



November 2025

Essential Medications List

Table of contents

History of essential medications3

How to use and interpret the list3

2025 Revitalization5

Value of the Essential Medications List6

 Novaplus Enhanced Supply and Reserve 6

 Available resources 6

Adult Essential Medications List 7

 Analgesic, anti-inflammatory or antipyretic 7

 Anesthetics 7

 Anti-infective agents 7

 Biologicals 9

 Cardiovascular therapy agents 9

 Central nervous system agents 9

 Diagnostic agents 10

 Electrolyte balance-nutritional products 10

 Endocrine 11

 Gastrointestinal therapy agents 11

 Gout and hyperuricemia therapy 11

 Hematological agents 11

 Immunosuppressive agents 12

 Metabolic modifiers 12

 Oncology 12

 Ophthalmic agents 14

 Paralytic 14

 Renal replacement therapy 14

 Respiratory therapy agents 14

Pediatric Essential Medications List15

 Analgesic, anti-inflammatory or antipyretic 15

 Anti-Infective agents 15

 Cardiovascular therapy agents 15

 Central nervous system agents 15

 Electrolyte balance-nutritional products 16

 Endocrine 16

 Gastrointestinal therapy agents 16

 Hematological agents 16

 Metabolic modifiers 16

 Oncology agents 16

 Ophthalmic agents 18

 Paralytic 18

 Respiratory therapy agents 18

Antidotes 19



Disclaimer: The Essential Medications List of drugs is not static and has the potential to change as new products enter the market and as clinical recommendations are revised. This document is not intended to replace other critical drug lists, such as those related to disaster preparedness circumstances. This is intended to identify and provide context to those molecules whose absence presents the greatest ongoing threat to routine patient care requirements.

History of essential medications

Vizient conducted a drug shortage survey in March 2019 to assess the impact on clients. The survey asked if the organization maintained a “critical drug list,” defined as a list of 10 to 20 essential, life-sustaining medications. The survey results showed that only 52% of Children’s Hospital Association facilities and 33% of other hospitals maintained a critical drug list.

In response to the survey findings, Vizient created the Essential Medications List. The first edition was published in January 2020 and contained 200 essential medications. Medications identified as of greatest importance were selected by the Vizient pharmacy team from a comprehensive clinical review of products contained within the World Health Organization’s (WHO) Essential Medicines list, the Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) algorithms, as well as medications included in Vizient client health systems’ critical drug lists. The list is updated annually by Vizient subject matter experts and currently includes **346 medications or classes**.

How to use and interpret the list

Essential medications

Vizient defines an essential medication as one where, if not available, would prove the greatest threat to a hospital’s ability to provide immediate and high-quality patient care.

Applicable sites

- Academic medical centers
- Trauma centers
- Community hospitals
- Critical access hospitals
- Specialty hospitals (e.g., cancer centers, transplant centers)
- Children’s hospitals
- Long-term acute care hospitals

Non-applicable sites

- Rehabilitation hospitals
- Ambulatory and outpatient clinics
- Community health centers
- Skilled nursing facilities
- Home health

Inclusion criteria

To be considered for inclusion on the Essential Medications List, medications are reviewed based on, but not limited to, the following criteria:

- 1. Clinical and operational importance:** Evaluation of the medication’s significance in clinical practice and its operational impact on healthcare delivery.
- 2. Subject matter expertise:** Input and review by both internal and external subject matter experts to ensure clinical relevance and accuracy.
- 3. Impact of a shortage on patient care:** Assessment of how a shortage of the medication could affect patient outcomes, including the potential for harm, alternative treatment availability and overall supply chain resilience.
- 4. Client surveys:** Feedback and input from clients regarding their needs and priorities for medications.
- 5. National essential medication lists:** Inclusion on or alignment with lists from authoritative bodies such as:
 - The U.S. Food and Drug Administration’s (FDA) Essential Medications List
 - WHO’s Essential Medicines List
 - The Centers for Disease Control and Prevention’s (CDC) Antibiotic Resistance List

Medications that meet these criteria are eligible for evaluation by the Vizient Essential Medication Internal Workgroup to be considered for inclusion on the list. This ensures that critical medications are identified and prioritized for patient care.

Removal criteria

The Vizient Essential Medication Internal Workgroup regularly reviews the list to ensure it remains relevant and aligned with current clinical practices. As medical knowledge and treatment approaches evolve, the workgroup updates the list accordingly. If the workgroup comes to a consensus that a medication no longer meets the criteria to be included in the essential medication list, it is removed. This reflects our commitment to maintaining a list that embodies the latest best practices in patient care.

Framework for use of the Essential Medications List

The Vizient Essential Medications List is a valuable resource designed to support medication availability and stocking decisions across health systems. The list identifies medications commonly considered critical for patient care. However, it's important to recognize that not all medications listed are necessary in every clinical setting. Health systems should use this list to inform their inventory strategies, tailoring stocking decisions to the unique needs of their practice settings, specific patient populations and local clinical priorities. The decision to classify and stock a medication as “essential” should be guided by clinical relevance, the scope of services provided and the care delivery model of each organization.

Differentiation of the Vizient Essential Medications List

To differentiate the Essential Medications List from other critical medication lists, two columns, demand planning and market resiliency score, were added to the Adult and Pediatric Essential Medications Lists to assist with strategic inventory planning.

- **Demand planning** provides insight into national utilization based on **IQVIA data**:
 - Low volume: less than one million units
 - Medium volume: one to four million units
 - High volume: greater than four million units
- The **market resiliency score** is calculated for generic injectables to provide insights into a market's relative capacity **to absorb and recover from a supply disruption**. Generic injectables historically are more likely to experience shortages during a supply constraint. Branded products and non-injectable generic formulations aren't provided with a market resiliency score and are denoted as “not applicable” (NA) in the subsequent tables.

The score ranges from 1 to 5, with 1 indicating *low supply resiliency* and 5 indicating *high supply resiliency*.

This composite measure is based objectively on Vizient and broader market insights:

- Supplier and competitive landscape
- Degree of supplier concentration
- Historical supply reliability within the Vizient network
- Historical and current shortage assessments
- Clinical criticality and assessment by Vizient subject matter experts



2025 Revitalization

For the 2025 publication, the Vizient Essential Medication Internal Workgroup has started to **revitalize**—review and update—the Essential Medications List. This process includes evaluating existing medications for potential removal and identifying new medications for addition.

In the 2025 publication, the “designation” column (e.g., acute lifesaving with no alternatives, chronic lifesaving with no alternatives, high impact, antibiotic resistance, oncology, pediatric impact, pediatric only and antidote) has been removed. The information from the designation column is now incorporated in the lists and categories (e.g. pediatric, oncology, etc).

In response to feedback, the publication now includes oncology agents essential for pediatric care in the “Pediatric List” section. The selection of these oncology agents was informed by the input from a workgroup of Children's Hospital Association client organizations, along with a review of medications provided in [Otth et al.](#) and [Unguru et al.](#)

The Vizient Essential Medication Internal Workgroup plans to continue updating the Essential Medications List and reviewing categories for the 2026 publication. For each upcoming edition, there will be an in-depth review of selected categories that will rotate with each publication.



Updates to the 2025 publication

1. Review and update of two categories

- Analgesic, anti-inflammatory or antipyretic:
 - Adjustment of acetaminophen formulations
 - Removal of ibuprofen oral and replacement with Nonsteroidal anti-inflammatory (NSAID) oral
 - Addition of ketorolac injection and buprenorphine sublingual
- Anesthetics:
 - Removal of desflurane inhalation and isoflurane inhalation

2. Addition of pediatric oncology agents

3. Removal of the designation column

4. Removal of antidote duplications:

- Previously, an antidote category plus an antidote list were provided
- These have been combined into the antidote list

Endorsements of the Vizient Essential Medications List

Clinical Pharmacy Advisory Council (CPAC)

CPAC advises Vizient on clinical pharmacy initiatives, focusing on practice advancement, medication stewardship, value, cost and quality of care.

Children's Hospital Association (CHA)

CHA drives progress on the most pressing issues facing children's hospitals and the communities they serve through strategic convenings with client hospitals, collaborative partnerships, continuous improvement initiatives and robust advocacy efforts.

Value of the Essential Medications List

According to the 2024 Vizient survey, [Beyond the Shortage: The Hidden Cost of Drug Supply Chain Disruptions](#), U.S. hospitals spent about 20 million hours managing drug shortages in 2023, costing nearly \$900 million in labor—more than double the \$360 million reported in 2019. As drug shortages continue to be a persistent challenge in healthcare, developing effective shortage solutions for essential medications remains a critical priority to ensure uninterrupted patient care.

Vizient uses the identification of these essential medications to:

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



Novaplius Enhanced Supply and Reserve

At the time of publication, for adult essential medications that are generic injectables, 75% are available through the Novaplius Enhanced Supply (NES) and 43% are available through the Reserve program. For generic injectable pediatric essential medications, 78% are available through NES and 47% through the Reserve program. Excluding the newly added oncology agents, 90% and 54% are available through the programs, respectively.

Market resiliency

Of the 180 generic injectable medications included in the list that have a market resiliency score, 41% have a low resiliency score, 46% have a medium score and only 14% have a high resiliency score.

High resiliency

- **25** essential medications (14%)
- **88%** covered through NES/Reserve

Medium resiliency

- **82** essential medications (46%)
- **74%** covered through NES/Reserve

Low resiliency

- **73** essential medications (41%)
- **66%** covered through NES/Reserve

Access to medicines

In total, more than five million units have been accessed through these programs. Vizient has committed to additional production based on historical purchases by its clients. These inventory programs have resulted in adding more than 180 million vials to the current inventory, which drives both supplier resiliency and access to critical, life-saving drugs through the ease of the full-line wholesale channel.

Available resources

The full library of Vizient mitigation strategies and resources, including the Vizient Workgroup Series: Key performance indicators for the management of drug shortages, is available on the Center for Pharmacy Practice Excellence (CPPE) resources [webpage](#).

To tailor the Vizient Essential Medications List to your institution's data and needs, use the Essential Medications Insights Report available in Pharmacy Analytics, which is accessible from the [Pharmacy Portal](#).

Access NES program information on the Supply Assurance [webpage](#). Medications available via the NES program are subject to change. For more information, contact pharmacyquestions@vizientinc.com.

Adult Essential Medications List

Click on **orange** text to access applicable mitigation strategy

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5	
Analgesic, anti-inflammatory or antipyretic				
Acetaminophen (Injection / Oral / Rectal) ^a	Analgesic or antipyretic, Non-opioid	High volume	3	
		High volume	NA	
		Low volume	NA	
		NSAID Oral ^a	High volume	NA
		Ketorolac Injection	High volume	2
Fentanyl Citrate Injection	Analgesic, Opioid	High volume	3	
Hydromorphone HCl Injection		High volume	2	
Morphine Sulfate Injection		High volume	2	
Buprenorphine Sublingual	Opioid use disorder, Opioid	High volume	NA	
Methadone HCl Oral		Medium volume	NA	
Anesthetics				
Etomidate Injection	General anesthetic	Medium volume	3	
Ketamine HCl Injection		Medium volume	2	
Propofol Injection		High volume	3	
Remifentanil HCl Injection		Medium volume	1	
Sevoflurane Inhalation	General anesthetic, Inhalant volatile	Medium volume	NA	
Bupivacaine HCl Injection	Local anesthetic	High volume	2	
Bupivacaine HCl / Epinephrine Injection		High volume	1	
Lidocaine HCl Injection		High volume	2	
Lidocaine HCl / Epinephrine Injection		High volume	2	
Ropivacaine HCl Injection		High volume	2	
Dexmedetomidine HCl Injection	Sedative / Hypnotic	High volume	2	
Anti-Infective Agents				
Gentamicin Sulfate Injection	Antibiotic, Aminoglycoside	Medium volume	4	
Amoxicillin Oral	Antibiotic, Aminopenicillin	High volume	NA	
Amoxicillin / Clavulanate Potassium Oral		High volume	NA	
Ampicillin Injection		High volume	4	
Ampicillin Sodium /Sulbactam Sodium Injection	Antibiotic, Aminopenicillin and beta-lactamase inhibitor combination	High volume	3	
Metronidazole Injection	Antibiotic, Antiprotozoal	High volume	2	
Durlobactam Sodium / Sulbactam Sodium Injection	Antibiotic, Beta-lactam and beta-lactamase inhibitor	Low volume	NA	
Ertapenem Sodium Injection	Antibiotic, Carbapenem	High volume	3	
Meropenem Injection		High volume	3	
Imipenem / Cilastatin Sodium / Relebactam Injection	Antibiotic, Carbapenem combination	Low volume	NA	
Meropenem / Vaborbactam Injection		Low volume	NA	
Cefazolin Sodium Injection	Antibiotic, Cephalosporin 1st generation	High volume	3	

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Cefotaxime Sodium Injection	Antibiotic, Cephalosporin 3rd generation	Low volume	NA
Ceftazidime Injection		Medium volume	3
Ceftazidime / Avibactam Injection		Low volume	NA
Ceftriaxone Sodium Injection		High volume	3
Cefepime HCl Injection	Antibiotic, Cephalosporin 4th generation	High volume	3
Ceftaroline Fosamil Monoacetate Injection	Antibiotic, Cephalosporin 5th generation	Low volume	NA
Ceftolozane Sulfate / Tazobactam Sodium Injection	Antibiotic, Cephalosporin 5th generation and beta-lactamase inhibitor	Medium volume	NA
Cefiderocol Sulfate Injection	Antibiotic, Cephalosporin siderophore	Low volume	NA
Daptomycin Injection	Antibiotic, Cyclic lipopeptide	High volume	3
Ciprofloxacin Injection	Antibiotic, Fluoroquinolone	Medium volume	2
Levofloxacin Injection		Medium volume	3
Moxifloxacin Injection		Low volume	3
Sulfamethoxazole / Trimethoprim Oral	Antibiotic, Folate antagonist	Medium volume	NA
Vancomycin HCl Injection	Antibiotic, Glycopeptide	High volume	2
Clindamycin Phosphate Injection	Antibiotic, Lincosamide	Medium volume	2
Azithromycin Injection	Antibiotic, Macrolide	High volume	2
Fidaxomicin Oral		Low volume	NA
Aztreonam Injection	Antibiotic, Monobactam	Medium volume	3
Linezolid Injection	Antibiotic, Oxazolidinone	Medium volume	3
Tedizolid Injection		Low volume	NA
Penicillin G Injection ^a	Antibiotic, Penicillin extended release	Medium volume	NA
Piperacillin Sodium / Tazobactam Sodium Injection	Antibiotic, Penicillin extended-spectrum and beta-lactamase inhibitor	High volume	3
Lefamulin Injection	Antibiotic, Pleuromutilin	Low volume	NA
Colistimethate Sodium Injection	Antibiotic, Polymyxin	Low volume	3
Polymyxin B Injection		Low volume	3
Doxycycline Hyclate Injection	Antibiotic, Tetracycline	High volume	3
Tigecycline Injection		Low volume	3
Fluconazole Injection	Antifungal, Azole	Medium volume	3
Voriconazole Injection		Low volume	4
Caspofungin Acetate Injection ^a	Antifungal, Echinocandin	Low volume	4
Micafungin Sodium Injection ^a		Medium volume	4
Amphotericin B Deoxycholate Injection	Antifungal, Polyene macrolide	Low volume	3
Amphotericin B Lipid Complex Injection		Low volume	NA
Amphotericin B Liposome Injection		Medium volume	NA
Benznidazole Oral	Antiparasitic, Nitroimidazole derivative	Low volume	NA
Ethambutol HCl Oral	Antitubercular	Low volume	NA
Rifampin Oral		Low volume	NA
Valganciclovir HCl Oral	Antiviral, Nucleoside analog	Low volume	NR
Cidofovir Injection	Antiviral, Nucleotide analog	Low volume	3
Acyclovir Sodium Injection	Antiviral, Purine analog	Medium volume	3
Ribavirin Inhalation	Antiviral, Respiratory syncytial virus	Low volume	NA

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Biologicals			
Immune Globulin (IVIG) Injection ^a	Immune globulin, Gamma globulin	High volume	NA
Rho (D) Immune Globulin Injection ^a	Immune globulin, Rho(D)	Low volume	NA
Cardiovascular Therapy Agents			
Phentolamine Mesylate Injection	Alpha-1 receptor blocker	Low volume	1
Amiodarone HCl Injection	Antiarrhythmic, Class III	High volume	2
Ibutilide Injection		Low volume	2
Adenosine Injection	Antiarrhythmic, Class IV	Medium volume	3
Atropine Injection	Anticholinergic	Medium volume	3
Vasopressin Injection	Antidiuretic hormone	High volume	3
Labetalol HCl Injection	Antihypertensive, Beta blocker	High volume	3
Metoprolol Tartrate Injection		High volume	3
Propranolol HCl Injection		Low volume	1
Diltiazem HCl Injection		Medium volume	4
Nicardipine HCl Injection	Antihypertensive, Calcium-channel blocker	Medium volume	4
Bumetanide Injection	Diuretic, Loop	High volume	2
Furosemide Injection		High volume	2
Chlorothiazide Sodium Injection	Diuretic, Thiazide	Low volume	4
Milrinone Lactate Injection	Inotrope	Medium volume	4
Epoprostenol Injection	Pulmonary antihypertensive, Prostacyclin	Low volume	3
Treprostinil Injection		Low volume	3
Dehydrated Alcohol Injection	Sclerosing agent	Low volume	NA
Dobutamine HCl Injection	Sympathomimetic	Medium volume	2
Dopamine HCl Injection		Low volume	2
Ephedrine Injection		High volume	3
Epinephrine Injection		High volume	3
Isoproterenol HCl Injection		Low volume	4
Norepinephrine Bitartrate Injection		High volume	3
Phenylephrine HCl Injection		High volume	3
Nitroglycerin Injection		Vasodilator	Medium volume
Nitroprusside Sodium Injection	Low volume		4
Central Nervous System Agents			
Clobazam Oral	Anticonvulsant	Medium volume	NA
Diazepam Injection		Medium volume	4
Fosphenytoin Sodium		Low volume	4
Lacosamide Injection		Medium volume	4
Levetiracetam Injection		High volume	3
Phenobarbital Sodium Injection		Medium volume	NA
Valproic Acid Injection		Medium volume	3
Haloperidol Injection	Antipsychotic, 1st generation	High volume	2
Lorazepam Injection	Anxiolytic / Sedative / Hypnotic	High volume	1
Midazolam HCl Injection	Sedative / Hypnotic	High volume	2

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Diagnostic Agents			
Iodinated Contrast Media ^a	Diagnostic agent	High volume	NA
Electrolyte Balance-Nutritional Products			
Potassium Iodide Oral	Antithyroid agent	Low volume	NA
Dextrose 50% in Water Injection	Dextrose solution	Medium volume	1
Sterile Water for Injection (SWFI) Injection	Diluent	High volume	2
Sodium Polystyrene Sulfonate Oral	Electrolyte depleter, Potassium binder	Medium volume	NA
Sodium Acetate Injection	Electrolyte, Bicarbonate	Medium volume	3
Sodium Bicarbonate Injection	Electrolyte, Bicarbonate agent	High volume	2
Calcium Chloride Injection	Electrolyte, Calcium	Medium volume	4
Calcium Gluconate Injection		High volume	3
Magnesium Sulfate Injection	Electrolyte, Magnesium	High volume	3
Potassium Phosphate Injection	Electrolyte, Phosphate	Medium volume	5
Sodium Phosphate Injection		Medium volume	3
Potassium Acetate Injection	Electrolyte, Potassium	Medium volume	3
Potassium Chloride Injection		High volume	2
Sodium Chloride 3% Injection	Electrolyte, Sodium chloride	Low volume	1
Sodium Chloride 23.4% Injection	Electrolyte, Sodium chloride concentrated	Medium volume	1
Sodium Chloride Bacteriostatic 0.9% Injection	Intravenous fluid	Medium volume	1
Lactated Ringers Injection	Lactated Ringer's solution	High volume	1
Amino Acid Injection	Macronutrient, Amino acid	Medium volume	NA
Cysteine HCl Injection		Low volume	NA
Fat Emulsion Injection ^a	Macronutrient, Fat	Low volume	NA
Ferric Carboxymaltose Injection ^a	Mineral, Iron	Low volume	NA
Ferric Gluconate Complex Injection ^a		High volume	2
Ferumoxytol ^a		Low volume	3
Iron Dextran Injection ^a		High volume	NA
Iron Sucrose injection ^a		High volume	NA
Manganese Injection	Mineral, Manganese	Low volume	2
Chromium Injection	Mineral, Trace	Low volume	NA
Copper Injection		Low volume	3
Selenium Injection		Low volume	NA
Zinc Chloride Injection	Mineral, Zinc	Low volume	1
Sodium Chloride 0.9% Injection	Sodium chloride, Parenteral	High volume	1
Thiamine (Vit B1) Injection	Vitamin B1	High volume	3
Pyridoxine HCl (Vit B6) Injection	Vitamin B6	Low volume	1
Ascorbic Acid Injection	Vitamin C	Low volume	NA
Vitamin D Derivatives Injection ^a	Vitamin D	High volume	3
Phytonadione (Vit K) Injection	Vitamin K	High volume	3
Folic Acid Injection	Vitamin, Folic acid	Low volume	2

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Endocrine			
Methimazole Oral	Antithyroid agent, Imidazole derivative	Medium volume	NA
Propylthiouracil (PTU) Oral	Antithyroid agent, Thiouracil derivative	Low volume	NA
Conjugated Estrogens Injection	Estrogen derivative	Low volume	NA
Methylprednisolone Sodium Succinate Injection	Glucocorticoid, Intermediate acting	High volume	2
Prednisolone Oral		Medium volume	NA
Betamethasone Injection	Glucocorticoid, Long acting	Medium volume	3
Dexamethasone Sodium Phosphate Injection		High volume	2
Hydrocortisone Sodium Succinate Injection	Glucocorticoid, Short acting	High volume	1
Glucagon Injection	Hyperglycemic, Hypoglycemia treatment agent	Medium volume	3
Insulin Regular (Human) Injection	Insulin, Short acting	Medium volume	NA
Fludrocortisone Acetate Oral	Mineralcorticoid	Low volume	NA
Methylergonovine Maleate Injection	Oxytocic, Ergot alkaloid	Low volume	3
Oxytocin Injection	Oxytocic, Oxytocin and analogs	Medium volume	2
Octreotide Acetate Injection	Somastatin analog	High volume	3
Liothyronine Sodium (T3) Injection	Thyroid product, Synthetic T3	Low volume	2
Levothyroxine Sodium (T4) Injection	Thyroid product, Synthetic T4	Low volume	3
Desmopressin Acetate Injection	Vasopressin analog	Low volume	2
Gastrointestinal Therapy Agents			
Glycopyrrolate Injection	Anticholinergic	High volume	3
Aprepitant Injection	Antiemetic, Neurokinin 1 receptor antagonist	Low volume	3
Ondansetron HCl Injection	Antiemetic, Selective 5-HT3 antagonist	High volume	3
Digestive Enzymes Oral ^a	Digestive aid, Enzyme	High volume	NA
Famotidine Injection	Gastric acid secretion reducer, Histamine H2 antagonist	High volume	3
Lactulose Oral	Laxative, Osmotic	High volume	NA
Pantoprazole Sodium Injection	Proton pump inhibitor	High volume	2
Gout and Hyperuricemia Therapy			
Allopurinol Injection	Hyperuricemia therapy, Xanthine oxidase inhibitor	Low volume	2
Hematological Agents			
Argatroban Injection	Anticoagulant	Low volume	4
Enoxaparin Sodium Injection		High volume	3
Heparin Sodium Injection		High volume	2
Warfarin Sodium Oral		Medium volume	NA
Aminocaproic Acid Injection	Antifibrinolytic	Low volume	2
Tranexamic Acid Injection		High volume	3
Aspirin Oral	Antiplatelet	High volume	NA
Eptifibatide Injection		Low volume	4
Tirofiban HCl Injection		Low volume	4

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Darbepoetin Alfa Injection	Hematopoietic growth factor	Medium volume	NA
Epoetin Alfa Recombinant Injection		High volume	NA
4-factor prothrombin complex concentrate (PCC) Injection ^b	Hemostatic agent, Factor IX complex	Low volume	NA
3-factor prothrombin complex concentrate (PCC) Injection	Hemostatic agent, Factor IX preparation	Medium volume	NA
Thrombin Topical	Hemostatic agent, Topical	Medium volume	NA
Albumin Human Injection	Plasma expander	High volume	NA
Alteplase Recombinant Injection	Thrombolytic, Tissue plasminogen activator	Low volume	NA
Reteplase Recombinant Injection		Low volume	NA
Tenecteplase Injection		Low volume	NA
Immunosuppressive Agents			
Cyclosporine Injection	Immunosuppressant, Calcineurin inhibitor	Low volume	3
Cyclosporine Oral		Medium volume	NA
Tacrolimus Injection		Low volume	NA
Tacrolimus Oral		High volume	NA
Mycophenolate Mofetil HCl Injection	Immunosuppressant, Inosine monophosphate dehydrogenase inhibitor	Low volume	4
Sirolimus Oral	Immunosuppressant, Mammalian target of rapamycin (mTOR) inhibitor	Low volume	NA
Azathioprine Sodium Injection	Immunosuppressant, Purine analog	Low volume	2
Metabolic Modifiers			
Sodium Benzoate/ Sodium Phenylacetate Injection	Urea cycle disorder agent, Conjugating agent	Low volume	3
Oncology			
Thalidomide Oral	Anti-infective agent, Immunomodulator	Low volume	NA
Bendamustine Injection	Antineoplastic agent, Alkylating agent	Low volume	3
Cyclophosphamide Injection		Low volume	4
Dacarbazine Injection		Low volume	2
Ifosfamide Injection		Low volume	2
Lomustine Oral		Low volume	NA
Melphalan Injection		Low volume	4
Procarbazine Oral		Low volume	NA
Thiotepa Injection		Low volume	4
Busulfan Injection	Antineoplastic agent, Alkylating agent, Alkyl sulfonate	Low volume	3
Bleomycin Sulfate Injection	Antineoplastic agent, Antibiotic	Low volume	3
Dactinomycin Injection		Low volume	3
Mitomycin Injection		Low volume	2
Methotrexate Injection	Antineoplastic agent, Antimetabolite, Folic acid analog	Medium volume	2
Fludarabine Injection	Antineoplastic agent, Antimetabolite, Purine analog	Low volume	3
Mercaptopurine Oral		Low volume	NA
Nelarabine Injection		Low volume	3

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Capecitabine Oral	Antineoplastic agent, Antimetabolite, Pyrimidine analog	Low volume	NA
Cytarabine (Conventional) Injection		Low volume	3
Fluorouracil Injection		Medium volume	3
Hydroxyurea Oral	Antineoplastic agent, Antimetabolite, Urea derivative	Low volume	NA
Asparaginase (Erwinia) [recombinant] Injection	Antineoplastic agent, Enzyme	Low volume	NA
Asparaginase (Erwinia) Injection		Low volume	NA
Pegaspargase Injection		Low volume	NA
Leuprolide Injection	Antineoplastic agent, GnRH agonist analog	Medium volume	3
Bacillus Calmette–Guérin (BCG) Vaccine Injection	Antineoplastic agent, Immunomodulator	Low volume	NA
Lenalidomide Oral		Low volume	NA
Arsenic Trioxide Injection	Antineoplastic agent, Metal complex	Low volume	3
Rituximab Injection ^b	Antineoplastic agent, Monoclonal antibody	Medium volume	NA
Trastuzumab Injection ^b		Medium volume	NA
Carboplatin Injection	Antineoplastic agent, Platinum complex	Low volume	2
Cisplatin Injection		Low volume	3
Oxaliplatin Injection		Medium volume	2
Bortezomib Injection	Antineoplastic agent, Proteasome enzyme inhibitor	Low volume	3
Tretinoin Oral	Antineoplastic agent, Retinoid	Low volume	NA
Paclitaxel (Conventional) Injection	Antineoplastic agent, Taxane	Low volume	3
Irinotecan Injection	Antineoplastic agent, Topoisomerase I inhibitor	Medium volume	2
Daunorubicin HCl Injection	Antineoplastic agent, Topoisomerase II inhibitor	Low volume	2
Doxorubicin HCl (Conventional) Injection		Low volume	3
Etoposide Injection		Low volume	3
Ibrutinib Oral	Antineoplastic agent, Tyrosine kinase inhibitor	Low volume	NA
Imatinib Oral		Low volume	NA
Vinblastine Sulfate Injection	Antineoplastic agent, Vinca alkaloid	Low volume	1
Vincristine Sulfate Injection		Low volume	2
Isotretinoin Oral	Antineoplastic, Retinoid	High volume	NA
Tamoxifen Oral	Antineoplastic, Selective estrogen receptor modulator	Medium volume	NA
Mesna Injection	Chemotherapy rescue agent, Urinary tract protective agent	Low volume	2
Zoledronic Acid Injection	Endocrine, Bone resorption inhibitor	Medium volume	3
Calcitonin - Salmon Injection	Endocrine, Calcium and bone metabolism regulators	Low volume	3
Filgrastim Injection ^b	Hematological agent, Granulocyte colony-stimulating factor (G-CSF)	Medium volume	NA
Rasburicase Injection	Hyperuricemia therapy, Urate-oxidase enzyme	Low volume	NA
Tocilizumab Injection ^b	Monoclonal antibody, Interleukin-6 (IL-6) receptor inhibitor	Low volume	NA

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Ophthalmic Agents			
Ciprofloxacin HCl Ophthalmic	Antibiotic, Fluoroquinolone	Medium volume	NA
Ofloxacin Ophthalmic		High volume	NA
Erythromycin Ophthalmic	Antibiotic, Macrolide	High volume	NA
Fluorescein Sodium Strips Ophthalmic	Diagnostic agent	Low volume	NA
Atropine Sulfate Ophthalmic	Mydriatic, anticholinergic	Low volume	NA
Paralytic			
Succinylcholine Chloride Injection	Neuromuscular blocker, depolarizing	High volume	3
Cisatracurium Besylate Injection	Neuromuscular blocker, nondepolarizing	Low volume	4
Rocuronium Bromide Injection		High volume	2
Vecuronium Bromide Injection		Low volume	3
Renal Replacement Therapy			
Dialysate solutions for Continuous Renal Replacement Therapy (CRRT) ^a	Dialysate, Hemodialysis and hemofiltrate solution	High volume	NA
Respiratory Therapy Agents			
Tobramycin Inhalation	Antibiotic, Cystic fibrosis	Medium volume	NA
Diphenhydramine HCl Injection	Antihistamine, 1st generation	High volume	3
Ipratropium Bromide Inhalation	Asthma / COPD, Anticholinergic, short acting	High volume	NA
Albuterol Sulfate Inhalation	Asthma / COPD, Beta 2-adrenergic, short acting	High volume	NA
Epinephrine (Racepinephrine) Inhalation	Asthma, Alpha-,beta-adrenergic	Low volume	NA

^aSelection of the appropriate agent(s) should be determined by the Pharmacy and Therapeutics (P&T) committee, taking into consideration the specific patient population being treated, as well as clinical, operational and financial factors.

^bIncludes originator and biosimilar products

Abbreviations: NA = not applicable; NSAID = non-steroidal anti-inflammatory drug; COPD = chronic obstructive pulmonary disease

Pediatric Essential Medications List

Click on **orange** text to access applicable mitigation strategy.

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Analgesic, Anti-inflammatory or Antipyretic			
Acetaminophen Oral	Analgesic or antipyretic, Non-opioid	High volume	NA
Acetaminophen Rectal		Low volume	NA
Anti-Infective Agents			
Gentamicin Sulfate Injection	Antibiotic, Aminoglycoside	Medium volume	4
Amoxicillin Oral	Antibiotic, Aminopenicillin	High volume	NA
Amoxicillin / Clavulanate Potassium Oral		High volume	NA
Ampicillin Injection		Medium volume	4
Ampicillin Sodium /Sulbactam Sodium Injection	Antibiotic, Aminopenicillin and beta-lactamase inhibitor combination	High volume	3
Meropenem Injection	Antibiotic, Carbapenem combination	High volume	3
Cefazolin Sodium Injection	Antibiotic, Cephalosporin 1st generation	High volume	3
Cefotaxime Sodium Injection	Antibiotic, Cephalosporin 3rd generation	Low volume	NA
Ceftazidime Injection		Medium volume	3
Vancomycin HCl Injection	Antibiotic, Glycopeptide	High volume	2
Azithromycin Injection	Antibiotic, Macrolide	High volume	2
Penicillin G Injection ^a	Antibiotic, Penicillin extended release	Medium volume	NA
Acyclovir Sodium Injection	Antiviral, Purine analog	Medium volume	3
Cardiovascular Therapy Agents			
Amiodarone HCl Injection	Antiarrhythmic, Class III	High volume	2
Atropine Injection	Anticholinergic	Medium volume	3
Bumetanide Injection	Diuretic, Loop	High volume	2
Chlorothiazide Sodium Injection	Diuretic, Thiazide	Low volume	4
Milrinone Lactate Injection	Inotrope	Medium volume	4
Alprostadil Injection	Patency ductus arteriosus treatment agent, prostaglandin	Low volume	2
Ibuprofen Injection	Patency ductus arteriosus treatment agent, non-steroidal antiinflammatory	Low volume	3
Indomethacin Injection		Low volume	2
Sildenafil Injection	Pulmonary antihypertensive, PDE5 inhibitor	Low volume	NA
Dobutamine HCl Injection	Sympathomimetic	Medium volume	2
Dopamine HCl Injection		Low volume	2
Epinephrine Injection		High volume	3
Central Nervous System Agents			
Clobazam Oral	Anticonvulsant	Medium volume	NA
Diazepam Injection		Medium volume	4
Fosphenytoin Sodium		Low volume	4
Levetiracetam Injection		High volume	3
Phenobarbital Sodium Injection		Medium volume	NA
Midazolam HCl Injection	Sedative / Hypnotic	High volume	2
Caffeine Citrate Injection	Stimulant	Low volume	4

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Electrolyte Balance-Nutritional Products			
Dextrose 50% in Water Injection	Dextrose solution	Medium volume	1
Sodium Bicarbonate Injection	Electrolyte, Bicarbonate agent	High volume	2
Calcium Chloride Injection	Electrolyte, Calcium	Medium volume	4
Calcium Gluconate Injection	Electrolyte, Calcium	High volume	3
Sodium Phosphate Injection	Electrolyte, Phosphate	Medium volume	3
Cysteine HCl Injection	Macronutrient, Amino acid	Low volume	NA
Fat Emulsion Injection ^a	Macronutrient, Fat	Low volume	NA
Selenium Injection	Mineral, Trace	Low volume	NA
Zinc Chloride Injection	Mineral, Zinc	Low volume	1
Phytonadione (Vit K) Injection	Vitamin K	High volume	3
Endocrine			
Methylprednisolone Sodium Succinate Injection	Glucocorticoid, Intermediate acting	High volume	2
Prednisolone Oral		Medium volume	NA
Prednisone Oral		High volume	NA
Betamethasone Injection	Glucocorticoid, Long acting	Medium volume	3
Dexamethasone Sodium Phosphate Injection		High volume	2
Hydrocortisone Sodium Succinate Injection	Glucocorticoid, Short acting	High volume	1
Gastrointestinal Therapy Agents			
Glycopyrrolate Injection	Anticholinergic	High volume	3
Promethazine Injection ^b	Antiemetic, Phenothiazine	Medium volume	1
Ondansetron HCl Injection ^c	Antiemetic, Selective 5-HT3 antagonist	High volume	3
Digestive Enzymes Oral ^a	Digestive aid, Enzyme	High volume	NA
Lactulose Oral	Laxative, Osmotic	High volume	NA
Hematological Agents			
Aminocaproic Acid Injection	Antifibrinolytic	Low volume	2
Alteplase Recombinant Injection	Thrombolytic, Tissue plasminogen activator	Low volume	NA
Metabolic Modifiers			
Sodium Benzoate/ Sodium Phenylacetate Injection	Urea cycle disorder agent, Conjugating agent	Low volume	3
Oncology Agents			
Busulfan Injection	Antineoplastic agent, Alkylating agent	Low volume	3
Cyclophosphamide Injection		Low volume	4
Dacarbazine Injection		Low volume	2
Ifosfamide Injection		Low volume	2
Lomustine Oral		Low volume	NA
Melphalan Injection		Low volume	4
Temozolomide Injection		Low volume	NA
Thiotepa Injection		Low volume	4
Bleomycin Sulfate Injection	Antineoplastic agent, Antibiotic	Low volume	3
Dactinomycin Injection		Low volume	3

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Methotrexate Injection	Antineoplastic agent, Antimetabolite, Folic acid analog	Medium volume	2
Fludarabine Injection	Antineoplastic agent, Antimetabolite, Purine analog	Low volume	3
Mercaptopurine Oral		Low volume	NA
Nelarabine Injection		Low volume	3
Thioguanine Oral		Low volume	NA
Cytarabine (Conventional) Injection	Antineoplastic agent, Antimetabolite, Pyrimidine analog	Low volume	3
Hydroxyurea Oral	Antineoplastic agent, Antimetabolite, Urea derivative	Low volume	NA
Azacitidine Injection	Antineoplastic agent, Antimetabolites	Medium volume	2
Azacitidine Oral		Low volume	NA
Asparaginase (Erwinia) (Recombinant) Injection	Antineoplastic agent, Enzyme	Low volume	NA
Calaspargase Pegol-mknl Injection		Low volume	NA
Pegaspargase Injection		Low volume	NA
Blinatumomab Injection	Antineoplastic agent, Immunotherapy	Low volume	NA
Nivolumab Injection		Medium volume	NA
Arsenic Trioxide Injection	Antineoplastic agent, Metal complex	Low volume	3
Vinorelbine Tartrate Injection	Antineoplastic agent, Mitotic inhibitor	Low volume	2
Brentuximab Vedotin Injection	Antineoplastic agent, Monoclonal antibody	Low volume	NA
Dinutuximab Injection		Low volume	NA
Gemtuzumab Ozogamicin Injection		Low volume	NA
Inotuzumab Ozogamicin Injection		Low volume	NA
Rituximab Injection ^c		Medium volume	NA
Carboplatin Injection	Antineoplastic agent, Platinum complex	Low volume	2
Cisplatin Injection		Low volume	3
Bortezomib Injection	Antineoplastic agent, Proteasome enzyme inhibitor	Low volume	3
Isotretinoin Oral	Antineoplastic agent, Retinoid	High volume	NA
Tretinoin Oral		Low volume	NA
Cabozantinib S-Malate Oral	Antineoplastic agent, Systemic Enzyme Inhibitor	Low volume	NA
Dabrafenib Mesylate Oral		Low volume	NA
Dasatinib Oral		Low volume	NA
Everolimus Oral		Low volume	NA
Revumenib Citrate Oral		Low volume	NA
Ruxolitinib Phosphate Oral		Low volume	NA
Selumetinib Sulfate Oral		Low volume	NA
Tovorafenib Oral		Low volume	NA
Trametinib Dimethyl Sulfoxide Oral		Low volume	NA
Paclitaxel (Conventional) Injection	Antineoplastic agent, Taxane	Low volume	3
Irinotecan Injection	Antineoplastic agent, Topoisomerase I inhibitor	Medium volume	2

Drug name	Therapeutic classification	Demand planning	Market resiliency score 1-5
Daunorubicin HCl Injection	Antineoplastic agent, Topoisomerase II inhibitor	Low volume	2
Doxorubicin HCl (Conventional) Injection		Low volume	3
Etoposide Injection		Low volume	3
Etoposide Phosphate Injection		Low volume	2
Crizotinib Oral	Antineoplastic agent, Tyrosine kinase inhibitor	Low volume	NA
Imatinib Oral		Low volume	NA
Larotrectinib Sulfate Oral		Low volume	NA
Lorlatinib Oral		Low volume	NA
Vinblastine Sulfate Injection	Antineoplastic agent, Vinca alkaloid	Low volume	1
Vincristine Sulfate Injection		Low volume	2
Mesna Injection	Chemotherapy rescue agent, Urinary tract protective agent	Low volume	2
Eculizumab Injection ^c	Hematologic agent	Low volume	NA
Sargramostim Injection	Hematopoietic agent	Low volume	NA
Rasburicase Injection	Hyperuricemia therapy, Urate-oxidase enzyme	Low volume	NA
Ophthalmic agents			
Erythromycin Ophthalmic	Antibiotic, Macrolide	High volume	NA
Paralytic			
Vecuronium Bromide Injection	Neuromuscular blocker, nondepolarizing	Low volume	3
Respiratory Therapy Agents			
Tobramycin Inhalation	Antibiotic, Cystic fibrosis	Medium volume	NA
Ipratropium Bromide Inhalation	Asthma / COPD, Anticholinergic, short acting	High volume	NA
Albuterol Sulfate Inhalation	Asthma / COPD, Beta 2-adrenergic, short acting	High volume	NA
Epinephrine (Racepinephrine) Inhalation	Asthma, Alpha-/beta-adrenergic	Low volume	NA
Terbutaline Injection	Asthma, Beta adrenergic	Low volume	2
Aminophylline Injection	Asthma, Xanthine	Low volume	1
Surfactant, Lung Intratracheal ^a	Lung surfactant	Low volume	NA

^aSelection of the appropriate agent(s) should be determined by the Pharmacy and Therapeutics (P&T) committee, taking into consideration the specific patient population being treated, as well as clinical, operational and financial factors.

^bNoted as essential for pediatric oncology patients with refractory nausea and vomiting

^cIncludes originator and biosimilar products

Abbreviations: NA = not applicable; COPD = chronic obstructive pulmonary disease

Antidotes

Click on **orange** text to access applicable mitigation strategy.

Drug name	Primary indication in toxicology
3-factor Prothrombin Complex Concentrate (PCC) Injection	Reversal of anticoagulants (e.g., warfarin)
4-factor Prothrombin Complex Concentrate (PCC) Injection	Reversal of anticoagulants (e.g., warfarin, factor Xa inhibitors)
Acetylcysteine Injection	Acetaminophen toxicity
Activated Charcoal Oral	Gastrointestinal decontamination
Activated Prothrombin Complex Concentrate (aPCC; FEIBA) Injection	Reversal of anticoagulants (e.g., DOACs)
Aminocaproic Acid Injection	Life-threatening bleed in patient on thrombolytic or anticoagulation (e.g., DOACs)
Andexanet Alfa (andexanet) Injection	Reversal of factor Xa inhibitors
Antivenin (Latrodectus mactans) Injection	Envenomation due to Latrodectus mactans (black widow spider)
Atropine Injection	Cholinergic toxicity (e.g., organophosphate poisoning)
Botulinum Antitoxin Injection	Botulism (Clostridium botulinum)
Calcium Chloride Injection	Beta-blocker, calcium channel blocker toxicity
Calcium Gluconate Injection	Beta-blocker, calcium channel blocker toxicity
Calcium Gluconate Topical	Hydrofluoric acid
Centruroides Immune F(ab)2 (Equine) Injection	Scorpion envenomation
Crotalidae Immune Fab (Equine) Injection	Crotalinae envenomation
Crotalidae Polyvalent Immune FAB (Ovine) Injection	Crotalinae envenomation
Cyproheptadine Oral	Serotonin syndrome
Dantrolene Sodium Injection	Malignant hyperthermia
Deferoxamine Injection	Acute iron toxicity
Dexrazoxane HCl Injection	Extravasation of anthracyclines
Dextrose 50% in Water Injection	Hypoglycemia (antidiabetic agents)
Digoxin Immune Fab (Ovine) Injection	Digoxin toxicity
Dimethyl Sulfoxide (DMSO)	Extravasation
Edetate Calcium Disodium Injection	Lead poisoning
Fat Emulsion Injection	Systemic toxicity from local anesthetics; lipid soluble cardiotoxic agents (e.g., beta-blockers, CCBs)
Flumazenil Injection	Reversal of benzodiazepines
Folic Acid Injection	Methanol toxicity, reduce toxicity associated with antifolate chemotherapy
Folic Acid Oral	Methanol toxicity, reduce toxicity associated with antifolate chemotherapy
Fomepizole Injection	Methanol, ethylene glycol toxicity
Glucagon Injection	Beta-blocker, calcium channel blocker toxicity
Glucarpidase Injection	Methotrexate toxicity
Glycopyrrolate Injection	Adjunct in NMB reversal (offset cholinergic effects associated w/ neostigmine, pyridostigmine)
Hyaluronidase Injection	Extravasation, misc.
Hydroxocobalamin (Cyanokit) Injection	Cyanide poisoning
Idarucizumab (Praxbind) Injection	Reversal of dabigatran
Insulin Regular (Human) Injection	Beta-blocker, calcium channel blocker toxicity
Leucovorin Calcium Injection	Methotrexate toxicity

Drug name	Primary indication in toxicology
Leucovorin Calcium Oral	Methotrexate toxicity
Levocarnitine (L-carnitine) Injection	Valproic acid toxicity
Levocarnitine (L-carnitine) Oral	Valproic acid toxicity
Levoleucovorin Injection	Methotrexate toxicity
Methylene Blue Injection	Methemoglobinemia
Naloxone HCl Injection	Reversal of opioids
Neostigmine Methylsulfate Injection	Reversal of non-depolarizing NMB
Octreotide Acetate Injection	Hypoglycemia induced by insulin-secretagogues (e.g., sulfonylureas)
Phentolamine Mesylate Injection	Extravasation of vasopressors (e.g., norepinephrine)
Phytonadione (Vit K) Injection	Reversal vitamin K antagonist (e.g., warfarin)
Phytonadione (Vit K) Oral	Reversal vitamin K antagonist (e.g., warfarin)
Potassium Iodide Oral	Radioactive iodine exposure
Pralidoxime Injection	Cholinergic toxicity (e.g., organophosphate poisoning)
Protamine Sulfate Injection	Heparin (UFH, LMWH) reversal
Pyridostigmine Injection	Reversal of non-depolarizing NMB
Pyridoxine HCl (Vit B6) Injection	Isoniazid toxicity
Rabies IVIG Injection	Rabies, postexposure prophylaxis
Rabies Vaccine Injection	Rabies, pre- and postexposure prophylaxis
Rivastigmine Oral	Anticholinergic toxicity (alternative to physostigmine)
Sodium Bicarbonate Injection	Various toxicities (e.g., cyclic antidepressants, salicylates)
Sodium Nitrite Injection	Cyanide poisoning
Sodium Thiosulfate Injection	Cyanide poisoning
Sodium Thiosulfate (Pedmark) Injection	Platin ototoxicity
Succimer (DMSO) Oral	Arsenic, mercury, and lead poisoning
Sugammadex Injection	Reversal of NMB (rocuronium or vecuronium)
Tetanus Immune Globulin Human Injection	Tetanus, prophylaxis and treatment
Tetanus Toxoid Injection ^a	Tetanus, prophylaxis
Thiamine (Vit B1) Injection	Ethanol (prevention/treatment of Wernicke encephalopathy), ethylene glycol toxicity
Tranexamic Acid Injection	Life-threatening bleed in patient on thrombolytic or anticoagulation (e.g., DOACs)
Uridine Triacetate (Vistogard) Oral	Fluorouracil or capecitabine toxicity

To learn more details about **Vizient Pharmacy Solutions** and the **Novaplus Enhanced Supply program**, go to www.vizientinc.com or email pharmacyquestions@vizientinc.com.

Abbreviations: DMSO = Dimethyl sulfoxide; DOAC = Direct-acting oral anticoagulant; Inj = injection; LMWH = Low molecular weight heparin; NMB = Neuromuscular blocker; UFH = Unfractionated heparin

^aRefers to a tetanus toxoid-containing vaccine; see guidelines for preferred presentation based on age and current vaccine status



290 E. John Carpenter Freeway
Irving, TX 75062
www.vizientinc.com



To learn more, please contact Vizient Center
for Pharmacy Practice Excellence at
PharmacyQuestions@vizientinc.com

Vizient, Inc. provides solutions and services that improve the delivery of high-value care by aligning cost, quality and market performance for more than 65% of the nation's acute care clients, including 97% of the nation's academic medical centers, and more than 35% of the non-acute market. Vizient provides expertise, analytics, consulting services and a contract portfolio that represents \$140 billion in annual customer purchasing volume to improve patient outcomes and lower costs.

© 2025 Vizient, Inc. All rights reserved.

The reproduction or use of this document in any form or in any information storage and retrieval system is forbidden without the express, written permission of Vizient.