

Product Shortages During Disasters: Opportunities to Predict, Prevent, and Respond

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Normal Supply Chain

- 'Just In Time' inventory system
 - Reorder at 5 day supply; build to 7 day supply
 - Advantages
 - Increases efficiency
 - Decreases waste
 - Reduces inventory storage and cost
 - Disadvantages
 - Disruption in supply chain leads to lack of drug for patients

Shortages

- Products we cannot obtain to treat our patients
 - Unexpected shortages are difficult to prevent
 - Quick and effective management is necessary to decrease impact
 - May require changes to physician practice and EHR



Shortage Causes

Manufacturing

- Production problems: API, vials, stoppers
- Manufacturer stops producing

Regulatory

- Stringent FDA oversight
- Time intensive certification process
- DEA allocations of controlled drug API

Marketplace

- Limited competition
- Limited secondary production capacity
- Consolidation

Prediction and Prevention

- Improve product forecasting
 - Identify what products are made at what facilities (not publicly available, Maria)
- Sterile compounding in-house or 503B
 - Dependent on <USP 797> and state board of pharmacy regulations
- Quickly identify sourcing alternative options for shortage products

Hospital Stakeholders



Physicians



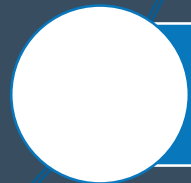
Pharmacists / Medication Safety



Nursing



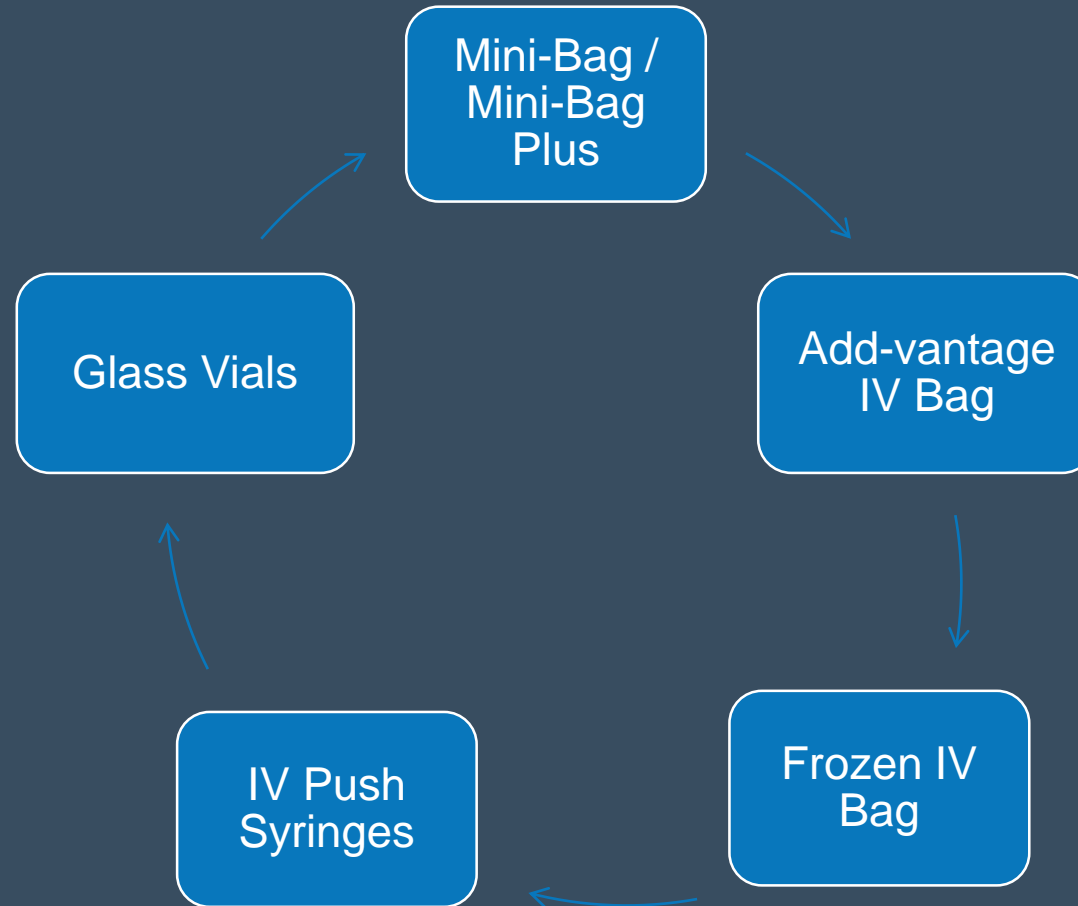
Informatics



Supply Chain



Sourcing Alternative Products - Maria



Response to Shortages

- Manage inventory
- Collaborate with drug manufacturers
- Optimize compounding practices
- Changes in practice
- Leverage the pharmacy enterprise
 - Daily pharmacy huddles
 - Weekly inter-professional huddles



Regulatory Help

- Legislative assistance
 - Easier entry into marketplace
 - Increase competition
 - Allow importation into normal supply chain during a U.S. shortage
 - Increase transparency of API suppliers
 - Permanently allow batching of non-patient specific products

Key Takeaways

- Shortages have practice changing impacts on hospitals
- Causes vary from difficulties manufacturing, stringent regulation, consolidation of manufacturers, and imbalances in the marketplace
- Response requires a strategic approach from health systems



Every life deserves world class care.

