

Price Benchmarks for Enbrel UPL Rulemaking Methodology v2.0

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Drug Selection

We compiled price data for all active National Drug Codes (NDCs) of the following products:

Trade Name	Generic Name	NDCs
Enbrel	Etanercept	58406-0010-01; 58406-0010-04; 58406-0021-01; 58406-0021-04; 58406-0032-01; 58406-0032-04; 58406-0044-01; 58406-0044-04; 58406-0055-01; 58406-0055-04
Cimzia	Certolizumab pegol	50474-0700-62; 50474-0710-79; 50474-0710-81
Simponi, Simponi Aria	Golimumab	57894-0070-01; 57894-0070-02; 57894-0071-01; 57894-0071-02; 57894-0350-01
Remicade ^s	Infliximab	57894-0030-01; 57894-0160-01
Inflectra	Infliximab-dyyb	00069-0809-01
Renflexis	Infliximab-abda	00006-4305-02; 78206-0162-01
Avsola	Infliximab-axxq	55513-0670-01
Humira ⁺	Adalimumab	00074-0124-02; 00074-0124-03; 00074-0124-04; 00074-0243-02; 00074-0554-02; 00074-0616-02; 00074-0817-02; 00074-1539-03; 00074-3799-02; 00074-4339-02; 83457-0124-02; 83457-0243-02; 83457-0554-02; 83457-0616-02; 83457-0817-02
Amjevita	Adalimumab-atto	55513-0399-01; 55513-0400-01; 55513-0400-02; 55513-0410-01; 55513-0411-01; 55513-0413-01; 55513-0479-01; 55513-0479-02; 55513-0481-01; 55513-0481-02; 55513-0482-01; 55513-0482-02; 72511-0400-01; 72511-0400-02
Hadlima	Adalimumab-bwwd	78206-0183-01; 78206-0184-01; 78206-0186-01; 78206-0187-01
Yusimry	Adalimumab-aqvh	70114-0220-02
Hyrimoz ^{+,s}	Adalimumab-adaz	61314-0454-20; 61314-0454-36; 61314-0454-68; 61314-0473-20; 61314-0473-64; 61314-0476-64; 61314-0509-64; 61314-0517-36; 61314-0531-64; 61314-0327-20; 61314-0327-64; 83457-0100-01; 83457-0101-01; 83457-0102-01; 83457-0103-01; 83457-0107-01; 83457-0108-01; 83457-0112-01; 83457-0113-01
Abrilada	Adalimumab-afzb	00069-0325-01; 00069-0325-02; 00069-0328-02; 00069-0333-02; 00025-0325-01; 00025-0325-02; 00025-0328-02; 00025-0333-02
Cyltezo ^{+,s}	Adalimumab-abdm	00597-0370-82; 00597-0375-16; 00597-0375-23; 00597-0375-97; 00597-0400-89; 00597-0405-80; 00597-0485-20; 00597-0495-40; 00597-0495-50; 00597-0495-60; 00597-0545-22; 00597-0545-44; 00597-0545-66; 00597-0555-80; 00597-0565-20; 00597-0575-40; 00597-0575-50; 00597-0575-60; 00597-0585-89; 00597-0595-20; 82009-0144-22; 82009-0146-22; 82009-0148-22; 82009-0150-22

Hulio [§]	Adalimumab-fkjp	49502-0380-02; 49502-0381-02; 49502-0382-02; 83257-0016-42; 83257-0017-42; 83257-0019-32; 49502-0416-02; 49502-0417-02; 49502-0418-02; 83257-0020-42; 83257-0021-42; 83257-0022-32
Idacio [§]	Adalimumab-aacf	65219-0554-08; 65219-0554-28; 65219-0554-38; 65219-0556-18; 65219-0612-69; 65219-0612-89; 65219-0612-99; 65219-0620-20
Simlandi [‡]	Adalimumab-ryvk	51759-0402-02; 51759-0402-17; 82009-0156-22; 82009-0158-22
Yuflyma [§]	Adalimumab-aaty	72606-0023-04; 72606-0023-07; 72606-0024-01; 72606-0030-06; 72606-0030-09; 72606-0030-10; 72606-0022-06; 72606-0022-09; 72606-0022-10; 72606-0040-04; 72606-0041-01

‡ Includes versions of the product marketed under a private label.

§ Indicates versions of the product marketed without a trade name.

Multiple WAC & Private Label Products

Many manufacturers of Humira biosimilars market their biosimilar at two different prices, offering a “low WAC” version at a large discount from the reference product (~55-87% discount) and a “high WAC” version closer in price to the reference product (~5% discount). To distinguish these products, all Humira biosimilars marketed at two different prices are labeled either [High] or [Low].

Some manufacturers market their biosimilar's “low WAC” version as an unbranded version without a trade name. For example, the high WAC version of adalimumab-afzb is marketed as “Cyltezo,” whereas the low WAC version is marketed as “adalimumab-afzb.” In the dataset, however, these unbranded biosimilars are listed by the trade name of their corresponding branded biosimilar for clarity.

Active Ingredient	High WAC Name	Low WAC Name
Adalimumab-atto	Amjevita [High]	Amjevita [Low]
Adalimumab-bwwd	Hadlima	--
Adalimumab-aqvh	Yusimry	--
Adalimumab-adaz	Hyrimoz [High]	Hyrimoz [Low] [§]
Adalimumab-afzb	Abrilada [High]	Abrilada [Low]
Adalimumab-abdm	Cyltezo [High]	Cyltezo [Low] [§]
Adalimumab-fkjp	Hulio [High]	Hulio [Low] [§]
Adalimumab-aacf	Idacio [High]	Idacio [Low] [§]
Adalimumab-ryvk	Simlandi	--
Adalimumab-aaty	Yuflyma [High]	Yuflyma [Low] [§]

§ Indicates products marketed without a trade name. For clarity, products are listed by the trade name of their corresponding branded biosimilar.

Some PBMs have also created private labelers to develop standalone biologics and biosimilars in partnership with manufacturers. The table below outlines how these private-label products are labeled in the dataset and the parties involved in their marketing.

Active Ingredient	Trade Name	Manufacturer & Private Labeler
Adalimumab	Humira (Cordavis) [‡]	AbbVie & Cordavis (CVS)
Adalimumab-adaz	Hyrimoz (Cordavis) [‡]	Sandoz & Cordavis (CVS)
Adalimumab-ryvk	Simlandi (Quallent) ^{‡,§}	Teva & Quallent (Cigna)
Adalimumab-abdm	Cyltezo (Quallent) ^{‡,§}	Boehringer Ingelheim & Quallent (Cigna)

‡ Indicates products marketed under a private label. Labeler name is shown in parentheses.

§ Indicates products marketed without a trade name. For clarity, products are listed by the trade name of their corresponding branded biosimilar.

For more information on the Humira biosimilars, please see the summary on pg. 13 of the [2024 Q4 biosimilar report](#) from Samsung Bioepis.

Data Sources

We obtained available data for each NDC from the sources below. Raw data files of public benchmarks (NADAC, AAC, ASP, VA-Negotiated Prices, MFP) are available [here](#).

Benchmark	Date	Source
WAC	2025	First DataBank Analysource
NADAC	01/01/2025	US Centers for Medicare & Medicaid Services (CMS) NADAC 2024 Weekly Reference Data
CO AAC	12/30/2024	Myers and Stauffer. Colorado Department of Health Care Policy and Financing Average Acquisition Cost (AAC) List - Brand and Generic
Net Price	2024 Q3	Gross-to-net estimates via SSR Health , applied to WAC data.
FSS	12/15/2024	US Department of Veterans Affairs (VA) Office of Procurement, Acquisition and Logistics (OPAL) Pharmaceutical Pricing Data
Big Four		
National Contracts (NC)		
Medicare MFP	08/15/2024	CMS. Medicare Drug Price Negotiation Program File for Negotiated Prices .
ASP	10/01/2024-12/31/2024	CMS. October 2024 ASP Pricing File and October 2024 ASP NDC-HCPCS Crosswalks .

Standardizing Price Benchmarks

We extracted prices at the NDC-11 level from each data source for the drugs below, including any unbranded versions. Data was compiled for active NDCs only (i.e., NDCs listed in the FDA NDC Directory and not labeled “Inactive” or “Deactivated” in Analysource or RED BOOK). Deactivated NDCs that appeared in at least one data source and active NDCs for which no price data were available were excluded.

In the source data (see above), NADAC and AAC data were reported at the per-unit level. In contrast, VA-negotiated prices (FSS, Big Four, National Contracts) were reported at the per-package level. WAC and Medicare MFP data were reported per unit and per package. ASP was reported per billing unit by HCPCS code, with a crosswalk to convert to NDCs.

To standardize all price data to the per-unit level, we identified the unit for each NDC as reported in NADAC. An NDC with a unit of “EA” was considered priced per syringe, pen, cartridge, or vial. NDCs with a unit of “ML” were considered priced per milliliter (mL). We identified the unit for NDCs without NADAC data as described in RED BOOK.

We used the package descriptions in the [NDC Directory](#) for each NDC to determine the number of units in each package. Then, for each NDC, we standardized all price metrics using a conversion factor derived from the relationship between the per-unit and per-package WAC values.

Example 1: An NDC is priced **per mL** with a WAC per unit of \$100 and a WAC per package of \$80. If the package contains 2 40mg/0.4mL syringes, a total of 0.8mL, this corresponds to a conversion factor of 0.8.

If the NADAC per unit is \$95, then the NADAC per package is $\$95 \times 0.8 = \76 .
If the FSS per package is \$55, then the FSS per unit is $\$55 / 0.8 = \44 .

Example 2: An NDC is priced **per syringe** with a WAC per unit of \$100 and a WAC per package of \$200. If the package contains 2 40mg/0.4mL syringes, a total of 2 syringes, this corresponds to a conversion factor of 2.

If the NADAC per unit is \$95, then the NADAC per package is $\$95 \times 2 = \190 .

If the FSS per package is \$145, then the FSS per unit is $\$145 / 2 = \72.50 .

Colorado Actual Acquisition Cost (AAC)

AAC values are not published at the NDC level, so AAC values were matched to NDCs using the NDC description listed in matched the NDC description listed in Analysource/RED BOOK. In cases where the Analysource/RED BOOK description was unclear, we used the description listed by the VA to determine the correct AAC listing.

Net Price

Estimated net prices for each NDC were calculated by applying the 2024 Q3 gross-to-net estimates from SSR Health to WAC per unit data. Gross-to-net estimates were the 4-quarter rolling average and excluded statutory Medicaid rebates. SSR Health estimates were applied to all active NDCs for a given product.

For Humira biosimilars listed in SSR Health, the same gross-to-net estimate was applied to high *and* low WAC biosimilar versions, as these different versions are not disaggregated in SSR Health.

Average Sales Price

ASP data for clinician-administered products were derived from the payment limits per HCPCS code reported in the ASP pricing file effective from October 1 to December 31, 2024. We assumed a reimbursement of ASP + 6% for biologic products to calculate the ASP from the reported payment limit. For biosimilars, we assumed a reimbursement of ASP + 8% of the reference product ASP. ASP values per billing unit were then adjusted to the unit (per vial, per syringe) used across other price metrics. The same ASP value was attributed to all NDCs for a product listed in the HCPCS-NDC crosswalk file.

Example: The payment limit for 10mg of infliximab (Remicade) is 32.223. Assuming a rate of ASP + 6%, ASP equals $32.223/1.06 = 30.399$. Infliximab is packaged in 100mg vials, so the ASP per vial is $30.399 \times 10 = 303.99$.

Calculating Prices per Year

Per-unit prices were converted to price per year based on the recommended dosing for adult rheumatoid arthritis (RA). Adult RA was selected because it is one of three indications shared between Enbrel and all its therapeutic alternatives, alongside ankylosing spondylitis (AS) and adult psoriatic arthritis (PsA). See **Appendix 1** for an indication comparison table.

Dosing regimens were identical across these three indications for all drugs, apart from infliximab and its biosimilars, which require a higher dose for AS and adult PsA (5mg/kg v. 3mg/kg). Given this similarity, we felt comfortable using adult RA dosing as a reference in the dataset. See **Appendix 2** for a demonstration of how annual prices may vary by indication.

In the full dataset, we calculated prices per year for all NDCs that could *theoretically* be used for adult rheumatoid arthritis. For example, etanercept is mainly used as a 50mg/mL pen but is also

packaged as a 25mg/0.5mL syringe. We calculated prices per year for both products, as it would technically be possible for an adult to meet RA dosing requirements using the lower dose syringe. For some drugs, this results in lower doses not typically used for adult RA being more expensive when scaled to annual amounts. To account for this, we highlight the pricing data for only the most common NDCs in a standalone tab of the dataset.

Brand Name	FDA Label	Adult RA Recommended Dose and Frequency	Dosing for Calculation
Enbrel	09/2024	50 mg once weekly with or without methotrexate	50 mg once weekly
Cimzia	09/2024	400 mg initially and at Weeks 2 and 4, followed by 200 mg every other week. For maintenance dosing, 400 mg every 4 weeks can be considered.	200mg every other week
Simponi	11/2023	50 mg once a month via subcutaneous injection in combination with methotrexate	50mg once monthly
Simponi Aria	02/2021	2 mg/kg intravenous infusion over 30 minutes at weeks 0 and 4, and every 8 weeks thereafter	168mg (2mg x 84kg) every 8 weeks
Remicade	10/2021	3mg/kg given as an intravenous induction regimen at 0, 2 and 6 weeks followed by a maintenance regimen of 3 mg/kg every 8 weeks thereafter, in combination with methotrexate. For patients who have an incomplete response, consideration may be given to adjusting the dosage up to 10 mg/kg every 8 weeks or treating as often as every 4 weeks.	252mg (3mg x 84kg) every 8 weeks
Inflectra	06/2021		
Renflexis	12/2023		
Avsola	09/2021		
Humira	11/2023	40 mg administered every other week. Some patients not taking concomitant methotrexate may derive additional benefit from increasing the dosage to 40 mg every week or 80 mg every other week.	40mg every other week
Abrilada	04/2024		
Amjevita	08/2024		
Cyltezo	04/2024		
Hadlima	06/2024		
Hulio	08/2023		
Hyrimoz	04/2024		
Idacio	12/2022		
Simlandi	07/2024		
Yuflyma	01/2024		
Yusimry	09/2023		

Maintenance Dosing

For drugs with induction *and* maintenance dose regimens (e.g., Cimzia), we used the maintenance regimen to estimate prices per year.

Example: Cimzia (certolizumab pegol) is administered as a 400mg dose at Week 0 (initial dose), Week 2, and Week 4, followed by a 200mg dose every other week. To estimate annual prices, 200mg administered every other week is considered the maintenance dose and is the reference for all price-per-year estimates.

Weight-Based Dosing

Some therapeutic alternatives require weight-based dosing for adult rheumatoid arthritis, including Simponi Aria, Remicade/Infliximab, Inflectra, Renflexis, and Avsola.

For Simponi Aria, we estimated prices per year assuming a maintenance dose of 168mg, corresponding to a weight-based dose of 2mg/kg for an 84kg adult. This average weight is derived from the US male (90.6kg) and female (77.5kg) mean weight as [reported](#) by the CDC, rounded to the nearest kilogram.

For Remicade/Infliximab, Inflectra, Renflexis, and Avsola, we estimated prices per year assuming a maintenance dose of 252mg, corresponding to a weight-based dose of 3mg/kg for

an 84kg adult. This average weight is derived from the US male (90.6kg) and female (77.5kg) mean weight as [reported](#) by the CDC, rounded to the nearest kilogram.

Prices per year were rounded to the nearest whole unit for each NDC.

Example: Remicade (NDC 57894-0030-01) is priced per 100mg vial. An 84kg adult RA patient would need 252mg every 8 weeks = $252 \times 6.5 = 1638\text{mg}$ per year = 16.38 100mg vials per year. This was rounded to 17 vials per year. If the FSS price per 100mg vial of Remicade is \$880.27, then the estimated FSS price per year for adult RA = $\$880.27 \times 17 \text{ vials} = \$14,964.59$

NDCs Excluded from Price per Year Calculation

We did not calculate prices per year for NDCs under two circumstances: 1) the NDC corresponds to higher dose products that could not realistically be diluted for adult RA, or 2) the NDC corresponds to a starter package for non-RA indications. 33 active NDCs met these criteria, and the reasons for exclusion for each are listed below.

NDCs excluded from the price per year calculations are flagged as “Excluded (High Dose)” or Excluded (Starter Pack)” in the dataset. Per unit and per package price data are still provided for these NDCs.

Trade Name	NDC	Description	Reason for Exclusion
Cimzia	50474-0710-81	CIMZIA 2X200 MG/ML START KT	Non-RA Starter Pack
Simponi	57894-0071-01	SIMPONI 100 MG/ML SYRINGE	High Dose
Simponi	57894-0071-02	SIMPONI 100 MG/ML PEN INJECTOR	High Dose
Humira	00074-0124-02	HUMIRA 80MG/0.8ML INJ PEN KIT	Non-RA Starter Pack
Humira	00074-0124-03	HUMIRA 80MG/0.8ML INJ,PEN,CROHNS STARTER	Non-RA Starter Pack
Humira	00074-0124-04	HUMIRA(CF) 80MG/0.8ML INJ,PEN,CD-UC-HS STARTER PKG	Non-RA Starter Pack
Humira	00074-1539-03	HUMIRA(CF) PEN PS-UV-ADOL HS START 80 MG/0.8 ML-40 MG/0.4 ML	Non-RA Starter Pack
Humira (Cordavis) [†]	83457-0124-02	CDV HUMIRA(CF) PEN 80 MG/0.8 ML	High Dose
Amjevita [Low]	55513-0481-01	AMJEVITA 80MG/0.8ML AUTOINJECTOR	High Dose
Amjevita [Low]	55513-0481-02	AMJEVITA 80MG/0.8ML AUTOINJECTOR	High Dose
Hyrimoz [High]	61314-0454-20	HYRIMOZ(CF) 80MG/0.8ML INJ,PEN	High Dose
Hyrimoz [High]	61314-0454-36	HYRIMOZ(CF) 80MG/0.8ML INJ,PEN,CD-UC STARTER	Non-RA Starter Pack
Hyrimoz [High]	61314-0454-68	HYRIMOZ(CF) 80MG/0.8ML INJ,PEN	High Dose
Hyrimoz [High]	61314-0517-36	HYRIMOZ(CF) 80MGX1,40MGX2,INJ,PEN PSORIASIS (1 KIT)	Non-RA Starter Pack
Hyrimoz [High]	61314-0531-64	HYRIMOZ(CF) 80MGX1,40MGX1 INJ,SYR, PEDIATRIC (1 KIT)	Non-RA Starter Pack
Hyrimoz (Cordavis) [†]	83457-0107-01	CDV HYRIMOZ(CF) PEN 80 MG/0.8 ML	High Dose
Hyrimoz (Cordavis) [†]	83457-0112-01	CDV HYRIMOZ(CF) PEN PSORIASIS START 80 MG/0.8 ML-40 MG/0.4ML	Non-RA Starter Pack
Hyrimoz (Cordavis) [†]	83457-0113-01	CDV HYRIMOZ(CF) PEN CROHNS-ULCER COLITIS START 80 MG/0.8 ML	Non-RA Starter Pack
Cyltezo [High]	00597-0375-16	CYLTEZO(CF) PEN CROHN'S-UC-HS STARTER 40 MG/0.8 ML	Non-RA Starter Pack
Cyltezo [High]	00597-0375-23	CYLTEZO(CF) PEN PSORIASIS-UVEITIS STARTER 40 MG/0.8 ML	Non-RA Starter Pack
Cyltezo [High]	00597-0495-40	CYLTEZO 40MG/0.4ML INJ,PEN,PSORIASIS-UVEITIS	Non-RA Starter Pack
Cyltezo [High]	00597-0495-60	CYLTEZO(CF) 40MG/0.4ML INJ,PEN,CROHN-UC-H	Non-RA Starter Pack

Cyltezo [Low] [§]	00597-0545-44	ADALIMUMAB-ADB 40MG/0.8ML INJ,PEN,PSORIASIS	Non-RA Starter Pack
Cyltezo [Low] [§]	00597-0545-66	ADALIMUMAB-ADB 40MG/0.8ML INJ,PEN,UC-HS STAR	Non-RA Starter Pack
Cyltezo [Low] [§]	00597-0575-40	ADALIMUMAB-ADB 40MG/0.4ML INJ,PEN,PSORIASIS-UVEITIS	Non-RA Starter Pack
Cyltezo [Low] [§]	00597-0575-60	ADALIMUMAB-ADB 40MG/0.4ML INJ,PEN,CROHN-UC-H	Non-RA Starter Pack
Idacio [High]	65219-0554-28	IDACIO(CF) PEN PLAQUE PSORIASIS STARTER 40 MG/0.8 ML	Non-RA Starter Pack
Idacio [High]	65219-0554-38	IDACIO(CF) PEN CROHN'S-ULCERATIVE COLITIS START 40 MG/0.8 ML	Non-RA Starter Pack
Idacio [Low] [§]	65219-0612-69	ADALIMUMAB-AACF STARTER PLAQUE PSORIASIS	Non-RA Starter Pack
Idacio [Low] [§]	65219-0612-89	ADALIMUMAB-AACF 40MG/0.8ML STARTER PACK CROHN'S, UC, HS	Non-RA Starter Pack
Yuflyma [High]	72606-0023-04	YUFLYMA(CF) 80 MG/0.8 ML AUTOINJECTOR	High Dose
Yuflyma [High]	72606-0023-07	YUFLYMA(CF) AUTOINJECTOR CROHN'S-UC-HS STARTER 80 MG/0.8 ML	High Dose
Yuflyma [Low] [§]	72606-0040-04	ADALIMUMAB-AATY 80MG/0.8ML AUTOINJECTOR	High Dose

‡ Indicates products marketed under a private label. Labeler name is shown in parentheses.

§ Indicates products marketed without a trade name. For clarity, products are listed by the trade name of their corresponding branded biosimilar.

Most Common Dosage Form

Using 2023 national utilization data via the IQVIA National Prescription Audit, we identified the NDCs for each drug with the greatest number of prescription fills. For biosimilars for which utilization data was not available, we assumed the most common form of the reference product was the most common form of the biosimilar.

Trade Name	Active Ingredient	Most Common NDC	Most Common Dosage Form
Enbrel	Etanercept	58406-0032-04	50mg/1.0mL pen
Cimzia	Certolizumab	50474-0710-79	200mg/1.0mL syringe
Simponi	Golimumab	57894-0070-02	50mg/0.5mL pen
Simponi Aria	Golimumab	57894-0350-01	50mg/4.0mL vial
Remicade	Infliximab	57894-0030-01	100mg/10mL vial
Infliximab	Infliximab	57894-0160-01	100mg/10mL vial
Inflectra	Infliximab-dyyb	00069-0809-01	100mg/10mL vial
Renflexis	Infliximab-abda	78206-0162-01	100mg/10mL vial
Avsola	Infliximab-axxq	55513-0670-01	100mg/10mL vial
Humira	Adalimumab	00074-0554-02	40mg/0.4mL pen
Humira (Cordavis) [‡]	Adalimumab	83457-0554-02	40mg/0.4mL pen
Amjevita [High]	Adalimumab-atto	55513-0400-02	40mg/0.8mL pen
Amjevita [Low]	Adalimumab-atto	72511-0400-02	40mg/0.8mL pen
Hadlima	Adalimumab-bwwd	78206-0187-01	40mg/0.4mL pen
Yusimry	Adalimumab-aqvh	70114-0220-02	40mg/0.8mL pen
Hyrimoz [High]	Adalimumab-adaz	61314-0473-20	40mg/0.4mL pen
Hyrimoz [Low] [§]	Adalimumab-adaz	61314-0327-20	40mg/0.4mL pen
Hyrimoz (Cordavis) [‡]	Adalimumab-adaz	83457-0100-01	40mg/0.8mL pen
Abrilada [High]	Adalimumab-afzb	00069-0325-02	40mg/0.8mL pen
Abrilada [Low]	Adalimumab-afzb	00025-0325-02	40mg/0.8mL pen
Cyltezo [High]	Adalimumab-adbm	00597-0375-97	40mg/0.8mL pen
Cyltezo [Low] [§]	Adalimumab-adbm	00597-0545-22	40mg/0.8mL pen
Cyltezo (Qualient) ^{‡,§}	Adalimumab-adbm	82009-0148-22	40mg/0.8mL pen
Hulio [High]	Adalimumab-fkjp	49502-0382-02	40mg/0.8mL syringe
Hulio [Low] [§]	Adalimumab-fkjp	49502-0416-02	40mg/0.8mL syringe

Idacio [High]	Adalimumab-aacf	65219-0554-08	40mg/0.8mL pen
Idacio [Low] [§]	Adalimumab-aacf	65219-0612-99	40mg/0.8mL pen
Simlandi	Adalimumab-ryvk	51759-0402-02	40mg/0.4mL pen
Simlandi (Quallent) ^{‡,§}	Adalimumab-ryvk	82009-0158-22	40mg/0.4mL pen
Yuflyma [High]	Adalimumab-aaty	72606-0030-10	40mg/0.4mL pen
Yuflyma [Low] [§]	Adalimumab-aaty	72606-0022-10	40mg/0.4mL pen

[‡] Indicates products marketed under a private label. Labeler name is shown in parentheses.

[§] Indicates products marketed without a trade name. For clarity, products are listed by the trade name of their corresponding branded biosimilar.

Appendix 1. Indication Comparison – Enbrel and its Therapeutic Alternatives

Brand Name	FDA Label	Rheumatoid Arthritis	Ankylosing Spondylitis	Psoriatic Arthritis	Plaque Psoriasis	Juvenile Idiopathic Arthritis	Non-radiographic Axial Spondyloarthritis	Crohn's Disease	Ulcerative Colitis	Hidradenitis Suppurativa	Uveitis
Enbrel	09/2024	✓	✓	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓					
Cimzia	09/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓	✓	✓ (Adult)			
Simponi	11/2023	✓	✓	✓ (Adult)					✓ (Adult)		
Simponi Aria	02/2021	✓	✓	✓ (Adult + Pediatric)		✓					
Remicade	10/2021	✓	✓	✓ (Adult)	✓ (Adult)			✓ (Adult + Pediatric)	✓ (Adult + Pediatric)		
Inflectra	06/2021	✓	✓	✓ (Adult)	✓ (Adult)			✓ (Adult + Pediatric)	✓ (Adult + Pediatric)		
Renflexis	12/2023	✓	✓	✓ (Adult)	✓ (Adult)			✓ (Adult + Pediatric)	✓ (Adult + Pediatric)		
Avsola	09/2021	✓	✓	✓ (Adult)	✓ (Adult)			✓ (Adult + Pediatric)	✓ (Adult + Pediatric)		
Humira	11/2023	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Abrilada	04/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Amjevita	08/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Cyltezo	04/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Hadlima	06/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Hulio	08/2023	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Hyrimoz	04/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Idacio	12/2022	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)

Simlandi	07/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Yuflyma	01/2024	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)
Yusimry	09/2023	✓	✓	✓ (Adult)	✓ (Adult)	✓		✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)	✓ (Adult + Pediatric)

Appendix 2. Indication Comparison – Prices per Year by Indication

In the primary dataset, all prices per year were estimated, assuming a maintenance dose for adult rheumatoid arthritis. The table below compares maintenance dosing regimens by indication for Enbrel and its branded therapeutic alternatives. Biosimilars were assumed to share the same dosing regimens as their reference products. Indications that therapeutic alternatives do not share with Enbrel are not included. For details on weight-based dosing calculations, see the notes below.

Trade Name	FDA Label	Adult Rheumatoid Arthritis (RA) Dosing	Adult Ankylosing Spondylitis (AS) Dosing	Adult Psoriatic Arthritis (PsA) Dosing	Adult Plaque Psoriasis (PsO) Dosing	Juvenile Idiopathic Arthritis (JIA), Juvenile PsA, or Pediatric PsO Dosing
Enbrel	09/2024	50mg once weekly	50mg once weekly	50mg once weekly	50mg once weekly	23.2mg (0.8mg/kg) weekly*
Cimzia	09/2024	200mg every other week	200mg every other week	200mg every other week	400mg every other week	100mg every other week†
Simponi	11/2023	50mg once monthly	50mg once monthly	50mg once monthly	N/A	N/A
Simponi Aria	02/2021	168mg (2mg/kg) every 8 weeks§	168mg (2mg/kg) every 8 weeks§	168mg (2mg/kg) every 8 weeks§	N/A	83.2mg (80 mg/m ²) every 8 weeks§
Remicade	10/2021	252mg (3mg/kg) every 8 weeks‡	420mg (5mg/kg) every 6 weeks‡	420mg (5mg/kg) every 8 weeks‡	420mg (5mg/kg) every 8 weeks‡	N/A
Humira	11/2023	40mg every other week	40mg every other week	40mg every other week	40mg every other week	20mg every other week

*Price estimates for Enbrel's pediatric indications (JIA, juvenile PsA, and pediatric PsO) were calculated using a weight-based dose of 23.2mg, assuming a 0.8mg/kg dose for an average 9-year-old 29kg child, per. Prices were rounded to the nearest whole 25mg vial or syringe.

† Price estimates for Cimzia's pediatric indication (JIA) were calculated using a weight-based maintenance dose of 100mg for an average 9-year-old 29kg child. Prices were rounded to the nearest whole vial.

‡ Price estimates for Remicade's indications (RA, AS, PsA, PsO) were calculated using a weight-based dose of 252 or 420mg, corresponding to a 3 or 5mg/kg dose for an average 84kg adult. Prices were rounded to the nearest whole vial.

§ Price estimates for Simponi Aria's pediatric indication (JIA) were calculated using a weight-based dose of 83.2mg, corresponding to an 80mg/m² dose for an average 9-year-old 29kg child with a body surface area of 1.04 m². For adult indications (RA, AS, PsA), price estimates were calculated using a weight-based maintenance dose of 168mg, corresponding to a 2mg/kg dose for an average 84kg adult. Prices were rounded to the nearest whole vial.

|| Price estimates for Humira's pediatric indication (JIA) were calculated using a weight-based dose of 20mg, corresponding to the dose for an average 9-year-old 29kg child

Using the dosing regimens described above, prices per year by indication were estimated for typical adult and pediatric dosage forms of Enbrel and its therapeutic alternatives. The table and figure below present these estimates as a percent of the estimated price per year for adult RA.

Dosing across adult indications is largely consistent for Enbrel and its therapeutic alternatives, except Remicade (and infliximab biosimilars), which has higher price per year estimates for its non-RA indications. Pediatric indications for these products are shown to have lower prices per year, which reflects the lower doses necessary for these indications.

Trade Name	NDC	Adult RA	Adult AS	Adult PsA	Adult PsO	JIA, Juvenile PsA, Pediatric PsO
Enbrel 25mg/0.5mL syringe	58406-0010-04	100%	100%	100%	100%	50%
Enbrel 50mg/1.0mL pen	58406-0044-04	100%	100%	100%	100%	N/A
Cimzia 200mg vial	50474-0700-62	100%	100%	100%	200%	50%
Cimzia 200mg/1.0mL syringe	50474-0710-79	100%	100%	100%	200%	
Simponi 50mg/0.5mL pen	57894-0070-02	100%	100%	100%		
Simponi Aria 50mg/4.0mL vial	57894-0350-01	100%	100%	100%		50%
Remicade 100mg/10mL vial	57894-0030-01	100%	218%	165%	165%	
Humira 20mg/0.2mL syringe	00074-0616-02	100%	100%	100%	100%	50%
Humira 10mg/0.1mL syringe	00074-0817-02	100%	100%	100%	100%	50%
Humira 40mg/0.4mL pen	00074-0554-02	100%	100%	100%	100%	