MILLIMAN REPORT

Variations in outpatient hospital reimbursement for autoimmune drugs

An analysis of hospital price transparency data

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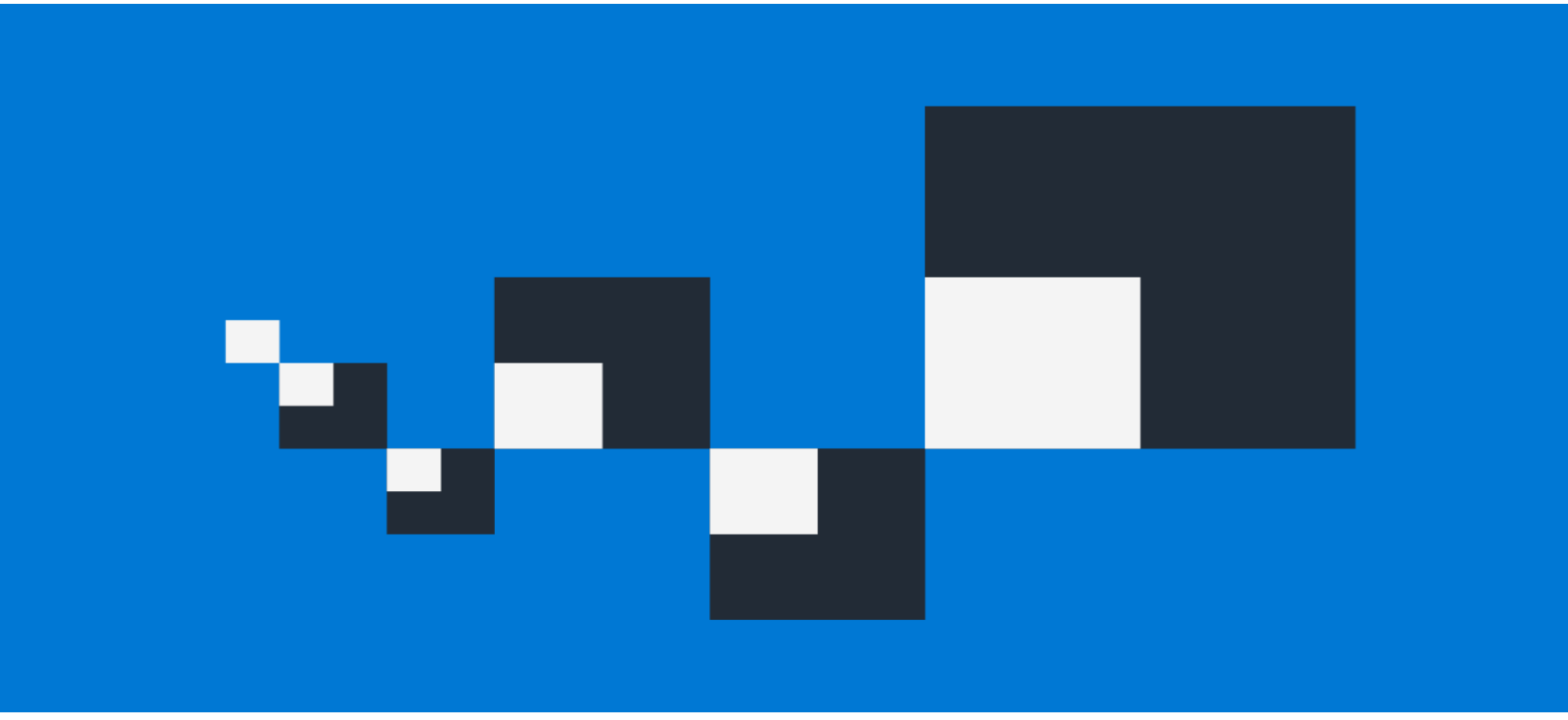
Commissioned by the International Foundation for Autoimmune & Autoinflammatory Arthritis (AiArthritis)



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Executive summary

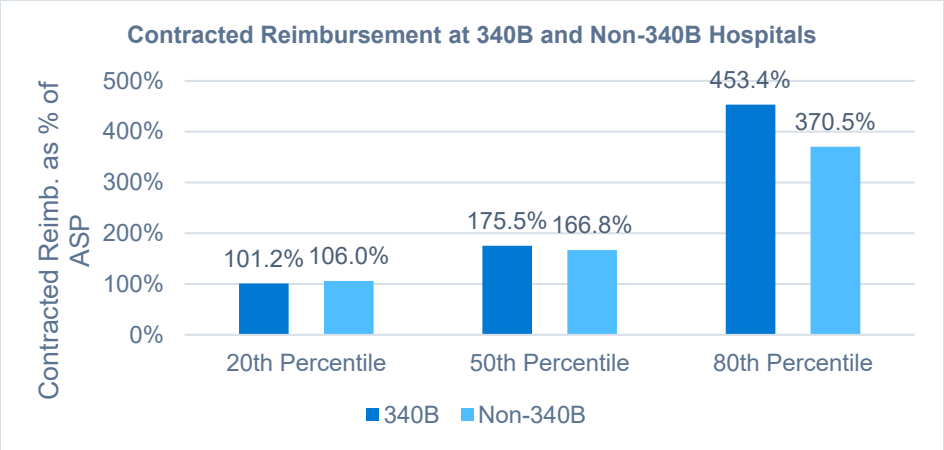
The International Foundation for Autoimmune & Autoinflammatory Arthritis (AiArthritis) commissioned Milliman to analyze contracted reimbursement rates of physician-administered autoimmune drugs at 340B and non-340B hospitals. It is estimated that 8% of people in the United States have an autoimmune disease.[1] Biologic drugs and their biosimilars[2] are mainstays of treatment for these conditions, and while many biologic drugs are self-administered by patients at home, some require administration by a healthcare professional. The drugs included in our analysis that may be administered by a healthcare professional are listed in Appendix A. These drugs may be given in either the hospital outpatient setting, a physician office, or via home infusion.

The 340B Drug Pricing Program allows eligible hospitals and clinics that serve a high proportion of low-income or uninsured patients to purchase outpatient drugs at significantly discounted prices. The program aims to support safety-net providers in expanding access to care. Additional detail on the 340B program is provided in the background section of this report. To better understand the differences in contracted reimbursement rates and margins between hospitals for provider-administered autoimmune biologic drugs (autoimmune drugs), we performed an analysis of hospital price transparency (HPT) data, which reflects the contracted rates that hospitals have negotiated with payers. The analysis included 10 autoimmune drugs and their biosimilars across 25 hospitals in the United States (13 340B hospitals and 12 non-340B hospitals), and is inclusive of commercial, Medicare, and Managed Medicaid contracts.

Key findings

- Median (50th percentile) contracted reimbursement levels for autoimmune drugs at 340B hospitals are about 8 percentage points higher than at non-340B hospitals. As seen in Figure 1, 340B hospitals generally had higher contracted reimbursement compared to non-340B hospitals. This observation held true when comparing non-pediatric 340B with non-pediatric non-340B hospitals and pediatric 340B with pediatric non-340B hospitals.

FIGURE 1. CONTRACTED REIMBURSEMENT AT 340B AND NON-340B HOSPITALS



Note: ASP = average sales price

- Higher margins at 340B hospitals: As noted above, 340B hospitals often had greater contracted reimbursement rates, yet they have substantially lower drug acquisition costs. As a result, 340B hospitals generally realize higher margins for autoimmune drugs compared to non-340B hospitals.

[1] National Institute of Allergy and Infectious Diseases. (n.d.). Autoimmune diseases. Retrieved December 4, 2025, from https://www.niaid.nih.gov/diseases-conditions/autoimmune-diseases.
[2] Biosimilars are biologic drugs that are highly similar to an already approved "reference" biologic drug and have no clinically meaningful differences in safety or efficacy. They are developed to provide lower-cost alternatives to branded biologics once market exclusivity for the original product expires.

Our findings indicate that there are differences in drug reimbursement margins for autoimmune drugs between 340B and non-340B hospitals based on contracted rates. The higher contracted reimbursement observed at 340B hospitals may have implications for autoimmune patient access and affordability. Further research is needed to determine if increased reimbursement levels result in higher out-of-pocket costs for patients requiring ongoing biologic therapy, and whether differences in out-of-pocket costs result in delays in treatments, adherence challenges, or increased financial burden for these patients. Further research and greater transparency could also help clarify how these reimbursement differences affect patients with autoimmune diseases and whether they align with the intended goals of the 340B program to support safety-net providers in expanding access to care.[3]

[3] Health Resources and Services Administration. (n.d.). 340B Drug Pricing Program. Retrieved December 4, 2025, from https://www.hrsa.gov/opa.

Background

The cost of outpatient drugs in the United States has become a significant focus for healthcare stakeholders, including patients, providers, payers, and policymakers. Among the many factors influencing these costs, the site of care and the reimbursement structure at outpatient facilities play crucial roles. A recent federal mandate[4] requiring hospitals to publicly disclose pricing data has created new opportunities to examine how provider reimbursement for outpatient drugs varies by drug and by hospital. Understanding these variations may be of interest for stakeholders seeking to improve access and affordability for patients with autoimmune conditions.

A key factor contributing to variations in drug acquisition costs and reimbursement is the federal 340B Drug Pricing Program. Established in 1992, the 340B program enables eligible hospitals and other healthcare providers—referred to as "covered entities"—to purchase outpatient drugs at significantly reduced prices.[5] The intent of the program is to allow these hospitals and other providers to utilize federal resources to reach more eligible patients and provide more comprehensive services.[6] The 340B program has experienced notable growth since its inception. In 2010 $6.6 billion was spent on drugs purchased through the 340B program, and as of 2021 this number had reached $43.9 billion.[7] The program creates a differential between the price a hospital pays to acquire a drug and the amount it is reimbursed by payers, which can result in substantial markups for certain drugs at 340B-eligible facilities.

This spread between acquisition cost and reimbursement is particularly relevant for high-cost therapies, which can represent a financial burden for patients and payers. The 340B program's impact on pricing dynamics and reimbursement patterns has been the subject of ongoing policy debate, with questions about whether savings are passed on to patients, how markups influence overall drug costs, and the implications for healthcare system equity.[8] One often-noted criticism of the 340B program has been a lack of transparency and oversight, which can make the impact of the program difficult to discern.[9]

There are roughly 100 autoimmune and autoinflammatory diseases, and it is estimated that one in 10 individuals is affected by at least one of these conditions.[10] While the pharmacologic treatments used to manage these diseases vary widely, biologics have become a mainstay of treatment in recent years. These biologics offer various mechanisms of action, dosing regimens, and routes of administration, allowing patients and providers to determine the treatment that works best for them. While most of these treatments are available for self-administration, a few require provider administration for initiation (prior to transition to self-administration), and a few others require ongoing administration by a healthcare professional, meaning patients must go to the hospital or provider's office to receive their dose. An analysis of claims data from 2018 to 2022 found that in 2022, among employer-sponsored insurance claims for autoimmune drugs administered by a healthcare professional, roughly 29% occurred in 340B hospital outpatient departments, 31% in non-340B hospital outpatient settings, and 40% in physician offices.[11] Medicare claims data showed a similar site-of-care distribution in this analysis.

The cost of these physician-administered drugs may be impacted by the differential between what a hospital pays for a drug and what they are reimbursed by payers. This cost differential could have downstream effects on the affordability and accessibility of treatment for patients with these conditions. High out-of-pocket costs can lead to treatment delays, nonadherence, or financial hardship, especially for patients requiring lifelong or frequent biologic drug treatment.[12]

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[4] Hospital price transparency, 45 C.F.R. § 180.50, Requirements for making public hospital standard charges for all items and services. (October 1, 2024). Retrieved December 4, 2025, from https://www.govinfo.gov/content/pkg/CFR-2024-title45-vol2/pdf/CFR-2024-title45-vol2-sec180-50.pdf.

[5] Rogers, H.-A. (October 14, 2022). Overview of the 340B Drug Discount Program. Congress.gov. Retrieved December 4, 2025, from https://www.congress.gov/crs-product/IF12232.

[6] Health Resources and Services Administration. (n.d.). 340B Drug Pricing Program. Retrieved December 4, 2025, from https://www.hrsa.gov/opa.

[7] Congressional Budget Office. (September 2025). *Growth in the 340B Drug Pricing Program*. Retrieved December 4, 2025, from https://www.cbo.gov/system/files/2025-09/60661-340B-program.pdf.

[8] Clark, B., & Puthiyath, M. S. (September 8, 2022). The Federal 340B Drug Pricing Program: What it is, and why it's facing legal challenges. Commonwealth Fund. Retrieved December 4, 2025, from https://www.commonwealthfund.org/publications/explainer/2022/sep/federal-340b-drug-pricing-program-what-it-is-why-its-facing-legal-challenges

[9] U.S. Senate Committee on Health, Education, Labor, and Pensions. (April 2025). *Congress must act to bring needed reforms to the 340B Drug Pricing Program* [Majority staff report]. Retrieved December 4, 2025, from https://www.help.senate.gov/imo/media/doc/final_340b_majority_staff_reportpdf1.pdf.

[10] AiArthritis. (n.d.). Autoimmune and autoinflammatory diseases with inflammatory arthritis (AiArthritis diseases). Retrieved December 4, 2025, from https://www.aiarthritis.org/whatisaiarthritis.

[11] Chang, J., & Natwick, T. (October 23, 2025). Drug administration shifted toward outpatient departments, especially to 340B hospitals. Health Care Cost Institute. Retrieved December 4, 2025, from https://healthcostinstitute.org/hcci-originals-dropdown/all-hcci-reports/drug-administration-shifted-toward-outpatient-departments-especially-to-340b-hospitals.

[12] Fusco, N., Sils, B., Graff, J. S., Kistler, K., & Ruiz, K. (2023). Cost-sharing and adherence, clinical outcomes, health care utilization, and costs: A systematic literature review. *Journal of Managed Care & Specialty Pharmacy*, *29*(1), 4–16. Retrieved December 4, 2025, from https://www.jmcp.org/doi/10.18553/jmcp.2022.21270.

AiArthritis commissioned Milliman to examine the variation in contracted reimbursement rates for select autoimmune drugs using publicly available HPT data. By focusing on a selection of outpatient autoimmune drugs and comparing contracted reimbursement to acquisition costs at selected 340B and non-340B hospitals, this analysis aims to clarify the extent of variation in outpatient drug contracted reimbursement and identify potential opportunities for improving transparency and value in autoimmune care. This report summarizes our methodology and findings regarding outpatient hospital pharmacy contracted reimbursement rates for 10 drugs and their associated biosimilars within the autoimmune drug class across a sample of 25 hospitals. Hospitals were drawn primarily from the *U.S. News & World Report* rankings in rheumatology and gastroenterology.[13] Our selection process prioritized geographic diversity, inclusion of both adult and pediatric specialty hospitals, and balance between 340B and non-340B participation. The resulting sample provides a diverse and nationally representative set of hospitals for comparison.

[13] U.S. News & World Report. (n.d.). U.S. News Best Hospitals 2025-2026. Retrieved December 4, 2025, from https://health.usnews.com/best-hospitals.

Results

This analysis focused on contracted reimbursement and acquisition costs for 10 physician-administered drugs and their associated biosimilars utilized for various autoimmune conditions (see Appendix A for the list of drugs). We pulled HPT data for these autoimmune drugs at 25 selected hospitals across the United States, including a selection of 340B and non-340B hospitals, as well as some pediatric hospitals (see Appendix B). The analysis includes contracted rates for commercial, Medicare, and Managed Medicaid plans. The methodology for selecting drugs and hospitals to include is described in the Methodology section of this report.

We analyzed contracted reimbursement rates at each hospital, at the regional level, and in aggregate for 340B versus non-340B hospitals. We calculated contracted reimbursement rates relative to average sales price (ASP) per unit to allow for comparisons across drugs and hospitals, and summarized the 20th, 50th, and 80th percentile of contracted reimbursement. In aggregate, the 50th percentile of contracted 340B hospital reimbursement for these autoimmune drugs was about eight percentage points higher than the 50th percentile of contracted reimbursement at non-340B hospitals. 340B hospitals had a larger range of reimbursement rates (comparing 80th percentile to 20th percentile) than non-340B hospitals, with the 80th percentile consistently above the 80th percentile at non-340B hospitals. Figure 2 shows the aggregate 20th, 50th, and 80th percentile of contracted reimbursement for 340B and non-340B hospitals, including a breakdown of results for pediatric and non-pediatric hospitals and a breakdown of results at the regional level.

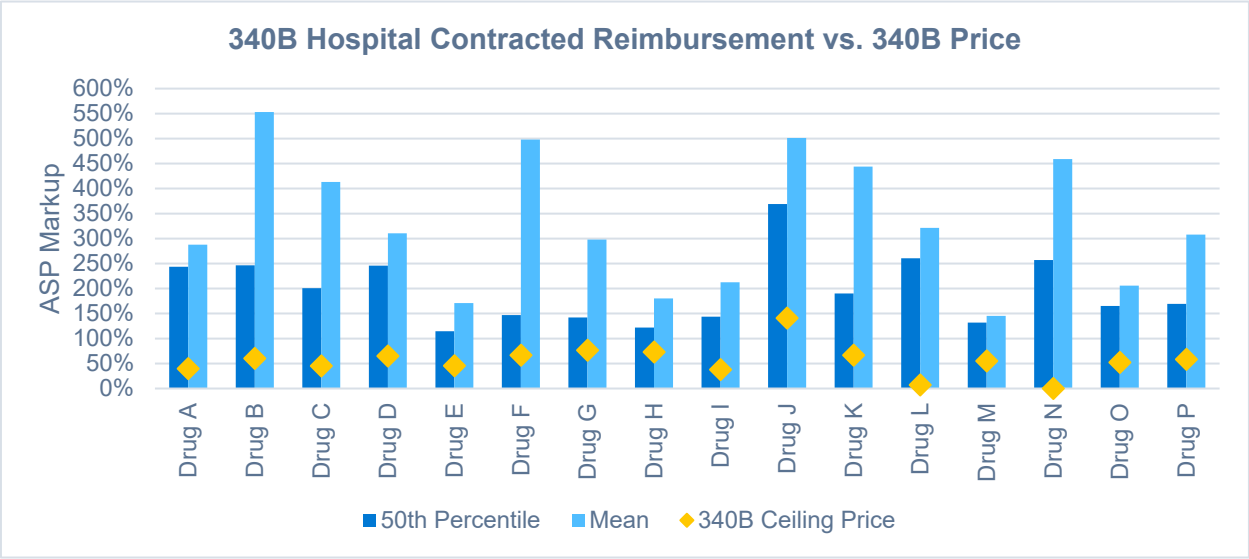
FIGURE 2. CONTRACTED REIMBURSEMENT RATES AS PERCENT OF ASP—AGGREGATE AUTOIMMUNE DRUGS

	CONTRACTED REIMBURSEMENT AS % OF ASP		
	20TH PERCENTILE	50TH PERCENTILE	80TH PERCENTILE
All 340B Hospitals	**101%**	**175%**	**453%**
340B Pediatric Hospitals	93%	174%	535%
340B Non-Pediatric Hospitals	106%	178%	407%
All Non-340B Hospitals	**106%**	**167%**	**371%**
Non-340B Pediatric Hospitals	84%	124%	421%
Non-340B Non-Pediatric Hospitals	108%	174%	371%

	CONTRACTED REIMBURSEMENT AS % OF ASP		
	20TH PERCENTILE	50TH PERCENTILE	80TH PERCENTILE
All 340B Hospitals	**101%**	**175%**	**453%**
Northeast	101%	154%	333%
Midwest	107%	183%	391%
South	187%	360%	714%
West	92%	172%	453%
All Non-340B Hospitals	**106%**	**167%**	**371%**
Northeast	87%	142%	340%
Midwest	107%	173%	371%
South	109%	175%	345%
West	106%	205%	456%

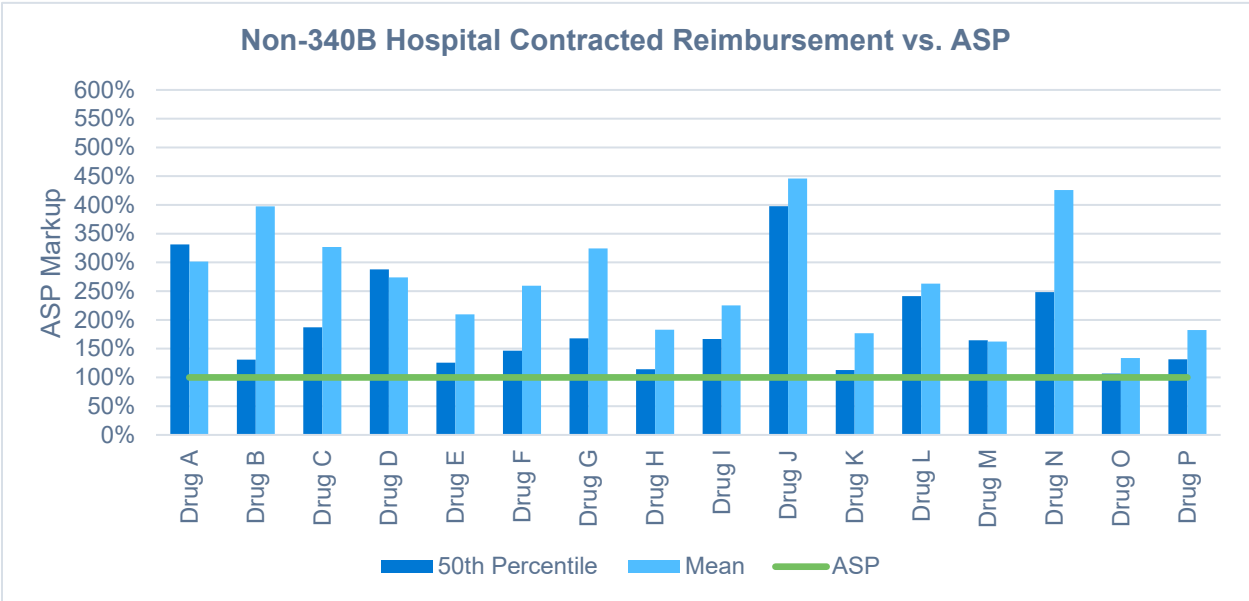
At the autoimmune drug level, the 50th percentile of contracted reimbursement was relatively similar for 340B hospitals and non-340B hospitals. Some drugs had higher reimbursement at 340B hospitals while other drugs had lower reimbursement at 340B hospitals. When comparing contracted reimbursement rates to estimated acquisition costs at 340B and non-340B hospitals, the margin between contracted reimbursement and acquisition costs was consistently higher for 340B hospitals. Figures 3 and 4 compare contracted reimbursement costs to estimated acquisition costs at 340B and non-340B hospitals, respectively.

FIGURE 3. 340B HOSPITAL CONTRACTED REIMBURSEMENT AND ESTIMATED ACQUISITION COST (340B PRICE)



Note: Drugs C, F, and H are biosimilars of Drug I and drugs O and P are biosimilars of Drugs B.

FIGURE 4. NON-340B HOSPITAL CONTRACTED REIMBURSEMENT AND ESTIMATED ACQUISITION COSTS (ASP)



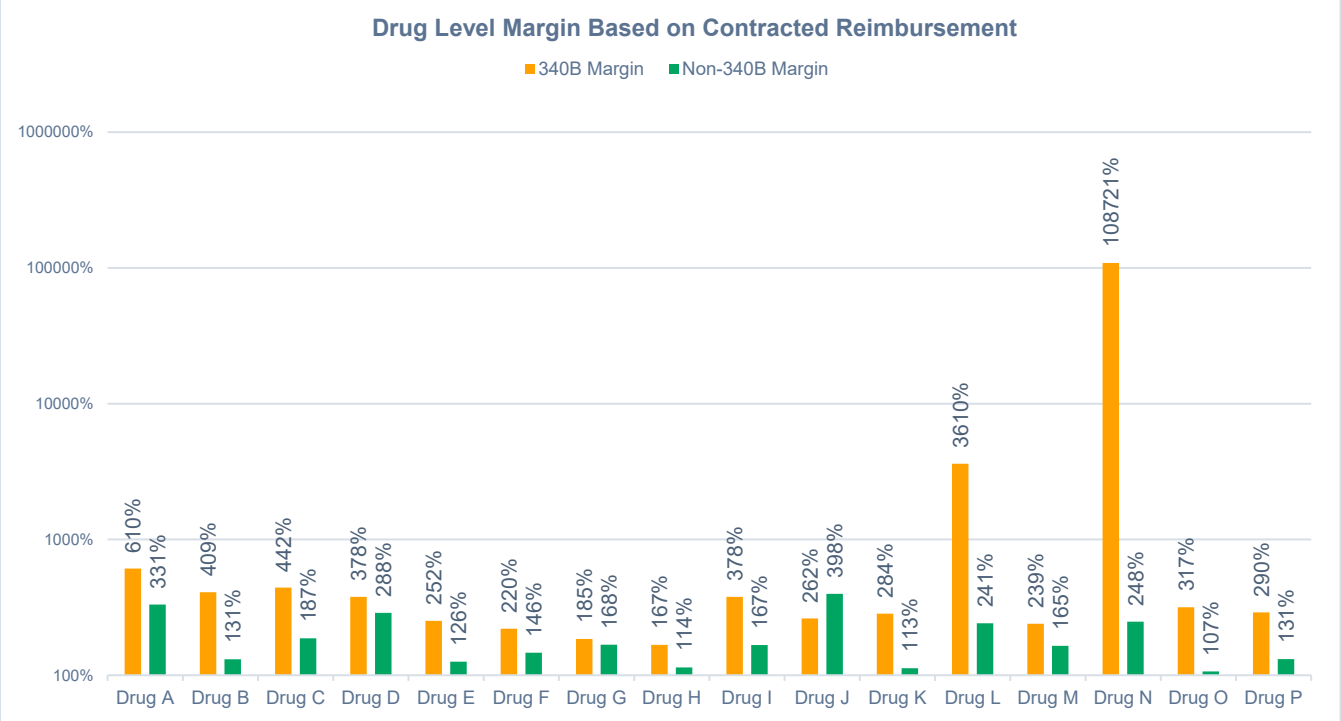
Note: Drugs C, F, and H are biosimilars of Drug I and drugs O and P are biosimilars of Drugs B.

As seen in Figure 3, 50th percentile and mean contracted reimbursement rates were well above estimated acquisition costs (based on estimated 340B ceiling price) for the autoimmune drugs included in our analysis. By comparison, Figure 4 shows that 50th percentile non-340B contracted reimbursement is only slightly higher than ASP for about half of the autoimmune drugs analyzed (autoimmune drugs have been de-identified). ASP is used as a proxy for acquisition costs, as it represents a manufacturer's average sales price to all U.S. purchasers, net of rebates, prompt pay discounts, and other concessions. Actual acquisition costs at non-340B hospitals may differ from ASP if some of the concessions included in ASP are paid to stakeholders other than hospitals.

Figure 5 summarizes the aggregate margins between contracted reimbursement and estimated acquisition costs at the drug level for 340B and non-340B hospitals. Margins were calculated as the ratio of the 50th percentile contracted reimbursement to estimated acquisition costs (ceiling price for 340B hospitals and ASP for non-340B hospitals). These margins represent the difference between purchase and sale prices; they are not intended to provide an estimate of true profit margins for hospitals, as there may be other factors that play into final profit margins. This analysis also does not consider the impact of utilization mix under the different contracted rates at each hospital. The mix of utilization among contracted rates could make the realized margin for a specific drug higher or lower at both 340B and non-340B hospitals.

For reference, we also include the 2024 distribution of allowed amounts among the autoimmune drugs included in our analysis at the hospital outpatient level in the commercial, Medicare Advantage, and Managed Medicaid lines of business from Milliman's proprietary Consolidated Health Cost Guidelines Sources Database Plus (CHSD+) claims database. The percentage of total allowed costs for each drug are intended to contextualize the relative financial impact of individual therapies within the overall analysis and are used to sort the results in Figure 5, with Drug A representing the largest portion of allowed.

FIGURE 5. AGGREGATE CONTRACTED REIMBURSEMENT TO ESTIMATED ACQUISITION COST MARGINS AT THE DRUG LEVEL



Drug	A	B	C[2]	D	E	F[2]	G	H[2]	I	J	K	L	M	N[3]	O[2]	P[2]
% of Total Allowed of Included Drugs[1]	35.5%	19.2%	13.0%	8.4%	4.0%	3.6%	3.5%	3.2%	3.0%	2.0%	1.9%	1.2%	1.0%	0.5%	0%	0%

[1] Allowed costs derived from 2024 commercial, Medicare, and Medicaid hospital outpatient claims in Milliman's proprietary CHSD+ claims database.
[2] Drugs C, F, and H are biosimilars of Drug I and drugs O and P are biosimilars of Drugs B.
[3] We estimate this drug to be "penny-priced"—340B ceiling levels are floored at $0.01.

De-identified hospital-level results are provided in Appendix C. We note that contracted reimbursement within each hospital was highly variable for each autoimmune drug due to differences in contracted reimbursement between different payers and networks. For example, reimbursement of infliximab can vary dramatically—for one hospital, from as low as 77% to as high as 1,750%—depending on the payer network and its associated reimbursement schedule. We did not observe any notable patterns between pediatric and non-pediatric hospitals in aggregate or at the autoimmune drug level. We also did not observe any notable patterns when comparing autoimmune drugs that do not have a pediatric indication (e.g., risankizumab) to the drugs that do have a pediatric indication.

Discussion

Our analysis of contracted reimbursement rates of autoimmune drugs at selected 340B and non-340B hospitals across the United States revealed that in aggregate, the 340B hospitals in our analysis were contracted to receive higher reimbursement than non-340B hospitals. More notably, comparing contracted reimbursement to estimated acquisition costs at 340B versus non-340B hospitals, we observed higher margins at 340B hospitals for all but one of the autoimmune drugs analyzed.

These results are expected and in line with other analyses. A recent analysis of outpatient drug spend at 340B and non-340B hospitals found that 340B disproportionate share hospitals[14] have higher outpatient drug spend than non-340B hospitals.[15] This analysis also found that 340B hospitals consistently have a higher average drug cost per outpatient pharmacy claim due to the use of higher-cost drugs. Another recent study had similar findings.[16]

These findings are particularly relevant for the autoimmune community as they touch on both the economics of drug access and potential impacts on patient care. The 340B Drug Pricing Program is designed to help eligible hospitals and clinics better utilize limited federal resources, enabling them to provide more comprehensive services to vulnerable populations, which can include those living with autoimmune diseases.[17] The higher margins between contracted reimbursement and estimated acquisition costs observed at 340B hospitals are the result of these hospitals' ability to acquire drugs at lower cost while receiving similar reimbursement from payers as non-340B hospitals. This financial advantage may translate into enhanced capacity to offer supportive programs, patient assistance, and expanded access to treatment.

Furthermore, it is important to recognize that while some 340B hospitals may use these margins to fund patient support services or community programs, many autoimmune patients are covered by traditional group insurance (e.g., Medicare Advantage, employer-sponsored plans, exchange plans) and are subject to high deductibles and copays/coinsurance amounts. For these patients, higher reimbursement levels can directly translate to greater out-of-pocket cost, especially if these costs are calculated as coinsurance amounts. Our study did not assess the impact of increased reimbursement on out-of-pocket costs, and further research is needed in this area.

From the perspective of patients and advocates, it is helpful to understand whether hospitals leverage the 340B program financial benefits to directly improve patient access and outcomes, such as reducing barriers to care, expanding access to specialty medications, and/or providing ancillary services like infusion support and financial counseling. A recent investigation of the 340B program found that the two 340B hospitals surveyed for that report do not pass 340B discounts directly to their patients for outpatient pharmacy expenses, which is permitted under current 340B rules, though both noted the availability of financial assistance policies and investment in community programs.[18] Prior studies show conflicting findings regarding the amount of charity care provided by 340B hospitals, with some reporting increases in charity care spending and others showing no evidence of increased charity care upon joining the 340B program.[19] While spend on charity care at each hospital in our analysis was not readily available, prior reports, such as the one cited in the preceding sentence, demonstrate inconsistencies across studies evaluating how 340B funds are used. As transparency has been noted as a concern of the 340B program, ensuring that the intent of the 340B program is being fulfilled by participating hospitals remains a priority.[20]

KEY TAKEAWAYS

- **Access and equity:** If 340B hospitals are able to use their higher contracted reimbursement margins to provide more affordable or comprehensive care, this could improve access for underserved populations.

[14] Disproportionate share hospitals are one of the types of hospitals that qualify for participation in the 340B program.
[15] Holcomb, K., Klaisner, J., Nelson, P. & Ulin, I. (July 30, 2025). Analysis of commercial and Medicare outpatient drug spend at 340B participating hospitals. Milliman. Retrieved December 4, 2025, from https://www.milliman.com/en/insight/analysis-commercial-medicare-outpatient-drug-spend-340b-hospitals.
[16] Robinson, J. C., Whaley, C., & Dhruva, S. S. (2024). Hospital Prices for Physician-Administered Drugs for Patients with Private Insurance. *New England Journal of Medicine*, *390*(4), 338–345. Retrieved December 4, 2025, from https://www.nejm.org/doi/full/10.1056/NEJMsa2306609.
[17] Health Resources and Services Administration. (n.d.). 340B Drug Pricing Program. Retrieved December 4, 2025, from https://www.hrsa.gov/opa.
[18] U.S. Senate Committee on Health, Education, Labor, and Pensions. (April 2025). *Congress must act to bring needed reforms to the 340B Drug Pricing Program* [Majority staff report]. Retrieved December 4, 2025, from https://www.help.senate.gov/imo/media/doc/final_340b_majority_staff_reportpdf1.pdf.
[19] Knox, R. P., Wang, J., Feldman, W. B., Kesselheim, A. S., & Sarpatwari, A. (2023). Outcomes of the 340B Drug Pricing Program: A Scoping Review. *JAMA Health Forum*, *4*(11), e233716. Retrieved December 4, 2025, from https://pmc.ncbi.nlm.nih.gov/articles/PMC10665972/.
[20] U.S. Senate Committee on Health, Education, Labor, and Pensions. (April 2025). *Congress must act to bring needed reforms to the 340B Drug Pricing Program* [Majority staff report]. Retrieved December 4, 2025, from https://www.help.senate.gov/imo/media/doc/final_340b_majority_staff_reportpdf1.pdf.

- **Transparency:** Greater transparency regarding how higher contracted reimbursement margins at 340B hospitals are used could provide clearer insight into the extent to which 340B program financial benefits support patient access and care delivery.

Further research may be useful to assess whether patients who receive autoimmune drugs at 340B hospitals experience differences in access, affordability, or outcomes compared to those at non-340B hospitals.

CONCLUSION

The higher contracted reimbursement margins observed at 340B hospitals may have implications for autoimmune patient access, affordability, and provider operations. Further research, transparency, and stakeholder engagement could help clarify how these 340B program financial dynamics influence care delivery and whether they align with the 340B program's intent to expand access and improve outcomes.

Methodology

DRUG SELECTION

To ensure relevance and rigor in the analysis of outpatient hospital reimbursement patterns, the following multistep process was used to select the drugs included in this study:

1. **Identification of provider-administered autoimmune drugs:** The initial step involved compiling a comprehensive list of provider-administered drugs used in the treatment of autoimmune conditions. For the purposes of this analysis, the definition of "autoimmune conditions" was established by AiArthritis, based on clinical expertise and organizational priorities. This resulted in an initial list of 13 drugs commonly administered by healthcare professionals for the treatment of autoimmune diseases (e.g., rheumatoid arthritis, psoriatic arthritis, Crohn's disease, ulcerative colitis, systemic lupus erythematosus, etc.). In addition, any biosimilars corresponding to these drugs were identified and included to ensure a complete representation of available therapeutic options.
2. **Prioritization and final selection:** The preliminary list of 13 drugs (plus associated biosimilars) was presented to AiArthritis for review and prioritization. AiArthritis applied several key criteria in selecting the final set of drugs for analysis.
    a. Length of time on market: Preference was given to drugs with a longer history of use to facilitate robust data collection and interpretation.
    b. Anticipated utilization: Drugs expected to have higher utilization rates for a given autoimmune condition were prioritized to ensure findings would be broadly applicable.
    c. Conditions treated: Consideration was given to the range and prevalence of autoimmune conditions treated by each drug to capture a representative cross section of drugs.

    Based on these criteria, AiArthritis identified 10 priority drugs (plus their biosimilars, where relevant) for inclusion in the analysis (see Appendix A for a list of these drugs). The three drugs from the preliminary list that were excluded from the analysis were anifrolumab-fnia, mirikizumab-mrkz, and tildrakizumab-asmn. Anifrolumab-fnia, which has overlapping indications with belimumab, was excluded because belimumab has been available longer. Mirikizumab-mrkz was excluded for a similar reason in preference of vedolizumab, which has been available longer. Tildrakizumab-asmn was excluded because it only treats plaque psoriasis, which was not an indication covered by AiArthritis.
3. **Coding and data preparation:** For each selected drug, the corresponding Healthcare Common Procedure Coding System (HCPCS) codes were identified. These codes were then used to extract relevant pricing and reimbursement data from HPT files.

HOSPITAL SELECTION

A systematic, multistep approach was used to select hospitals for inclusion in this analysis, with careful attention to geographic distribution, 340B program participation, pediatric representation, and data availability.

1. **Initial hospital selection:** We began by compiling a list of hospitals from the *U.S. News & World Report*'s rankings in the following specialties:
    - Top adult rheumatology hospitals
    - Top adult gastroenterology hospitals
    - Top pediatric gastroenterology hospitals *(Note: Pediatric rheumatology rankings were not available.)*

    Duplicates were removed to ensure each hospital appeared only once on the list.
2. **Regional mapping:** Each hospital was assigned to a geographic region based on the U.S. Census Bureau's regional definitions. This ensured broad national representation and facilitated regional comparisons.
3. **Mapping 340B status:** Data on 340B covered entity status was exported from the Health Resources and Services Administration (HRSA) covered entity database. Each hospital in the list was mapped to this data to identify its 340B participation status.

4. **Regional and 340B representation:** Within each region, we aimed to select the top six to seven hospitals, including at least one pediatric hospital per region. Our goal was for approximately half the hospitals in each region to be 340B covered entities to facilitate comparisons between 340B and non-340B hospitals. To ensure diversity of states within each region, if a hospital from a state was already selected, we moved to the next ranked hospital from a different state within that region whenever possible.
5. **Hospital exclusion criteria:** We excluded hospitals from the sample if they met either of the following criteria:
    - Located in Maryland (due to the state's all-payer hospital payment system, which differs from the system in other states).
    - Designated as cancer centers (to focus the analysis on general and specialty hospitals treating autoimmune conditions).
6. **Transparency data availability and substitutions:** We attempted to extract drug pricing transparency data for each hospital on the initial list. Five hospitals did not have available data for the selected drugs, including two pediatric non-340B hospitals. To maintain pediatric representation, we referenced the broader *U.S. News & World Report* pediatric hospital rankings to identify replacement pediatric hospitals.

    Additionally, one of these hospitals was replaced with the next-highest-ranked non-340B hospital in its region to maintain the planned balance between 340B and non-340B facilities.
7. **Final sample:** The final analytic sample consists of 25 hospitals distributed across U.S. Census regions, with a balance of 340B and non-340B hospitals and representation from both adult and pediatric specialty centers, subject to data availability.

DATA SOURCES

We used HPT data, which is a compilation of machine-readable pricing files posted annually (at minimum) by hospitals throughout the nation, as mandated by the Centers for Medicare and Medicaid Services. The data used contains negotiated reimbursement amounts and gross charges for listed service codes within each reported contract, as well as additional information posted by the hospital regarding a particular arrangement. Information for commercial, Medicare Advantage, and Managed Medicaid plans is included. Turquoise Health compiles and standardizes the hospital file submissions monthly, after which Milliman applies data quality indicators and analyzes the data to ensure reasonable quality results on a quarterly basis. Milliman did not independently audit the original hospital submissions and relied on their accuracy and completeness. We consider the adjusted dataset appropriate for this study, though errors in a file submission could impact results.

We used Milliman's proprietary CHSD+ data to estimate the average units per claims for selected drugs in the commercial, Medicare Advantage, and Managed Medicaid market. CHSD+ contains about 60 million lives from the commercial line of business and is a consolidation of member experience data contributed by numerous health plans throughout the nation. In addition to the demographic and claims data contributed by these health plans, Milliman applies data quality indicators and analyzes the data to ensure reasonable quality results.

We used RJ Health data to obtain ASP pricing and HCPCS to National Drug Code (NDC) mapping. RJ Health is a comprehensive drug pricing data source that provides automated and integrated access to ASP, average wholesale price (AWP), and wholesale acquisition cost (WAC) drug pricing information. The database is updated monthly to ensure the most current rates and supports both NDC- and HCPCS-level pricing.

METRICS AND CALCULATIONS

We started with hospital transparency data for the included hospitals and drugs, for all lines of business (commercial, Medicare Advantage, and Managed Medicaid) accessed on July 28, 2025. Individual hospital file submissions were ingested by Turquoise Health on various dates throughout the 12 months prior to the analysis.

We took the following steps to standardize reimbursement values and remove outliers:

- Excluded any lines of data that reported case-based reimbursement methodologies (e.g., diagnosis-related groups [DRG], ambulatory payment classification [APC]), as they do not split out individual drug reimbursement (54% of contracts).
- For each autoimmune drug, we standardized the reported contracted reimbursement rates by assessing the reported units and negotiated prices. Due to inconsistencies in how negotiated prices are reported in the transparency data, we developed three methodologies for determining allowed costs per unit.

1. Methodology 1 represents the allowed amount from the transparency data divided by the units provided in the transparency data to calculated allowed cost per unit (5% of contracts).
2. Methodology 2 represents the allowed amount from the transparency data and disregards the units reported in the transparency data. This methodology assumes that the reported allowed amount represents a cost per unit (11% of contracts).
3. Methodology 3 represents the allowed amount from the transparency data divided by an "average units per claim" value derived from actual claims data for each HCPCS using CHSD+ medical claims data in 2024 (30% of contracts).

- Once we determined an allowed amount per unit using the three methodologies described above for each line of data (i.e., each contracting arrangement), we calculated the estimated ASP markup based on each methodology. For each claim, we applied the following hierarchy to determine the appropriate estimated ASP markup:

  1. If the ASP markup derived from the transparency data (methodologies 1 and 2) falls outside the reasonable range (less than 0.5 or greater than 20), but the estimated ASP markup based on CHSD+ average units per claim (methodology 3) is within 0.8 to 10, we use the CHSD+-based markup.
  2. If the ASP markup from the transparency data is within 0.5 to 20, we retain the transparency data–based markup. We used the same thresholds to select from methodology 1 and methodology 2. If both methodologies fell within these thresholds, we defaulted to methodology 1.
  3. In all other cases, we default to the CHSD+-based markup.

  This approach prioritizes the use of actual data where possible, while leveraging CHSD+ benchmarks to remove outliers and ensure reasonability. While we do not generally expect reimbursement to extend outside 0.5 and outside 20, these thresholds are intended to remove extreme outliers that may represent issues with the reported data, rather than true reimbursement values.

Acquisition costs were estimated for 340B and non-340B hospitals as follows:

- 340B hospitals: For each HCPCS, we calculated the 340B ceiling price as follows:
  - We relied on Medi-Span for longitudinal WAC data.
  - We calculated the unit average manufacturer price (AMP) by applying a 2% reduction to the current WAC unit cost. For infliximab biosimilar products, which are known to have AMPs further below WAC, the unit AMP was adjusted to be the average of the WAC and ASP unit prices, converted to Medi-Span units.
  - To estimate the best price, we relied on the SSR Health third quarter 2024 commercial rebate percentage of WAC at a therapeutic class level. This rebate assumption was applied to the projected WAC to calculate the projected future best price with adjustments for biosimilar products.
  - We calculated the difference between the drug's estimated current AMP and its baseline AMP adjusted to the current time period using the Consumer Price Index for All Urban Consumers (CPI-U) to estimate the inflationary rebate for each selected drug.
  - We then estimated the unit rebate amount (URA) under current legislative rules. The total rebate was calculated by taking the greater of AMP multiplied by 23.1% or AMP minus the best price, plus the inflationary rebate.
  - The ceiling price was calculated as the difference between the URA and AMP price, with unit conversions applied so that the result is on the same basis as ASP unit pricing for comparison purposes.
- Non-340B hospitals: We provide a reasonable range of acquisition costs for non-340B hospitals, using ASP as the low end and WAC as the high end. We then report these values in relation to ASP to allow for comparisons to the reimbursement values.

To calculate contracted reimbursement to estimated acquisition cost margins of 340B hospitals, we used the 50th percentile of the estimated ASP markup divided by the 340B ceiling price calculated using the methods above. To calculate contracted reimbursement to estimated acquisition cost margins at non-340B hospitals, we used the 50th percentile of ASP markup divided by ASP.

LIMITATIONS

As noted above, one of the primary limitations of this analysis is the variation in how contracted reimbursement rates are reported in the hospital transparency data. Due to this variation and the inconsistencies in the contracted reimbursement rates, we had to use three different methodologies to calculate reimbursement rates at a unit level. Because a number of the autoimmune drugs in our study have weight-based dosing, actual reimbursement rates may vary depending on the number of units for a given claim.

Another important limitation is that the contracted reimbursement rates reported in the transparency data reflect contracted rates between hospitals and payers rather than actual claim-level reimbursement. Actual hospital reimbursement may vary from what is reported herein.

Appendix A: Selected drugs

SELECTED DRUGS AND HCPCS UTILIZED			
BRAND NAME	**GENERIC NAME**	**HCPCS**	**HCPCS DESCRIPTION**
Orencia	abatacept	J0129	Abatacept injection
Benlysta	belimumab	J0490	Belimumab injection
Ilaris	canakinumab	J0638	Canakinumab injection
Cimzia	certolizumab	J0717	Certolizumab pegol inj 1 mg
Simponi Aria	golimumab	J1602	Golimumab for iv use 1 mg
Remicade	infliximab	J1745	Infliximab not biosimil 10 mg
Renflexis	infliximab-abda	Q5104	Injection, renflexis
Avsola	infliximab-axxq	Q5121	Inj. avsola, 10 mg
Inflectra	infliximab-dyyb	Q5103	Injection, inflectra
Skyrizi	risankizumab-rzaa	J2327	Inj risankizumab-rzaa 1 mg
Actemra	tocilizumab	J3262	Tocilizumab injection
Tyenne	tocilizumab-aazg	Q5135	Inj, tyenne, 1 mg
Tofidence	tocilizumab-bavi	Q5133	Inj, tofidence, 1 mg
Stelara SQ	ustekinumab	J3357	Ustekinumab sub cu inj, 1 mg
Stelara IV	ustekinumab	J3358	Ustekinumab, iv inject, 1 mg
Entyvio	vedolizumab	J3380	Inj vedolizumab iv 1 mg

Appendix B: Selected hospitals

SELECTED HOSPITALS AND KEY CHARACTERISTICS				
HOSPITAL	**STATE**	**REGION**	**340B STATUS**	**PEDIATRIC HOSPITAL**
Boston Children's Hospital	Massachusetts	Northeast	Yes	Yes
Brigham and Women’s Hospital	Massachusetts	Northeast	Yes	No
Children's Hospital of Michigan	Michigan	Midwest	No	Yes
Children's National Hospital	District of Columbia	South	Yes	Yes
Cincinnati Children's Hospital Medical Center	Ohio	Midwest	Yes	Yes
Cleveland Clinic Hospital	Ohio	Midwest	Yes	No
Duke University Hospital	North Carolina	South	Yes	No
Endeavor Health NorthShore Hospitals	Illinois	Midwest	No	No
Goryeb Children's Hospital	New Jersey	Northeast	No	No
Hackensack University Medical Center at Hackensack Meridian Health	New Jersey	Northeast	No	No
Hospitals of the University of Pennsylvania-Penn Presbyterian	Pennsylvania	Northeast	Yes	No
Intermountain Primary Children's Hospital-University of Utah	Utah	West	Yes	Yes
Mayo Clinic-Arizona	Arizona	West	No	No
Mayo Clinic-Florida	Florida	South	No	No
Mayo Clinic-Rochester	Minnesota	Midwest	No	No
Memorial Health Dwaine and Cynthia Willett Children's Hospital	Georgia	South	No	Yes
New York-Presbyterian University Hospital of Columbia and Cornell	New York	Northeast	Yes	No
OHSU Hospital	Oregon	West	Yes	No
St. Francis Hospital and Heart Center	New York	Northeast	No	No
Torrance Memorial Medical Center	California	West	No	No
University of Alabama Hospital	Alabama	South	Yes	No
University of Colorado Hospital	Colorado	West	Yes	No
University of Michigan Hospitals and Health Centers	Michigan	Midwest	Yes	No
UT Southwestern Medical Center	Texas	South	No	No
Virginia Mason Medical Center	Washington	West	No	No

Appendix C: Hospital-level summary

HOSPITAL-LEVEL REIMBURSEMENT (AS % ASP MARKUP)					
DE-IDENTIFIED HOSPITAL	340B STATUS	PEDIATRIC HOSPITAL	20TH PERCENTILE	50TH PERCENTILE	80TH PERCENTILE
Hospital 1	Yes	No	106%	131%	282%
Hospital 2	Yes	No	101%	129%	300%
Hospital 3	Yes	No	87%	154%	289%
Hospital 4	Yes	Yes	92%	173%	619%
Hospital 5	Yes	No	109%	220%	603%
Hospital 6	Yes	Yes	109%	171%	355%
Hospital 7	Yes	Yes	279%	390%	766%
Hospital 8	Yes	No	113%	260%	662%
Hospital 9	Yes	No	219%	450%	714%
Hospital 10	Yes	Yes	83%	189%	446%
Hospital 11	Yes	No	106%	163%	351%
Hospital 12	Yes	No	97%	143%	286%
Hospital 13	Yes	No	99%	153%	287%
Hospital 14	No	No	109%	161%	334%
Hospital 15	No	No	115%	279%	521%
Hospital 16	No	No	107%	226%	429%
Hospital 17	No	No	129%	150%	234%
Hospital 18	No	Yes	109%	130%	230%
Hospital 19	No	Yes	110%	346%	866%
Hospital 20	No	No	100%	235%	850%
Hospital 21	No	No	107%	167%	344%
Hospital 22	No	No	106%	137%	312%
Hospital 23	No	Yes	75%	95%	308%
Hospital 24	No	No	107%	187%	375%
Hospital 25	No	No	94%	232%	441%

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