

TECHNOLOGY *for* SOLUTIONS

TECHNOLOGY *for* PEOPLE

Supply Chain Failure and Its Impact on Pharmacy Automation

Educational Series

25 May 2011



Welcome

- Kick-off of a New Educational Series
- 40 Minute Discussion with 15-20 Minute Q&A
 - Advisory
 - Isn't "how to"
- Feedback Survey



The information contained herein is not intended to replace the professional judgment of licensed pharmacy practitioners.

Agenda

- Situation
 - Drug Shortages Impacting PN Formulations
- Baxa Software/Hardware Capabilities
 - Formulary
 - Ingredient Validation (Bar Code)
 - Container Size Changes
 - Inlet Swaps
 - Sequencing & Configuration
 - Flow Factors
- Case Studies
 - Don't Do It Scenarios
- Q&A



Situation

- Heparin
- Potassium Acetate
- Potassium Phosphate
- Selenium
- Trace Elements
- Calcium Gluconate
- Calcium Chloride
- Magnesium Sulfate
- Multi-Vitamin Injection
- Zinc
- Sodium Acetate
- Sodium Phosphate
- Sodium Chloride
- Sodium Bicarbonate
- Amino Acid Products
- Intravenous Fat
- Ascorbic Acid
- Vitamin A

Impact of Shortages

User

- Inability to meet patients' needs
- Increased risk of drug errors (increased liability)
- Increased workload

Baxa

- Functional challenges with automation
- Increased demand for support resources
- Increased probability of automation capability limitations




Formulary



- ✓ Many elements effected
- ⚠ High safety risk
- ⚠ Can change programmatic behavior



- ✓ Flow factors
-  Drug identification and bar coding
- ✓ Pump sequencing and configuration



Abacus

Formulary Editor

Ingredients | Groups | Attributes | Intrinsic | Options

View Available Only

Ingredient Detail

Name: Na Chloride 4mEq/mL Group: Sodium Chloride

Label Name: Sodium Chloride

Abbreviation: NaCl4

Concentration: 4 Units: mEq/milliliter

NDC #: 0409-1141-02

Type: Base Lipid Electrolyte Other

Billing: Cost Per Package

Options: Do Not Scale Phantom Unavailable Do Not Print

Attribute	Value	Units
Acetate	0	
BCAA	0	
Calcium	0	
Calories	0	KCal/milliliter
Carbohydrates	0	
Chloride	4	mEq/milliliter
Lipid	0	
Magnesium	0	
Non-protein Calories	0	KCal/milliliter
Phosphate	0	

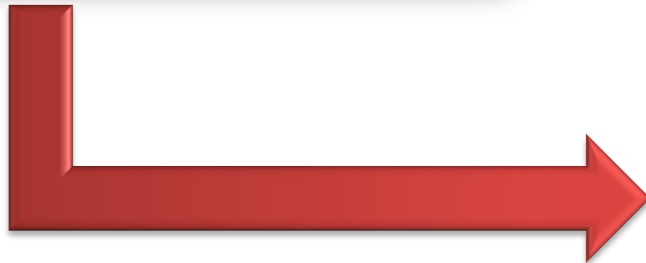
Intrinsic	Value	Units
Aluminum	0	
Chromium	0	
Copper	0	
Dextrose	0	
Heparin	0	
Insulin	0	
Iodine	0	
L-Cysteine	0	
Manganese	0	
MVI	0	
Nitrogen	0	
Osmolarity	8.008	mOsm/millil
Selenium	0	
Zinc	0	
Zinc mMol	0	

Buttons: New... Save Cancel Close



Ingredient Validation

Name: Na Chloride 4mEq/mL
Group: Sodium Chloride
Label Name: Sodium Chloride
Abbreviation: NaCl4
Concentration: 4 Units: mEq/millili
NDC #: 0409-1141-02
Type: Base Lipid Electrolyte Other
Billing:
Cost Per Package:



Edit Product 0409-1141-02

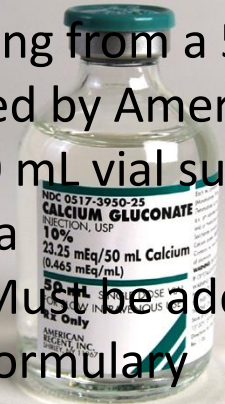
Manufacturer: Hospira
Ingredient Name: Na Chloride 4mEq/ml
Inlet: Vented, Micro Inlet (175)
Container Size: 100 mL
Barcode ID: HospNa.Chlori100V
Drug ID: 0409-1141-02
Max Hang Time: 24.00 Hours
Container Type: Bag Syringe Vial Bottle Other
Name: Hospira Na Chloride 4mEq/ml 100 Vial
Buttons: Save, Regenerate Name, Cancel



Container Size

Changing from a 50 mL vial supplied by American Regent to a 10 mL vial supplied by Hospira

- Must be added to formulary
- Must be transferred into syringes



Formulary Editor

Name	Abbrev.
Branchamin 4%	BranchA4
Ca Acetate	CaAce
Ca Gluconate 0.465mE	CaGluc10
Cardioplegic solutio	CARDOSOL

Ingredients

Add Edit Delete

Contained In...

Product Name	Drug ID
Am. Regent Ca Gluconate 0.465mE 100 Vial	0517-3900-25
Am. Regent Ca Gluconate 0.465mE 50 Vial	0517-3950-25
APP Ca Gluconate 0.465mE 100 Vial	63323-0311-61
APP Ca Gluconate 0.465mE 200 Vial	63323-0311-63

Products

Add Edit Delete

Set Cal. Product Contained In... Show Cal. Product

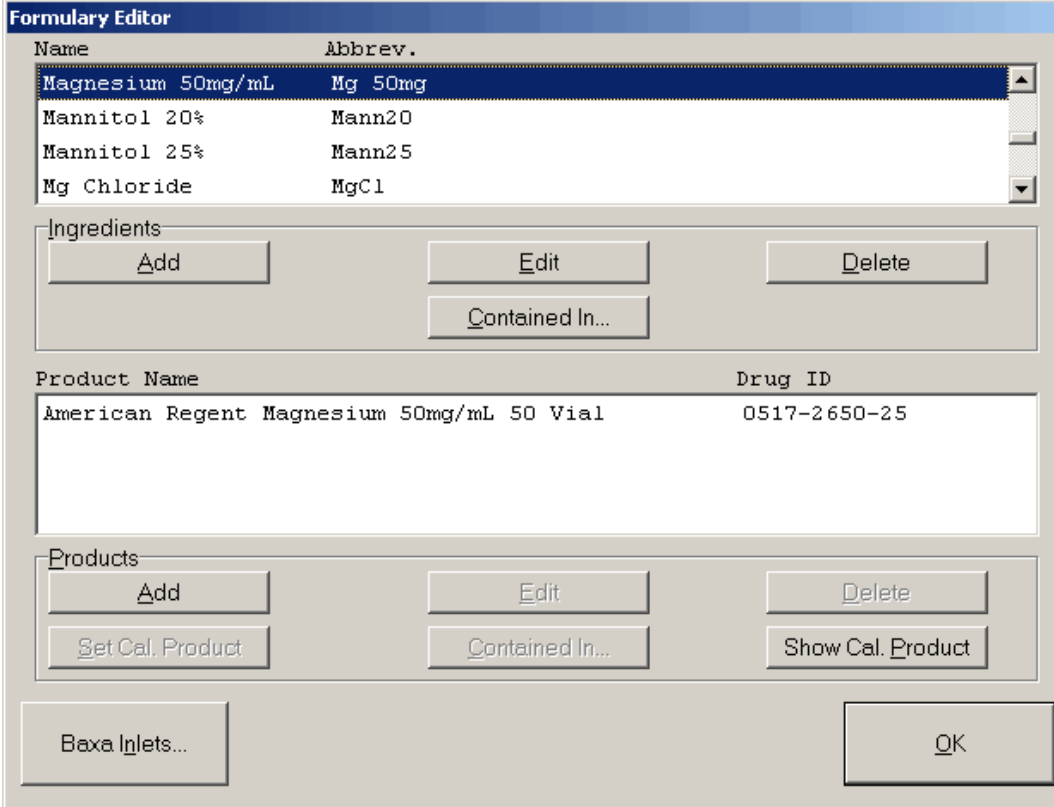
Baxa Inlets... OK



Inlet Swaps

Example: Mag Sulfate Change

- Manufacturer from American Regent to Hospira
- Vial to bag
- 50 mL to 100 mL
- Source Inlet



The screenshot shows the 'Formulary Editor' window. At the top, there is a table with two columns: 'Name' and 'Abbrev.'. The table contains the following entries:

Name	Abbrev.
Magnesium 50mg/mL	Mg 50mg
Mannitol 20%	Mann20
Mannitol 25%	Mann25
Mg Chloride	MgCl

Below the table are buttons for 'Add', 'Edit', and 'Delete' under the 'Ingredients' section, and a 'Contained In...' button. The 'Product Name' and 'Drug ID' section shows:

Product Name	Drug ID
American Regent Magnesium 50mg/mL 50 Vial	0517-2650-25

Below this are buttons for 'Add', 'Edit', and 'Delete' under the 'Products' section, and buttons for 'Set Cal. Product', 'Contained In...', and 'Show Cal. Product'. At the bottom, there are 'Baxa Inlets...' and 'OK' buttons.

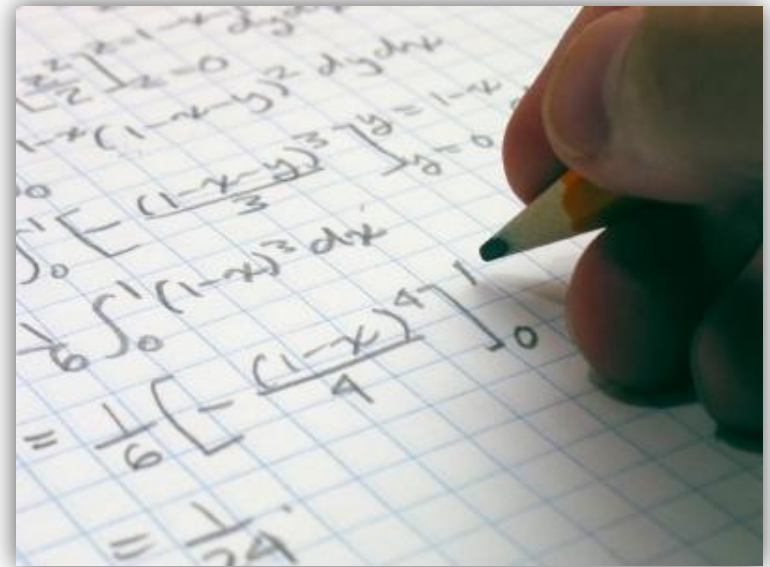


Flow Factors

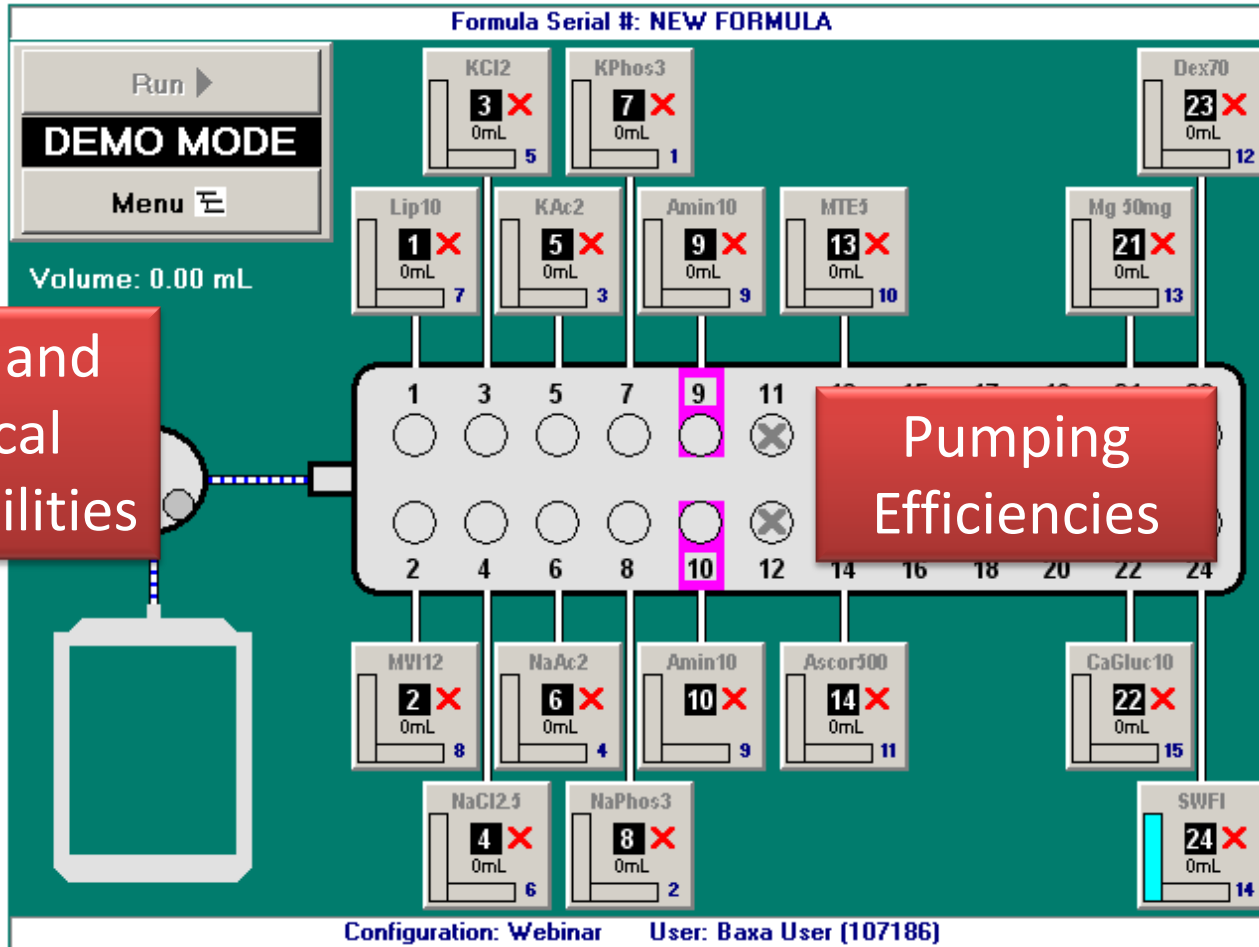


Must be Correct

- Stored in ExactaMix formulary & matched to source inlet
- Baxa maintains a library of these
- Requires 1L (for micro) and 5L (for macro) ingredient to test and calculate the correct value



Sequence & Configuration



Case Studies

Abacus

- Customer put the wrong NDC on an ingredient
- Customer input incorrect attribute/intrinsic values
- Customer input incorrect concentration

ExactaMix

- Customer saved empty vial because new one wouldn't scan
- Customer added incorrect product to ingredient group
- Customer failed to change source inlet



Don't Do It!

- Don't try to do it on your own
- Don't keep empty containers around “because the new one doesn't scan”
- Don't assume your end users are doing it the way you think they are
- Don't assume your Abacus ingredient is configured to trigger warning limits; VERIFY
- Don't presume you know the warning message that displays; read it; ALWAYS
- Don't use a single check for changes in administrative settings, always have a secondary verification.



Thank You

Questions?

