

# Pharmacy Market Outlook Highlights

Media summary of drug  
price projections and  
market developments





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Disclaimer: This document is a projection of price behavior only. It is necessary to consider changes in volume and mix as well as the introduction and adoption of new drugs and other factors when preparing your drug expenditure budget. This document is compiled based on information gathered from many primary and secondary sources, which Vizient believes to be accurate to the best of its knowledge at the time of publication. It is intended as general information only and is provided as an accommodation to members. Use of this data is at your sole risk. This information is presented "as is" and without any warranty or guarantee, expressed or implied, as to completeness or accuracy, or otherwise.

# Media summary for Winter 2022 Pharmacy Market Outlook

The winter 2022 Pharmacy Market Outlook is our best estimate of the change in the price of pharmaceuticals that Vizient Pharmacy Program participants will be purchasing between July 1, 2022, and June 30, 2023. The forecast projects on pharmaceutical products purchased throughout the health system, in both the acute and nonacute care environments, to provide a year-over-year estimate of the expected price change. Price change predictions for contract and noncontract product segments are shown in Table 1, along with the overall drug price inflation number for existing drugs as calculated by Vizient.

The ongoing COVID-19 pandemic continues to place pressure on many health systems already exhausted by persistent protocol adjustments, service line changes and staying abreast of current treatment guidelines that are rapidly changing. The Pharmacy Market Outlook contains high-level insights for hospital pharmacists and examples of the continued impact of COVID-19, such as the sustained utilization of high-cost medications like remdesivir and tocilizumab.

**3.09%**

Estimated drug price inflation rate

**Table 1. Summary of projected drug price inflation rates, July 1, 2022-June 30, 2023**

| Product group   | Vizient predicted price change, % | Percentage of analyzed group | Estimated price change weighted by Vizient purchases, % |
|---|-----------------------------------|------------------------------|---|
| Contract products   | 2.67%                             | 37.52%                       | 1.00%   |
| Noncontract products  | 3.34%                             | 62.48%                       | 2.09%   |
| <b>Total weighted average drug price inflation estimate</b> |                                   |                              | <b>3.09%</b>  |

Source: Estimates based on Vizient member data



**Table 2. Top drugs by total spend among Vizion members (All classes of trade)**

| Rank | Generic name  | Brand name         |
|------|---|--------------------|
| 1    | remdesivir  | Veklury            |
| 2    | adalimumab  | Humira             |
| 3    | pembrolizumab   | Keytruda           |
| 4    | ustekinumab   | Stelara            |
| 5    | ocrelizumab   | Ocrevus            |
| 6    | denosumab   | Prolia, Xgeva      |
| 7    | infliximab  | Remicade           |
| 8    | alteplase   | Activase           |
| 9    | nivolumab   | Opdivo             |
| 10   | tocilizumab   | Actemra            |
| 11   | vasopressin   | Vasostrict         |
| 12   | vedolizumab   | Entyvio            |
| 13   | pegfilgrastim   | Neulasta           |
| 14   | rituximab   | Rituxan            |
| 15   | immune globulin, gamma (IgG)/proline/IgA 0 to 50 mcg/mL | Privigen, Hizentra |

Source: Vizion member data

The estimated drug price inflation rate for the upcoming calendar year is anticipated to have a moderate price increase. The estimated price change weighted by Vizion member purchases is 3.09% (Table 1). The trend toward moderation of price increases continues to persist, driven largely by a balance between the increased utilization of high-cost medications as well as generic entrants to the market and the additional approval and launch of biosimilar products. The largest contributor to drug price increases is still adalimumab, and it will remain that way until calendar year 2023, when multiple biosimilar competitors are anticipated to arrive.

Compared to the [July 2021 Pharmacy Market Outlook](#), numerous changes have occurred in the top drugs by total Vizion member spend (Table 2). Most notable is the Food and Drug Administration's (FDA) approved COVID-19 treatment, remdesivir, which displaced adalimumab as the number one ranked medication in total spend across all classes of trade for Vizion members.

All medications included in Table 2 above are injectable medications with the majority administered or dispensed in an ambulatory or nonacute setting such as an infusion center and/or specialty pharmacy. As top spend drugs, these agents are subject to additional scrutiny from payers and are subject to reimbursement challenges due to their site of administration and potential for additional utilization management restrictions.

The oncology therapeutic class remains the top category of medications ranked by Vizion member purchases followed by infectious disease products and disease-modifying antirheumatic drugs (DMARDs). The therapeutic class with the highest estimated price change is DMARDs, given the pricing escalations anticipated for adalimumab (Humira; AbbVie) and etanercept (Enbrel; Amgen), as noted in Table 3 above, which will continue until effective biosimilar competition enters the market. See table 4 for additional information about the percentage of Vizion member purchases and estimated price change.

**Table 3. Top drugs by size of projected price increase**

| Rank | Generic name    | Brand name          |
|------|-----------------|---------------------|
| 1    | adalimumab      | Humira              |
| 2    | pembrolizumab   | Keytruda            |
| 3    | vasopressin     | Vasostrict          |
| 4    | vedolizumab     | Entyvio             |
| 5    | denosumab       | Prolia, Xgeva       |
| 6    | ustekinumab     | Stelara             |
| 7    | ocrelizumab     | Ocrevus             |
| 8    | etanercept      | Enbrel              |
| 9    | immune globulin | Privigen, Hizentra  |
| 10   | immune globulin | Gamunex-C, Gammaked |

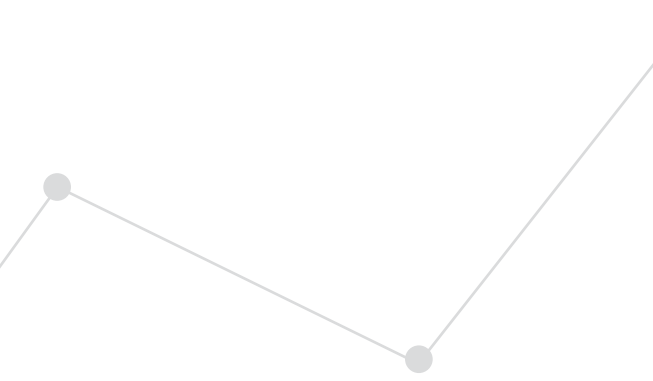
Source: Vizion member data

**Table 4. Purchases by therapeutic class**

| Therapeutic classes (subclasses)  | Key products in class                | Class-estimated price change, % | Vizion member purchases (percentage of analyzed group) |
|---|--------------------------------------|---------------------------------|--|
| Antineoplastic agents   | Keytruda, Rituxan, Opdivo            | 3.14%                           | 22.93%   |
| Ambulatory Specialty Service Lines (biologics)<br>Rheumatology<br>Dermatology<br>Gastroenterology | Humira, Remicade, Stelara            | 4.17%                           | 16.66%   |
| Immunomodulators - MS   | Ocrevus, Tysabri, Gilenya            | 4.19%                           | 2.41%  |
| Infectious disease  | Veklury, Biktarvy, Gardasil 9        | 2.59%                           | 14.50%   |
| <b>Plasma critical care - total</b>   |                                      | <b>3.92%</b>                    | <b>4.17%</b>   |
| Immune globulin intravenous   | Privigen, Gamunex-C, Gammagard       | 4.82%                           | 3.33%  |
| Albumin   | Alburx, Albutein, Flexbumin          | 0.00%                           | 0.69%  |
| <b>Diabetes-related medications</b>   | <b>Trulicity, Ozempic, Jardiance</b> | <b>2.69%</b>                    | <b>2.54%</b>   |

Source: Vizion member data

Read the full [Winter 2022 Pharmacy Market Outlook](#).





## NOTABLE DRUGS

# Remdesivir (Veklury)

The importance of remdesivir (Veklury) replacing adalimumab (Humira) as the top-ranked medication in total Vizient member spend is reflective of the current health care landscape. In 2021, the COVID-19 global pandemic continued to wax and wane as positive cases declined during the summer months and intensely increased due to the COVID-19 delta variant during the fall months.

Adalimumab has been the top agent in spend worldwide since 2012 and would have remained that way if not for the pandemic. Vizient anticipated adalimumab being relieved of its position when biosimilars came on the market to compete with it. Still, the remaining months of exclusivity will contribute to ongoing costs until launch of the many pending adalimumab biosimilars.

**Table 5. Top 10 acute care drugs by total Vizient member spend**

| Rank | Overall acute care                                      | >90% of sales in acute care class of trade            |
|------|---|---|
| 1    | Remdesivir  | Remdesivir  |
| 2    | Pembrolizumab   | Alteplase   |
| 3    | Alteplase   | Vasopressin   |
| 4    | Vasopressin   | Sugammadex  |
| 5    | Nivolumab   | Albumin, human  |
| 6    | Tocilizumab   | Bupivacaine liposome/PF                               |
| 7    | Pegfilgrastim   | Anti-thymocyte globulin, rabbit                       |
| 8    | Adalimumab  | Human prothrombin complex concentrate (PCC), 4-factor |
| 9    | Ocrelizumab   | Iohexol   |
| 10   | immune globulin, gamma (IgG)/proline/IgA 0 to 50 mcg/mL | Enoxaparin  |

Source: Estimates based on Vizient member data for Oct. 2020 – Sept. 2021

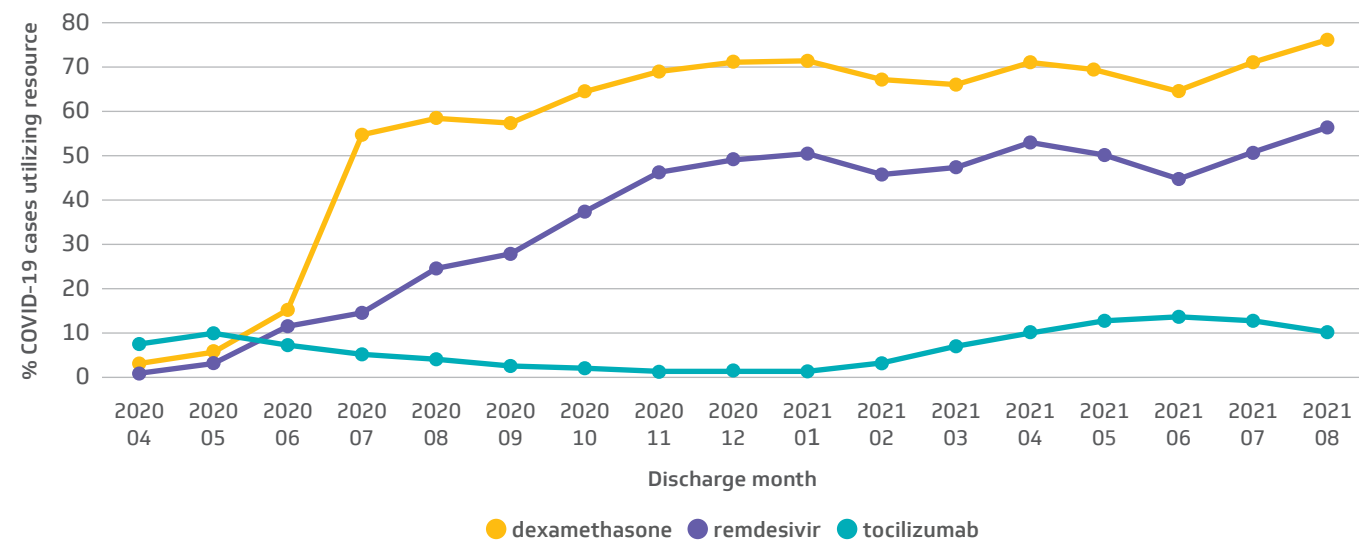
## Remdesivir as a treatment for COVID

Remdesivir is an injectable antiviral agent with activity against SARS-CoV2 which received an emergency use authorization (EUA) on 5/1/2020. On 10/22/2020, the FDA approved remdesivir for specific, hospitalized pediatric and adult COVID-19 patients. While substantial remdesivir use was seen during the time period for this Pharmacy Market Outlook, rocketing it to the #1 position for Vizient member spend, the ultimate role in therapy continues to be elucidated in guidelines, literature and in practice.

The most recent National Institute of Health (NIH) guidelines suggest remdesivir is recommended for use in hospitalized patients who require supplemental oxygen, but NIH also recommends against continuing once patients are discharged and oxygen is discontinued. Contrasting the NIH guidelines, the World Health Organization (WHO) released a conditional recommendation in late 2020 against the use of remdesivir in hospitalized COVID-19 patients due to lack of evidence at that time that remdesivir improved survival or other outcomes. Randomized controlled trial data from ACTT-1 indicate the drug may reduce recovery time from infection. Mortality benefit is less clear, although a recent real-world analysis demonstrated an association with use and improved survival.

In addition to being the top spend, remdesivir use as a treatment for COVID has been steadily increasing. Figure 1 compares trends in remdesivir utilization with dexamethasone and tocilizumab, two other therapeutic agents often used for COVID treatment in the acute care setting.

Figure 1. Acute care utilization of remdesivir, dexamethasone and tocilizumab in COVID-19



Source: Vizient Clinical Database (CDB)

In general, \$200 million in first-year sales is a benchmark for predicting eventual “blockbuster” status for a drug. While some of the new launches tracked or exceeded sales projections during 2020, remdesivir was the only drug approved and launched after March 2020 that was a commercial standout, exceeding sales of over \$1 billion dollars in the fourth quarter alone.



## Remdesivir also tops list for anti-infectives spend

Consistent with the July 2021 Pharmacy Market Outlook, and not unexpected with historical COVID-19 activity, the top infectious disease drugs by overall Vizient member spend (see table 6), was remdesivir. Remdesivir accounted for approximately 4% of all group purchasing spend and was approximately 10 times higher than rifaximin, the No. 2 drug by spend in this category, which is typically used in acute care for the non-ID indication of hepatic encephalopathy.

Table 6. Top 10 anti-infectives based on total spend among Vizient members<sup>a</sup>

| Rank | Generic (brand)                      |
|------|--------------------------------------|
| 1    | remdesivir (Veklury)                 |
| 2    | rifaximin (Xifaxan)                  |
| 3    | ceftazidime/avibactam (Avycaz)       |
| 4    | vancomycin (Vancocin)                |
| 5    | amphotericin B, liposomal (Ambisome) |
| 6    | miconazole (Mycamine)                |
| 7    | ceftaroline (Teflaro)                |
| 8    | posaconazole (Noxafil)               |
| 9    | piperacillin/tazobactam (Zosyn)      |
| 10   | ertapenem (Invanz)                   |

Source: Vizient member data for Oct. 2020 through Sept. 2021  
Acute class of trade, excluding vaccines and HIV medications



## Spending trends

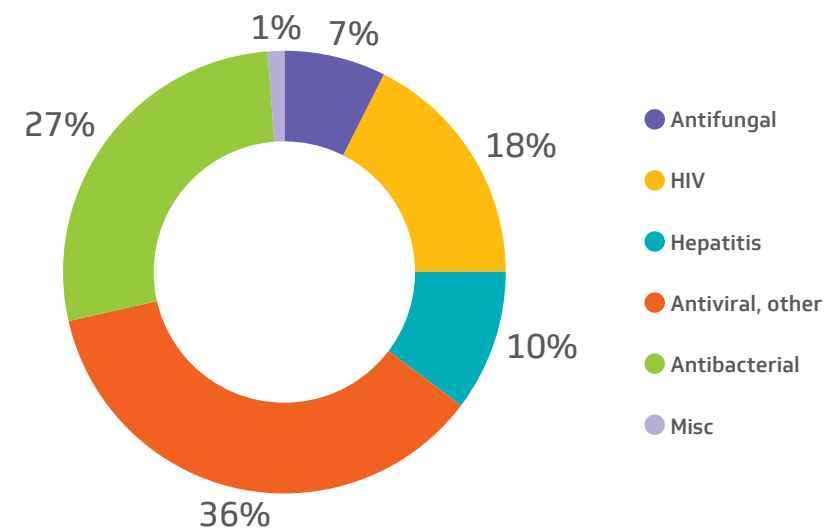
Trends compared to previous periods are significant for an increase in spend on antivirals, overwhelmingly driven by remdesivir. Additionally, the increased use of ceftazidime/avibactam may be due to an increase in prevalence of extensively drug-resistant organisms or potential due to a redirection of resources from traditional antimicrobial stewardship practices as clinicians focus on COVID-19 related care.

**Table 7. Acute care antimicrobial spend trends**

| Top 10 anti-infectives by acute care spend from October 2020 through September 2021 | Spend change (2020 Q1 to 2021 Q2) |
|---|-----------------------------------|
| Remdesivir (Veklury)  | NA                                |
| Rifaximin (Xifaxan)   | +21.5%                            |
| Ceftazidime/avibactam (Avycaz)  | +146%                             |
| Vancomycin  | -12%                              |
| Amphotericin B, liposomal (Ambisome)  | 0%                                |
| Micafungin (Mycamine)   | +6.9%                             |
| Ceftaroline (Teflaro)   | -12.6%                            |
| Posaconazole (Noxafil)  | -16.9%                            |
| Piperacillin/tazobactam (Zosyn)   | -22%                              |
| Ertapenem (Invanz)  | -16.2%                            |

Source: Vizient member spend data

**Figure 2. Total infectious disease spend (excluding vaccines)**



Source: Vizient member spend data





## NOTABLE DRUGS

# Pembrolizumab (Keytruda)

Pembrolizumab is part of the Oncology therapeutic class, which makes up 22.87% of drug spend for Vizient members and has a projected inflation rate of 3.14%.

Pembrolizumab is part of a therapeutic category of oncology agents known as checkpoint inhibitors. This therapeutic category has had a tremendous clinical and financial impact since its arrival to the market in 2014. Significant advancements in clinical outcomes, such as progression free survival, overall survival, and duration of response, are seen in a myriad of disease states.





The drugs included in the PD-1 inhibitors therapeutic category include pembrolizumab, nivolumab, cemiplimab and dostarlimab. The drugs included in the PD-L1 inhibitors therapeutic category include atezolizumab, avelumab and durvalumab. Both therapeutic categories make up checkpoint inhibitors.

Such innovative and impactful drugs also come with a significant price tag. Pembrolizumab is the top ranked drug in the antineoplastic category by total Vizient member spend resulting in approximately 12.6% of total group purchasing sales from October 2020 to September 2021. Subsequent checkpoint inhibitors by top spend include nivolumab, atezolizumab and durvalumab.

The top spend ranking for pembrolizumab can be attributed to the degree of FDA approved indications, allowing for more patient access in various disease states. Pembrolizumab holds the highest number of indications across this class of medications. Table 8 displays the current indications for each drug in this therapeutic category.

These seven drugs currently span 22 different oncology disease states, underlining their expansive use and demonstrating how this category has grown to be the most prominent class of medications across all antineoplastics. The speed with which this class has penetrated the market corresponds with the rapid number of additional indications granted by the FDA. Evaluation of additional indications, accelerated approvals, converted approvals and withdrawals of indications by the FDA from 2017 to 2021 revealed pembrolizumab has the highest rate of overall additions in comparison to the remaining competitors in the PD-1/PD-L1 therapeutic category. See Table 8 for details on the additional indications for pembrolizumab compared to the PD-1/PD-L1 category.

Of all medications approved in 2020, the checkpoint inhibitors pembrolizumab, nivolumab, atezolizumab, avelumab, ipilimumab and durvalumab made up 48% of the additional indications approved by the FDA.

While pembrolizumab is currently leading the category in spend compared to its competitors, a multitude of indications are currently in clinical trials across this category. We anticipate as additional indications are granted and more agents gain ground in already approved disease areas, a trend toward conformity among the available checkpoint inhibitors will take shape.

Figure 3. Treatment cost per quarter for NSCLC <sup>3,4</sup>

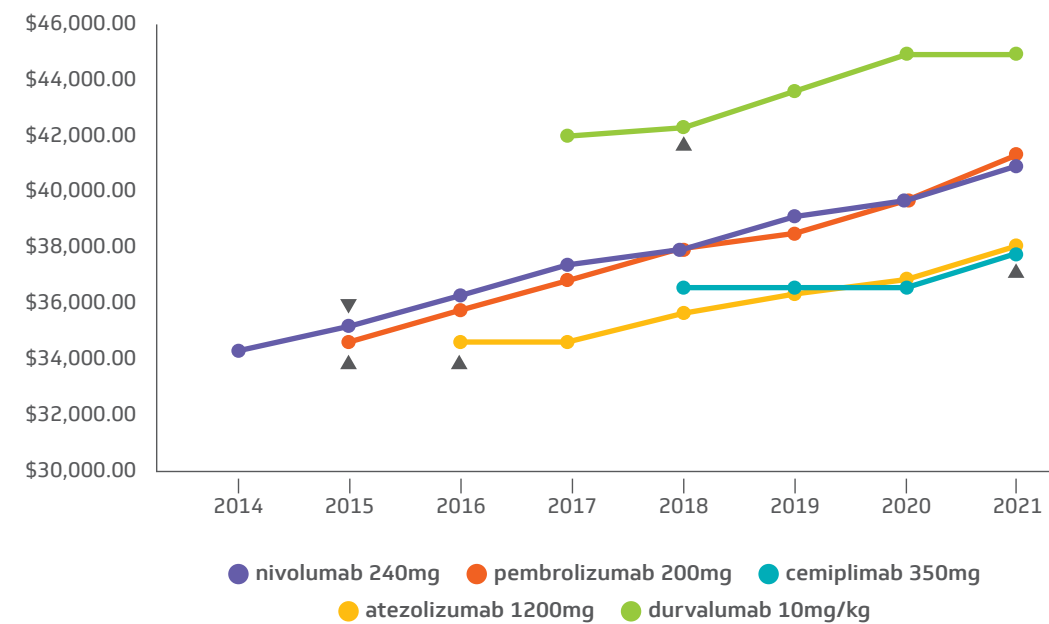


Table 8. Indications for PD-1/PD-L1 inhibitors through Oct. 2021<sup>4</sup>

| Indications                 | PD-1 inhibitors    |                    |                 |                  | PD-L1 inhibitors  |               |                 |
|-----------------------------|--------------------|--------------------|-----------------|------------------|-------------------|---------------|-----------------|
|                             | Pembrolizumab 2014 | Nivolumab 2014     | Cemiplimab 2018 | Dostarlimab 2021 | Atezolizumab 2016 | Avelumab 2017 | Durvalumab 2017 |
| Basal cell                  |                    |                    | X               |                  |                   |               |                 |
| Breast                      | X                  |                    |                 |                  |                   |               |                 |
| Cervical                    | X                  |                    |                 |                  |                   |               |                 |
| Colorectal                  | X                  | X<br>MSI-H<br>dMMR |                 |                  |                   |               |                 |
| Cutaneous squamous          | X                  |                    | X               |                  |                   |               |                 |
| dMMR                        | X                  |                    |                 | Solid tumors     |                   |               |                 |
| Endometrial                 | X                  |                    |                 | X                |                   |               |                 |
| Esophageal                  | X                  | X                  |                 |                  |                   |               |                 |
| Gastric                     | X                  | X                  |                 |                  |                   |               |                 |
| Head and neck               | X                  | X                  |                 |                  |                   |               |                 |
| Hepatocellular              | X                  | X                  |                 |                  | X                 |               |                 |
| Hodgkin lymphoma            | X                  | X                  |                 |                  |                   |               |                 |
| MSI-H                       | X                  |                    |                 |                  |                   |               |                 |
| Mediastinal B-cell lymphoma | X                  |                    |                 |                  |                   |               |                 |
| Melanoma                    | X                  | X                  |                 |                  | X                 |               |                 |
| Merkel cell                 | X                  |                    |                 |                  |                   | X             |                 |
| Mesothelioma                | X                  | X                  |                 |                  |                   |               |                 |
| NSCLC                       | X                  | X                  | X               |                  | X                 |               | X               |
| Renal                       | X                  | X                  |                 |                  |                   | X             |                 |
| SCLC                        | X                  |                    |                 |                  | X                 |               | X               |
| TMB                         | X                  |                    |                 |                  |                   |               |                 |
| Urothelial                  | X                  | X                  |                 |                  | X                 | X             |                 |

Source: Based on information found in Facts and Comparison Database

# A new price projection for Essential Medications

Vizient's clinical team has worked to identify medications that, if not available, would provide the greatest threat to hospitals' ability to provide immediate and high-quality patient care. It published its first Essential Medications list in February 2020. This list is founded on medications within the World Health Organization's (WHO) Essential Medicines list, the Advanced Cardiac Life Support (ACLS) and pediatric Advanced Life Support (PALS) algorithms and medications included by member health system's critical drug lists.

Since the initial publication, additional filters have been added to protect vulnerable patient populations such as pediatrics and patients infected with resistant organisms. The **latest update** includes identification of antimicrobials necessary to treat organisms identified in the Center for Disease Control (CDC) Antibiotic Resistance Threats in the US report, 2019.





The essential medications list has grown exponentially since the first publication noting 200 items, to today's list, which includes 265-line items, representing 258 unique drugs and 7 drug categories. Vizient will continue to update this list quarterly. The essential medication list is also incorporated into the Vizient Savings Actualizer Pharmacy Platform, enabling Vizient members to assess their spend and anticipate supply.

By definition, the list of essential medications is foundational to each hospital providing acute care for their communities. These medications are often subject to drug shortages and supply challenges that cause havoc when pharmacies are not able to procure lifesaving drugs and providers must adjust their standard of care. For this reason, we have included the drug price projections for this crucial list of medications so Vizient members have an awareness of the future impact of core medications.

The estimated price change for all identified essential medications on the Vizient list is 2.10% (Table 9). A similar estimated price change is seen for contracted generic items in the Vizient portfolio drawing a parallel to the majority of drugs on the essential medications list are generic injectable products.



**Table 9. Estimated price change for identified essential medications**

| Product Group         | Vizient predicted price change, % | Percentage of analyzed group |
|-----------------------|-----------------------------------|------------------------------|
| Essential medications | 2.10%                             | 16.65%                       |

Source: Vizient member data

Vizient uses the identification of these essential medications to:

- Initiate sourcing strategies that prioritize production of these essential medications
- Continue efforts to advocate and endorse public policies that facilitate expanded supply and increased quality of the products contained within this database, and
- Focus its development of clinical mitigation strategies on medications that are classified as “essential.”

# Home infusion

Home infusion pharmacy is a \$19 billion dollar industry that has seen a 300% growth over the last 10 years according to the National Home Infusion Association. When discussing Home Infusion Pharmacy, it is important to understand the different therapies and the different services required to support these.

Traditional infusion therapies are generally a continuation of an acute care therapy that was started in the hospital such as: anti-infectives, hydration, parenteral and enteral nutrition and limited chemotherapy. Specialty infusion are generally started and prescribed from the outpatient clinic or prescriber's practice such as: Immune globulin, monoclonal antibodies, and other infusion biologic medications.



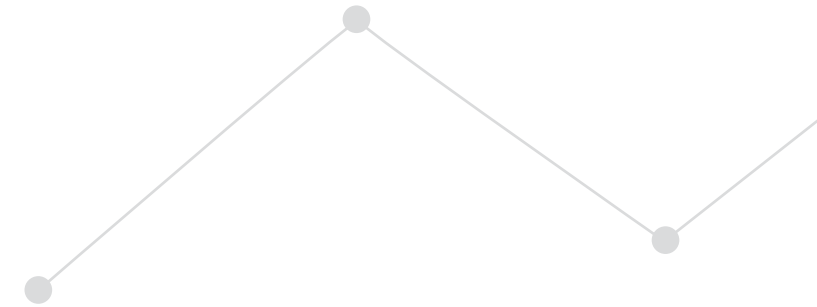




There are many market factors contributing to the increased need for home infusion.

- **Decrease hospital bed days –**  
Many patients remain in the hospital to complete their course of intravenous anti-infective therapy before they can be transitioned to oral medications. Some of these patients can safely be transitioned to home much earlier with an effective home infusion service.
- **Decrease hospitalizations and rehospitalizations –**  
Patients who present to the Emergency Department with community acquired pneumonia, skin and soft tissue infections, other non-critical ailments that require intravenous therapies can be diverted to home infusion after thorough clinical assessment. These patients receive robust clinical monitoring by a pharmacist and nurse in the home that allow them to identify clinical problems early and implement treatment plans with the prescriber to avoid readmissions to the hospitalization.
- **Payer site of care restrictions –**  
Payers are implementing restrictions on the site of administration for many of the specialty infusion and injected biologics. These restrictions require the drug to be administered at a lower cost site of care such as the home limiting the number of infusions that are authorized in the hospital outpatient infusion center.

- **Payers limiting their specialty pharmacy networks and increasing the use of prior authorizations for managing the utilization of high-cost specialty infused medications –**  
This results in “white bagging” from the payers specified specialty pharmacy. Home Infusion pharmacies often bill to the medical benefit and can avoid some of these restrictions.
- **Covid-19 pandemic prompted many hospitals to shift outpatient infusion center patients to home infusion to lower the risk of transmission –**  
Many patients enjoyed being treated in the home and prefer to receive their treatments at home.
- **Proposed expansion of Medicare Part B home infusion coverage –**  
Coverage for home infusion drugs is currently limited to drugs that require an external infusion pump. With the passing of the 21st Century Cures Act home infusion now covers professional services provided in the home on days when a nurse is present in the home administering the medication.





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