

# Supply Chain Disruption Updates

## February 2022

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The end-to-end global supply chain continues to experience unprecedented disruptions which are affecting multiple economies and industries, including the American healthcare industry. At Premier, we are committed to leading our members and suppliers in finding innovative ways to solve for these challenges and allow for our hospitals to continue providing high quality and cost-effective patient care.

Our previous publications can be found online at our [Disaster Preparedness and Response page](#) within PremierConnect™. This February update is a continuation of that resource and is inclusive of some previous updates. The following information provides market updates, insights, resources, and guidance for your supply chain teams as we continue navigating global supply chain disruptions.

## Import, Shipping, & Transportation Trends

Global freight rates remain high yet mostly stable:

**Freightos Baltic Index FBX Update (week of 16 Feb 2022):**

**Asia-US West Coast prices (FBX01 Daily)** increased 3% to **\$15,671/FEU**. This rate is **175% higher** than the same time last year.

**Asia-US East Coast prices (FBX03 Daily)** climbed 8% to **\$17,931/FEU**, and are **217% higher** than rates for this week last year.

Pre-pandemic, ocean freight costs for these same routes were averaging anywhere between \$3k and \$6k per container.

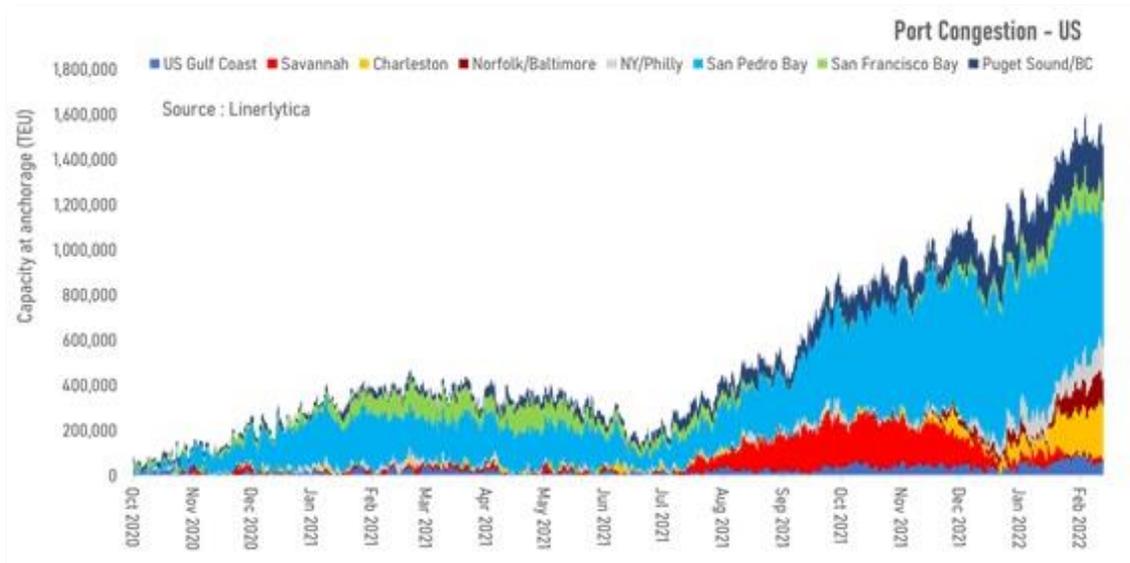
According to Freightos, ocean freight transpacific rates increased, likely reflecting an increase in demand as the Lunar New Year holiday ends, manufacturing picks back up and backlogs start to move. Asia - US East Coast rates increased 8% compared to just 3% for West Coast prices, possibly indicating growing appetite for shipments to the East Coast as congestion continues to plague LA/Long Beach.



Premier continues to observe ocean freight rates as a factor among many pressures that have a large influence on overall costs of goods sold in the United States. While rates have seemed to stabilize over the last two months, they continue to exceed the pre-pandemic ocean freight costs.

## Domestic and International Port Updates:

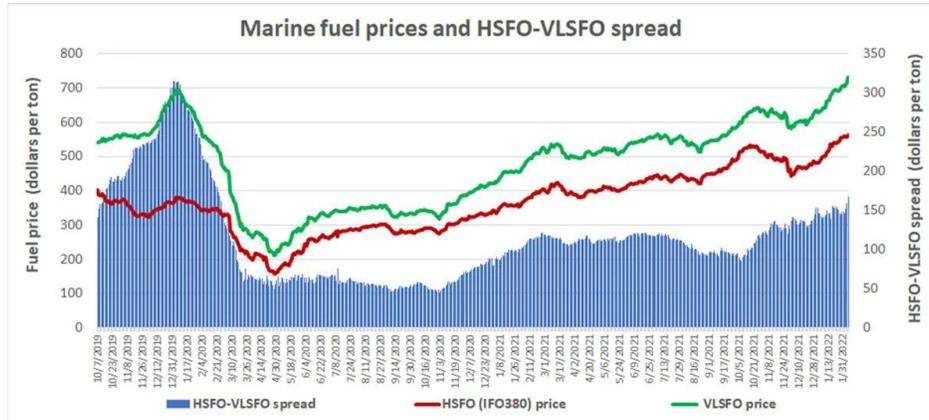
- The Ports of LA/LB continue working aggressively to alleviate the global container imbalance by pushing to ship empty containers back to Asia. The Port of LA Executive Director Gene Seroka [reported](#) that, “There were some 90,000 empty containers on Port of LA docks or yards in December. Today that number has dropped by about a third to 64,000 units, so we’ve seen significant improvement in recent weeks.”
- In another move to alleviate congestion and increase throughput, the state of California has also [leased six properties](#) that could store up to 20,000 containers off port. The 1-year lease includes three armories, a former prison, and two fairgrounds.
- Containerized volumes have increasingly been shifted to the East Coast. January was a record-breaking month for import volumes in South Carolina, which has been tied to the congestion experienced at West Coast ports.
- The [Port of Savannah](#) continues to manage record volumes by taking additional steps to improve throughput such as expanding its workforce in addition to the creation of five inland pop-up container yards.
- In Asia, an increasing number of ports in China have been impacted by the spread of the Omicron variant, causing targeted shutdowns and labor shortages.
- With global port congestion continuing to persist, container vessel schedule reliability has dropped to the lowest levels since 2011 and is anticipated to remain poor. Source: [C.H. Robinson Global Freight Market Insights](#).
- While there was a slight decrease in the vessel queue in February at LA/LB, the reality is that the overall containership queue at US ports remains at a record high. According to a report by [Linerlytica](#), the reduction in LA/LB was the result of vessel diversions to the US East Coast as well as other West Coast ports since October 2021, that has spread the congestion contagion to the other North American ports.



U.S. Port Congestion, Capacity at Anchorage | Source: Linerlytica

### Transportation Costs – Marine Fuel:

- American Shipper [reports](#) that **the price for fuel to power ships, tankers, and bulkers continues to rise**, and is close to hitting an all-time high (previously March 2012 and July 2008).
- In addition, any significant conflict that arises as a result of tensions among Russia and Ukraine will threaten global supplies even further. Russia is currently the world’s third-largest oil producer, and if a conflict in Ukraine leads to a substantial decrease in the flow of Russian barrels to the market, it would cause a significant impact to the world’s supply and demand.



### Transportation Costs – Retail Gasoline and Diesel Fuel:

- Within the United States, **the weekly averages for Retail Gasoline and Diesel Prices have risen to even higher levels**. During the week of 2/14, the average cost for Diesel (On-Highway) eclipsed \$4.00/gal. In many areas of the country, it is even higher. The West Coast averages at \$4.65/gallon, and California comes in at the top at \$4.99/gallon.

U.S. On-Highway Diesel Fuel Prices*(dollars per gallon)	full history				
	01/31/22	02/07/22	02/14/22	Change from week ago	Change from year ago
U.S.	3.846	3.951	4.019	▲ 0.068	▲ 1.143
East Coast (PADD1)	3.852	3.971	4.063	▲ 0.092	▲ 1.165
New England (PADD1A)	3.833	3.947	4.007	▲ 0.060	▲ 1.119
Central Atlantic (PADD1B)	4.002	4.098	4.210	▲ 0.112	▲ 1.158
Lower Atlantic (PADD1C)	3.761	3.896	3.980	▲ 0.084	▲ 1.182
Midwest (PADD2)	3.714	3.808	3.884	▲ 0.076	▲ 1.032
Gulf Coast (PADD3)	3.608	3.730	3.785	▲ 0.055	▲ 1.158
Rocky Mountain (PADD4)	3.757	3.861	3.911	▲ 0.050	▲ 1.124
West Coast (PADD5)	4.544	4.622	4.651	▲ 0.029	▲ 1.323
West Coast less California	4.184	4.250	4.261	▲ 0.011	▲ 1.301
California	4.862	4.949	4.994	▲ 0.045	▲ 1.359

\*prices include all taxes

### Surface Transportation Rates (Domestic):

- The cost of domestic surface transportation rates also continues to climb as the [Load-to-Truck Ratio](#) escalates even further. Even though dry van volumes increased 2% last week, line haul rates decreased another penny per mile. The national average all-in rate is still \$3.13/mile for the month of February, though. **To put these extraordinary numbers into perspective, last week's average spot rate was 32% higher than this time last year and around \$1.00/mile higher than 2018, as that year's rate rally was just getting started.** Spot rates in the dry van sector have only decreased by 6 cents in the last month – last year, they dropped 33 cents in the first six weeks of 2021.
- Transportation spot rates for vans, flatbeds, and reefers have all seen increases over the last quarter.



National Spot Rates: Van, Flatbed, Reefer

### Warehousing Costs:

- Warehousing costs have also continued rising, according to the [January 2022 Logistics Manager's Index Report](#)®. “Even with the drop in overall spending in December, ecommerce was 16% of total retail during the holiday season [18] – a record high that will likely continue to be broken every year at least through the first half of this decade. **The lack of capacity continues to drive Warehousing Utilization (+3.7 to 71.0) and Warehousing Prices (+3.8 to 85.9) upwards.** The limited availability is encouraging retailers to acquire upstream distribution centers to ensure they have somewhere to store their goods [19]. Until more capacity is available, the growing appetite for ecommerce will keep costs high.”

### Retail sales, strong U.S. consumer activity continues through January 2022:

In January of 2022, reports show that U.S. retail sales continue to be much higher year over year when compared to pre-pandemic levels. As this strong consumer activity continues, so will the pressures currently be affecting US supply chains.

A combination of high consumer demand, coupled with a constrained transportation, warehousing, and logistics networks, continues impact the overall delivery of goods in several industries, including healthcare. Premier will continue monitoring consumer demand over the next few months in an effort to forecast if these retail sales trends decrease ahead of the peak shipping season which traditionally begins in August.



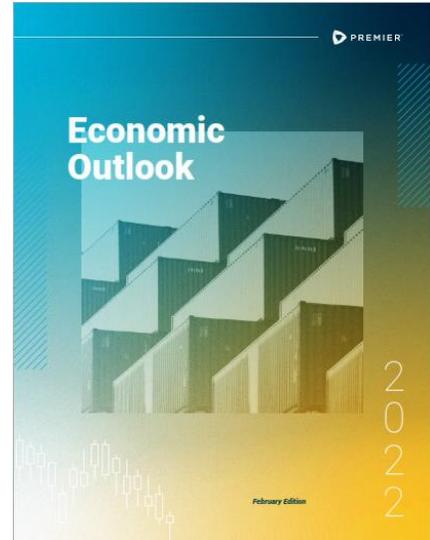
Source: FreightWaves TV ([Link](#))

**NEW: The Premier Economic Outlook (Spring 2022) is now available:**

The Economic Outlook is Premier’s flagship publication that highlights emerging economic and industry trends impacting our membership and shaping the healthcare landscape. As an important thought leadership resource, the publication provides strategic insight to financial, clinical and supply chain healthcare executives across the country.

This edition of the Economic Outlook goes back to its root as a supply chain publication. The sole focus of this edition is on the economics and commodities sections that have been included in prior publications as well as additional updates due to the COVID-19 pandemic.

To access the publication, [click here](#).



## Pharmacy Supply Chain Updates

**Thesis now available: *Drug Shortages: Pervasive Challenges, Proven Solutions:***

While the COVID-19 pandemic exacerbated pharmaceutical supply chain challenges, pervasive drug shortages are the result of marketplace dynamics and cracks in the supply chain that originated long ago.

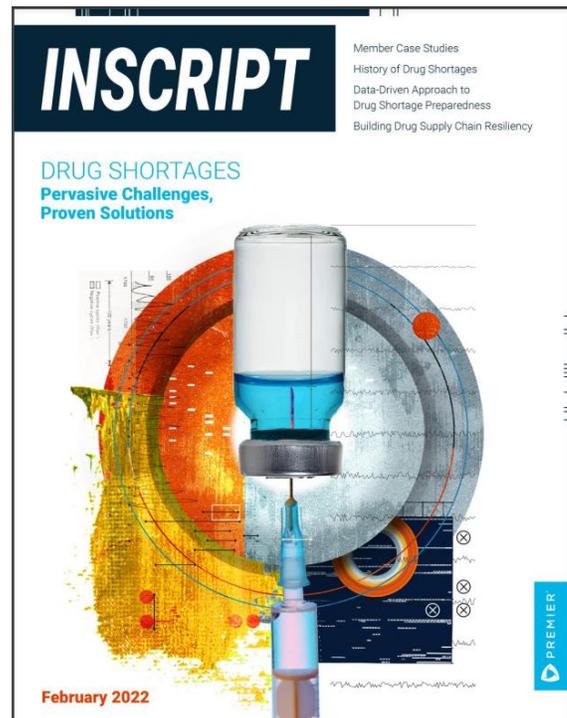
This inaugural edition of INSCRIPT, a new thought leadership publication from Premier’s Pharmacy experts, provides insights and recommendations for how regulators, manufacturers, distributors, purchasing groups and providers can manage and mitigate future drug shortages.

**Key features include:**

- Detailed recommendations: building drug supply chain resiliency
- Premier member case studies
- Data-driven approach to drug shortage preparedness
- And more

For more than two decades, Premier and its members have taken a leadership role in preventing and resolving drug shortages — bringing innovative solutions to the marketplace with a keen intent to bolster drug supply resiliency. Standing together with our members and in collaboration with stakeholders across the supply chain, our commitment to protect providers and patients from pharmaceutical supply disruption will never waiver.

For more information and to read the thesis, follow [this link and complete the form](#).



## Pharmacy Supply Chain Updates Continued: Recent Drug Shortages | February 2022:

Premier regularly publishes updates related to supply disruptions among several products and categories within Pharmacy. The February 2022 update contains the latest information on supply disruptions regarding metoprolol injection, amiodarone injection, dextrose 50% injection and related presentations, epinephrine injection, IV fluids, dialysate solutions, sterile water for injection, sodium chloride vials and flush syringes, heparin flush syringes, and heparin IV bags.

February Update: The most recent surge of the Omicron variant during the COVID-19 pandemic and ongoing demand for COVID vaccine has led to upstream and downstream bottlenecks throughout the supply chain – affecting manufacturing, labor, and distribution logistics. Premier continues to track several critical drug shortages impacting purchasing and clinical decisions.

The full drug Kabi shortage publication can be found at the [Drug Shortage Notifications page](#) in PremierConnect

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### Update on Recent Shortages

**In the news (Feb 2022)**

Impact of the most recent surge of Omicron variant during the COVID-19 pandemic and ongoing demand for COVID vaccine has led to upstream and downstream bottlenecks throughout the supply chain – affecting manufacturing, labor, and distribution logistics. Premier continues to track several critical drug shortages impacting purchasing and clinical decisions.

Premier published a [Supply Chain Disruption Update](#) in January outlining the global conditions impacting timely delivery of healthcare supplies and now, pharmaceuticals. Premier also released a [thesis paper](#) on pharmaceutical supply chain resiliency in February.

Below is the latest information on supply disruptions regarding metoprolol injection, amiodarone injection, dextrose 50% injection and related presentations, epinephrine injection, IV fluids, dialysate solutions, sterile water for injection, sodium chloride vials and flush syringes, heparin flush syringes, and heparin IV bags.

**Fill Rates Tracking (Dec 2021 – Feb 2022)**

Generic Name	Total Received Units (EA)			Month of Invoice Data			Fill Rate Percent			
	12/01/21	01/01/22	02/01/22	12/01/21	01/01/22	02/01/22	12/01/21	01/01/22	02/01/22	
0.9% SODIUM CHLORIDE	9,242,297	6,989,486	1,198,207	13,000	15,900,140	9,147,322	1,579,076	84.0%	72.0%	73.0%
DEXTROSE 50% IN WATER	28,680	58,739	24,048	28,448	62,038	20,494	90,494	90.4%	92.3%	89.9%
DEXTROSE 25% IN WATER	0	4,150	100	21,700	33,570	4,000	0.0%	12.4%	4.3%	
DEXTROSE 10% IN WATER	90,268	22,694	1,987	186,740	279,269	79,872	88.2%	8.9%	2.0%	
DEXTROSE 5% IN WATER	10,362	12,273	3,000	51,240	10,562	3,311	80.2%	83.7%	83.7%	
SODIUM CHLORIDE 0.9% INJECTION	2,950,247	3,228,033	538,302	5,021,967	5,538,437	788,121	58.0%	58.3%	65.0%	
WATER FOR INJECTION/STERILE	827	98,844	22,237	29,602	106,544	26,287	2.8%	69.0%	82.0%	
AMIODARONE HCL	82,974	162,244	62,930	100,113	211,337	80,349	69.1%	72.0%	77.8%	
AMIODARONE IN DEXTROSE/50-500	40,396	80,002	9,396	90,204	76,122	40,664	91.9%	66.0%	22.9%	
METOPROLOL TARTRATE	284,765	221,920	43,805	227,800	370,227	82,900	89.9%	67.2%	92.9%	

**Manufacturer Updates and Suggested Management Strategies**

Intermittent manufacturer releases continue to occur; next anticipated shipment is noted below. Available product at the wholesaler at any given time may not be sufficient to meet overall demand and potential volume increases during the latest pandemic surge.

**Metoprolol Injection**

There are multiple manufacturers of metoprolol injection who have reported varying levels of market availability. ASHP has published a [table of alternatives](#) to metoprolol should the market constraints necessitate changes in clinical practice.

- Pfizer's metoprolol injection (NDC 00409177805) is in limited supply with a release expected in February and anticipated recovery in May 2022
- Fresenius Kabi has not listed metoprolol as a product under backorder as of February 4

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- H9
- Fe
- Ba
- CR
- AD
- CH

**Amiodarone**

- Ba
- mL
- H9
- HD
- P1x

**Management:**  
centralizing

If in need of

- TH
- SH
- CA

**Dextrose 50%**

- PR
- dsl
- An
- ma
- wd
- Pa
- CR

**Management:**  
downstream  
centralizing  
considered  
large volume  
replenisher

**Epinephrine**

There are 1 available; if consider c or offering c or

**Management:**

**IV Fluids**

- Ba
- p1c
- Ba
- p1c
- p1c
- B1
- B11

when commercial products are unavailable. Concentrated sodium chloride has also been recently reported to be in [short supply](#).

- If all other options have been exhausted, consider compounding SVPs of 5% Dextrose in water or 0.9% Sodium Chloride. There are two options for this: 1) Use 1 L bags of commercially available 5% Dextrose in water or 0.9% Sodium Chloride and repackage into small bag sizes (50 or 100 mL), OR 2) compound Dextrose 5% in water or Sodium Chloride 0.9% using concentrated dextrose or sodium chloride, respectively (considered medium-risk) and further diluting with sterile water.
  - Option 1 is considered to be a safer practice than option 2. Consider option 2 only if the 1 L commercial bags are also in short supply and on conservation/allocation.
    - Repeater pumps can be used for compounding and will help minimize employee fatigue and over-use injuries.
    - If compounded or repackaged bags have been frozen to extend dating, thoroughly inspect the bag before dispensing to ensure the bag did not crack or spill during frozen storage.

- The [Water Side Practice Guidelines for Adult IV Pumps/Monitors](#) outlines some potential safety concerns with the use of single use of containers of fluid to repackage into smaller presentations. Recently, [ASHP](#) cautioned against use of saline flush syringes to dilute or reconstitute medications.

**Heparin Flush Syringe**

While practice paradigms generally favor the use of saline-filled syringes for flushing IV ports, recent saline supply interruptions may have increased the demand for heparin flush syringes as a substitute. Medtronic, BD, Medline, Fresenius Kabi are at capacity and it should be noted that availability of heparin flush may not reach the magnitude of saline flush syringes given standards and recommendations indicating preference of saline over heparin.

- See [Anticoagulation Central Venous Catheter Care](#) (Pgs 6, 7, 8)
- Review recent [Joint Commission FOCUS on medication flush syringe](#) by pharmacy and the application of standards as a drug versus a device
- Infection Therapy Standards of Practice, 6<sup>th</sup> Ed. [\(See page 34-35\)](#)
- See additional management strategies addressed in a recent publication entitled - [Multidisciplinary approach to navigating a critical heparin shortage](#)

**Heparin Bags**

Heparin Bags, which are made in Europe, are experiencing back orders due to COVID conditions and local mandates. European countries are now starting to lift mandates which should restart the flow of supply. The manufacturer adds that continued challenges in logistics and further quality releasing may be necessary once in the United States which can extend the resupply time to late February or beyond. Premier members are requested to submit drug commitment schedules to be placed on the list for ProVedix which will lead to greater surety in consistent supply going forward. Members with a signed Letter of Participation in ProVedix and considering a commitment to purchase heparin bags through the program can contact Chip Booth: [chip\\_booth@governix.com](mailto:chip_booth@governix.com)

- See additional management strategies addressed in a recent publication entitled - [Multidisciplinary approach to navigating a critical heparin shortage](#)

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# Premier's Category Watch List

Premier has assembled an internal team that is focused on our Category Watch List. This advisory group pulls together subject matter experts from our clinicians, supply chain experts, portfolio advisors, data teams and our Value Analysis Advisory Committee (VAAC) to surface categories and products within our portfolio that require additional supply chain risk and resiliency measures. Outside of this list, all active product disruptions can be found listed on our [Disaster Response](#) and [Shortages and Disruptions](#) pages within PremierConnect. Each product disruption document provides the latest information on alternative suppliers, conservation strategies and get-well timelines if known.

The list is assembled based on member feedback and is categorized into two phases.

**Phase 1** (priority or immediate action) includes products that have limited suppliers in the market, have raw material constraints, offshore manufacturing locations and/or have increased usage throughout the membership.

**Phase 2** (watching the market for disruption indicators) includes products that have limited suppliers in the market, potential raw material constraints, have offshore manufacturing locations and have increased usage during the COVID-19 pandemic.

Premier has also been working with our Advocacy team and submitting this Watch List directly to our partners at the White House. This collaboration is intended to allow for Premier to create new industry partnerships for our membership should the need arise.

Below is the current list of top products we are reporting and monitoring so that we can prevent further disruption. All future updates will be posted to our PremierConnect page [linked here](#).

## Product Watch List – Updates for February. 15, 2022 (Phase 1 Products)

Phase One Priority – Immediate Action	Phase One Type of Shortage	Phase One Material Issue	2.15.22 Information
<b>Surgeon Sterile Gloves</b>	Material/Limited Suppliers	Resin	Shortages/Backorders continue
<b>Hot and Cold Packs</b>	Material Shortage/Increased Usage	Raw Material	Shortage continues
<b>Laboratory Specimen Collection</b>	Material Shortage/Increased Usage	Resin	Shortage continues
<b>Standard Hypodermics/Safety Hypodermics</b>	Material Shortage/Increased Usage	Resin	Shortage continues
<b>Hemodialysis Fluid</b>	Global Shortage	Material	Global material shortage
<b>Safety Phlebotomy</b>	Material Shortage	Material	Moved to priority 1 2.15.2022

<b>Phase One Priority – Immediate Action</b>	<b>Phase One Type of Shortage</b>	<b>Phase One Material Issue</b>	<b>2.15.22 Information</b>
<b>Chest Drainage</b>	Material/Limited Suppliers	Resin	Shortage continues
<b>Flush Syringes</b>	Material Shortage	Resin and Flush	Shortage continues
<b>Suction Canisters</b>	Material Shortage	Resin	Shortage continues
<b>Normal Saline and Sterile Water Vials</b>	Material Shortage /Offshore Manufacturing	Material	Shortage continues
<b>CADD Tubing and cassette</b>	Shortage	Raw Material	Shortage continues
<b>IV Therapy Products 250cc, Mini-bags and Irrigation Fluids</b>	Material Shortage	Raw materials, transit, labor	2.15.2022 Moved to priority 1

**Product Watch List – Updates for February. 15, 2022 (Phase 2 Products)**

<b>Phase Two - Watching</b>	<b>Phase Two Type of Shortage</b>	<b>Phase Two Material Issue</b>	<b>2.15.22 Update</b>
<b>Surgical Mask</b>	Product shortage	Supplier Allocation	Increased usage due to public usage
<b>Sharps Containers</b>	Material Shortage	Resin	Shortage continues
<b>Infant Formula</b>	Material Shortage	Supplier Backorder	Shortages continue – recommend securing direct from supplier
<b>Lipids</b>	Product Shortage	Supplier Allocation	Shortage continues
<b>Manual Microbiology</b>	Product Shortage	BD Discontinuation of SKU's	Added 1.11.2022
<b>Disposable Anesthesia</b>	Product Shortage	Toddler/Pediatric size Mask	Pediatric size shortage

<b>Phase Two - Watching</b>	<b>Phase Two Type of Shortage</b>	<b>Phase Two Material Issue</b>	<b>2.15.22 Update</b>
<b>Oral Care</b>	Product Shortage	Material	Shortage continues
<b>General Urological</b>	Material Shortage	Supplier Backorder	Shortage continues
<b>CHG Skin Prep</b>	Material Shortage	Allocation and Backorder	Shortage continues
<b>Umbilical Artery Catheters</b>	Material Shortage	Allocation and Backorder	Shortage continues
<b>Belt Fetal Monitoring</b>	Material Shortage	Allocation and Backorder	Shortage continues