The Benefits of UDI - From the perspective of a major US GPO

October 1, 2013

Topics

- The Premier healthcare alliance.
- Benefits of UDI.
- Healthcare standards in the US (Past & Now).
- What is needed to realize benefits?

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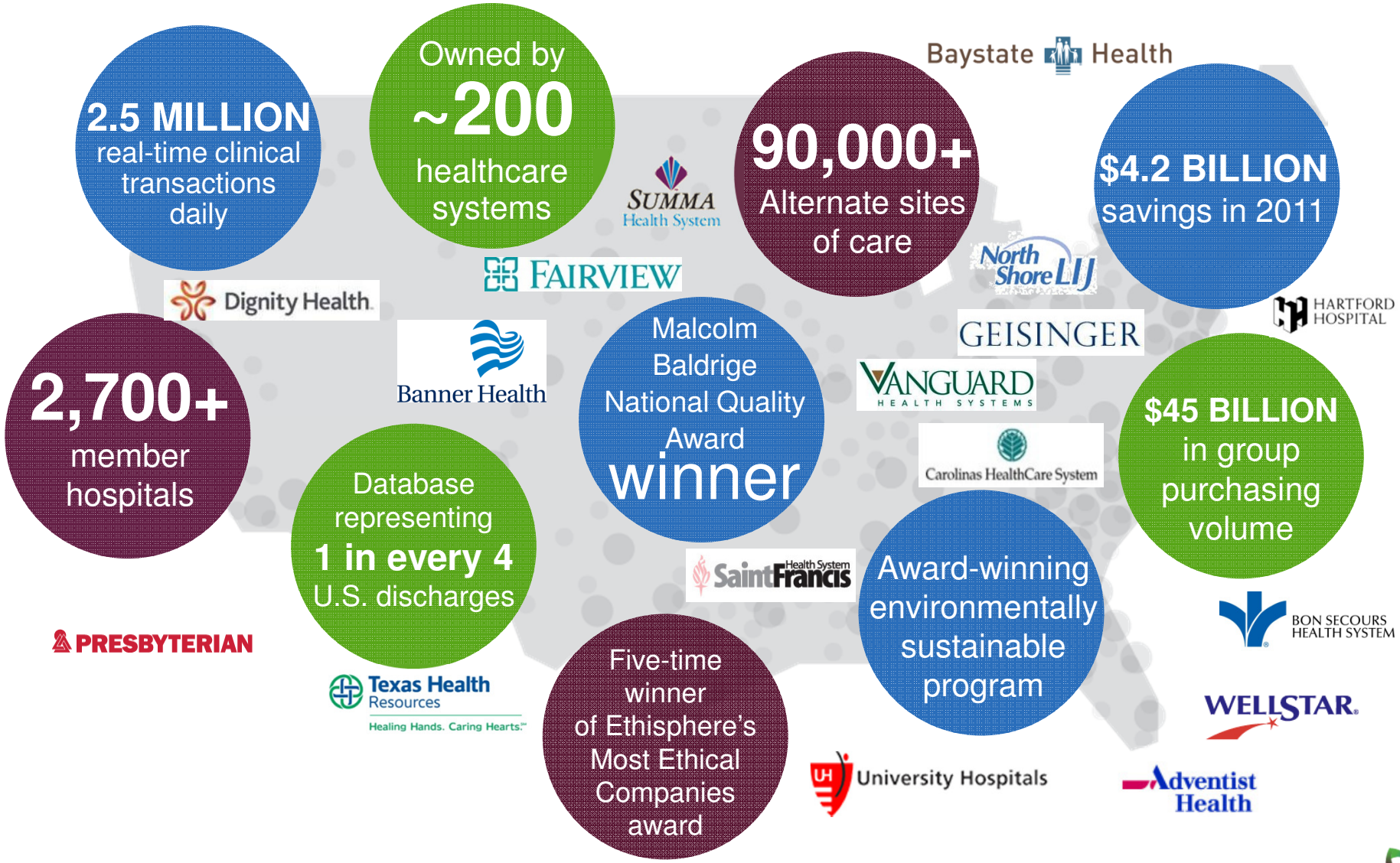
Premier Healthcare Alliance - The nation's largest

Our mission: To improve the health of communities



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Topics

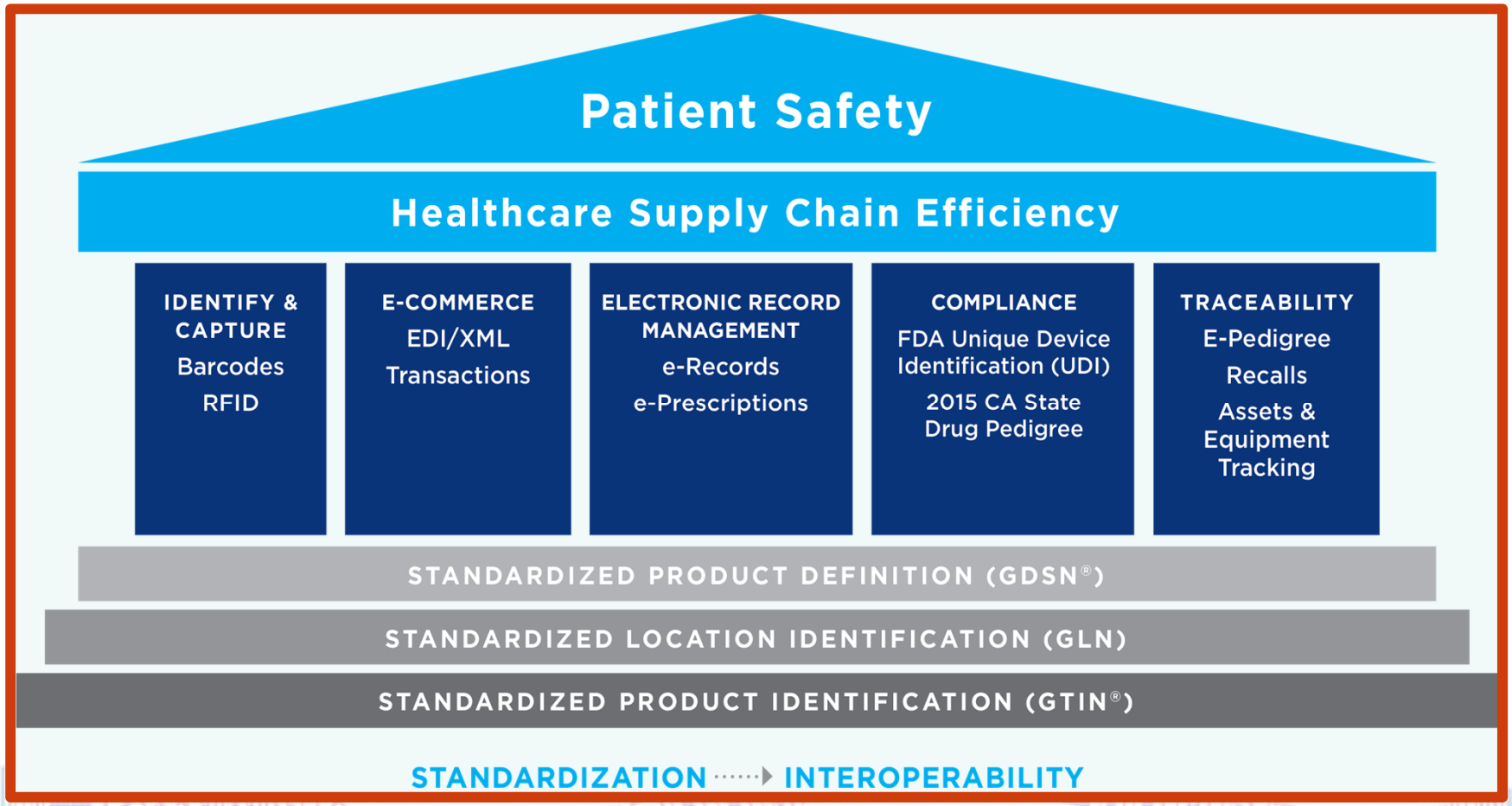
- The Premier healthcare alliance.
- **Benefits of UDI.**
- Healthcare standards in the US (Past & Now).
- What is needed to realize benefits?

Benefits of UDI. Cost and Safety

- **Reduce the cost of Healthcare**
  - ❖Supply chain efficiency *(Manufacturer, Distributor, Provider)*
  - ❖Healthcare provider processes *(Sourcing, logistics, inventory, billing)*
  - ❖Value based purchasing *(Analytics, product value comparison)*
  - ❖Recall of products *(Adds expense to all parts of supply chain)*
  - ❖Reduce duplication (Reduce redundant inventories and associated cost. ($60-$94 billion)
  - ❖Reduce Obsolescence. *($19-$27 billion)*
- **Improve Patient Safety and the health of our communities**
  - ❖Recall of products (a common vocabulary for reporting and enhance tracking abilities). *(105,000 medical devices per year)*
  - ❖Right patient, Right time, Right Device
  - ❖Better and more complete product information for clinical decisions
  - ❖Comprehensive patient health record *(includes product information)*
  - ❖Dependable product information for Consumer *(Business to Consumer)*

Benefits of UDI.

Improving Patient and Supply Chain Efficiency



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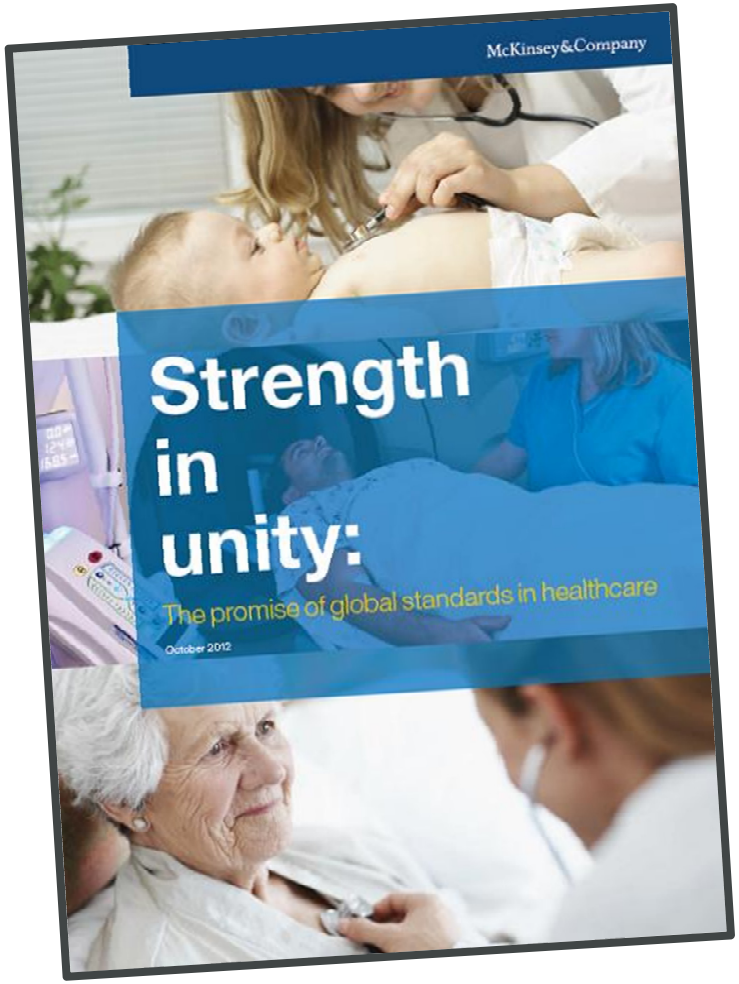
Benefits of UDI -- McKinsey & Company Findings Strength in Unity



- " We have reviewed more than 25 case examples of **collaborations.** Our evaluation of these examples of early standards adoption suggests that even in these one-off applications, **each participant in the healthcare system "microcosm" generated significant benefits**."

- " Analysis of expected investments and potential benefits that could accrue to each player in the healthcare value chain indicates that **all parts of the system could achieve a positive return on investment from adopting global standards** and enabling business processes – if a "critical mass" of channel partners adopt the same standards."

- " Achieving this improvement will **require a concerted effort by industry leaders who work across competitive and customer-supplier relationship boundaries t**o agree on a common vision and approach."

Topics

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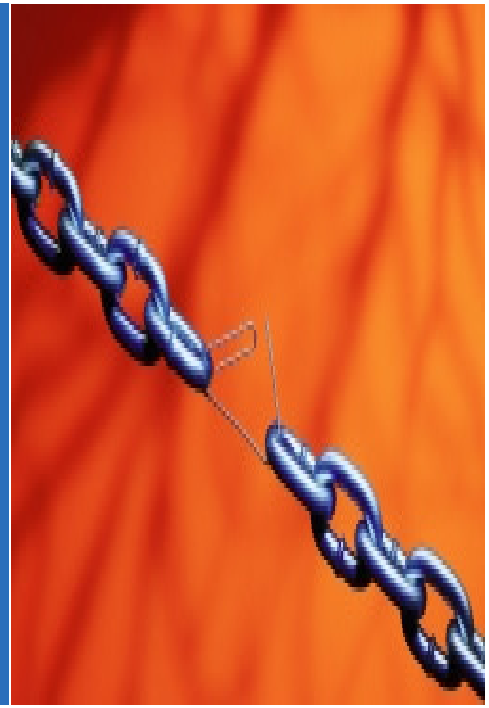
- Benefits of UDI.
- **Healthcare standards in the US (Past & Now).**
- What is needed to realize benefits?



Healthcare Standards in the US - History

GS1 Healthcare Data Standards Adoption:

- GS1 Leadership
- CHeS Leadership
- HSCSC Leadership

GLN Synch & Implementation Project for Members

GTIN Pilot:

GEISINGER, NORTON HEALTHCARE, BOSTON MEDICAL, Kimberly-Clark, BD, 3M, KCI, COOK

GLN Pilot:

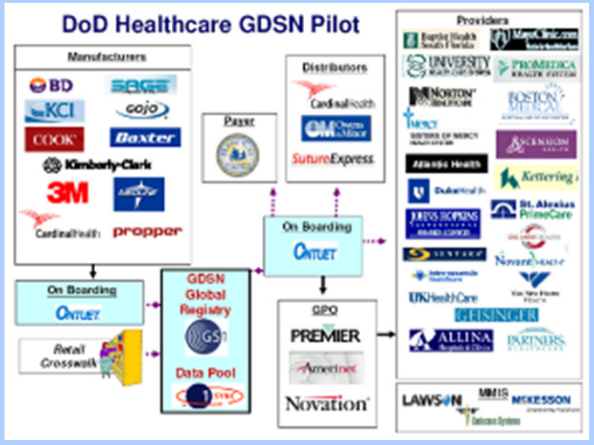
FAIRVIEW, GEISINGER, Baptist Health South Florida, Resurrection Health Care, Adventist Health

Completed DOD Buy-Side Pilot:

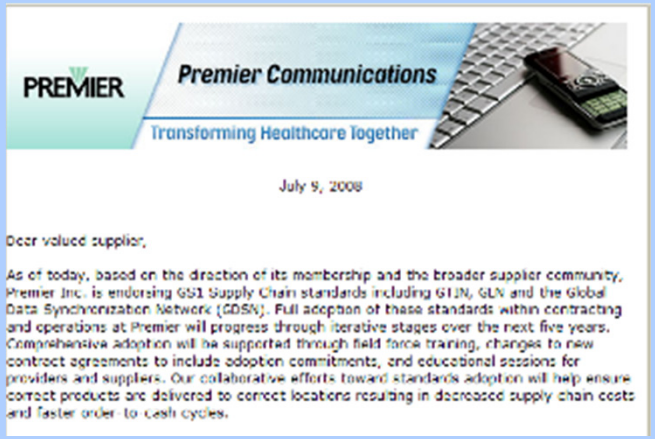
BD, Baxter, B|BRAUN

Early Advocate | **Feb 2007** | **March 2008** | **April 2008** | **May 2008** | **June 2008** | **July 2008**

DoD/GDSN Pilot:



GPO's Endorse GS1 Healthcare Data Standards:



PREMIER

Premier Communications

Transforming Healthcare Together

July 9, 2008

Dear valued supplier,

As of today, based on the direction of its membership and the broader supplier community, Premier Inc. is endorsing GS1 Supply Chain standards including GTIN, GLN and the Global Data Synchronization Network (GDSN). Full adoption of these standards within contracting and operations at Premier will progress through iterative stages over the next five years. Comprehensive adoption will be supported through field force training, changes to new contract agreements to include adoption commitments, and educational sessions for providers and suppliers. Our collaborative efforts toward standards adoption will help ensure correct products are delivered to correct locations resulting in decreased supply chain costs and faster order to cash cycles.

- Supplier Letter
- Press Release
- **December 2010:**
  - ➢ GLN Deadline
- **December 2012:**
  - ➢ GTIN Deadline

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Healthcare Standards in the US - History

Premier Begins GDSN Implementation Through 1SYNC

GPO's Contract Language Modified to Include GLN & GTIN.

Premier Begins Hosting Supplier Training Webinars

Completed QA of GDSN Sync in Pre-Production

GLN Enumeration Project Completed

Aug 2008 | **Oct 2008** | **Nov 2008** | **Dec 2008** | **Mar 2009** | **June 2009** | **July 2009**

Supplier Training

GS1 Data Standards presented to all new contracted Suppliers

One-on-One Supplier Training

Premier's Strategic Advisory Committee Endorses GS1 Healthcare Data Standards:

- Letter Publicized
- 25 Owners>50% Spend

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Healthcare Standards in the US - History

Aug 2009 — Provider Transactions using the Global Location Number

Dec 2009 — University of Arkansas: "The State of Healthcare Logistics"

Feb 2010 — Wave 2 Participants Transacting GLNs in Purchase Orders

Mar 2010 — Wave 2 of GLN Transaction Program is Launched

Apr 2010 — Published Lessons Learned Document from Wave 1 of GLN Transaction Program

June 2010 — 100 Suppliers Synchronized Through GDSN

1SYNC™

GLN SUNRISE

Dec 2010 — Waves 3 & 4 of GLN Transaction Program are Launched

Jan 2011 — Published Lessons Learned Document from Wave 2 of GLN Transaction Program

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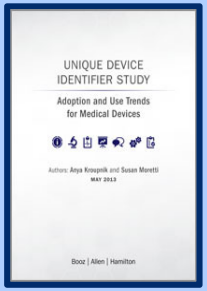
Healthcare Standards in the US - History

BD Mercy/ROI Perfect Order Study

GS1 Healthcare Reference Book

GTIN SUNRISE

Booz Allen UDI Study

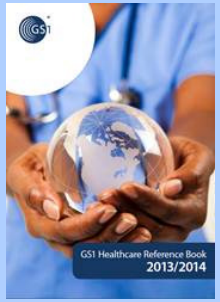


2011 | **2012** | **Oct 2012** | **Dec 2012** | **May 2013**

Healthcare Transformation Group

McKinsey Report: Strength in Unity

GS1 Healthcare Reference Book



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Healthcare Standards in the US - History

Mercy IT

ROI

BD

Helping all people live healthy lives

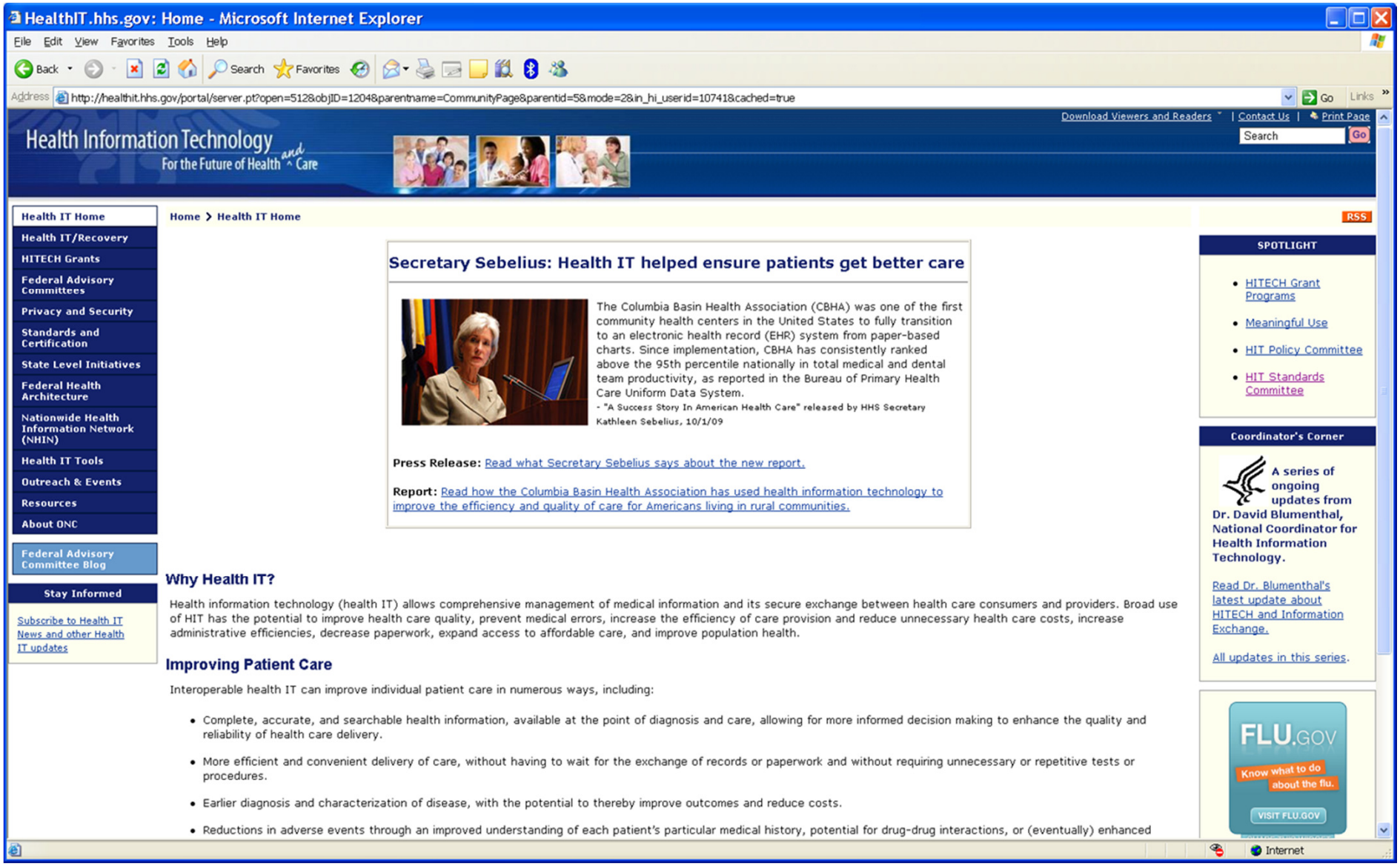
The Perfect Order and Beyond

Findings:

- **A 30% reduction in days payable outstanding** resulted in additional early pay discounts from faster payments that require less manual intervention.
- **73% reduction in discrepancies,** including a complete elimination of vendor part number and unit of measure (UOM) discrepancies by supplanting part number and UOMs with GTINs on purchase orders.
- **Improved sourcing of products** by use of a single scan of a barcode to determine the right product and product UOM to reorder.
- **Less calls to customer service** in the sourcing process.
- **Fewer stock outs** due to the inherent simplicity offered to nursing staff for scanning barcodes at the bedside.
- **Better charge compliance** resulting from scanning as a surrogate to traditional practices.

Healthcare Standards in the US - Now

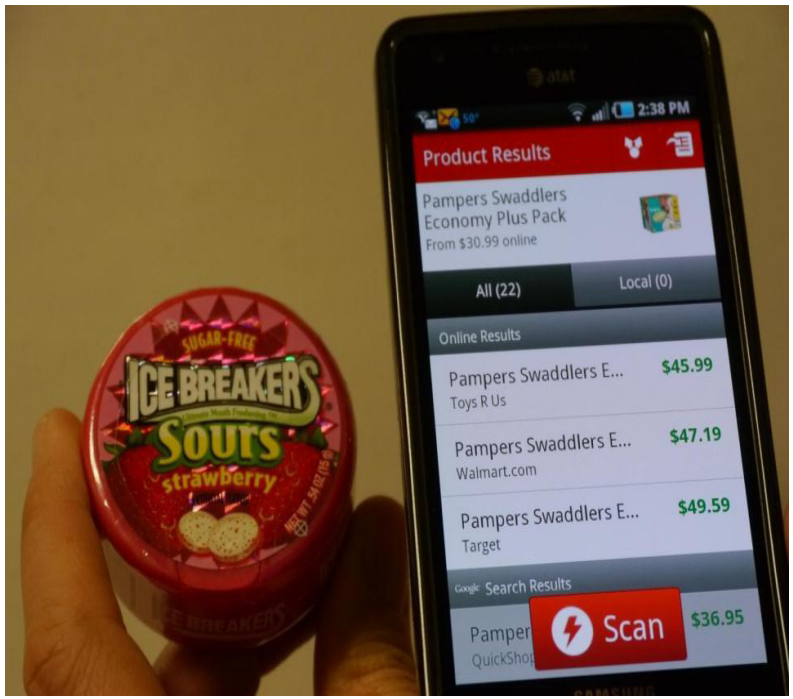
Health Information Technology for Economic and Clinical Health (HITECH) Act – Automating the Health Information



Healthcare Standards in the US - Now

Business to Consumer (B2C)

- **36%** of the world's population owns a smartphone (Nielsen, 2011)
- **50%** of all retail sales are web-influenced (Forrester, 2011)
- **80%** of consumers use social networks to research new products (IBM, 2012)



Product Information is often lacking!

Healthcare Standards in the US - Now

Consumer Demand…The Attribute Explosion ! (Core)

Primary UPC

Container Type

Material #

Product Category

Container Content

Prod Hierarchy

Gross Weight UOM

Net Weight UOM

Business Unit

Item Identifier

GTIN

Cluster Marketing Wrap

Product Sub-Group

Nationally Priced

National Account Package Code

Base Unit of Measure

Cluster

Net Weight

Height

Graphics Specialty

Vending

SAP Description

Health Category

Width UOM

Product Type

Height UOM

Deposit UPC

Gross Weight

Volume UOM

Product Percent Juice

Depth

Material Group

Graphics Specialty Base

Width

Depth UOM

Cluster Material

Trademark Family

Container Specialty

Volume

MFG Code

Pallet Stack Height

Healthcare Standards in the US - Now

Consumer Demand…The Attribute Explosion ! (Core, GDS)

Primary UPC
Container Type
Spec Length
Material #
Product Category
Spec Unit
Container Content
Merchandise Width
Merchandise Height
Prod Hierarchy
Merchandise Weight
Gross Weight UOM
Weight Unit
Production Start Date
Net Weight UOM
Language Code
Cluster
Business Unit
Product Size
Item Identifier
Package Marked Returnable
Spec Width
Base Unit of Measure
Pack Value
Merchandise Length
Discontinue Date
Merchandise Unit
Target Market
Net Content 2 UOM
Net Weight
Height
UDEX
Hi
Net Content
Virtual UPC Code
Graphics Specialty
Net Content 4
Spec Weight
CAW
GTIN
GPC
Coupon Family Code
Product Classification
Cluster Marketing Wrap
Registration Status
Vending
Invoice Item
Information Provider
Product Sub-Group
Valid From
Secondary Information Provider
Package Name 1
Net Content 1 UOM
Third Information Providerv
Nationally Priced
Barcode Derivable
National Account Package Code
Deposit Currency
Fourth Information Provider
Health Category
Width UOM
Lowest Level
Shipping Start Date
MFG GLN 3
Brand Owner
MFG GLN 1
Product Percent Juice
Package Name 3
MFG GLN 4
Medium Product Description
Product Type
Suppressed UPC
Brand
Brand Group
Sub-Brand
Flavor
Nutritional
Style
Platform
Shipping Unit
Gross Weight
Primary Delivery Method
Net Content 3 UOM
Height UOM
Package Type
Deposit UPC
Volume UOM
Net Content 5 UOM
MFG GLN 5
Cancel Date
Package Name 2
Package Name 4
Depth
Net Content 4 UOM
Short Product Description
Register with GS1
Ordering Unit
Net Content 2
Material Group
RFID Tagged
Net Content 5
Recyclable Package
Graphics Specialty Base
Width
Depth UOM
Cluster Material
Base Unit
Large Product Description
Consumer Unit
Net Content 3
Trademark Family
Container Specialty
Tare Weight
Variable Weight
MFG GLN 2
Information Private
Deposit Code
Register with DataPool
SAP Description
Audit Date
Deposit Amount
Volume
Deposit Text
MFG Code
Deposit State
Pallet Stack Height

Healthcare Standards in the US - Now

Consumer Demand…The Attribute Explosion ! (Core, GDS, Retail)

Primary UPC
Supplier Stock Number
Product Type
Medium Product Description
Primary Delivery Method
Net Content 3 UOM
Height UOM
Suppressed UPC
Department
Chemical Indicator
Pack Value
Container Type
Signing Description
Spec Width
Brand
Package Type
Spec Length
Brand Group
Base Unit of Measure
MFG GLN 3
Deposit UPC
Material #
Spec Unit
Unit UOM
Shipping Start Date
Item Description 1
Sub-Brand
Shipping Unit
Product Category
Container Content
Brand Owner
MFG GLN 1
Flavor
Unit Size
Gross Weight
Volume UOM
Merchandise Width
Merchandise Height
Platform
Hazmat Classification
Net Content 5 UOM
Is Security Tag Present
Nutritional
UPC Description
Style
Trade Item Recall Ind
MFG GLN 5
BarCode Type
Cancel Date
Product Percent Juice
Merchandise Length
Return Goods Policy
Prod Hierarchy
Merchandise Weight
Lead Time
Package Name 2
Package Name 4
Discontinue Date
Package Name 3
MFG GLN 4
Item Type
Max Order Qty
Supplier Pack Cost
Direct Consumer Delivery
Merchandise Unit
Gross Weight UOM
Weight Unit
Model Number
Depth
Conveyable
Production Start Date
Net Content 4 UOM
Target Market
Short Product Description
Order Qty Multiple
Net Weight UOM
Language Code
Cluster
Register with GS1
Net Content 2 UOM
Sub-Department
Ordering Unit
Net Content 2
Net Weight
Height
UDEX
Material Group
Business Unit
Fineline
Hi
Product Size
Net Content
Virtual UPC Code
RFID Tagged
Packaging Material Code
Selling UOM
Item Identifier
Net Content 5
Min Order Qty
Multi-Pack Indicator
RPPC Indicator
Package Marked Returnable
Graphics Specialty
Recyclable Package
Net Content 4
Composite Wood Level Code
Spec Weight
Supplier Number
Graphics Specialty Base
Width
CPSC Regulated Indicator
Depth UOM
CAW
Cluster Material
Environmental Identifier
Base Unit
GTIN
GPC
Coupon Family Code
Product Classification
Large Product Description
Sub-Type
Consumer Unit
Cluster Marketing Wrap
Net Content 3
Trademark Family
Registration Status
Base Unit UOM
Vending
Container Specialty
Invoice Item
Item Scannable
Tare Weight
Item Contains Wood
Information Provider
Product Sub-Group
Variable Weight
Valid From
MFG GLN 2
Secondary Information Provider
Package Name 1
Ordering UOM
Information Private
Private Label Indicator
Third Information Providerv
Country of Origin
Net Content 1 UOM
Register with DataPool
Aerosol Indicator
Nationally Priced
Deposit Code
SAP Description
Packaging Type
Volume
Audit Date
Segregation Code
Deposit Amount
Special Order Available
Base Unit Retail
Barcode Derivable
Material Code Agency
National Account Package Code
Pesticide Indicator
Deposit Currency
Fourth Information Provider
Deposit Text
MFG Code
Subject to US Patent
Health Category
Width UOM
Lowest Level
Deposit State
Pallet Stack Height

Healthcare Standards in the US - Now

Consumer Demand…The Attribute Explosion ! (Core, GDS, Retail, Foodservice)

Primary UPC
Supplier Stock Number
Product Type
Primary Delivery Method
Medium Product Description
Net Content 3 UOM
Height UOM
Suppressed UPC
Department
Chemical Indicator
Pack Value
Container Type
Signing Description
Min Handling Storage Temp
Brand
Diet Certification Agency
Indiv Unit Max
Spec Width
Package Type
Spec Length
Brand Group
Base Unit of Measure
MFG GLN 3
Deposit UPC
Material #
Spec Unit
Unit UOM
Shipping Start Date
Item Description 1
Sub-Brand
Shipping Unit
Product Category
Container Content
Brand Owner
MFG GLN 1
Flavor
Unit Size
Gross Weight
Volume UOM
Merchandise Width
Merchandise Height
Platform
Hazmat Classification
Net Content 5 UOM
Is Security Tag Present
Nutritional
Alternate Item Agency
UPC Description
Indiv Unit UOM
Style
Trade Item Recall Ind
MFG GLN 5
BarCode Type
Cancel Date
Product Percent Juice
Merchandise Length
Return Goods Policy
Prod Hierarchy
Merchandise Weight
Lead Time
Package Name 2
Package Name 4
Discontinue Date
Package Name 3
MFG GLN 4
Item Type
Max Order Qty
Supplier Pack Cost
Direct Consumer Delivery
Alternate Item Identifier
Merchandise Unit
Gross Weight UOM
Weight Unit
Model Number
Diet Certification Number
Depth
Conveyable
Net Content 4 UOM
Production Start Date
Short Product Description
Order Qty Multiple
Target Market
Net Weight UOM
Language Code
Cluster
Register with GS1
Net Content 2 UOM
Handling Storage Temp UOM
Net Weight
Height
Sub-Department
Ordering Unit
Net Content 2
UDEX
Material Group
Business Unit
Fineline
Diet Type Code
Hi
Food Service Pack Size
Product Size
Net Content
RFID Tagged
Packaging Material Code
Selling UOM
Virtual UPC Code
Item Identifier
Net Content 5
Min Order Qty
Multi-Pack Indicator
RPPC Indicator
Package Marked Returnable
Graphics Specialty
Recyclable Package
Net Content 4
Composite Wood Level Code
Spec Weight
Supplier Number
Graphics Specialty Base
Width
CPSC Regulated Indicator
Depth UOM
CAW
Cluster Material
Base Unit
Environmental Identifier
GTIN
GPC
Coupon Family Code
Product Classification
Large Product Description
Sub-Type
Consumer Unit
Cluster Marketing Wrap
Net Content 3
Trademark Family
Registration Status
Base Unit UOM
Vending
Container Specialty
Invoice Item
Item Scannable
Information Provider
Max Handling Storage Temp
Tare Weight
Item Contains Wood
Product Sub-Group
Valid From
Variable Weight
Indiv Unit Min
Secondary Information Provider
MFG GLN 2
Package Name 1
Ordering UOM
Information Private
Private Label Indicator
Third Information Providerv
Country of Origin
Net Content 1 UOM
Register with DataPool
Aerosol Indicator
Deposit Code
Nationally Priced
SAP Description
Packaging Type
Volume
Audit Date
Segregation Code
Deposit Amount
Special Order Available
Base Unit Retail
Barcode Derivable
Material Code Agency
National Account Package Code
Pesticide Indicator
Deposit Currency
Fourth Information Provider
Deposit Text
MFG Code
Subject to US Patent
Health Category
Width UOM
Lowest Level
Deposit State
Pallet Stack Height

Healthcare Standards in the US - Now

Consumer Demand…The Attribute Explosion ! (Core, GDS, Retail, Foodservice, Consumer)

Primary UPC Is the Item marked with a Batch/Lot Number Supplier Stock Number Is Gluten Free Product Type Milk – Level of Containment Primary Delivery Method
Preparation State Medium Product Description Net Content 3 UOM Height UOM
Peanut – Allergen Specification Agency Pack Value Milk – Allergen Specification Agency Suppressed UPC Department Chemical Indicator
Container Type Signing Description Min Handling Storage Temp Brand Saturated Fat % RDI Soybean – Allergen Specification Agency
Monounsaturated Fat Qty Contained Ingredients Sequence # Diet Certification Agency Indiv Unit Max
Kosher Type Spec Length Brand Group Benefits (Spanish) Wheat – Allergen Specification Name Package Type
Ingredient Name (English) Base Unit of Measure MFG GLN 3 Peanut – Level of Containment Deposit UPC Fish Catch Zone 3
Material # Spec Unit Product Name (Spanish) Unit UOM Shipping Start Date Fish Catch Zone 2 Sub-Brand Shipping Unit Cholesterol Qty Contained UOM
Product Category Item Description 1 Is Organic
Container Content Polyunsaturated Fat Qty Contained Brand Owner MFG GLN 1 Flavor Unit Size Gross Weight Volume UOM
Merchandise Width Merchandise Height Website URL Platform Hazmat Classification Net Content 5 UOM
Monounsaturated Fat Measurement Precision Is Security Tag Present Nutritional Kosher Certification Number
Alternate Item Agency UPC Description Is Organic Storage & Usage (Spanish) Indiv Unit UOM Trade Item Recall Ind MFG GLN 5 BarCode Type Cancel Date
Soybean – Allergen Specification Name Product Percent Juice Style Riboflavin
Merchandise Length Return Goods Policy Saturated Fat Qty Contained UOM Preparation Instructions (Spanish) Vitamin K
Prod Hierarchy Merchandise Weight Is Halal Protein % RDI Vitamin A Qty Contained Lead Time Package Name 2 Package Name 4
Fish – Allergen Specification Name Discontinue Date Package Name 3 MFG GLN 4 Vitamin A % RDI Item Type Vitamin C Qty Contained
Max Order Qty Product Image Supplier Pack Cost Direct Consumer Delivery
Alternate Item Identifier Merchandise Unit Vitamin C % RDI Peanut – Allergen Specification Name
Gross Weight UOM Weight Unit Model Number Transfatty Acids Qty Contained UOM Depth
Conveyable Iron Diet Certification Number
Production Start Date Ingredient Country of Origin 1 Ingredient Statement (English) Net Content 4 UOM
Target Market Short Product Description Order Qty Multiple Riboflavin % RDI
Net Weight UOM Language Code Cluster Potassium Measurement Precision
Crustacean – Allergen Specification Agency Ingredient Country of Origin 2 Total Fat Measurement Precision Register with GS1
Net Content 2 UOM Calorie From Fat Qty Contained UOM
Handling Storage Temp UOM Net Weight Height Sub-Department Ordering Unit Net Content 2
Ingredient Statement (Spanish) Total Fat % RDI UDEX Fish Catch Zone 1
Material Group Polyunsaturated Fat Qty Contained UOM
Business Unit Fineline Soluble Fiber % RDI Eggs – Allergen Specification Name
Diet Type Code Hi Is Kosher Food Service Pack Size
Product Size Seasame – Allergen Specification Name Crustacean – Level of Containment Vitamin D
Cholesterol Qty Contained Net Content Saturated Fat Qty Contained
Virtual UPC Code RFID Tagged Packaging Material Code Selling UOM
Item Identifier Does Trade Item Carry USDA Child Nutrition Label? Net Content 5
Min Order Qty Saturated Fat Measurement Precision Tree Nut – Allergen Specification Agency Potassium Qty Contained
Multi-Pack Indicator RPPC Indicator Household Serving Size (English)
Package Marked Returnable Serving Suggestion (Spanish) Cholesterol % RDI
Storage & Usage (English) Milk – Allergen Specification Name
Eggs – Allergen Specification Agency Graphics Specialty Recyclable Package
Ingredient Name (Spanish) Total Fat Qty Contained UOM Calcium Cholesterol Qty Contained UOM
Total Fat Qty Contained Net Content 4 Width Composite Wood Level Code
Spec Weight Supplier Number Graphics Specialty Base Sodium % RDI
CPSC Regulated Indicator Transfatty Acids % RDI Depth UOM
CAW Household Serving Size (Spanish) Dietary Fiber % RDI
Monounsaturated Fat % RDI Transfatty Acids Qty Contained Cluster Material Environmental Identifier
Base Unit Vitamin D % RDI
GTIN GPC Coupon Family Code Product Classification Cholesterol % RDI Iron % RDI Large Product Description
Sub-Type Consumer Unit Dietary Fiber Qty Contained UOM
Cluster Marketing Wrap Tree Nut – Allergen Specification Name Net Content 3 Trademark Family
Registration Status Benefits (English) Fish – Allergen Specification Agency Base Unit UOM
Soybean – Level of Containment Vending Vitamin E % RDI Kosher Certification Agency
Sugar % RDI Sesame – Level of Containment Thiamin % RDI
Invoice Item Item Scannable Soybean – Level of Containment Container Specialty Vitamin E
Polyunsaturated Fat Measurement Precision Information Provider Max Handling Storage Temp Preparation Instructions (English)
Product Sub-Group Calorie Qty Contained Polyunsaturated % RDI Tare Weight Item Contains Wood
Valid From Soybean – Level of Containment Vitamin K % RDI Variable Weight Indiv Unit Min
Ingredient Country of Origin 3 Secondary Information Provider Calorie Qty Contained UOM Cholesterol Measurement Precision Cholesterol Qty Contained
Transfatty Acids Measurement Precisions MFG GLN 2
Package Name 1 Ordering UOM Manufacturer Expanded Product Description (Spanish) Potassium Qty Contained Soluble Fiber Containment
Wheat – Level of Containment Sodium Measurement Precision Information Private Monounsaturated Fat QTY Contained UOM
Third Information Providerv Protein UOM Thiamin Private Label Indicator
Country of Origin Net Content 1 UOM Servings of the Trade Item Unit Sodium Qty Contained UOM Register with DataPool
Nationally Priced Aerosol Indicator Sodium Qty Contained Product Image URL Deposit Code Dietary Fiber Qty Contained
Sesame – Allergen Specification Agency SAP Description Packaging Type Eggs – Level of Containment Volume
Sugar Qty Containment UOM Fish – Level of Containment Audit Date
Serving Suggestion (English) Segregation Code Protein Qty Contained Serving Size Deposit Amount Special Order Available Base Unit Retail
Barcode Derivable Material Code Agency
National Account Package Code Preparation Type Calorie Measurement Precision Calorie From Fat Measurement Precision Pesticide Indicator
Deposit Currency Potassium Qty Contained UOM
Calorie From Fat Qty Contained Fourth Information Provider Deposit Text MFG Code Tree Nuts – Level of Containment
Potassium % RDI Subject to US Patent Health Category Width UOM Soluble Fiber Containment UOM Product Link Sugar Qty Containment
Crustacean – Allergen Specification Name Lowest Level Deposit State Pallet Stack Height Serving Size UOM

Healthcare Standards in the US - Now Dependable
Product Information Business to Consumer

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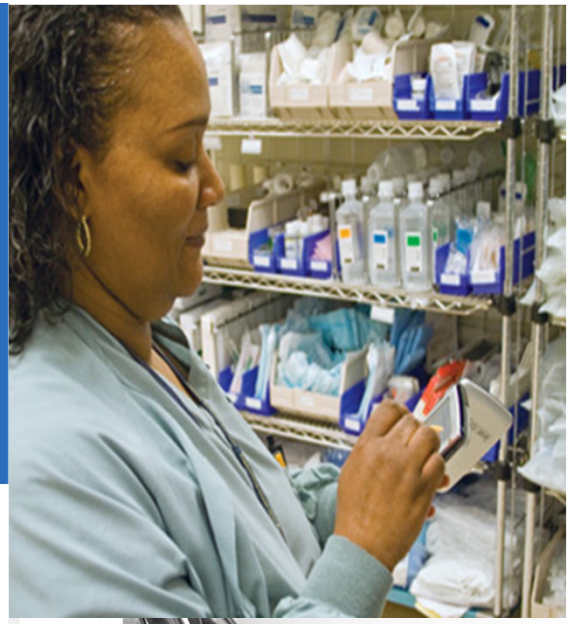
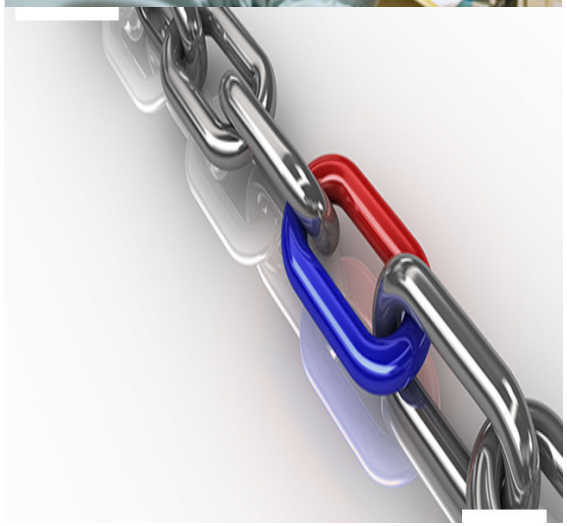
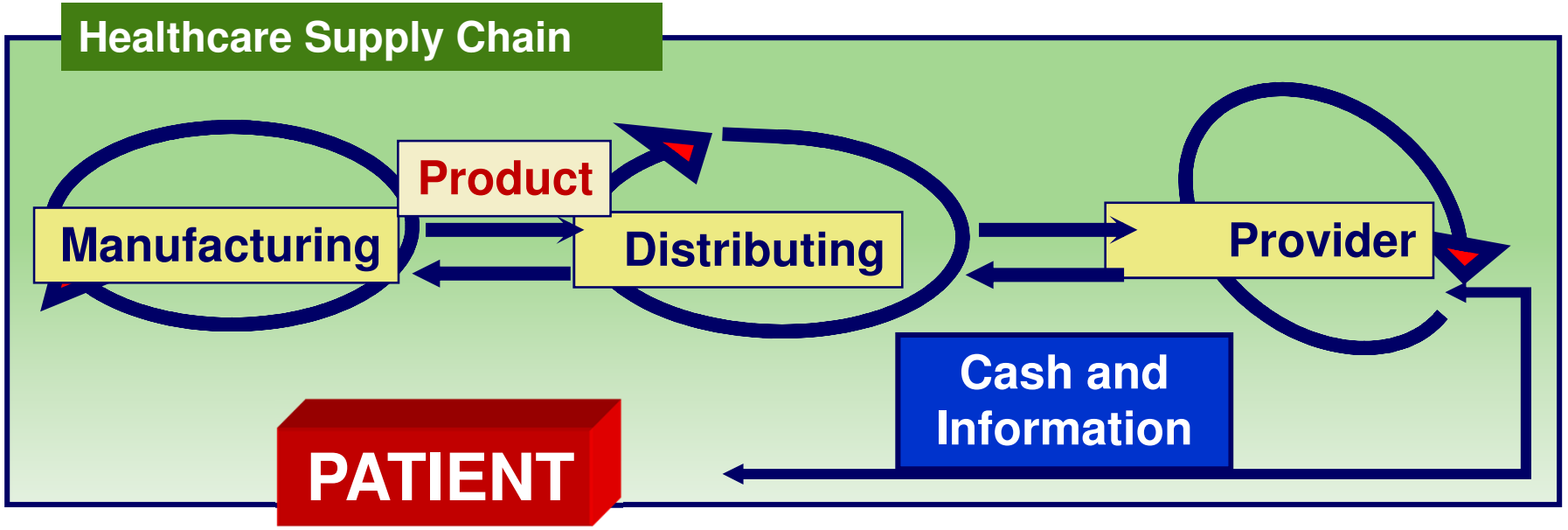
Topics

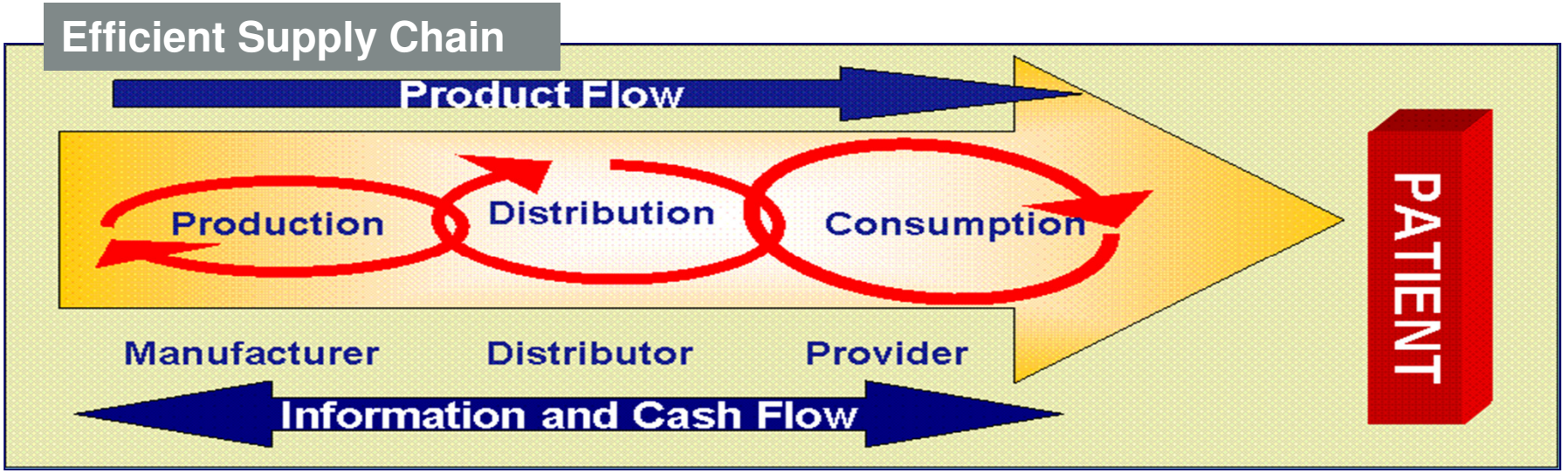
- The Premier healthcare alliance.
- Benefits of UDI.
- Healthcare standards in the US (Past & Now).
- **What is needed to realize benefits?**



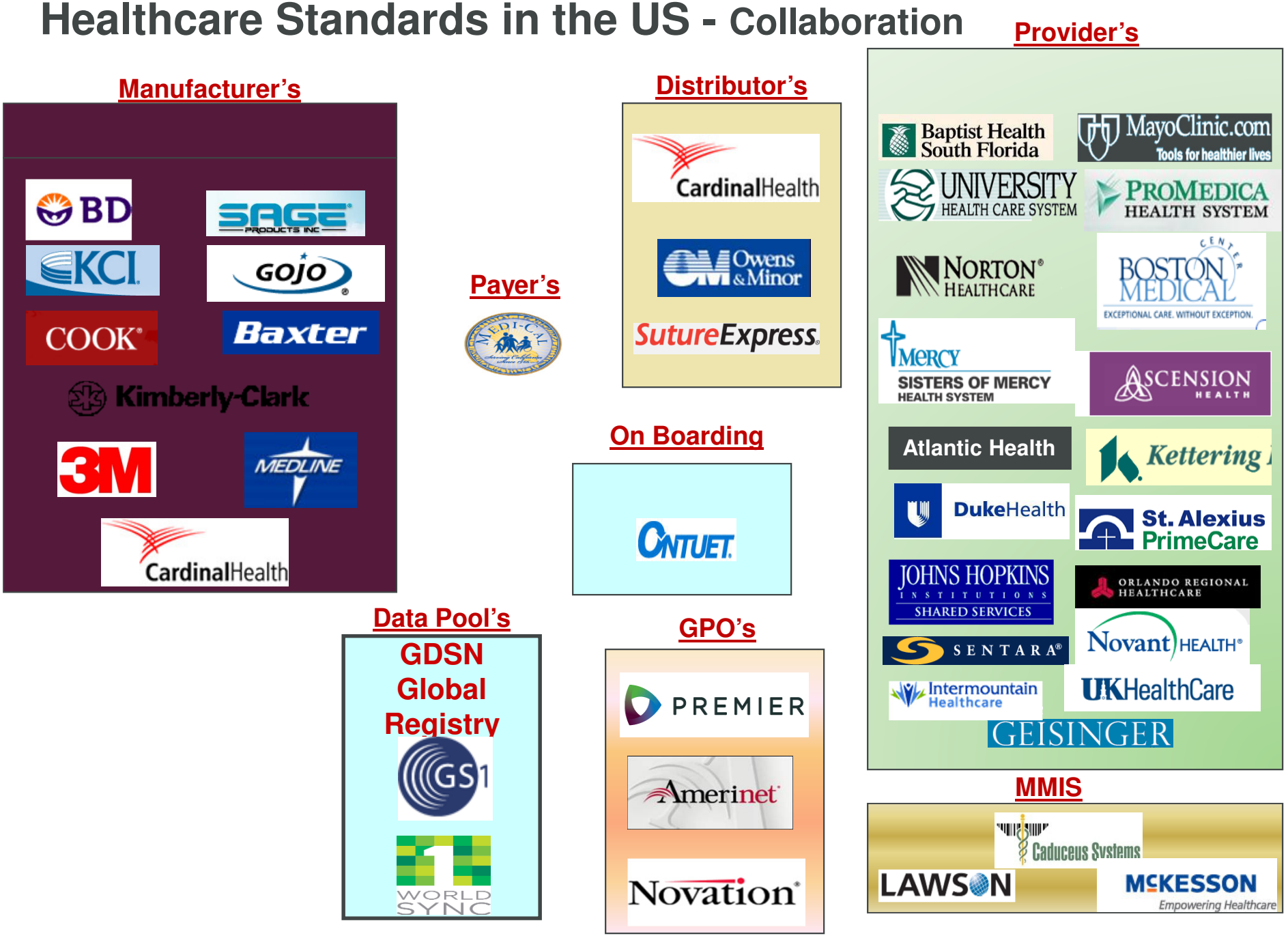


What is needed to realize benefits? Collaboration / Unity



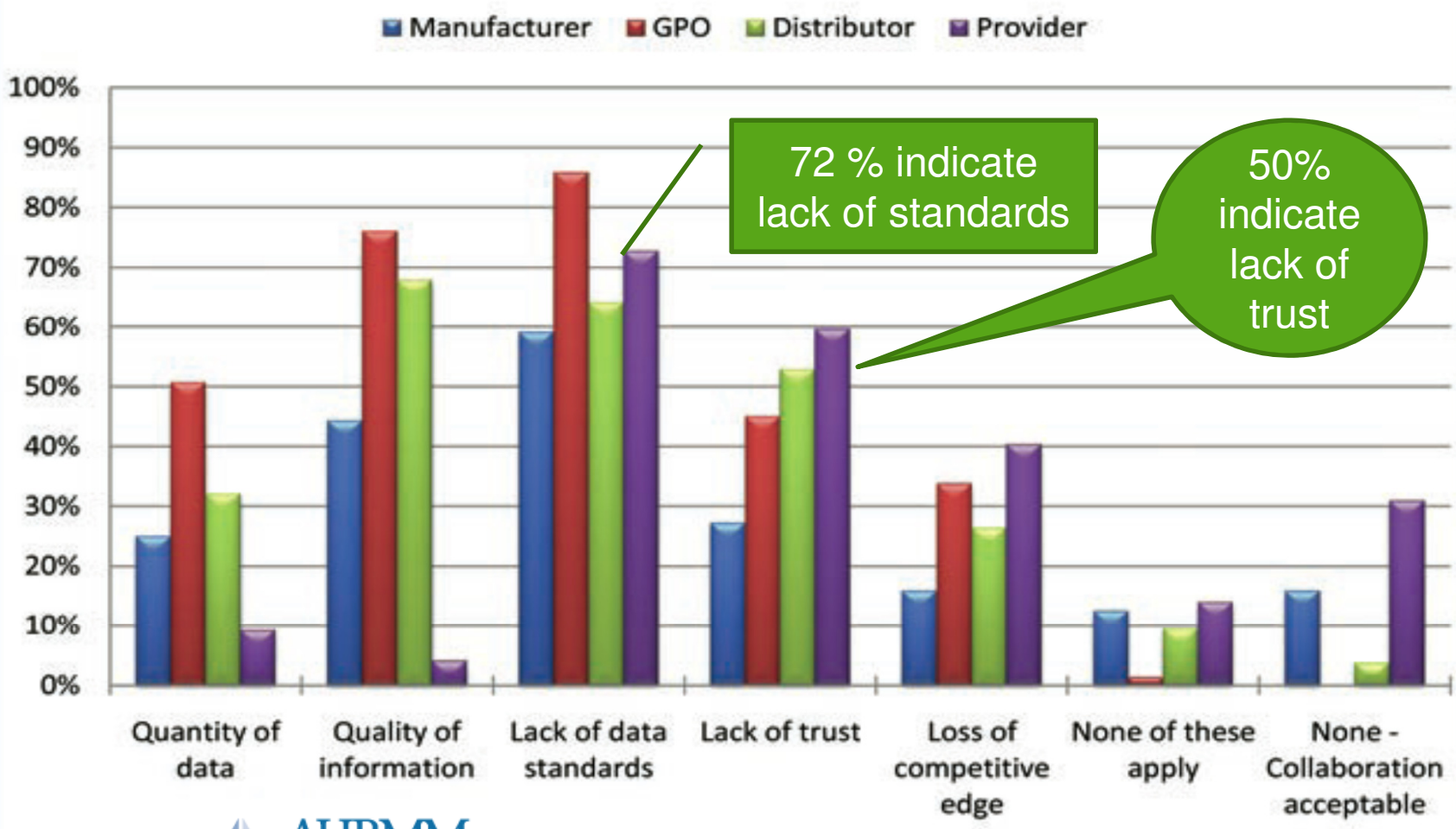


Healthcare Standards in the US - Collaboration



What is needed to realize benefits? Collaboration / Unity

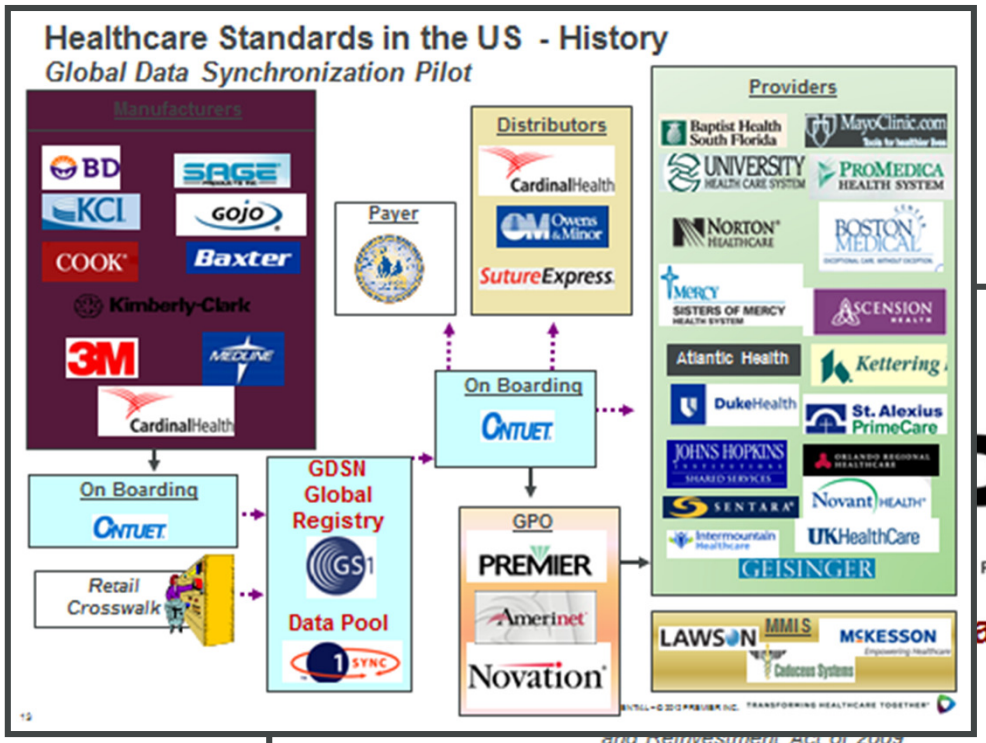
Barriers to reaching acceptable level of collaboration among supply chain organizations

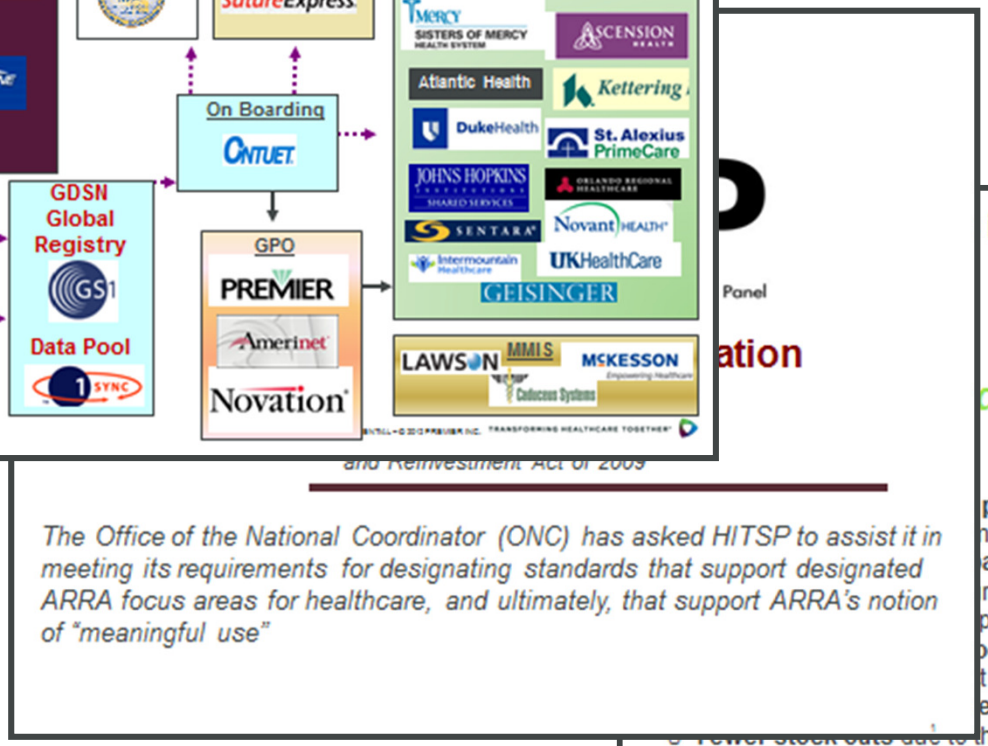


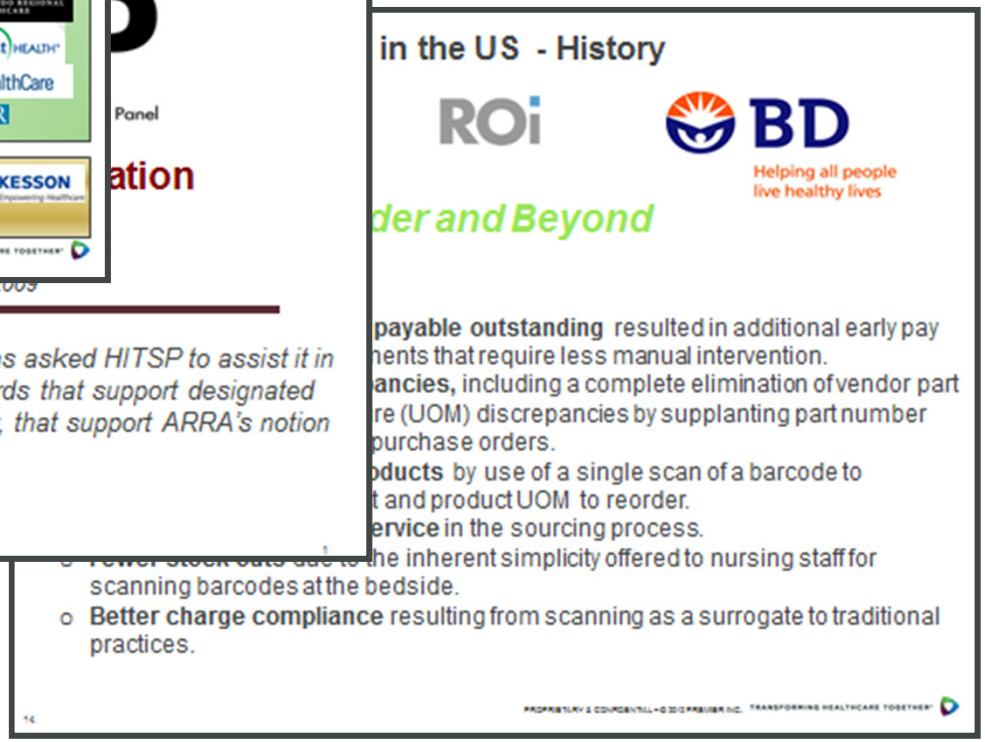
AHRMM
Association for Healthcare Resource & Materials Management
Advancing the Healthcare Supply Chain

Sample size = 1267; Source: 2009, Nachtmann and Pohl

What is needed to realize benefits? Collaboration / Unity

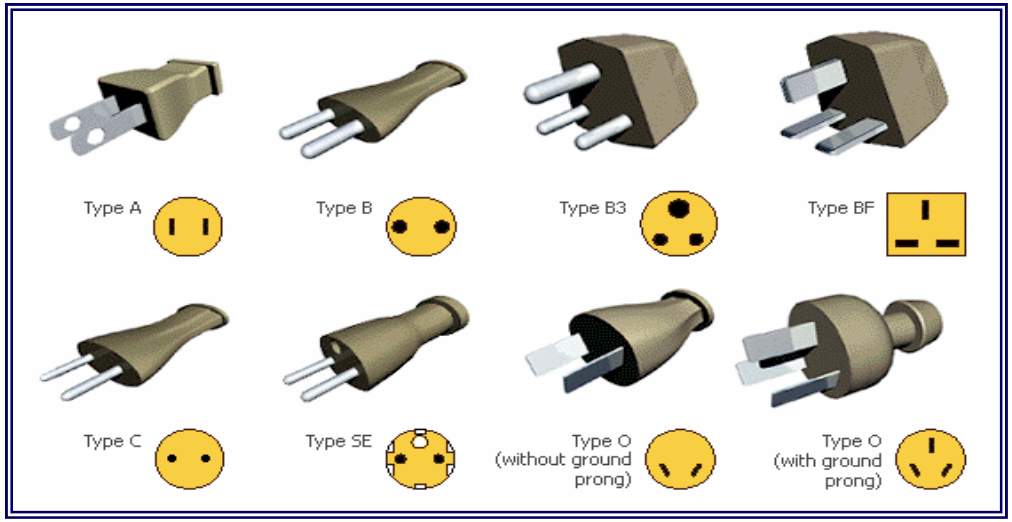


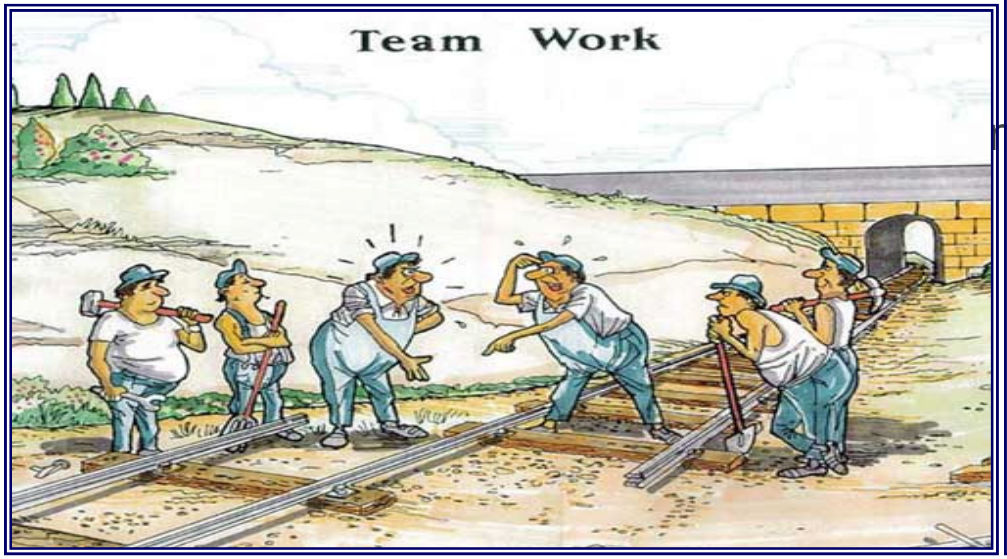


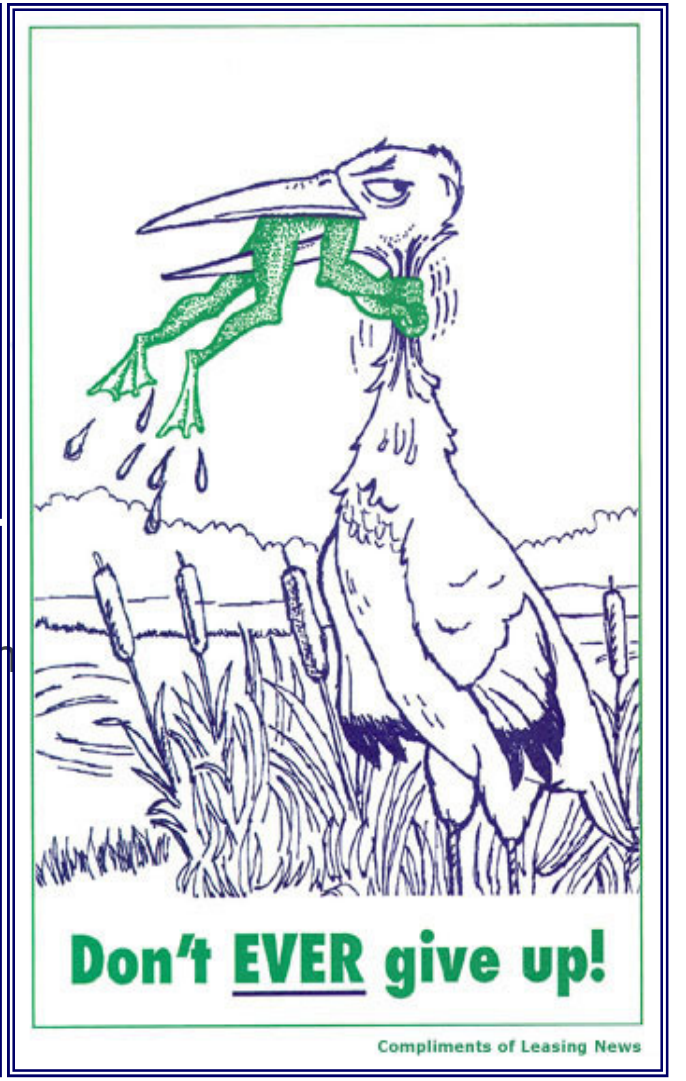


What is needed to realize benefits? UDI Implementation – Technology / Business Processes

What is Needed?







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