Lessons from Hurricane Maria
Risk Management and Recovery in a Global Supply Chain

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Monthly Volume – All Hospital Codes

Monthly Volume – Maria Impacted Codes

Pre Maria
Before Sep 20, 2017

Monthly volume in units

8% = relative standard deviation (StdDev/Mean)
Pre Maria
Before Sep 20, 2017

Monthly Volume – 500+ Bed Hospital

Monthly Volume – 200 Bed Hospital

Monthly volume in units

#% = relative standard deviation (StdDev/Mean)
Puerto Rico Challenges
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Hurricane-related power outages in Puerto Rico

Before Maria

- San Juan (Pop 355k)
- Caguas (Pop 134k)
- Guayama (Pop 45k)

Sept 28, eight days after landfall
Oct. 8, 18 days after landfall
Monthly Volume – All Hospital Codes

8%

Monthly Volume – Maria Impacted Codes

8%  14%

#% = relative standard deviation (StdDev/Mean)

Monthly volume in units
Timeline

- **Initial Communication**
  - "Preventative Allocation on sets"
  - Sept 28, 2017

- **October 11, 2017**
  - 50mL and 100mL codes on Allocation

- **Health Canada Multi-Stakeholder Meeting**
  - October 18, 2017

- **Health Canada Approval of Alliston Minibag**
  - October 18, 2017

- **Alliston Mini-Bag in-market**
  - November 23, 2017

- **100% Weekly Allocation**
  - January 4, 2018

- **Normal Supply Saline**
  - February 5, 2018

- **Normal Supply IV & Access**
  - March 1, 2018
Impact on 50mL and 100mL

Weekly Small Volume Parenteral Volume – 500+ Bed Hospital

#% = relative standard deviation (StdDev/Mean)

6,467

Weekly volume in units
Back to Normal

Monthly Volume – All Codes

Pre Maria: 8%
Maria: 7%
Post Maria: 4%

Monthly Volume – Maria Impacted Codes

Pre Maria: 8%
Maria: 14%
Post Maria: 8%

#% = relative standard deviation (StdDev/Mean)
Back to Normal

Monthly Volume – 500+ Bed Hospital

Monthly Volume – 200 Bed Hospital

Post Maria
After Mar 1, 2018

#% = relative standard deviation (StdDev/Mean)
Lessons Learned

Product Issues
- Product/Manufacturing Site Redundancy
- Resilient Inventory

Product Solution
- Alliston produces a near-identical minibag to Puerto Rico
- Baxter Canada carries more inventory locally
- Proactive registration of substitutes from other plants

Supply Chain

Product
- Approved substitute list
- Inventory/SKU classification
  - Usage and clinical disruption
  - Clinical complexity to change
  - Sole source?
Lessons Learned

**Baxter**

**Process**
- More Transparent, responsive and adaptable allocation
- Review Capacity and tools to inform customers quickly

**Process Solution**
- Dedicated Customer Care model
- Online platform (e-services) for quick customer reference and information
- E-catalog for cross-referencing

**Supply Chain**

**Process**
- Established Threat Management procedure
- Identifying Key stakeholders
- Allocation process
- Build contingency plan into RFP process, weighted criteria
- Supply management & disruption program
- VOR build into the process
- Identify key contacts, media, customers, Health Canada.
- Escalation process
Thank You