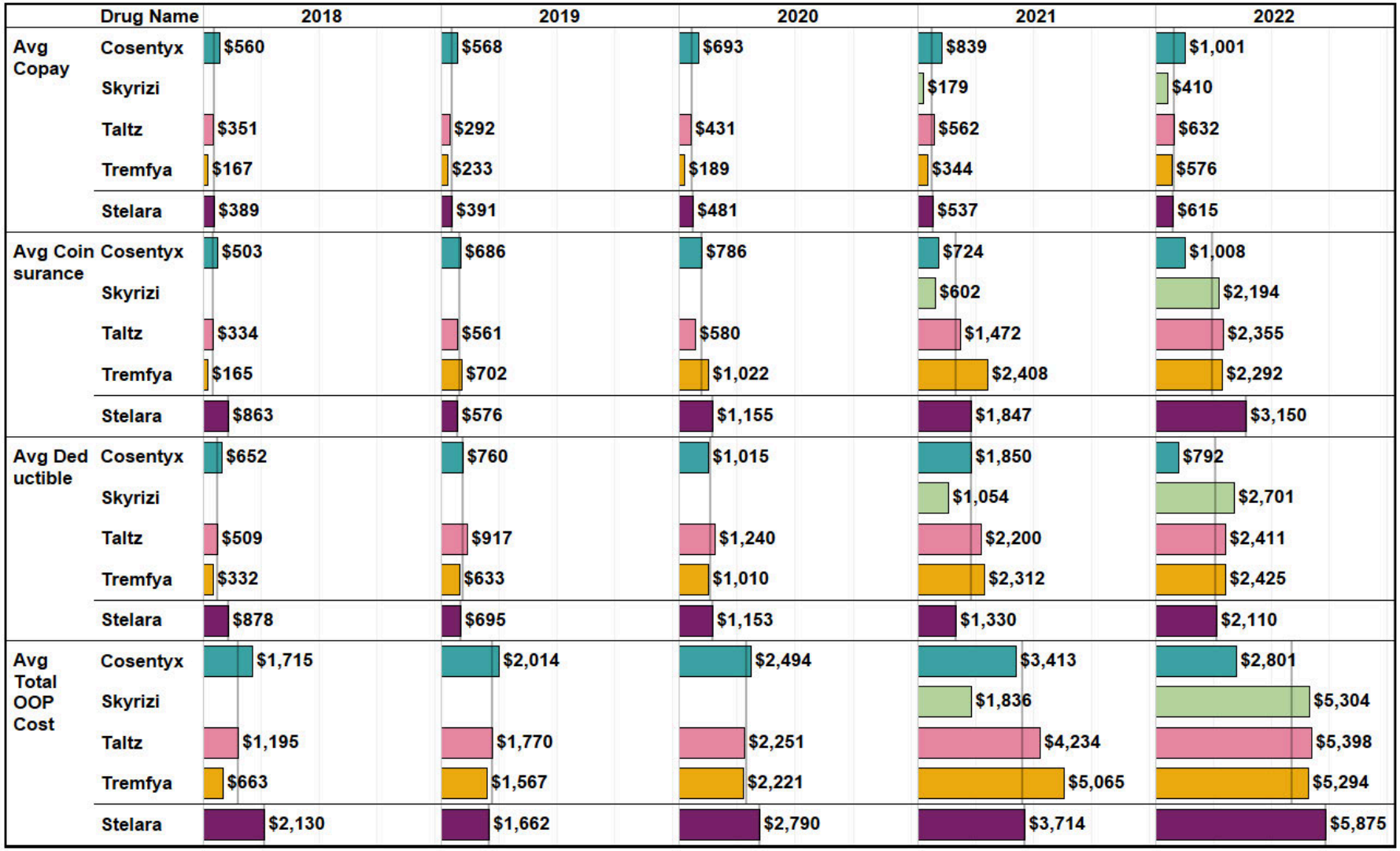


Figure E-2 shows each out-of-pocket cost type for commercially insured individuals with Stelara in dark purple and identified therapeutic alternatives by year. There is a light gray line that shows the average of identified therapeutic alternatives as a comparison to determine if Stelara is more or less expensive than the average of identified therapeutic alternatives. For 2022, Stelara had the highest average total out-of-pocket cost at $5,875 per patient per year while the average across all therapeutic alternatives is $4,699.

Table E-2

Average Annual Totals and Year-Over-Year Changes for Out-of-Pocket Amounts for Commercial Payers from 2018-2022 (Pharmacy Claims)

Drug name	Out-of-Pocket Payment Type	2018	2019	2020	2021	2022
Stelara	Avg Coinsurance	$863	$576	$1,155	$1,847	$3,150
	Percent Difference		*-33.31%*	*100.64%*	*59.88%*	*70.59%*
	Avg Copay	$389	$391	$481	$537	$615
	Percent Difference		*0.64%*	*22.97%*	*11.69%*	*14.48%*
	Avg Deductible	$878	$695	$1,153	$1,330	$2,110
	Percent Difference		*-20.84%*	*65.94%*	*15.31%*	*58.64%*
	Avg Total OOP Cost	**$2,130**	**$1,662**	**$2,790**	**$3,714**	**$5,875**
	Percent Difference		***-21.97%***	***67.84%***	***33.14%***	***58.19%***
Cosentyx	Avg Coinsurance	$503	$686	$786	$724	$1,008
	Percent Difference		*36.46%*	*14.64%*	*-7.89%*	*39.14%*
	Avg Copay	$560	$568	$693	$839	$1,001
	Percent Difference		*1.44%*	*21.87%*	*21.20%*	*19.30%*
	Avg Deductible	$652	$760	$1,015	$1,850	$792
	Percent Difference		*16.50%*	*33.60%*	*82.25%*	*-57.17%*
	Avg Total OOP Cost	**$1,715**	**$2,014**	**$2,494**	**$3,413**	**$2,801**
	Percent Difference		***17.43%***	***23.83%***	***36.88%***	***-17.94%***
Skyrizi	Avg Coinsurance				$602	$2,194
	Percent Difference					*264.10%*
	Avg Copay				$179	$410
	Percent Difference					*128.78%*
	Avg Deductible				$1,054	$2,701
	Percent Difference					*156.17%*
	Avg Total OOP Cost				**$1,836**	**$5,304**
	Percent Difference					***188.92%***
Taltz	Avg Coinsurance	$334	$561	$580	$1,472	$2,355
	Percent Difference		*67.93%*	*3.36%*	*153.84%*	*59.96%*
	Avg Copay	$351	$292	$431	$562	$632
	Percent Difference		*-17.00%*	*47.82%*	*30.35%*	*12.46%*

	Avg Deductible	$509	$917	$1,240	$2,200	$2,411
	Percent Difference		*80.07%*	*35.21%*	*77.40%*	*9.62%*
	Avg Total OOP Cost	**$1,195**	**$1,770**	**$2,251**	**$4,234**	**$5,398**
	Percent Difference		***48.13%***	***27.19%***	***88.08%***	***27.50%***
Tremfya	**Avg Coinsurance**	$165	$702	$1,022	$2,408	$2,292
	Percent Difference		*326.09%*	*45.70%*	*135.57%*	*-4.81%*
	Avg Copay	$167	$233	$189	$344	$576
	Percent Difference		*39.74%*	*-18.91%*	*82.15%*	*67.46%*
	Avg Deductible	$332	$633	$1,010	$2,312	$2,425
	Percent Difference		*90.54%*	*59.60%*	*129.03%*	*4.87%*
	Avg Total OOP Cost	**$663**	**$1,567**	**$2,221**	**$5,065**	**$5,294**
	Percent Difference		***136.24%***	***41.70%***	***128.05%***	***4.52%***

Table E-2 shows the average annual coinsurance, copayment, deductible, and total out-of-pocket amounts for Stelara and identified therapeutic alternatives, as well as the year-over-year percent change across all commercial payers from January 2018 through December 2022.

Table E-3

Average Annual Totals and Year-Over-Year Changes for Out-of-Pocket Amounts for Commercial Payers from 2018-2022 (Medical Claims)

Drug Name	Out-of-Pocket Payment Type	2018	2019	2020	2021	2022
Stelara	**Avg Coinsurance**	$447	$465	$473	$577	$686
	Percent Difference		*4.24%*	*1.63%*	*21.90%*	*18.88%*
	Avg Copay	$33	$16	$11	$4	$4
	Percent Difference		*-53.11%*	*-31.67%*	*-64.89%*	*11.73%*
	Avg Deductible					
	Percent Difference					
	Avg Total OOP Cost	$753	$889	$939	$1,029	$1,317
	Percent Difference		*18.02%*	*5.63%*	*9.64%*	*27.94%*

Table E-3 shows the average annual coinsurance, copayment, deductible, and total out-of-pocket amounts and the year-over-year percent change across all commercial payers from January 2018 through December 2022 for the medical claims or intravenous administration of Stelara.[5]

[5] No therapeutic alternatives are shown because Skyrizi is the only identified therapeutic alternative that is regularly administered intravenously and it was approved in 2021, so there is not enough data in the APCD to show year-over-year changes.

Figure E-3

Changes in Out-of-Pocket Amounts by Year and Drug 2018-2022 (Pharmacy Claims)

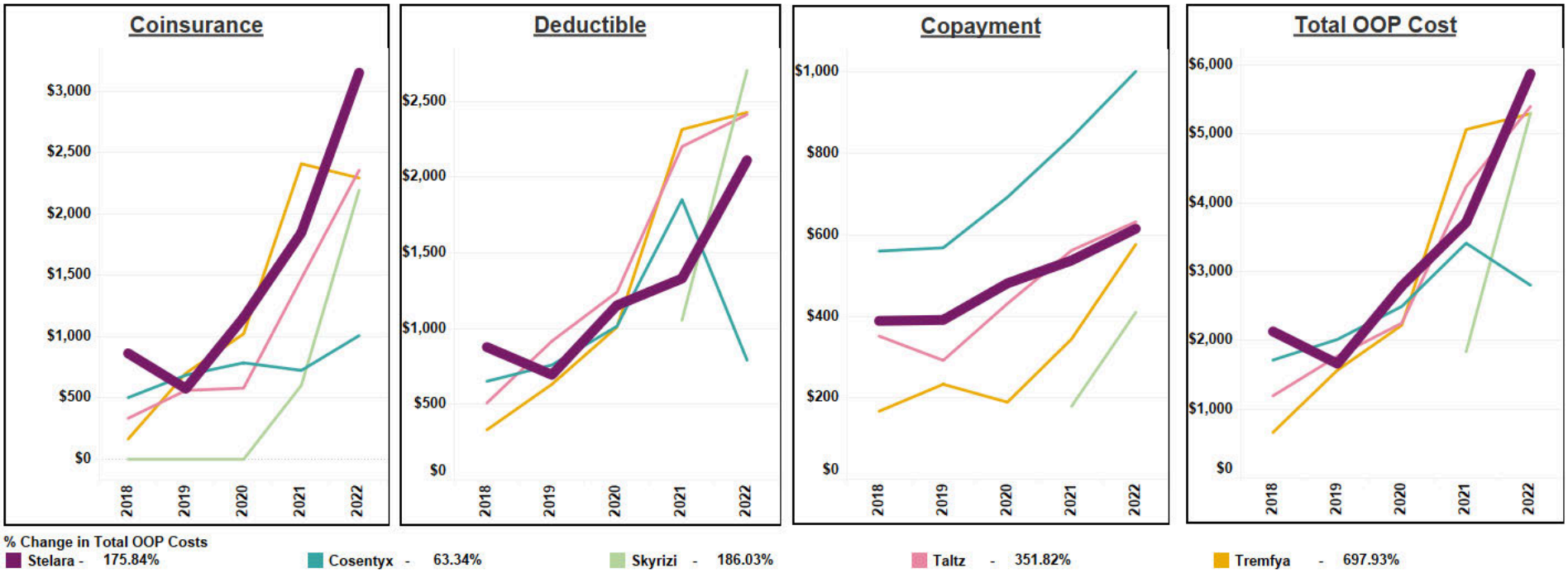


Figure E-3 shows the annual change in the annual average OOP per person per year amounts comparing Stelara (dark purple) to identified therapeutic alternatives. Below the graph, the percent change in total out-of-pocket costs from January 2018 - December 2022 for each drug is indicated. Stelara has the largest total out-of-pocket cost, which is largely driven by the increase in coinsurance and deductible. While it has the highest total out-of-pocket cost, Tremfya and Skyrizi have increased at a higher rate.

Table E-4
Average Monthly Commercial Out-of-Pocket Cost Information in 2022 (Pharmacy Claims)

	Stelara	Cosentyx	Ilumya	Skyrizi	Taltz	Tremfya
Average Total OOP Cost	**$489.92**	$257.58	$175.46	$467.29	$235.91	$487.70
Average Coinsurance Amount	**$272.88**	$92.08	$0.00	$199.55	$109.75	$218.11
Average Copay Amount	**$54.91**	$91.91	$175.46	$37.02	$29.26	$54.59
Average Deductible Amount	**$162.14**	$73.59	$0.00	$230.73	$96.90	$215.00
Average Days Supply	**52.6**	31.3	83.3	60.5	30.0	46.2

Table E-4 shows that in an average month in 2022, an individual with commercial insurance paid a total of $489.92 for their subcutaneous dose of Stelara: $162.14 went towards the deductible, $277.88 was paid towards coinsurance, and $54.91 was paid via copayment. These payments were for an average of 52.6 days.

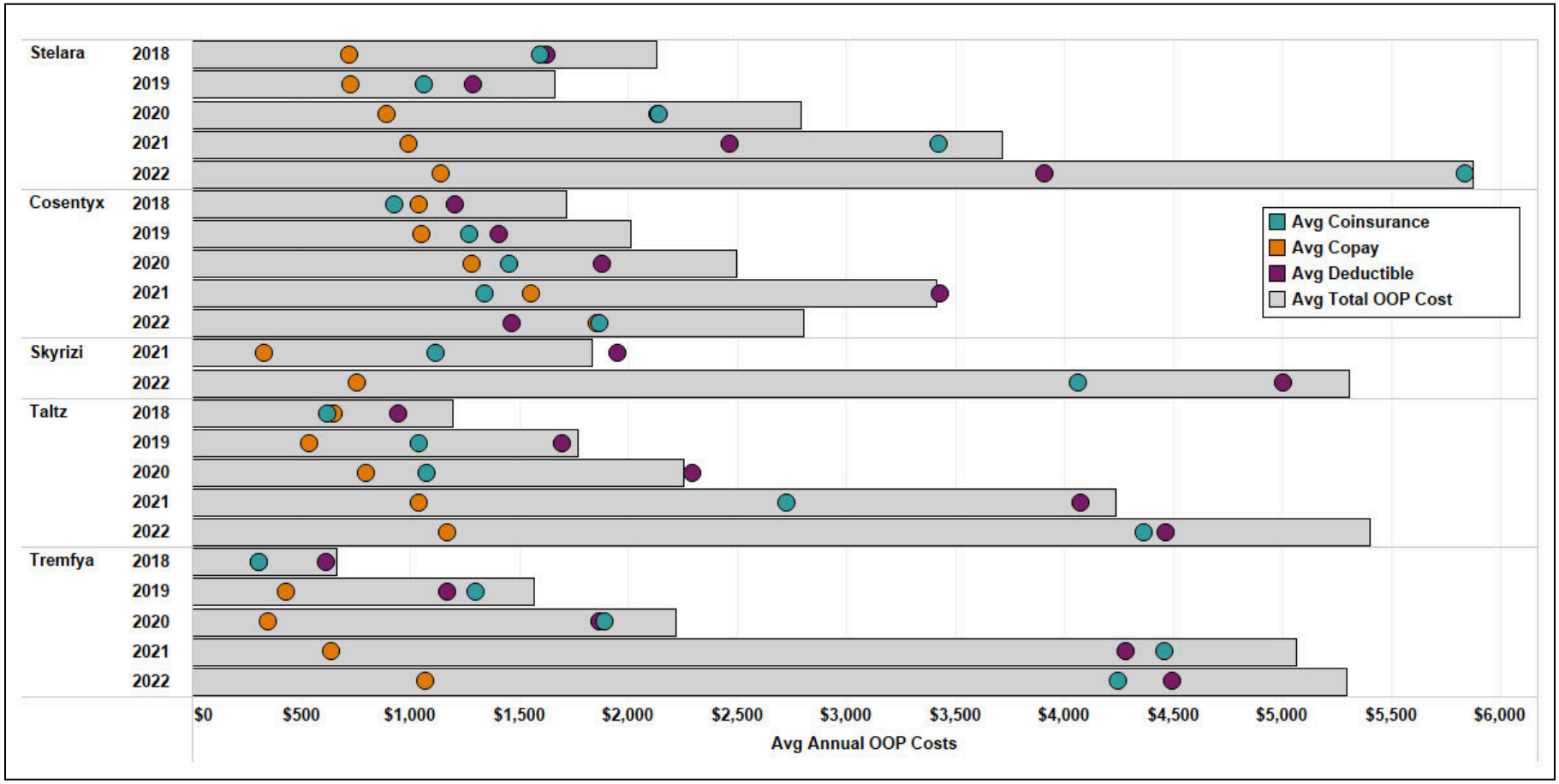
Table E-5
Average Monthly Commercial Out-of-Pocket Cost Information in 2022 (Medical Claims)

	Stelara	Skyrizi
Average Total OOP Cost	**$767.61**	$21.51
Average Coinsurance Amount	**$389.63**	$20.56
Average Copay Amount	**$2.50**	$0.10

Table E-5 shows that in an average month in 2022, an individual with commercial insurance paid a total of $767.61 for their intravenous dose of Stelara: $389.63 was paid towards coinsurance, and $2.50 was paid via copayment. While patients may have contributed to their deductible on medical visits to receive Stelara, the portion of the out-of-pocket cost that is specifically attributable to the drug cannot be identified.

Figure E-4

Average Commercial Total Out-of-Pocket Cost and by Cost Sharing Type from 2018-2022 (Pharmacy Claims)



In Figure E-4, the gray bar displays the annual total out-of-pocket cost and out-of-pocket amounts are displayed as circles, with copayment in amounts in orange, coinsurance amounts as teal, and deductibles amounts as purple. This graphic shows an annual increase in total out-of-pocket costs for Stelara with large increases in coinsurance and deductible amounts.

Figure E-5

Patient Out-of-Pocket Payment as a Percentage of Plan Payment from 2018 - 2022 (Pharmacy claims)

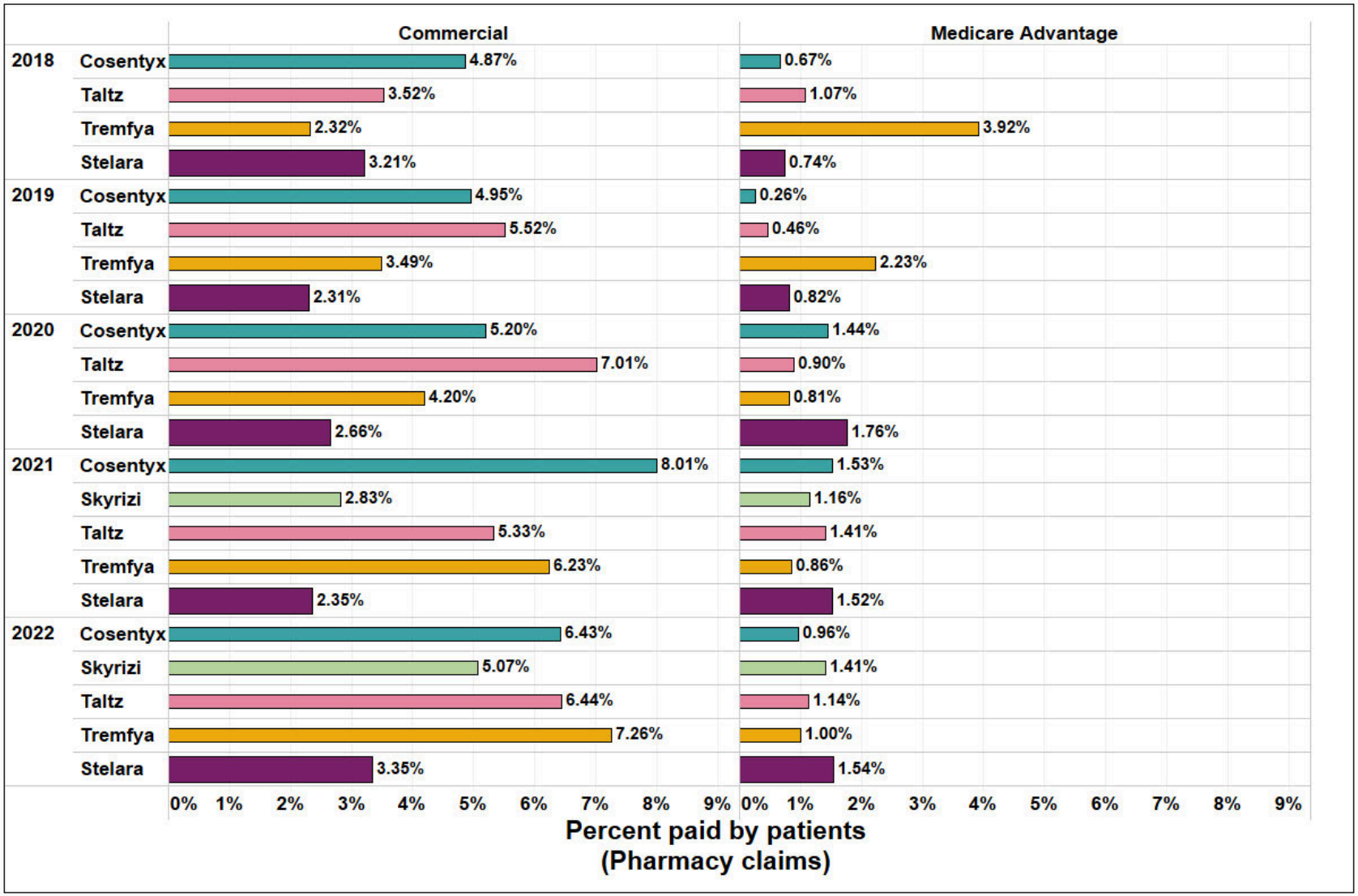


Figure E-5 provides context for what patients paid, as compared to their insurance plan, for Stelara or its identified therapeutic alternatives from 2018 through 2022. In 2022, commercial patients paid for 3.35% of the total paid amount for Stelara, a lower portion than any of the identified therapeutic alternatives. Whereas patients with Medicare Advantage coverage paid for 1.54% of the total paid amount for Stelara, higher than all of the therapeutic alternatives.

Figure E-6
Patient Out-of-Pocket Payment as a Percentage of Plan Payment from 2018 - 2022 (Medical claims)

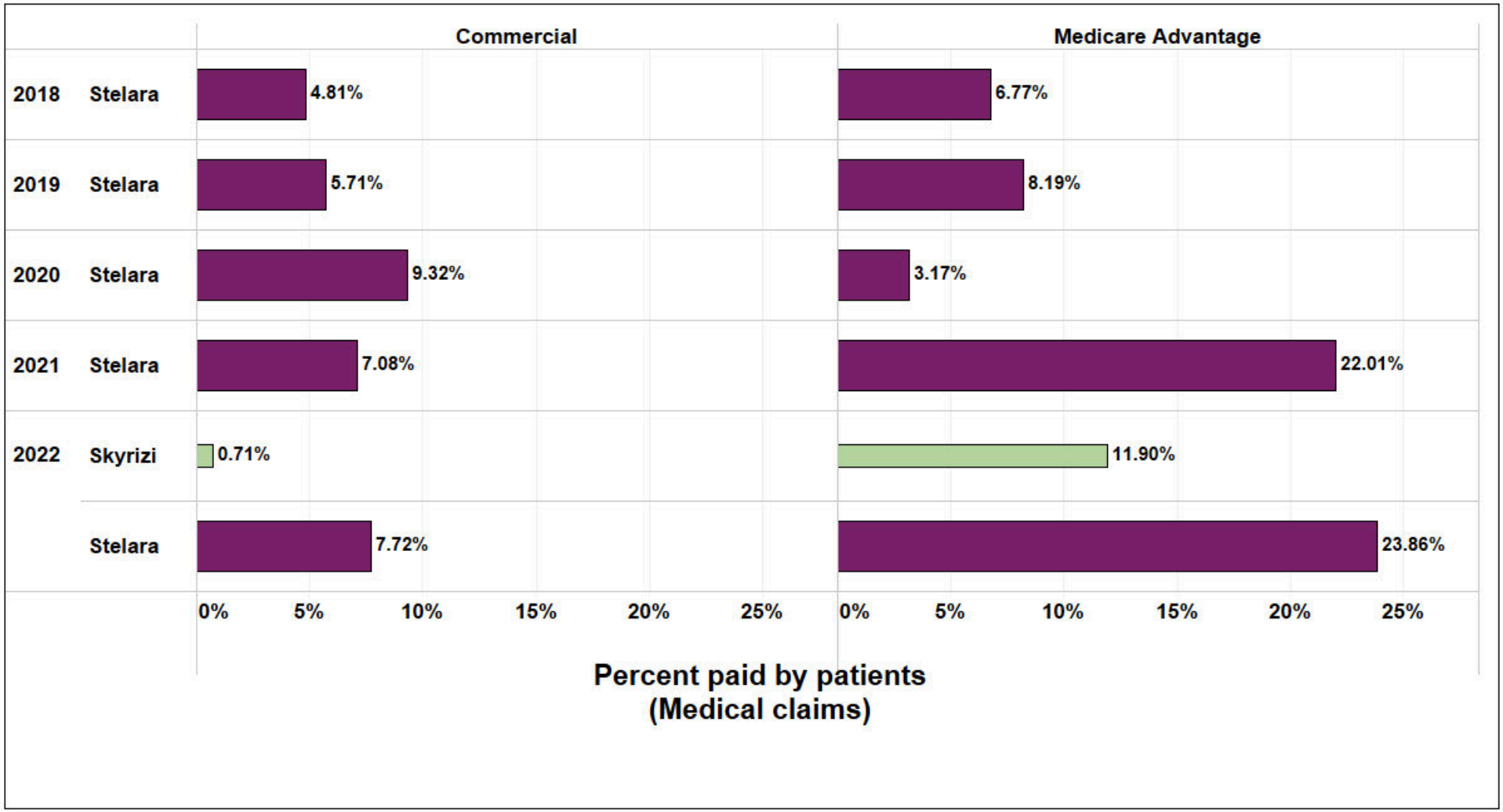


Figure E-6 provides context for what patients paid, as compared to their insurance plan, for Stelara in the medical claims from 2018 through 2022.

Figure E-7
Total Out-of-Pocket Cost Histogram for Stelara for 2022

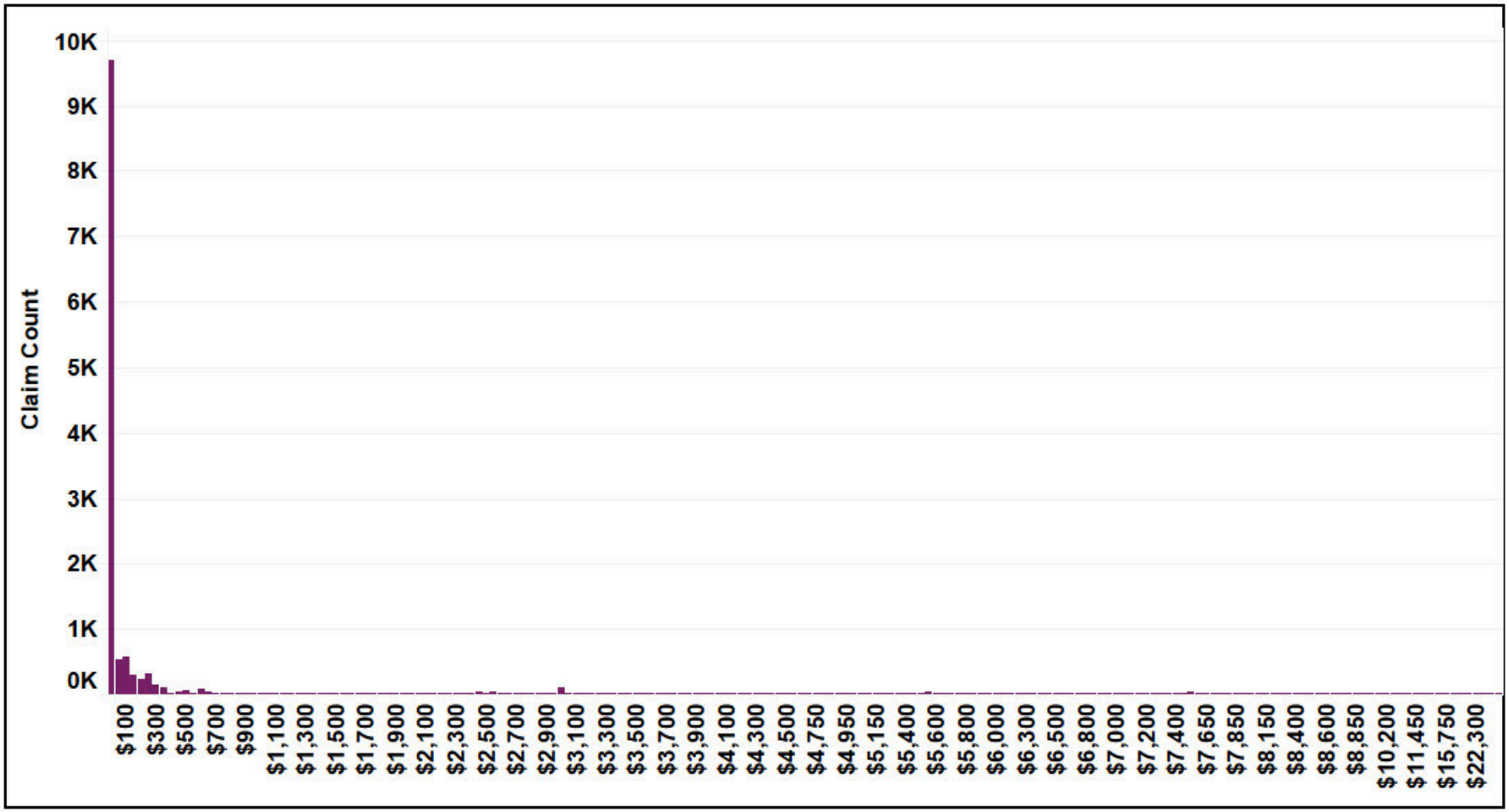


Figure E-7 shows a histogram of annual total out-of-pocket costs for individuals with commercial insurance in 2022 for utilizers of Stelara. It shows the variation of the total out-of-pocket costs, where 65.70% of Stelara utilizers paid between $0-$50, and 3.62% paid between $50-100 for each claim, though some individuals paid as much as $22,300 - $22,350.

Health Benefit Plan Design

A patient's insurance benefit design impacts how much of the health care service cost a patient is responsible for paying. In high deductible health plans (HDHP), a patient or family has a higher deductible that must be met before the insurance company will contribute to claims. When reviewing patient out-of-pocket costs on claims, differentiating between a high deductible benefit plan and a different benefit plan provide some indication of why a patient's out-of-pocket cost was different at different prescription fill points throughout the benefit year. For some individuals on a high deductible plan, they may share in more of the total costs of the drug due to the higher deductible. Below is a table outlining what portion of the patients using Stelara on commercial health plans were enrolled in high deductible health plans. In 2021 and 2022, fewer than 6% of patients using Stelara were enrolled in a high deductible health plan, which means that the out-of-pocket costs presented in this report do incorporate deductibles, but are not necessarily skewed by a large portion of patients on HDHPs.

Table E-6
Percent of patients on HDHP 2018-2022

Drug name	2018	2019	2020	2021	2022
Stelara	6.00%	6.38%	5.95%	5.52%	5.79%
Cosentyx	5.17%	5.39%	5.20%	5.03%	7.76%
Skyrizi				4.77%	5.87%
Taltz	6.03%	4.07%	2.98%	3.42%	5.18%
Tremfya	3.39%	1.94%	1.37%	2.33%	4.37%

Table E-6 shows the percent of patients on high deductible health plans in the APCD for Stelara and identified therapeutic alternatives from 2018 to 2022.

Colorado Division of Insurance Regulated Plans Rate Filing Analysis

As part of its rate review processes and enforcement of Regulation 4-2-58, the Colorado Division of Insurance (DOI) receives filings from carriers in the individual and small group markets. Rate filings are filed on an annual basis for compliance reviews by DOI. The following information was pulled by DOI staff for the affordability review and does not describe the entire market in Colorado, but can shed valuable information on benefit plan design and out-of-pocket costs.

Seven of the ten carriers in the Colorado market cover Stelara and all seven of these carriers require prior authorization. In total, 504 plans provide coverage for Stelara. In general, the majority of carriers place Stelara on the higher or highest formulary tier, meaning a higher portion of the drug is paid by patients than drugs on lower tiers until the maximum out-of-pocket amount under the plan is paid by the insured.

In order to summarize the cost sharing attributes of DOI-regulated plans, they are split into three parts:

- Percent Coinsurance after deductible: the amount of money that a consumer pays for each claim submitted,
- Copayment after deductible: the copayment associated with each visit or prescription fill once the deductible is met, and
- Copayment only.

Some of the plans that apply the copayment may apply the deductible, whereas the coinsurance plans always apply the deductible.

Table E-7
DOI-Regulated Plans Stelara Out-of-Pocket Costs Overview

	Total Number of Plans	Minimum	Maximum	Average	Mode
% Coinsurance after Deductible	123	0.00%	50.00%	26.72%	0.00%
Copayment after Deductible	89	$115.00	$150.00	$126.57	$125.00
Copayment	292	$115.00	$700.00	$234.57	$125.00
Total Plans	**504**				

Table E-7 shows a summary of different types of cost sharing and their applicable ranges for DOI-regulated plans covering Stelara. For DOI-regulated plans, the average coinsurance after deductible was 26.72%, meaning that after individuals met their plan deductible, they paid for 26.72% of the cost of Stelara. The data included in this summary was taken from the Master Review Tool.[6] This tool is distributed through CMS and gathers information from the plans data submitted to the Division through SERFF (the Systems for Electronic Rates and Forms Filing through the National Association of Insurance Commissioners) for the Plan Year 2024.[7]

Input from Patient and Caregivers

Table E-8
Colorado Patients' Self-Reported Out-of-Pocket Cost and Access Due to Cost

Out-of-Pocket Cost per Month	Colorado Response	Cost Affects Access
$0 - $50	2 of 5 (40%)	0 of 2 (0%)
$50 - 100	1 of 5 (20%)	1 of 1 (100%)
$150 - $250	1 of 5 (20%)	0 of 1 (0%)
$250 - $500	1 of 5 (20%)	1 of 1 (100%)

[6] https://www.qhpcertification.cms.gov/s/Review%20Tools

[7] The information was collected and organized through Excel to calculate the minimum, maximum, average, and mode. The minimum, maximum, average, and mode were calculated.

Appendix F

Stelara: Impact on Safety Net Providers

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider the impact on safety net providers if the prescription drug is available through section 340B of the federal "Public Health Service Act", Pub.L. 78-410. (C.R.S. § 10-16-1406(4)(f)).

Rule: When the prescription drug is available through section 340B of the Federal "Public Health Service Act", Pub.L. 78-410, the Board will evaluate:

- The utilization of the prescription drug by the safety net provider's patients;
- Whether the safety net provider receives a 340B discount for the prescription drug;
- Where the safety net provider does not receive a discount, whether access to the prescription drug is impeded; and
- Any other topics identified by safety net provider stakeholders for discussion. (3 CCR 702-9, Part 3.1.E.2.f).

Policy: As part of the Board's obligation to consider the impact of an affordability review of the cost of a prescription drug on safety net providers, Staff will request all safety net providers to voluntarily provide information to the Board. To facilitate gathering the information from safety net providers, Staff may request a list of 340B approved safety net providers from HCPF. (PDAB Policy 04, p. 7).

Underlying Methodology: Board staff compiled data for the Board's consideration in the following manner:

1. Documented information provided during the stakeholder sessions to gather input from individuals with scientific or medical expertise, specifically the portion of those meetings dedicated to safety net providers. Staff attempted to compile information directly related to the information outlined in rule during stakeholder meetings, as well as a survey.
2. Compiled relevant information provided by entities who submitted information voluntarily.

Data Source(s): Board staff compiled information on safety net provider impact from the following sources:

- Input from safety net providers gathered during stakeholder meetings with individuals with scientific or medical expertise, and
- Relevant voluntarily submitted information.

Considerations and Data Limitations: Information provided to the Board by safety net providers may be confidential. Input provided both via stakeholder meetings and surveys is voluntary. Such qualitative data may not capture information from all safety net providers.

Stelara: Impact on Safety Net Providers Evidence

Background

The 340B Drug Pricing Program is a means for certain hospitals and clinics to stretch scarce federal resources by buying outpatient prescription drugs at a discount (typically 25-50%), while receiving typical reimbursement from payers. This is intended to allow safety net providers to stretch their financial resources to reach more financially vulnerable patients and deliver comprehensive services.

Eligible health care organizations (called covered entities) are defined in statute and include HRSA-supported health centers and look-alikes, Ryan White clinics and State AIDS Drug Assistance programs, Medicare/Medicaid Disproportionate Share Hospitals, children's hospitals, and other safety net providers.[1]

Evidence

HRSA maintains a database of covered entities and contract pharmacies, including the number of unique covered entities and addresses by covered entity type. In Colorado, there are 108 unique active covered entity names, with an associated 536 unique addresses. Additionally, there are approximately 2,974 approved and participating contract pharmacies. Table F-1 provides information on the number of unique address in Colorado designated by covered entity type:

Table F-1
340B Covered Entity Types and Number of Unique Addresses

340B Entity Type	Unique Addresses
Critical Access Hospital (CAH)	68
HRSA-Funded Health Center (CH)	212
Disproportionate Share Hospital (DSH)	160
Family Planning - Title X (FP)	38
Tribal Contract/Compact with HIS (FQHC638)	1
Health Center Program Look-Alike (FQHCLA)	1
Ryan White Part C (HV)	1
Children's Hospital (PED)	21
Rural Referral Center (RRC)	6
Comprehensive Hemophilia Treatment Center (HM)	1
Ryan White Part A (RWI)	2
Ryan White Part B (RWII)	6
Ryan White Part B ADAP Direct Purchase (RWIID)	1
Ryan White Part B ADAP Rebate Option (RWIIR)	1
Sole Community Hospital (SCH)	6
Sexually Transmitted Diseases (STD)	39
Tuberculosis (TB)	2
Urban Indian Health Center (UI)	1

Due to the differences in the form and manner in which information is submitted to HRSA and the Colorado All Payer Claims Database (APCD), Board staff did not analyze how many of these covered entities dispense Stelara.

[1] https://www.hrsa.gov/opa

In accordance with HHS 340B Drug Pricing Program Ceiling Price, prescription drug manufacturers are only allowed to charge $0.01 for a prescription drug when its 340B ceiling price calculation results in an amount less than a penny. This “penny pricing” occurs when a manufacturer raises the price of a drug substantially more quickly than the rate of inflation. While Figure 9 (also Figure A-2) does not display the rate of inflation, the fact that Stelara’s wholesale acquisition cost (WAC) has risen higher than inflation since its launch, suggests that Stelara could be, at times, subject to the 340B “penny pricing” policy.

Board staff and HCPF discussed that there was no readily available list or email listserv of 340B covered entities maintained by HCPF that could be used to facilitate Board staff outreach.

There is additional information contained in Appendix I and Appendix J which may contain additional information on impact to safety net providers not captured in this appendix. The Board may want to weigh information from all three appendices when evaluating the impact to safety net providers.

Appendix G

Stelara: Orphan Drug Status

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider orphan drug status. (C.R.S. § 10-16-1406(4)(g)).

Rule: The Board will identify whether the prescription drug is an orphan drug, as designated by the FDA pursuant to the Orphan Drug Act (Pub.L. 97-414).

The Board may further consider:

- The use of the prescription drug for indications with an orphan drug designation as compared to the use of the prescription drug for other indications; and/or
- The extent to which the drug addresses an unmet need or treats a rare or serious disease for which limited therapeutic alternatives are available. (3 CCR 702-9, Part 3.1.E.2.g).

Policy: The Board will compile evidence and information regarding the prescription drug's orphan drug status as designated by the FDA pursuant to the Orphan Drug Act (Pub.L. 97-414), including:

- Reviewing the Orphan Drug List for the quarter during which the affordability review begins.
- Designation date of the prescription drug on the orphan drug list.
- Treatment designation of the prescription drug on the orphan drug list as an indicator of the population the orphan drug serves.
- Reviews of literature and patient, caregiver, and clinical expertise to understand the extent to which the prescription drug addresses an unmet need or treats a rare or serious disease for which limited therapeutic alternatives are available (PDAB Policy 04, p. 7).

Underlying Methodology: Board staff compiled data regarding orphan drug status for the Board's consideration in the following manner:

- Analyzed listed indications for the selected drug, and using the FDA website, identified if any of the selected drugs have received FDA approval to treat active orphan drug indications.
- To identify if the drug meets an unmet need or treats a rare condition, Board staff reviewed information received from patient/caregiver and scientific medical training public input sessions and surveys.

Data Source(s): Board staff obtained information regarding the selected drug's orphan drug status from the following sources:

- FDA website, which contains information on current FDA labeling for each drug, FDA-approved indication, and orphan drug status,
- Results from public input sessions and surveys from patients and caregivers and individuals with scientific or medical training, and
- Relevant voluntarily submitted information.

Considerations and Data Limitations: Orphan drug designations are related to the condition or indication being treated. There may be prescription drugs that treat multiple indications, but not all of those indications may be a rare disease. Data limitations that apply broadly to APCD data may apply here.

Stelara: Orphan Drug Status Evidence

Background

The Orphan Drug Act, passed by Congress in 1983, incentivizes the development of drugs to treat rare diseases. A rare disease is defined as a disease or condition that affects less than 200,000 people in the United States.[1] Prescription drug manufacturers submit disease prevalence estimates and other documentation to the FDA in a request for orphan drug designation, which the FDA then assesses.[2]

An orphan drug is defined in the United States as one used for the treatment of a disease or condition affecting fewer than 200,000 people. The FDA has authority to grant orphan drug designation to a drug or biological product to prevent, diagnose or treat a rare disease or condition. Companies and other drug developers can request orphan drug designation and the FDA will grant such designation if the drug meets specific criteria. While a manufacturer may request this designation, it is not a guarantee that the FDA will approve the drug's orphan drug status. Orphan drug designation provides incentives such as tax credits, fee exemptions, and a potential seven years of market exclusivity after approval.[3]

Orphan Drug Status

There are currently no FDA approved orphan drug designations for Stelara or any of its therapeutic alternatives as of the date of this publication. Though Stelara has orphan drug designations for pediatric ulcerative colitis and pediatric Crohn's disease, the FDA has not approved Stelara to treat these indications.[4]

Figure G-1
Stelara Orphan Drug Designation: Pediatric Ulcerative Colitis[5]

Generic Name:	ustekinumab
Date Designated:	02/22/2017
Orphan Designation:	Treatment of pediatric ulcerative colitis
Orphan Designation Status:	Designated
FDA Orphan Approval Status:	Not FDA Approved for Orphan Indication
Sponsor:	Janssen Biotech, Inc. 1400 McKean Road Spring House, Pennsylvania 19477 United States *The sponsor address listed is the last reported by the sponsor to OOPD.*

[1] https://www.fda.gov/patients/rare-diseases-fda
[2] https://www.ecfr.gov/current/title-21/chapter-I/subchapter-D/part-316/subpart-C/section-316.21
[3] https://www.fda.gov/industry/medical-products-rare-diseases-and-conditions/designating-orphan-product-drugs-and-biological-products
[4] https://www.accessdata.fda.gov/scripts/opdlisting/oopd/listResult.cfm
[5] https://www.accessdata.fda.gov/scripts/opdlisting/oopd/detailedIndex.cfm?cfgridkey=537516

Figure G-2
Stelara Orphan Drug Designation: Pediatric Crohn's Disease[6]

Generic Name:	ustekinumab
Date Designated:	05/18/2016
Orphan Designation:	Treatment of pediatric Crohn's disease (0 through 16 years of age)
Orphan Designation Status:	Designated
FDA Orphan Approval Status:	Not FDA Approved for Orphan Indication
Sponsor:	Janssen Research & Development, LLC 1400 McKean Road P.O. Box 776 Spring House, Pennsylvania 19477 United States *The sponsor address listed is the last reported by the sponsor to OOPD.*

[6] https://www.accessdata.fda.gov/scripts/opdlisting/oopd/detailedIndex.cfm?cfgridkey=520916

Appendix H

Stelara: Input from Patients and Caregivers

Affordability Review Statute, Rule, and Policy

Statute: The Board shall consider input from patients and caregivers affected by the condition or disease that is treated by the prescription drug that is under review by the Board (C.R.S. § 10-16-1406(4)(h)(I)).

Rule: The Board will seek input from patients and caregivers affected by a condition or disease that is treated by the prescription drug by gathering information related to:

- The impact of the disease,
- Patient treatment preferences,
- Patient perspective on the benefits and disadvantages of using the prescription drug,
- Caregiver perspective on the benefits and disadvantages of using the prescription drug, and/or
- Available patient assistance in purchasing the prescription drug.

In seeking additional information, the Board will attempt to gather a diversity of experience among patients from different socioeconomic backgrounds (3 CCR 702-9, Part 3.1.E.2.h.i).

Policy: Staff will gather input from patients and caregivers through outreach and holding a public meeting(s).

- Patients and caregivers may continue to provide input via verbal public comment and written public comment.
- During the following Board meeting(s), staff will present input provided by patients and caregivers and will report such information in their final report (PDAB Policy 04, p. 8).

Underlying Methodology: Board staff compiled information from patients and caregivers for the Board's consideration in the following manner:

1. Documented information provided during public input sessions to gather input from patients and caregivers being treated with Stelara. Staff attempted to compile information directly related to the information outlined in rule during stakeholder meetings and from the survey.
2. After the survey deadline and public input sessions have concluded, Board staff aggregated responses, identified high-level themes, and presented findings to the Board in the form of a short report.

Data Source(s): Board staff compiled input from patients and caregivers for selected prescription drugs from the following sources:

- Results from public input sessions and surveys from patients and caregivers.

Considerations and Data Limitations: Input provided both via stakeholder meetings and surveys is voluntary. Such qualitative data may not capture information from all patients and caregivers.

Stelara: Input from Patients and Caregivers Evidence

Background

Board staff gathered input from patients and caregivers in two ways: meetings and surveys. Input was gathered from three patients and caregivers at a public meeting on September 26, 2023. This meeting was structured to be a focus-group style meeting to gather information on the health and financial effects of Stelara, and largely followed the survey questions.

In addition to input gathered through public meetings, 15 patients and caregivers completed surveys regarding the health and financial effects of Stelara.

At the initial time of survey release, the Board received eight responses from patients and caregivers, two of whom are Colorado residents. At the March 18, 2024 PDAB meeting, Board members requested more information from patients and voted to reopen the survey, which was reopened from April 1 to April 30, 2024. After reopening, the Board received an additional eight responses. Of the 15[1] total responses from Stelara patients from across the United States, five are Colorado residents.

To qualify to participate in patient and caregiver stakeholder meetings or surveys, respondents had to have been prescribed the prescription drug under review or be caregiver for an individual prescribed the drug under review. Outreach was conducted via the public listserv and website, as well as communicating with patient advocacy organizations who reached out to their patient and caregiver populations. Board staff attempted to gather a diversity of patient experiences by holding meetings in the evenings and conducting outreach to multiple consumer organizations.

Input summaries are presented below in a manner similar to how meetings and the survey were conducted: patient information, health effects of Stelara, and financial effects of Stelara. Specifically, staff collected information in a manner that encompassed the categories required by Board rule, including the impact of the disease, patient treatment preferences, patient perspective on the benefits and disadvantages of using the prescription drug, caregiver perspective on the benefits and disadvantages of using the prescription drug, and/or available patient assistance in purchasing the prescription drug. This appendix also contains a link to the one public meeting audio recording, the survey, and survey results.

There is additional information contained in Appendix J which may contain additional input from patients and caregivers not captured in this appendix. The Board may want to weigh information from both appendices when evaluating input from patients and caregivers.

Patient Profile

The Board received a total of 15 responses from Stelara patients from across the United States, five of whom are Colorado residents. Three patients attended the public input session for Stelara - two attendees had taken Stelara and one would take Stelara if and when their current medication no longer works. Themes from survey responses and the public input session are summarized below.

Oftentimes individuals with autoimmune disorders present with more than one diagnosis, and some survey respondents selected multiple conditions for which they were being treated by Stelara. Of the three participants in the public session, one was being treated for Crohn's disease, one was being treated for psoriatic arthritis (PsA),[2] and one was being treated for Ulcerative colitis (UC) and spondyloarthritis. The 15 survey respondents reported being prescribed Stelara for the following conditions:

- Crohn's disease: 6
- UC: 3
- UC and rheumatoid arthritis (RA): 2
- UC and spondyloarthritis: 1
- Crohn's disease and PsA: 1
- RA and PsA: 1
- Psoriasis and palmoplantar pustular: 1

Survey respondents reported being insured via:

- Employer: 11

[1] One participant responded to a survey for individuals with scientific or medical training as a patient. It is important to note their responses were not recorded as part of this appendix. See appendix I to view the participant's survey response.
[2] Not all conditions reported by survey respondents are FDA-approved for Stelara to treat.

- Individual: 1
- Medicare: 1
- PERACare: 1
- Insured through parent: 1

Eleven of 15 national respondents and five of five Colorado respondents indicated they are part of one or more priority populations as outlined in Policy.[3]

Board staff reviewed survey results and transcripts and recordings of meeting recording transcripts to identify common themes about patient and caregiver experiences living with their condition. Patients and caregivers stated that their condition affects their daily lives in the following ways: chronic pain, loss of mobility, fatigue, decreased quality of life, hindrance in day-to-day activities, and flare-ups. Participants also stated that their mental health has worsened due to their condition. Several patients with Crohn's disease and UC reported abdominal pain, cramping, and having to use the restroom frequently in a day.

Figure H-1
Word Cloud: Patient Experience

Figure H-1 shows a word cloud of common patient experiences heard in public meetings and surveys. Patients being treated for Crohn's disease and UC reported abdominal pain, cramping, and having to use the restroom frequently in a day.

Patients and caregivers were also asked about the health outcomes that are most important to them when being treated for their condition. They indicated that symptom relief, improved quality of life, reduction in inflammation, improved bowel control, and increased weight are the most important outcomes. Several participants reported the importance of remission and preventing further damage as outcomes that are important to them while treating their condition.

- *"Survival. Being able to maintain my weight and reduce the amount of bowel movements I need to take a day."* Survey respondent

[3] The Board's adopted definition of priority populations is: people experiencing homelessness; people involved with the criminal justice system; black people, indigenous people, and people of color; American Indians and Alaska natives; veterans; people who are lesbian, gay, bisexual, transgender, queer, or questioning; people of disproportionately affected sexual orientations, gender identities, or sex assigned at birth; people who have AIDS or HIV; older adults; children and families; and people with disabilities, including people who are deaf and hard of hearing, people who are blind and deafblind, people with brain injuries, people with intellectual and developmental disabilities, people with other co-occurring disabilities; and other populations as deemed appropriate by the Prescription Drug Affordability Board. 3 CCR 702-9, 1.1.C.

Health Effects of Stelara

Patient and caregiver input regarding the health effects of Stelara are summarized below. More detailed information regarding each of the themes is found in meeting recordings and survey results.

- *"Stelara has given me a quality of life back I didn't think was possible. It improved my organs and let me be healthy enough to carry a child successfully. Something I didn't think would ever be possible"* Survey respondent
- *"Being able to hike and run and play with my kids without always fearing if I'll need to find a restroom or spend time in the hospital"* Survey respondent
- *"I just want to emphasize the fact that the flexibility that an at home option gives to IBD patients is so, so, so important"* Public input session attendee

Common themes regarding the health effects of Stelara included:

- Stelara has reduced pain and fatigue, increased mobility, and improved symptoms in the majority of patients of all indications. Patients reported liking the option to take their treatment from the comfort of their home, and several participants discussed how Stelara helped them safely carry their entire pregnancy.
- Several participants reported rejecting Stelara after being on it for a period of time. Their conditions relapsed and their symptoms returned.
- The most commonly reported side effects were sinus infections, headaches, bloating, and weight gain.

Therapeutic Alternatives

Fourteen out of 15 survey respondents reported they have tried at least one other prescription drug to treat their condition, with 12 out of 15 reporting they cycled through other medications before being prescribed Stelara. Participants reported using the following other treatments for their condition: Asacol, Lialda, Remicade, Simponi, Humira, Xeljanz, Cimzia, Sulfasalazine, Entivio, Ilalda, Enbrel, Skyrizi, Rynvoq, and Prednisone. Participants reported adverse side effects from some therapeutic alternatives such as fever, headache, nausea, hair loss, mental health issues, medically induced psoriasis, stroke, and restrictive lung disease.

- *"I was satisfied with the safety, the risks, and the side effects of Stelara versus some of the other drugs in that category, and I felt that it was a safer choice for me at the time"* Public input session attendee

Financial Effects of Stelara

Patients and caregivers were asked three types of questions related to the financial effects of Stelara. Some survey questions and meeting discussions focused on better understanding patient out-of-pocket (OOP) costs for Stelara, while other survey questions and meeting discussions focused on better understanding the relative financial effects of Stelara on health, medical, or social services costs, and a third type of question aimed to better understand patient experience with utilization management requirements. Information from all types of questions are summarized below.

Patient Out-of-Pocket Cost, Access, and Adherence

Patients were asked about their monthly out-of-pocket cost for Stelara and if the cost of Stelara has ever affected their access. Nine of 15 (60%) national patients and two of five (40%) Colorado patients reported that cost has affected their access.

Table H-1
National Patients' Self-Reported Out-of-Pocket Cost and Access Due to Cost

Out-of-Pocket Cost per Month	National Response	Cost Affects Access
$0 - $50	9 of 15 (60%)	2 of 9[4] (22.2%)
$50 - $100	2 of 15 (13.3%)	1 of 2 (50%)
$100 - $150	1 of 15 (6.6%)	0 of 1 (0%)
$150 - $250	1 of 15 (6.6%)	0 of 1 (0%)
$250 - $500	1 of 15 (6.6%)	1 of 1 (100%)
$500 - $1000	1 of 15 (6.6%)	1 of 1 (100%)

Table H-1 shows the number of national patients who self-reported their monthly out-of-pocket costs and the number of patients within each cost bracket who reported that cost affected their access.

Table H-2
Colorado Patients' Self-Reported Out-of-Pocket Cost and Access Due to Cost

Out-of-Pocket Cost per Month	Colorado Response	Cost Affects Access
$0 - $50	2 of 5 (40%)	0 of 2 (0%)
$50 - 100	1 of 5 (20%)	1 of 1 (100%)
$150 - $250	1 of 5 (20%)	0 of 1 (0%)
$250 - $500	1 of 5 (20%)	1 of 1 (100%)

Table H-2 shows the number of Colorado patients who self-reported their monthly out-of-pocket costs and the number of patients within each cost bracket who reported that cost affected their access. For example, 40% or two out of five of respondents said they paid between $0-$50 dollars per month, neither of those two individuals indicated that the cost affected access.

Table H-3
Survey Responses: Has the cost of Stelara ever affected your adherence to it?[5]

Survey Prompt	National Responses	Colorado Responses
I have skipped doses of the drug in order to save money	1 of 15 (6.6%)	0 of 1 (0%)
I have stretched time between doses of the drug in order to save money.	1 of 15 (6.6%)	0 of 1 (0%)
I have changed prescription drugs to treat my condition due to cost.	1 of 15 (6.6%)	1 of 1 (100%)

[4] One national survey participant whose out-of-pocket cost per month equaled $0-$50 did not respond regarding if cost affected their access to Stelara.
[5] Six out of 15 national survey participants did not answer regarding if the cost of Stelara has affected their adherence to it. Two out of five Colorado survey participants did not answer regarding if the cost of Stelara has affected their adherence to it.

Table H-3 shows both national and Colorado patient responses to a survey question asking if the cost of Stelara has ever affected adherence.

Assistance Programs

Patients were asked if they use copay assistance programs, discount cards, or savings provided by prescription drug manufacturers or non-profit organizations to help with out-of-pocket costs. Of 15 national respondents, 11 indicated they utilize Stelara's manufacturer assistance program, and two national respondents who use a patient assistance program reported that cost still makes it difficult for them to access. Of the five Colorado respondents, four indicated they utilize patient assistance programs, and one Colorado respondent reported difficulty affording Stelara despite using a patient assistance program.

Public session attendees discussed the importance of copay cards in helping commercially insured patients pay for their prescriptions. They also indicated while copay cards play a big role in drug affordability, they are only available to patients with commercial insurance.

- *"Our social work team and clinic nurse are really awesome about identifying these programs and setting patients up,so I didn't have any issues getting that part taken care of. I did have issues with the prior auth process. The prior auth process is the exhausting part."* Public input session attendee

There is additional information contained in Appendix E, Appendix J, and Appendix K which may contain additional information on patient costs not captured in this appendix. The Board may want to weigh information in all four appendices when evaluating patient costs.

Utilization Management Requirements

Table H-4
Survey Response: Utilization Management

Survey Prompt	National Responses	Colorado Responses
My insurance plan has dropped or switched my drug coverage after the plan year started.	1 of 15 (6.6%)	1 of 5 (20%)
My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor.	4 of 15 (26.6%)	0 of 5 (0%)
My insurance plan requires prior approval to fill the prescription.	13 of 15 (86.6%)	4 of 5 (80%)
My insurance plan limits my supply of the drug (e.g. only offers a 30 day supply with no 90 day supply option) or number of refills I am able to get.	3 of 15 (20%)	0 of 5 (0%)
I worry that the cost of my prescription will raise my insurance premium.	5 of 15 (33.3%)	2 of 5 (40%)

Table H-4 shows both national and Colorado patient responses to a survey question asking if they had experienced any of the listed utilization management practices.

Several patients discussed prior authorizations, copay accumulator programs as contributors to accessing and adhering to their medication:

- *"It isn't the cost of the drug. It is the hoops my provider has to jump through to get the drug approved. The prior auths, the appeals, the denials, the "who fills it, which specialty pharmacy?", etc."* Survey respondent.

- *"It wasn't a financial reason why I delayed my shot or my infusion. I knew I was going to have to deal with prior authorization for my insurance, and it was going to be a three or four month long battle. And it's exhausting."* Public input session attendee.
- *"Even though I have commercial insurance, my specialty pharmacy without fail has an issue with placing my order. They've added copay accumulators and cost relief programs that are nothing more than a shell company to ascertain patient assistance funds from the manufacturer in order to not use it toward our $7000+ deductible."* Survey respondent.

There is additional information contained in Appendix N related to utilization management requirements of Stelara not captured in this appendix. The Board may want to weigh information in both appendices when evaluating utilization management requirements.

Additional Financial Effects

Patients and caregivers were asked in public meetings and in surveys to share any additional information about how Stelara affects them financially. The most common themes from survey responses and meeting attendees were that Stelara reduced the amount of time and money spent on going to the doctor, hospital, or needing surgery, and has allowed them to work to support their family.

Some patients reported that flexible treatment options save them time and money:

- *"It's my preference that I can be treated at home surrounded by my family and not in a hospital for three to six hours, trying to take off work to make these treatments happen."* Public input session attendee.

Patients also reported absence from work due to doctor visits and high administrative burden needed to maintain their medication:

- *"I spend multiple hours on the phone every 4 weeks to get my medication ordered. My insurance uses the veil of their own cost relief program to steal Janssen funds and eliminate the possibility of using them toward out of pocket deductible."* Survey respondent.
- *"Yes, of course! Nearly everything under the sun. My whole life is dictated by being able to afford prescription drugs."* Survey respondent.

There is additional information contained in Appendix D and Appendix J related to the relative financial effects of Stelara not captured in this appendix. The Board may want to weigh information in all three appendices when evaluating patient costs.

Audio from Public Patient and Caregiver Meetings

The audio from the September 26, 2023 public Zoom meeting is found via the following link: https://us06web.zoom.us/rec/play/eDEX9xVnr9Cv2vuLOeVrJWqqzq0eawbxcj3Skxo-mDXOJQxlE6k-vdswONqrSKZCiPaiYkQVKQ6BTtPf.orsypmOZB3Zi79NK.

Patient and Caregiver Survey

The Patient and Caregiver Survey was live on the Prescription Drug Affordability Board website from September 12 to October 12, 2023. At the March 18, 2024 PDAB meeting, Board members requested more information from patients and voted to reopen the surveys from April 1 to April 30, 2024. Though survey results are not a representative sample of the experience of all Coloradans taking Stelara, the results can provide important input from patients and caregivers for the Board to consider.

Survey results are sometimes highlighted in the Summary Report and in appendices. A sample of the survey is below and full survey results are contained in the next section of this appendix. To protect patient and caregiver privacy, all names and other identifying information is redacted.

Figure H-2
Patient and Caregiver Survey (begins on next page).

Personal Information

Name *

Your answer

Email address *

Your answer

Have you attended, or do you plan to attend, a public input session for patients and caregivers? *

- ◯ Yes
- ◯ No

After you complete this survey, Board staff may have follow up questions for you. Do you consent to staff reaching out to you via email after you complete this survey?

- ◯ Yes
- ◯ No

Zip code

Your answer

If you have health insurance, what type of health insurance do you have? *

- ○ I do not have health insurance
- ○ Insured through employer
- ○ Individual (private) insurance
- ○ Medicare
- ○ Medicaid/Health First Colorado
- ○ Unsure
- ○ Other:

I am responding to this survey as: *

- ☐ A patient living with a condition which is currently or formerly being treated by Enbrel, Genvoya, Cosentyx, Stelara, or Trikafta.
- ☐ A caregiver for someone living with a condition which is currently or formerly being treated by Enbrel, Genvoya, Cosentyx, Stelara, or Trikafta.

If you are a patient, please answer this survey based on your personal experience. If you are a caregiver, please answer the survey based on the experience of the person for whom you are caring.

Which prescription drug are (you/the person you are caring for) taking currently or previously? *

Choose ▾

Health Effects

What condition does this drug treat for you?

Your answer

How does the condition affect your daily life, or the life of person you are caring for? (Consider mobility, self care, usual activities like work, study, housework, family, leisure activities, pain/discomfort, any anxiety/depression).

Your answer

What health outcomes are most important to you when being treated for your condition?

Your answer

What beneficial health effects have you experienced from using this prescription drug, if any?

Your answer

What adverse health effects have you experienced from using this prescription drug, if any?

Your answer

What factors led you to the prescription drug you are currently taking? Select all that apply:

- [ ] It's the only one designated for my condition.
- [ ] I cycled through other medications that didn't work before finding this one.
- [ ] It's the drug my provider prescribed and it works for me.
- [ ] It was required by my insurance company.
- [ ] The method of delivery or injection works best for me.
- [ ] Other:

Have you tried taking other prescription drugs to treat your condition? If so, how many?

- ○ None
- ○ Yes, one other treatment.
- ○ Yes, two other treatments.
- ○ Yes, three other treatments.
- ○ Yes, more than three other treatments.
- ○ Unsure

If you have tried other prescription drugs to treat your condition, what were they? Were there any beneficial or adverse health effects of these other prescription drugs?

Your answer

Financial Effects

How much do you pay out-of-pocket each month for the prescription drug? By out-of-pocket, we mean after insurance or any patient assistance program used to cover the cost of the medication.

- ○ $0-$50 per month
- ○ $50 - $100 per month
- ○ $100 - $150 per month
- ○ $150 - $250 per month
- ○ $250 - $500 per month
- ○ $500- $1000 per month
- ○ More than $1000 per month

Has the cost of this drug ever made it difficult for you to access it?

- ○ Yes
- ○ No

Has the cost of this drug ever affected your adherence to it? Select all that apply.

- ☐ I have skipped doses of the drug in order to save money.
- ☐ I have reduced the dose of the drug in order to save money.
- ☐ I have stretched time between doses of the drug in order to save money.
- ☐ I have changed prescription drugs to treat my condition due to cost.
- ☐ Other:

How does this drug impact you and/or your family? Select all statements that are true for you.

- [ ] This medication reduces the amount of time and money spent going to the doctor.
- [ ] This medication reduces the amount of time and money spent going to the hospital or needing surgery.
- [ ] This medication allows me to work and help support my family.
- [ ] Due to the cost of this medication, I have had to cut costs in other areas of my life (e.g. housing, groceries, vacations, etc.) to pay for the medication.
- [ ] Out-of-pocket costs have caused me to accrue medical debt.

The following questions are centered around any financial assistance you may have received to help purchase the prescription drug. Many patients requiring ongoing treatments for chronic diseases receive financial assistance from drug manufacturers and non-profit organizations in the form of copay assistance programs, discount cards, or savings cards. These help patients pay their out-of-pocket costs (such as deductibles, copays, etc.) for their prescription drugs.

Do you/the person you are caring for use, or have ever used, any copay assistance programs, discount cards, or savings that are provided by prescription drug manufacturers, or non-profit organizations to help with out-of-pocket costs (such as deductibles, copays, etc.) for this drug?

- ◯ Yes
- ◯ No

If you replied "yes" to the question above, how did you hear about the financial assistance?

- ○ Friend or family member
- ○ My provider
- ○ My pharmacist
- ○ My insurance company
- ○ Prescription drug manufacturer
- ○ Internet search
- ○ Other:

Do you have difficulty affording the drug despite using a patient assistance program?

- ○ Yes
- ○ No

If you are insured, please select any of the following statements that are true for you. Select all that apply.

- ☐ I have chosen to not use my insurance because a patient financial assistance program makes the drug more affordable than my insurance.
- ☐ My insurance plan has dropped or switched my drug coverage after the plan year started.
- ☐ My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor.
- ☐ My insurance plan requires prior approval to fill the prescription.
- ☐ My insurance plan limits my supply of the drug (e.g. only offers a 30 day supply with no 90 day supply option) or number of refills I am able to get.
- ☐ I worry that the cost of my prescription will raise my insurance premium.

Do you (as patient or caregiver) experience any other financial impacts of the condition and prescription drug (e.g. transportation costs, absence from work, etc.)?

Your answer

Patient and Caregiver Survey Results

Survey results are provided first for Personal Information, then Health Effects, followed by Financial Effects.

Figure H-3
Patient and Caregiver Survey Results

Personal Information and Health Effects

ID #	Patient /Caregiver?	Drug?	CO Resident	Zip	Insurance type	Priority Population	Condition	How does the condition affect your daily life, or the life of person you are caring for?	What health outcomes are most important to you when being treated for your condition?	What beneficial health effects have you experienced from using this prescription drug, if any?
1	Patient	Stelara	No	45891	Insured through employer	Older adults	Ulcerative Colitis	leisure activities, pain, anxiety	Feeling well and not worry about sudden bathroom urgency at inopportune moments	Feeling less pain, having more but not complete control over bathroom urgency
2	Patient	Stelara	No	07735	Insured through employer		Rheumatoid arthritis & ulcerative colitis	I have lost mobility & am in constant discomfort.	To relieve symptoms	This medicine has helped my symptoms with RA & UC and I can live my new normal
3	Patient and caregiver	Stelara	No	33570	Insured through employer	People with disabilities	Crohn's disease and Psoriatic arthritis	Crohn's disease causes excruciating pain in the digestive system from the act of eating and sometimes drinking. The inflammation from arthritis impacts movement in hands and feet - pain, sweeping, burning, and neuropathy. I am considered to be in remission now and I've only had a 50-60% improvement in mobility. Walking long distance has to be planned and performed carefully. I	Stopping damaging inflammation from causing more irreparable harm leading to surgery.	I was 100% disabled prior to starting Stelara in 2016. In 2012, I lost my job, my house to short sale, and my savings by age 31. I just recently paid off medical debt incurred from that period of time. In the span of 2012-2013 insurance withheld approval for the biologic medication with step therapy and then approved but wouldn't pay for a treatment my doctor wanted me on. In spring of 2012, I lost the ability to walk without assistance. My feet were swollen and changing color from the inflammation. My hands soon followed. I couldn't bend my fingers. After finally gaining approval to start

ID #	Patient /Caregiver?	Drug?	CO Resident	Zip	Insurance type	Priority Population	Condition	How does the condition affect your daily life, or the life of person you are caring for?	What health outcomes are most important to you when being treated for your condition?	What beneficial health effects have you experienced from using this prescription drug, if any?
								need additional help caring for my toddler. I don't really get to experience the normal things people take for granted like hobbies and leisure activities. My life revolves around managing symptoms and ensuring my child gets normalcy regardless.		a biologic, I had to fight to rehab my body while it continued to reject medication after medication. In February 2016 my body rejected the last biologic available to Crohn's disease at that time. I was so severely allergic according to the blood work my doctor didn't understand how I was breathing.In 2015, I collapsed from pain while trying to walk a simple block in Washington DC. I could barely fit into my shoes. I was speaking with congress members that day and needed to stop multiple times to rest and ice. In fall of 2016, Stelara was approved by the FDA at 90mg for Crohn's disease. On Nov 14, 2016, I received my loading dose for Stelara. On Nov 14, 2016, I had no idea I was reclaiming my life. On Nov 16, 2016, I walked 5 miles unassisted in Washington DC and was able to eat food for the first time in close to 20 years without consequence or pain. Stelara has given me a quality of life back I didn't think was possible. It improved my organs and let me healthy enough to carry a child successfully. Something I didn't think would ever be possible. Not every day is perfect - even in remission, symptoms still exist with me. Some of the damage I suffered in the time without access to medication will never improve. But with Stelara my quality of life is what I would consider a medical success. For the first time since childhood I am in clinical remission. My life without ability to

ID #	Patient /Caregiver?	Drug?	CO Resident	Zip	Insurance type	Priority Population	Condition	How does the condition affect your daily life, or the life of person you are caring for?	What health outcomes are most important to you when being treated for your condition?	What beneficial health effects have you experienced from using this prescription drug, if any?
										ascertain Stelara is something I fear every day.
4	Patient	Stelara	No	63122	Insured through employer	People with disabilities	Ulcerative Colitis and spondyloarthropathy	As a full-time healthcare provider and busy mother of four boys, this disease affects almost every facet of my life. In addition to my life, when I am flaring, my husband then carries the entire burden of our family.	Quality of life, my mental and physical health, ability to keep up with my family.	This medication helped carry me through an entire pregnancy safely.
5	Patient	Stelara	No	95337	Insured through employer		Crohns Disease	Pain and discomfort hopefully a preventative for cancers	To go into remission	Less pain and discomfort
6	Caregiver	Stelara	Yes	80920	Insured through employer	People who are lesbian, gay, bisexual, transgender, queer, or questioning, People of disproportionately affected sexual orientations, gender identities, or sex assigned at birth	Ulcerative Colitis	I would be dead without Stelara or other biologic medications. I'd internally bleed out until my intestines needed to be removed and I'd eventually lose my entire large intestine to this condition.	Survival. Being able to maintain my weight and reduce the amount of bowel movements (and bloody bowel movements) I need to take a day.	Being able to hike and run and play with my kids without always fearing if I'll need to find a restroom or spend time in the hospital.

ID #	Patient /Caregiver?	Drug?	CO Resident	Zip	Insurance type	Priority Population	Condition	How does the condition affect your daily life, or the life of person you are caring for?	What health outcomes are most important to you when being treated for your condition?	What beneficial health effects have you experienced from using this prescription drug, if any?
7	Patient	Stelara	Yes	80123	Insured through employer	Older adults	Arthritis-Rheumatoid and Psoriatic	All of the above	keeping joints stable, reducing pain and skin clarity	keeping joints stable, reducing pain and skin clarity
8	Patient	Stelara	No	21502	Insured through employer		Psoriasis, Palmoplantar Pustular	Pain, difficult to walk at times, work can become unmanageable for call offs	Overall treatment that works	Has actually brought the % of active Psoriasis down to a manageable area
9	Patient	Stelara	Yes	80004	Peracare pre 65	People with disabilities	Rheumatoid Arthritis and Ulcerative Colitis	Mobility issues, joint damage, IBS, fatigue	Remission and to prevent further damage	UC remission but not the RA so was switched to Rinvoq, got blood clots and now on Remicade.
10	Patient	Stelara	No		Individual (private) insurance	People with disabilities	ulcerative colitis	daily fatigue, pain, restroom usage	mucosal healing. I literally don't care about anything else about a medication other than the fact that it reduces inflammation for me.	mucosal healing
11	Patient	Stelara	No	94939	Parent's insurance	Children and families	Crohn's disease	Crohn's disease has completely hindered my everyday life and has stunted my progress throughout many aspects of life. I am completely unable to do my normal day to day activities and I am in constant pain. This has taken an extreme toll on my mental health.	Total bowel control and little to no pain	I had a limited increase in bowel control and decrease in pain however I am in rejection of this drug and I no longer have any benefits from it.

ID #	Patient /Caregiver?	Drug?	CO Resident	Zip	Insurance type	Priority Population	Condition	How does the condition affect your daily life, or the life of person you are caring for?	What health outcomes are most important to you when being treated for your condition?	What beneficial health effects have you experienced from using this prescription drug, if any?
12	Patient	Stelara	No	22901	Insured through employer		Crohn's disease	When my Crohn's symptoms are active I struggle to do my job even though I work remotely. I will also be unable to do the hobbies and things that are most important to me such as coaching my local youth mountain bike team. When my Crohn's disease is active, it takes over my life.	Having control of pain and inflammation	Stelara has put my Crohn's disease into remission and kept it that way.
13	Patient	Stelara	Yes	80123	Insured through employer	Children and families	Crohns	Abdominal cramping and diarrhea at times- sometimes cannot leave the house or go to work because of symptoms	That my condition is controlled that I regained all the weight that I lost when first diagnosed and the anemia and malabsorption is improved.	I rarely am in pain or having days of diarrhea, nausea and vomiting
14	Patient	Stelara	Yes	80305	Medicare	Older adults	Crohn’s disease	Without medication I suffer from chronic diarrhea, lack of energy, pain, insomnia, nutritional deficits from diarrhea. I am not able to care for my husband who has advanced Parkinson’s disease with dementia, do housework, undertake normal leisure activities (exercise, hiking, travel, etc). All of this causes depression.	To be free from pain and chronic diarrhea	This drug has been a miracle for me. I am free from diarrhea and pain; my energy level has risen dramatically; I am able to care for my husband; I traveled for the first time in 8 months; my insomnia has declined. I still follow a careful diet; however, I can include more nutritious foods than before Stelara without negative impacts.

ID #	Patient /Caregiver?	Drug?	CO Resident	Zip	Insurance type	Priority Population	Condition	How does the condition affect your daily life, or the life of person you are caring for?	What health outcomes are most important to you when being treated for your condition?	What beneficial health effects have you experienced from using this prescription drug, if any?
15	Patient	Stelara	No		Insured through employer	Black people, indigenous people, and people of color	Crohn's Disease	The symptoms from my condition prevents me from doing my daily activities including providing care for my son, working, attending family/friend gatherings, adequate sleep and an imbalanced eating routine. The pain during a flare up can be debilitating with the excess use of the restroom, abdominal pain and cramping. Being unable to do my daily activities and provide for my family has increased my depression and anxiety to be in public places.	Symptomatic relief, less trips to the restroom, more energy, less abdominal pain, not loosing unnecessary amounts of weight at a rapid rate	I have my LIFE back. I have had no symptoms since I have been taking stelara for 2 years now. It has given me the opportunity to get back to my regular routine with my family and my work. It has given me confidence to be in public places because I do not have to use the restroom so frequently. I am Overall happier and feel healthier.

Health Effects cont.

ID #	What adverse health effects have you experienced from using this prescription drug, if any?	What factors led you to the prescription drug you are currently taking? Select all that apply:	Have you tried taking other prescription drugs to treat your condition? If so, how many?	If you have tried other prescription drugs to treat your condition, what were they? Were there any beneficial or adverse health effects of these other prescription drugs?
1	None	I cycled through other medications that didn't work before finding this one., It's the drug my provider prescribed and it works for me.	Yes, three other treatments.	Asacol, Lialda - both caused fever, nausea, headache, bathroom urgency Remicade - used for 11 years with great success until developing Remicade induced psoriasis.

ID #	What adverse health effects have you experienced from using this prescription drug, if any?	What factors led you to the prescription drug you are currently taking? Select all that apply:	Have you tried taking other prescription drugs to treat your condition? If so, how many?	If you have tried other prescription drugs to treat your condition, what were they? Were there any beneficial or adverse health effects of these other prescription drugs?
2	Constant sinus infections, memory loss, headaches	I cycled through other medications that didn't work before finding this one.	Yes, two other treatments.	Simponi, Humira
3	I've experienced one adverse effect from this medication. Anxiety. Deep seated anxiety. It happens every time I have to make my next order. Even though I have commercial insurance, my specialty pharmacy without fail has an issue with placing my order. They've added copay accumulators and cost relief programs that are nothing more than a shell company to ascertain patient assistance funds from the manufacturer in order to not use it toward our $7000+ deductible.	I cycled through other medications that didn't work before finding this one., It's the drug my provider prescribed and it works for me.	Yes, more than three other treatments.	Humira Remicade xeljanz imuran
4	I had a severe flare 6 months post partum and required supplemental higher dose steroids, so elected to switch from Stelara.	I cycled through other medications that didn't work before finding this one., It's the drug my provider prescribed and it works for me.	Yes, three other treatments.	Humira, Cimzia,
5	N/A	The method of delivery or injection works best for me.	Yes, two other treatments.	Asacol, sulfasalazine

ID #	What adverse health effects have you experienced from using this prescription drug, if any?	What factors led you to the prescription drug you are currently taking? Select all that apply:	Have you tried taking other prescription drugs to treat your condition? If so, how many?	If you have tried other prescription drugs to treat your condition, what were they? Were there any beneficial or adverse health effects of these other prescription drugs?
6	None.	I cycled through other medications that didn't work before finding this one., It's the drug my provider prescribed and it works for me., It was required by my insurance company., I've had UC since 7 years old, this was one of the only meds left that I had not tried.	Yes, more than three other treatments.	Entivio (gave me a TIA/stroke), llalda (was having 16 bowel movements a day and bleeding internally so we stopped), remicade (I had another mini stroke/Tia) just to make a few… all do not work for me. I've tried rinvoq but it wasn't effective. And prednisone (steroid) can only be used for very short periods of time… but that med makes me rage to the point where I need a secondary medication to help me calm Down.
7	weight gain and changes in blood work	I cycled through other medications that didn't work before finding this one., It's the drug my provider prescribed and it works for me.	Yes, more than three other treatments.	Enbrel, Skyrizi, Rynvoq
8	Have more than normal colds and Bronchial Infections, also after long periods of time on the med it becomes less likely to be positive in treatment	I cycled through other medications that didn't work before finding this one.	Yes, three other treatments.	Didn't work, painful injection reaction,
9	None	I cycled through other medications that didn't work before finding this one.	Yes, more than three other treatments.	Enbrel, Humira, Stelara, Rinvoq and currently on Remicade.
10		I cycled through other medications that didn't work before finding this one., It's the drug my provider prescribed and it works for me.	Yes, more than three other treatments.	entyvio gave me restrictive lung! I have been on almost every single drug for ulcerative colitis out there and now I am on stelara post-colectomy!

ID #	What adverse health effects have you experienced from using this prescription drug, if any?	What factors led you to the prescription drug you are currently taking? Select all that apply:	Have you tried taking other prescription drugs to treat your condition? If so, how many?	If you have tried other prescription drugs to treat your condition, what were they? Were there any beneficial or adverse health effects of these other prescription drugs?
11	bloating and gas	I cycled through other medications that didn't work before finding this one., It was required by my insurance company.	Yes, one other treatment.	Remicade, I received almost no benefits from it and was constantly in pain.
12	I have noticed chronic headaches and sinus infections as a side effect, but they have been manageable.	It's the drug my provider prescribed and it works for me., The method of delivery or injection works best for me.	Yes, one other treatment.	I tried Budesonide, a systemic steroid as my first treatment prior to Stelara and it did not help my Crohn's and left me with horrible side effects.
13	None	I cycled through other medications that didn't work before finding this one.	Yes, two other treatments.	Humira did not work well enough, 5-MP with the humor and stelara made me tired. Steroids at times
14	None	It's the drug my provider prescribed and it works for me.	None	
15	None	I cycled through other medications that didn't work before finding this one.	Yes, more than three other treatments.	I tried oral medications Prednisone, Mesalamine, Pentasa and 6MP - which 6MP landed me in the hospital with acute liver failure for 2 weeks.

Financial Effects

ID #	How much do you pay out-of-pocket each month for the prescription drug? By out-of-pocket, we mean after insurance or any patient assistance program used to cover the cost of the medication.	Has the cost of this drug ever made it difficult for you to access it?	Has the cost of this drug ever affected your adherence to it? Select all that apply.	How does this drug impact you and/or your family? Select all statements that are true for you.	Do you/the person you are caring for use, or have ever used, any copay assistance programs, discount cards, or savings that are provided by prescription drug manufacturers, or non-profit organizations to help with out-of-pocket costs (such as deductibles, copays, etc.) for this drug?
1	$0-$50 per month		No	This medication reduces the amount of time and money spent going to the doctor., This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	Yes
2	$0-$50 per month	No	Thankfully my insurance covers this	This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	No
3	$0-$50 per month	Yes		This medication reduces the amount of time and money spent going to the doctor., This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	Yes
4	$0-$50 per month	No	It isn't the cost of the drug, it is the hoops my provider has to jump through to get the drug approved. The prior auths, the appeals, the denials, the "who fills it, which specialty pharmacy?", etc.	Due to the cost of this medication, I have had to cut costs in other areas of my life (e.g. housing, groceries, vacations, etc.) to pay for the medication.	Yes

ID #	How much do you pay out-of-pocket each month for the prescription drug? By out-of-pocket, we mean after insurance or any patient assistance program used to cover the cost of the medication.	Has the cost of this drug ever made it difficult for you to access it?	Has the cost of this drug ever affected your adherence to it? Select all that apply.	How does this drug impact you and/or your family? Select all statements that are true for you.	Do you/the person you are caring for use, or have ever used, any copay assistance programs, discount cards, or savings that are provided by prescription drug manufacturers, or non-profit organizations to help with out-of-pocket costs (such as deductibles, copays, etc.) for this drug?
5	$50 - $100 per month	No	I have stretched time between doses of the drug in order to save money.	This medication reduces the amount of time and money spent going to the hospital or needing surgery.	Yes
6	$0-$50 per month	No		This medication allows me to work and help support my family.	Yes
7	$50 - $100 per month	Yes	I have only missed doses when stupid speciality Pharm cant get me the drug!	This medication reduces the amount of time and money spent going to the doctor., This medication allows me to work and help support my family.	Yes
8	$0-$50 per month	No		This medication allows me to work and help support my family.	No
9	$250 - $500 per month	Yes	I have changed prescription drugs to treat my condition due to cost.	Due to the cost of this medication, I have had to cut costs in other areas of my life (e.g. housing, groceries, vacations, etc.) to pay for the medication.	Yes

ID #	How much do you pay out-of-pocket each month for the prescription drug? By out-of-pocket, we mean after insurance or any patient assistance program used to cover the cost of the medication.	Has the cost of this drug ever made it difficult for you to access it?	Has the cost of this drug ever affected your adherence to it? Select all that apply.	How does this drug impact you and/or your family? Select all statements that are true for you.	Do you/the person you are caring for use, or have ever used, any copay assistance programs, discount cards, or savings that are provided by prescription drug manufacturers, or non-profit organizations to help with out-of-pocket costs (such as deductibles, copays, etc.) for this drug?
10	$500- $1000 per month	Yes	I have skipped doses of the drug in order to save money.	This medication allows me to work and help support my family.	Yes
11	$100 - $150 per month	No		This medication reduces the amount of time and money spent going to the hospital or needing surgery.	No
12	$0-$50 per month	Yes		This medication reduces the amount of time and money spent going to the doctor., This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	Yes
13	$0-$50 per month	No		This medication reduces the amount of time and money spent going to the doctor., This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	Yes

ID #	How much do you pay out-of-pocket each month for the prescription drug? By out-of-pocket, we mean after insurance or any patient assistance program used to cover the cost of the medication.	Has the cost of this drug ever made it difficult for you to access it?	Has the cost of this drug ever affected your adherence to it? Select all that apply.	How does this drug impact you and/or your family? Select all statements that are true for you.	Do you/the person you are caring for use, or have ever used, any copay assistance programs, discount cards, or savings that are provided by prescription drug manufacturers, or non-profit organizations to help with out-of-pocket costs (such as deductibles, copays, etc.) for this drug?
14	$150 - $250 per month	No	No, I cannot do without the drug and will not sacrifice my health for the cost	This medication reduces the amount of time and money spent going to the doctor., This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	No
15	$0-$50 per month	No	I have not missed a single dose due to drug cost because it only costs me $5 per injection	This medication reduces the amount of time and money spent going to the doctor., This medication reduces the amount of time and money spent going to the hospital or needing surgery., This medication allows me to work and help support my family.	Yes

Financial Effects cont.

ID #	If you replied "yes" to the question above, how did you hear about the financial assistance?	Do you have difficulty affording the drug despite using a patient assistance program?	If you are insured, please select any of the following statements that are true for you. Select all that apply.	Do you (as patient or caregiver) experience any other financial impacts of the condition and prescription drug (e.g. transportation costs, absence from work, etc.)?
1	Internet search	No	My insurance plan requires prior approval to fill the prescription., My insurance plan limits my supply of the drug (e.g. only offers a 30 day supply with no 90 day supply option) or number of refills I am able to get., I worry that the cost of my prescription will raise my insurance premium.	No
2		No	My insurance plan requires prior approval to fill the prescription.	I miss work due to my RA & UC. I spend money on doctor visit copays & had money
3	Prescription drug manufacturer	No	My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor., My insurance plan requires prior approval to fill the prescription., My insurance plan limits my supply of the drug (e.g. only offers a 30 day supply with no 90 day supply option) or number of refills I am able to get., I worry that the cost of my prescription will raise my insurance premium.	I spend multiple hours on the phone every 4 weeks to get my medication ordered. My insurance uses the veil of their own cost relief program to steal Janssen funds and eliminate the possibility of using them toward out of pocket deductible. Due to this it makes adhering to regularly needed checkups due to cost; we have a $7200 deductible.
4	My provider	No	My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor., My insurance plan requires prior approval to fill the prescription., My insurance plan limits my supply of the drug (e.g. only offers a 30 day supply with no 90 day supply option) or number of refills I am able to get.	Absence from work due to medication delay, prior auth/appeals process.
5	Prescription drug manufacturer	No	My insurance plan requires prior approval to fill the prescription.	N/A

ID #	If you replied "yes" to the question above, how did you hear about the financial assistance?	Do you have difficulty affording the drug despite using a patient assistance program?	If you are insured, please select any of the following statements that are true for you. Select all that apply.	Do you (as patient or caregiver) experience any other financial impacts of the condition and prescription drug (e.g. transportation costs, absence from work, etc.)?
6	Prescription drug manufacturer	No		It is $5 for us to get the med once every 60 days. Everything that my insurance (Anthem BCBS) does not cover, is covered by the copay card from the company website. Cvs specialty pharmacy had a $5 delivery fee until we met our out of pocket family and individual max.
7	My provider	Yes	My insurance plan has dropped or switched my drug coverage after the plan year started., My insurance plan requires prior approval to fill the prescription., I worry that the cost of my prescription will raise my insurance premium.	I am moving to Medicare and the distance program is not as available. This is concerning me greatly as the cost could be very high.
8		No	My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor., My insurance plan requires prior approval to fill the prescription.	
9	My provider	No	My insurance plan requires prior approval to fill the prescription., I worry that the cost of my prescription will raise my insurance premium.	I'm paying 1400 a month for Peracare pre65. It's the only plan that covers a lot of my medical Costs and I paid 26k for health insurance and deductibles last year. The ACA plans are worse less monthly but more out of pocket and higher maxes. All because of the drugs
10	My insurance company	Yes	My insurance plan requires prior approval to fill the prescription.	yes, of course! nearly everything under the sun. whole life is dictated by being able to afford prescription drugs.

ID #	If you replied "yes" to the question above, how did you hear about the financial assistance?	Do you have difficulty affording the drug despite using a patient assistance program?	If you are insured, please select any of the following statements that are true for you. Select all that apply.	Do you (as patient or caregiver) experience any other financial impacts of the condition and prescription drug (e.g. transportation costs, absence from work, etc.)?
11		No	My insurance plan requires prior approval to fill the prescription.	no
12	My provider	No	My insurance required me to try a medication that I had previously failed, or required me to use a drug that was not recommended by my doctor., My insurance plan requires prior approval to fill the prescription., I worry that the cost of my prescription will raise my insurance premium.	
13	My pharmacist	No	My insurance plan requires prior approval to fill the prescription.	Rare absence from work now. But when needed surgery or having a flare needed a lot of time off of work
14			My insurance plan requires prior approval to fill the prescription.	I am retired so impact is on caregiving for my husband
15	Prescription drug manufacturer	No		No

Appendix I

Stelara: Input from Individuals with Scientific or Medical Training

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider input from individuals who possess scientific or medical training with respect to a condition or disease treated by the prescription drug that is under review by the Board. (C.R.S. § 10-16-1406(4)(h)(II)).

Rule: Individuals with Scientific or Medical Training: The Board will seek input from individuals who possess scientific or medical training with respect to a condition or disease treated by the prescription drug that is under review by the Board, including:

- The impact of the disease,
- Perspectives on benefits and disadvantages of the prescription drug, including comparisons with therapeutic alternatives if any exist, and/or
- Input regarding the prescription drug utilization in standard medical practice, as well as input regarding off label usage. (3 CCR 702-9, Part 3.1.E.2.h.ii).

Off-label usage means the use of a prescription drug for a disease or medical condition that is outside the FDA-approved indication(s) (3 CCR 702-9, 1.1.C).

Policy: Staff will gather input from individuals who possess scientific or medical training through outreach and holding a public meeting(s).

- Individuals who possess scientific or medical training with respect to the condition or disease may continue to provide input via verbal public comment and written public comment.
- During the following Board meeting(s), Staff will present input provided by individuals with scientific or medical training and will report such information in their final report. (PDAB Policy 04, p. 8).

Underlying Methodology: Board staff compiled data for Stelara for the Board's consideration in the following manner:

1. Documented information provided during the stakeholder sessions to gather input from individuals with scientific and medical training specific to Stelara. Staff attempted to compile information directly related to the information outlined in rule during stakeholder meetings and from the survey.
2. After the survey deadline and public input sessions have concluded, Board staff aggregated responses, identified high-level themes, and presented findings to the Board in the form of a short report.

Data Source(s): Board staff compiled information from individuals with scientific or medical training for selected prescription drugs from the following sources:

- Results from public input sessions and surveys from individuals with scientific or medical training.

Considerations and Data Limitations: Input provided both via stakeholder meetings and surveys is voluntary. Such qualitative data may not capture information from all individuals with scientific and medical expertise.

Stelara: Input from Individuals with Scientific or Medical Training Evidence

Background

Board staff gathered input from individuals with scientific or medical training in two ways: meetings and surveys. Input was gathered from eight individuals at a public meeting on September 26, 2023. In addition to input gathered through the public meeting, ten individuals completed surveys regarding the health and financial effects of Stelara. Three respondents both attended the public meeting and completed the survey. Additional input was gathered from four individuals with scientific or medical training via two additional small group meetings.[1]

At the initial time of survey release, the Board received seven responses from individuals with scientific or medical training. Board members requested more information from individuals with scientific or medical training and voted to reopen the surveys at the March 18, 2024 meeting. After reopening, the Board received three responses from individuals with scientific or medical training.

To qualify to participate in meetings or surveys, respondents had to have scientific or medical experience with Stelara. Outreach was conducted via the public listserv and website.

Input summaries are presented below in a manner similar to how meetings and the survey were conducted: health effects of Stelara and financial effects of Stelara. Specifically, staff collected information in a manner that encompassed the categories required by Board rule, including the impact of the disease, perspective on the benefits and disadvantages of the prescription drug, including comparisons with therapeutic alternatives if any exist, and/or input regarding the prescription drug utilization in standard medical practice, as well as input regarding off label usage. This appendix also contains links to the public meeting audio recording, the survey, and survey results.

There is additional information contained in Appendix J which may contain additional input from individuals with scientific or medical training not captured in this appendix. The Board may want to weigh information from both appendices when evaluating input from individuals with scientific and medical training.

Similarly, there is additional information in Appendix F which may contain additional input from individuals with scientific and medical training not captured in this appendix. The Board may want to weigh information from both appendices when evaluating impact to safety net providers.

Health Effects of Stelara

Individuals with scientific or medical training stated in public meetings and in survey responses that Stelara is an IL-12/IL-23 inhibitor injectable biologic therapy that targets inflammation in the body. Stelara is approved for treatment of the following four indications: plaque psoriasis (PsO), psoriatic arthritis (PsA), Crohn's disease, and ulcerative colitis (UC) - the last two indications being the two main forms of inflammatory bowel disease (IBD).

Individuals with scientific and medical training reported in public meetings and surveys that Stelara provides the following beneficial health effects:

- Improved function and lower disease burden
- Improved quality of life and good for long-term use
- Lowered risk of comorbidities
- Good safety profile as compared to therapeutic alternatives for IBD
- Induces and maintains IBD in remission

[1] The referenced small group meetings included discussion of multiple drugs currently undergoing affordability reviews by the Board, including Stelara.

- Improved inflammation of skin and internal organs
- Improved psoriasis disease control
- Prevention of irreversible joint damage and destruction

Participants reported prescribing Stelara most frequently to patients with Crohn's disease and UC. Crohn's disease and UC are both chronic inflammatory conditions which can cause cumulative, progressive damage of the GI tract. If not treated appropriately, IBD can reduce quality of life and lead to complications like surgery, disability, and increased risk of colon cancer. Participants reported using Stelara as both first-line and back-up therapy for patients with moderate to severe IBD. Stelara has classically been used as a second-line advanced therapy for both Crohn's disease and UC, particularly in patients with previous exposure to anti-TNFs.

Participants stated that Stelara is among one of the first-line treatment options for moderate to severe psoriasis. Patients with PsO not only suffer from itchy, painful skin, but the condition can be embarrassing for patients, affecting overall wellbeing and leading to depression and anxiety. Participants noted that 20% of patients with PsO will be heavily impacted by the condition, resulting in a reduced ability to function and complete ADLs. Comorbidities include metabolic syndrome, cardiovascular disease, PsA, and IBD - which is four times more prevalent in patients with PsO. Because PsO is a chronic condition, long-term management is necessary to keep disease activity under control and to lower the risk of developing other comorbid health conditions.

Though Stelara is approved for a broad population with multiple indications, some participants described off-label usage. One participant stated that prior to Stelara's FDA-approval to treat Crohn's disease, it was prescribed off-label to treat the condition. Another participant discussed prescribing the drug off-label to treat atopic dermatitis.

Side Effects

Individuals with scientific and medical training reported the most common side effect of Stelara was increased risk of infection because it is an immunosuppressant. Several participants reported cost being a disadvantage of the drug, and one participant discussed that Stelara requires frequent dosage adjustments to achieve optimal concentration.

Therapeutic Alternatives

Individuals with scientific or medical training reported that Stelara is the only IL-12/IL-23 inhibitor available on the market, and there are no direct alternatives available. These individuals reported that there are several similar therapeutic alternatives for Stelara, including anti-TNFs such as Enbrel, Remicade, Entyvio, and Humira. They also reported that these therapies have different targets and a different safety profile, however. They stated there are also in-class alternatives such as Skyrizi and Omvoh. They also reported that there are many topical and systemic treatment options for PsO but the treatment itself is individualized to the patient.

Participants stated that a major advantage of Stelara is that it targets IL-23, which is more involved in inflammation of external skin and the intestinal lining. It is a more targeted approach, making it far less likely for patients to reject it compared to other therapies. Participants also highlighted the safety profile of Stelara as an advantage over alternatives, particularly for elderly patients or patients with comorbid conditions. Other therapeutic alternatives, especially older drugs, have negative impacts on the liver and other organs. Several participants discussed emerging research which suggests that choosing the wrong first-line therapy may actually change a patient's overall disease course. Having a forced first-line therapy of an anti-TNF drug may have an overall negative impact on the management of a patient's condition. Additionally, intravenous infusions are not always appropriate for patients due to transportation issues, especially for the pediatric patients who do not get the support they need at an infusion center. Stelara gives patients access to an injectable they can do every two to three months, giving them more freedom and control over their life.

Financial Effects of Stelara

Individuals with scientific and medical training were asked three types of questions related to the financial effects of Stelara. Some survey questions and meeting discussions focused on better understanding patient out-of-pocket (OOP) costs for Stelara, while other survey questions and meeting discussions focused on better understanding the relative financial effects of Stelara on health, medical, or social services costs, and a third type of question aimed to better understand patient and provider experience with utilization management requirements. Information from all types of questions are summarized below.

Patient Cost and Relative Financial Effects

Most participants reported that patients often raise concerns about the cost of Stelara. One participant discussed that IBD is one of the most expensive diseases to treat across the board, causing a significant cost and patients often hitting their deductible. Without adequate insurance coverage, the participants reported it can be very difficult for patients to obtain Stelara. Most participants reported they discuss Stelara's expense with their patients at the point of prescribing, and they discuss plan formulary alternatives, plan specific cost of the drug, and manufacturer assistant programs with their patients. Several participants discussed employing patient navigators and benefit specialists that help providers and patients navigate financial concerns, connecting patients with resources and non-profit foundations in their community.

One participant discussed having extensive financial conversations with patients and encouraging commercially insured patients to enroll in manufacturer assistance programs such as the Stelara withMe Savings Program which allows eligible patients to pay $5 per dose. Johnson & Johnson Patient Assistance Foundation also allows eligible patients to receive the drug free of charge for up to one year. For patients without insurance or who have government insurance, the manufacturer's website has a comprehensive list of low-cost delivery programs for which patients may be eligible.

Utilization Management

Utilization management issues reported by participants include step therapy, copay accumulators and maximizers, and denials for off-label usage due to the very few FDA-approved medications to treat Stelara's indications. Participants highlighted the importance of having their patients be on the correct line of therapy for their condition. One participant discussed if a patient changes insurance, the provider will try to continue treatment with a drug that is successfully managing their condition - if the cost is high under the new insurance, the patients are encouraged to apply for financial assistance. Though a patient's choice of drugs is determined by their insurance, participants reported that they advocate for patients to continue taking the drug that is working for their condition.

Some participants discussed copay accumulator programs where the savings card does not help the patients with their deductible. One participant noted that J&J's process to navigate around the copay accumulator is complicated and leads to patient frustration, financial and administrative burden, and an additional barrier to access their medication.

Audio from Public Meetings with Individuals with Scientific or Medical Training

The audio from the September 26, 2023 public Zoom meeting is found via the following link: https://us06web.zoom.us/rec/play/GTsDb7oVQPctssSpj9tyIYp4T2Qnpm8Hilq3ZbNJ8JlhCFDGKC7mM_7EVuyDSil941sX8AKjubYgG8fz.73kwMGvJ4XYvLQ1W.

The Scientific or Medical Training Survey was live on the Prescription Drug Affordability Board website from September 12 to October 3. At the March 18, 2024 PDAB meeting, Board members requested more information from patients and voted to reopen the surveys from April 1 to April 30, 2024. Though survey results are not a representative sample of all individuals with scientific or medical training, the results can still provide important input from individuals with scientific and medical training.

Figure I-1
Individuals with Scientific and Medical Training Survey

Personal Information

I am answering this survey as an individual with scientific or medical training who mainly utilizes my expertise: *

- [ ] In research of this drug for prescription drug development for a manufacturer.
- [ ] In research of this drug in an academic setting.
- [ ] As a prescriber of this drug to patients.
- [ ] As a prescriber of this drug to patients in a safety net setting.
- [ ] Other:

My expertise directly relates to patients who live: *

- [ ] In Colorado
- [ ] Nationally
- [ ] Other:

Health Effects

Please list the conditions that are treated by the prescription drug for which you are providing expertise.

Your answer

Please list the conditions that are treated by the prescription drug for which you are providing expertise.

Your answer

From your experience, how is this drug used in standard medical practice?

Your answer

From your experience, describe any off-label usage of this drug.

Your answer

In your experience, what are the health benefits of this drug?

Your answer

In your experience, what are the health disadvantages of this drug?

Your answer

From your experience, are there any common therapeutic alternatives to this prescription drug? If so, please list them.

Your answer

In your experience, what are the benefits or disadvantages between therapeutic alternatives and this prescription drug?

Your answer

Financial Effects

In your experience, do patients raise financial concerns when being prescribed this prescription drug?

Your answer

Do you discuss this drug's expense with patients when prescribing?

- ◯ Yes
- ◯ No
- ◯ Not applicable

When do you discuss financial effects with patients related to this drug?

- ◯ At the point of prescribing.
- ◯ After the appointment, before the patient reaches the pharmacy.
- ◯ After the patient has been to the pharmacy.
- ◯ Someone else in my organization discusses financial effects with patients.
- ◯ I do not discuss financial effects with patients.
- ◯ Other:

At the point of prescribing, do you discuss any of the following with your patients related to this prescription drug? Select all that apply.

- [ ] Plan specific cost of the drug
- [ ] Patient deductible information
- [ ] Plan formulary alternatives
- [ ] Cost for uninsured patients
- [ ] Pharmacy specific pricing
- [ ] Manufacturer assistance programs
- [ ] Other:

In your experience, have utilization management policies (e.g., insurance requirements related to step therapy or prescription drug formulary tiers) impacted your patients' ability to access this drug?

- ○ Yes
- ○ No
- ○ Other:

If you are a safety net provider, does your clinic/facility provide this prescription drug to patients? If not, why?

Your answer

Individuals with Scientific and Medical Training Results

Survey results are provided for Personal Information, then Health Effects, followed by Financial Effects.

Table I-1

Individuals with Scientific and Medical Training Survey Results

Personal Information, Health Effects, and Financial Effects

ID #	I am answering this survey as an individual with scientific or medical training who mainly utilizes my expertise:	My expertise directly relates to patients who live:	Which prescription drug are you providing comments on today?	Please list the conditions that are treated by the prescription drug for which you are providing expertise.	What is the impact of this condition(s) on your patients?	From your experience, how is this drug used in standard medical practice?
1	As a prescriber of this drug to patients.	In Colorado	Stelara	Inflammatory Bowel Disease	Abdominal pain, diarrhea, bleeding, bowel obstructions, need for surgery, other complications	This medication is used to target signals of inflammation to break. The inflammation pathway impatiens with inflammatory bowel disease. It is an appropriate first line therapy, as well as appropriate back up therapy.
2	As a prescriber of this drug to patients.	In Colorado	Stelara	Psoriasis	Psoriasis can cause severe psychosocial and physical harm when not adequately treated	Stelara is amongst one of the classic first line treatment options for moderate to severe psoriasis
3	As a prescriber of this drug to patients.	In Colorado	Stelara	Psoriasis	The appearance of psoriasis can be embarrassing. The symptoms associated with psoriasis, including itch, pain, flaking skin, can directly impact patient wellbeing, patient sleep, and ability to complete activities of daily living. Psoriasis is also well known to have systemic medical associations	Stelara is an effective medication to treat moderate to severe psoriasis in my practice. Stelara is also approved for pediatric psoriasis down to age six and psoriatic arthritis, so it can be used to manage patients who have both skin and joint psoriatic disease. Patients in particular appreciate the every 12 week

ID #	I am answering this survey as an individual with scientific or medical training who mainly utilizes my expertise:	My expertise directly relates to patients who live:	Which prescription drug are you providing comments on today?	Please list the conditions that are treated by the prescription drug for which you are providing expertise.	What is the impact of this condition(s) on your patients?	From your experience, how is this drug used in standard medical practice?
					including metabolic syndrome, cardiovascular disease, mental health conditions like depression and anxiety, and psoriatic arthritis, a potentially debilitating inflammatory arthritis. Having active psoriasis can lead to decreased work productivity, decreased interpersonal relationships, and impact emotional wellbeing. Patients often feel the need to hide their skin with clothing or other accessories. In addition, psoriasis is a chronic condition, there is no cure, so long-term management to keep disease activity under control is necessary. Treatment can improve skin disease and it can also potentially lower the risk of developing other comorbid health conditions. Psoriasis treatment is highly individualized and dependent on many factors including disease severity, location of active disease, and the presence of other comorbid medical conditions such as psoriatic arthritis, inflammatory bowel disease, history of malignancy, and depression and/or anxiety. Not all psoriasis patients respond to the same medications and oftentimes trying multiple different treatments before finding the one that works is	maintenance dosing interval for this medication, which results in only 4 injections per year during maintenance therapy. Given the infrequent dosing interval, some patients choose (and some insurances allow) them to have their injections in the office allowing them to avoid self-injections. Stelara is further approved for Crohn's disease and ulcerative colitis, two comorbidities of psoriatic disease, and therefore can be used in this group of patients to manage multiple diseases.

ID #	I am answering this survey as an individual with scientific or medical training who mainly utilizes my expertise:	My expertise directly relates to patients who live:	Which prescription drug are you providing comments on today?	Please list the conditions that are treated by the prescription drug for which you are providing expertise.	What is the impact of this condition(s) on your patients?	From your experience, how is this drug used in standard medical practice?
					needed. In addition, patients may lose response to a medication over time, and because again psoriasis is a chronic condition, they need to switch to another therapy. These situations can be frustrating to the patient, but we can also provide hope that multiple treatment options are FDA-approved and available (others are also being researched), and our goal is to find that one that works to control their disease.	
4	As a prescriber of this drug to patients.	In Colorado	Stelara	Inflammatory Bowel Disease, Ulcerative Colitis, Crohn's disease	These are all lifelong, chronic inflammatory conditions which patients suffer with for the entirety of their lives upon diagnosis. There are significant risks for untreated disease including need for surgery, hospitalizations, colon cancer, and failure to thrive.	Stelara has classically been used as a 2nd line advanced therapy for both disorders particularly in patients with previous exposure to anti-TNF therapies. More recently over the past few years it has also demonstrated great success as a first-line agent.
5	As a prescriber of this drug to patients., As a prescriber of this drug to patients in a safety net setting.	In Colorado, Nationally	Stelara	ulcerative colitis and crohn's disease	Essential to have freedom to prescribe biologics and advanced therapies	essential for sustained remission, safe, convenient effective

ID #	I am answering this survey as an individual with scientific or medical training who mainly utilizes my expertise:	My expertise directly relates to patients who live:	Which prescription drug are you providing comments on today?	Please list the conditions that are treated by the prescription drug for which you are providing expertise.	What is the impact of this condition(s) on your patients?	From your experience, how is this drug used in standard medical practice?
6	As a prescriber of this drug to patients.	Nationally	Stelara	psoriasis and atopic dermatis	significant disability	injectable in patients with moderate and severe disease
7	medical director of infusion clinics	PA and NJ	Stelara	psoriasis, psoriatic arthritis crohns disease ulcerative colitis	mostly extremely positive	as indicated
8	As a prescriber of this drug to patients.	In Colorado, Nationally	Stelara	Inflammatory Bowel Disease (IBD)	IBD can be a profoundly debilitating chronic autoimmune disease	This medication is one of several "biologic" therapies used to treat IBD. Patients who have moderate to severe disease require chronic maintenance therapy to prevent disease activity. There are a handful of medications with different mechanisms, three specifically within the anti-IL12-23 to which Stelara belongs, all of which are tried in various algorithms to achieve clinical remission.
9	As a prescriber of this drug to patients.	In Colorado	Both	Psoriasis, Hidradenitis suppurative	Both conditions can have a huge impact on quality of life and have internal implications if not treated appropriately	Cosentyx for psoriasis, psoriatic arthritis and HS; Stelara for psoriasis, especially in kids
10	As a prescriber of this drug to patients in a safety net setting.	In Colorado	Stelara	psoriasis	lower QOL	MAB used for autoimmune/rheum dz

ID #	In your experience, what are the health benefits of this drug?	In your experience, what are the health disadvantages of this drug?	From your experience, are there any common therapeutic alternatives to this prescription drug? If so, please list them.	In your experience, what are the benefits or disadvantages between therapeutic alternatives and this prescription drug?	In your experience, do patients raise financial concerns when being prescribed this prescription drug?
1	The health benefits of this medication are dramatic, as it breaks the cycle of inflammation and cumulative damage that can lead to complications, significant disability, surgery, etc. It also has an overall good safety profile as compared to other alternative advanced therapies for management of inflammatory bowel disease.	It frequently requires adjustment of dosing in order to achieve optimal control of information. That is, it is currently FDA approved to be given every eight weeks, but for some patients with severe inflammation, it needs to be given more frequently.	Heather advance therapies for treatment of inflammatory bowel disease include anti-TNF drugs such as infliximab (Remicade) or adalimumab (Humeria), however, those medication's have broader impacts on a patient's immune system with possible increased side effect profile and safety considerations.	Stelara targets IL-23, which is a marker information more specifically involved in inflammation of external skin and the intestinal lining. Because it is more targeted it has less systemwide, immuno, suppression, and safety considerations. It is also far less likely to be rejected by a patient, than those other therapies. There are some new emerging data that suggest that picking the wrong first line therapy may actually change the patient's overall disease course. Having a forced first line choice for all patients of an anti-TNF drug such as those listed above may have an overall negative impact on ultimate management of their condition. For appropriate patients, Stelara should be unavailable first line advanced therapy.	Without adequate insurance coverage, it can be very difficult to obtain this needed therapy for patients.
2	Tremendous positive benefits for most patients on treatment as most patients will experience significant skin psoriasis clearing	Not much. Contraindicated if someone has tuberculosis or other unusual serious infection.	Skyrizi, Tremfya, Cosentyx, Taltz	The other newer biologics have slightly higher clearance rates, but also may be more expensive	YES

ID #	In your experience, what are the health benefits of this drug?	In your experience, what are the health disadvantages of this drug?	From your experience, are there any common therapeutic alternatives to this prescription drug? If so, please list them.	In your experience, what are the benefits or disadvantages between therapeutic alternatives and this prescription drug?	In your experience, do patients raise financial concerns when being prescribed this prescription drug?
3	The health benefits include improved psoriasis disease control which often leads to improved quality of life, amelioration of symptoms, and as above, psoriasis disease control can also potentially lower the risk of developing other comorbid health conditions. When treating psoriasis patients with psoriatic arthritis, it can prevent irreversible joint damage and destruction.	As with many systemic medications to treat psoriasis (biologic and traditional systemic medications), there is an increased risk of infections.	This is a challenging question to answer because while many topical and systemic treatment options exist for psoriasis, the individual patient must be taken into consideration. Psoriasis factors to consider include body surface area involved, skin locations affected, special site involvement, nail involvement, other psoriasis subtypes, and whether there is concurrent psoriatic arthritis. Individuals may not be candidates for therapeutic alternatives due to age, systemic medical diseases or history of malignancy, mental health conditions, other medications/medication interactions, allergies, lifestyle habits, and prior treatment failures or experiences with other psoriasis medications. Common therapeutic alternatives may or may not exist for the patient, depending on these factors.	As above, this is a challenging question to answer. All medications have risks and benefits but whether the benefits outweigh the risks for the therapy I choose, and their alternatives, depends on the psoriasis patient in front of me.	Yes

ID #	In your experience, what are the health benefits of this drug?	In your experience, what are the health disadvantages of this drug?	From your experience, are there any common therapeutic alternatives to this prescription drug? If so, please list them.	In your experience, what are the benefits or disadvantages between therapeutic alternatives and this prescription drug?	In your experience, do patients raise financial concerns when being prescribed this prescription drug?
4	This is an excellent therapy for moderate to severe inflammatory bowel disease with a fantastic safety profile.	Primarily the cost.	Direct alternatives no, there will be generic formulations in the next few years. Advanced therapy alternatives include anti-TNF therapies, vedolizumab, risankizumab, ozanimoid, and JAK inhibitors	The majority of other therapy (save for vedolizumab) have associations with risks for infections and malignancy. Anti-TNF therapies are typically preferred by insurance companies too.	Yes. However there are excellent patient rebate program and financial assitance programs made available by pharma.
5	great to have this available works first line and second line. Safe effective durable	Very good support for those who haVE LOST INSRANCE OR DO NOT HAVE INSURANCE	It is the only Il-12/IL-23 inhibitor available	Safety, durability, able to avoid or stop the use of corticosteroids!	no, most insurances cover the medication, if not the company works to provide it
6	Clear or almost clear skin and stops arthritis with destruction of joints	decreases immune status	none	older drugs have serious side effects on liver and other organs	yes
7	decreasing exacerbations of patients health conditions	cost and insurance coverage			yes

ID #	In your experience, what are the health benefits of this drug?	In your experience, what are the health disadvantages of this drug?	From your experience, are there any common therapeutic alternatives to this prescription drug? If so, please list them.	In your experience, what are the benefits or disadvantages between therapeutic alternatives and this prescription drug?	In your experience, do patients raise financial concerns when being prescribed this prescription drug?
8	The ability to induce and maintain clinical remission, and the prevention of complications there of, and those profound impacts on quality of life and disability is remarkable. Of note, in the setting of IBD, there are essentially no quality and inexpensive medications to treat IBD.	The medication has some risk of infection, allergic reaction, and rare odd immunologic complications. But the benefit far outweighs these risks. The disadvantage of this drug, and all the other drugs used to treat IBD, are expensive and taken chronically.	The potential alternatives include other drugs in the same class anti-IL12-23 (e.g. Omvoh, Skyrizi,) and other mechanisms of action including anti-TNF medications (infliximab, adalimumab,) Entyvio, Jak inhibitors (Rinvoq, Xeljanz,) and S1P inhibitors (Zeposia and Velsipity.) But do note the very high costs associated with all of these medications. Please also note, that patient responses to these medications are highly variable, and many patients may only have a positive clinical response to few or even one of the medications listed. Even within the IL12-23 class of medications, evidence shows that 20% of patients who do not respond to one of the drugs, will respond to another drug within its class.	In short, we are not able yet to personalize medication choices to predict which medications an individual will respond to. As such, often multiple different medications are tried for defined durations to achieve clinical remission. It is impossible to saw one drug is significantly better or worse than any of the other drugs listed above. But there are certain patients who Stelara very well might be the best drug.	Nearly all patients have financial concerns about every single therapy used to treat IBD. For most patients, the out-of-pocket costs are the same; patients either meet their deductible or get financial assistance for which ever drug they are on.
9	Improve inflammation of skin and inside the body	Really not many unless a patient does not tolerate the med	Not common alternatives; for HS only other approved med is Humira and it does not work that well	Humira has more potential side effects and is not as effective	Not typically
10	Improved functioning/QOL, lower disease burden	immunosuppression	Yes, older generation of MAB, MTX, remicaide	cost, SE	Yes

ID #	Do you discuss this drug's expense with patients when prescribing?	When do you discuss financial effects with patients related to this drug?	At the point of prescribing, do you discuss any of the following with your patients related to this prescription drug? Select all that apply.	In your experience, have utilization management policies (e.g., insurance requirements related to step therapy or prescription drug formulary tiers) impacted your patients' ability to access this drug?	If you are a safety net provider, does your clinic/facility provide this prescription drug to patients? If not, why?	If you are a safety net provider, do you receive a 340B discount for this prescription drug?	In your experience, are there any other financial effects of the condition and prescription drug you think the Board should consider?
1	Yes	Someone else in my organization discusses financial effects with patients.	Plan formulary alternatives, Manufacturer assistance programs	Yes			
2	Yes	At the point of prescribing.	Manufacturer assistance programs	Yes			Without manufacturer assistance programs or rebates, many patients are not able to access this medication
3	Yes	At the point of prescribing.	Plan formulary alternatives, Manufacturer assistance programs	Yes			
4	No	When the patient reaches back out to note significant high payments, this is typically not an issue though.	Plan formulary alternatives, Manufacturer assistance programs	Yes			

ID #	Do you discuss this drug's expense with patients when prescribing?	When do you discuss financial effects with patients related to this drug?	At the point of prescribing, do you discuss any of the following with your patients related to this prescription drug? Select all that apply.	In your experience, have utilization management policies (e.g., insurance requirements related to step therapy or prescription drug formulary tiers) impacted your patients' ability to access this drug?	If you are a safety net provider, does your clinic/facility provide this prescription drug to patients? If not, why?	If you are a safety net provider, do you receive a 340B discount for this prescription drug?	In your experience, are there any other financial effects of the condition and prescription drug you think the Board should consider?
5	Not applicable	all my patients have paid bennefit	Manufacturer assistance programs	No	na	No	UC and Crohn's disease only respond ~60-70 to any of the agents, best to have all available. This agent is especially important for safety, pregnancy, lactation, durability, convenience, and ability to stop and prevent the use and complications from corticosteroids.
6	Yes	At the point of prescribing.	Plan specific cost of the drug, Patient deductible information, Plan formulary alternatives, Cost for uninsured patients, Manufacturer assistance programs	Yes			these are necessary drugs for the right patients without alternatives that make sense

ID #	Do you discuss this drug's expense with patients when prescribing?	When do you discuss financial effects with patients related to this drug?	At the point of prescribing, do you discuss any of the following with your patients related to this prescription drug? Select all that apply.	In your experience, have utilization management policies (e.g., insurance requirements related to step therapy or prescription drug formulary tiers) impacted your patients' ability to access this drug?	If you are a safety net provider, does your clinic/facility provide this prescription drug to patients? If not, why?	If you are a safety net provider, do you receive a 340B discount for this prescription drug?	In your experience, are there any other financial effects of the condition and prescription drug you think the Board should consider?
7	Not applicable	Someone else in my organization discusses financial effects with patients.	Plan specific cost of the drug, Patient deductible information, Plan formulary alternatives, Cost for uninsured patients, Pharmacy specific pricing, Manufacturer assistance programs	Yes			cost to society for patients productivity if they are hospitalized for exacerbations of their disease without appropriate treatment
8	Yes	At the point of prescribing.	Patient deductible information, Prescribing physician are not given access to the insurance plan formulary, cost, price, nor alternative pricing.	Yes			It is a strange approach to target a specific medication. All of the immune based therapies we use to treat IBD are very expensive, and in my experience are very similarly priced. When a new medication comes to market, the price of the medication is determined by the price of alternative medications, and minimally impacts class price. Not until there are numerous medications, which can compete for market share, do the prices significantly decrease. In the case of IBD, there are not enough quality alternative medications to force companies to decrease the prices. In the case of Stelara, when Skyrizi and Omvoh came to market in the past year, the cost of each medication

ID #	Do you discuss this drug's expense with patients when prescribing?	When do you discuss financial effects with patients related to this drug?	At the point of prescribing, do you discuss any of the following with your patients related to this prescription drug? Select all that apply.	In your experience, have utilization management policies (e.g., insurance requirements related to step therapy or prescription drug formulary tiers) impacted your patients' ability to access this drug?	If you are a safety net provider, does your clinic/facility provide this prescription drug to patients? If not, why?	If you are a safety net provider, do you receive a 340B discount for this prescription drug?	In your experience, are there any other financial effects of the condition and prescription drug you think the Board should consider?
							equilibrated at about $27,000, which was a decrease for Stelara. But if Stelara is limited in the market, then Omvoh and Skyrizi likely will increase in price. Setting price ceilings needs to be disease or class specific, otherwise it is futile.
9	Yes	Someone else in my organization discusses financial effects with patients.	Manufacturer assistance programs	Yes			
10		After the appointment, before the patient reaches the pharmacy.	Plan specific cost of the drug, Patient deductible information, Plan formulary alternatives, Pharmacy specific pricing	Yes			Cost of a life saving medication should not be a part of the decision making process. Pts often have to choose between meds and other finances (rent, food, etc)

The response below is from a participant that completed the survey for individuals with scientific or medical training as a patient taking Stelara. Staff reached out to them to clarify their survey results but did not receive a response. Following table shows the survey results from the participant. It is important to note that their responses were not recorded as part of this appendix.

ID #	I am answering this survey as an individual with scientific or medical training who mainly utilizes my expertise:	My expertise directly relates to patients who live:	Which prescription drug are you providing comments on today?	Please list the conditions that are treated by the prescription drug for which you are providing expertise.	What is the impact of this condition(s) on your patients?	From your experience, how is this drug used in standard medical practice?	From your experience, describe any off-label usage of this drug.
1	A Stelara Patient	In Colorado, Nationally	Stelara	Chrohns	Allows me to be in remission, work and spend time with family.	Unique way to treat Chrohns with safety I'm comfortable with (not the case for other Crohns medications)	N/A

ID #	In your experience, what are the health benefits of this drug?	In your experience, what are the health disadvantages of this drug?	From your experience, are there any common therapeutic alternatives to this prescription drug? If so, please list them.	In your experience, what are the benefits or disadvantages between therapeutic alternatives and this prescription drug?	In your experience, do patients raise financial concerns when being prescribed this prescription drug?	Do you discuss this drug's expense with patients when prescribing?
1	I am thankful for Stelara because of how fast the drug works, how safe it is and how low the anti-body development is. This means it is more likely I may stay in remission longer.	Difficult to get from specialty pharmacy. Easier to have office order & give me (I don't have the time, nor expertise to track down the medication every time it is due).	No. There is no generic or other alternative therapy that has the same results and safety. Additionally, once patients like me are in remission on a	The safety is VERY different with most of the other biologics. The immune system is much more suppressed and has side effects that would impact my life negatively.	NO! The opposite. After the first fill of Stelara every year, the co-pay card that every commercially insured patient is eligible for pays down my out-of-pocket maximum to insurance so I can afford to receive required tests like colonoscopies, lab work that every Crohns patients has to do annually (you don't have to qualify on income to receive savings). Last year in January, I needed imaging to rule out a kidney stone and I avoided going to the hospital because fo the high co-pay. Because I delayed the hospital earlier, I developed sepsis while working in Aurora, CO	Not applicable

			biologic, drug delays or absence of drug can cause flares, surgeries, disease worsening or complications. This happened to me when my specialty pharmacy messed up my prescription last year.		and had to have emergency surgery at Rose Medical Center. If I had already received my Stelara & had the co-pay card fulfill my out-of-pocket maximum last year, I would have gone to the hospital sooner (when is was appropriate) to seek the medical help I needed. Because it was too early in the year and I hadn't received my Stelara (& co-pay benefits), I had life threatening complications that required two surgeries and missed more than a month of work.	
ID #	**When do you discuss financial effects with patients related to this drug?**	**At the point of prescribing, do you discuss any of the following with your patients related to this prescription drug? Select all that apply.**	**In your experience, have utilization management policies (e.g., insurance requirements related to step therapy or prescription drug formulary tiers) impacted your patients' ability to access this drug?**	**If you are a safety net provider, does your clinic/facility provide this prescription drug to patients? If not, why?**	**If you are a safety net provider, do you receive a 340B discount for this prescription drug?**	**In your experience, are there any other financial effects of the condition and prescription drug you think the Board should consider?**
1	I do not discuss financial effects with patients.		Yes			Patients who require biologic therapy like Stelara have chronic health conditions with many possible complications. The actual cost to the commercially insured patient is very low. The manufacturer pays the funds to co-pay card that go to the insurance company and fulfills the out-of-pocket maximum so patients like me can afford to receive other tests and healthcare.

Appendix J

Stelara: Voluntarily Submitted Information

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider any other information that a manufacturer, carrier, pharmacy benefit management firm, or other entity chooses to provide. (C.R.S. § 10-16-1406(4)(i)).

Rule: Information Voluntarily Submitted from a Manufacturer, Carrier, Pharmacy Benefit Management Firm, or Other Entity:

- The Board will consider information voluntarily provided by a manufacturer, carrier, pharmacy benefit management firm, or other entity.
- Manufacturers, carriers, pharmacy benefit management firms, or other entities shall have 60 days from the date of selection to provide such information to the Board for its consideration. (3 CCR 702-9, Part 3.1.E.2.i).

Policy: Staff will prepare information voluntarily provided by a manufacturer, carrier, pharmacy benefit management firm, or other entity for the Board's consideration.

- After selection of a prescription drug for affordability review, the Board will notify interested parties, including members of the PDAAC, using its listserv and by posting on its website, of the ability to submit information pursuant to section 10-16-1406(4)(i), C.R.S., if such interested parties are manufacturers, carriers, pharmacy benefit management firms, or other entities. (PDAB Policy 04, p. 8).

Underlying Methodology: None.

Data Source(s): All information that is voluntarily provided to the Board by Oct. 3, 2023 will be provided to the Board for consideration during affordability reviews. Board staff plan to summarize which entities submitted information and the nature of the submitted information.

Considerations and Data Limitations: Some voluntarily submitted information may be confidential, proprietary, or trade secret. Such data will not be made public and can only be discussed by the Board in executive session. Though the deadline for voluntarily submitted information is 60 days after selection (October 3, 2023), the Board voted to extend the voluntarily submitted information for patients and caregivers until October 12, 2023.

This component's information is voluntary. While the Board may request clarification of voluntarily submitted information, there will not be an assessment of the accuracy of voluntarily submitted information or the extent to which it applies to Coloradans. To the degree that voluntarily submitted information is different from information presented in other affordability review components, the Board will need to decide how to evaluate such discrepancies.

Stelara: Voluntarily Submitted Information Evidence

In compliance with Board policy, on August 10, 2023, Board staff emailed a listserv announcement to subscribers to the PDAB listserv and posted on an announcement on the PDAB website that interested parties had the ability to voluntarily submit information related to Stelara for 60 days following selection of Stelara for an affordability review.

Information from Manufacturer

Submissions from Johnson & Johnson	Page #s
Voluntarily submitted Information Related to Drug Supply Chain, STELARA ® Product-Specific Information, Appendix A and B	J-3 - J-42

Information from Other Entities

Submissions from Other Entities	Pages #s
AiArthritis - Patient/Caregiver and Patient Organization Engagement for Consideration During Affordability Reviews	J-44 - J-49
Colorado PDAB RE QALY Use-Joint Letter - Siri Vaeth	J-50 - J-52

Proprietary Information

Confidential Submissions	Page #s
None	N/A

Via Email

October 3rd, 2023

Gail Mizner, MD
CO PDAD Board Chair.
dora_ins_pdab@state.co.us

Dear Dr. Mizner,

We write to provide the Prescription Drug Affordability Review Board (the "Board") information on STELARA®, which was recently selected for an "Affordability Review" under the Colorado Prescription Drug Affordability Act.

At Johnson & Johnson, for more than 130 years, cutting-edge technologies and expert insight have helped us understand and address the serious health problems of today and unlock the potential medicines of tomorrow. We apply rigorous science and compassion to confidently address the most complex diseases of our time. We also recognize these medicines can only have an impact if patients can access them. We work tirelessly to improve access for patients across Colorado.

As the Board conducts its Affordability Reviews, we urge it to consider the entire drug supply chain ecosystem and the complex ways in which each part impacts patient affordability. The vast majority of STELARA® patients pay $60 or less in direct out-of-pocket (OOP) costs for STELARA® every 8-12 weeks. OOP costs are a function of insurance plan benefit design, which is determined by the patient's insurer. Insurers may negotiate with manufacturers for rebates which reduce the plan's overall expenses, but which often are not directly shared with patients. When patients are left with high out of pocket costs, they may look to manufacturer patient assistance programs for additional support.

Our submission focuses on two key areas, along with two appendices with additional clinical information:

(1) Voluntarily submitted Information Related to Drug Supply Chain:
   a. Net Prices, Insurance Benefit Design and Patient Out of Pocket Costs

(2) STELARA ® Product-Specific Information:
   a. Executive Summary
   b. Clinical and Economic Overview
   c. Orphan Drug Designation
   d. Patient Copayment and other cost sharing information
   e. Current WAC and Inflation Adjusted Change in WAC
   f. Biosimilar Competition Entry

(3) Appendix A

(4) Appendix B

The information provided within this submission is intended to help policymakers and other stakeholders develop a better understanding of the prescription drug supply chain, the clinical value of STELARA® for Colorado patients and how we support affordable access to our products.

As one of the nation's leading healthcare companies, we have a responsibility to engage with stakeholders in constructive dialogue to address these gaps in affordability, access and health equity as well as protect our nation's leading role in the innovation ecosystem.

We know that patients are counting on us to develop and bring to market medicines that are safe, effective and accessible. We live this mission every day and are humbled by the patients who trust us to help them fight their diseases and live healthier lives.

Thank you,

Blasine Penkowski

Chief Strategic Customer Officer

Johnson & Johnson Healthcare Systems

Section 1(a)

Net Prices, Insurance Benefit Design and Patient Out of Pocket Costs

The list price of a medicine is a starting point that is ultimately reduced to a net price, the amount a manufacturer receives after negotiating and providing rebates, discounts and/or fees to different parts of the healthcare system. These include negotiations with private insurance companies, PBMs and entities where medications are dispensed or administered (e.g., hospitals, clinics and private physician practices). In addition, there are mandatory or statutory price reductions provided through government programs. Government programs (e.g., Medicare, Medicaid, etc.) receive prices reduced by both private negotiations and statutory discounts. Vigorous private market negotiations throughout the system result in lower net prices for commercial payers and government programs.

In the face of inflationary pressures, American families and businesses experienced the fastest growth in prices in nearly 40 years in 2022. Yet, commercial insurers, pharmacy benefit managers (PBMs) and government payers paid lower net prices for Janssen's medicines for the sixth year in a row. Net prices for Janssen's medicines **declined** by 3.5%, and nearly 20% when compounded over the past six years.

While commercial insurers pay lower net prices, many patients do not directly benefit from these lower prices and continue to pay higher out-of-pocket costs. Patients pay higher out-of-pocket costs because their cost-sharing amount, set by their insurance plan, is often based on the initial list price, not the negotiated lower net price the commercial insurer pays.

At the same time patients continue to pay higher out of pocket costs, commercial insurers and PBMs are implementing more restrictive utilization management programs. Utilization management is the use of administrative mechanisms (e.g., prior authorization) and financial mechanisms (e.g., patient cost sharing) to control or restrict patient access to healthcare. One such example is the increasing use of exclusion lists, which are designed to block patients from accessing a medicine that their own doctor has prescribed. Since 2014, these exclusion lists have grown more than 961% to include more than 1,156 unique products. Exclusion lists are also being leveraged with specialty drugs, which could disproportionately affect patients with very serious and specialized treatment needs. Utilization management programs also include expanded tiered lists with varying cost sharing, prior authorization, non-medical switching and step therapy.

Section 2:

2(a) Executive Summary – STELARA ®

STELARA® delivers significant clinical value to Colorado patients providing a safe and effective option to treat chronic, debilitating, and distressing immune-related diseases. These factors must be considered in evaluating patient affordability.

What Matters to Colorado Patients:

- In Colorado, the median STELARA® OOP cost per prescription ranges from $0 to $60 (dosed every 8 or 12 weeks depending on the indication) by type of insurance. At the prescription level, the median STELARA® OOP cost is $60 for commercially insured patients without assistance and $3 for Medicaid patients. Commercially insured patients who received assistance from Janssen's patient assistance programs had out-of-pocket costs of $0 to $5.
- STELARA® (ustekinumab) is the only IL-12/23 inhibitor in the US market and is approved for moderate-to-severe Crohn's Disease (CD), moderate-to-severe Ulcerative Colitis (UC), moderate-to-severe Plaque Psoriasis (PsO), and active Psoriatic Arthritis (PsA). (See below for specific clinical and economic value for patients using treatments.)
- There are two classes of biologic treatments: TNF-inhibitors and non-TNF-inhibitors. TNF-inhibitors are commonly used as first-line biologics but have the highest level of FDA safety warnings for serious infections and/or cancer.
- STELARA® is a significant therapeutic advance over TNF-inhibitors through its improved long-term safety profile (including no boxed warning and low immunogenicity) and ability to treat patients who do not respond well to TNF-inhibitors. STELARA® also has significantly more patients staying on treatment longer vs. TNF-inhibitors.
- STELARA® has low immunogenicity rates, no routine tuberculosis monitoring requirements, and fewer injections per year vs. TNF-inhibitors.
- STELARA® delivers consistent efficacy and safety, and has a robust and defined clinical profile for many populations across the breadth of indications including specific populations:
    - Elderly patients
    - Pediatric patients with PsO and PsA
    - Obese patients
    - Patients who had inadequate response to prior biologics
- STELARA® does not require any routine blood tests or other routine monitoring. In addition, STELARA® offers the convenience of a self-injection every eight weeks following its IV starter dose in CD/UC, and every 12 weeks following subcutaneous starter doses in PsO and PsA.
- STELARA® offers long-term safety, durability, and efficacy, decreases the use of corticosteroids and immunomodulators, providing a less burdensome treatment option for Colorado patients and their caregivers.

- Extended trials for STELARA demonstrated sustained responses observed through 5 years in CD and lasting symptomatic remission through 4 years in UC. In PsO & PsA, sustained responses to STELARA were observed through 5 years in PsO and consistent response rates through week 100 in PsA. Across all indications, no new safety signals were observed in the long-term study periods.

Section 2(b) Clinical and Economic Overview

STELARA EXECTUVE SUMMARY – CLINICAL AND ECONOMIC VALUE

Clinical Benefits Overview

Therapeutic Class of STELARA

STELARA® (ustekinumab) is a first-in-class **IL-12/IL-23 inhibitor**

Indications of STELARA

STELARA is approved by the FDA for the treatment of:

- Patients 6 years and older with moderate to severe **plaque PsO** who are candidates for phototherapy or systemic therapy[a]
- Patients 6 years and older with active **PsA**[b]
- Adult patients with moderately to severely active **CD**[c]
- Adult patients with moderately to severely active **UC**[d]

Mechanism of Action of STELARA

- STELARA is a human IgG1κ monoclonal antibody that **binds with specificity** to the p40 protein subunit used by both the **IL-12** and **IL-23** cytokines
- **Abnormal regulation** of **IL-12** and **IL-23** has been associated with immune-mediated diseases, such as PsO, PsA, CD, and UC
- STELARA is believed to **interrupt signaling and cytokine cascades** that play a role in the pathology of these diseases

Dosage and Administration of STELARA

- STELARA is for **SC administration** in the treatment of moderate to severe PsO and active PsA
- In moderately to severely active CD or UC, STELARA is administered as a single **IV infusion induction**, followed by **SC maintenance** dosing
- STELARA is intended for use under the guidance and **supervision of a physician**
- STELARA solution for **IV infusion** must be diluted, prepared, and infused by a **healthcare professional** using aseptic technique
- After proper training in **SC injection** technique, a patient may **self inject** with SC STELARA if a physician determines that it is appropriate
- In **pediatric patients**, it is recommended that STELARA be administered by a healthcare provider
- Patients should be instructed to follow the directions provided in the **Medication Guide**

Safety Information for STELARA

- STELARA is **contraindicated** in patients with clinically significant hypersensitivity to ustekinumab or any of the excipients
- **Serious adverse reactions** have been reported in STELARA-treated patients, including bacterial, mycobacterial, fungal, and viral infections, malignancies, hypersensitivity reactions, cases of PRES, and noninfectious pneumonia
- STELARA should not be given to patients with any **clinically important active infection**. Patients should be evaluated for tuberculosis prior to initiating treatment with STELARA. **Live vaccines** should not be given to patients receiving STELARA. If PRES is suspected or if noninfectious pneumonia is confirmed, discontinue STELARA
- The **most common adverse reactions** reported during clinical studies with STELARA were nasopharyngitis, upper respiratory infections, fever, headache, fatigue, pruritus, nausea, vomiting, diarrhea, abdominal pain, injection site erythema, vulvovaginal candidiasis/mycotic infection, bronchitis, urinary tract infection, sinusitis, and influenza

For information on **dosing and administration** of STELARA please click here and for **additional safety** of STELARA please click here or alternatively refer to the full Prescribing Information and Medication Guide

For more information on dosing and administration and for additional safety of STELARA, please refer to the full Prescribing Information and Medication Guide.

[a]Approved in July 2020. [b]Approved in July 2022. [c]Approved in September 2016. [d]Approved in October 2019.

Abbreviations: CD, Crohn's disease; IL, interleukin; IgG1κ, immunoglobulin G1-kappa, IV, intravenous; PsA, psoriatic arthritis; PsO, psoriasis; SC, subcutaneous; UC, ulcerative colitis.

Section 2(c) - FDA Orphan Drug Designations[a]

Generic Name	Orphan Designation	Designation Date	Designation Status
Ustekinumab	Treatment of pediatric ulcerative colitis	02/22/2017	Designated
Ustekinumab	Treatment of pediatric Crohn's disease (0 through 16 years of age)	05/18/2016	Designated

[a]US Food & Drug Administration

Section 2(d) – Patient Copayment and other cost sharing information

The Colorado PDAB has specified "Patient copayment and other cost sharing information" as a key component of the review of STELARA®. To meet this need, we conducted a new analysis using patient-level data in the State of Colorado from a commercially available database tailored to this objective. This analysis provides real world insights on STELARA® utilization in CO, describing STELARA® patients by insurance types, indications of use, and OOP cost per prescription for the year 2022.

The retrospective, observational cohort study (data on file) identified patients who filled at least one STELARA® prescription either through their pharmacy or medical benefit between January 2022 and December 2022 in CO. The data source used for this analysis, the IQVIA Longitudinal Access and Adjudication Data (IQVIA LAAD) contains administrative claims data from both pharmacy and medical benefits. For the out-of-pocket analysis, the unit of analysis was the prescription, which means each patient can contribute multiple times as they continued to refill their prescriptions in 2022.

Results

- STELARA® patients (n=2,054) had a mean age of 45.4 years and were 46% male in 2022.
- Across payer types, the medical indication can be identified in a subset of patients (n=1,134) in 2022. In this sample, the overall percentage of patients with PsO, PsA, CD, and UC were 13.2%, 6.8%, 63.9%, and 27.5%, respectively. Since patients could have more than one indication in the database, sum of percentages can be over 100%.
- Based on the IQVIA LAAD data at a prescription level in CO with OOP cost data, the median STELARA® OOP cost per prescription is from $0 to $60 across different insurance types, including commercial (n=3,264), assistance programs (n=294), and Medicaid (n=590).
    - Commercial prescriptions without patient assistance represent 69.9% of all CO STELARA® prescriptions with a median STELARA® OOP of $60.
    - Medicaid prescriptions represent 12.6% of all CO STELARA® prescriptions with the median STELARA® OOP cost of $3.

- Of the 294 commercially insured prescriptions associated with patient assistance, 97% (n=285) were part of a Janssen patient assistance program with a $0 to $5 out of pocket cost.

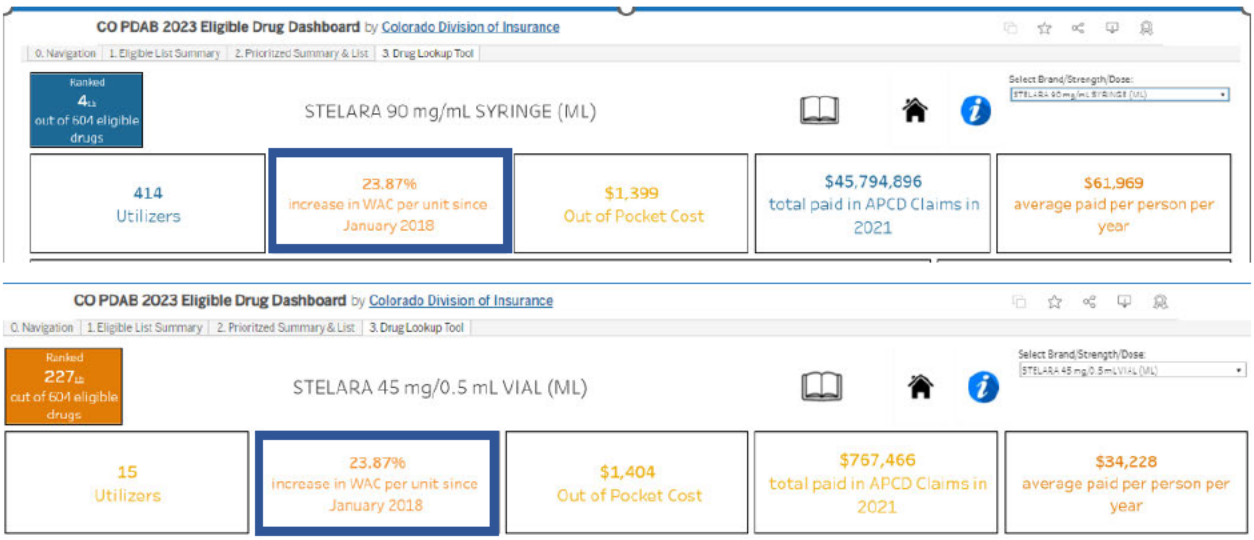
Limitations

- The database used in this analysis is a sample of patients over the age of 18 in CO that had administrative claims data showing evidence of use of STELARA®.
- The administrative claims data are not a complete medical record but represent pharmacy claims gathered for ~92% of the retail universe and ~72% of the mail universe and medical claims were gathered from 75% of the AMA Physicians[1].
- This OOP analysis is based on STELARA® prescriptions where the OOP costs are available. To address this limitation, we validated the result using a second database, which contains 100% OOP cost data at a prescription level. In the second database, similar results were observed.

Conclusion:

In Colorado, the median STELARA® OOP cost per prescription ranges from $0 to $60 (dosed every 8 or 12 weeks depending on the indication) by type of insurance. At the prescription level, the median STELARA® OOP cost is $60 for commercially insured patients without assistance and $3 for Medicaid patients. Commercially insured patients who received assistance from Janssen's patient assistance programs had out-of-pocket costs of $0 to $5.

Section 2 (e): Current WAC and Inflation Adjusted Change in WAC



CO Dashboard Definition:

Metric: Increase in WAC per unit since January 2018 (Change in WAC)

Definition: Number showing the percentage change in WAC per unit from January 2018 to January 2023

Data Source: AnalySource's WAC amount, which as published by First Databank represents the manufacturer's published catalog or list price for a drug product to wholesalers as reported to First Databank by the manufacturer.

Underlying Methodology: Calculate the percent change in WAC per unit from January 2018 to January 2023. The initial WAC per unit will be adjusted for inflation (CPI-U for all items for Denver- Aurora-Lakewood) to compare prices in the same dollars as referenced on page 7 of the Colorado Prescription Drug Affordability Board 2023 Eligible Drug Dashboard Resource

Manufacturer Comments:

The published data for the percentage "increase in WAC per unit since January 2018" metric differs from CO underlying methodology described on page 7 of Colorado Prescription Drug Affordability Board 2023 Eligible Drug Dashboard Resource for the Stelara NDCs 57894-0060-03, NDC 57894-0061-03 (per unit WAC basis).

Colorado dashboard percentage "increase in WAC per unit since January 2018" reflects 23.87%, which is calculated by using the following method:

1) January 2023 WAC before January 20, 2023 increase = $25,497.12
2) January 2018 WAC after January 3, 2018 increase = $20,584.30
3) Colorado Calculation: ($25,497.12 - $20,584.30) / 20,584.30 = 23.87%

However, when following the CPIU-Denver adjusted "increase in WAC per unit since January 2018" calculation the percentage should be 3.06%, as demonstrated below:

Underlying Methodology (Colorado Prescription Drug Affordability Board 2023 Eligible Drug Dashboard Resource, page 7)

1. Initial WAC in Jan. 2018 * (CPI-U Jan. 2023 / CPI-U in Jan. 2018) = inflation-adjusted Jan 2018 WAC, **then**
2. (Jan 2023 Actual WAC – inflation-adjusted Jan 2018 WAC) / inflation-adjusted Jan 2018 WAC = % inflation adjusted increase

Calculation based on Underlying Methodology:

1) Initial WAC in January 2018 = **$20,584.30**
2) CPI-U Denver Adjusted amount = 312.392/259.907**=1.20194**
    a. January 2023 CPI-U Denver = 312.392
    b. January 2018 CPI0U Denver = 259.907

3) Adjusted inflation WAC in January 1, 2023 calculation= $20,584.30 X 1.20194 = **$24,741.09**
4) Current WAC on January 1, 2023 = **$25,497.12**
5) Inflation adjusted "increase in WAC per unit since January 2018" = **3.06%**

    ($25,497.12 - $24,741.09) /$24,741.09 = 3.06%

Sources:

WAC: Analysource, confirmed also with Janssen Master Price Lists (from Janssen Trade emails sent)

CPI-U: from CPI for All Urban Consumers (CPI-U) Denver-Aurora-Lakewood ("CPIU-Denver"), CO, all urban consumers, not seasonally adjusted

Conclusion: The actual "increase in WAC per unit since January 2018" is 3.06%. The 23.87% listed on the dashboard used to represent increase in WAC per unit since January 2018 excludes adjustments for inflation and is not consistent with underlying methodology in the Colorado Prescription Drug Affordability Board 2023 Eligible Drug Dashboard Resource.

Section 2 (f): Biosimilar Competition

Over the course of 2023, Janssen has reached agreements with Amgen, Alvotech, Celltrion, Formycon-Fresenius Kabi, Samsung Bioepis, and Teva, regarding the U.S. commercial licensing of each company's pending ustekinumab biosimilar candidates in the U.S. Driven by Janssen's intellectual property that covers the composition, methods of treatment, and processes for manufacturing biosimilar versions of STELARA, these resolutions with the aforementioned ustekinumab biosimilar candidate manufacturers (i.e., Alvotech and Teva, Amgen) allow U.S.

commercialization of pending STELARA biosimilars in Q1 2025, or earlier based on certain circumstances.

We remain confident in the ability for STELARA® to remain an important treatment option for patients currently on therapy and for those who can benefit from it in the future. With biosimilar products entering the market in 2025, we remain confident in our ability to demonstrate STELARA's value to payers, providers and patients.

Appendix A

STELARA® (ustekinumab)
Colorado Prescription Drug Affordability Board Stakeholder Meeting

Submitted by:

Janssen Scientific Affairs, LLC

The following information is provided because of your specific unsolicited request and is not intended as an endorsement of any usage not contained in the Prescribing Information (PI). For complete information, please refer to the full PI, including the following sections: **INDICATIONS AND USAGE, DOSAGE AND ADMINISTRATION, CONTRAINDICATIONS, WARNINGS AND PRECAUTIONS, and ADVERSE REACTIONS**

Created September 2023

Please direct comments and questions to:

Janssen Medical Information

1125 Trenton-Harbourton Road

PO Box 200, Titusville, New Jersey 08560

1-800-JANSSEN (1-800-526-7736)

www.janssenscience.com

janssenmedinfo@its.jnj.com

STELARA EXECTUVE SUMMARY – CLINICAL AND ECONOMIC VALUE

Clinical Benefits Overview

Crohn's Disease (CD)

Approval of STELARA for CD

- The **approval of STELARA** as therapy for adults with moderately to severely active CD was based on data from 3 phase 3, multicenter, randomized, double-blind, pivotal trials (**UNITI-1**, **UNITI-2**, and **IM-UNITI**)[a-e]

Clinical Benefits of STELARA for CD

- STELARA is the first and only therapy indicated in the treatment of CD that targets IL-12 and IL-23
- STELARA demonstrates significantly **greater clinical response, clinical remission,** and maintenance of remission vs placebo

UNITI-1 Induction Phase 3 Trial[a]

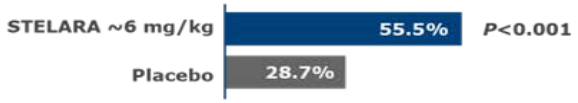
741 adults with moderately to severely active CD who failed or were intolerant to TNF inhibitors

Patients (%) With Clinical Response at 6 Weeks

UNITI-2 Induction Phase 3 Trial[b]

627 adults with moderately to severely active CD who failed oral corticosteroids and/or immunosuppressive therapy but were not refractory to TNF inhibitors

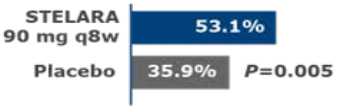
Patients (%) With Clinical Response at 6 Weeks



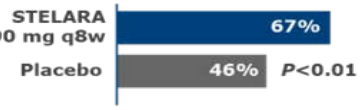
IM-UNITI Maintenance Phase 3 Trial[c]

388 patients who responded to STELARA IV treatment in the UNITI-1 and UNITI-2 induction studies at week 8

Patients (%) With Clinical Remission at 44 Weeks



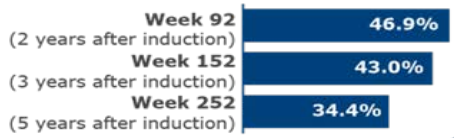
Patients (%) in Remission at 44 Weeks Among Those in Remission at Start of Maintenance



IM-UNITI Long-Term Extension[d,e,f]

128 IM-UNITI participants who received STELARA 90 mg SC q8w

Patients (%) in Remission (ITT)



Economic Benefits: STELARA Value and Overall Cost for CD

- STELARA offers **value to MCOs** as a treatment option with a different mechanism of action and proven efficacy for adult patients with moderately to severely active CD
- Treatment with STELARA **significantly reduced time to first CD-related hospitalization** or **surgery** vs placebo in the UNITI trials through 2 years[g]
- Real-world data demonstrated that STELARA significantly **reduced the proportion of patients with ER visits and inpatient stays** and corticosteroid, immunomodulators, and pain medication use[h,i]
- A retrospective pooled claims analysis demonstrated that STELARA's **persistence is 83.6% at 1 year** in CD[j]
- A network meta-analysis of biologics for moderate-to-severe CD using treatment sequence analysis suggested a **higher likelihood of 1-year response and remission** with STELARA vs adalimumab and vedolizumab[k]
- A retrospective review of the US IBD Health Outcomes Consortium substudy group (SUCCESS) demonstrated that cumulative rates of **clinical and endoscopic remission at 12 months** were 40% and 39%, respectively, in patients with CD who received STELARA[l]
- In a retrospective longitudinal cohort study in bio-naïve patients with CD, **73.8%** of patients treated with STELARA **remained on treatment** vs 63.6% of those treated with adalimumab (log-rank *P*<0.001) at 12 months of follow-up[m]
- STELARA patients had **PPPY cost-offsets of $3,216** due to reduction in CD-related hospitalizations and surgeries vs placebo over 2 years in the IM-UNITI LTE study[n]
- An indirect treatment comparison showed a **lower cost per responder** for STELARA vs adalimumab among patients who failed conventional therapy in the US[o]
- Compared with placebo, patients treated with STELARA (induction, 6 mg/kg IV; maintenance, 90 mg SC q8w) experienced **reduced absenteeism and presenteeism from baseline**, with savings in work productivity loss of ~$8300 annually per patient with CD from the IM-UNITI trial[p]
- STELARA **improved CD-specific health-related QoL** (as measured by IBDQ) and **general health status** (as measured by SF-36) during both induction and maintenance treatment phases in phase 3 trials[q]

In bio-naïve patients with CD, patients who initiated on ustekinumab demonstrated significantly higher persistence than patients initiated on adalimumab at 12 (77.2% vs. 65.3%, p<0.001) and 24 months (66.4% vs. 48.5%, p<0.001) of treatment. In addition to overall persistence, all these studies also reported that ustekinumab patients had significantly higher persistence while being corticosteroid-free (at 24 months: 43.1% UST vs 35.7% ADA, p-0.039) and persistent while on monotherapy (at 24 months: 48.7% UST vs 36.2% ADA, p<0.001), than patients on adalimumab.

[a]Sandborn (2016). [b]Feagan (2015). [c]Feagan (2016). [d]Sandborn (2018). [e]Hanauer (2020). [f]Sandborn (2020). [g]Sandborn (2018). [h]Obando (2020). [i]Obando (2019). [j]Varu (2019). [k]Johnson (2021). [l]Pilon (2021). [m]Sands (2016). [n]Obando (2018). [o]Teeple (2020). [p]Obando (2018). [q]Zhdanava (2023).
Abbreviations: CD, Crohn's disease; ER, emergency room; IBDQ, IL, interleukin; IV, intravenous; LTE, longterm extension; MCO, managed care organization; QoL, quality of life; q8w, every 8 weeks; SC, subcutaneous, SF-36, Short Form (36) health survey.

Ulcerative Colitis (UC)

Approval of STELARA for UC

- The **approval of STELARA** as therapy for adults with moderately to severely active UC was based on data from the phase 3, multicenter, randomized, double-blind, placebo-controlled clinical program (**UNIFI**), which consisted of an 8-week IV induction study and a 44-week SC maintenance study[a]

Clinical Benefits of STELARA for UC

- STELARA is the **first and only** therapy indicated in the treatment of UC that targets IL-12 and IL-23
- **UNIFI** is the first pivotal clinical program that evaluated patients with moderately to severely active UC who had failed vedolizumab therapy[a]

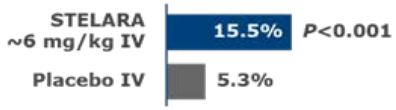
- STELARA demonstrates **significantly greater clinical outcomes** vs placebo[a]
  - clinical remission
  - clinical response
  - endoscopic improvement
  - histologic-endoscopic mucosal healing
  - corticosteroid-free clinical remission
  - maintenance of clinical response

Please note, in the STELARA full Prescribing Information, histologic-endoscopic mucosal healing is referred to as histologic-endoscopic mucosal improvement

UNIFI Induction Phase 3 Trial[a]

961 adults with moderately to severely active UC who had inadequate response to or were intolerant to biologics (TNF blocker, vedolizumab) or conventional therapy

Patients (%) With Clinical Remission at 8 Weeks

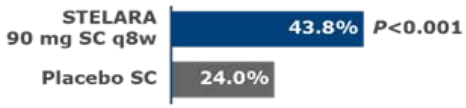


- At week 8 **clinical response** and **endoscopic improvement** (major secondary endpoints) and proportion of patients with **histologic-endoscopic mucosal healing** were significantly better with STELARA vs placebo

UNIFI Maintenance Phase 3 Trial[b]

523 adults with clinical response to STELARA IV induction treatment at week 8

Patients (%) With Clinical Remission at 44 Weeks



- The following major secondary endpoints were significantly better with STELARA vs placebo:
  - maintenance of clinical response through week 44
  - maintenance of clinical remission through week 44
  - endoscopic improvement at week 44
  - corticosteroid-free clinical remission at week 44

UNIFI LTE-4 years[c]

Among the randomized patients in maintenance who were treated in the LTE, the following outcomes were observed with STELARA 90 mg SC q8w at week 200:

- **Clinical remission:** 58% (58/100)
- **Clinical response:** 82% (82/100)
- **Symptomatic remission:** 67.1% (96/143)
- **Steroid-free symptomatic remission:** 63.6% (91/143)

Economic Benefits: STELARA Value and Overall Cost for UC

- STELARA offers **value to MCOs** as a treatment option with a different mechanism of action and proven efficacy for adult patients with moderately to severely active UC

- Histologic-endoscopic mucosal healing is a **novel endpoint** and has been demonstrated to be associated with reduction in steroid use, and reductions in hospitalizations and surgery. Surgery is numerically reduced[d]
- STELARA **improved UC-specific health-related QoL** (as measured by IBDQ and SF-36) vs placebo during both induction and maintenance phase 3 studies[a,b]

- STELARA numerically **reduced rates of hospitalizations** and **UC-related surgeries** vs placebo, as demonstrated in the UNFI study (no statistical tests were reported)[e]
- A network meta-analysis showed that STELARA was associated with:[f,g]
  - The **highest likelihood of reaching clinical response or remission at 1 year** vs adalimumab, infliximab, and golimumab
  - Numerically **higher odds for response and remission** vs vedolizumab and tofacitinib

- STELARA patients had **PPPY cost-offsets of $2,603** due to reduction in UC-related hospitalizations and surgeries vs placebo over 1 year in the UNIFI study[h]

- Compared with placebo, patients treated with STELARA (induction, 6 mg/kg IV; maintenance, 90 mg SC q8w) experienced **reduced absenteeism and presenteeism from baseline** over a year, with savings in work productivity loss of ~$15,600 annually per patient with UC from the UNIFI trial[l]

In patients with UC, nonbiologic medication use post-ustekinumab initiation was significantly lower, especially for corticosteroids and immunomodulators, which can have both clinical as well as economic implications[j].

[a]Sands (2019). [b]Data on file. [c]Afif (2022). [d]Bryant (2016). [e]Sands (2019). [f]Welty (2019). [g]Welty (2019). [h]Ding (2020). [i]Carlucci (2020). [j]Zhdanava (2023).
Abbreviations: LTE, longterm extension; MCO, managed care organization; PPPY, per-patient-per-year; QoL, quality of life; SC, subcutaneous; UC, ulcerative colitis.

Plaque Psoriasis (Plaque PsO)

Approval of STELARA for Plaque PsO

- **Approval in adults** was based on data from:
  - Two phase 3 multicenter, randomized, double-blind, pivotal trials (**PHOENIX-1** and **PHOENIX-2**)[a,b]
  - One phase 2 trial[c]
- STELARA was also evaluated in a phase 3, active-comparator trial (**ACCEPT**)[d]

- **Approval in adolescents** (12-17 years) was based on data from a phase 3, multicenter, randomized, double-blind trial (**CADMUS**)[e]
- **Approval in pediatric patients** (6-11 years) was based on a phase 3, multicenter, open-label, single-arm trial (**CADMUS Jr**)[f]

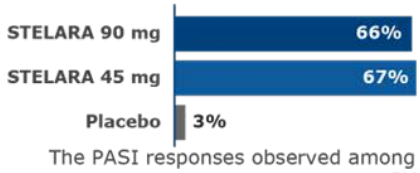
Clinical Benefits of STELARA for Plaque PsO

- It satisfies the need for a plaque PsO therapy that resulted in:
  - **Significant skin clearance** vs placebo (as measured by PGA 0/1 and PASI 75)
  - **Maintenance schedule with q12w dosing** after 2 starter doses at weeks 0 and 4
  - **Positive benefit-risk profile**
- Additionally, STELARA also showed significant improvements in PASI, PGA and quality of life measures such as **DLQI**, **HADS**, and **WLQ**[a,b,g-j]
- In pediatric patients, **clinical responses** from the CADMUS Jr trial were **similar** to those observed in the CADMUS trial of adolescent patients receiving STELARA

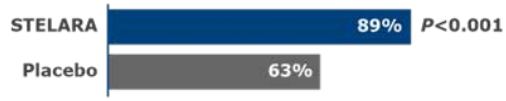
PHOENIX-1 Phase 3 Trial: STELARA vs Placebo[a,b]

766 adults with moderate to severe plaque PsO involving ≥10% BSA who had a PASI score of ≥12

Patients (%) With PASI 75 Response at 12 Weeks



Patients (%) with PASI 75 Response at 52 Weeks
(Maintenance therapy; following week 40 rerandomization)



The PASI responses observed among STELARA treated patients in PHOENIX-1 were confirmed in the PHOENIX-2 and phase 2 studies

ACCEPT Phase 3 Trial: STELARA vs Etanercept[d]

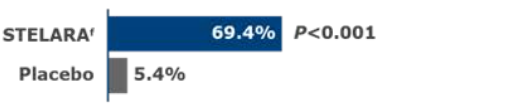
First head-to head comparison of 2 biologics; 903 adults with moderate to severe plaque PsO, ≥10% BSA, PASI ≥12

Patients (%) With PASI 75 Response at 12 Weeks

CADMUS Phase 3 Trial: STELARA vs Placebo[e]

110 adolescents aged 12-17 years with moderate to severe plaque PsO for ≥6 months involving ≥10% BSA, and PASI ≥12 and PGA ≥3

Patients (%) With PGA 0 or 1 at 12 Weeks



CADMUS Jr Phase 3 Trial: STELARA (Single Arm)[g]

Of 44 pediatric patients aged 6-11 years with moderate to severe plaque PsO involving ≥10% BSA, PASI ≥12, and PGA ≥3, 77.3% (95% CI, 62.2%-88.5%) achieved a **PGA score of 0 or 1** at **12 weeks**.

Economic Benefits: STELARA Value and Overall Cost

Cost Data

- STELARA will bring **value to MCOs** for the treatment of patients with moderate to severe plaque PsO, a patient population in need of treatment options
- Patients with greater persistence have been shown to **incur lower direct costs**
  - Results from a retrospective cohort claims study showed that patients with moderate to severe PsO and/or PsA who were persistent to biologics incurred **significantly lower total medical expenditures**, with increased pharmacy costs[k]

Persistence Data

- Patients with moderate to severe plaque PsO[l] receiving STELARA have shown **greater adherence and persistence** over 12 months vs adalimumab, apremilast, etanercept, and secukinumab in a large retrospective study using claims data[m]
- Patients with plaque PsO receiving STELARA have shown **lower risk of treatment discontinuation** vs secukinumab, adalimumab, and ixekizumab in a retrospective cohort study including data from Optum's de-identified Clinformatics Data Mart Database[n]

[a]Leonardi (2008). [b]Papp (2008). [c]Krueger (2007). [d]Griffiths (2010). [e]Landells (2015). [f]Standard dose arm. [g]Philipp (2020). [h]Lebwohl (2008).

[i]Langley (2008). [j]Reich (2008). [k]Lee (2017). [l]And were candidates for phototherapy or systemic therapy and whose disease was inadequately controlled by topical therapy. [m]Wu (2019). [n]Pilon (2022). **Abbreviations**: BSA, body surface area; CI, confidence interval; DLQI; HADS, Hospital Anxiety and Depression Scale; PASI, Psoriasis Area and Severity Index; PGA, Physician's Global Assessment; PsO, psoriasis; q12w, every 12 weeks; WLQ, Work Limitations Questionnaire.

Psoriatic Arthritis (PsA)

Approval of STELARA for PsA

- The **approval of STELARA** as therapy for **adult patients** with active PsA was based on data from 2 phase 3 multicenter, randomized, double-blind, pivotal trials (**PSUMMIT I** and **PSUMMIT II**)[a,b]
- The **approval of STELARA** as therapy for **pediatric patients** (aged 6-17 years) with active PsA was based on pharmacokinetic data and extrapolation of the established efficacy and existing safety profile of STELARA in multiple phase 3 studies in adult and pediatric patients with moderate to severe plaque PsO and adult patients with active PsA[c]

Clinical Benefit of STELARA for PsA in Adult Patients

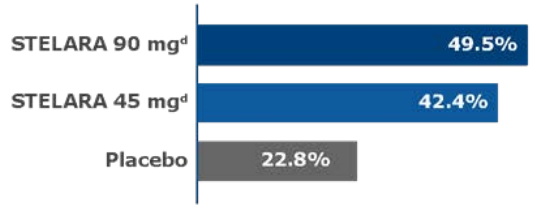
- In clinical studies, a higher proportion of adult patients with active PsA treated with STELARA achieved a **significant ACR20 response** at week 24 vs placebo

PSUMMIT I Phase 3 Trial[a]

615 adults with active PsA (≥5 swollen and ≥5 tender joints, and CRP ≥0.3 mg/dL) despite treatment with DMARDs or NSAIDs

Patients (%) With ACR20 Response at 24 Weeks

***P*<0.001** for both comparisons vs placebo

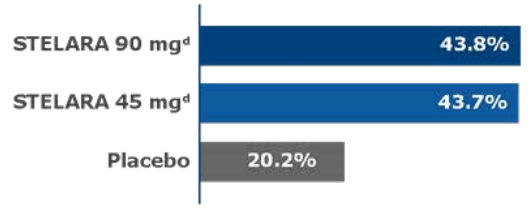


PSUMMIT II Phase 3 Trial[b]

312 adults with active PsA (≥5 swollen and ≥5 tender joints, and CRP ≥0.3 mg/dL) despite treatment with DMARDs and/or NSAIDs and/or anti-TNF agents

Patients (%) With ACR20 Response at 24 Weeks

***P*<0.001** for both comparisons vs placebo



STELARA for PsA in Pediatric Patients[c]

- Use of STELARA in pediatric patients (6-17 years) with active PsA is based on the established efficacy and existing safety profile of adult and pediatric patients with moderate to severe PsO and adult patients with active PsA

- This is based on data from:
  - Adequate and well-controlled studies of STELARA in adult patients with PsO and PsA
  - PK data from adult patients with PsO, adult patients with PsA, and pediatric patients with PsO
  - Safety data from 2 studies in pediatric patients with PsO (aged 6-11 years, n=44; aged 12-17 years, n=110)
- Results from these studies showed that:
  - The observed pre-dose (trough) concentrations are generally comparable between adult patients with PsO, adult patients with PsA, and pediatric patients with PsO
  - The PK exposure is expected to be comparable between adult and pediatric patients with PsA

[a]McInnes (2013). [b]Ritchlin (2014). [c]STELARA Prescribing Information. [d]Administered at weeks 0, 4, and q12w.

Abbreviations: ACR, American College of Rheumatology; ACR 20, at least 20% improvement in the counts of the numbers of tender and swollen joints and ≥3 items from the following: physician overall disease activity, patient overall disease activity, patient evaluation of pain, a score of physical disability, and improvements in blood acute phase reactants; CRP; C-reactive protein; DMARD, disease modifying antirheumatic drug; NSAID, nonsteroidal anti-inflammatory drug; q12w, every 12 weeks; PK, pharmacokinetic; PsA, psoriatic arthritis; PsO, psoriasis; TNF, tumor necrosis factor.

APPENDIX B

Stelara withMe

Stelara® (ustekinumab)

Affordability Options for STELARA®

Once your doctor has prescribed STELARA®, STELARA withMe can help you find the resources you may need to help you get started on your Janssen medication and stay on track. There may be options that make your treatment more affordable.

For a comprehensive list of affordability programs, visit **JanssenCarePath.com/Stelara** or call STELARA withMe

844-4withMe (844-494-8463) | Monday–Friday, 8:00 AM–8:00 PM ET

If you use commercial or private health insurance to pay for your Janssen medication

Eligible patients pay $5 per dose

Maximum program benefit per calendar year shall apply. There is no income requirement. Terms expire at the end of each calendar year and may change. See program requirements at **STELARAwithMeSavings.com**. Program does not cover the cost to give you your treatment.

To determine eligibility, enroll in the Savings Program, submit Savings Program requests, and manage program benefits, you can create an online account at **MyJanssenCarePath.com** or call 844-4withMe (844-494-8463).

Your providers can also create an account at **JanssenCarePathPortal.com** to enroll eligible patients and view program benefits.

If you use government-funded healthcare programs like Medicare or Medicaid

STELARA withMe provides information on affordability programs that may be available. For a comprehensive list of affordability programs, visit **JanssenCarePath.com/Stelara**.

If you need supplemental assistance to pay for your Janssen medication

Independent foundation support that may be available:

The Assistance Fund	Patient Advocate Foundation	Accessia Health
855-845-3663	866-512-3861	800-366-7741
TAFCares.org	PatientAdvocate.org	PatientServicesInc.org

Independent co-pay assistance foundations have their own rules for eligibility. We cannot guarantee a foundation will help you. We can only refer you to foundations that support your disease state. This information is provided as a resource for you. We do not endorse any particular foundation. The foundations on this list are not the only ones that might be able to help you. Collected in 01/23 and subject to change.

Insured patients may be eligible for additional support from Janssen:

Patient assistance from Janssen is available if you have commercial, employer-sponsored, or government coverage that does not fully meet your needs. You may be eligible to receive STELARA® free of charge for up to one year. You must meet the eligibility and income requirements for the patient assistance program. See terms and conditions in the Quick Reference Guide available at **PatientAssistanceInfo.com**.

Johnson & Johnson Patient Assistance Foundation, Inc. (JJPAF)

The Johnson & Johnson Patient Assistance Foundation, Inc. (JJPAF) is an independent, nonprofit organization. JJPAF gives eligible patients free prescription medicines donated by Johnson & Johnson companies. You may be eligible if you don't have insurance.

Want to see if you qualify? Get an application at **JJPAF.org**.

Questions? Call 800-652-6227 (Monday through Friday, 8:00 AM to 8:00 PM ET).

Information about your insurance coverage, cost support options, and treatment support is given to you by service providers for STELARAwithMe via Janssen CarePath. The information you get does not require you to use any Janssen product. STELARA withMe cost support is not for patients in the Johnson & Johnson Patient Assistance Foundation.

Janssen Biotech, Inc., is not liable for unintended or unauthorized use of the STELARA® Mastercard® if it is lost or stolen. The STELARA withMe Savings Program Prepaid Mastercard is issued by Pathward, N.A., Member FDIC, pursuant to license by Mastercard International Incorporated. Mastercard and the circles design are registered trademarks of Mastercard International Incorporated. STELARA withMe Savings Program is not a Pathward or Mastercard product or service, nor is the optional offer endorsed by them.

Please read the accompanying Important Brief Summary for STELARA® and discuss any questions you have with your doctor.

janssen

REQUESTED STUDIES

During the Sept 26, 2023 Colorado Prescription Drug Affordability Board stakeholder meeting for individuals with scientific or medical training, several studies were mentioned by speakers from Janssen. Please see below for those references.

- **PHOENIX 1**: Leonardi CL, Kimball AB, Papp KA, et al. Efficacy and safety of ustekinumab, a human interleukin 12/23 monoclonal antibody, in patients with psoriasis: 76 week results from a randomised, double blind, placebo controlled trial (PHOENIX 1). Lancet. 2008;371(9625):1665 1674.

- **PHOENIX 2**: Papp KA, Langley RG, Lebwohl M, et al. Efficacy and safety of ustekinumab, a human interleukin 12/23 monoclonal antibody, in patients with psoriasis: 52 week results from a randomised, double blind, placebo controlled trial (PHOENIX 2). Lancet. 2008;371(9625):1675-1684.

- **CADMUS**: Landells I, Marano C, Hsu MC, et al. Ustekinumab in adolescent patients age 12 to 17 years with moderate-to-severe plaque psoriasis: results of the randomized phase 3 CADMUS study. J Am Acad Dermatol. 2015;73(4):594-603.

- **CADMUS Jr**: Philipp S, Menter A, Nikkels A. Ustekinumab for the treatment of moderate-to-severe plaque psoriasis in pediatric patients (≥6 to <12 years of age): efficacy, safety, pharmacokinetic, and biomarker results from the open-label CADMUS Jr study. Br J Dermatol. 2020. doi: 10.1111/Bjd.19018.

- **PSUMMIT 1**: McInnes IB, Kavanaugh A, Gottlieb AB, et al. Efficacy and safety of ustekinumab in patients with active psoriatic arthritis: 1 year results of the phase 3, multicentre, double blind, placebo controlled PSUMMIT 1 trial. Lancet. 2013;382(9894):780-789.

- **PSUMMIT 2**: Ritchlin C, Rahman P, Kavanaugh A et al. Efficacy and safety of the anti-IL-12/23 p40 monoclonal antibody, ustekinumab, in patients with active psoriatic arthritis despite conventional non-biological and biological anti-tumour necrosis factor therapy: 6-month and 1-year results of the phase 3, multicentre, double-blind, placebo-controlled, randomised PSUMMIT 2 trial. Ann Rheum Dis. 2014;73(6):990-9.

- **UNIFI**: Sands BE, Sandborn WJ, Panaccione R, et al. Ustekinumab as induction and maintenance therapy for ulcerative colitis. N Engl J Med. 2019d;381(13):1201-1214.

- **IM-UNITI**: Hanauer SB, Sandborn WJ, Feagan BG, et al. IM-UNITI: Three-year efficacy, safety, and immunogenicity of ustekinumab treatment of Crohn's disease. J Crohns Colitis. 2020;14(1):23-32.

APPENDIX

STELARA® (ustekinumab)
Treatment of Pediatric Crohn's Disease with STELARA

The company cannot recommend any practices, procedures, or usage that deviate from the approved labeling.

UNISTAR Study[a,b]

A **phase 1**, multicenter, double-blind induction dose-ranging study (UNISTAR) evaluated the **PK, efficacy, and safety of STELARA** in **pediatric patients with moderately to severely active CD or fistulizing CD for ≥3 months**.

Study Design[a]

Key Eligibility Criteria

- Age 2 to <18 years (body weight ≥10 kg)
- PCDAI score >30
- Abnormal CRP (>0.3 mg/dL) or FCP (>250 µg/g) or ulcerations in the ileum and/or colon
- Previous or current treatment of CD[c]
- Failed or intolerant to anti-TNF therapy

R 1:1 N=44

Lower IV Induction Dose: 3 mg/kg (body weight: 10 to <40 kg) or 130 mg (body weight: ≥40 kg) (n=23)

Higher IV Induction Dose: 9 mg/kg (body weight: 10 to <40 kg) or 390 mg (body weight: ≥40 kg) (n=21)

SC Maintenance Dose (at week 8): 2 mg/kg (body weight: 10 to <40 kg) or 90 mg (body weight: ≥40 kg)

Patients responded to STELARA at week 16 (N=34)

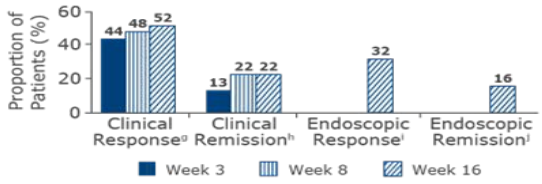
LTE (continued maintenance therapy q8w)

- A total of 73% (32/44) of patients were receiving ≥1 concomitant medications for CD at baseline.[d]

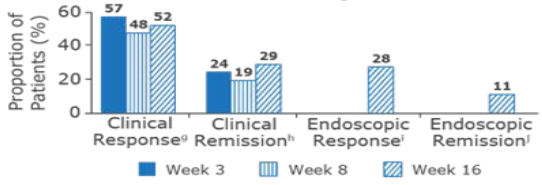
Efficacy[a]

Summary of Clinical Outcomes

Outcomes at Lower Dose[e,f]



Outcomes at Higher Dose[e,f]



Inflammatory Biomarkers

- Lower dose group: 16.7% (3/18) of patients had normalized CRP at weeks 8 and 16.
- Higher dose group: 28.6% (4/14) and 21.4% (3/14) of patients had normalized CRP at weeks 8 and 16, respectively.

	Lower Dose Group	Higher Dose Group
Median (IQR) Δ in CRP concentration		
Baseline to week 8, mg/L	-0.7 (-8.0 to 0.1)	-0.3 (-14.4 to 0.3)
Baseline to week 16, mg/L	0 (-9.3 to 0)	-0.8 (-8.7 to 0)
Median (IQR) Δ in fecal calprotectin concentration		
Baseline to week 8, mg/kg	0 (-2395.0 to 418.0)	-37.0 (-1347.0 to 553.0)
Baseline to week 16, mg/kg	0 (-3438.0 to 190.0)	0 (-1126.0 to 654.0)

Steroid-Free Clinical Remission

- Lower dose group: 22% (5/23) of patients achieved steroid-free clinical remission at weeks 8 and 16.
- Higher dose group: 10% (2/21) and 24% (5/21) of patients were in steroid-free clinical remission at weeks 8 and 16, respectively.

Click on the following link to related sections within the document: UNISTAR Study Design, Efficacy, and Safety.

Abbreviations: AE, adverse event; CD, Crohn's Disease; CRP, C-reactive protein; FCP, fecal calprotectin; IQR, interquartile range; IV, intravenous; LTE, long-term extension; PCDAI, Pediatric Crohn's Disease Activity Index; PK, pharmacokinetics; q8w, every 8 weeks; R, randomization; SC, subcutaneous; SES-CD, simple endoscopic score for Crohn's disease; TNF, tumor necrosis factor.

[a]Rosh et al (2021)[1]. [b]Turner et al (2023)[2]. [c]Including oral corticosteroids and/or immunomodulators (eg, azathioprine, 6-mercaptopurine, methotrexate); however, they were required to be stable prior to study start. [d]Included immunomodulators (39%), oral corticosteroids (32%), oral aminosalicylates (21%), and antibiotics (5%); 91% of patients had prior exposure to biologics (infliximab, adalimumab, and vedolizumab). [e]Endoscopic response and remission (lower dose, n=19). [f]Endoscopic response and remission (higher dose, n=18). [g]Reduction in PCDAI ≥15. [h]PCDAI ≤10. [i]Reduction in SES-CD ≥50%. [j]SES-CD ≤2.

Safety[a]

	Lower Dose Group	Higher Dose Group	Total
Patients with ≥1 AE, %	83	62	73
Serious AEs, %	26	5	16
Infections, %	39	38	39
Discontinued treatment due to AEs, n	1	1	2

- Through week 16, no injection site reactions, anaphylaxis or serum sickness-like events, opportunistic infections, malignancies, or deaths were reported.
- Through week 16, 9.1% (4/44) of patients discontinued STELARA due to AEs (worsening of CD [n=2] and lack of efficacy per the investigator [n=2]).

LTE[b]

- Among patients who received STELARA, 77% (34/44) responded to therapy and entered the LTE.
- At week 48, clinical response and remission, and CRP normalization (<3mg/L) were achieved in 59% (20/34), 41% (14/34), and 59% (16/27) of patients, respectively.
- Through week 240, ≥1 AE, serious AEs, infections, and AEs leading to discontinuation were reported in 91%, 32%, 74%, and 15% of patients, respectively.
- No injection-site reactions, serious infections, malignancies, or deaths were reported.

Click on the following link to related sections within the document: UNISTAR Study Design, Efficacy, and Safety.

Abbreviations: AE, adverse event; CD, Crohn's Disease; CRP, C-reactive protein; FCP, fecal calprotectin; IQR, interquartile range; IV, intravenous; LTE, long-term extension; PCDAI, Pediatric Crohn's Disease Activity Index; PK, pharmacokinetics; q8w, every 8 weeks; R, randomization; SC, subcutaneous; SES-CD, simple endoscopic score for Crohn's disease; TNF, tumor necrosis factor.
[a]Rosh et al (2021)[1]. [b]Turner et al (2023)[2]. [c]Including oral corticosteroids and/or immunomodulators (eg, azathioprine, 6-mercaptopurine, methotrexate); however, they were required to be stable prior to study start. [d]Included immunomodulators (39%), oral corticosteroids (32%), oral aminosalicylates (21%), and antibiotics (5%); 91% of patients had prior exposure to biologics (infliximab, adalimumab, and vedolizumab). [e]Endoscopic response and remission (lower dose, n=19). [f]Endoscopic response and remission (higher dose, n=18). [g]Reduction in PCDAI ≥15. [h]PCDAI ≤10. [i]Reduction in SES-CD ≥50%. [j]SES-CD ≤2.

SUMMARY

- The company cannot recommend any practices, procedures, or usage that deviate from the approved labeling.
- A phase 1 study (UNISTAR) evaluated the efficacy and safety of STELARA in pediatric patients with moderately to severely active Crohn's disease (CD).[1, 2]
- Additionally, 10 retrospective studies evaluated the use of STELARA in pediatric patients with CD.[3-12]

CLINICAL DATA

Phase 1 Clinical Study

Rosh et al (2021) evaluated the pharmacokinetics (PK), efficacy and safety of STELARA in pediatric patients with moderately to severely active CD or fistulizing CD for ≥3 months in phase 1, multicenter, 16-week, double-blind induction dose-ranging study (UNISTAR).

Study Design / Methods

- Patients with moderately to severely active CD who were 2 to <18 years of age (body weight ≥10 kg) were included. Additionally, patients also had a Pediatric CD Activity Index (PCDAI) score >30 and at least an abnormal C-reactive protein (CRP; >0.3 mg/dL) or fecal calprotectin (FCP; >250 µg/g), or ulcerations in the ileum and/or colon.
- All patients received previous or current treatment for CD, including oral corticosteroids and/or immunomodulators (eg, azathioprine, 6-mercaptopurine, methotrexate); however, they were required to be stable prior to study start. Patients who failed or were intolerant to anti-tumor necrosis factor (TNF) therapy were also allowed to participate.
- Randomization (1:1) was performed for induction to 1 of 2 weight-based intravenous (IV) doses:
    - Lower IV induction dose: 3 mg/kg if body weight 10 kg to <40 kg or 130 mg if body weight ≥40 kg.
    - Higher IV induction dose: 9 mg/kg if body weight 10 kg to <40 kg or 390 mg if body weight ≥40 kg.
- At week 8, patients received a single subcutaneous (SC) maintenance dose of STELARA 2 mg/kg if body weight 10 kg to <40 kg or 90 mg if body weight ≥40 kg.

Results

Baseline Characteristics

- A total of 44 patients were randomized to either the lower dose STELARA IV induction (n=23) or the higher dose STELARA IV induction (n=21). The median age was 13 years (interquartile range [IQR], 12-16); 59% of patients had a body weight ≥40 kg and 91% had prior exposure to biologics (infliximab, adalimumab, and vedolizumab).
- A total of 73% (32/44) of patients were receiving ≥1 concomitant medications for CD at baseline which included immunomodulators (39%), oral corticosteroids (32%), oral aminosalicylates (21%), and antibiotics (5%).
- Through week 16, 9.1% (4/44) of patients discontinued STELARA due to adverse events (AEs; worsening of CD [n=2] and lack of efficacy per the investigator [n=2]).

Pharmacokinetics

- Mean serum ustekinumab concentrations (SUC) were 51.3 µg/mL, 7.7 µg/mL, 3.0 µg/mL, and 1.6 µg/mL at weeks 0 (after infusion), 3, 6, and 8, respectively, for the lower induction dose group. Mean SUC for the higher induction dose group at the same time points were 149.0 µg/mL, 23.7 µg/mL, 9.1 µg/mL, and 4.8 µg/mL, respectively.

Clinical and Endoscopic Outcomes

- Clinical and endoscopic outcomes (clinical response, clinical remission, endoscopic response, and endoscopic remission) from week 3, week 8, and week 16 are shown in Table: Summary of Clinical Outcomes At Weeks 3, 8, and 16.

Summary of Clinical Outcomes At Weeks 3, 8, and 16

Clinical Outcomes	Week 3 n (%)	Week 8 n (%)	Week 16 n (%)
Clinical response (reduction in PCDAI ≥15)			
Lower dose[a] (n=23)	10 (44)	11 (48)	12 (52)
Higher dose[b] (n=21)	12 (57)	10 (48)	11 (52)
Clinical response: Ages 2-11 years			
Lower dose[a] (n=6)	3 (50)	3 (50)	4 (67)
Higher dose[b] (n=4)	2 (50)	2 (50)	2 (50)
Clinical response: Ages 12-17 years			
Lower dose[a] (n=17)	7 (41)	8 (47)	8 (47)
Higher dose[b] (n=17)	10 (59)	8 (47)	9 (53)
Clinical remission (PCDAI ≤10)			
Lower dose[a] (n=23)	3 (13)	5 (22)	5 (22)
Higher dose[b] (n=21)	5 (24)	4 (19)	6 (29)
Clinical remission: Ages 2-11 years			
Lower dose[a] (n=6)	1 (17)	1 (17)	1 (17)
Higher dose[b] (n=4)	1 (25)	1 (25)	2 (50)
Clinical remission: Ages 12-17 years			
Lower dose[a] (n=17)	2 (12)	4 (24)	4 (24)
Higher dose[b] (n=17)	4 (24)	3 (18)	4 (24)
Endoscopic response (reduction in SES-CD ≥50%)			
Lower dose[a] (n=19)	NA	NA	6 (32)
Higher dose[b] (n=18)	NA	NA	5 (28)
Endoscopic remission (SES-CD ≤2)			
Lower dose[a] (n=19)	NA	NA	3 (16)
Higher dose[b] (n=18)	NA	NA	2 (11)

Abbreviations: BW, body weight; IV, intravenous; NA, not assessed; PCDAI, Pediatric Crohn's Disease Activity Index; SC, subcutaneous; SES-CD, Simple Endoscopic Score for Crohn's Disease.
[a]Lower dose: 3 mg/kg IV induction if BW <40 kg or 130 mg IV induction if BW ≥40 kg; followed by a single maintenance dose at week 8 of 2 mg/kg SC if BW <40 kg or 90 mg SC if BW≥40 kg.
[b]Higher dose: 9 mg/kg IV induction if BW <40 kg or 390 mg IV induction if BW ≥40 kg; followed by a single maintenance dose at week 8 of 2 mg/kg SC if BW <40 kg or 90 mg SC if BW≥40 kg.

Corticosteroid Use

- Steroid use from baseline to week 16 decreased in both lower (30% to 13%) and higher dose groups (33% to 19%).
    - At weeks 8 and 16, 22% (5/23) of patients in the lower dose group were in steroid-free clinical remission; in the higher dose group, 10% (2/21) and 24% (5/21) of patients were in steroid-free clinical remission at weeks 8 and 16, respectively.

Inflammatory Biomarkers

- In the lower dose group, 16.7% (3/18) of patients had normalized CRP levels at weeks 8 and 16, while in the higher dose group, 28.6% (4/14) and 21.4% (3/14) of patients had normalized CRP levels at weeks 8 and 16, respectively.
- Median (IQR) change in CRP concentration from baseline at week 8 vs change from baseline at week 16 was -0.7 (-8.0 to 0.1) mg/L vs 0 (-9.3 to 0) mg/L in the lower dose group and -0.3 (-14.4 to 0.3) mg/L vs -0.8 (-8.7 to 0) mg/L in the higher dose group, respectively.
- Median (IQR) change in FCP concentration from baseline at week 8 vs change from baseline at week 16 was 0 (-2395.0 to 418.0) mg/kg vs 0 (-3438.0 to 190.0) mg/kg in the lower dose group and -37.0 (-1347.0 to 553.0) mg/kg vs 0 (-1126.0 to 654.0) mg/kg in the higher dose group, respectively.

Clinical Outcomes and Pharmacokinetics

- Clinical response at week 8 was achieved in 63.2% (12/19) of patients in the higher SUC group (>1.38 µg/mL) and 45% (9/20) of patients in the lower SUC group (≤1.38 µg/mL).
- Median improvement from baseline in PCDAI score at week 8 was 20 for patients in the higher SUC group (>1.4 µg/mL) and 17.5 for patients in the lower SUC group (≤1.4 µg/mL).
- There was no observable correlation between SUC and clinical remission at week 8.

Safety

- A total of 73% of patients reported ≥1 AE through week 16 which included 83% in the lower dose group and 62% in the higher dose group.
- Serious AEs (SAEs) were reported in 16% of patients (lower dose group, 26%; higher dose group, 5%) with CD exacerbation being the most frequent (lower dose group, 9%; higher dose group, 5%).
- Infections (upper respiratory tract infection, anal abscess, clostridium difficile, eczema infected, gastroenteritis, gastroenteritis viral, and nasopharyngitis) were reported in 39% of patients (lower dose: 39%, n=9; higher dose: 38%, n=8).
- A total of 2 patients discontinued treatment due to AEs (n=1, each dosing group) and no malignancies, deaths, injection-site reactions, anaphylaxis, serum sickness-like events, opportunistic infections, or antibodies to STELARA were reported through week 16.

Turner et al (2023) evaluated the PK, immunogenicity, efficacy, and safety of STELARA in pediatric patients with moderately to severely active CD in the long-term extension (LTE) of the UNISTAR study through week 268.

Study Design / Methods

- Patients who responded to STELARA at week 16 entered the LTE and continued STELARA maintenance therapy every 8 weeks up to week 268.
- The primary visit, representing outcomes after approximately 1 year of STELARA therapy, occurred at week 48.

Results

Patient Characteristics

- Among patients who received STELARA, 77% (34/44) responded and entered the LTE.
- A total of 77% (26), 47% (16), 35% (12), and 24% (8) of patients, respectively, received STELARA at weeks 48, 104, 152, and 208.
- At baseline, the median age was 13.0 years (range, 6.0-17.0); 47% and 18% of patients weighed <40 kg and <30 kg, respectively; 71% of patients had abnormal CRP levels; and 94% of patients had a history of treatment failure with anti-TNF therapy.

Pharmacokinetics and Immunogenicity

- The median SUC were lower in patients weighing <40 kg vs those weighing ≥40 kg; however, the concentrations were generally consistent from weeks 16 to 268 and remained detectable through week 200.
- Antibodies to STELARA were observed in 3% (1/34) patients.

Clinical Outcomes

- At week 48, clinical response and remission were achieved in 59% (20/34) and 41% (14/34) patients, respectively.

Inflammatory Biomarkers

- At week 48, CRP normalization (<3 mg/L) was achieved in 59% (16/27) of patients.

Safety

- Through week 240 (final safety visit), ≥1 AE was reported in 91% of patients. Treatment discontinuation due to AEs was reported in 15% of patients (most common AE, worsening of CD).
- Infections and SAEs were reported in 74% and 32% of patients, respectively.
    - Most SAEs were gastrointestinal disorders associated with CD.
- No incidences of injection-site reactions, serious infections, malignancies, or deaths were reported.

Retrospective Studies

Takeuchi et al (2021)[3] conducted a retrospective, single-center cohort study assessing the efficacy and safety of STELARA in pediatric patients with CD at a pediatric inflammatory bowel disease (IBD) center in Japan.

Study Design / Methods

- The study included patients aged ≤20 years who had received the first dose of STELARA and were followed up for a minimum of 26 weeks.
- The primary outcome was steroid-free clinical remission rate (defined as clinical remission [wPCDAI<10] without corticosteroids) at weeks 26 and 52.
- Secondary outcomes included steroid-free clinical remission rate beyond week 52 (for patients followed over 1 year), changes in wPCDAI and Simple Endoscopic Score for Crohn's Disease (SES-CD), dose changes and the interval of STELARA treatment, and safety.

Results

- A total of 17 patients with a median age of 10.3 years (IQR, 6.9-13.2) at diagnosis were included.
- Overall, steroid-free clinical remission rates were 59% and 50% at weeks 26 and 52, respectively.
- Steroid-free clinical remission rate over 1 year was 70%; all patients in steroid-free clinical remission at baseline remained in remission at the last follow-up.
- Of the 11 patients aged >10 years at the first dose, steroid-free clinical remission rates were 73% (8/11), 67% (4/6), and 83% (5/6) at week 26, week 52, and over 1 year, respectively. Of the 6 patients aged ≤10 years at the first dose, steroid-free clinical remission rates were 33% (2/6), 25% (1/4), and 50% (2/4) at week 26, week 52, and over 1 year, respectively.
- At the final visit, 50% (3/6) patients achieved steroid-free clinical remission.
- Of the 7 patients who achieved steroid-free clinical remission, all achieved endoscopic response (reduction in SES-CD ≥50%) and 43% (3) of patients achieved endoscopic remission (SES-CD ≤2).
- Six patients had perianal disease at the time of diagnosis, with 4 requiring seton placement prior to STELARA treatment. Except for 1 patient with severe perianal disease (very early onset-irritable bowel syndrome), perianal diseases did not flare-up in the others with severe perianal disease.
- Two patients with active perianal diseases were reported to have significant improvement during follow-up.
- Mild to moderate AEs were reported in 65% of patients, including upper respiratory tract infection (n=10), acute viral gastroenteritis (n=2), cystitis (n=1), pneumonia (n=1).
- Mild elevation of transaminases (n=1) and mild elevation of serum creatinine level (n=1) were reported.
- No infusion reactions or injection-site reactions were reported, and no patient discontinued STELARA due to AEs.

Du et al (2020) conducted a retrospective chart review of pediatric patients (11-17 years of age) with CD who received at least one dose of STELARA to determine efficacy; including the association of maintenance STELARA trough concentrations with clinical outcome.

- Patients received the standard STELARA induction and maintenance dosing per the Food and Drug Administration (FDA) labeling for adult patients with CD.
- A total of 30 patients who received STELARA were included (patients were on treatment for 6-46 months).
- All patients were previously TNF blocker exposed.
- At 8 weeks after IV STELARA induction, 81% (21/26) and 15% (4/26) of patients were in clinical response and clinical remission, respectively (determined by physician global assessment).

- At 26-52 weeks after IV induction during maintenance, 87% (26/30) and 40% (12/30) of patients were in clinical response and clinical remission, respectively.
- A total of 7 patients discontinued STELARA including 3 patients who stopped treatment in the first 52 weeks due to non-response or an AE (n=1, diagnosis of Ewing's sarcoma; n=1, development of caseating pulmonary granulomas.)
- In 18 patients with available ustekinumab concentrations, 63% (5/8) of patients with concentrations >4.5 µg/mL and 40% (4/10) of patients with concentrations <4.5 µg/mL were in clinical remission (*P*=0.3) during maintenance. There was no correlation between patient's weight and ustekinumab concentration. A total of 5 patients achieved ustekinumab concentrations >4 µg/mL after dose adjustments and 2 patients subsequently achieved clinical remission.
- No antibodies to STELARA were reported.

Pujol-Muncunill et al (2020) evaluated the efficacy and safety of STELARA in pediatric patients with refractory CD (96% were previously treated with a TNF blocker; 22% were previously treated with vedolizumab) in a multicenter retrospective study (STEP-CD Study).

- Children with CD (2-18 years of age) from 23 centers worldwide who were treated with at least one dose of STELARA were included.
- The primary outcome was corticosteroid (CS) and exclusive enteral nutrition (EEN; defined by wPCDAI <12.5 free remission at week 6.
- Secondary outcomes were CS and EEN free remission at week 12 and 52 and safety.
- A total of 101 patients with a mean age of 15.4 years (IQR: 12.7 to 17.2) were included.
- The median wPCDAI at treatment initiation was 38.7 (IQR: 25 to 57.5).
- The most common IV induction dose was STELARA 6 mg/kg and 79% of patients had a maintenance dose of STELARA 90 mg SC every 8 weeks.
- At week 6, among 74 patients, 38% achieved the primary outcome. CS and EEN-free remission were achieved at week 12 (n=65) and week 52 (n=49) in 40% and 50% of patients, respectively.
- There were 6 AEs reported (3 infections, 1 infusion reaction, 1 abnormal laboratory result, 1 vasculitis of the tongue) and 7 patients had clinical deterioration due to the disease (3 hospitalized).
- No reports of malignancies during follow-up (mean duration of treatment: 14.1 months [IQR: 9.1 to 18.9]).
- One death occurred during follow-up which was considered by the authors as unrelated to STELARA.

Chaisson et al (2019) conducted a retrospective observational cohort study of pediatric CD patients treated with STELARA at a single tertiary pediatric hospital.

- A retrospective chart review identified 25 children and young adults with CD (median age 16.2 years) who received STELARA.
- Most patients had ileocolonic (n=15, 60%) or colonic (n=7, 30%) involvement.
- Stricturing or penetrating disease was observed in 24% (6) and perianal disease in 36% (9) of patients.
- All patients received a TNF blocker before STELARA (15 received >1 TNF blocker).
- Compared to the 6-month period before STELARA induction, there was a decline of CRP from a median of 4.1 to 0.9 mg/dL, a decline of ESR from a median of 55 to 39.5 mm/hr, a decline of

platelets from a median of 422 to 337 K/mcL, and a median weight increase of 3% after STELARA induction. Median values for albumin and hemoglobin were similar before and after induction.

- PCDAI data (available in 16 patients) was calculated at a median of 22 days before and 177 days after STELARA induction. A total of 7 patients (44%) had PCDAI improvement of ≥12.5 (steroid-free) and 6 (38%) had an improvement of ≥5 after STELARA induction.
- STELARA dose escalation was required in 28% (7) of patients to achieve or maintain response.
- During a median follow-up of 14 months since the start of treatment, no infectious complications or anaphylactic reactions were reported.
- Two patients had poor response and underwent surgery within 6 months of induction.
- One patient died from unrelated causes.

Chavannes et al (2019) conducted a multicenter retrospective study of SC STELARA in children (<18 years of age) with moderate to severe CD who failed, lost response, or were intolerant to at least one biological treatment.

- Disease activity was analyzed using the abbreviated Pediatric Crohn's Disease Activity Index (aPCDAI) with a score of <10 indicative of clinical remission.
- The primary outcome was the proportion of patients achieving clinical remission over the first 12 months of treatment.
- Secondary outcomes included clinical response (defined as a decrease in aPCDAI ≥15), percentage of patients with CRP normalization, albumin level changes from baseline to 3 and 12 months, steroid-free remission at 12 months. Additionally, changes in height, weight, and body mass index (BMI) between baseline and 12 months were evaluated, as well as safety during the follow-up period.
- A total of 44 patients were included and 6 different induction regimens were used with the most common induction dosing as 90 mg weekly for 3 weeks followed by a maintenance dose of 90 mg every 8 weeks. At latest follow-up, 29.5% (13/44) of patients had an escalation to a maintenance dose of every 4 weeks, due to persistent symptoms.
- A total of 12 patients stopped treatment within the first year and the remainder were followed for at least 12 months.
- Clinical remission was achieved in 36.4% (16/44; *P*=0.006) of patients at 3 months and 38.6% (17/44; *P*=0.006) of patients at 12 months.
- A total of 47.8% (21/44) of patients achieved clinical response at both 3 and 12 months.
- Of the 30 patients with an elevated baseline CRP, the level normalized in 33.3% (10; *P*=0.004) of patients at 3 months and in 26.7% (8; *P*=0.01) of patients at 12 months.
- The median (IQR) albumin level was 34.5 g/L (32.0-38.9), 36.7 g/L (34.2-41.1), and 40.2 g/L (38.0-43.0) at baseline, 3 and 12 months, respectively.
- A total of 27.3% (12/44) of patients were in steroid-free remission at 12 months.
- When imputing for missing data, using the linear mixed model [LMM] analysis, there was an increase of 0.072 (±0.044) in height Z-scores from baseline to 12 months (*P*=0.2441). Over the same time, there was also a significant increase in weight Z-scores of 0.48 [±0.13; *P*=0.0008]) and a significant increase in BMI Z-score of 0.66 [±0.16; *P*=0.0003].
- Two patients had an SAE (association with the medication was not clear), 6 patients had mild AEs, and the AE rate was 12.4 per 1000 patient-months of follow-up.

- AEs were not the reason for discontinuing treatment during the maintenance phase, as those patients discontinued due to poor clinical response.

Kim et al (2019) evaluated the efficacy and safety of STELARA in pediatric patients with CD at a single tertiary pediatric hospital.

- A retrospective chart review identified 12 patients treated with STELARA.
- The median age at CD diagnosis was 11.4 years, and the median time prior to receiving the first dose of STELARA was 5.4 years (included a median trial of 2 prior biologics).
- Five patients had complicated CD: stricturing (n=5, 42%) and penetrating (n=1, 8%).
- For induction, most patients received STELARA 260 mg IV (n=7, 58%), and for maintenance, most patients received STELARA 90 mg SC every 8 weeks (n=10, 83%) at last clinic visit.
- The median duration of STELARA treatment was 25.7 (range 11.4-85.9) days.
- The median aPCDAI decreased from 17.5 at time of first dose to 5.0 at time of the last clinic visit (*P*=0.03). There were clinically but not statistically significant changes in CRP, albumin, and hematocrit.
- Four patients (33.3%) were hospitalized since the first dose of STELARA with 1 (8.3%) attributed to a CD flare.
- No instances of anaphylaxis and no significant infections were reported.

Rao et al (2019) reported on the use of STELARA in pediatric CD in 2 hospitals.

- The review included 10 pediatric patients <18 years of age who started STELARA.
- Biological response at week 8 was defined as a 50% reduction in CRP where the baseline CRP was >5 mg/L.
- All patients had failed ≥1 TNF blockers and 8 patients had failed 2 TNF blockers.
- Patients received IV STELARA at baseline and SC every 8 weeks dosing thereafter.
- The biologic response rate was 50% at week 8 and both patients on steroids at baseline had discontinued these by week 8.
- Two patients discontinued treatment prior to week 16 due to primary nonresponse, both of whom required intestinal resection.
- Where paired data were available, there was a significant increase in mean weight from baseline (38.9 kg, n=7) to week 8 (42.7 kg, n=7, *P*=0.003) and week 16 (44.0 kg, n=3, *P*=0.001).
- Where paired data were available, mean CRP improved from 38 mg/L at baseline (n=7) to 22 mg/L at week 8, and 9 mg/L at week 16 (n=4). This did not reach significance.
- No AEs were reported.

Martinez-Vinson et al (2017) conducted a retrospective observational study of pediatric patients with CD who received STELARA SC at a single tertiary pediatric center.

- Twelve patients with CD (refractory luminal CD, n=11; perineal CD, n=1) received STELARA induction due to failure of several therapies, including anti-TNF agents.
- One patient with an SAE stopped STELARA after the first injection.
- Of the 11 patients still receiving STELARA at 3 months, an initial response was achieved in 9 patients, including 5 patients who achieved remission.
    - Among the remaining 2 patients, one needed a colectomy after the first injection of STELARA. STELARA was continued after surgery.
    - The other patient required the addition of methotrexate due to a lack of response.

- At 1-year follow-up, there were 9 responders who were still on STELARA therapy and experienced a clinical benefit without a need for steroids. Among these 9 patients, 7 were in clinical remission.

Bishop et al (2016) performed a single-center retrospective review of 4 adolescent patients with CD who received induction and maintenance STELARA therapy.

- A retrospective chart review was utilized to evaluate each patient's clinical data, disease phenotype (based on Paris classification), treatment history, and laboratory and growth parameters at initiation of STELARA treatment and at the most recent dose or last follow-up. AEs while on STELARA were also reported.
- An aPCDAI was utilized to calculate each patient's disease activity (<10=remission; 10 to 15=mild disease; 16 to 25=moderate disease; >25=severe disease).
- STELARA induction therapy was 90 mg SC at weeks 0 and 4. The maintenance therapy was 90 mg SC every 8 weeks after induction. No immunomodulators were given concomitantly.
- Two male and 2 female adolescents were treated with STELARA, ages ranging from 12-17 years with varying disease phenotypes.
- All 4 patients had non-stricturing, non-penetrating disease and colonic involvement (1 patient also had ileal disease; 2 had perianal disease with fistula and abscess). All patients had CRP elevation and anemia. Hypoalbuminemia was seen in 3/4 patients.
- All patients had received prior doses of corticosteroids, methotrexate, azathioprine/6-mercaptopurine, infliximab, and adalimumab. Patients were primary responders to the first anti-TNF agent but either had a loss of response (n=3) or allergy (n=1). For the second anti-TNF agent the patients received, 2 patients showed loss of response, 1 patient had an allergic reaction, and 1 developed a severe rash.
- Patient 1 is a male who's had CD for 3.8 years and was initiated on STELARA at age 12. This patient has had 5 prior hospitalizations, and an aPCDAI score of 30 (severe). Comorbidities include Henoch-Schonlein purpura and adalimumab induced skin lesions. The patient received 5 doses of STELARA.
- Patient 2 is a female who's had CD for 5.4 years and was initiated on STELARA at age 16. This patient has had 4 prior hospitalizations and has received certolizumab pegol previously. This patient's aPCDAI score was 35 (severe) and she had no comorbidities. The patient received 10 doses of STELARA.
- Patient 3 is a female who's had CD for 3.1 years and was initiated on STELARA at age 13. She has had 9 prior hospitalizations, and an aPCDAI score of 10 (mild). Comorbidities included skin/oral CD and hypercoagulability due to thalidomide. The patient received 6 doses of STELARA.
- Patient 4 is a male who's had CD for 4.6 years and was initiated on STELARA at age 17. He has had 1 prior hospitalization and an aPCDAI score of 20 (moderate). Comorbidities included psoriasis. The patient received 9 doses of STELARA.
- Patients 2 and 4 were responsive to STELARA therapy and displayed a decrease in aPCDAI scores within 4-8 weeks after initiation. Both patients were initiated on prednisone before STELARA induction and were tapered off during STELARA therapy. Both patients remained on STELARA therapy after clinical response.
- Patient 2, after 14 months of therapy, had a loss of response with symptoms occurring 2-3 weeks before the next STELARA dose. She received the dose at 7 instead of 8 weeks and as of

the last follow-up reported no active symptoms (aPCDAI of zero with normal blood counts and CRP).

- Patient 4 showed clinical improvement in psoriasis, pain, and non-bloody diarrhea with STELARA. He did not show improvement in his body mass index and CRP levels. His aPCDAI score remained at 5 because of mild diarrhea, with no other active symptoms.
- Patients 1 and 3 stopped STELARA therapy due to worsening of symptoms, complications, or no improvement.
- Patient 1 was hospitalized 4 times due to flare-ups, *Clostridium difficile* infection, and perianal abscess recurrences. He discontinued STELARA therapy and received thalidomide treatment and ileocecal resection surgery.
- Patient 3 was hospitalized 5 times due to continual weight loss, fever due to upper respiratory tract infection, urinary tract infection, central line infection and CD flare-up. Due to the flare-up, she received steroids, discontinued STELARA, and was initiated on vedolizumab.

Chavannes et al (2016) reported a retrospective, open-label study evaluating pediatric patients with refractory CD treated with STELARA.

- A total of 12 pediatric patients with a median age of 16 years (range, 10-18 years) and a median disease duration of 3.5 years (range, 1-9 years) were included in this study.
- All but 1 patient had non-penetrating, non-stricturing disease. Every patient had previously failed therapy or was intolerant to either thiopurines (9 patients) or methotrexate (8 patients).
- After a median duration of 10 months, eleven patients had discontinued therapy with infliximab (3 for primary non-response; 5 for secondary loss of response; 3 for allergies/AEs). Eight patients had failed therapy with adalimumab.
- STELARA SC induction therapy was dosed at 45 mg (weight ≤45 kg) or 90 mg (weight >45 kg). Induction doses were given at weeks 0, 1 and 2.
- Maintenance therapy was administered to 10 patients at 45 mg or 90 mg SC every 8 weeks based on induction doses. Dose escalation was needed in 8 patients.
- Following induction therapy, clinical response was observed in 7 patients and clinical remission was observed in 1 patient. Four patients had no clinical response.
- Median follow-up was 6 months (range, 2-18 months) for those who continued maintenance therapy. A total of 3 patients discontinued STELARA therapy due to loss of response or no response. At their last follow-up, 3 patients were in clinical remission at 18 months, 3 had clinical response at a median of 2 months, and 1 patient relapsed.
- Post-injection migraines were reported in 2 patients.

STELARA® (ustekinumab)
STELARA – Treatment of Pediatric Ulcerative Colitis

SUMMARY

- The company cannot recommend any practices, procedures, or usage that deviate from the approved labeling.
- The efficacy and safety of STELARA in pediatric patients with ulcerative colitis (UC) were evaluated in a prospective study, retrospective studies, and case reports.

CLINICAL DATA

Prospective Study

Dhaliwal et al (2021) evaluated the serum concentrations and efficacy of STELARA in children and adolescents (2-17 years of age) with UC who were refractory to treatment with biologics.

Study Design / Methods

- This was an open-label, prospective study of pediatric patients from 12 academic pediatric inflammatory bowel disease (IBD) centers identified through a Canadian database.
- Children were included in this intention-to-treat analysis if they were treated with intravenous (IV) STELARA following the failure of infliximab.
- All patients received STELARA via IV induction without concomitant immunomodulators:
    - 260 mg for patients weighing 18.3-52.6 kg (n=13)
    - 390 mg for patients weighing 36-76.1 kg (n=11)
    - 520 mg for patients weighing 74.8 kg (n=1)
- Subcutaneous (SC) injections of STELARA 90 mg were scheduled to begin at week 8, except for the smallest child who received 45 mg.
- The standard every 8-week dosing frequency could be shortened after the first SC dose per the discretion of the treating physician based on continuing symptoms.
- Baseline disease activity was categorized using the pediatric ulcerative colitis activity index (PUCAI). Endoscopic findings were documented using the Mayo endoscopic score.
- Disease activity and medication usage was recorded as needed and routinely every 6 months.
- Ustekinumab serum levels were also measured by enzyme-linked immunosorbent assay (ELISA) prior to SC injections.
- The primary outcome of this study was steroid-free clinical remission (PUCAI <10 and no corticosteroid usage for ≥4 weeks) on continued STELARA therapy with an intact colon at week 52.
- Secondary and other outcomes included:
    - Steroid-free clinical remission at week 26
    - Sustained steroid-free clinical remission (no corticosteroid usage between weeks 26 and 52)
    - Endoscopic improvement (rectosigmoid Mayo score ≤1 in those with pre-STELARA score ≤2); fecal calprotectin (FCP) <250 µg/g was accepted as endoscopic improvement
    - Biomarker remission (FCP score <250 µg/g)
    - Colectomy rate at 1 year

Results

Baseline Characteristics

- There were 25 children with UC analyzed in this study; the median age was 14.8 years (interquartile range [IQR]: 12.3-16.2) and the mean duration of UC was 2.3 years (IQR: 1.1-4.2) at STELARA initiation.
- Previous biologic failure to one class (anti-tumor necrosis factor [TNF] agent) was reported in 13 (56%) patients; 12 (44%) patients had previous biologic failure to 2 classes (anti-TNF agent and vedolizumab).
- Additionally, 17 patients were receiving concomitant corticosteroids at the time of STELARA initiation, and no patients were receiving a concomitant immunomodulator.
- The mean STELARA dose was 6.4 mg/kg (IQR: 5.5-7.5 mg/kg).

Steroid-Free Clinical Remission and Endoscopic Improvement

- Steroid-free clinical remission was achieved in 11/25 (44%) children at week 52. This included 9 (69%) of 13 children with previous biologic failure to anti-TNF agents vs 2 (17%) children with previous biologic failure to anti-TNF agents and vedolizumab (*P*=0.008).
- For steroid-free clinical remission at months 6 and 12, sustained steroid-free clinical remission, and endoscopic improvement, see Table: Rates of Steroid-Free Clinical Remission and Endoscopic Improvement.

Rates of Steroid-Free Clinical Remission and Endoscopic Improvement

Patients	SFCR, % 52 Weeks	SFCR, % 26 Weeks	Sustained SFCR, % 26-52 Weeks	Endoscopic Improvement, %
Total cohort	44	24	20	36
Exposure to 1 biologic class[a]	69.2	38.5	38.5	46.2
Exposure to 2 biologic classes[b]	16.7	8.3	0	25

Abbreviations: SFCR, steroid-free clinical remission.
[a]Patients with a previous failure to 1 anti-tumor necrosis factor agent.
[b]Patients with previous failure to 2 biologic classes: Anti-tumor necrosis factor agent and vedolizumab.

- A multivariate analysis that adjusted for age and sex found the odds ratio of achieving steroid-free clinical remission at week 52 following previous failure to only an anti-TNF agent vs anti-TNF agent and vedolizumab was 17.4 (95% confidence interval [CI], 1.6-190).
- Among 8 of the 11 patients who achieved steroid-free clinical remission at week 52 and had data >1 year at follow-up, remission had been maintained to ≥72 weeks, including 2 patients with previous failure to anti-TNF agents and vedolizumab and 5 patients with previous failure to anti-TNF agents only.
- There were 5 patients who discontinued treatment after receiving 1 IV dose of STELARA due to colectomy (n=4) and parental choice (n=1). Another 4 patients discontinued STELARA during maintenance due to colectomy (n=2) and initiation of other treatment (n=2).

Ustekinumab Concentrations and Anti-Drug Antibodies

- Of the 20 patients initiating maintenance therapy, 14 (70%) patients had serum ustekinumab levels and anti-drug antibody levels measured at the median time of 30.9 weeks (IQR: 22.1-55.8).
- The median trough ustekinumab concentration was 5.2 µg/mL (IQR: 4.0-9.7); no patient developed detectable antibody levels to STELARA.
- Greater exposure to STELARA (dosing every 4 weeks vs every 8 weeks) was not associated with a superior rate of clinical remission.
- During the maintenance phase of treatment with STELARA, median ustekinumab levels were higher in patients with active colitis (all with dosing interval already empirically shortened to 4 weeks) than patients in clinical remission (9.5 µg/mL [IQR: 4.7-11.8] vs 3.9 µg/mL [IQR: 2.7-6.2], respectively, *P*=0.02)

Endoscopic Outcomes and Biomarker Remission

- Patients who achieved the primary endpoint (n=11) also underwent a colonoscopic reassessment (n=5) and/or FCP determination (n=9) to verify more than symptom resolution. Endoscopic improvement was evident in 7 of these 9 patients.
    - Of the 9 patients with stools examined at a median time of 51.1 weeks (IQR: 34.6-56.0), FCP was <250 µg/g in 5 patients (baseline median FCP 863 µg/g [IQR: 759-2100]).
    - Of the 5 patients who underwent a colonoscopic reassessment at a median time of 51.4 weeks (IQR: 29.1-91.5), the Mayo endoscopic score was 0 or 1 in 4 of these patients (baseline Mayo endoscopic score ≥2).
- No adverse events were reported with treatment of STELARA.

Retrospective Studies

Koudsi et al (2023) assessed the safety and efficacy of STELARA in a multicenter, retrospective study in pediatric patients with IBD using data from the Groupe d'Etudes Thérapeutiques des Affections Inflammatoires du Tube Digestif (GETAID), a French consortium.

- This analysis included patients <18 years of age treated with ≥1 STELARA injection for Crohn's disease (CD) or UC from January 2016 to December 2019 at 9 university hospitals.
- Clinical, biological, and endoscopic data were retrospectively collected. Additionally, the analysis was based on information from electronic medical records such as patient's baseline characteristics, clinical data, clinical disease activity index, disease phenotype before starting STELARA, treatment history, endoscopic findings, and laboratory parameters at the beginning of the treatment (induction), 3 months after induction and at the last follow-up.
- All patients included in this study were resistant to anti-TNF agents.
- Patients received weight-adjusted STELARA IV (6 mg/kg) and 90 mg SC after 8 weeks.
- Of the 53 patients included in this analysis, 5 (9.4%) patients had UC.
- Significant improvements in PUCAI were observed at 3 months (mean: 25 [15-40]) and at the last follow-up (mean:18.3 [0-35]) compared to baseline (mean: 47 [35-65]).
- The mean C-reactive protein (CRP) at STELARA induction was 15.8 mg/L (0.5-30). At 3 months, CRP normalization was observed in 75% of patients.
- Overall, STELARA was discontinued in 15/53 (28%) patients due to lack of efficiency in 8 patients, loss of response in 5 patients, and exacerbation of an associated Chronic Recurrent

Multifocal Osteomyelitis in 1 patient. The treatment was discontinued in the first 3 months in 7 patients and after 3 months in 8 patients.

- No severe adverse effects were reported in this analysis.

Patel et al (2021) conducted a retrospective chart review of the use of STELARA in pediatric patients with UC at a single center.

- Clinical remission and steroid-free remission at weeks 26 and 52 of therapy were the primary outcomes.
- Of the twelve patients evaluated, the cohort was mostly female (83%) and ages ranged from 6-15 years.
- By week 26, 78% (7/9) of patients achieved both clinical and steroid-free remission, and 87% (6/7) of these patients were on STELARA monotherapy.
- Five patients had data at week 52; of those, 80% (4/5) had clinical and steroid-free remission on STELARA monotherapy.
- At week 26, 88% of patients were on intensified therapy compared to adult dosing recommendations based on therapeutic drug monitoring and clinical decision making; at week 52, 100% of patients were on intensified therapy.
- No adverse effects were observed in this cohort.

Case Reports

Alhalabi (2023) reported the case of a 10-year-old male with steroid-refractory pancolitis treated with STELARA.

- Patient presented with mild abdominal pain and bloody nocturnal diarrhea (6-8 times), (PUCAI=55). Past medications included mesalamine and prednisone.
- STELARA was initiated as 260 mg (6 mg/kg) IV followed by 90 mg SC after 8 weeks (induction).
- The patient achieved clinical remission (PUCAI=10) after 8 weeks and STELARA 90 mg SC was administered with the next SC dose scheduled after 12 weeks.
- At week 26, patient presented with tachycardia, abdominal pain, and 6 episodes of bloody nocturnal diarrhea (PUCAI=75). A sigmoidoscopy revealed spontaneous bleeding and multiple ulcers. The patient was managed according to treatment guidelines and the STELARA maintenance SC dose was escalated to every 8 weeks.
- Assessment at week 52 revealed clinical remission (PUCAI=5), a partial Mayo score of 0, and fecal calprotectin of 20 µg/g. Additionally, his weight increased from 34 kg (prior to STELARA treatment) to 43 kg.

Kakiuchi and Yoshiura (2022) reported the case of a 14-year-old male with moderately active UC treated with STELARA.

- Patient reported to the hospital with bloody stool and diarrhea for 4 months.
- Colonoscopy and pathologic findings were consistent with a diagnosis of total colitis-type UC (Mayo endoscopic score: 2, PUCAI: 50).
- After failing treatment with 5-aminosalicylic acid agents (5-ASAs), prednisolone, and azathioprine, he was started on infliximab. The patient achieved clinical remission and symptom control with treatment over a 15-month period with infliximab and resumption of prednisolone and azathioprine.

- After 17 months of treatment with infliximab, symptoms worsened, and treatment was discontinued due to secondary loss of response and antibody formation.
- STELARA was started when the patient was 16 years of age with a 260 mg IV dose on day 1 followed by 90 mg SC every 8 weeks.
- After 8 weeks, abdominal symptoms improved, and clinical remission was achieved at 16 weeks (PUCAI: 5) and maintained during maintenance therapy.
- Endoscopic remission was achieved after 60 weeks of therapy.

No adverse events were observed during treatment

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Welty M, Mesana L, Padhiar A et al. Indirect treatment comparison of ustekinumab versus other advanced therapies in moderate to severe ulcerative colitis after 1 year [abstract]. *United European Gastroenterol J.* 2019b;7(suppl 8):72. Abstract OP129.

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AiARTHRITIS
INTERNATIONAL FOUNDATION FOR AUTOIMMUNE & AUTOINFLAMMATORY ARTHRITIS

"We don't represent the patient voice, we *are* the patient voice."

September 30th, 2023

Colorado Division of Insurance
1560 Broadway, Suite 850
Denver, CO 80202

RE: Colorado Prescription Drug Affordability Board (CO PDAB) Voluntary Information Submission - Patient/Caregiver and Patient Organization Engagement for Consideration During Affordability Reviews

Dear Prescription Drug Affordability Board Members,

The International Foundation for Autoimmune & Autoinflammatory Arthritis (AiArthritis), a patient organization led by people affected by AiArthritis diseases, is excited about the opportunity to participate in your drug affordability reviews. As such, we had patient representatives participate in all three public comments sessions relevant to our community (Enbrel, Stelara, and I - as a person on Cosentyx - was a participant) and shared the survey with many in Colorado and nationwide.

We appreciate how much the PDAB worked to include patients and associated testimony. As people who did participate, we would like to take this opportunity to provide feedback for the Board to review prior to your review. We hope you will consider our suggestions as you continue navigating this process.

About AiArthritis. We are the only patient organization in the world focusing solely on this group of diseases, whose leadership consists of those diagnosed with or caring for persons with our diseases, and who specialize in designing innovative, patient-inspired solutions. Our leaders are also public policy, education, and research experts. Given the evolving landscape of health affordability and economic assessments to request direct patient voice participation, in conjunction with the need to fine tune the associated processes, AiArthritis feels positioned to help.

The following comments are divided into two sections: Participation Feedback and General Process Comments.

Participation Feedback

- **Preparation Assistance.** Given new processes breed confusion and questions, there is no surprise Patient Organizations (who were largely responsible for getting the word out to potential patient participants) were unclear about participation (i.e., "Can patient organizations representing the patient voice participate, or only those diagnosed/care partners?" or "How would a patient prepare for participation in an online session?"). The Office Hours, hosted by Callie Shelton and Lila Cummings, were exceptionally helpful addressing these questions. They were equally available and willing to answer additional questions via email outside of scheduled office hours.

Recommendations: Continue the open office hours. Create and publish a FAQ document based on inquiries this initial round.

- **Participation of patients and care partners.** AiArthritis, as an organization who connects patients/care partners to opportunities to have a voice in matters that impact their health,[1] is excited about the evolving landscape to bring more people with lived experience to the conversation. In saying this, our organization is led by those affected by these diseases. We also understand challenges associated with inviting community participation *(i.e., they may feel uncertain they are answering the question correctly, uncertain how their perspectives will be interpreted, not fully clear of the purpose for participation/broader issue, fine line between wanting help developing speaking points and feeling 'scripted')*. While this is not the case with advocates, who are used to speaking publicly, there is a push to bring additional patients 'to the table,' including those who historically are not accustomed to sharing their stories or perspectives.

  Identifying patients/care partners who reside in Colorado, and taking or have taken a specific drug for an indicated disease, has proved difficult. AiArthritis and other organizations struggled to locate people to participate, particularly in online sessions. While part of the challenge likely involves known participatory barriers (as outlined above), there is concern how patient/care partner data will be included if the representation was small. *Note: We are uncertain how many patients/care partners participated via survey or email, but this information will be important to understand when planning for future reviews.*

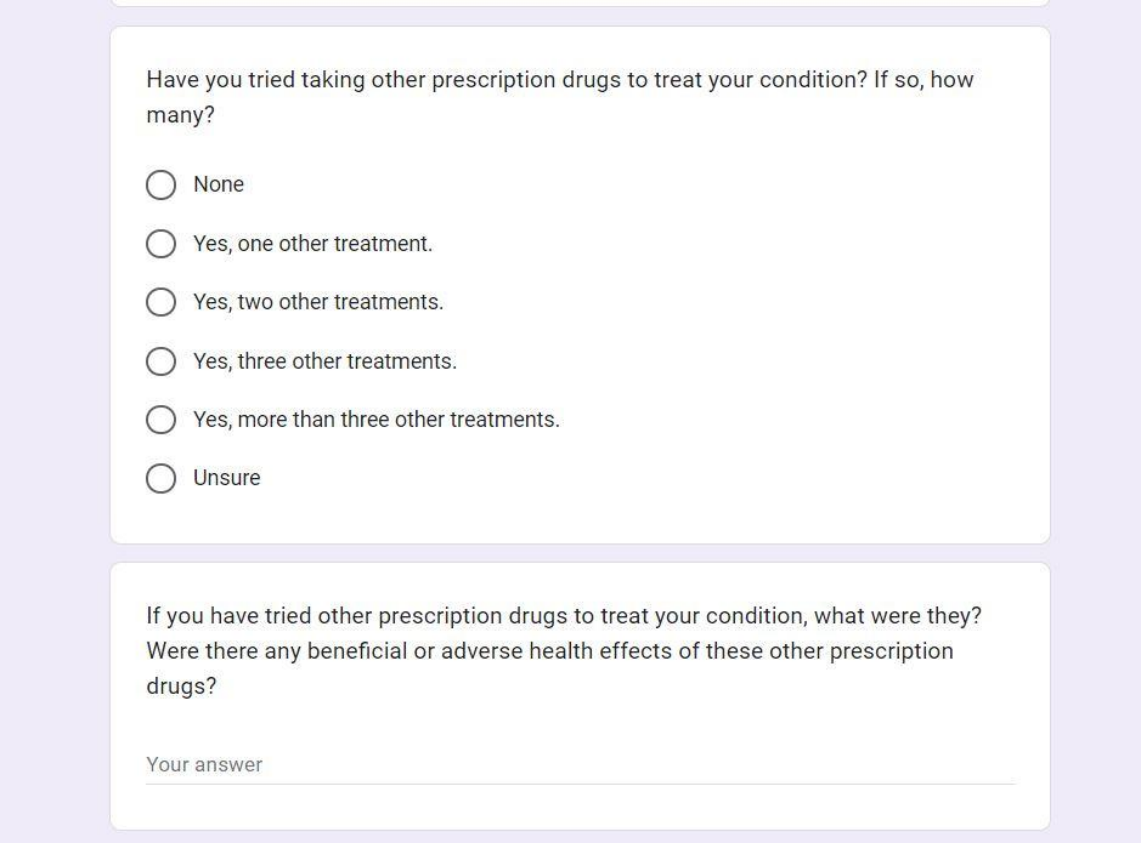
    - **Colorado residents versus those not residing in Colorado**. We appreciate the Board's willingness to permit non-Colorado residents to participate, particularly given that identifying Colorado participants was challenging. However, how their testimony will be weighted is unclear.

  Recommendations: We encourage the Board to release data collected from surveys and email participation, including demographic information, to access participatory challenge and guide efforts to recruit patient/care partner participants. If the percentage of CO participants is low (and additionally, what is considered 'low' should be established), future PDABs should increase outreach efforts to ensure sufficient participation.. Examples may include designing brochures or invitations to share with patients/care partners, Patient Organizations, clinics, or health practitioners.

- **Survey and associated polling design.** AiArthritis is pleased the Board considered many ways to capture patient/care partner perspectives. However, we are concerned about the question design, which may have resulted in inaccurate data collection.

[1] https://www.aiarthritis.org/aiarthritisvoices

- For example, one series of questions asks if a patient ever skipped a dose or stretched out a dose *due to drug affordability issues*. Patients may answer 'yes' to this question if they have skipped a dose or stretched out a dose, dismissing the 'why' at the end of the sentence. *However, as heard several times in the online sessions, this often occurs due to disruption in care caused by utilization management practices (i.e., prior authorization, step therapy) or formulary changes (including non-medical switching).* This is particularly true if the patient participates in the drug manufacturer's assistance plan.
- The following questions were asked in the survey version and discussed in the online sessions:



For those living with AiArthritis diseases and on biologic treatments, answering these questions could cause Board reviewers to feel, "Well, this person has done well on other drugs, so there is no real reason this one drug they are doing well on (or did well on for years) is that valuable." *That is not what Board reviewers should take away from this data.*

What the Board needs to understand is that the current practice of finding the treatment that will work best for us is often a long process. When it works, our disease is not progressing, comorbidities are not forming, and we are living our best lives. The number of times we tried another drug is irrelevant. The number of times it worked or did not work is irrelevant. What matters is finding one that works and, if it fails naturally - not if the

insurance company pulls a patient off of it for company gain - finding another one that works. This is the only way to avoid unnecessary disease activity and potentially permanent damage.

It may take between 1 and 9 years for a patient to get diagnosed, depending on several factors (failure to be referred to a specialist, dismissed due to negative blood work, etc.). After 6-12 months from onset, the window of opportunity to achieve remission closes without proper treatment. Once on a biologic, it can take three months or longer to realize if it will work. If not, the trial-and-error process continues. In the meantime, the patient is dealing with pain, fatigue, brain fog and other symptoms that compromise their ability to lead full, functional lives. But then it happens - the one drug that works. Suddenly, the patient may be able to work full time again, go to school regularly, or do simple things like carry their child or attend a ballgame

Biologics will not work for all people with a shared diagnosis. The goal is to find the right one, and hang on to it until it stops working on its own - as it may be years before another works. So whether a person tried and failed three and two worked or failed five and three worked, the data does not matter. *The only data that matters is if a patient is stable now and, if so, don't disrupt it.*

Recommendations: The Board should consider recruiting patients during the development of questions to identify potential issues prior to publication. Patients can identify issues that a person not living with the condition would not realize. The Board should consider the uniqueness of AiArthritis diseases and the associated challenges patients face to find the right treatments (outside of affordability factors).

- **Lack of other stakeholder participation.** Similar to our concerns regarding lack of patient/care partner participation (particularly from the state of Colorado), we are equally concerned regarding the lack of physician/health professional participation.

  Additionally, while we understand the movement towards involving the voices of only those diagnosed with diseases and who have real world experience using the treatments in review, Patient Organization's bring a perspective that could help ensure data collected is viewed with the proper context. For example, the average patient/care partner may not have supplemental references that show how long on average it takes to be diagnosed or how subgroups within diagnoses matter.

  Recommendations: AiArthritis suggests polling healthcare specialists who prescribe the drugs under review to inquire why they would or would not participate (in the case of our diseases, this could be led by groups like the Coalition of State Rheumatology Organizations/CSRO). We also suggest inviting representatives from Patient Organizations to the listening sessions and then offering them an

opportunity to meet with Board representatives to weigh in on patient/care partner comments, specifically to add context or supplemental information.

- **Disclosures and clarification**. AiArthritis understands there is concern from certain parties that involvement of Patient Organizations who are funded by the manufacturers of the drugs in review could be biased in their testimony, guidance, or feedback. While it is true that organizations, including AiArthritis, obtain financial support from pharmaceutical companies, they are not permitted to (nor do they try to) influence our voice.

  Recommendations. If there is any question regarding who influences Patient Organization perspectives, as clearly outlined in these submitted comments, the people affected by the conditions we serve- who are at the heart of our missions - influence our words.

General Process Comments

- **Regarding upper limit payments.** We understand the Board has the authority to review prescription drug costs and evaluate their impact on Coloradans through affordability reviews of prescription drugs. As a result of these reviews, the Board may then recommend ways to address those costs, which may set an upper payment limit for certain prescription drugs.
  - We question how this process may deter innovation and the development of new pharmacologic therapies. There are many people affected with AiArthritis diseases who have exhausted all current medications and are waiting for new treatments to surface.
  - We also are unclear how this will impact the introduction of biosimilars to the market and how the reference drugs may be impacted.
  - We question how precision medicine will be factored into this process, as we are beginning to identify which types of biologics may or may not work best for different subgroups.
- **How much will patient/care partner perspectives be considered in determining affordability?**
  - In the introduction to the survey, it states, "The PDAB will use the information you provide as part of the affordability review process to determine if a prescription drug is unaffordable for Colorado consumers." At least during the live sessions (as we have not viewed the survey data), patients overwhelmingly agreed Enbrel, Cosentyx, and Stelara were affordable if accessed with help from the manufacturer; but could be inaccessible and even cause harm as a result of insurance practices. How will these perspectives be counted and weighted?
    - Given the difficulty to recruit patients/care partners in Colorado, we are grateful the Board opened comments to a broader population. However, how will the data collected outside of the state be considered during the review?

AiARTHRITIS
INTERNATIONAL FOUNDATION FOR AUTOIMMUNE & AUTOINFLAMMATORY ARTHRITIS

"We don't represent the patient voice, we *are* the patient voice."

In closing, I would like to extend gratitude again on behalf of AiArthritis, and all persons living with our diseases, for this opportunity to participate in your review process and to provide comments that we hope can help as you evolve it. Thank you for considering our suggestions and do not hesitate to reach out to me at tiffany@aiarthritis.org with any questions.

Sincerely,

Tiffany Westrich-Robertson
Chief Executive Officer
Person living with non-radiographic axial spondyloarthritis
International Foundation for Autoimmune & Autoinflammatory Arthritis

October 11, 2023

Gail Mizner, MD
Colorado Division of Insurance
1560 Broadway, STE 850
Denver, CO 80202

Dear Chair Mizner,

We are writing with regard to implementation of the Prescription Drug Affordability Review Board and concerns about the Board's possible use of biased and discriminatory measures of cost effectiveness. When Colorado passed legislation in 2021 creating the Board, we supported the protection against discrimination in the legislation[1] stating that the Upper Payment Limit for selected drugs "shall not consider research or methods that employ a dollars-per-quality adjusted life year, or similar measure, that discounts the value of a life because of an individual's disability or age." At the time, advocates testified to the Board calling for clear guidance that QALYs and similar measures are not allowable in Board considerations related to determining the selected drugs or establishing an upper payment limit. Clear guidance from the Board was not given.

Today, we are deeply concerned that the Board has specifically engaged consultants that have actively promoted the use of quality-adjusted life years (QALYs) and similar measures such as the equal value of life year gained (evLYG). The state has now selected five drugs to be reviewed for a possible Upper Payment Limit: Enbrel (rheumatoid arthritis), Genvoya (HIV), Cosentyx (psoriasis, psoriatic arthritis), Stelara (ulcerative colitis), Trikafta (cystic fibrosis). During the selection process, presentations from contracted entities to the Board related to selecting drugs included reference to the use of QALYs and similar measures. This is concerning, particularly as the Board moves to its economic analysis of the selected drugs.

We have learned from members of the PDAB staff that the Board will be reviewing numerous reports and analyses of the pricing of the drugs selected for review. We hope that the Board will transparently share the evidence base for decisions related to the selected drugs so it is clear to what extent evidence was used referencing QALYs or similar measures such as the evLYG, that discriminate against people with disabilities, older adults, and people with chronic conditions.

We are concerned that Colorado has contracted with the Program on Regulation, Therapeutics, and Law (PORTAL[2]), which we know to have a subcontract with the Institute for Clinical and Economic Review (ICER) for its work with the Massachusetts Health Policy Commission. ICER is well known for its use of the QALY and evLYG, calling the QALY the "gold standard" for value assessment of health care. PORTAL's independent work also routinely references the QALY and

[1] https://leg.colorado.gov/sites/default/files/2021a_175_signed.pdf
[2] https://www.linkedin.com/in/portal-research/

discriminatory methods of cost-effectiveness analysis. Presentations[3] (including from PORTAL) to the Colorado Board have referenced the use of a cost-per-QALY or and the evLYG in estimating cost effectiveness of treatments, leading us to be particularly concerned that these metrics may have influenced how Colorado selected the drugs for review. We are similarly concerned that the assessment toward an Upper Payment Limit for these treatments may involve reference to ICER studies, potentially using their evLYG calculations, which have been widely critiqued for failing to account for quality-of-life improvements and for being calculated using the QALY's flawed health utilities[4].

We were pleased to see several commenters[5] raise concerns about the Board's potential use of cost effectiveness analyses:

- Arthritis Foundation[6]: "However, data inputs used to calculate QALYs do not holistically reflect patient experiences, preferences, goals and benefit-risk tolerance."
- NORD[7]: "Complexities associated with rare disease therapies and the available data to determine their cost-effectiveness create unique challenges for determining fair prices for these products."
- Rare disease orgs[8]: "We are writing out of concern that some decisions made by the Prescription Drug Affordability Board (PDAB) could have a severely detrimental effect on families struggling with rare and severe diseases, making it more difficult for them to have access to the therapies they need and slowing the critical research that offers them the promise of a better life."
- U.S. Hereditary Angioedema Association[9]: "In our experience, efforts by payers to assess value and cost for the HAE community rarely consider the disability, death, pain, and fear associated with the condition."

As you may know, the U.S. Department of Health and Human Services (HHS) Office for Civil Rights recently issued its proposed rule implementing Section 504 of the Rehabilitation Act which ensures that people with disabilities will not be "excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination," under any program offered by any Executive Agency. The rule raised concerns about the use of value assessment and its potential for discriminatory decisions that restrict access to care, explicitly calling out several ICER reports. As part of its proposed rulemaking on Section 1557 of the Affordable Care Act, HHS also requested comments on value assessment methods and the extent to which certain methodologies discriminate. Transparency of the evidence based used to make

[3] https://drive.google.com/drive/folders/1xhVdm0P8mm1sbybuyjU6bXSbWV5YFD6K
[4] https://ncd.gov/sites/default/files/NCD_Quality_Adjusted_Life_Report_508.pdf
[5] https://drive.google.com/drive/folders/1_m3oapRlN3jHhwue-7PBYQc3vrwClkQm
[6] https://drive.google.com/file/d/1HnebNIaV78rtWKrqXkhE4vroogNE2ovM/view?usp=drive_link
[7] https://drive.google.com/file/d/1suGN0JwBzyETveDmJ4KHhEdvbfOrva-w/view?usp=drive_link
[8] https://drive.google.com/file/d/1_mHb6e3zOXDRfjcBWZuI2Ez_hPtDsIqz/view?usp=drive_link
[9] https://drive.google.com/file/d/1ioFJjkyJ_1xIlUrQ0-EH8uoQBqWP7vez/view?usp=drive_link

decisions is essential to allow for appropriate oversight of federal and state program activities and to prevent discrimination.

We urge the Board to advance a clear policy against the use of QALYs and similar measures consistent with the statute's intended protection. We also urge the Board to commit to transparency and to sharing the evidence on which it is making decisions so that the public can meaningfully provide input on its decisions.

Sincerely,

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Appendix K

Stelara: Rebates, Discounts, and Price Concessions

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider any other factors as determined by rules promulgated by the board pursuant to section 10-16-1403(5). (C.R.S. § 10-16-1406(4)(j)).

Rule: To the extent practicable, the Board may consider estimated manufacturer net-sales or net-cost amounts (including rebates, discounts, and price concessions) for the prescription drug and therapeutic alternatives.

The Board may consider manufacturer financial assistance the manufacturer provides to pharmacies, providers, consumers, and other entities. (3 CCR 702-9, Part 3.1.E.2.j.i).

Policy: To the extent the Board has funding, information may be prepared from an external database regarding estimated manufacturer net sales and net costs (including rebates, discounts, and price concessions) for the prescription drug under review and, to the extent practicable, for therapeutic alternatives under review. Staff may also prepare information regarding manufacturer coupons to pharmacies and/or consumers. (PDAB Policy 04, p. 8).

Underlying Methodology: Board staff compiled data for the selected prescription drug for the Board's consideration in the following manner:

- Board staff contracted with SSR Health[1] to receive their proprietary U.S. prescription brand drug pricing and analytics database, which provides total net revenue and volume estimates for the majority of active brand name prescription drugs in the United States. SSR Health uses net revenues from publicly-available SEC Form 10-K financial reports from drug makers or other public sources to develop a net-sales and gross-to-net estimates quarterly for all drugs.[2] The gross-to-net estimates provide a quarterly estimated gross-to-net percent that is inclusive of all concessions and discounts that manufacturers deduct from gross sales. This is inclusive of all rebates, 340B discounts, and point of sale copayment support. SSR Health provides these estimates on a total, statutory Medicaid, and total less statutory Medicaid basis.
- Board staff gathered these estimates for Stelara, which are presented below. The gross-to-net sales estimates are on a rolling four quarter basis.
- Board staff used publicly available information on patient assistance programs to identify manufacturer coupons and discount programs available to patients.

Data Source(s): Board staff compiled information on rebates, discounts, and price concessions for Stelara from the following sources:

- SSR Health for estimated gross-to-net sales,
- Results of public input sessions and surveys for patients and caregivers, and
- Relevant voluntarily submitted information.

Considerations and Data Limitations:

- SSR Health data is proprietary and confidential. Estimates are national and do not necessarily reflect rebates, discounts, and price concessions in Colorado.

[1] SSR Health: https://www.ssrhealth.com/

[2] "Best Practices Using SSR Health Net Drug Pricing Data", Health Affairs Forefront, March 10, 2022. DOI: 10.1377/forefront.20220308.712815: https://www.healthaffairs.org/content/forefront/best-practices-using-ssr-health-net-drug-pricing-data

- Publicly available patient assistance program information is limited and does not reflect the number of patients who qualify and regularly receive assistance and the process for patients to receive assistance.

Stelara: Rebates, Discounts, and Price Concessions Evidence

Background

This appendix includes information on gross-to-net estimates, net-sales estimates, and manufacturer financial assistance programs information. For the purposes of this appendix, these terms mean:

- Gross-to-net Sales Estimate means the proprietary estimate as a percentage where SSR Health estimates all price concessions the manufacturer gives, including rebates, 340B discounts, and coupons provided by manufactures compared to gross sales to get a percentage estimate of all discounts. All gross-to-net sales estimates are provided on a four quarter moving average to provide full annual estimates and smooth quarter to quarter variation.
- Net-sales Estimate means the proprietary estimate of net sales based on sales information from 10-K financial reports and other publically available sources including earnings calls, press releases, and investor presentations.[3]
- Manufacturer financial assistance program estimate - This is different from the broader “patient assistance program” or “assistance program” terminology used in the Summary Report and in other appendices. While those later terms cover any patient assistance programs, information in this summary just pertains to financial assistance programs offered by the prescription drug manufacturer.

Information for gross-to-net estimates and net-sales estimates is provided first, followed by manufacturer financial assistance programs.

[3] "Best Practices Using SSR Health Net Drug Pricing Data", Health Affairs Forefront, March 10, 2022. DOI: 10.1377/forefront.20220308.712815: https://www.healthaffairs.org/content/forefront/best-practices-using-ssr-health-net-drug-pricing-data

SSR Health Estimates

Figure K-1
Stelara Net-Sales and Gross-to-Net Estimates

Figure K-1 shows the net sales and gross-to-net estimates for Stelara. The total gross-to-net estimate in April 2010 was [redacted], which increased to [redacted] in the fourth quarter of 2023.

Table K-1
Estimated Gross-to-Net for the Fourth Quarter of 2023

Gross-to-Net Measure	Stelara	Cosentyx	Skyrizi	Taltz	Tremfya
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Statutory Medicaid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total less Statutory Medicaid	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table K-1 shows the gross-to-net estimates broken out by total (all), statutory Medicaid (reflect most Medicaid rebates, but not all such as best price), and total less statutory Medicaid (commercial and Medicare Part D plans). The statutory Medicaid estimate is likely derived from the base 23.1% rebate required under statute[4] and not the Medicaid best price requirement that generates greater discounts. This means that the Medicaid discounts for Stelara should actually exceed those provided to non-Medicaid entities.

Figure K-2
Estimated Total Gross-to-Net Sales

Figure K-2 shows the total gross-to-net sales estimates for Stelara and identified therapeutic alternatives. The gross-to-net estimate for Stelara has increased to [redacted] in the fourth quarter of 2023, [redacted]

[4] 42 CFR § 447.509 Medicaid drug rebates (MDR)

[5] [redacted]

Table K-2

Gross-to-Net Estimate (Stelara and Therapeutic Alternatives)

Quarter Date	Stelara	Cosentyx	Siliq	Skyrizi	Taltz	Tremfya
April 2010	[redacted]					
July 2010	[redacted]					
October 2010	[redacted]					
January 2011	[redacted]					
April 2011	[redacted]					
July 2011	[redacted]					
October 2011	[redacted]					
January 2012	[redacted]					
April 2012	[redacted]					
July 2012	[redacted]					
October 2012	[redacted]					
January 2013	[redacted]					
April 2013	[redacted]					
July 2013	[redacted]					
October 2013	[redacted]					
January 2014	[redacted]					
April 2014	[redacted]					
July 2014	[redacted]					
October 2014	[redacted]					
January 2015	[redacted]					
April 2015	[redacted]					
July 2015	[redacted]					
October 2015	[redacted]					
January 2016	[redacted]	[redacted]				
April 2016	[redacted]	[redacted]			[redacted]	
July 2016	[redacted]	[redacted]			[redacted]	
October 2016	[redacted]	[redacted]			[redacted]	

Quarter Date	Stelara	Cosentyx	Siliq	Skyrizi	Taltz	Tremfya
January 2017	[redacted]	[redacted]			[redacted]	
April 2017	[redacted]	[redacted]			[redacted]	
July 2017	[redacted]	[redacted]			[redacted]	[redacted]
October 2017	[redacted]	[redacted]			[redacted]	[redacted]
January 2018	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
April 2018	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
July 2018	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
October 2018	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
January 2019	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
April 2019	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
July 2019	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
October 2019	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
January 2020	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
April 2020	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
July 2020	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
October 2020	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
January 2021	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
April 2021	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
July 2021	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
October 2021	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
January 2022	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
April 2022	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
July 2022	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
October 2022	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
January 2023	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
April 2023	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
July 2023	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
October 2023	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]

Table K-2 lists the quarterly total gross-to-net estimates from April 2010 to October 2023 for Stelara and identified therapeutic alternatives. If a cell is left empty, there were no estimates for that drug during that quarter.

Figure K-3
Stelara Net-Sales Estimate as a percent of Johnson & Johnson Total Net-Sales Estimate

Figure K-3 shows Stelara's net sales estimates (in purple) as a percent of Johnson & Johnson total net sales from the first quarter of 2018 through the fourth quarter of 2023. In the fourth quarter of 2023, Stelara accounted for an estimated [redacted] of Johnson & Johnson's total net sales. Additional information of manufacturer-reported information of Stelara's share of Johnson & Johnson's total sales is contained in Appendix O.[6]

[6] Appendix O contains information of Stelara's net sales for national and international sales, whereas this appendix contains estimates for national sales only.

Table K-3
Quarterly Net-Sales Estimate

Year	Quarter	Stelara	Cosentyx	Siliq	Skyrizi	Taltz	Tremfya
2010	Q1	[redacted]					
2010	Q2	[redacted]					
2010	Q3	[redacted]					
2010	Q4	[redacted]					
2011	Q1	[redacted]					
2011	Q2	[redacted]					
2011	Q3	[redacted]					
2011	Q4	[redacted]					
2012	Q1	[redacted]					
2012	Q2	[redacted]					
2012	Q3	[redacted]					
2012	Q4	[redacted]					
2013	Q1	[redacted]					
2013	Q2	[redacted]					
2013	Q3	[redacted]					
2013	Q4	[redacted]					
2014	Q1	[redacted]					
2014	Q2	[redacted]					
2014	Q3	[redacted]					
2014	Q4	[redacted]					
2015	Q1	[redacted]					
2015	Q2	[redacted]					
2015	Q3	[redacted]					
2015	Q4	[redacted]					
2016	Q1	[redacted]	[redacted]				
2016	Q2	[redacted]	[redacted]			[redacted]	
2016	Q3	[redacted]	[redacted]			[redacted]	
2016	Q4	[redacted]	[redacted]			[redacted]	

Year	Quarter	Stelara	Cosentyx	Siliq	Skyrizi	Taltz	Tremfya
2017	Q1	[redacted]	[redacted]			[redacted]	
2017	Q2	[redacted]	[redacted]			[redacted]	
2017	Q3	[redacted]	[redacted]			[redacted]	[redacted]
2017	Q4	[redacted]	[redacted]			[redacted]	[redacted]
2018	Q1	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
2018	Q2	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
2018	Q3	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
2018	Q4	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
2019	Q1	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
2019	Q2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2019	Q3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2019	Q4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2020	Q1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2020	Q2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2020	Q3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2020	Q4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2021	Q1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2021	Q2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2021	Q3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2021	Q4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2022	Q1	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2022	Q2	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2022	Q3	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2022	Q4	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2023	Q1	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2023	Q2	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2023	Q3	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]
2023	Q4	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]

Figure K-3 lists the quarterly estimates in net sales for Stelara and identified therapeutic alternatives from January 2010 to October 2023.[7] These amounts are the same as reflected in Figure K-3 above.

Pursuant to section 10-16-1405(1)(a)(V-VII), C.R.S., each carrier and PBM must report the 15 prescription drugs for which the carrier received the most frequent, the largest as a percent of spend on the drug, and the largest in dollars rebates. For 2021:

- 72% (18 of 25) of carriers indicated that Stelara was in the top 15 drugs for which the carrier received the largest rebate (six carriers ranked it first, five carriers ranked it second, two carriers ranked it fourth, three carriers ranked it fifth, and two carriers ranked it twelfth),
- 8% (2 of 25) indicated that Stelara was in the top fifteen prescription drugs for which the carrier received the highest rebate, as determined by the percentage of the price of the drug (with one carrier indicating it was 2nd place and another indicating it was 9th place), and
- One carrier indicated that Stelara was in the top 15 most frequently rebated drugs (indicating that it was the 12th most frequently rebated drug).

Figure K-4
Carrier's Rank of Stelara Rebates

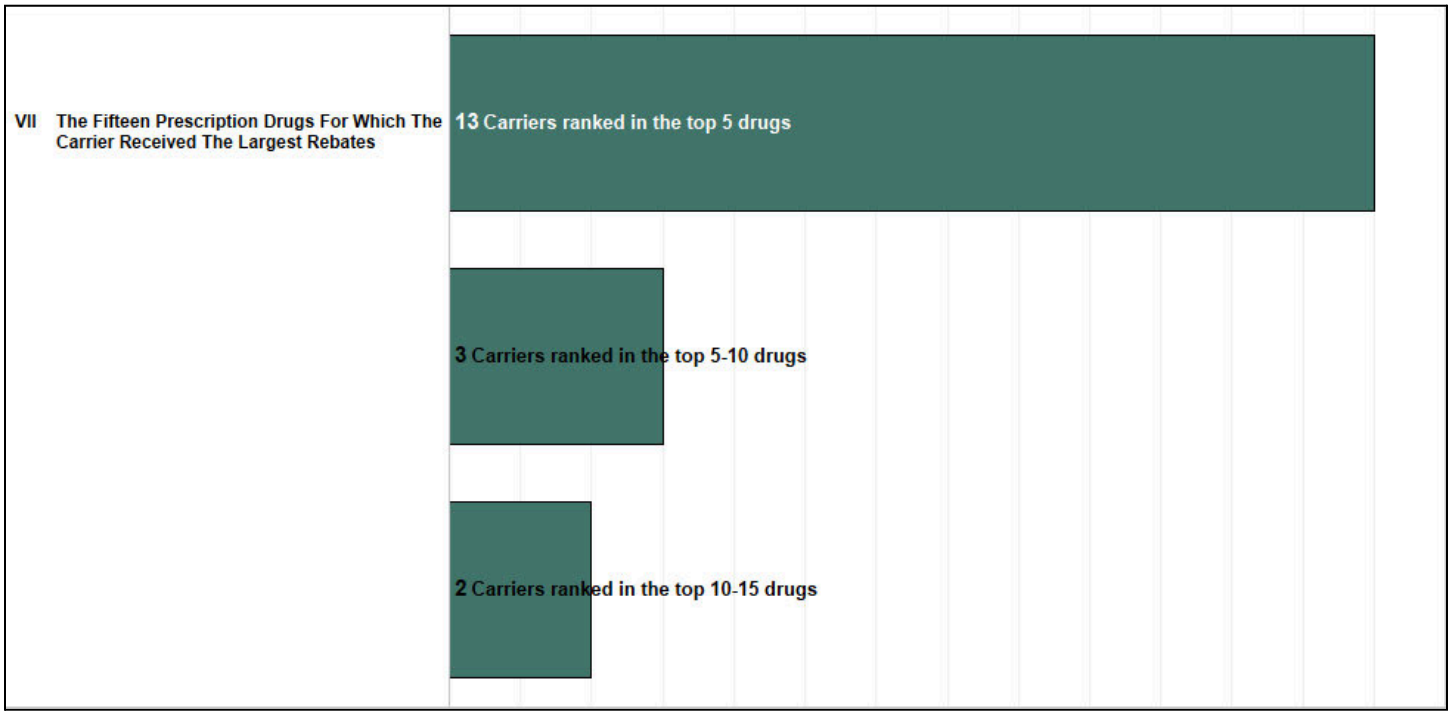

Figure K-4 shows the number of carriers who ranked Stelara in the top 15 rebated drugs for which the carrier received the largest rebates.

Manufacturer Financial Assistance Programs

As part of voluntarily submitted information from Johnson & Johnson Innovative Medicine, the following statement regarding patient assistance was submitted: "In Colorado, the median STELARA® OOP cost per prescription ranges from $0 to $60 (dosed every 8 or 12 weeks depending on the indication) by type of insurance. At the prescription level, the median STELARA® OOP cost is $60 for commercially insured patients without assistance and $3 for Medicaid patients. Commercially insured patients who received assistance from Johnson & Johnson's patient assistance programs had out-of-pocket costs of $0 to $5."[8] Johnson & Johnson also stated that of the 294 commercially insured prescriptions associated with patient

[7] Any cells without values do not have estimates in SSR Health
[8] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view

assistance, 97% (n=285) were part of a Johnson & Johnson patient assistance program with a $0 to $5 out of pocket cost."[9]

Board staff gathered further information on the STELARA withMe Savings Program[10] via the Johnson & Johnson CarePath Program, which is the overall assistance program for the manufacturer.[11] According to the public website, eligible patients using commercial or private insurance can access the manufacturer assistance program. Depending on the health insurance plan, savings could apply toward co-pays, co-insurance, or deductibles, with eligible patients paying $5 per dose. The program is not valid for patients using Medicare, Medicaid, or other government-funded programs. There is no income requirement and the assistance is available for people aged 6 and older using commercial or private health insurance and have some form of associated out-of-pocket cost for the medication.[12] Patients can use Savings Program benefits via pharmacy/prescription insurance or their medical/primary insurance.

Board staff heard from patients, caregivers, and individuals with scientific and medical training that patients utilize STELARA withMe Savings Program to help with the cost of Stelara. See Appendices H, I, and J for more information on both manufacturer financial assistance programs and other patient assistance programs.

[9] https://drive.google.com/file/d/1_vFBCTMU7y7FmRwvHx21ctHiFsPiR27g/view
[10] https://www.janssencarepath.com/patient/stelara/cost-support
[11] https://www.janssencarepath.com/
[12] https://www.janssencarepath.com/sites/www.janssencarepath-v1.com/files/stelara-savings-program-overview.pdf?v=1141

Appendix L

Stelara: Health Equity Factors

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider any other factors as determined by rules promulgated by the board pursuant to section 10-16-1403(5). (C.R.S. § 10-16-1406(4)(j)).

Rule:The Board will consider whether the pricing of the prescription drug results in or has contributed to health inequities in priority populations. (3 CCR 702-9, Part 3.1.E.2.j.ii).

Policy: Staff will prepare information regarding changes in utilization as compared to changes in WAC and changes in expenditures as identified in APCD data, attempting to understand changes in utilization by:

- People experiencing homelessness;
- People involved in the criminal justice system;
- Black people, indigenous people, and people of color;[1]
- American Indians and Alaska natives;
- Veterans;
- People who are lesbian, gay, bisexual, transgender, queer, or questioning;
- People of disproportionately affected sexual orientations, gender identities, or sex assigned at birth;
- People who have AIDs or HIV;
- Older adults;
- Children and families;
- People with disabilities, including people who are deaf and hard of hearing, people who are blind and deafblind, people with brain injuries, people with intellectual and developmental disabilities, people with other co-occurring disabilities;
- Other populations as deemed appropriate by the Prescription Drug Affordability Board. (PDAB Policy 04, pp. 8-9).

Underlying Methodology: Board staff have compiled data on health equity factors for the Board's consideration in the following manner:

1. Staff conducted an analysis into the Social Vulnerability Index (SVI) score of counties where individuals who used Stelara live.
2. Staff conducted a literature review to understand if the indications for the selected prescription drug disproportionately impact priority populations.

Data Sources: Board staff compiled information on health equity factors for the selected prescription drug from the following sources:

- The Social Vulnerability Index (SVI), created by the U.S. Center for Disease Control (CDC) Geospatial Research, Analysis and Services Program, which uses 16 U.S. census variables to determine the social vulnerability of counties. This program defines social vulnerability as factors, including poverty, lack of access to transportation, and crowded housing that may weaken a community's ability to prevent suffering and financial loss in a disaster.[2]
- APCD data to identify the county of residence of patients who took Stelara in 2022.
- Peer-reviewed journals pertaining to the indications treated by the selected prescription drugs and potential impacts on priority populations.

[1] When referring to racial and ethnic groups in the literature review, Board staff applies the language used in the study being referenced.

[2] https://www.atsdr.cdc.gov/placeandhealth/svi/index.html

Considerations and Data Limitations: The SVI is calculated on a county basis, and does necessarily reflect the circumstances of the utilizers of the prescription drug. County of residence at the time each prescription was used, if individuals moved during 2022, their utilization factors into the percent of total patients from each county where they resided throughout the year.

Stelara: Health Equity Factors Evidence

Social Vulnerability Index (SVI) Information

Board staff calculated SVI scores for patients who utilized Stelara in the following manner:

1. Staff used 2020 Social Vulnerability Index (SVI) data by county in Colorado and calculated the straight statewide average overall SVI score of 49.21%.
2. Counties with an SVI score higher than 49.21% were classified as higher than the statewide average, meaning that individuals residing in these counties may be more vulnerable to adverse outcomes due to social conditions in their county.
3. Counties with an SVI score lower than 49.21% were classified as lower than the statewide average, meaning that individuals residing in these counties may be less vulnerable to adverse outcomes due to social conditions in their county.
4. Staff aggregated APCD data based on the county of residence of utilizers of Stelara and calculated a percent of total patients who resided in each county in Colorado in 2022.
5. Staff combined these two data sources to determine the percent of patients who used Stelara in 2022 who resided in Colorado counties with SVI scores above the statewide average.

Following the methodology outlined above, staff calculated that 47.82% of patients who filled a prescription for Stelara lived in a county with an SVI score above the statewide average of 49.21%, meaning that 47.82% of Stelara patients lived in a county with higher social vulnerability. This could indicate that patients who utilize Stelara are located in counties that are slightly less vulnerable to adverse outcomes due to social conditions in their county than patients in the average Colorado county.

Figure L-1

Map of Colorado by 2022 SVI Score for Utilizers of Stelara

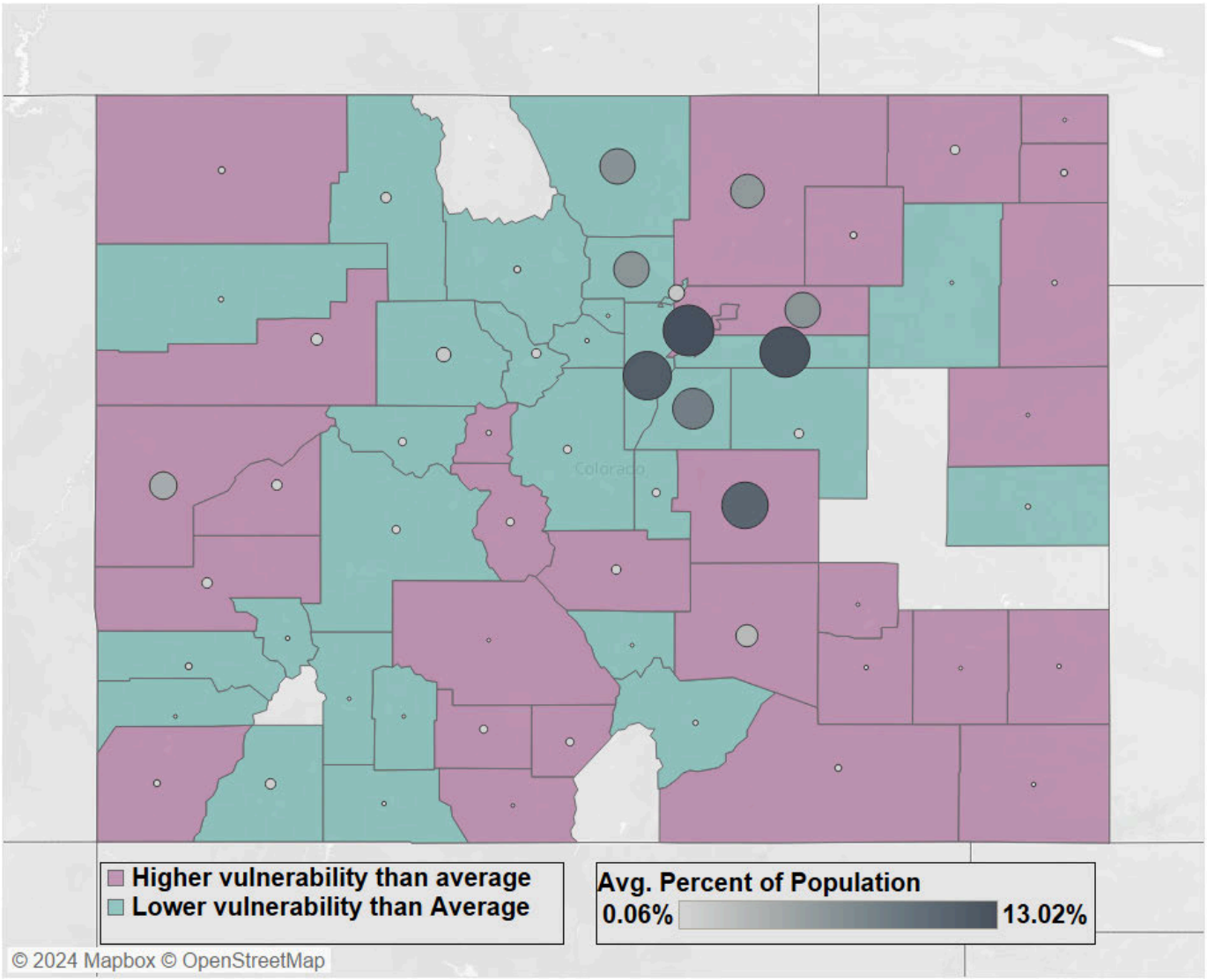

Figure L-1 shows the state of Colorado by county, where purple counties indicate higher than average SVI scores and teal counties indicate a lower than average SVI score. Counties without color did not have any patients who used Stelara in 2022 residing in them. The dots on each county show the percent of patients who used Stelara in 2022 by county where a larger, darker dot represents a higher portion of utilizers and smaller, lighter dots represent a smaller portion of the population.

Table L-1

Percent of Patients of Stelara and Therapeutic Alternatives by County

	County	County SVI Score	Stelara	Cosentyx	Ilumya	Skyrizi	Taltz	Tremfya
	ADAMS	80.95%	6.22%	7.26%	6.45%	6.91%	7.11%	6.52%
	ALAMOSA	100.00%	0.31%	0.25%			0.53%	0.22%
	BACA	52.38%	0.11%					

Counties with Higher Vulnerability Than Average	BENT	82.54%		0.09%			0.18%	
	CHAFFEE	63.49%	0.35%	0.18%		0.10%	0.26%	0.22%
	CONEJOS	93.65%	0.06%	0.42%			0.09%	0.22%
	CROWLEY	77.78%		0.09%		0.10%	0.26%	0.22%
	DELTA	79.37%	0.54%	0.77%		0.39%	0.70%	0.45%
	DENVER	73.02%	13.02%	10.11%	12.90%	15.18%	9.30%	9.89%
	EL PASO	53.97%	10.84%	13.12%	6.45%	11.38%	12.89%	15.28%
	FREMONT	60.32%	0.44%	1.27%		0.29%	0.96%	0.22%
	GARFIELD	61.90%	0.69%	0.99%	3.23%	0.29%	1.49%	1.12%
	KIT CARSON	69.84%	0.07%					0.22%
	LAKE	57.14%	0.14%	0.12%			0.35%	
	LAS ANIMAS	85.71%	0.24%	0.37%		0.10%	0.09%	0.45%
	LINCOLN	55.56%		0.14%				
	LOGAN	71.43%	0.50%	0.68%		0.78%	0.61%	0.45%
	MESA	74.60%	3.80%	2.40%	32.26%	4.28%	2.81%	0.45%
	MOFFAT	90.48%	0.22%	0.35%		0.10%	0.09%	0.67%
	MONTEZUMA	58.73%	0.24%	0.22%		0.19%	0.61%	0.22%
	MONTROSE	68.25%	0.55%	0.53%		0.19%	0.26%	0.67%
	MORGAN	92.06%	0.29%	0.95%		0.39%	1.14%	1.35%
	OTERO	87.30%	0.12%	0.51%		0.49%	0.35%	0.45%
	PHILLIPS	50.79%	0.21%	0.10%			0.09%	
	PROWERS	98.41%	0.11%	0.20%		0.19%	0.26%	
	PUEBLO	84.13%	2.48%	5.10%	3.23%	1.95%	2.72%	4.04%
	RIO GRANDE	96.83%	0.34%	0.37%		0.19%	0.44%	
	SAGUACHE	88.89%	0.06%	0.10%				
	SEDGWICK	76.19%		0.10%		0.10%	0.18%	
	WELD	66.67%	5.73%	9.98%	16.13%	7.88%	10.79%	12.13%
	YUMA	65.08%	0.15%	0.09%			0.26%	0.45%
	Total		***47.82%***	***56.82%***	***80.65%***	***51.47%***	***54.82%***	***55.91%***
	ARAPAHOE	49.21%	12.70%	10.49%	12.90%	10.41%	8.86%	8.54%
	ARCHULETA	41.27%	0.12%	0.22%			0.18%	

Counties with Lower Vulnerability Than Average	BOULDER	39.68%	6.20%	4.43%	3.23%	5.06%	4.47%	4.04%
	BROOMFIELD	9.52%	1.34%	1.27%		2.24%	1.05%	1.12%
	CHEYENNE	14.29%	0.14%			0.10%		
	CLEAR CREEK	19.05%	0.10%	0.31%		0.10%	0.18%	
	CUSTER	6.35%	0.06%	0.14%			0.09%	0.22%
	DOLORES	12.70%				0.10%		
	DOUGLAS	1.59%	8.34%	5.81%		9.05%	6.05%	6.52%
	EAGLE	44.44%	1.07%	0.36%		0.58%	0.61%	0.90%
	ELBERT	0.00%	0.44%	0.26%		0.49%	0.35%	0.90%
	GILPIN	4.76%				0.10%	0.09%	
	GRAND	28.57%	0.27%	0.24%				0.22%
	GUNNISON	25.40%	0.30%	0.18%		0.10%	0.44%	0.22%
	HINSDALE	38.10%		0.14%				0.22%
	HUERFANO	42.86%	0.15%			0.10%	0.09%	
	JEFFERSON	20.63%	11.78%	10.75%	3.23%	10.99%	9.21%	9.44%
	LA PLATA	36.51%	0.65%	1.00%		0.78%	0.88%	
	LARIMER	33.33%	6.32%	7.47%	3.23%	7.00%	8.68%	9.44%
	MINERAL	22.22%	0.06%	0.10%			0.09%	
	OURAY	6.35%	0.11%	0.09%			0.18%	
	PARK	3.17%	0.38%	0.20%		0.29%	0.26%	
	PITKIN	15.87%	0.35%	0.26%		0.19%	0.35%	
	RIO BLANCO	47.62%	0.17%	0.15%			0.26%	0.22%
	ROUTT	11.11%	0.56%	0.42%		0.49%	0.26%	1.80%
	SAN MIGUEL	26.98%	0.26%	0.09%		0.10%	0.18%	0.22%
	SUMMIT	30.16%	0.46%	0.18%		0.49%	0.96%	0.22%
	TELLER	17.46%	0.34%	0.33%		0.10%	0.88%	0.22%
	WASHINGTON	34.92%	0.07%	0.15%		0.10%		
	Total		***52.71%***	***45.02%***	***22.59%***	***48.96%***	***44.65%***	***44.46%***

Table L-1 shows a breakdown of the SVI score of each county, with higher than average vulnerability counties listed first, with the percent of utilizers in each county for Stelara and identified therapeutic alternatives in 2022. Please note the percent of utilizers may not equal 100% as some patients may have moved throughout the year and might be counted in each location where they lived while filling a prescription.

Figure L-2
SVI Score for Stelara and Therapeutic Alternatives

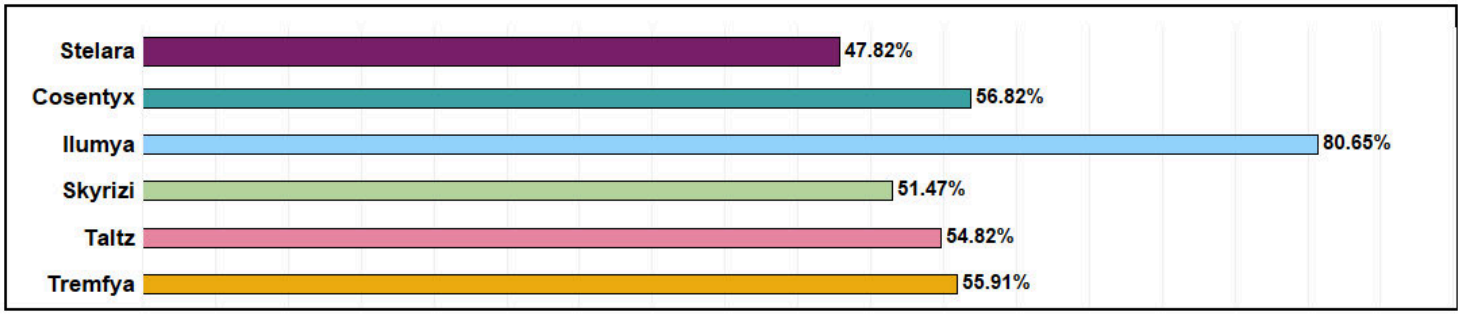

Figure L-2 shows the percent of utilizers of Stelara and identified therapeutic alternatives that lived in a county with a higher social vulnerability index score than the statewide average.

Health Equity Literature Review

Literature reviews were conducted for each of Stelara's FDA-approved indications are meant to provide an overview of potential health equity impacts related to the disease or condition. Citations are provided for more information regarding the specific study populations, locations, timeframes, and categories or subcategories of the indication being studied.

Plaque psoriasis (PsO)

Psoriasis is an immune-mediated disease that affects 3.0% of the US adult population, or more than 7.5 million adults. Plaque psoriasis is the most common subtype of psoriasis, affecting up to 80 percent of those with psoriasis.[3] Psoriasis has higher prevalence among white individuals (3.6%) compared with Asian (2.5%), Hispanic (1.9%), and Black (1.5%) individuals.[4]

Lack of culturally competent care was identified as a key unmet need for psoriasis among people with skin of color. One study reported that Hispanic and Black patients with psoriasis experienced more provider-related bias, stereotyping, misdiagnosis, and delayed diagnosis compared with white patients. The clinical presentation of psoriasis is different in people with darker skin tones compared to those with lighter skin tones and contributes to delayed diagnosis in historically marginalized populations. Additionally, people with skin of color are underrepresented in clinical trials of psoriasis therapies.[5]

Compared with white patients with psoriasis, individuals with skin of color may be less familiar with and have different rates of treatment with biologic therapies for psoriasis, are more likely to be hospitalized for psoriasis, and their access to physicians may differ. One study demonstrated significantly higher odds of hospitalization for psoriasis among Black, Hispanic, and Asian individuals. The same study also found higher rates of hospitalization for psoriasis among Medicare and Medicaid recipients, and uninsured patients compared with privately insured patients.[6] Black patients were less likely to receive biologic treatment or effective medications for their psoriasis compared with white patients. One study found that 8.3% of Black patients received a disease-modifying antirheumatic drug (DMARD) for their psoriasis, and 28% received a biologic therapy. In comparison, 13.3% of White individuals received a DMARD and 46.2% received a biologic therapy for their psoriasis. Additionally, patients of color reported high costs of care as a significant barrier to seeking and receiving treatment. Black, Asian, and other non-Hispanic historically marginalized populations are approximately 40% less likely to see a dermatologist for psoriasis compared with white patients.[7]

[3] https://www.psoriasis.org/locations-and-types/
[4] https://www.sciencedirect.com/science/article/abs/pii/S0733863522000961?via%3Dihub
[5] https://www.sciencedirect.com/science/article/abs/pii/S0733863522000961?via%3Dihub
[6] https://www.sciencedirect.com/science/article/abs/pii/S0733863522000961?via%3Dihub
[7] https://www.sciencedirect.com/science/article/abs/pii/S0733863522000961?via%3Dihub

Nearly one-third of psoriasis patients are in the pediatric age group. With an annual prevalence of up to 0.71%, childhood psoriasis can be regarded as a frequently seen chronic inflammatory skin disorder having a significant impact on the quality of life. Incidence of pediatric psoriasis varies between different ethnic groups, being highest in white and Black children. International studies have shown that pediatric psoriasis is more common in girls than in boys, but the difference is not always significant.[8]

Children with psoriasis require treatment until adulthood, and prolonged treatment may increase the risk of complications and adverse events, therefore it is crucial to adopt an effective treatment approach that reduces this risk. Long-term comorbidities associated with psoriasis may place a great burden on the physical and mental health of children with psoriasis beyond the effects of psoriasis itself. Pediatric patients with moderate-to-severe plaque psoriasis demonstrated significantly impaired health-related quality of life in relation to physical, emotional, social, and school functioning compared with healthy children, and pediatric psoriasis was associated with significantly worse quality of life than other skin diseases. Children with psoriasis are at approximately 20% to ~30% higher risk of developing psychiatric disorders, such as depression and anxiety, than children without any psoriasis diagnosis. Anxiety or depression may stem from experiences of shame, behavior avoidance, bullying, decreased self-confidence, and social isolation caused by psoriasis.[9]

Psoriatic arthritis (PsA)

Often, patients with psoriasis are also diagnosed with psoriatic arthritis (PsA); up to 30% of psoriasis patients initially present with a skin condition and then eventually progress into joint pain over 10 years following the initial psoriasis diagnosis.[10] The condition typically begins between the ages of 30 and 50, but children with psoriasis may also develop psoriatic arthritis. Though all races can get psoriasis and psoriatic arthritis, it is diagnosed more often in white people than people of other races and ethnicities.[11] One study found that white patients were five times more likely to be diagnosed with psoriatic arthritis compared with Black patients.[12] The disparity in prevalence could potentially be due to underdiagnosis in historically marginalized racial/ethnic groups.[13]

Though psoriatic arthritis is less frequent in Black patients compared to white patients, Black patients had more severe skin involvement, and greater psychological impact, and impaired quality of life. One study reported a significantly higher degree of disease severity and lower use of biologics among Black patients compared with white patients.[14] One study found Black patients were 70% less likely to receive biologics than white patients.[15]

Insurance coverage may also impact diagnosis and treatment for psoriatic arthritis. One study found that Medicaid patients were less likely to be diagnosed with psoriatic arthritis, and only 12% of those with Medicaid saw a doctor who specializes in treating arthritis, compared to more than 50% of patients with other types of insurance. Those with private insurance or Medicare were more likely to get a correct diagnosis, see a specialist, and have targeted treatments.[16]

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[8] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5683294/

[9] https://onlinelibrary.wiley.com/doi/full/10.1111/1346-8138.17049#:~:text=International%20studies%20have%20shown%20that,significantly%20higher%20incidence%20in%20men.

[10] https://link.springer.com/article/10.1007/s40744-023-00580-y

[11] https://www.webmd.com/arthritis/psoriatic-arthritis/disparities-psoriatic-arthritis-diagnosis-treatment

[12] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8475338/

[13] https://link.springer.com/article/10.1007/s40744-023-00580-y

[14] https://link.springer.com/article/10.1007/s10067-014-2763-3

[15] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9045033/#:~:text=Another%20study%20found%20that%20Black,worse%20disease%20severity%20%5B10%5D

[16] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8475338/

Inflammatory Bowel Disease (IBD) Subsets:

Crohn's Disease and Ulcerative Colitis

Crohn's disease and ulcerative colitis are both types of inflammatory bowel disease (IBD) - a group of chronic, recurrent inflammatory conditions that can affect any part of the digestive tract with painful symptoms and impact quality of life. Incidence and prevalence of IBD has risen sharply over the past 3 decades among people of color, particularly in Black individuals.[17] The prevalence of IBD in the Black population now approaches that of the non-Hispanic white population, with data suggesting that Black, Asian, and Hispanic patients may have higher incidence of more severe disease severity.[18]

As seen in other chronic digestive diseases and cancers, it has been observed that disparities in outcomes related to IBD exist across race, ethnicity, differential insurance status and coverage, and socioeconomic status (SES).[19] One study examined care access and outcomes in a diverse population of inflammatory bowel disease patients, comparing white and BIPOC individuals. The analysis revealed that BIPOC patients reported greater difficulties accessing IBD specialists, poorer symptom control, and lower quality of life, and faced challenges in employment, financial stability, and finding social/emotional support.[20] Additionally, they utilized emergency department services more frequently, expressed higher medication concerns, and had increased worries about medication harm.[21] Another study found that patients with low SES had higher rates of annual outpatient physician visits, hospitalizations, intensive care unit admission, corticosteroid and opioid use, and death.[22] Patients with Crohn's disease showed a greater impact of lower SES than for those with ulcerative colitis.[23] Researchers also examined the relationship between food insecurity, lack of social support, and financial toxicity and emergency department utilization for patients with IBD and found that 1 in 8 patients with IBD has food insecurity and lacks social support, both of which are associated with higher financial toxicity.[24]

Access to disease-modifying agents for treating IBD has also been shown to vary by sociodemographics, potentially contributing to poorer outcomes and more severe disease in underserved populations.[25] In the limited studies that have attempted to focus on IBD patients from historically marginalized communities, Black patients use fewer medications for IBD, particularly biologic agents. Racial disparities have also been observed in access to IBD specialist care and higher need for healthcare visits to the emergency department. Poorer outcomes have also been observed in Black IBD patients, including longer lengths of hospitalization, higher rates of readmissions following hospitalizations and surgery, and lower health-related quality of life.[26]

Though IBD prevalence in people of color has increased in recognition, it has not resulted in more research into treatment, effectiveness, or outcomes in this population. Black individuals currently comprise approximately 14% of the United States population but comprise as low as 3% of people included in IBD-related randomized controlled trials and 1% of people included in real-world and outcome-based studies.[27]

While selected information has been pulled above, there is additional information contained in Appendix Appendix H: Input from Patients and Caregivers, Appendix I: Input from Individuals with Scientific and Medical Training, and Appendix J: Voluntarily Submitted Information which may contain additional

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[17] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093
[18] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093
[19] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093#google_vignette
[20] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093#google_vignette
[21] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093#google_vignette
[22] https://www.cghjournal.org/article/S1542-3565(22)00285-3/fulltext
[23] https://www.cghjournal.org/article/S1542-3565(22)00285-3/fulltext
[24] https://www.cghjournal.org/article/S1542-3565(22)00285-3/fulltext
[25] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093
[26] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093
[27] https://academic.oup.com/ibdjournal/advance-article/doi/10.1093/ibd/izad194/7273093

information on health equity effects not captured in this appendix. The Board may want to weigh information from all four appendices when evaluating the health equity of Stelara.

Appendix M

Stelara: Information from the Department of Health Care Policy and Financing (HCPF)

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider any other factors as determined by rules promulgated by the board pursuant to section 10-16-1403(5). (C.R.S. § 10-16-1406(4)(j)).

Rule: The Board shall consider information from HCPF as follows:

- Additional analyses HCPF conducts relevant to the prescription drug or therapeutic alternative under review; and/or
- Information regarding safety net providers participating in the 340B, including information to assist with gathering input to assess the impact to safety net providers for a prescription drug under review that is available through Section 340B of the Federal "Public Health Service Act", Pub.L. 78-410. (3 CCR 702-9, Part 3.1.E.2.j.iii).

Policy: Staff will review any additional analyses conducted by HCPF relevant to the prescription drug or therapeutic alternative under review for presentation to the Board. (PDAB Policy 04, p. 9).

Underlying Methodology: None.

Data Source(s): Board staff sought to compile information for the selected prescription drugs from the following sources:

- Publicly available reports from the Colorado Department of Health Care Policy and Financing (HCPF).

Considerations and Data Limitations: If any selected prescription drugs or therapeutic alternatives were mentioned in public HCPF reports, Board staff planned to note any differences in definitions, the period of time being analyzed, or general characteristics of the prescription drugs or analytics being conducted.

Stelara: Information from the Department of Health Care Policy and Financing Evidence

Board staff requested any publicly available reports with quantitative or qualitative data related to Stelara from HCPF and were informed that there are no publicly available reports.

HCPF maintains a preferred drug list (PDL) with prior authorization requirements for self-administered drugs and Appendix P with prior authorization requirements for physician-administered drugs.[1] These lists are developed with recommendations from HCPF's Drug Utilization Review Board.[2]

HCPF's PDL outlines the following information effective as of April 1, 2024:[3]

- For plaque psoriasis (PsO), psoriatic arthritis (PsA), Crohn's Disease (CD), and ulcerative colitis (UC): Stelara is a non-preferred agent with prior authorization required. Of identified therapeutic alternatives:

[1] https://hcpf.colorado.gov/pharmacy-resources.
[2] https://hcpf.colorado.gov/drug-utilization-review-board.
[3] https://hcpf.colorado.gov/sites/hcpf/files/04-01-24%20PDL%20V3.pdf

- For plaque psoriasis (PsO): Taltz is a preferred agent with no prior authorization required if diagnosis and eligibility criteria are met, while Cosentyx, Skyrizi, and Tremfya are non-preferred agents with prior authorization required.
- For psoriatic arthritis (PsA): Taltz is a preferred agent with no prior authorization required if diagnosis and eligibility criteria are met, while Cosentyx, Tremfya, and Skyrizi are non-preferred agents with prior authorization required.
- For Crohn's Disease (CD) and ulcerative colitis (UC): Cosentyx, Omvoh, and Skyrizi are also non-preferred agents with prior authorization required.

HCPF's Appendix P outlines the following information effective April 1, 2024:[4]

- For targeted immune modulators, Cosentyx, Omvoh, Skyrizi, and Stelara may be approved if certain criteria are met.

Additionally, Board staff and HCPF discussed that there was no readily available list or email listserv of 340B covered entities that could be used to facilitate Board staff outreach.

[4] https://hcpf.colorado.gov/sites/hcpf/files/Appendix%20P%2004.01.24%20V2.pdf

Appendix N

Stelara: Non-Adherence and Utilization Management

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board shall consider any other factors as determined by rules promulgated by the board pursuant to section 10-16-1403(5). (C.R.S. § 10-16-1406(4)(j)).

Rule: The Board may use information regarding non-adherence to the prescription drug, as well as information related to utilization management restrictions placed on the prescription drug. (3 CCR 702-9, 3.1.E.2.j.iv).

Policy: To the extent such information is available, the Board may use information regarding non-adherence to the prescription drug, as well as information related to utilization management restrictions placed on the prescription drug. (PDAB Policy 04, p. 9).

Underlying Methodology: Board staff have compiled data for the selected prescription drug for the Board's consideration in the following manner:

1. Document information provided during the stakeholder sessions to gather input from patients and caregivers and individuals with scientific or medical expertise. Staff will attempt to compile information directly related to the information outlined in rule during stakeholder meetings, as well as a survey.
2. Relevant information provided by entities who submitted information voluntarily.

Data Source(s): Board staff compiled information on non-adherence and utilization management for Stelara from the following sources:

- Results of public input sessions and surveys by patients and caregivers and individuals with scientific and medical training, and
- Relevant voluntarily submitted information.

Considerations and Data Limitations: Input provided both via stakeholder meetings and surveys is voluntary. Such qualitative data may not capture information from all patients and caregivers.

Stelara: Non-Adherence and Utilization Management Evidence

See Appendix M for more information regarding the Department of Health Care Policy and Financing's (HCPF's) prior authorization requirements for Stelara and identified therapeutic alternatives. Additionally, seven of ten carriers that DOI regulates provide coverage for Stelara, and all seven of these carriers require prior authorization. Please see Appendix E for more information.

Stakeholder Input

Through public input sessions and surveys, patients and caregivers disclosed information about non-adherence of Stelara due to cost. Of the five Colorado patients and caregivers surveyed:

- Two participants indicated that cost impacted their adherence to Stelara and one indicated they have changed prescription drugs in order to save money.
- Four participants said their insurance plan requires prior approval to fill the prescription, two worried that the cost of the prescription will raise their premium, and one said their insurance plan has dropped or switched their drug coverage after the plan year started.

See Appendix H for more information.

Individuals with scientific or medical training stated that their patients report utilization management issues such as step therapy, copay accumulators and maximizers, and denials for off-label usage due to the very few FDA-approved medications to treat Stelara's indications. See Appendix I for more information.

Voluntarily Submitted Information

Johnson & Johnson voluntarily submitted the following information related to utilization management:

- "At the same time patients continue to pay higher out of pocket costs, commercial insurers and PBMs are implementing more restrictive utilization management programs." (Johnson & Johnson, Voluntarily Submitted Information, p. 3)
- "Utilization management programs also include expanded tiered lists with varying cost sharing, prior authorization, non-medical switching and step therapy." (Johnson & Johnson, Voluntarily Submitted Information, p. 3)

Johnson & Johnson did not submit any information related to adherence.

See Appendix J for more information.

Appendix O

Stelara: Pricing Information

Affordability Review Statute, Rule, and Policy Guidance

Statute: The Board may consider any documents and information relating to the manufacturer's selection of the introductory price or price increase of the prescription drug, including documents and information relating to: (a) Life-cycle management; (b) The average cost of the prescription drug in the state; (c) Market competition and context; (d) Projected revenue; (e) The estimated cost-effectiveness of the prescription drug; and (f) Off-label usage of the prescription drug. (C.R.S. § 10-16-1406(6)).

The Board may access pricing information through publicly available pricing information from state entities, the APCD, and other countries. (C.R.S. § 10-16-1406(7)(a)). Pricing information is defined as information about the price of a prescription drug, including information that explains or helps explain how the price was determined. (C.R.S. § 10-16-1401(20)).

To the extent that there is no publicly available information with which to conduct an affordability review, the Board may request that a manufacturer, carrier, or pharmacy benefit management firm provide pricing information for any prescription drug identified. (C.R.S. § 10-16-1406(7)(b)).

Rule: The Board may also consider documents and information relating to the manufacturer's selection of the introductory price or price increase of the prescription drug including information related to:

- Life cycle management;
- Average cost of the prescription drug in Colorado;
- Market competition;
- Projected revenue;
- Estimated cost-effectiveness of the prescription drug; and/or
- Off-label usage of the prescription drug.

The Board may access pricing information for prescription drugs by:

- Accessing publicly available pricing information from a state to which manufacturers report pricing information;
- Accessing available pricing information from the APCD and from state entities; and/or
- Accessing information that is available from other countries.

To the extent there is no publicly available information with which to conduct an affordability review, the Board may request that a manufacturer, carrier, or PBM provide pricing information for any prescription drug eligible for an affordability review.

- Such interested parties shall have 30 days from the date of the request of a prescription drug for affordability review to provide such information to the Board for its consideration.
- Failure of an entity to provide pricing information to the Board for an affordability review does not affect the authority of the Board to conduct the affordability review, as described in this section. (See 3 CCR 702-9, Parts 3.1.E.3, 4).

Policy: The Board may also consider documents and information relating to the manufacturer's selection of the introductory price or price increase of the prescription drug including information related to:

- Life-cycle management;
- Average cost of the prescription drug in Colorado;
- Market competition;
- Projected revenue;
- Estimated cost-effectiveness of the prescription drug; and/or

- Off-label usage of the prescription drug.

The Board may access pricing information for prescription drugs by:

- Accessing publicly available pricing information from a state to which manufacturers report pricing information. Staff will review other state programs and provide such information to the extent it is available.
- Accessing available pricing information from the APCD and from state entities.
- Staff will review pricing information in the APCD and, to the extent such data has not already been utilized in the affordability review, provide such information.
- Staff will review pricing information available from state entities and provide such information to the Board.
- Accessing information that is available from other countries. Staff will review pricing information from other countries and provide such information to the extent it is available. (PDAB Policy 04, pp. 9-10).

Underlying Methodology: None.

Data Sources: Board staff obtained pricing information through public reports and the following data sources:

- APCD data, including APCD data gathered pursuant to C.R.S. § 10-16-1405.
- Other state prescription drug transparency reports.
- U.S. Security and Exchange Commission (SEC) Form 10-K Filings.

Considerations and Data Limitations: Board staff did not recommend the Board specifically request pricing information from manufacturers, carriers, and PBMs since information is already both publicly available and available through the Division of Insurance's contract with AnalySource.[1] However, entities were able to choose to provide information related to the following components by submitting such information through the "Voluntarily Submitted Information" path by October 3, 2023:

- Life-cycle management;
- Average cost of the prescription drug in Colorado;
- Market competition
- Projected revenue;
- Estimated cost-effectiveness of the prescription drug; and/or
- Off-label usage of the prescription drug.

The Division of Insurance did not receive any voluntarily submitted information from entities with additional pricing information.

Information accessed through searches for public reports and data may not always match exactly the type of data being compiled for other affordability review components. Board staff will note when publicly available data cannot be vetted for exact comparability.

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[1] AnalySource data contains information on Stelara's WAC - See Appendix A for more information.

Stelara: Pricing Information Evidence

Other State Transparency Reports

Board staff reviewed prescription drug transparency reports from six other states, summarized below.

West Virginia

The West Virginia legislature passed Senate Bill 689 in 2020, requiring all pharmaceutical manufacturers that sell drugs directly or to wholesalers in West Virginia to submit pricing information to the State Auditor's Office for it to be visualized and transparent for the everyday consumer.[2] In 2023, this resulted in four published reports:

- Pharmaceutical Manufacturers WAC Report - Annual information from 2020 through 2022 is provided in a searchable database for both Stelara and Johnson & Johnson, specifically introductory prices and weighted average costs for multiple strengths and dosage forms of Stelara as reported by the manufacturer in 2020 and 2022.
- Patent Exclusivity Report - No information regarding Johnson & Johnson, or Stelara, is contained in this report.
- WAC Increases - No information regarding Johnson & Johnson, or Stelara, is contained in this report.
- Research and Development Costs - No Information regarding Johnson & Johnson is contained in this report.

Minnesota

The Minnesota legislature passed a law creating the Prescription Drug Price Transparency Data and Dashboards.[3] In the Reporting Snapshot of data reported by June 2023, the Minnesota Department of Health (MDH) outlined 4 expected reports from Janssen Biotech, Inc. with 4 reports received.[4] No information regarding Johnson & Johnson, nor Stelara, was contained in the Price Increase - Five Year Price Analysis Dashboard or Comparative Price Change Analysis Dashboard.

Maine

The Maine legislature passed two laws related to prescription drug price transparency:

Public Law 2021, Chapter 606 (LD 1636)

This law requires the Maine Health Data Organization (MHDO) to produce an annual report beginning in 2023 that provides information regarding potential savings that could be achieved by subjecting drugs identified as the costliest and most frequently prescribed to a referenced rate as defined in law.[5]

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[2] https://stories.opengov.com/westvirginia/published/kFdN-WMxm.
[3] https://www.health.state.mn.us/data/rxtransparency/dashboards/index.html.
[4] https://www.health.state.mn.us/data/rxtransparency/dashboards/reporting.html.
[5] https://mhdo.maine.gov/RxReferenceRates.htm.

Table O-1
Information from Maine

Potential Savings								
§8741 2. C. For each drug identified in paragraph A, the organization shall determine the potential savings that could be achieved by subjecting those drugs to the referenced rate as calculated pursuant to paragraph B. The savings must be determined based on the payments reported in the organization's claims database for the most current 12-month period.								
Top 100 List	**Manufacturer Name**	**NDC**	**Item Description**	**Average WAC Per Unit**	**Reference Rate**	**Annual Cost @ Average WAC Per Unit**	**Annual Cost @ Reference Rate Per Unit**	**Potential Savings**
Brand Most Costly	JANSSEN BIOTECH	57894006003	Ustekinumab 45 MG/0.5ML Solution Prefilled Syringe 0.500 ML UD	$26,293.4646	$26,293.4646	$3,985,467	$3,985,467	$0
Brand Most Costly	JANSSEN BIOTECH	57894006103	Ustekinumab 90 MG/ML Solution Prefilled Syringe 1.000 ML UD	$26,293.4646	$3,309.8941	$56,253,073	$7,081,293	$49,171,780

Table O-1 shows the potential savings that could be achieved by subjecting Ustekinumab 45 MG/0.5ML Solution Prefilled Syringe 0.500 ML UD to the referenced rate (determined based on payments reported in MHDO's claims database for the most current 12-month period) is $0 and Ustekinumab 90 MG/ML Solution Prefilled Syringe 1.000 ML UD is $49,171,780.[6]

Public Law 2018, Chapter 406

This law requires MHDO to produce an annual prescription drug report that includes:

- The 25 costliest drugs (determined by total amount spent in the state),
- The 25 most frequently prescribed drugs in the state, and
- The 25 drugs with the highest year-over-year cost increase (determined by total amount spent in the state).

[6] Pulled from Part III of the International Referenced Rate Pricing for Prescription Drugs 2023 Report accessed via https://mhdo.maine.gov/RxReferenceRates.htm.

Information is provided for three state fiscal years, which run from July 1 through June 30. The most recent report is outlined below (July 1, 2021 through June 30, 2022):

Top 25 Costliest Drugs

- Overall: Stelara appears #3 on the list.
- Commercial: Stelara appears #2 on the list.
- Medicaid: Stelara appears #3 on the list.
- Medicare: Stelara appears #3 on the list.

Figure O-1
Maine: Stelara Ranking Among Top 25 Costliest Drugs Overall

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Cost Per Prescription
Top 25 Overall				535,254	107,680	$757,322,271	
State Total				13,928,196	912,598	$2,762,444,684	
3	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agents, Miscellaneous	3,492	739	$87,499,616	$25,057

Figure O-1 shows Stelara is the #3 costliest drug overall in 2021-2022.

Figure O-2
Maine: Stelara Ranking Among Top 25 Costliest Drugs for Commercial Plans

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Cost Per Prescription
Top 25 Overall				82,865	20,994	$287,743,460	
State Total				3,769,512	400,330	$777,869,615	
2	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agents, Miscellaneous	2,001	444	$47,400,364	$23,688

Figure O-2 shows Stelara is the #2 costliest drug for commercial plans in 2021-2022.

Figure O-3
Maine: Stelara Ranking Among Top 25 Costliest Drugs for Medicaid

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Cost Per Prescription
Top 25 Overall				253,227	30,589	$151,049,958	
State Total				2,881,698	204,791	$458,079,261	
3	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agents, Miscellaneous	523	108	$12,527,142	$23,952

Figure O-3 shows Stelara is the #3 costliest drug for Medicaid in 2021-2022.

Figure O- 4
Maine: Stelara Ranking Among Top 25 Costliest Drugs for Medicare Advantage

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Cost Per Prescription
Top 25 Overall				246,271	64,868	$401,992,957	
State Total				7,276,986	317,518	$1,526,495,808	
3	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agents, Miscellaneous	968	194	$27,572,110	$28,484

Figure O-4 shows Stelara is the #3 costliest drug for Medicare Advantage in 2021-2022.

Top 25 Most Frequently Prescribed Drugs: Stelara does not appear on the list overall, nor specifically for commercial plans, Medicaid, or Medicare Advantage.

Top 25 Drugs with Highest Year-Over-Year Increases:

- Overall: Stelara appears #1 on the list.
- Commercial: Stelara appears #1 on the list.
- Medicaid: Stelara appears #2 on the list.
- Medicare: Stelara appears #20 on the list.

Figure O-5
Maine: Stelara Ranking Among Top 25 Drugs with Highest-Year-Over-Year Increases Overall

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Increase	Cost Per Prescription
Top 25 Overall				**333,003**	**101,825**	**$556,282,316**	**$158,627,406**	
1	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agent..	3,492	739	$87,499,616	$20,129,945	$25,057

Figure O-5 shows Stelara is the #1 drug with the highest-year-over-year increases overall in 2021-2022.

Figure O-6
Maine: Stelara Ranking Among Top 25 Drugs with Highest-Year-Over-Year Increases for Commercial Plans

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Increase	Cost Per Prescription
Top 25 Overall				**85,794**	**39,030**	**$208,298,095**	**$51,691,191**	
1	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agent..	2,001	444	$47,400,364	$9,499,008	$23,688

Figure O-6 shows Stelara is the #1 drug with the highest-year-over-year increases for commercial plans in 2021-2022.

Figure O-7
Maine: Stelara Ranking Among Top 25 Drugs with Highest-Year-Over-Year Increases for Medicaid

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Increase	Cost Per Prescription
Top 25 Overall				**76,496**	**19,135**	**$97,554,805**	**$34,552,809**	
2	57894006103	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agent..	523	108	$12,527,142	$4,279,997	$23,952

Figure O-7 shows Stelara is the #2 drug with the highest-year-over-year increases for Medicaid in 2021-2022.

Figure O-8

Maine: Stelara Ranking Among Top 25 Drugs with Highest-Year-Over-Year Increases for Medicare Advantage

Rank	NDC	Drug Name	Drug Class(es)	Number of Prescriptions	Number of Prescription Users	Cost	Increase	Cost Per Prescription
Top 25 Overall				333,003	101,825	$556,282,316	$158,627,406	
20	57894006002	Stelara	Disease-modifying Antirheumatic Drugs; Immunomodulatory Agents; Skin and Mucous Membrane Agent..	176	31	$4,350,418	$3,457,249	$24,718

Figure O-8 shows Stelara is the #20 drug with the highest-year-over-year increases for Medicare Advantage in 2021-2022.

Oregon

The Oregon legislature created Oregon's Drug Price Transparency program in 2018 to provide accountability for prescription drug pricing through transparency of specific cost and price information from pharmaceutical manufacturers and health insurers.[7] Drug Price Transparency Program Reports are available from 2019-2023.[8] The 2023 report is outlined below.

The report identifies insurer reporting of the most costly drugs reflects the drugs with the highest total payments made on behalf of covered members, including payments made by carriers and member cost sharing, such as co-pays and co-insurance. Stelara appears #2 on the list (p. 61):[9]

[7] https://dfr.oregon.gov/drugtransparency/Pages/index.aspx.
[8] https://dfr.oregon.gov/drugtransparency/Pages/annual-reports.aspx.
[9] https://dfr.oregon.gov/drugtransparency/Documents/20231207-dpt-hearing/Prescription-Drug-Price-Transparency-Annual-Report-2023.pdf

Figure O-9
Oregon: Top 10 Most Costly Drugs in 2023

Figure 31: Top 10 most costly drugs

Drug	Class	Total annual plan spending
Adalimumab Brand name: Humira	Analgesics/anti-inflammatory	$75,241,110
Ustekinumab Brand name: Stelara	Dermatologicals	$28,957,943
Pembrolizumab Brand name: Keytruda	Antineoplastics and adjunctive therapies	$28,248,898
Bictegravir-Emtricitabine-Tenofovir Alafenamide Fumarate Brand name: Biktarvy	Antivirals	$26,988,465
Etanercept Brand name: Enbrel	Analgesics/anti-inflammatory	$22,017,823
Elexacaftor-Tezacaftor-Ivacaftor Brand name: Trikafta	Respiratory agents	$21,559,651
Secukinumab Brand name: Cosentyx	Dermatologicals	$18,723,855
Vedolizumab Brand name: Entyvio	Gastrointestinal agent	$17,655,131
Infliximab-dyyh Brand name: Inflectra	Gastrointestinal agent	$16,516,923
Risankizumab-rzaa Brand name: Skyrizi	Dermatologicals	$15,517,811

Figure O-9 shows Stelara as #2 on the list of the top 10 most costly drugs in Oregon in 2023.

Figure O-10
Oregon: Top 10 Drugs with Greatest Increase in Plan Spending

Figure 32: Top 10 drugs with the greatest increases in plan spending

Drug	Class	Year-over-year increase
Pembrolizumab Brand name: Keytruda	Antineoplastics and adjunctive therapies	$11,840,653
Risankizumab-rzaa Brand name: Skyrizi	Dermatologicals	$8,385,287
Infliximab-dyyb Brand name: Inflectra	Gastrointestinal agents	$5,489,239
Elexacaftor-Tezacaftor-Ivacaftor Brand name: Trikafta	Respiratory agents	$4,417,699
Immune Globulin (Human) IV Brand name: Gammagard	Passive immunizing and treatment agents	$4,312,556
Adalimumab Brand name: Humira	Analgesics/anti-inflammatory	$3,682,844
Dupilumab Brand name: Dupixent	Dermatologicals	$3,333,668
Semaglutide Brand name: Rybelsus/Ozempic	Antidiabetics	$3,238,534
Ustekinumab Brand name: Stelara	Dermatologicals	$3,077,394
Brentuximab Vedotin Brand name: Adcetris	Antineoplastics and adjunctive therapies	$3,020,976

Figure O-10 shows Stelara as #9 on the list of the top 10 drugs with the greatest increases in plan spending in Oregon in 2023.[10]

[10] https://dfr.oregon.gov/drugtransparency/Documents/20231207-dpt-hearing/Prescription-Drug-Price-Transparency-Annual-Report-2023.pdf

California

The California legislature passed two laws related to prescription drug price transparency:

Prescription Drugs Introduced to Market

This dataset provides data for new drugs introduced to market in California with a WAC that exceeds the Medicare Part D specialty drug cost threshold.[11] Prescription drug manufacturers submit information to the California Department of Health Care Access and Information (HCAI), including NDC, a narrative description of marketing and pricing plans, and WAC.

Prescription Drug WAC Increases

This dataset provides data for WAC increases that exceed the statutorily mandated WAC increase threshold of a 16 percent increase for the period including the current quarter and the previous two calendar years for prescription drug products with a WAC greater than $40 for a course of therapy.[12]

Texas

The Texas legislature passed House Bill 2536 in 2019, requiring pharmaceutical drug manufacturers to report the current WAC of drugs sold in or into Texas to the Texas Health and Human Services Commission (HHSC), as well as separately report specific information related to WAC increases.[13] Johnson & Johnson Health Care Systems Inc. reported WAC information on Stelara to HHSC in 2020, 2021, 2022, 2023, and 2024, and did not report any qualifying price increases in 2021, 2022, 2023, 2024 for any drugs, including Stelara.[14]

Colorado All Payer Claims Database Transparency Reporting Information

Pursuant to section 10-16-1405(1)(a)(IV), C.R.S., each carrier and PBM must report the 15 prescription drugs that caused the greatest increases in the carrier's premiums in a given year. Please find data gathered from 19 payers pursuant to section 10-16-1405(1)(a)(IV), C.R.S., below.[15]

[11] https://data.chhs.ca.gov/dataset/prescription-drugs-introduced-to-market.
[12] https://data.chhs.ca.gov/dataset/prescription-drug-wholesale-acquisition-cost-wac-increases.
[13] https://www.dshs.texas.gov/prescription-drug-price-disclosure-program/about.
[14] https://www.dshs.texas.gov/prescription-drug-price-disclosure-program/data-overview
[15] Information submitted per section 10-16-1405, C.R.S. is required by all submitters to the APCD. For this submission, 19 submitters provided information.

Figure O-11
Payer Rank of Stelara Impact on Premiums in 2022

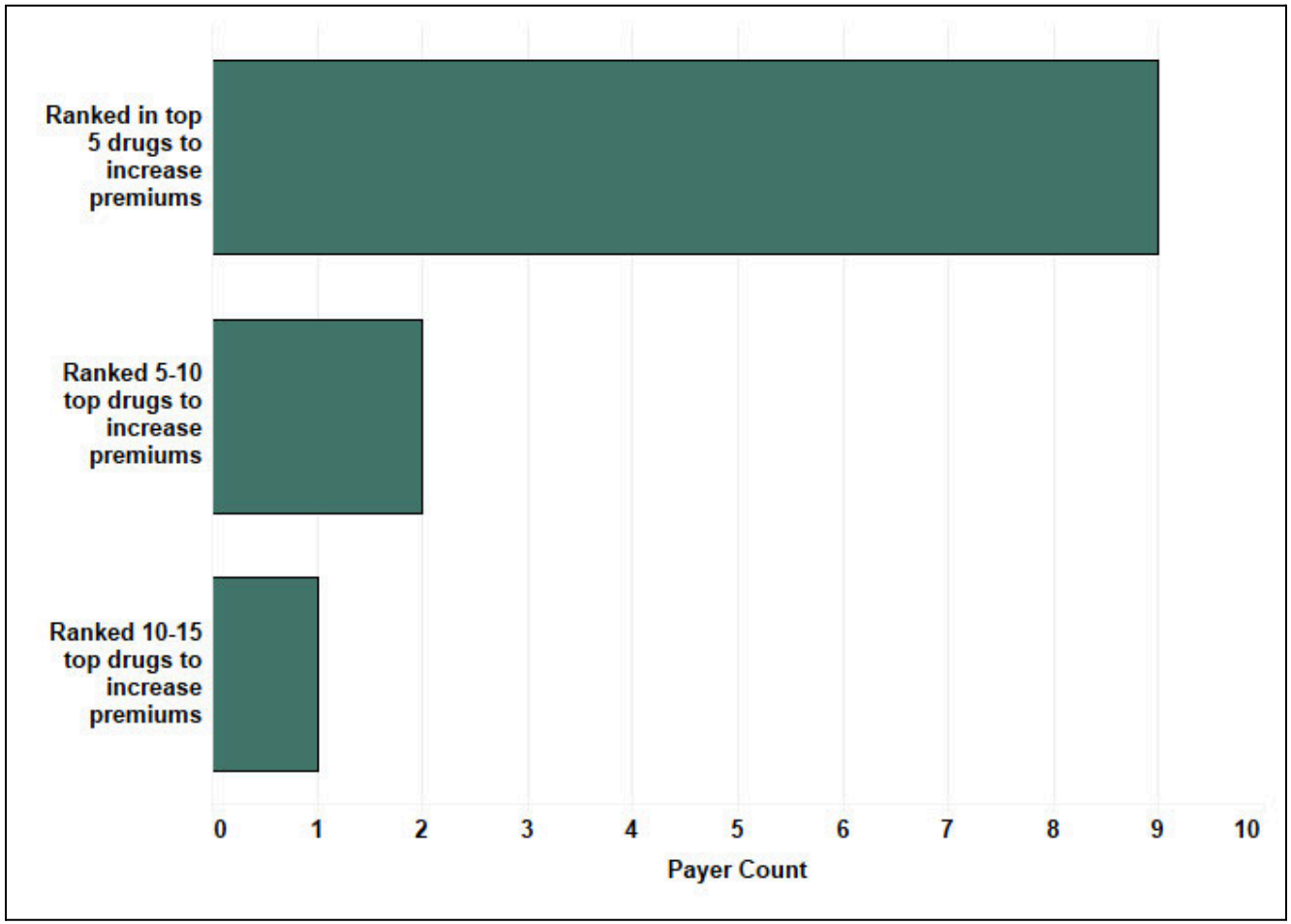

Figure O-11 shows the number of payers that ranked Stelara in the top 15 prescription drugs that increased premiums. Nine of nineteen payers indicated that Stelara was in the top 5 drugs to increase premiums. Six of these payers indicated that Stelara was the second highest drug that increased premiums in 2021.

Payers and Pharmacy Benefit Management Firms were required to identify in their submission which 15 drugs caused the highest increases to premiums, however, no additional information was required pursuant to section 10-16-1405(1)(a)(IV), C.R.S. As a result, the specific dollar impact Stelara had on premiums, or even how its rank compared to other prescription drug premium impacts, is unknown.

While this information can be insightful in understanding Stelara's impact to a broader portion of the health care system, Board staff do not recommend the Board heavily weigh this information this year. Per section 10-16-1405, C.R.S., only the top drugs are submitted for each reference, and more data and research would be necessary to understand the actual impacts to premiums and relative impact of each drug for each carrier.

Manufacturer Pricing Information

The SEC requires all public companies to file a Form 10-K each year, and a Form 10-Q each quarter.These forms provide a financial snapshot of the company's revenues, assets, and liabilities for the previous year. Johnson & Johnson's 10-K filings detail that total sales of Stelara reached $9.723 billion in FY2022, a 6.5% increase from FY2021 ($9.134 billion). This includes $6.388 billion in US sales and $3.335 billion internationally.[16] In FY2023, Johnson & Johnson reported total sales of Stelara were $10.858 billion, an 11.7% increase from FY2022, including $6.966 billion in US sales and $3.892 billion internationally.[17] The company attributes this sales increase primarily to "patient mix, market growth, and [Stelara's] continued strength in Inflammatory Bowel Disease."[18] Stelara is the company's largest product, representing approximately 10.2% of Johnson & Johnson's total revenues in FY2022 and 12.3% in FY2023.[19,20]

[16] Johnson & Johnson. SEC Form 10-K for the Fiscal Year Ended January 1, 2023. pg. 76. Filed February 16, 2023. https://www.sec.gov/Archives/edgar/data/200406/000020040623000016/jnj-20230101.htm

[17] Johnson & Johnson. SEC Form 10-K for the Fiscal Year Ended December 31, 2023. pg.81. Filed February 16, 2024. https://www.sec.gov/Archives/edgar/data/200406/000020040624000013/jnj-20231231.htm

[18] Johnson & Johnson. SEC Form 10-K for the Fiscal Year Ended December 31, 2023. pg. 26.

[19] Johnson & Johnson. SEC Form 10-K for the Fiscal Year Ended January 1, 2023. pg. 2.

[20] Johnson & Johnson. SEC Form 10-K for the Fiscal Year Ended December 31, 2023. pg 3.

Appendix P

Data Sources and Limitations

Data sources and limitations are described in detail here. How these data sources are used and component-specific limitations are outlined in each component's appendix.

All-Payer Claims Database (APCD)

The All Payer Claims Database (APCD) receives claims from Medicaid, Medicare Advantage, and over 40 commercial payers and represents over 4.5 million lives and over 75% of insured Coloradans. The APCD does not have claims data for uninsured Coloradans and some commercial payers and plans. For this affordability review, pharmacy and medical claims from January 2018 through December 2022, which were paid through May 2023, were used for analyses. Drugs are identified on pharmacy claims with their National Drug Code (NDC) and medical claims with the appropriate HCPCS codes. APCD claims are categorized by the submitting payer and are categorized as Medicaid, Medicare Advantage, and all other submitters are commercial.

Stelara has two different methods of administration, which have different insurance benefit design, coverage, and appear in the claims differently with different cost sharing policies applied. For two indications there is a loading or first dose that is administered intravenously in a medical setting covered through medical benefits with follow up doses administered subcutaneously by the patient covered through pharmacy benefits.[1]

Stelara and identified therapeutic alternatives NDC and HCPCS codes found in the APCD and utilized in these analyses were:

Drug Name	NDC	HCPCS
Stelara	57894-0054-27, 57894-0060-02, 57894-0060-03, 57894-0061-03	J3357, J3358
Bimzelx	50474-0780-79, 50474-0781-85	
Cosentyx	00078-0639-41, 00078-0639-68, 00078-0639-97, 00078-0639-98, 00078-1056-97, 00078-1070-68, 00078-1168-61	
Ilumya	47335-0177-01, 47335-0177-10, 47335-0177-95, 47335-0177-96	J3245
Omvoh	00002-7575-01, 00002-8011-01, 00002-8011-27	
Siliq	00187-0004-00, 000187-0004-02	
Skyrizi	00074-1050-01, 00074-1065-01, 00074-1066-01, 00074-1069-01, 00074-1070-01, 00074-2100-01, 00074-5015-01	J2327
Taltz	00002-1445-01, 00002-1445-09, 00002-1445-11, 00002-1445-27, 00002-7724-01, 00002-7724-11	
Tremfya	57894-0640-01, 57894-0640-11	

Limitations

- As the APCD does not include claims for all Coloradans, it is a conservative estimate, where utilizers, claims, and associated paid amounts are under-represented.
- Annual estimates of utilization are also likely under-represented as individuals change insurance and move and their entire year of utilization may not be captured in the APCD claims.

[1] See appendices A, B, and E for more information

- Under federal and state privacy laws, information about drugs with fewer than 12 utilizers in the database must be protected, as it is potentially identifiable at such low numbers. Where utilization is below 12 individuals there will be less information available.
- One commercial payer reported inaccurate units for pharmacy claims. These units were removed, and any calculations using units did not include units from this payer. Dollar amounts and utilization information was reported accurately by this payer and were not removed. The only data element in the affordability review that incorporates units is the course of treatment calculation, which excludes this payer and is therefore an underestimate of the course of treatment.
- Pharmacy claims do not include diagnosis codes. As such, utilization and paid amount analyses were conducted for all Stelara utilization and separate analyses were not conducted for each FDA-approved indication.

First DataBank AnalySource

AnalySource provides WAC and other pricing benchmarks for all NDCs at current rates and historic levels. Stelara NDC codes found in AnalySource are listed in table P-1 above.

Limitations

- WAC and other data elements from AnalySource are proprietary and confidential and may only be disclosed through secure channels and may only be discussed by the Board in Executive Session.
- WAC data is updated daily, but other data sources have a greater time lag, meaning that there are NDCs for which there is WAC data, but no utilization data. It is noted when these are included.

SSR Health

- Board staff contracted with SSR Health[2] to receive their proprietary U.S. prescription brand drug pricing and analytics net price database, which provides total net revenue and volume estimates for the majority of active brand name prescription drugs in the United States. SSR Health uses net revenues from publicly-available SEC Form 10-K financial reports from drug makers or other public sources to develop a net sales and gross-to-net estimates quarterly for all drugs.[3] The gross-to-net estimates provide a quarterly estimated gross-to-net percent rebate that is inclusive of all concessions and discounts that manufacturers deduct from gross sales. This is inclusive of all rebates, 340B discounts, and point of sale copayment support. SSR Health provides these estimates on a total, statutory Medicaid, and total less statutory Medicaid basis.

Limitations

- Estimates are proprietary and confidential and may only be disclosed through secure channels and may only be discussed by the Board in Executive Session.
- Gross-to-net sales estimates are inclusive of all concessions and discounts that manufacturers deduct from gross sales. This is inclusive of all rebates, 340B discounts, and point of sale copayment support, but cannot provide detailed amounts on these discounts.
- Estimates are for national information and are not specific to Colorado.

[2] SSR Health: https://www.ssrhealth.com/

[3] "Best Practices Using SSR Health Net Drug Pricing Data", Health Affairs Forefront, March 10, 2022. DOI: 10.1377/forefront.20220308.712815: https://www.healthaffairs.org/content/forefront/best-practices-using-ssr-health-net-drug-pricing-data