



Department of Defense

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

GS1 Healthcare Users
Group

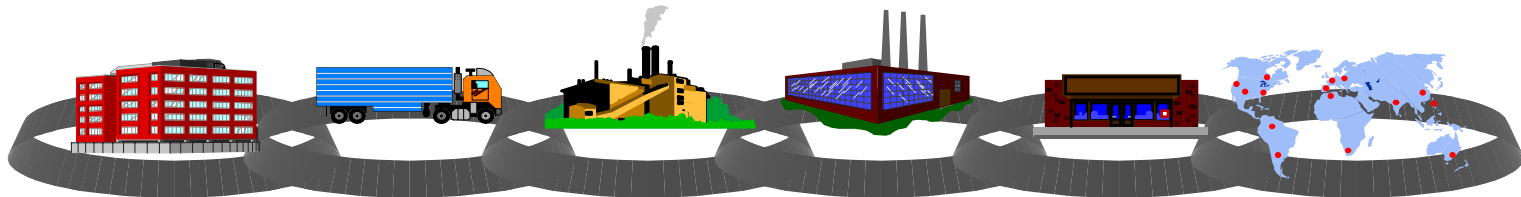
November 30, 2005

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Suppliers

Transportation

Manufacturers

Distributors

Retailers

Consumers

Synchronizing the Federal Medical Supply Chain

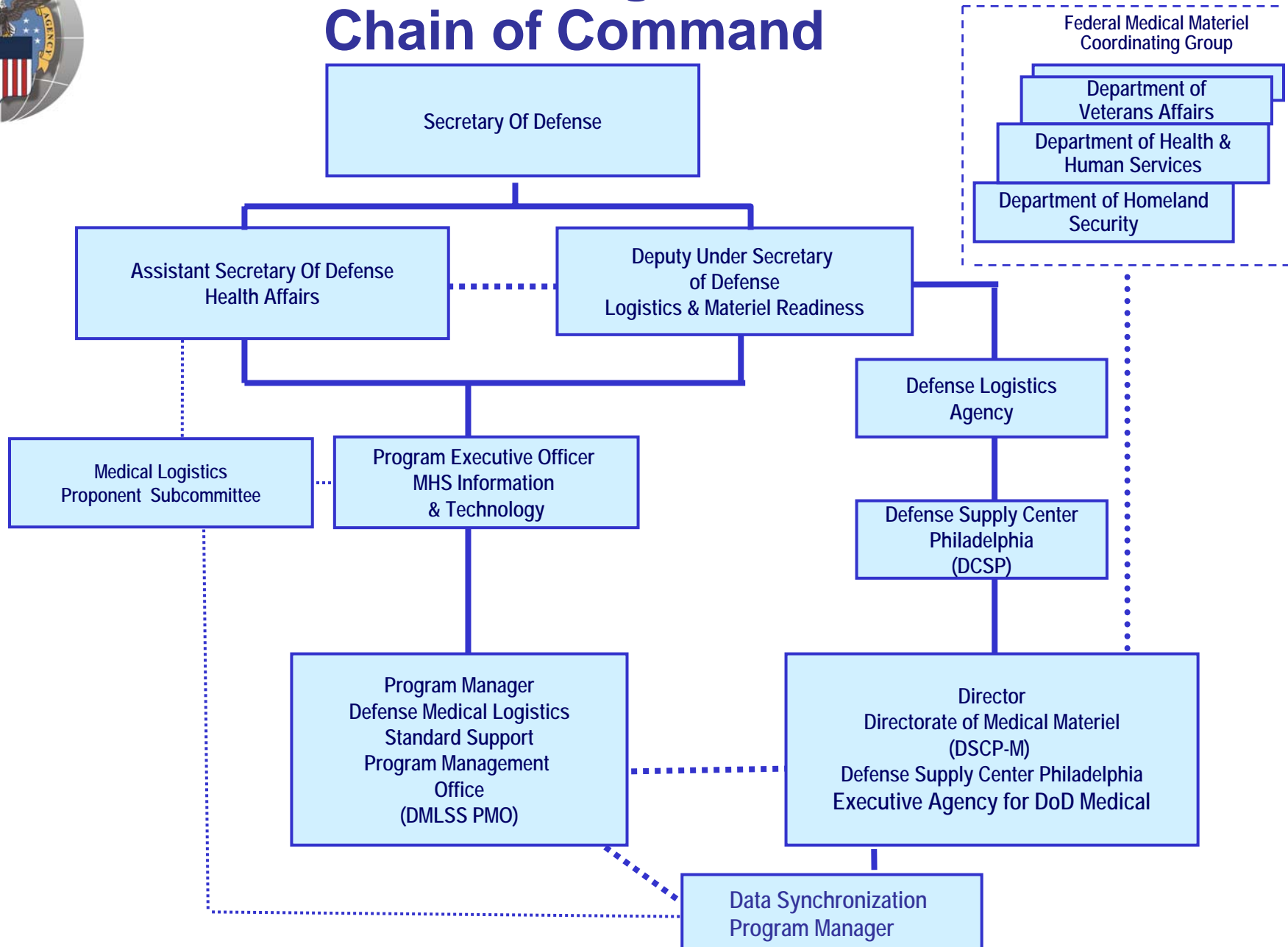


Agenda

- 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



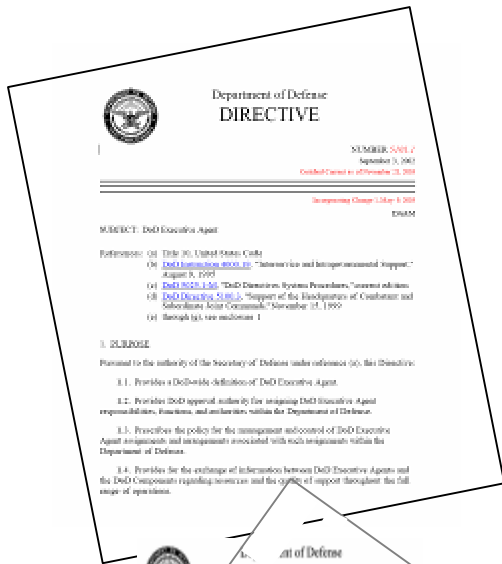
DoD Medical Organizational Chain of Command



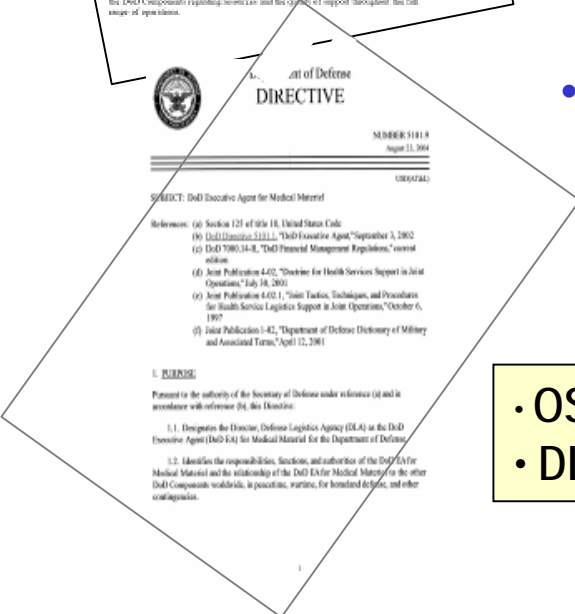


DoD Executive Agency

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)

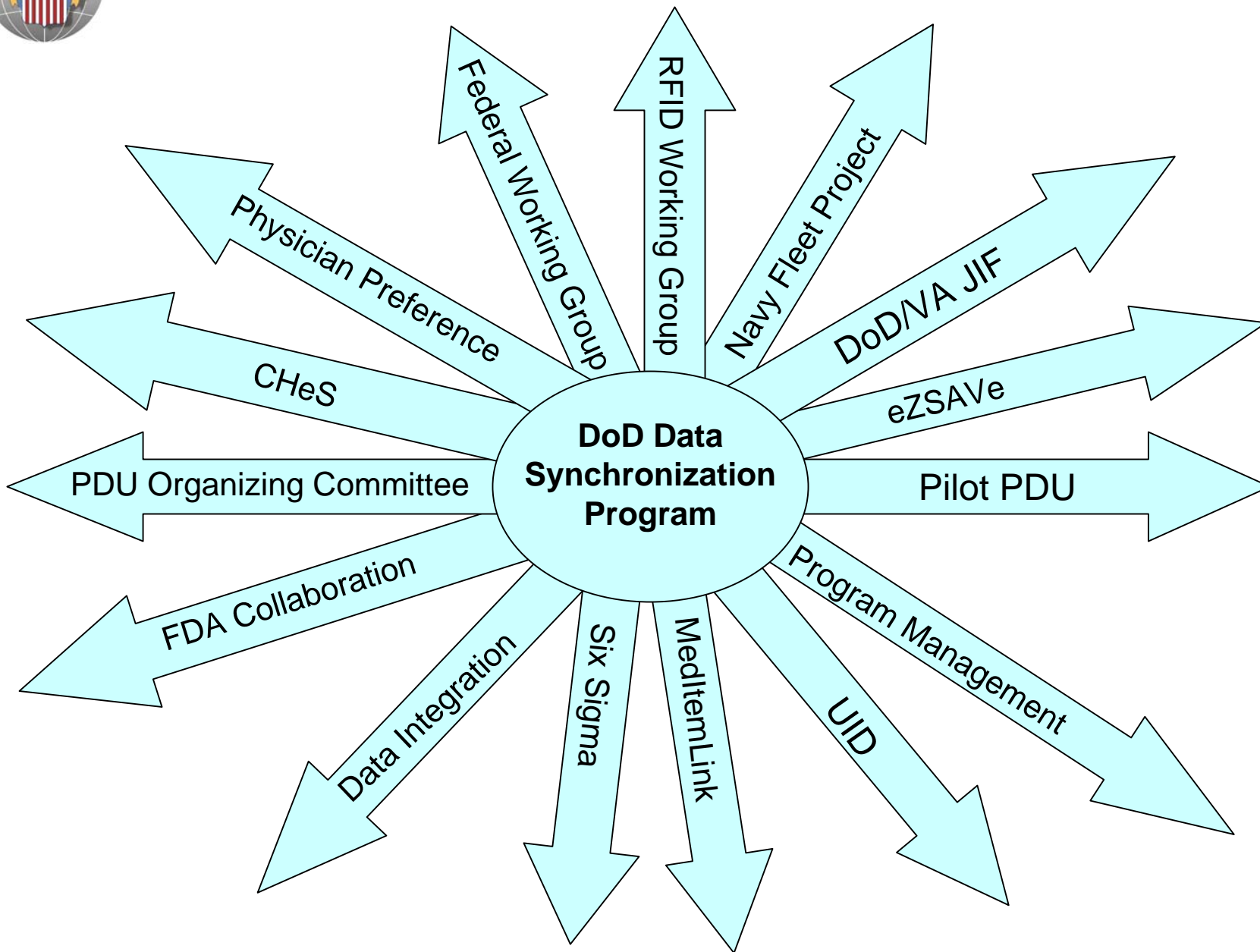


- **DoDD 5101.1** provides overarching policy guidance for EA assignments ...addresses need to minimize duplication or redundancy
- **DoDD 5101.9** directs the EA for Medical Materiel to... act as the single point of contact to establish the ... relationships, capabilities, and system integration necessary 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 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 Equivalentents
- 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)



13542-0248-98

- UPN or Universal Product Number for medical/surgical products and the “Universal Medical Surgical Product Catalog”

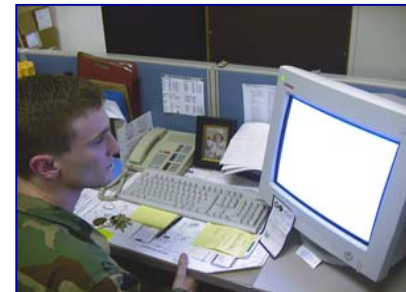




Customer Expectations

- 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**

UPN

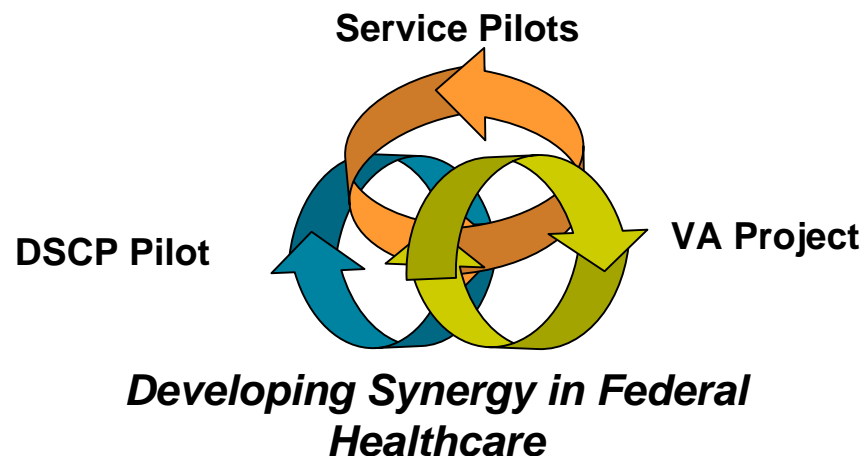




Federal Data Sync Working Group

Synchronizing the Federal Medical Supply Chain

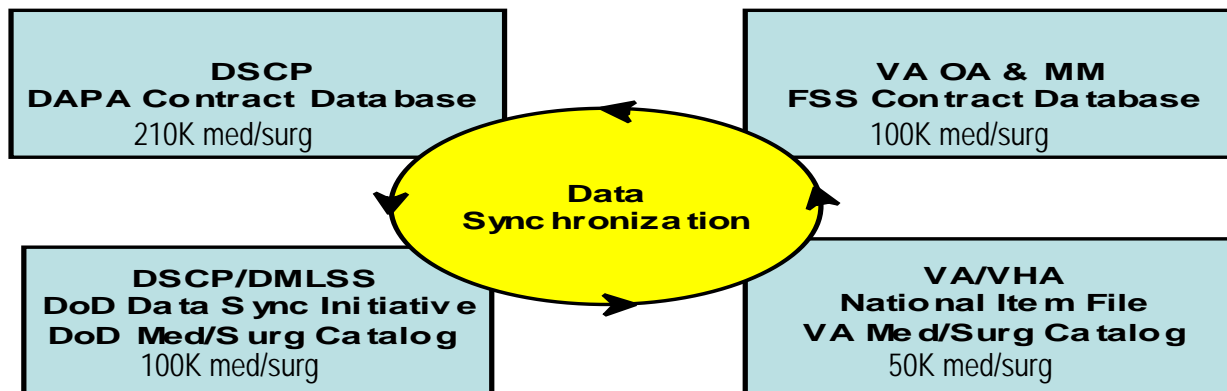
- Army, Navy, AF, DMLSS, DSCP, VA, JMAR, DMSB, ASD/HA, DLIS
- DoD/VA Joint Incentive Funding (JIF)
- Other Federal Agencies welcome to participate
- Information Exchange Forum
- Multiple Projects Working (eZSAVe, Six Sigma, VA NIF, Physician Preference)
- Education Sessions
- Monthly Meetings
- Working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





DoD/VA Joint Incentive Fund

Medical/Surgical Supply Data Synchronization



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

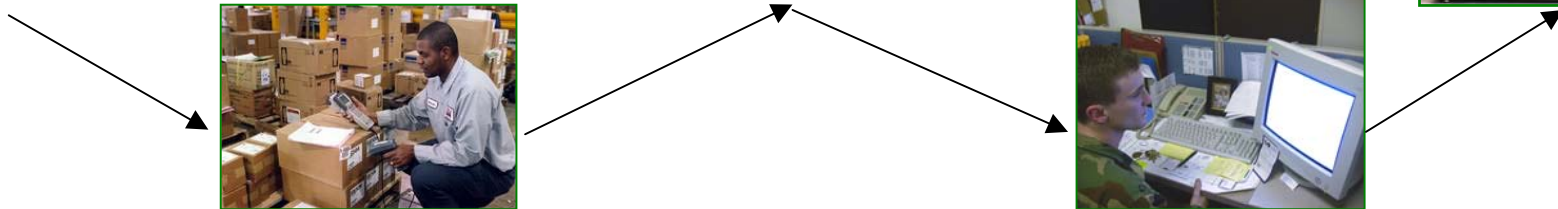


FY 06 - \$2M
FY 07 - \$2.5M



Data Synch Via The PDU

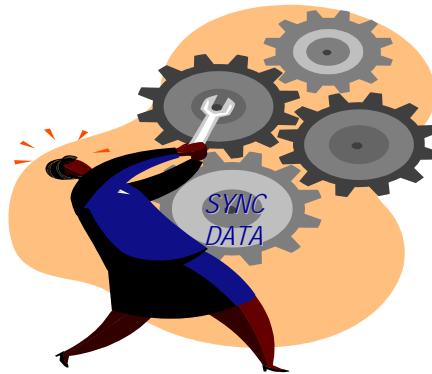
- What is Data Synchronization via the PDU?
 - Establishment of standard data elements
 - Transaction-related
 - Med/Surg focused
 - Centrally-maintained - Product Data Utility (PDU)
 - Propagation of standard elements throughout systems





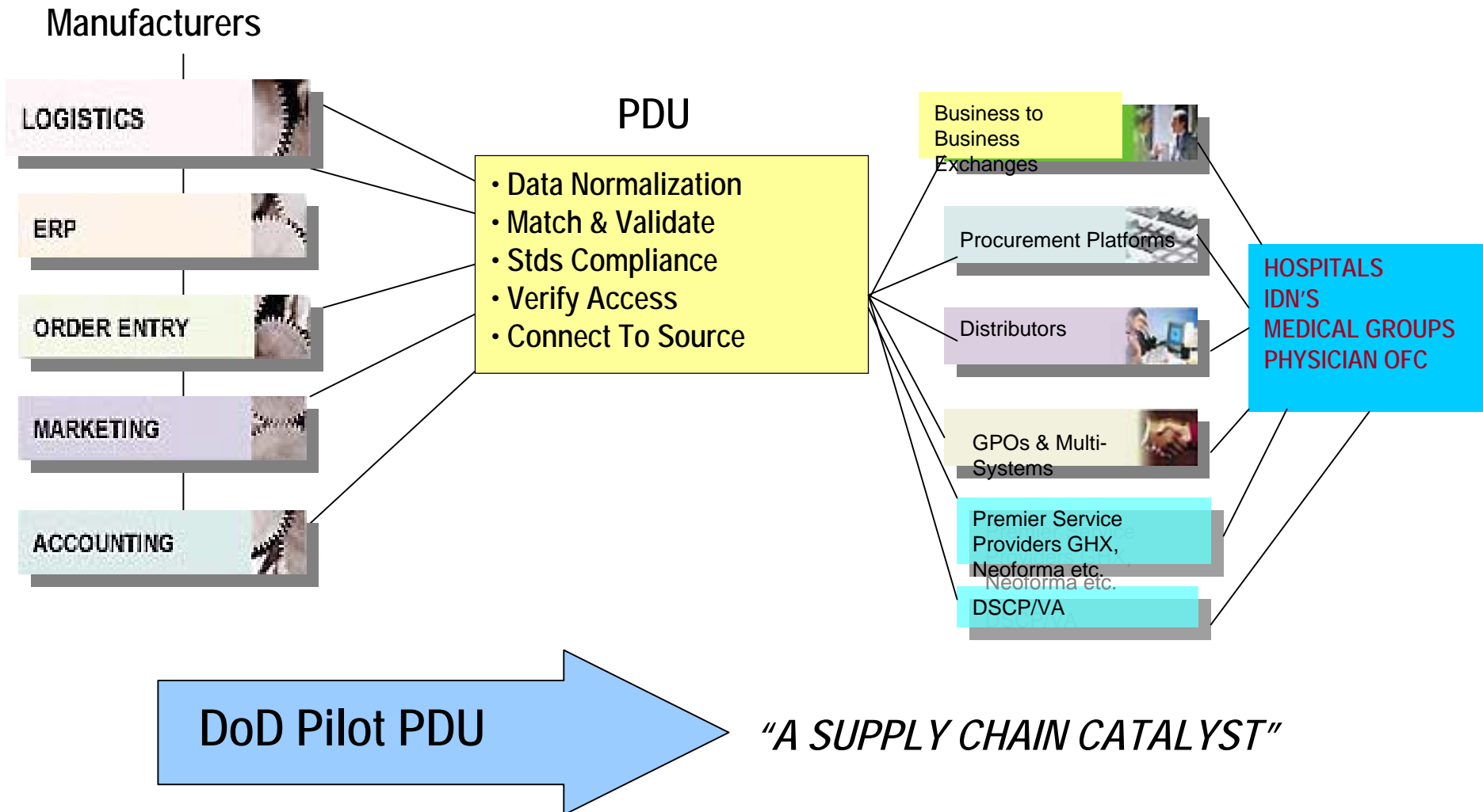
What is a Product Data Utility?

- 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





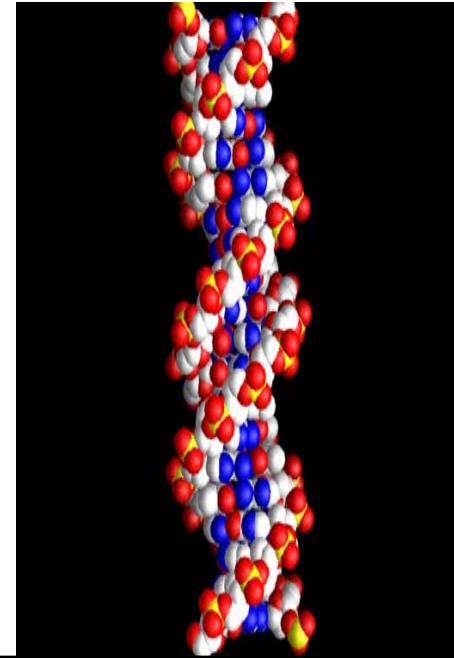
Core Data Attributes

➤ 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



3M Company Name Inconsistencies

Manufacturer	Manufacturer	Manufacturer	Manufacturer	Manufacturer
SOUTHLAND TECHNOLOGY 3M	3M 800-327-5380	3M C/O EDUMEX	3M MED. SURGICAL SALES/MICROSC	3M CARDIOVASCULAR
3M CO PHOTO PRODUCTS DIV	3M CO	3M C/O FLUID PACKAGING	3M MEDICA	ESPAME
3M DIAGNOSTIC SYSTEMS INC	3M DENTAL 800-237-1650	3M C/O GORECKI INC.	3M MEDICAL	ESPE AMERICA IN
3M ELECTRICAL SPECIALTIES DIV	3M ESPE DENTAL DIVISION 800-364-3577	3M C/O HORIZON MEDICAL	3M MEDICAL & SURGICAL	ESPE AMERICA INC
3M HEALTH	3M ESPE UNITED STATES	3M C/O INNOVATIVE TECH. LTD.	3M MEDICAL ADVANCED WC	ESPE AMERICA, INC
3M HEALTH CARE CDI	3M ESPE	3M C/O JAMES ALEXANDER CORP.	3M MEDICAL AND SURGICAL PROD.	3M PUERTO RICO
3M HEARING COMPONENTS	3M HEALTH CARE 800-521-2818	3M C/O LUDLOW TECH. PRODUCTS	3M MEDICAL SURGICAL	3M SPECIALITY CHEMICAL
3M INDUSTRIAL TAPES LTD	3M HEALTHCARE PRODUCT	3M C/O NAMSA	3M MEXICO / CLUDAD JUAREZ	3M C/O BERKLEY SURGICAL
3M MEDICAL DEVICE DIV	3M HEALTHCARE	3M C/O NORTH SAFETY PRODUCTS	3M MEXICO/CD JUAREZ	3M CANADA INC
3M MEDICAL IMAGING SYSTEMS DIV	3M MEDSURGE	3M C/O OVERLAND BOLLING	3M MINNESOTA MINI	3M C/O MITSUI TEXTILE CORP.
3M MEDICAL PRODUCTS DIV	3M MINNESOTA MINING MFG OFFICE	3M C/O REMINGTON PRODUCTS, INC	3M MINNESOTA MINING & MFG. CO.	3M PHARMACEUTICAL SUB OF MINNESOTA
3M MEDICAL-SURGICAL DIV	3M MINNESOTA MINNING & MFG.CO.	3M C/O SAN-MAR LAB, INC.	3M MINNESOTA MINING & MFG.CO	THREE M
3M MEDICAL/SURG	3M OCC. HEALTH AND ENV. SAFETY DIV	3M C/O SCAPA TAPES/RENFREW	3M MINNESOTA MINING & MFG.CO.	THREE M (3M)/INFUSION THERAPY
3M PHARMACEUTICS AND MEDICAL S	3M OCC. HEALTH AND ENV. SAFETY DIV.	3M C/O THAI HOSP PROD CO. LTD.	3M MINNESOTA MINING AND MFG	THREE M COMPANY
3M-MEDICAL/SURGICAL	3M SARNS/CDI	3M C/O THAI HOSPITAL PRODS CO.	3M OCCUPATIONAL HEALTH	THREEM
3M/ OCCUPATIONAL AND SAFETY DIV	3M SURGICAL	3M C/O THAI HOSPITAL PRODUCTS	3M OCCUPATIONAL HEALTH AND ENV	THREEM/ESPE
3M - MINNESOTA MINING & CO	3M UNITEK 800-423-4588	3M C/O TIVERSCO	3M OEM KIT PRODUCTS	S P RICHARDS
3M FEDERAL GOVERNMENT	3M UNITEK	3M C/O W. PHARMACEUTICAL SVCS	3M OFFICE SUPPLY & HOUSEKEEPING CO	MINNESOTA MINING & M
3M FEDERAL SYSTEMS DEPARTMENT	THREE M/ ESPE	3M C/O WAHL CORP.	3M OH & ES DIVISION PLANT	MINNESOTA MINING & MANUFACTURI
3M HEALTH CARE SYSTEMS	3M COMPANY C/O WAHL CORP.	3M COMMERCIAL OFFICE SUPPL	3M ORTHOPEDIC	MINNESOTA MINING & MFG
3M HEALTHCARE \$250 MINIMUM ORDER	MINNESOTA SCIENTIF	3M COMMERCIAL OFFICE SUPPLY	3M PHARM	MINNESOTA MINING & MFG.
3M HEALTHCARE(MINNISOTA MINNING)	CORPORATE ALLIANCE 3M CUSTOMER SERV	3M COMPANY	3M PHARMACEUTICAL	MINNESOTA MINING AND MANUFACT.
3M MEDICAL - CREDIT CARD	3 M HEALTHCARE	3M COMPANY ABERDEEN PLANT	3M PHARMACEUTICAL SUB OF MINNESOTA	MINNESOTA MINING AND MFG CO
3M MEDICAL PRODUCTS	3 M UNITEK CORP	3M COMPANY BROOKINGS PLANT	3M PHARMACEUTICAL SUB OF MINNESOTA M	MINNESOTA MINING AND MFG CO 3M DENTA
3M OCC. HEALTH AND ENV. SAFETY DIVISION	3-M	3M COMPANY C/O EDUMEX	3M PHARMACEUTICALS	MINNESOTA MINING AND MFG CO ABRASIVE
3M OCCUPATIONAL AND SAFETY DIV	3-M COMPANY	3M COMPANY IRVINE PLANT	3M PHARMACEUTICALS INC	MINNESOTA MINING AND MFG CO ADHESIVE
3M SAFETY DIVISION	3-M COMPANY-C/O O	3M COMPANY, BROOKINGS SD	3M PODIATRY	MINNESOTA MINING AND MFG CO DENTAL P
3M-DENTAL PRODUCTS DIVISION	3-M COMPANY-C/O OEM PRODUCTS	3M CONSTRUCTION MARKETS	3M PROF HEALTH	MINNESOTA MINING AND MFG CO DIAGNOST
3M-HEALTH CARE	3-M PHARMACEUTICALS	3M CONSUMER HEALTH CARE, C/O 3	3M SURGICAL DIV STAPLIN	MINNESOTA MINING AND MFG CO ELECTRIC
3M DENTAL PRODUCTS DIV.	33M HEALTHCARE	3M CORPORATE ALLIANCE	3M TEGADERM	MINNESOTA MINING AND MFG CO HEALTH C
3M UNITEK CORPORATION	3M	3M DENTAL	3M UNITED KINGDOM PLC	MINNESOTA MINING AND MFG CO INDUSTRI
3M UNITEK DENTAL PRODUCTS	3M PUERTO RICO	3M DENTAL PRODUCTS	3M UNITEK CORP	MINNESOTA MINING AND MFG CO INTL EXP
3M BIOLOGICAL	3M SPECIALITY CHEMICAL	3M DEUTSCHLAND GMBH	3M-MINNESOTA MINI	MINNESOTA MINING AND MFG CO MEDICAL
3M ESPE DENTAL PRODUCTS	3M % SAN-MAR	3M HEALTHCARE	3M-MINNESOTA MINING & MFG CO	MINNESOTA MINING AND MFG CO OCCUPATI
3M HEALTH CARE (MED/SURG PRODS)	3M (CRJ7242)	3M HEALTH CARE	3M-MINNESOTA MINING & MFG. CO	MINNESOTA MINING AND MFG CO PACKAGIN
3M C/O CHECKPOINT METO	3M - MINNESOTA MI	3M HEALTH CARE LTD	3M-MINNESOTA MINING & MFG. CO.	MINNESOTA MINING AND MFG CO PERSONAL
3M CANADA PLANT	3M - MINNESOTA MINING & MFG.CO	3M HEALTH CARE LTD.	3M-MINNESOTA MINING & MFG.CO.	MINNESOTA MINING AND MFG CO SALES CE
3M HEALTH CARE PLANT	3M - MINNESOTA MINING & MFG. CO	3M HEALTH CARE SERVICE CENTER	3M-MINNESOTA MINNING & MFG. CO	MINNESOTA MINING AND MFG CO STATIONE
MINNESOTA MINING AND MFG	3M -OH&ES DIVISION PLANT	3M HEALTH CARE/MEDICAL/SURGICA	3M-NAT ACCTS SALES	MINNESOTA MINING AND MFG CO SURGICAL
MINNESOTA MINING AND MFG.	3M AND COLOPLAST	3M HEALTH INFORMATION SYSTEMS	3M-NAT ACCTS SALES DIST	MINNESOTA MINING COMMERCIAL CARE
MINNESOTA MINNING AND MFG.	3M BUSINESS PRODUCTS	3M HEALTHCARE	3M-NAT ACCTS SALES/OBSOLETE/10-99	MINNESOTA MINING, 3M
CORPORATE ALLIANCE	3M C/O ACCUPAC	3M HEALTHCARE OEM	3M MED	MINNESOTA SCIENTIFIC INC
3M HEALTHCARE	3M C/O ACCUPAC INC	3M HEALTHCARE PRODUCTS	3 M UNITEK CORPORATION	MINNESOTA-MINING AND MANUFACT
3M - SCOTCH	3M C/O ALBA WALDENSIAN	3M HOME & COMMERCIAL CARE DIV	CORPORATE ALLIANCE 3M CUSTOMER SERV	3M FRANCE
	3M C/O CELESTE INDUSTRIES	3M INFUSION THERAPY/AVI	CORPORATE ALLIANCE 3M CUSTOMER SERV	ALLERGENETICS DIV AXONICS INC
				CARDIOVASCULAR DEVICES
				3M HEALTHCARE/MAYO ONLY



Industry Distributor Numbers for 3M DuraPrep™ Surgical Solution Product #8630

Cardinal	M8630
Owens & Minor	4509008630
Kreisers	MINN8630
Midwest	TM-8630
McKesson	172618

Nearly every hospital has a different Product ID for 3M 8630!



Industry Unit of Measures

		DSCP*		Prime Vendor 1		Prime Vendor 2	
Mfr	Part #	Case SUP Qty	Case UOM	Case SUP Qty	Case UOM	Case SUP Qty	Case UOM
3M	1222-1N	18	CA	1080	CA	18	CA
3M	512	100	CA	2000	CA	2000	CA
BD	305903	500	CA	400	CA	400	CA

* 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





Results of DoD Pilot—Problems Found

	Manufacturer	Distributor	GPO	Customer
Missing Middle Levels of Pkging	15-20%	1-4%%	20-25%	15-25%
Hard "Packaging Quantity" Errors	1%	1%	2%	2-5%
Unit of Measure Confusion/Misuse	2-6%	1-3%	2-5%	Unknown
Missing Packaging—not Middle Level	3-8%	3-8%	3-7%	5%
Manufacturer Name Problems	NA	2-5%	1-4%	30%
Obsolete Products	1-4%	2-5%	1-8%	5-15%
Missing Product Brand Names	2-5%	5-10%	5-10%	20-25%
Incomplete Item Descriptions	5-15%	3-12%	5-15%	10-20%
Wrong Customer Unit Prices	Unknown	1-2%	NA	1-2%
Customer Paid More Than Lowest Contract Price	NA	Unknown	NA	3-6%



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

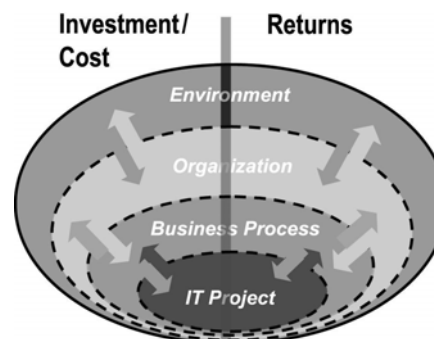
- Every single day, the healthcare supply chain wastes 24-30% of supply admin time correcting reducible data errors.
- Each erroneous transaction costs \$60-\$80 to correct.
- 60% of all invoices generated have errors; each invoice error costs \$40-\$400 to reconcile.
- Erroneous data increases supply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



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”.





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.

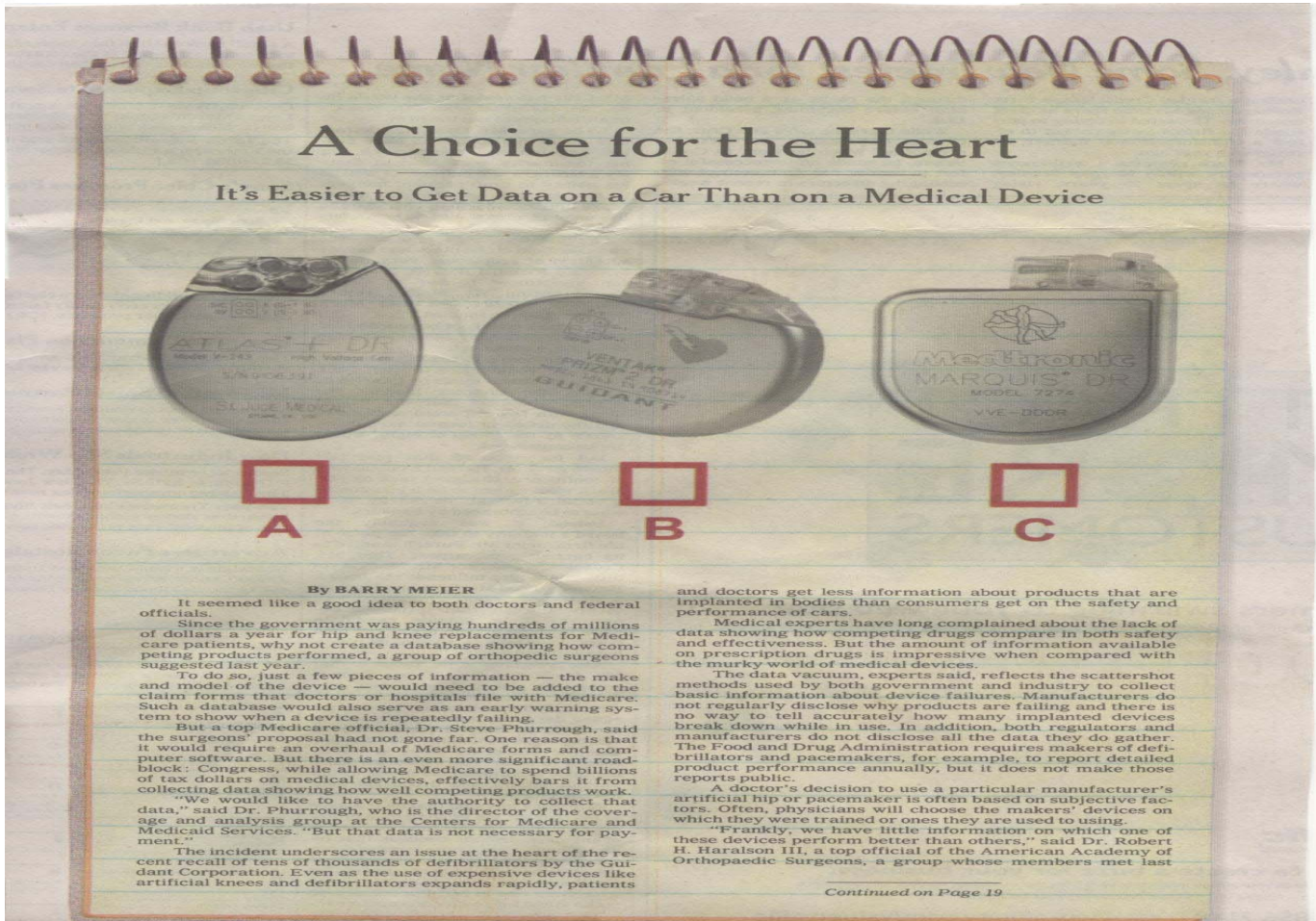
➤ Wal-Mart w/P&G:

- 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

Why Standards are Needed



“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



Electronic Health Record

We believe its 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.



View EHR Patient Summary

EHR TEST1 @ Electronic Health Record Test Physician Office

DOE, Marcy
PHN: 10123-9038

Gender: Female
Age: 59 year(s) | 1952-Jun-28
Home: 1 (780) 555-1124
Work: 1 (780) 555-1121

Drug Summary	Allergy Summary	Lab Summary
Active Prescriptions Continous LIPITOR 10MG TABLET 1 TAB QD Short-Term BIAXIN 250MG TABLET Various Cortate 1% and Hydrocortiso... 1 APPLN BID NAPROSYN E 250MG TABLET EC 1 TAB BID External Rx Acetylsalicylic Acid 81m... ONE A DAY ADVANCE 50+ TAB Recently Active Prescriptions	Drug Allergies BI - Penicillins Non-Drug Allergies SV - Peanuts Drug Intolerances RI - Lincosamides Non-Drug Intolerances RI - Milk	Most Recent Results 2002-Jul-02 to 2002-Jul-16 Chtleide 108 2002-Jul-16 COMPLETE BLOOD COUNT **NO DIFF** 2002-Jul-16 WBC 9.2 RDW 13.2 RBC 4.48 HCV 91 HCHC 334 PLT 352 HCT 0.41 HGB 137 Creatinine 68 2002-Jul-16 Glucose, fasting 5.7 2002-Jul-16 Potassium 4.1 2002-Jul-16 Sodium 141 2002-Jul-16 Urea 3.3 2002-Jul-16 URINE CULTURE SPECIMEN DESCRIPTION RESULTS 10**6 CFU/itre ... Gram positive organisms REPORT STATUS FINAL



Data Synchronization & Patient Safety

Partnering Efforts DoD/VA/FDA

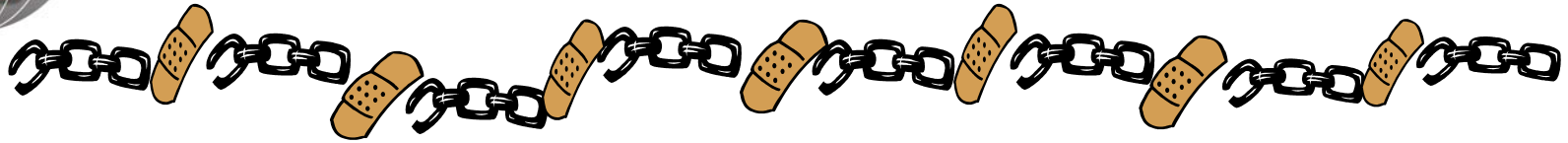
- **FDA Unique Identification for Devices**
 - Medical Surgical Industry product identification records highly inaccurate
 - Standardized and Synchronized data required to ensure clinical institutions interpret data correctly
 - DoD/VA/FDA exploring venues for partnership & synergy
 - Leverage stakeholder 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***

Faster and more efficiently



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



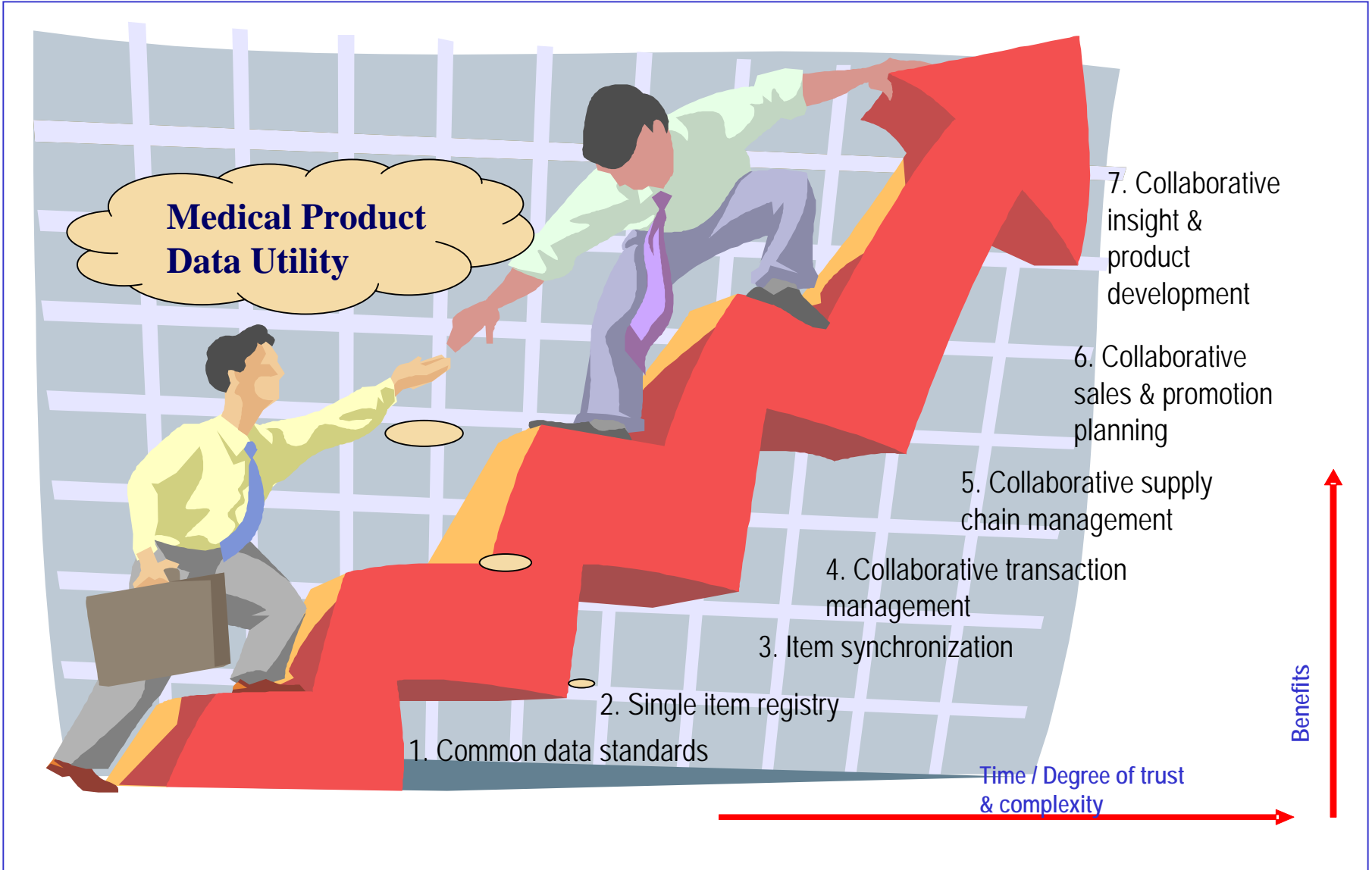
Lessons Learned



- 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





DoD Data Synchronization

Rapid – Integrated – Doable

“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!”

*It starts with
the Right Data*

COL Michael McDonald USA





Performing a Critical Mission



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