

Bar Code Medication Administration Systems Efficiency

Ron Schneider, RPH, Pharmacist Consultant

Bar Code Resource Office, U.S. Dept. of Veterans Affairs

Jonathan Bagby, RN, Nurse Consultant

Bar Code Resource Office, U.S. Dept. of Veterans Affairs

History of Bar Code Medication Administration (BCMA) in VA

- 1994
 - The Department of Veterans Affairs (VA) was one of the first health care organizations to develop BCMA technology to improve patient safety through positive patient identification
 - Piloted by field staff at the Colmery-O'Neil Veterans Affairs Medical Center (VAMC), Topeka, Kansas
- 1999
 - Rolled out to all VAMCs (60,000 beds)
- 2003
 - 100% of all VA inpatient wards documenting medication administration using BCMA
- 2009
 - > 1.3 Billion medications scanned since inception
 - ~678,000 medications scanned each day

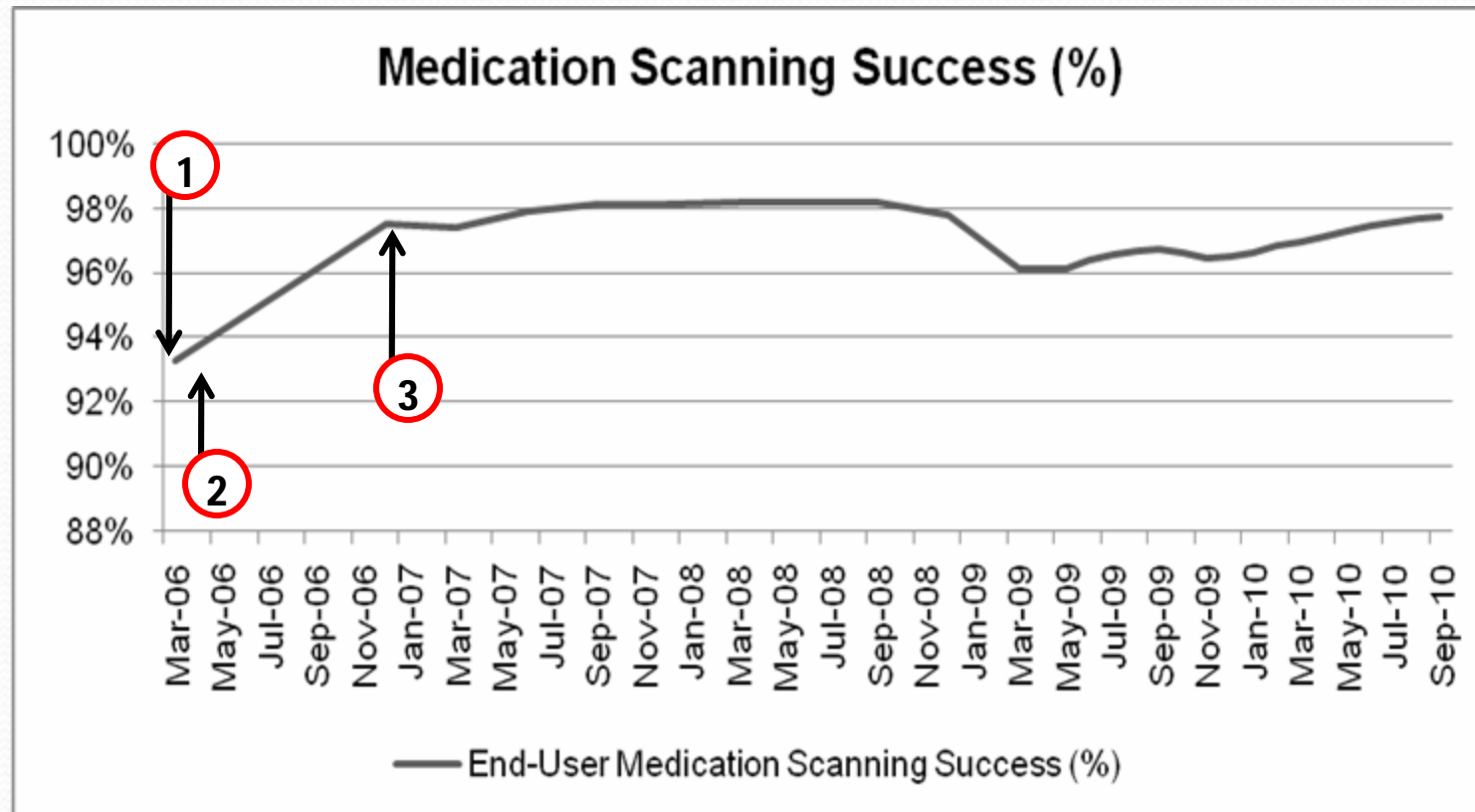
Brief BCMA History in VA

- BCMA went live in VA in 1999
- Bar Code Resource Office established in 2004
 - Identify best practices
 - Facilitate quality control
 - Function as liaison between facilities and stakeholders
- Pilot study of bar code quality in 2005 showed inadequate bar codes on
 - Manufacturers packaging
 - Intravenous fluids
 - Controlled substances
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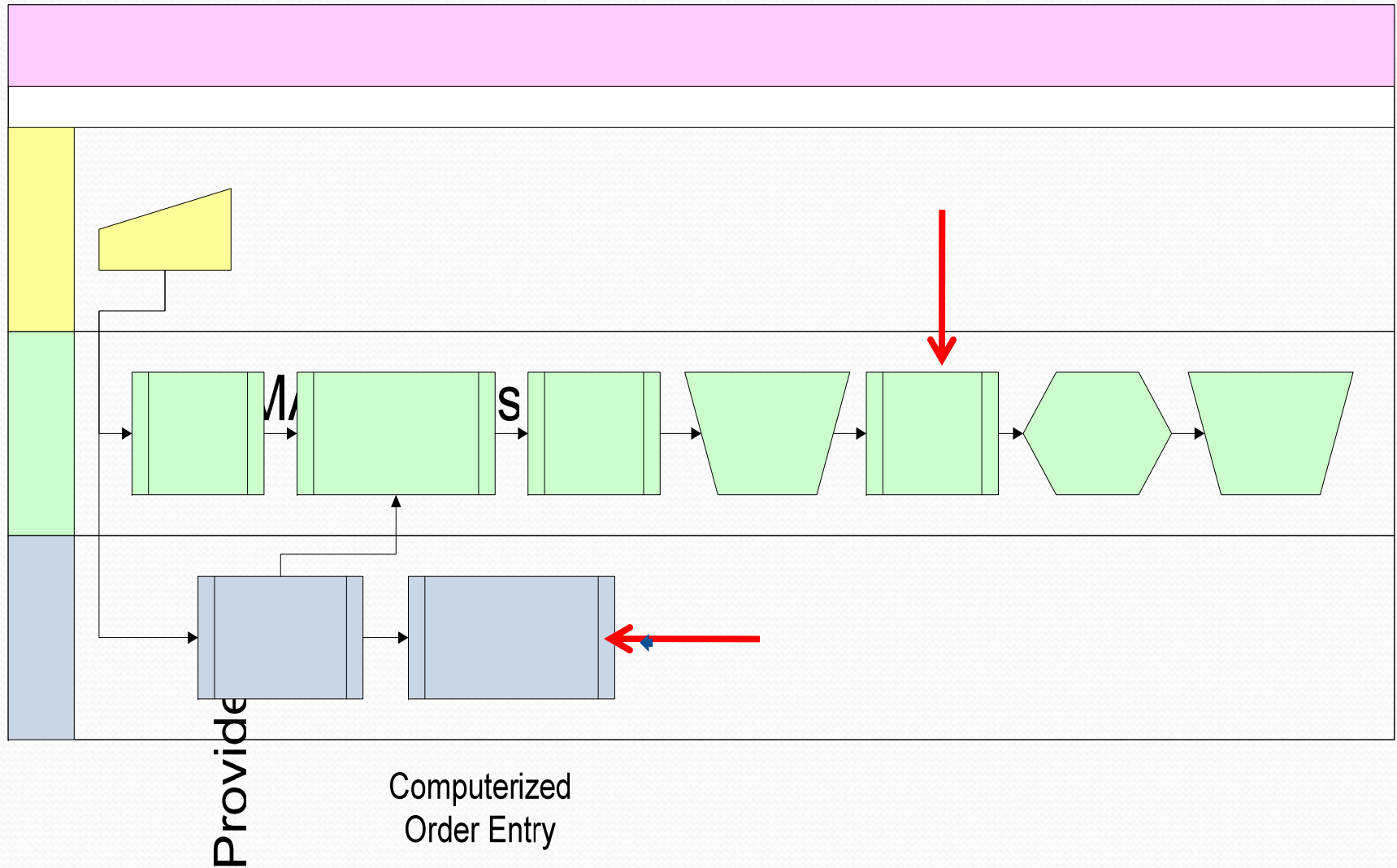
BCMA History in VA (continued)

- The Food and Drug Administration “Bar Code Label Requirement” regulation went into full effect April 2006
- VA mandates facilities institute a Bar Code Quality Program for Unit dose Packaging and Bar Code Labeling in 2006
 - Facilities collected data manually and reported to Bar Code Resource Office quarterly
 - March 2006 – 92.5% medication scan success rate
 - January 2009 – 97.7% medication scan success rate

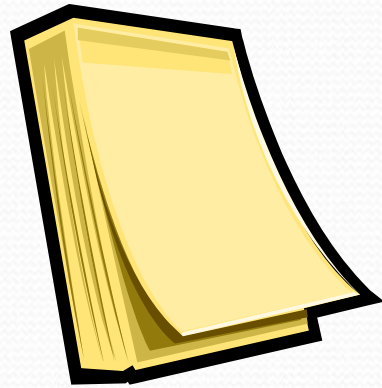
Medication Impact



BCMA Process in VA



Communication Solutions



Managing Scanning Failures (MSF) Introduced

- MSF implemented May 2009
 - Communicate non-scanning medications to pharmacy in real-time
 - Scanning information stored for ad hoc reporting
 - Data becomes extractable at a national level


May 2011 VHA Summary

BCMAScan_NationalMonthly_DivIS - Report Viewer - Windows Internet Explorer

http://reports2.vssc.med.va.gov/ReportServer/Pages/ReportViewer.aspx?%2fNursing%2fM5F%2fBCMAScan_NationalMc

Select Reporting Period: MAY-FY11 View Report

1 of 264 100% Find | Next

 **Managing Scanning Failures - VHA Summary**

[VSSC Help Desk](#) [Data Definitions](#) [Return to MSF Report Page](#) Data Current thru May 2011

National Managing Scanning Failures Data for MAY-FY11

Wristband Scans	Total	By Pass Sub Total	Count	Percent
All Wristband Scan Attempts	4,206,142			
...Wristband Scan			3,973,712	94.47%
..All By-Passed Wristband Scans		232,430		5.53%
...Wristband By-Pass Keyed Entry			166,800	3.97%
...Wristband By-Pass BCMA Unable to Scan Option			65,630	1.56%

Medication Scans	Total	By Pass Sub Total	Count	Percent
All Medication Scan Attempts	14,240,576			
...Medication Scan			13,948,710	97.95%
..All By-Passed Medication Scans		291,866		2.05%
...Medication By-Pass Keyed Entry			134,113	0.94%
...Medication By-Pass BCMA Unable to Scan Option			153,011	1.07%
...Medication By-Pass Vista Manual Med Entry Option			4,742	0.03%

Done Local intranet 100%

Managing Scanning Failures

"Unable to Scan" Medication

Medication Unable to Scan - Drug Listing	Count	Percent
<u>ARTIFICIAL TEARS POLYVONYL ALCOHOL</u>	2,041	0.95%
<u>ALBUTEROL 90/IPRATROP 18MCG 200D PO INHL</u>	1,908	0.89%
<u>INSULIN,ASPART,HUMAN 100 UNIT/ML INJ</u>	1,746	0.82%
<u>OMEPRAZOLE 20MG EC CAP</u>	1,511	0.71%
<u>ALBUTEROL 90MCG (CFC-F) 200D ORAL INHL</u>	1,145	0.54%
<u>ACETAMINOPHEN 325MG TAB</u>	894	0.42%
<u>COLLAGENASE 250 UNT/GM TOP OINT</u>	870	0.41%
<u>BISACODYL 10MG RTL SUPP</u>	784	0.37%

Medication Unable to Scan - Medication by Facility	Count
Count of ACETAMINOPHEN 325MG TAB for FEB-FY10 for all facilities	
(R07) (19) VA Facility - 19	235
(R16) (80) VA Facility - 80	119
(R05) (12) VA Facility - 12	92
(R23) (36) VA Facility - 36	90
(R04) (46) VA Facility - 46	57
(R06) (52) VA Facility - 52	48
(R20) (63) VA Facility - 63	46
(R10) (52) VA Facility - 52	44
(R09) (26) VA Facility - 26	19
(R08) (72) VA Facility - 72	17
(R01) (89) VA Facility - 89	16
(V02) (28) VA Facility - 28	13

Bar Code Medication Administration (BCMA) = Patient Safety

- BCMA always was about patient safety
 - Never designed to be faster
- Non-scanning medications add time
 - Takes time away from other nursing duties
 - Takes time away from other pharmacy duties to troubleshoot

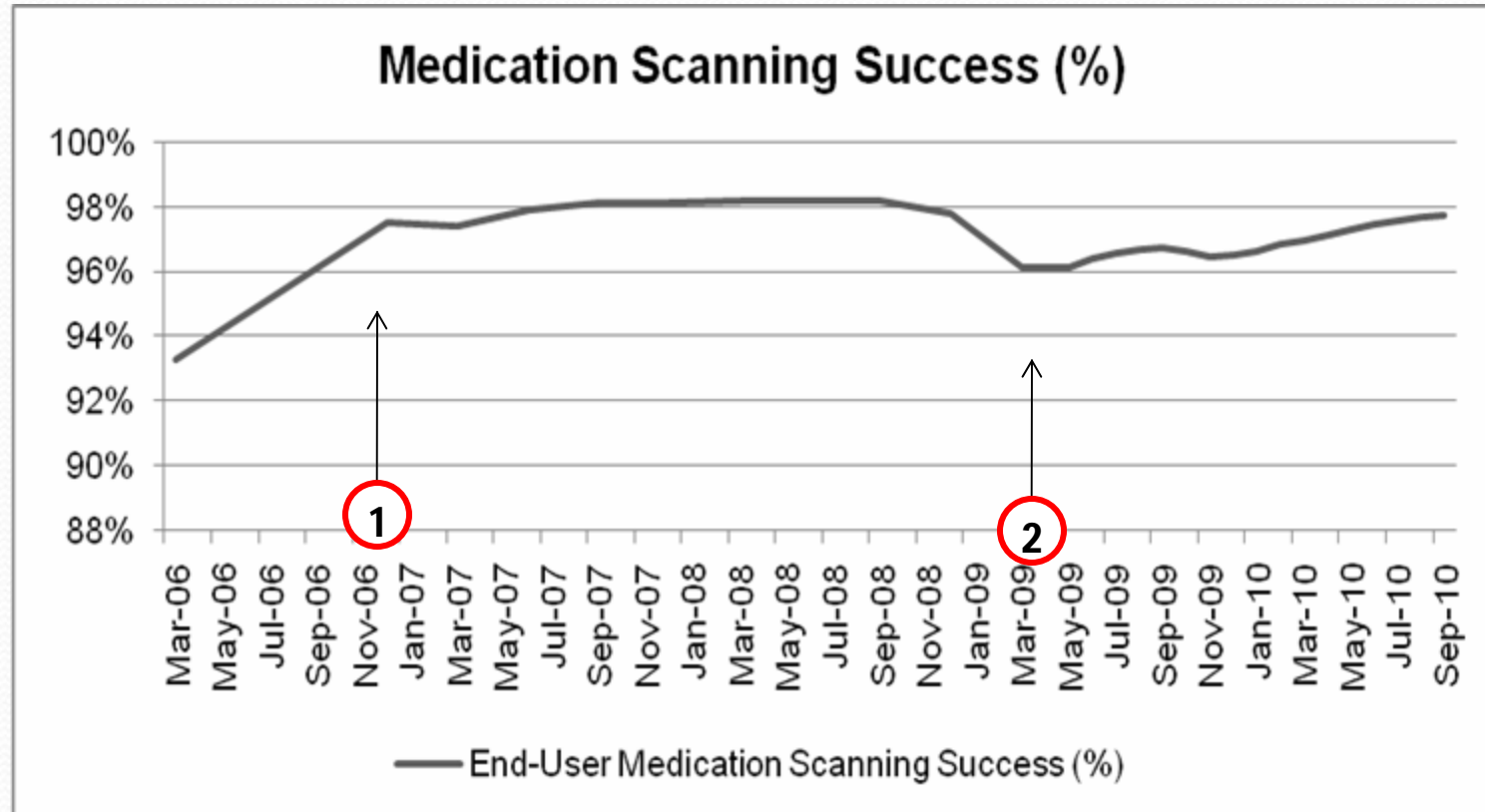
Troubleshooting Time

- Medication: 5-10 minutes or longer per medication
 - Look at report, see if bar code in drug file, order is correct, units are correct, etc
- Wristband: unknown/unquantifiable
 - Go to unit, check wristband, adjust printer, new printer
- Can it be safer and faster returning time to nursing and pharmacy?

Let's Talk Time

- Old process (pre-Medication Scanning Failures(MSF)) for non-scanning medications
 - Approximately 5 seconds
 - Provided no resolution
- New process (MSF) for non-scanning medications
 - Approximately 10 seconds
 - Provides real-time notification to fix problem
 - "A stitch in time saves nine"

Medication Impact



Medication Scan Success Rate

- 96.1% in May 2009
- 16,533,002 medications scanned per month in VA
 - 21,272 meds reported “Unable to Scan” daily
 - 10 seconds to report “Unable to Scan”
59 hours per day
1,773 hours per month time lost just recording “Unable to Scan”

Medication Scan Success Rate

- 97.7% in September 2010
- 16,283,194 medications scanned per month in VA
 - 12,430 meds reported “Unable to Scan” daily
 - 10 seconds to report “Unable to Scan”
35 hours per day
1,036 hours per month time lost just recording “Unable to Scan”

Medication Scan Success Rate May 2011

- 97.95% in May 2011
- 14,240,576 medications scanned per month in VA
 - 4935 meds reported "Unable to Scan" daily
 - 10 seconds to report "Unable to Scan"
13 hours per day
403 hours per month time lost just recording "Unable to Scan"

Time Returned to Care:

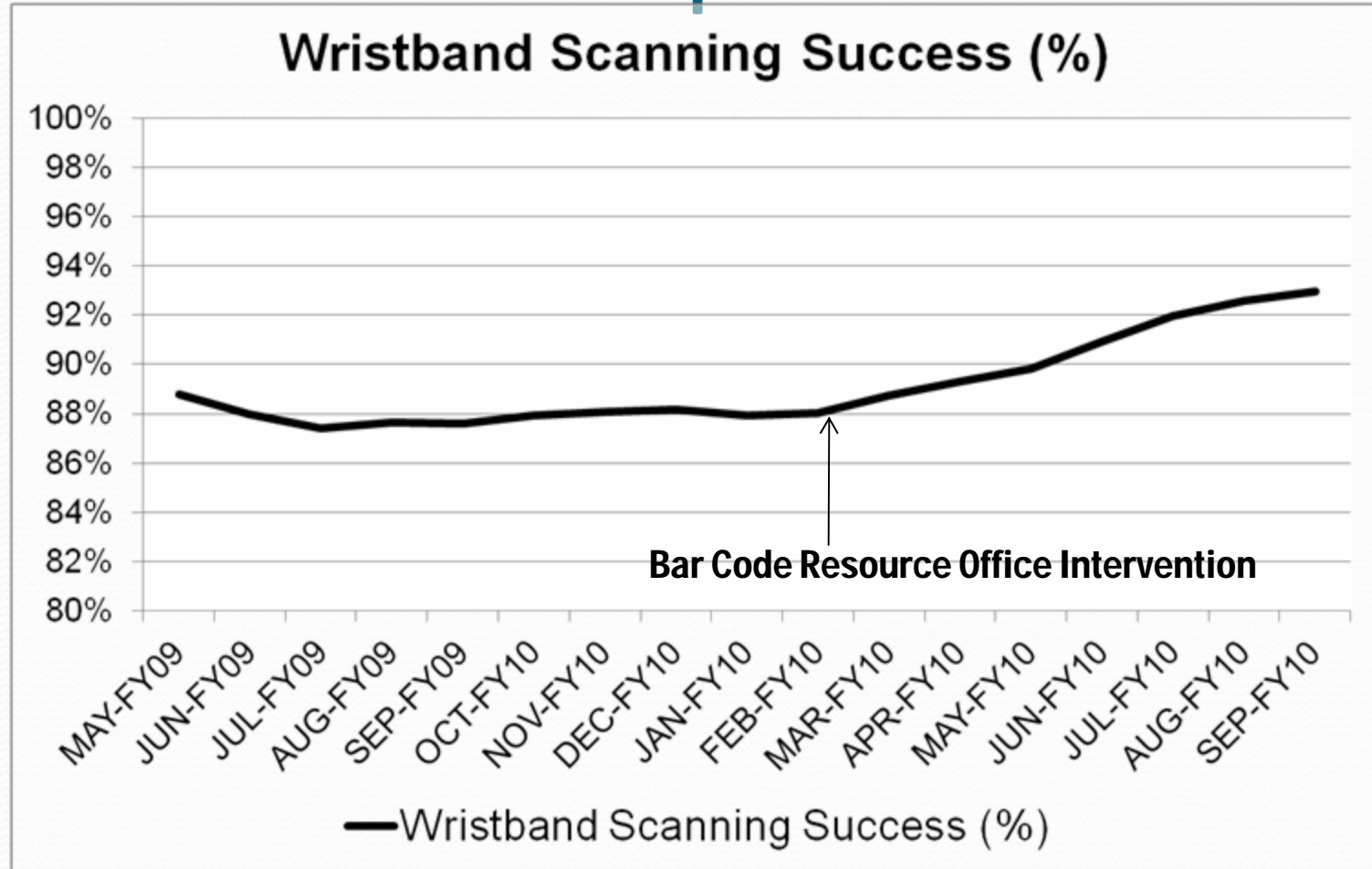
Medications

- Based on data 5/2009-9/2010 (16 months)
 - Scan rate increased from 96.1% to 97.7%
 - Medications "Unable to Scan" decreased from 21,272 to 12,430 per month
 - 10 seconds per "Unable to Scan" Report
 - 1,773 hours in May 2009
 - 1,036 hours in September 2010
- Net 737 hours returned to care

Bar Code Medication Administration (BCMA) = Patient Safety (part 2)

- BCMA always was about patient safety
 - Never designed to be faster
- Non-scanning wristbands add time
 - Takes time away from other nursing duties
 - Takes time away from other BCMA Coordinator duties to troubleshoot
- Non-scanning wristbands increase risk
 - 1 wristband scan leads to 3.23 medication scans
 - Each non-scanning wristband triples risk for medication error
- Medication Scanning Failures provided first insight into wristband scanning issues

Wristband Impact



Wristband Scan Success Rate

- 88.8% scan success rate in May 2009
- 5,311,798 wristbands scanned in May 2009
 - 19,866 "Unable to Scan" per day
 - 10 seconds to report "Unable to Scan"
55 hours per day
1656 hours per month lost

Wristband Scan Success Rate

- 92.9% scan success rate in September 2010
- 4,888,256 wristbands scanned in September 2010
 - 11,471 "Unable to Scan" per day
 - 10 seconds to report "Unable to Scan"
32 hours per day
956 hours per month lost

Wristband Scan Success Rate

- 94.47 % scan success rate in May 2011
- 4,206,142 wristbands scanned in September 2010
 - 2117 "Unable to Scan" per day
 - 10 seconds to report "Unable to Scan"
5.88 hours per day
182 hours per month lost

Wristband Time Returned to Care

- Based on data 5/2009-5/2011
 - Scan rate increased 88.8% to 94.47 %
 - Wristbands "Unable to Scan" decreased from 19,866 to 6562 per month
 - 10 seconds per "Unable to Scan" Report
 - 1,656 in May 2009
 - 182 in May 2011
- Net 1474 hours returned to nursing care

Overall Impact

- 737 hours returned from medications
- 1474 hours returned from wristbands
- 2211 hours combined returned to nursing over 24 months since MSF implementation
- Pharmacy ??????

Questions

