





**2020**

**The Most Disruptive Year on Record?**

An aerial photograph of a large body of water, likely a port or harbor, with numerous container ships of various sizes and colors. In the background, a city skyline is visible across the water. A prominent red banner is overlaid on the center of the image, containing white text. In the foreground, a large white container ship with the name 'Matson' on its side is moving towards the right, leaving a white wake.

**Or 2021**  
**The Most Disruptive Year on Record?**



A wide-angle photograph of a large outdoor event at night. The scene is illuminated by bright stadium lights. In the foreground, several blue pop-up tents are set up on a dirt field, with people gathered around them. In the background, a large crowd of people is scattered across the field. Beyond the field, there are several tall apartment buildings and a range of mountains in the distance under a dark sky. A red banner with white text is visible in the middle ground.

**Or 2022  
The Most Disruptive Year on Record?**

# Traditional Suppliers Disrupted





# Non-Traditional Suppliers Emerged to Save the Day



**ESOUNDMED**



## Significant Changes as Compared to 2019 - 2021

<b>Number of Vendors</b>							
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>% Change 2019 vs 2020</b>	<b>% Change 2020 vs 2021</b>
Covers Shoe	29	61	61	186	63	204.9%	-66.1%
Eyewear Safety	42	91	127	164	87	29.1%	-47.0%
Gloves Examination/Treatment	68	155	133	315	320	136.8%	1.6%
Gloves Surgical	30	42	43	46	57	7.0%	23.9%
Gowns Isolation	24	31	28	38	29	35.7%	-23.7%
Gowns Medical	17	23	25	23	17	-8.0%	-26.1%
Respirators Air-Purifying	19	51	41	53	26	29.3%	-50.9%
Shields Splash Face	24	54	75	185	72	146.7%	-61.1%
Surgical Masks	26	37	33	43	38	30.3%	-11.6%


## Current State – Magnesium Shortages in China







# Functional Equivalents and Product Availability – Aluminum Crutches

					
Vendor	Website	Availability Status	Date of Confirmation	Anticipated Availability Date	Notes
A&A Orthopedics Inc	<a href="http://www.aaorthopedics.com/product/aluminum-push-button-crutches/">http://www.aaorthopedics.com/product/aluminum-push-button-crutches/</a>	Available	01/20/2022	Not applicable	Verified on vendor website
ACME Medical Supply Inc	<a href="http://acmedme.com/mobility/">http://acmedme.com/mobility/</a>	Backorder	01/20/2022	03/01/2022	
ACO Med Supply Inc	<a href="https://acomedsupply.com/products/crutches-with-underarm-pad-and-handgrip?_pos=2&amp;_sid=bce">https://acomedsupply.com/products/crutches-with-underarm-pad-and-handgrip?_pos=2&amp;_sid=bce</a>	Out of Stock	01/20/2022	Unknown	
AOSS Medical Supply	<a href="https://aossmedicalsupply.com/products/universal-aluminum-crutches-adult-p501045?_pos=1&amp;_si">https://aossmedicalsupply.com/products/universal-aluminum-crutches-adult-p501045?_pos=1&amp;_si</a>	Available	01/20/2022	Not applicable	Verified on vendor website
ASP Medical	<a href="https://aspmedical.com/">https://aspmedical.com/</a>	Unknown	01/20/2022	Unknown	
Atlantic Medical Solutions	<a href="https://atlms.tshinc.com/atlms/">https://atlms.tshinc.com/atlms/</a>	Out of Stock	01/20/2022	Unknown	On allocation
Better Braces	<a href="https://www.betterbraces.com/">https://www.betterbraces.com/</a>	Out of Stock	01/21/2022	Unknown	
Binson's Home Health Care	<a href="https://www.binsons.com/">https://www.binsons.com/</a>	Out of Stock	01/20/2022	Unknown	Very small quantities available locally
Bio-Medic Health Services Inc	<a href="https://www.bmhsi.com/">https://www.bmhsi.com/</a>	Available	01/20/2022	Not applicable	Stock of Drive Medical and Strong
BodyMed	<a href="https://www.bodymedproducts.com/">https://www.bodymedproducts.com/</a>	Backorder	01/21/2022	04/01/2022	
Breg Inc	<a href="https://www.breg.com/">https://www.breg.com/</a>	Out of Stock	01/20/2022	Unknown	
Cardinal Hosp Sci	<a href="https://www.cardinalhealth.com/">https://www.cardinalhealth.com/</a>	Unknown	Unknown	11/30/2021	Unknown
Carex Health Brands	<a href="https://carex.com/products/carex-aluminum-crutches-adult">https://carex.com/products/carex-aluminum-crutches-adult</a>	Available	01/20/2022	Not applicable	Verified on vendor website
Chicago Medical Supply LLC	<a href="https://www.chimedsupply.com/Home/?search=crutches">https://www.chimedsupply.com/Home/?search=crutches</a>	Out of Stock	01/20/2022	Unknown	Verified on vendor website
Compass Health	<a href="https://compasshealthbrands.com/">https://compasshealthbrands.com/</a>	Backorder	01/21/2022	04/01/2022	On allocation
Convaquip Industries Inc	<a href="https://convaquip.com/">https://convaquip.com/</a>	Out of Stock	01/20/2022	Unknown	Verified on vendor website
Danlee Medical Products Inc	<a href="http://www.danleemedical.com/">http://www.danleemedical.com/</a>	Out of Stock	01/20/2022	Unknown	
DDP Medical Supply	<a href="https://ddpmedical.com/">https://ddpmedical.com/</a>	Out of Stock	01/21/2022	Unknown	
DeRoyal Industries	<a href="https://www.deroyal.com/">https://www.deroyal.com/</a>	Out of Stock	01/21/2022	Unknown	On allocation

# Aluminum Crutches – Reuse Policy

## Crutch inspection considerations:

1. Examine tubes. Look for damage, kinks or bends.
2. Examine bolts and rivets. Ensure they are firm.
3. Examine holes. Confirm they are not misshapen
4. Examine spring buttons. Confirm they work properly in every position
5. Examine and disinfect arm cuffs and handles. Confirm they are intact.
6. Examine ferrules. Replace if necessary.



# Current State – Resin Shortages





# Resin is Critical for Plastic Production




# Products Impacted – By Resin Shortages

1. Airways
2. Blood collection tubes
3. Suction Canisters
4. Syringes
5. Trocars



# Functional Equivalents and Product Availability – Collection Containers Aspirator/Suction Unit

					
Vendor	Website	Availability Status	Date of Confirmation	Anticipated Availability Date	Notes
Allied Healthcare	<a href="https://www.alliedhpi.com/">https://www.alliedhpi.com/</a>	Backorder	01/05/2022	01/31/2022	
Amsino International	<a href="http://www.amsino.com/en/">http://www.amsino.com/en/</a>	Backorder	01/05/2022	02/01/2022	Liners are available
Bemis Mfg Co	<a href="https://www.bemishealthcare.com/">https://www.bemishealthcare.com/</a>	Unknown	01/06/2022	Unknown	
Cardinal Hosp Sci	<a href="https://www.cardinalhealth.com/en.html">https://www.cardinalhealth.com/en.html</a>	Unknown	01/06/2022	Unknown	
DeRoyal Industries	<a href="https://www.deroyal.com/">https://www.deroyal.com/</a>	Backorder	01/06/2022	Unknown	Rolling backorder. Currently accepting pallet orders
Drive DeVilbiss Hlth Inc	<a href="https://www.drivemedical.com/">https://www.drivemedical.com/</a>	Backorder	01/06/2022	02/04/2022	
Invacare Corp	<a href="http://www.invacare.com/cgi-bin/imhqpr">http://www.invacare.com/cgi-bin/imhqpr</a>	Available	01/06/2022	Not applicable	#IRC1140 is currently available
Medline Industries	<a href="https://www.medline.com/">https://www.medline.com/</a>	Available	01/06/2022	Not applicable	Available stock may be on allocation. Certain catalog num
Medtronic Minimally Invasive	<a href="https://www.medtronic.com/">https://www.medtronic.com/</a>	Available	01/06/2022	Not applicable	#72200024 is currently available
Penumbra Inc	<a href="https://www.penumbrainc.com/">https://www.penumbrainc.com/</a>	Unknown	01/06/2022	Not applicable	
Precision Medical Inc	<a href="https://www.precisionmedical.com/">https://www.precisionmedical.com/</a>	Backorder	01/06/2022	01/20/2022	Approximate lead time of two weeks



# Path Forward to Navigate Future Supply Chain Disruption and a More Resilient Supply Chain – Short Term

## Less reliance on international manufacturers

## Reassess inventory models

- Methodology
- Inventory on Hand (30, 60, 90, 120 days)

## Maintain collaborations that worked:

- Government agencies – local and federal
- GPOs, Manufacturers, Distributors
- Frenemies – Local competitors

# Path Forward to Navigate Future Supply Chain Disruption and a More Resilient Supply Chain – Short Term

- **Functional Equivalents: have GPO and distributor agnostic solution that identifies all available alternatives**
- **Proactively catalog alternatives in your Item Master**
- **Establish a connection with an international broker**

# Path Forward to Navigate Future Supply Chain Disruption and a More Resilient Supply Chain – Long Term

## Transition from reactive to proactive

- Collect and track country of origin data, for both products and raw materials. Having this information on hand will help you react more proactively

## Transparency

- Manufacturers and providers

## Digital Transformation and Artificial Intelligence

- Will accelerate your ability to react proactively when encountered with the next, and there will be a next, disruption

		China	Dominican Republic	Mexico	Honduras	Indonesia	Malaysia	Thailand	Austria	Vietnam	Cambodia	USA	India	Myanmar
Covers Shoe	Cardinal Health	X	X	X		X	X	X						
Covers Shoe	DuPont USA	X												
Covers Shoe	Medline	X					X	X						X
Covers Shoe	Uline Shipping Supplies	X												
Gloves Examination/Treatment	Cardinal Health	X	X	X		X	X	X						
Gloves Examination/Treatment	Medline	X					X	X						X
Gloves Examination/Treatment	Santa Cruz Biotech	X												
Gloves Examination/Treatment	Tidi Products LLC	X												
Gowns Isolation	Cardinal Health	X	X	X		X	X	X						
Gowns Isolation	Medline	X					X	X						X
Gowns Isolation	Encompass Group	X												
Gowns Isolation	Medline	X					X	X						X
Gowns Isolation	Tidi Products LLC	X												
Respirators Air-Purifying	3M HealthCare	X										X	X	
Respirators Air-Purifying	Cardinal Health	X	X	X		X	X	X						
Respirators Air-Purifying	Medline	X					X	X						X
Surgical Masks	Cardinal Health	X	X	X		X	X	X						
Surgical Masks	Medline	X					X	X						X



