Department of Defense

A Case for
Data Synchronization and
Product Data Utility (PDU)

GS1 Healthcare Users Group

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Synchronizing the Federal Medical Supply Chain
Agenda

- DoD Medical Background
- DoD Case for Data Synchronization
- Goals, Strategy, Approach
- What is Data Synchronization and the PDU
- Pilot PDU
- Industry Case for Data Synchronization – Cost of Bad Data
- Data Synchronization Impacts
- Summary
DoD Executive Agency

DoD Executive Agent: The Head of a DoD Component to whom the Secretary of Defense or the Deputy Secretary of Defense has assigned specific responsibilities, functions, and authorities to provide defined levels of support for operational missions, or administrative or other designated activities that involve two or more of the DoD Components. (DODD 5101.1 Sep 2002)

- DoDD 5101.1 provides overarching policy guidance for EA assignments ... addresses need to minimize duplication or redundancy
- DoDD 5101.9 directs the EA for Medical Materiel to... act as the single point of contact to establish the ... relationships, capabilities, and system integration necessary for ... Class VIII supply chain support ... within the DoD.

- OSD Designated DLA as DoD EA for Medical Materiel - Aug 23, 2004
- DLA Delegated EA Execution Authority to DSCP - Dec 13, 2004
Many Paths – One Focus

DoD Data Synchronization Program

- Federal Working Group
- RFID Working Group
- Navy Fleet Project
- DoD/VA JIF
- eZSAVe
- Pilot PDU
- Physician Preference
- CHeS
- PDU Organizing Committee
- FDA Collaboration
- Data Integration
- Six Sigma
- MedItemLink
- UJD
- Program Management

Many Paths – One Focus
DoD Business Case for Data Sync

- Improve Contingency/Wartime Operations Responsiveness
- Improve Supply Chain Efficiencies in Peacetime Operations
- Reduce Cost of Healthcare Delivery in DoD

CROSS SPECTRUM READINESS ENABLER
The Challenge in Supporting Military Forces

- New Items Entering Marketplace and Gaining Market Share
- Obsolete Items Leaving Marketplace—Limited or Not Available
- Changes in Part Numbers
- Manufacturer Naming Disconnects
- Part Number Disconnects
- Packaging Disconnects

Contingencies magnify the disconnects
Why Deployments Challenge DoD

- Multiple Organizations (DOD, VA, FEMA)
- Short Notice
- Short time frame for delivery
- Medical/Surgical Items Ordered with Varying Descriptors, Identifiers, etc.
  - Many Undecipherable Product IDs
  - Many Obsolete Product IDs
- Resource-Intensive Cross-Referencing for Equivalents
- Common ID and/or Synchronized Data Would Have Increased Efficiency and Improved Response Times
Why DoD Needs a “Universal Medical Surgical Product Catalog”

• DoD needs to better ID what it is buying so it can leverage purchasing volume, pay the lowest prices in US health care, and support deployed units.

• DoD wants for medical surgical products what the industry has for Retail and Groceries:
  – Universal Product Code (UPC)
  – UPN or Universal Product Number for medical/surgical products and the “Universal Medical Surgical Product Catalog”
Customer Expectations

- Right Product
- Right Price
- Right Quantity
- On-time delivery
- Pertinent Product Information

It starts with the “Right” Data

No room for data errors in today’s war on terrorism

*Rapid Integration and Doable!!*
DoD Goals / Strategy

- Full partnership w/VA
  - Single Federal Catalog
  - DoD/VA Joint Incentive Funding $4.5 mil
- Cleanse our data internally
- Pilot a “proof of principle” PDU for Industry
- Partner with Industry Stakeholders
- Promote Federal Needs into Industry Solutions
- Industry Sponsored PDU
Data Sync Approach

- PDU as a Central Data Repository Enables Data Synchronization
- Data Synchronization Facilitates full Implementation of UPN across Supply Chain
- Model uses the “manufacturer” as the truth of the data
Federal Data Sync Working Group
Synchronizing the Federal Medical Supply Chain

- Army, Navy, AF, DMLSS, DSCP, VA, JMAR, DMSB, ASD/HA, DLIS
- DoD/VA Joint Incentive Funding (JIF)
- Other Federal Agencies welcome to participate
- Information Exchange Forum
- Multiple Projects Working (eZSAVe, Six Sigma, VA NIF, Physician Preference)
- Education Sessions
- Monthly Meetings
- Working Groups

Developing Synergy in Federal Healthcare
DoD/VA Joint Incentive Fund

Goal: Create DoD/VA synchronized database for customers for Med Surg product data:
- Sync'd Mfg name, item ID, packaging and pricing (NIF, DAPA, FSSs, DoD PDB)
- DoD/VA use of common tools (audit tools, eZSAVe)
- More efficient ordering, delivery & receiving products
- Leveraged purchasing to get very best delivered price
- Correct pricing for customers

FY 06 - $2M
FY 07 - $2.5M
What is Data Synchronization via the PDU?

- Establishment of standard data elements
  - Transaction-related
  - Med/Surg focused
  - Centrally-maintained - Product Data Utility (PDU)
- Propagation of standard elements throughout systems
What is a Product Data Utility?

➤ Interconnects trading partners
➤ Synchronizes core product data
➤ Distributes standardized product data
➤ Modeled after utilities in other verticals (electrical, automotive, retail, etc.)
Sample Model of a Product Data Utility

Manufacturers

LOGISTICS

ERP

ORDER ENTRY

MARKETING

ACCOUNTING

PDU

- Data Normalization
- Match & Validate
- Stds Compliance
- Verify Access
- Connect To Source

DoD Pilot PDU

"A SUPPLY CHAIN CATALYST"

Source: CHeC/HCEC Feasibility, May 2003
Core Data Attributes

- Manufacturer Information
  - Manufacturer Name
  - Product Number
  - Descriptions
  - Packaging Information (by pack level)
  - Bar Codes
  - Replacement/Replaced Item
  - Dimensional and Weight Information
  - Storage and Handling Information
  - Product URL

- Distributor Information
  - Distributor Name
  - Distributor Product Number

The DNA of the Supply Chain

Matching to GDSN Data Elements
<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Manufacturer</th>
<th>Manufacturer</th>
<th>Manufacturer</th>
<th>Manufacturer</th>
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<tbody>
<tr>
<td>SOUTHLAND TECHNOLOGY 3M</td>
<td>3M 800-327-5360</td>
<td>3M</td>
<td>3M MED, SURGICAL SALES/MICROSC</td>
<td>3M MATERIALS &amp; ENERGY DIV</td>
</tr>
</tbody>
</table>
| 3M CO PHOTO PRODUCTS DIV | 3M CO | 3M DENTAL 800-237-1650 | 3M CORONER INC | 3M MEDICAL,
| 3M DIAGNOSTIC SYSTEMS INC | 3M DENTAL 800-237-1650 | 3M CORONER INS | 3M MEDICAL, 
| 3M ELECTRICAL SPECIFICATIONS DIV | 3M ESP CRISIS 
| 3M HEALTH | 3M ESPE | 3M INNOVATIVE TECH LTD. | 3M MEDICAL,
| 3M HEALTHCARE DIV | 3M ESPE | 3M INNOVATIVE TECH LTD. | 3M MEDICAL,
| 3M HEARING COMPONENTS | 3M INFRAREDD | 3M JANUARY ALBERT, CORP | 3M MEDICAL,
| 3M INDUSTRIAL TAPES DIV | 3M HEALTHCARE | 3M JUAREZ LABOR PA PA | 3M MEDICAL,
| 3M INDUSTRIAL TAPES DIV | 3M HEALTHCARE | 3M JUAREZ LABOR PA PA | 3M MEDICAL,
| 3M INDUSTRIAL TAPES DIV | 3M HEALTHCARE | 3M JUAREZ LABOR PA PA | 3M MEDICAL,
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| 3M INDUSTRIAL TAPES DIV | 3M HEALTHCARE | 3M JUAREZ LABOR PA PA | 3M MEDICAL,
| 3M INDUSTRIAL TAPES DIV | 3M HEALTHCARE | 3M JUAREZ LABOR PA PA | 3M MEDICAL,
# Industry Distributor Numbers for 3M DuraPrep™ Surgical Solution Product #8630

<table>
<thead>
<tr>
<th>Distributor</th>
<th>Number</th>
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<tbody>
<tr>
<td>Cardinal</td>
<td>M8630</td>
</tr>
<tr>
<td>Owens &amp; Minor</td>
<td>4509008630</td>
</tr>
<tr>
<td>Kreisers</td>
<td>MINN8630</td>
</tr>
<tr>
<td>Midwest</td>
<td>TM-8630</td>
</tr>
<tr>
<td>McKesson</td>
<td>172618</td>
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</table>

Nearly every hospital has a different Product ID for 3M 8630!
## Industry Unit of Measures

<table>
<thead>
<tr>
<th>Mfr</th>
<th>Part #</th>
<th>Case SUP Qty</th>
<th>Case UOM</th>
<th>Case SUP Qty</th>
<th>Case UOM</th>
<th>Case SUP Qty</th>
<th>Case UOM</th>
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<tr>
<td>3M</td>
<td>1222-1N</td>
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<td>500</td>
<td>CA</td>
<td>400</td>
<td>CA</td>
<td>400</td>
<td>CA</td>
</tr>
</tbody>
</table>

* Data Entered by Manufacturer

10% of Packaging Data Provided to DSCP by Manufacturers are Wrong or Incomplete
DoD Data Synchronization Pilot Program

- Congressional Funding 04 - $3.5M; 05 - $2.5M
- Proof of Principle for Industry
- Manufacturer as source of data
- Standardize & Synchronize Core Medical Data Attributes
- Central Data Repository
  - Data Disconnects, Packaging levels, Audit Tool certification
  - Feedback to Partners
IRAQI

Results of DoD Pilot—Problems Found

<table>
<thead>
<tr>
<th>Problem</th>
<th>Manufacturer</th>
<th>Distributor</th>
<th>GPO</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing Middle Levels of Pkging</td>
<td>15-20%</td>
<td>1-4%</td>
<td>20-25%</td>
<td>15-25%</td>
</tr>
<tr>
<td>Hard “Packaging Quantity” Errors</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>2-5%</td>
</tr>
<tr>
<td>Unit of Measure Confusion/Misuse</td>
<td>2-6%</td>
<td>1-3%</td>
<td>2-5%</td>
<td>Unknown</td>
</tr>
<tr>
<td>Missing Packaging—not Middle Level</td>
<td>3-8%</td>
<td>3-8%</td>
<td>3-7%</td>
<td>5%</td>
</tr>
<tr>
<td>Manufacturer Name Problems</td>
<td>NA</td>
<td>2-5%</td>
<td>1-4%</td>
<td>30%</td>
</tr>
<tr>
<td>Obsolete Products</td>
<td>1-4%</td>
<td>2-5%</td>
<td>1-8%</td>
<td>5-15%</td>
</tr>
<tr>
<td>Missing Product Brand Names</td>
<td>2-5%</td>
<td>5-10%</td>
<td>5-10%</td>
<td>20-25%</td>
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<tr>
<td>Incomplete Item Descriptions</td>
<td>5-15%</td>
<td>3-12%</td>
<td>5-15%</td>
<td>10-20%</td>
</tr>
<tr>
<td>Wrong Customer Unit Prices</td>
<td>Unknown</td>
<td>1-2%</td>
<td>NA</td>
<td>1-2%</td>
</tr>
<tr>
<td>Customer Paid More Than Lowest Contract</td>
<td>NA</td>
<td>Unknown</td>
<td>NA</td>
<td>3-6%</td>
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<tr>
<td>Price</td>
<td></td>
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</tr>
</tbody>
</table>
Benefits of a PDU

- Accelerated identification of New Item Data
- Reduce Pricing Errors
- More Accurate Invoicing
- Increased E-Commerce Sales
- Better Order Fulfillment
- Improved Readiness
- Preparation for RFID
Industry Business Case for Data Sync

- Every single day, the healthcare supply chain wastes 24-30% of supply admin time correcting reducible data errors.
- Each erroneous transaction costs $60-$80 to correct.
- 60% of all invoices generated have errors; each invoice error costs $40-$400 to reconcile.
- Erroneous data increases supply costs 3-5%.

Source: “Medical Product Data Utility (PDU) Feasibility” CHeS HCEC April 17, 2003
“Data Synchronization: What is Bad Data Costing Your Company?” Sterling Commerce White Paper, 2003 by John Stelzer
60% of all invoices generated have errors; each invoice error costs $40-$400 to reconcile.

Data Synchronization
Business Plan? ..... ROI? ..... 

“Usually nothing gets approved without a business plan, but data synchronization is an exception to the rule. In fact most industry leaders have gone forward without a formal business plan.”

“Despite the millions of dollars some companies have spent on their data synchronization efforts, most have gone ahead without a formal business case or Return on Investment (ROI) analysis. Nearly all of the companies we talked to were able to do this because data synchronization is seen as foundational work. In other words, it is being considered as a cost of doing business. High-profile business case analysis is publicly available: studies by Cap Gemini Ernst & Young (CGEY) and A.T. Kearney (ATK) detailed the ROI experienced by early adopters. The industry has generally accepted these results, and those that have foregone a formal business case have used this data as justification”.

Source: AMR Research, 2003
Data Sync ROI Examples

- **P&G Pilot w/H.E. Butt**
  - 75% reduction in invoice discrepancies
  - 30% improvement in the number of accurate purchase orders received
  - 80% improvement in "speed to retail" for new items/price changes/promotions (from 10 days to 2 days)

- **Additional projected benefits:**
  - Eliminate 30K to 50K hours per year in data entry
  - Reduce stock-out incidence by 10%
  - Save a minimum of $25M a year.

- **Wal-Mart w/P&G:**
  - Reduced data maintenance time from 15-30 days down to 1 day
  - Achieved 98% up-to-date synchronization
  - 15% increase in market share (up from 5% in new item introduction)

- **In the food industry, Sara Lee reported:**
  - 59% reduction in cost mismatches
  - Item mismatches were eliminated.
  - Short pays down 86% / Over pays down 81%
  - Errors resolved in 2 days vs. 10-30 days

“Even as the use of expensive devices like artificial knees and defibrillators expands rapidly, patients and doctors get less information about products that are implanted in bodies than consumers get on the safety and performance of cars.”
Data Synchronization and RFID

Whatever happens with RFID in Healthcare (EPC, UID, UPN, RSS, etc.)…

- The number used must correlate to “synchronized” details:
  - manufacturer name
  - manufacturer catalog number
  - packaging
- Must get clean, correct, and “in-sync” data to make RFID adoption easier

“Critical to the RFID effort is global data synchronization to enable communications with the industry – standard EPC global registry so that accurately described and consistent product information is exchanged between trading partners”.

Source: “Walmart’s Way”, Information Week, Sep 27, 2004
We believe it's important for data to go beyond Clinical information. The Electronic Health Record also should accurately reflect correct product for patient needs.

A PDU is the precursor to accurate, synchronized, centralized product data in patient records.
FDA Unique Identification for Devices

- Medical Surgical Industry product identification records highly inaccurate
- Standardized and Synchronized data required to ensure clinical institutions interpret data correctly
- DoD/VA/FDA exploring venues for partnership & synergy
- Leverage stakeholder outreach with Industry groups for Data Synchronization and Product Data Utility (PDU Organizing Committee)

Implementation of Auto ID without standard product data proliferates error-ridden data
Lessons Learned

• Healthcare Supply Chain Data is broken
• E-Business requires accurate, timely, synchronized data
• Yes – We do have Data Errors
• Cleaning/Organizing Data takes time and resources
• Synchronizing Data can:
  – Reduce transaction costs
  – Increase efficiencies
  – Improve patient safety
Lessons Learned

• Distributors have most accurate data in the supply chain
• Hospitals all create their own unique “Item Masters”
  – Different Manufacturer Names
  – Inconsistent or blank Part Numbers
  – Product descriptions
  – Packaging data
  – Duplicate items
• Customers cannot find items—bad item descriptions
• Hospitals frequently do not receive contract prices
• Cleaning/organizing data takes time and resources
E-Collaboration

1. Common data standards
2. Single item registry
3. Item synchronization
4. Collaborative transaction management
5. Collaborative supply chain management
6. Collaborative sales & promotion planning
7. Collaborative insight & product development

Medical Product Data Utility

Benefits

Time / Degree of trust & complexity

Source: A. T. Kearney for GMA
“Data Synchronization, -- clean, standardized, and readily accessible medical product data is the starting point in today’s DoD transformation to providing ---- Rapid, Integrated, and Doable ---- medical response to meet every challenge, in every circumstance, at anytime, in anyplace.

The Warfighter and the American public expect and demand only the best --- and will not tolerate failure.

The best medical support starts with the right data which gets to the right customer, in the right place, at the right time --- every time!”

COL Michael McDonald USA
Performing a Critical Mission

USNS Mercy and USS Abraham Lincoln
Indian Ocean, Feb. 2005