"Building Patient Safety"

Patient Safety

Healthcare Supply Chain Efficiency

Standardized Product Definition (GDSN™)
Standardized Location Identification (GLN)
Standardized Product Identification (GTIN)

Standardization → Interoperability

Automatic Data Capture (Bar Codes, Data Matrix, RFID)
e-Commerce (EDI / XML Transactions)
Electronic Record Management (e-Records, e-Prescriptions)
Assets & Equipment Tracking
Traceability (e-Pedigree, Recalls)
Bar Code Verification Data Capture & Reporting

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Chief Health Informatics Office
History of Bar Code Medication Administration

• 1994
  – The Department of Veteran Affairs (VA) was one of the first health care organizations to develop Bar Code Medication Administration (BCMA) technology to improve patient safety
  – Piloted by field staff at the Topeka Veterans Affairs Medical Center

• 1999
  – Roll out to all VA Medical Centers (60,000 beds)

• 2003
  – 100% of all VA Medical Center in-patient wards document using BCMA

• 2009
  – 1.3 Billion medications scanned since inception
  – 678,000 medications scanned each day
Bar Coding Challenges – A Look Back

- **Bar Code Quality Assurance**
  - Printed in house
  - Received from manufacturer/supplier

- **Absence of manufacturer bar codes on units of administration**

- **No universal bar code data carrier standardization for health care**

- **No contractual bar code quality standards communicated to manufacturers/packagers**
VA Addresses Bar Code Quality

- **Sept 2004**
  - Developed “Closed Loop” bar code verification procedures
- **Oct 2004**
  - Established bar code verification labs
- **Mar 2005**
  - Bar Code Quality clause added to VA contract vehicles
- **May 2005**
  - Annual wristband verification testing conducted for all Veterans Health Administration (VHA) facilities
- **Feb 2006**
  - Bar Code Quality Directive distributed
- **Dec 2006**
  - All scanners, bar code printers, and bar code print media must meet minimum standards of the Bar Code Resource Office to be approved for purchase
- **Mar 2009**
  - Automated data capture of bar codes not scanning at the point of care
Closed Loop Verification Results

Bar Code Verification Results Through May 2009

- 63% Manufacturer Products
- 26% Facility Wristbands
- 7% Facility IV Labels
- 4% Facility Automated Packaging

Total verification tests = **604**
Different Manufacturers/Suppliers = **58**
Letters to suppliers & contracting authorities = **65**
Supplier products reported to the FDA through MedWatch = **3**
• Measure field ability to scan through direct observation
• Bar Code Quality Directive requires quarterly monitors for 6 areas:
  – Controlled Substances
  – Manufacturer Packaging
  – IV Labels
  – Automated Packaging
  – Pharmacy Re-labeling
  – End User
• To date >2.8 million bar code scans observed
678,000 medications scanned per day

<table>
<thead>
<tr>
<th>Performance Period</th>
<th>Overall Scan Success</th>
<th>Unsuccessful Scans / Day</th>
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<tbody>
<tr>
<td>FY06 Baseline</td>
<td>94.8%</td>
<td>35,256</td>
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<tr>
<td>YTD FY09</td>
<td>99.0%</td>
<td>6,780</td>
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- Approx. 162,000 manufacturer bar codes are scanned each day

<table>
<thead>
<tr>
<th>Performance Period</th>
<th>Manufacturer Packaging</th>
<th>Unsuccessful Scans / Day</th>
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<tbody>
<tr>
<td>FY06 Baseline</td>
<td>90.9%</td>
<td>14,746</td>
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<tr>
<td>YTD FY09</td>
<td>97.1%</td>
<td>4,699</td>
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</table>

- Manufacturer packaging 42% of unsuccessful scans at FY06 Baseline
- Manufacturer packaging 69% of unsuccessful scans for YTD FY09
Next Steps

• Automated data capture of scanner bypass – March 2009
  – Identifies the most problematic products at the point of care
  – Identifies database irregularities in real time
  – Identifies substandard bar code quality products through filtering

• Global Trade Item Numbers (GTIN): standardize product identification

• Global Data Synchronization Network (GDSN): create a central data source that feeds all information technology systems