RESOURCE AND PATIENT MANAGEMENT SYSTEM

Bar Code Medication Administration Configuration and Test, Super User, Pharmacy Training, and Go Live

Announcement and Agenda

December 15 – 20, 2013

Ft Defiance Indian Hospital Board Inc.
Ft. Defiance, AZ

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1.0 General Information

1.1 Background

The Centers for Medicare and Medicaid Services (CMS) recently published a final rule that specifies the Stage 2 criteria that eligible professionals (EP), eligible hospitals, and critical access hospitals (CAH) must meet in order to continue to participate in the Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs. Through the Stage 2 requirements of the Medicare and Medicaid EHR Incentive Programs, CMS seeks to expand the meaningful use of certified EHR technology. Certified EHR technology used in a meaningful way is one piece of a broader health information technology infrastructure needed to reform the health care system and improve health care quality, efficiency, and patient safety.

This final rule specifies the Stage 2 criteria that EPs, eligible hospitals, and CAHs must meet in order to qualify for Medicare and/or Medicaid EHR incentive payments. In addition, it specifies payment adjustments under Medicare for covered professional services and hospital services provided by EPs, eligible hospitals, and CAHs failing to demonstrate meaningful use of certified EHR technology (CEHRT) and other program participation requirements. This final rule revises certain Stage 1 criteria, as finalized in the July 28, 2010 final rule, as well as criteria that apply regardless of Stage.

New Core and Menu Set Objectives and Measures for Stage 2:

> **Automatically track medication orders using an electronic medication administration record (eMAR)**
>
> (16)(i) Objective. Automatically track medications from order to administration using assistive technologies in conjunction with an electronic medication administration record (eMAR).
>
> (ii) Measure. Subject to paragraph (c) of this section, more than 10 percent of medication orders created by authorized providers of the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period for which all doses are tracked using eMAR. (iii) Exclusion in accordance with paragraph (i)(2) of this section. Any eligible hospital or CAH with an average daily inpatient census of fewer than 10 patients.

1.2 Bar Code Medication Administration Assistive Technology

Bar Code Medication Administration (BCMA) assistive technology is a software application which is used by the Veterans Health Administration (VHA) facilities to document medication administration activities and reduce medication errors. Ensuring the software is usable is paramount to successful adoption by the end-users. The Bar Code Resource Office (BCRO), using a Cognitive Engineer/Human Factors expert, has developed a structured process for performing usability assessments of new features under development. The following information is provided as a guide to assist the BCMA Software Development team in applying a structured process to future usability assessments.

Stage 2 Eligible Hospital and Critical Access Hospital Meaningful Use Core Measure 16 of 16

Automatically track medications from order to administration using assistive technologies in conjunction with an electronic medication administration record (eMAR).

More than 10 percent of medication orders created by authorized providers of the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period for which all doses are tracked using eMAR.

Exclusion

Any eligible hospital or CAH with an average daily inpatient census of fewer than 10 patients.

1.3 Definition of Terms

electronic Medication Administration Record (eMAR): Technology that automatically documents the administration of medication into certified EHR technology using electronic tracking sensors (for example, radio frequency identification (RFID)) or electronically readable tagging such as bar coding).

Average daily inpatient census: The total number of patients admitted during the previous calendar year divided by 365 (or 366 if the previous calendar year is a leap year).

1.4 Attestation Requirements

DENOMINATOR: Number of medication orders created by authorized providers in the eligible hospital's or CAH's inpatient or emergency department (POS 21 or 23) during the EHR reporting period.

NUMERATOR: The number of orders in the denominator for which all doses are tracked using eMAR.

THRESHOLD: The resulting percentage must be more than 10 percent in order for an eligible hospital or CAH to meet this measure.

EXCLUSION: Any eligible hospital or CAH with an average daily inpatient census of fewer than 10 patients.

1.5 Certification and Standards

The following is the corresponding certification and standards criteria for electronic health record technology that supports achieving the meaningful use of this objective.

§ 170.314(16) Inpatient setting only – electronic medication administration record

(i) In combination with an assistive technology that provides automated information on the "rights" specified in paragraphs (a)(16)(i)(A) through (E) of this section, enable a user to electronically verify the following before administering medication(s):

(A) Right patient. The patient to whom the medication is to be administered matches the medication to be administered.

(B) Right medication. The medication to be administered matches the medication ordered for the patient.

(C) Right dose. The dose of the medication to be administered matches the dose of the medication ordered for the patient.

(D) Right route. The route of medication delivery matches the route specified in the medication order.

(E) Right time. The time that the medication was ordered to be administered compared to the current time.

(ii) Right documentation. Electronically record the time and date in accordance with the standard specified in § 170.210(g), and user identification when a medication is administered.

*Depending on the type of certification issued to the EHR technology, it will also have been certified to the certification criterion adopted at 45 CFR 170.314 (g)(1), (g)(2), or both, in order to assist in the calculation of this meaningful use measure.

§ 170.210(g) Synchronized clocks

The date and time recorded utilize a system clock that has been synchronized following (RFC 1305) Network Time Protocol, (incorporated by reference in § 170.299) or (RFC 5905) Network Time Protocol Version 4, (incorporated by reference in § 170.299)

2.0 Purpose of Training

BCMA is an integral part of the Electronic Health Record. Nurses administer medications, including IV piggy-back medications and IV large-volume medications through BCMA. All information is documented with a time stamp for improved accuracy of clinical information. The documented administration information is available throughout the medical center to any clinician or pharmacist as part of the integrated health record. Pharmacy and nursing staff members must collaborate closely with information management staff, if the medication administration arm of a hospital care system is to work optimally; just as rapid computer response time is crucial to the success of a computerized medication administration system. The purpose of this activity is to provide BCMA training to the BCMA Super User.

2.1 BCMA Coordinator

The BCMA Coordinator is responsible for developing and implementing processes to improve the safety, efficacy, and efficient of medication management processes associated with BCMA. BCMA Coordinators need to understand how the software functions and how pharmacy's finishing of orders affects what appears in BCMA. Coordinator responsibilities include but are not limited to:

- Acts as a liaison between the IHS Bar Code Resource Office and facility level management.
- Serves as a liaison between administration, clinical staff, and IT regarding BCMA medication management process.
- Monitors and reports effectiveness of change outcomes to local management and national oversight groups.
- Recommends local procedural and policy changes as appropriate.
- Test and verifies updates, patches, and new releases of BEMC prior to activation.
- Disseminates information to end users on policies and procedures.
- Facilitates training, installation, maintenance, and overall use of BCMA throughout the hospital.
- Provides user support to nursing, pharmacy, and other service lines by troubleshooting operational issues.
- Plans and ensures initial ongoing training for all BCMA users, students, and temporary staff.
- Designs, develops, updates, and maintains training documents within the facility.
- Actively participates in local facility multidisciplinary committee.
- Participates in the national BCMA conference calls and training initiatives.
- Develops, implements, and monitors a performance improvement plan for the medication management process as it relates to BCMA.

2.2 BCMA Multidisciplinary Committee

The BCMA Multidisciplinary Committee provides ongoing multidisciplinary support to implement any necessary changes to improve the proper use of the software, affect oversight and maintenance of equipment, and provide guidance on business-related processes. This committee should meet monthly to resolve BCMA issues and is often a sub-committee of the Pharmacy and Therapeutics Committee. The BCMA Multidisciplinary Committee which comprise end users and affiliates who can act as change agents at the local facility. Both the BCMA Coordinator and BCMA Multidisciplinary Committee work together to ensure patient safety is optimized, and this teamwork is central to BCMA success.

BCMA Multidisciplinary Committee Responsibilities include but are not limited to:

- Oversee medication manage process and interdependencies
- Create accountability and an ownership approach to BCMA use
- Guide facility or health care direction
- Assess, treats, and standardizes clinic, technical and operational direction
- Recommend policy and procedural changes to optimize BCMA use
- Centralize and streamlines systems and process channels
- Provide guidance to facility sponsors and end users
- Support and maintains best practice models
- Provide early warning of performance deficiencies and makes recommendations for improving performance to achieve business results
- Facilitate alignment of BCMA performance objectives with facility or health care system strategic goals

BCMA Multidisciplinary Committee Membership should include:

- BCMA Coordinator
- Clinical applications coordinator
- End users authorized to administer medications
- Information technology
- Inpatient pharmacy
- Union representatives if applicable
- Performance improvement
- Patient safety
- Respiratory therapy (if applicable)
- Chief of medical staff
- Nurse management

2.3 BCMA End User and Super User

A BCMA End User is an individual who uses BCMA for medication administration in a patient care setting.

A BCMA Super User is an individual who uses BCMA for medication administration in a patient care setting and also serves as a support resource to other BCMA users.

Verified medication orders become available in the nursing staff's point-of-care BCMA. The Virtual Due List (VDL) is the electronic counterpart of an electronic Medication Administration Record (eMAR), and is used to display medications and the appropriate administration time frame for each. Medications may be scanned and administered, following a medication orders verification by an end user nurse authorized to administer medications.

As a handheld bar code reader registers each medication, the software verifies the correct medication was ordered, administered on time, and measured in the correct dosage, while at the same time documenting the actual administration of the medication. This process ensures the ***Five Rights*** universal standard of medication administration is maintained. Once the medication administration procedure has been completed for a particular timeframe, the nurse uses the Missed Medication function to generate a report of omitted medications and takes steps to resolve any reported discrepancies.

Recording and reporting features of BCMA include:

- **Virtual Due List** (VDL): Records medications that need to be administered to a patient within the specific time parameters. These include active Continuous, PRN, On-Call, One-Time medication orders.
- **Due List Report**: Provides detailed information about active and future Unit Dose and IV Medication orders that are due for administering to a patient, within a specific timeframe during a 24-hour period.
- **Medication Administration History** (MAH) Report: Lists the patient's Unit Dose and IV medication orders and any actions taken on the order.
- **Medication Log Report**: Displays a detailed history of actions taken on a patient's medication orders.
- **Missing Dose Requests**: Automatically alerts Pharmacy personnel of a Missing Dose order by printing requests for reissuing on a designated printer in the Pharmacy. This method minimizes the nurses' workload disruption to the Pharmacy and Nursing workflow. An email notification is also sent from the BCMA to the Pharmacy when a Missing Dose Request is submitted by a clinician.
- **Missed Medications Report**: Includes Continuous and One-Time Unit Dose and IV Piggyback medications that were not administered to a patient during a medication pass, within a specific timeframe, during a 24-hour period. This Report also includes Missing Dose Requests submitted to the Pharmacy.

- **PRN Effectiveness List**: Identifies PRN or *as needed* medication doses that require Effectiveness comments after they are given.
- **Medication Variance Log**: Logs medications given outside the medication administration window as Early or Late (depending on the site parameter settings), including the time it was scanned, and the reason it was administered early or late, any comments from the nurse, late PRN Effectiveness documentation, and event totals and percentages.
- **Patient Record Flag** (PRF) **Report**: Prints detailed information about any active PRF assignments associated with the current patient record.
- **Cover Sheet-Medication Overview Report**: Displays and groups active, expired or discontinued, and future expiring orders.
- **Cover Sheet-PRN Overview Report**: displays and groups active, expired or discontinued and future expiring orders with a schedule type of PRN for the current patient or by selected patients on a ward. For each group, the total number of orders per group is displayed in brackets next to the group heading.
- **Cover Sheet-IV Overview Report**: Displays and groups IV bag information on active, expired, and discontinued orders for the current patient or by selected patients on a ward. For each group, the total number of IV bags per group is displayed in brackets next to the group heading.
- **Cover Sheet-Expired/DC'd/Expiring Orders Report**: Displays and groups expired and discontinued orders, as well as orders that will expire for the current patient or by selected patients on a ward. For each group, the total number of IV bags per group is displayed in brackets next to the group heading.
- **Medication Therapy Report**: Includes information similar to the Medication History Report but does not require a patient record to be open. The report allows searching by VA Drug Class, Orderable Item, or Dispense Drug within a specified date range and selected search criteria. This report can be run for the current patient or by selected patients on a ward.
- **IV Bag Status Report**: Provides status on IV bags, excluding available bags, by patient or by selected patients on a ward. This report allows the user to include/exclude completed, infusing, stopped, missing, held and refused IV bags. In addition, the user can include bags for which no action has been taken on order.
- **Unable to Scan (Detailed) Report**: Provides detailed information related to each ***unable to scan*** event for a selected ward/nurse unit, or for all wards. The report includes patient, date/time of unable to scan event, location, type of bar code failure, drug, user's name, reason for scanning failure and optional comments. The user can specify report selection criteria including start and stop date/time, type of scanning failure, and the unable to scan reason, in addition to up to three levels of sort fields.

- **Unable to Scan (Summary) Report**: Provides totals and percentages of wristband and medication bar codes scanned and when scanning is bypassed. The report will include totals and percentages for total wristband scanned, total wristbands bypassed, total medications scanned, and total medications bypassed. The user will be able to print the reports for the entire facility, by nurse unit/location or by ward.

3.0 VA-IHS BCMA Cross-Functional Team

3.1 Co-Chairs

Last Name	First Name	Title
Graves	Cathi	Senior Management Analyst, BCRO, Office of Informatics and Analytics (OIA), VHA
Taylor	David	BCMA Federal Lead, Office of Information Technology (OIT), Indian Health Service (IHS)

3.2 CFT Voting Members

Last Name	First Name	Title
Curtis	Clayton, MD	VHA IHS Liaison and IT Informatics
Patillo	Jackie	Acting Executive Director for Field Operations, Office of Information and Technology (OI&T), Department of Veterans Affairs (VA)
Kompkoff	Jeanette	RPMS Acting Investment Manager, OIT, IHS
Taylor	David	BCMA Federal Lead, OIT, IHS
Ayala	Mollie	Co- Project Manager, IHS BCMA Co-Federal Lead

3.3 Cross Functional Team Standing Members

Last Name	First Name	Title
Allen	Mike	BCMA Pharmacy Consultant, OIT, IHS
Bagby	Jonathan	Nurse Consultant, BCRO, OIA, VHA
Bishop	Bradley	Pharmacy Consultant, OIT, IHS
Burkybile	Deborah	BCMA Nurse Consultant, OIT, IHS
Connolly	Barbara	Clinical 1 Support Team, OIT, VA
Lyttle	Kim	Clinical 1 Support Team, OIT, VA
Bloch	Jaci	Clinical 1 Support Team, OIT, VA
Seburn	Cindy	Clinical 1 Support Team, OIT, VA
Cook	Sean	Business Analyst, DNC Contractor
Cownie	Kevin	Clinical 3 Support Team, OIT, VA
Darwin	Wil	Chair, IHS National Pharmacy Council
Devlin	Vitalia	Clinical Product Support Division Director, OIT, VA
Kathleen	Linville	Clinical Product Support, OIT, VA
Dial	Cornelius	Chair, Pharmacy Professional Specialty Group, IHS
Fox	Kirk	Clinical 1 Support Team, OIT,VA
Johnson	Dale	Clinical 2 Support Team, OIT, VA

Last Name	First Name	Title
Mian	Naeem	Clinical 1 Support Team, OIT, VA
Patten	Tracie	Acting Principal Pharmacy Consultant, IHS
Ray	Kathy	Clinicians' Information Management Technology Advisory Council (CIMTAC) Chair, Business Owner, IHS
Saddler	Chris	BCMA IT support, OIT, IHS
Stearle	Carla	BCMA Pharmacy Consultant, OIT, IHS
Taylor	Phil	BCMA Nurse Consultant, MSC Contractor
Tucker	Chris	Director, BCRO, OIA, VHA
Vinokur	Ella	Enterprise Systems Management, Health Provider Systems (Janet M. Reimer - Alternate)
Whaley	Catherine	Project Manager, DNC Contractor
Zeller	Jan	BCMA Education Project Manager, Employee Education System (EES), VHA

3.4 Subject Matter Experts (IHS Areas with Hospitals)

Last Name	First Name	Title
Bartlett	Robin	Clinical Applications Coordinator, Pharmacy Consultant, Nashville Area Office
Boykin	Max	Nurse Consultant, Nashville Area Office
Campbell	Brian	Pharmacy Consultant, Phoenix Area Office
Cross	Charles	Information Technology Specialist, Oklahoma City Area Office
Crossland	Eugenia	Clinical Nurse Informaticist, Phoenix Indian Medical Center (PIMC)
Dahozy	Carol	Nurse Consultant, Phoenix Area Office
Eller	Jim	Information Technology Specialist, Cherokee Indian Hospital Authority (CIHA)
Freeze	Travis	BCMA Project Lead, Chickasaw Nation Medical Center (CNMC)
Green	Ross	Project Lead/CAC, Choctaw Nation Health Services Authority (CNHSA)
Grosfield	Cheryl	BCMA Coordinator, Choctaw Nation Health Services Authority (CNHSA)
Helm	Elizabeth	Director of Pharmacy, CIHA
Kennedy	Melissa	BCMA Coordinator, CNMC
Kuka	Verna	Information Technology Specialist, Phoenix Area Office
Lambert	Wanda	BCMA Coordinator, CIHA
Loving	Becky	Nurse Consultant, Oklahoma City Area Office
Mosely	Elvira	Clinical Application Coordinator, Phoenix Area Office

Last Name	First Name	Title
Olson	Matt	Pharmacy Administrative Data Processing Applications Coordinator, CNHSA
Patten	Tracie	Pharmacy Consultant, Oklahoma City Area Office
Randolph	Audrine	Information Technology Specialist, CNHSA
Rubin	Amy	Clinical Applications Coordinator, Oklahoma City Area Office
Simpson	Patrick	Information Technology Specialist, CNMC
Steers	Randy	Director of Inpatient Pharmacy Services, CNHSA
Toedt	Michael	Medical Director, CIHA
Von Bibra	Lynda	Clinical Application Coordinator, PIMC
Walling	Jeff	Pharmacist, PIMC
Wright	Mitch	Division of Information Resources Management Director, Nashville Area Office

3.5 Subject Matter Experts (VA – BCMA)

Last Name	First Name	Title
Strauss	Leanne	Nurse/BCMA Coordinator, VA New Jersey Healthcare System
Shum	Daphen	Pharmacist, Perry Point VA Medical Center, Perry Point, Maryland
Odle	Phillip R.	Nurse/BCMA Coordinator, Marion VA Medical Center, Marion, Illinois

3.6 Navajo Area Office BCMA Team

Last Name	First Name	Title
Ray	Kathy	Clinical Applications Coordinator, Pharmacy Consultant, Navajo Area Office
Platero	Marcie	Nurse Consultant, Navajo Area Office
Belgarde	Michael	Division of Information Resources Management Director, Navajo Area Office

4.0 Detailed Agenda

All Times are Mountain Time
Sunday

8:00 AM to 12:00 PM	**BCMA Super User Training** (Session 1) At the end of this session participants should be able to: • Define BCMA roles, user configuration, and terms that often cause confusion. • Demonstrate correct Nurse Order verification in EHR. • Access the BCMA Application: – Access the BCMA Application from the computer desktop. – Open the patient's medical record. – Access the Reports menu to print out the Medication Due List. – Scan the patient's wristband correctly. – Confirm the correct patient. – Resize columns. – Identify the relative components of the Virtual Due List (VDL). – Access BCMA Clinical Reminders. – Identify the relative components of the Cover Sheet functionality. • Administer Medications: – Access medication details. – Assess scanner status. – Submit a missing dose. – Scan medications. – Add a comment. – Chart medications as Not Given, Refused, or Held. – Scan a PRN medication. – Refresh the Due List. – Enter multiple orders and multiple orders of the same medication. – Enter early/late medications. – Enter multi-dose containers. – Enter injection site. – Scan an On-Call medication. – Enter PRN effectiveness. – Enter removal of patches. – Assess Scanning of wrong medication. – Print Missed Medication Report. • Administer IV & IV Piggyback Medications: – Administer IV medications. – Administer IV Piggyback medications. – Access the BCMA Read-Only function. – Access the IV Piggyback Tab. – Use the Edit Med Log function.

8:00 AM to 12:00 PM (cont)	• Manage Scanning Failures: – Access BCMA Managing Scanning Failures – Unit Dose – IVPB – IV Fluids – Limited Access • Use Other Features: – Med order button – All reports function
12:00 PM	**Lunch**
1:00 PM to 5:00 PM	**BCMA Super User Training** (Session 2) See Session 1 Objectives
5:00 PM	**Adjourn**

Monday

Time	Topic
8:00 AM to 12:00 PM	**BCMA Super User Training** (Session 3**)** See session 1 Objectives
12:00 PM	**Lunch**
1:00 PM to 5:00 PM	**BCMA Super User Training** (Session 4) See Session 1 Objectives

Monday Evening

Time	Topic
6:00 PM to 10:00 PM	**BCMA Pharmacy Training** (Session 5) **Order Entry Process** At the end of this session participants should be able to: • Set up BCMA Roles & User Configuration • Break down the RPMS EHR Order Entry Process: – Order entry via Medication Dialog – Order entry via Quick Orders – Unit Dose Orders – IV Orders to include IV Push, IV Piggyback, and IV Infusion

Time	Topic
	Finishing Orders At the end of this session participants should be able to Finish orders: • Administration Time • Start/Date Time • Now Orders • Complex Orders • Sliding Scale • Fill on Request • IV Label Reprint vs. New Label • PCA Infusion • Auto-cancellation • Order Verification • Pharmacist Auto-verification • Contingency Plan • Changing Dispense Drug on Verified Order • Provider Comments and/or Special Instructions • IV Push • IV Piggyback • IV Admixture • Hyperalimentation (TPN)
	BCMA GUI At the end of this session participants should be able to use the BCMA GUI: • Full vs. Read Only Access • Virtual Due List • BCMA GUI Tabs (Unit Dose, IVP/IVPB, IV) • Cover Sheet • Fractional Dose or Multiple Dose • Missing Dose Request • Medication not Displaying in BCMA • Unable to Scan Medication • Unable to Scan Patient Wristband • Wrong Dispensed Dose • User Bypassing Scanning • Using BCMA in Isolation Rooms • Run Managing Scanning Failures (MSF) Report • CPRS Med Order Button
	Special Considerations At the end of this session participants should be able to examine Special Considerations: • First Dose (TJC) • Variable Doses (Policy Consideration) • Variable Schedule (Policy Consideration) • Flagged Orders

Time	Topic
	Troubleshooting At the end of this session participants should be able to compare and contrast troubleshooting issues: • Scanners • Bar Code Scan but Error Message "Drug not Found" • Drug File Inquiry (PSB DRUG INQUIRY) • Synonym Ender/Edit (PSS SYNONYM EDIT) • PSD Patients on Specific Drugs (PSJ PDV) • Bar Code Quality • IV Bag Labels • Order NOT Appearing on BCMA VDL
	BCMA Reports At the end of this session participants should be able to generate BCMA Reports: • BCMA Unable to Scan (Detailed) on BCMA GUI • Missing Dose Follow-up (PSB MISSING DOSE FOLLOWUP) • Pick List Menu (PSJU PLMGR)

Tuesday

Time	Topic
8:00 AM to 12:00 PM	**BCMA Super User Training** (Session 6) See Session 1 Objectives
12:00 PM	**Lunch**
1:00 PM to 5:00 PM	**BCMA Pharmacy Training** (Session 7) See Session 5 Objectives
6:00 PM to 10:00 PM	**BCMA Super User Training** (Session 8) See Session 1 Objectives
5:00 PM	**Adjourn**

Wednesday

Time	Topic
8:00 AM to 12:00 PM	**BCMA Pharmacy Training** (Session 9) See session 5 Objectives
12:00 PM to 2:00 PM	**BCMA Coordinator Training** (Session 10) At the end of this session participants should be able to: • Parameters • Mail Groups • MSF Reports • Med Order Button • Edit Med Log – medications anyone has entered
2:00 PM to 10:00 PM	**BCMA Go Live and Troubleshooting**

Thursday and Friday

Time	Topic
7:00 AM to 10:00 PM	**BCMA Go Live and Troubleshooting** (continued)

5.0 Biographical Sketches

CAPT Michael Allen, MIS, RPh
EHR Pharmacy Consultant, IHS Office of Information Technology
United South and Eastern Tribes (USET) Regional Extension Center

CAPT Allen is a commissioned Officer in the USPHS. He came from a family of pharmacists and holds a BS degree from Idaho State University. He has a Master of Information Systems degree from University of Phoenix. He started with USPHS after working in retail pharmacy for a few years. During his years in IHS he has served in Portland Area, Phoenix Area, and currently is in Tucson Area. His duties have included, besides being a pharmacist: Site Manager, Assistant Site Manager, CAC, Pharmacy Package Administrator, and POS specialist. He serves on the Pharmacy PSG and was recently appointed to the POS Technical Advisory Group. His children are out of the house and he has one granddaughter he misses greatly. He lives in Tucson with his wife and cat.

LCDR Mollie Ayala, MHI
BCMA Co-Federal Lean and Project Manager, IHS Office of Information Technology
United South and Eastern Tribes (USET) Regional Extension Center

LCDR Mollie Ayala is a Commissioned Officer with the United States Public Health Service and has been with the Indian Health service and the Phoenix Area since 2002. She is a recent graduate of Arizona State University where she graduated with a Master's degree in Healthcare Innovation. In addition, she has served in a variety of positions ranging from IT Specialist where she implemented an area Support Center system that is still currently providing a centralized level of support for all Phoenix area facilities. She then moved on to become a Revenue Application Coordinator for the Phoenix Area – Management Services Organization. In this position she was responsible for providing specialized 3rd Party and Accounts Receivable application support for 12 clinics and hospitals. Her current role will be to serve a Deployment Coordinator/CAC for the ARRA EHR Meaningful Use training and deployment program.

Jonathon Bagby, MSN, MBA, RN-BC
Nurse Consultant
VHA Office of Informatics and Analytics, Bar Code Resource Office
U.S. Department of Veterans Affairs

Jonathan Bagby, MSN, MBA, RN-BC is a board-certified informatics nurse with over 10 years' experience with the VA, spending much of that time representing the interest of field nurses as a subject matter expert in developing the electronic medical record. Jonathan is a Nurse Consultant for the U.S. Department of Veterans Affairs' Bar Code Resource Office providing nursing informatics support and education to staff at the national level supporting over 150 VA medical centers. Prior to joining the Bar Code Resource Office, Jonathan worked for five years as the Nursing Informatics and BCMA Coordinator at McGuire VA Medical Center in Richmond, Virginia and led the nursing side of numerous projects (including revising the electronic medical record orientation program for new nurses, developing an electronic report for patient handoff, developing an electronic staff scheduling assistance program, and the implementation of automated medication distribution cabinets).

Jonathan has presented topics at several national informatics conferences including HIMSS, VeHU, and the unSUMMIT and is a published author of several peer reviewed articles. Jonathan has an Associate of Science degree from Richard Bland College of the College of William and Mary, a Bachelor of Science in Nursing from Virginia Commonwealth University, and a Master of Science in Nursing and Business Administration in Health Care Management from the University of Phoenix. He holds a Master's Certificate in Project Management from the George Washington University School of Business and is board-certified in Informatics through ANCC. His clinical background is in medical, surgical, and orthopedic nursing and has worked as a staff nurse, nurse manager, nursing informatics/BCMA coordinator, and nurse consultant.

CDR Bradley Bishop, PharmD, MPH
Pharmacy Consultant, IHS Office of Information Technology

CDR Bradley Bishop is a Commissioned Officer in the United States Public Health Service and has been in the Indian Health Service since 2001. CDR Bishop received his Doctor of Pharmacy from the University of Tennessee College of Pharmacy and Master of Public Health from the University of Massachusetts-Amherst. He has been assigned to Sells, AZ, Tahlequah, OK, Tucson Area Office, and IHS Headquarters as a pharmacist, chief pharmacist, clinical applications coordinator, and pharmacy consultant. CDR Bishop currently serves

Jaculyn Bloch
Information Technology Specialist
Clinical 1 Support Team/Clinical Product Support
Product Development, Department of Veterans Affairs

Jaci is currently working as an Information Technology Support Specialist with the Department of Veterans Affairs. She started her career in 1984 as a Licensed Practical Nurse at the St. Cloud VA Health Care System working on the Nursing Home Care Unit. Jaci transferred to pharmacy, where she worked for 15 years as a registered pharmacy technician in all areas of the pharmacy including inpatient, outpatient, controlled substance management, inventory management and procurement. She has worked as Vista Applications Coordinator (ADPAC) in the Pharmacy and Business Office service line acting as the liaison between the service and IRM.

In 2008, she joined the VISN 23 IT Department as a Vista Applications Support Specialist for the Vista pharmacy packages providing Vista and COTS pharmacy support for all sites in VISN 23. Since 2011, Jaci has been working as an Information Technology Specialist for the Clin 1 Support Team, CPS, PD, Department of VA. Jaci's duties include reviewing and releasing software and supporting the Vista pharmacy packages including Inpatient, Outpatient, Controlled Substances, Drug Accountability, BCMA, and CMOP. Jaci is currently working on several projects and workgroups including Electronic Prescribing of Controlled Substances (EPCS), IMR V, IMR VI, and BCMA for IHS.

CAPT Deborah Burkybile-Alcorn, MSN, RN, CPC
EHR Deployment Specialist, IHS Office of Information Technology
United South and Eastern Tribes (USET) Regional Extension Center

Deborah has been Registered Nurse for 32 years. During this time her nursing practice led her to work in a variety of private sector hospitals, clinics, tribal facilities, and for the last 20 years in Indian Health Service. Ms. Burkybile is a citizen of the Cherokee Nation of Oklahoma. She received her commission in the U.S. Public Health Service in 1988 and works from the Nashville Area Office, Indian Health Service where she had served Tribes and IHS facilities in the role of Area Managed Care Consultant. Currently she is assigned to support the implementation of the Indian Health Service Electronic Health Record by assisting the IHS Office of Information Technology as one of the EHR Implementation Team Consultants.

Ms. Burkybile is also a Certified Professional Coder and has worked diligently with the Nashville Area Tribes to train and certify coding professionals at the Service Unit, Tribal, and Urban levels. Health Care Compliance is another field of particular interest and work for Ms. Burkybile. Her knowledge and expertise in nursing has enabled her to provide assistance to Indian Health Service, Tribal, and Urban facilities from both clinical and business perspectives with a focus on quality health care service delivery.

Barbara Connolly
Information Technology Specialist
Clinical 1 Support Team/Clinical Product Support
Product Development, Department of Veterans Affairs

Barbara Connolly has been a member of the Clinical 1 Product Support team since 1998. In this capacity she has supported BCMA, Inpatient Medications and Outpatient Pharmacy and CMOP. She has been actively supporting BCMA since its inception in 1999. Prior to her position with Product Support she was the Data Manager for Primary care at the Albany VAMC. She was responsible for the management of the Primary Care teams and provided upper management with a variety of reports centered around provider work load. She mentored graduate school interns who were earning a degree in Public Health. Barbara also worked for 10 years as an IT Specialist for the Albany VAMC supporting a large variety of applications and developing local software.

Sean Cook (Contractor)
Applications Systems Analyst, Data Networks Corporation (DNC)

Sean Cook is an Applications Systems Analyst with Data Networks Corporation and has worked on contract with the Indian Health Service since 2010. His professional experience in Pharmacy spans more than a decade and includes in-depth experience in interoperability, automation, and team leadership. Sean spent several years with, Omnicare, the largest long term care pharmacy in Northern Illinois and a year with Provident Hospital of Cook County, Chicago. Prior to coming to Albuquerque, he provided systems and programming support for six pharmacies at Columbia St. Mary's in Milwaukee.

Kevin Cownie
Information Technology Specialist
Clinical 3 Support Team/Clinical Project Support
Product Development, Department of Veterans Affairs

Kevin Cownie is currently an Information Technology Support Specialist with the Department of Veterans Affairs. Prior to working for the Department of Veterans Affairs he was an Application Programmer for a manufacturing company and a member of the Air National Guard. He has 25 years of service with the Department of Veterans Affairs which included seven years as Chief, Information Resource Management service. He joined national support as a member of the National Database Integration Team. This team was responsible for integrating numerous VA Hospital databases. Currently as a member of the Clin 3 Support Team he is responsible for supporting and releasing software for BCMA Contingency, Clinical Procedures, Functional Independence Measurement, Home Based Primary Care, Medicine, My HealtheVet, National Database Integration, QUASAR, Radiology, Spinal Cord, Suicide Hotline, and VistA Imaging. He was heavily involved in the development of the BCMA Contingency package and more recently the startup of the Valley Coastal Bend Hospital along with the realignment of clinics in VISN 1.

Kirk Fox
Information Technology Specialist
Clinical 1 Support Team/Clinical Product Support
Product Development, Department of Veterans Affairs

Kirk Fox has 22 years of service with the Department of Veterans Affairs; he is currently a member of Clinical 1 Support Team since 2008 as an Information Technology Support Specialist. In this position, Kirk has been charged with releasing and supporting software, including but not limited to BCMA, Inpatient Medications (both Unit Dose and IV Medications), and Outpatient Pharmacy packages.

Kirk has been involved with BCMA since version 1, at a site level and as active role in the BCMA Multi-Disciplinary for VISN 2 (five Integrated VA Medical Centers in New York). Additional VISN 2 roles include Application Support and Team Lead Application Support for BCMA for VISN 2. This position provided the opportunity to work on many projects assisting in the Development of National BCMA Contingency Plan, and the creation of BCMA Reports.

Prior roles in the VA include: Nurse Service, 6 years, Medical Administration Service, 2 years, and Information Technology Specialist, 14 years.

A firm believer in Gene Kranz's statement, "I don't care about what anything was DESIGNED to do, I care about what it CAN do."

Cathi Graves
Management Analyst, Bar Code Resource Office
Veterans Health Administration
Office of Informatics and Analytics
Health Informatics

With over 27 years of VA experience, Cathi Graves is the senior Management Analyst for the Bar Code Resource Office (BCRO). Cathi is an accomplished professional with in depth knowledge of project management, contract management, information systems training, information systems support, and hospital executive support. Ms. Graves is consistently recognized by peers for her ability to manage the strategic implementation of information technology systems within the VA. As part of the BCRO management team, Ms. Graves provides Project Management and Contract Management oversight, as well as business operations management support, overseeing the contractual aspects of the Bar Code Expansion-Positive Patient Identification (BCE-PPI) Project. Her project management and training development expertise serve as an integral part of the BCRO work efforts to assist, implement and operationalize the use of VA's BCMA and BCE-PPI applications.

Ms. Graves earned her Project Management Certificate from Baldwin Wallace College and a Master's certificate in Project Management from The George Washington University in March 2004. Ms. Graves began her VA career in 1985 at the Dallas VA Medical Center transitioning from Executive Assistant to the Associate Director to Computer Assistant within the Information Resource Management (IRM) Office. In 1991, Ms. Graves transitioned to the Dallas IRM Field Office, National IRM Training Directorate, and was responsible for various Practicum Programs, planning, and delivery of VA National IRM Chiefs Conferences. She also provided oversight for the National IRM Training Program and provided contract oversight for national VMS System Management Training for IS professionals. Ms. Graves also provided National VistA Support for the Fiscal Management Team to support IFCAP, Pharmacy, and Fee Basis VistA applications.

In 1996, Ms. Graves joined the National Training and Education Office (NT&EO), now known as EES, as the National Education Project Manager for BCMA, Voluntary Service System (VSS), Patient Advocate Tracking System (PATS), Blind Rehabilitation V5.0, Veterans Personal Finance System (VPFS), VistA Blood Establishment Computer Software (VBECS), and the Medical Information Security Service. Ms. Graves also served as a National Education Project Manager for CPRS. In her Education Project Manager roles Ms. Graves was responsible for the management of all aspects of national training program development and execution. National training development and execution activities have included the delivery of training plans, objectives, and curricula, as well as overall management of SMEs/trainers and education assistant staff. In 1999, Ms. Graves was responsible for the planning and delivery of five national face-to-face training sessions for over 1,500 VA train-the-trainer staff, to support the deployment of BCMA. In her role with NT&EO, Ms. Graves frequently represented the Director on OI national workgroups including representatives from VACO Senior Executive offices in the establishment of goals/objectives, processes, and tools as the VA moved from VistA to a HealtheVet architecture.

Dale K. Johnson, BSN, RN
IT Specialist, Clinical Product Support Team 2
Office of Information and Technology, Department of Veterans Affairs

Dale Johnson is currently an Information Technology Specialist with National Clinical Product Support, Department of Veterans Affairs. Prior to national support, Dale labored as a Clinical Application Coordinator at VA Salt Lake City Health Care System for 10 years. Dale was the Lead CAC and handled a variety of issues at the VA Hospital. He has previously been involved in training IHS facilities in regards to shared applications with the VA VistA health record; consults, notes, clinical reminders and his group was recognized for this support.

Dale has worked as a Registered Nurse at the Salt Lake VA Telemetry unit, Acute Medicine and Recovery. This experience gives him a working knowledge as an end user of an Electronic Medical Record. Dale Started at the VA in 1991 after 4 years in the United States Marines. He is a strong advocate for Veteran issues. In his spare time he likes reading and writing about himself in the third person or can be found camping with his family whenever time and weather permits.

Kim M. Lyttle, BS, MT(ASCP)
Information Technology Specialist
Clinical 1 Support Team/Clinical Product Support
Product Development, Department of Veterans Affairs

Kim Lyttle is a registered Medical Technologist and is currently an Information Technology Support Specialist with the Department of Veterans Affairs. She has several years of experience as a Medical Technologist in the private sector. She has over 26 years of service within the Department of Veterans Affairs, including six years as a Medical Technologist, and seven years as an Information Technology Specialist at Martinsburg VAMC.

Since 2000 Kim has been assigned as an Information Technology Specialist for the Clin 1 Support Team, CPS, PD, Department of VA. Kim has been charged with releasing and supporting software, including but not limited to BCMA, Inpatient Medications (both Unit Dose and IV Medications), Pharmacy Data Management, Dental, Surgery, Drug Accountability, and Controlled Substances. Kim released BCMA Version 2.0, and was one of the primary release people for IMR IV. She has received multiple awards and accolades for her work, especially with BCMA. She is currently working on several projects and workgroups including SQWM, IMR V, IMR VI, Patient Safety for BCMA and Inpatient Medications, the BCMA workgroup, the Inpatient Medications Workgroup, BCE, and BCMA for IHS.

Phil Odle, MSN, RN-BC
Informatics Nurse Specialist/BCMA-Coordinator
Marion Illinois Veterans Administration Medical Center

Phil Odle obtained his Bachelor of Science in Nursing from Oklahoma Baptist University. While living in Shawnee, OK, he worked for almost ten years at Children's Hospital of Oklahoma in the Pediatric ICU and Post-Anesthesia Care Unit until 1991. During his time at Children's, he was a co-investigator on research in Parental Stressors in Neonatal and Pediatric ICU's and co-author of the published article based on that research.

He has been employed as a Registered Nurse in the VA since 1991. He began his VA career as a staff nurse in the Intensive Care Unit. He has held many positions within the facility, including ICU Nurse Manager, Clinic Float Nurse, Nursing Supervisor, and now the he is the facility BCMA-C and Informatics Nurse Specialist. He was introduced to BCMA when it was first released to the VA in 1999. Beginning with his assignment as a Train-the-Trainer for version 2, he took on additional responsibilities with BCMA. He led a BCMA Collaborative Team related to Finishing After-hours Medication Entries to assist VA facilities which did not have 24/7 Pharmacy coverage. In 2012, he was one of several coordinators to serve as Mentors for a pilot program of virtual Mentoring for new BCMA coordinators, a project that was sponsored by the VA Bar Code Resource Office (BCRO). He obtained a Master of Science in Nursing (Nursing Informatics) degree from Walden University. He is board certified in Nursing Informatics. In addition to duties at his local facility, Mr. Odle serves on several regional and national committees and task forces, such as field-based Subject Matter Expert for the VA BCRO Oversight Board, Applied Informatics Service Issue Brief Review Team, Clinical Procedures Flowsheet Terminology team, Clinical Information Systems/Anesthesia Record Keeping (CIS/ARK) team, BCMA Web-Based Training team, and Nursing Informatics Field Alliance.

Chris Saddler, RN
Information Technology Specialist, IHS Office of Information Technology

Chris Saddler began working for IHS in 1980 as a Nurse Epidemiologist at the Alaska Native Medical Center. In 1984, she joined the fledgling IHS RPMS Development Team. She was responsible for the initial development of the VA's Laboratory package and instrument interfaces for IHS. Transferring to OIT National Programs in 2003, her initial assignment was upgrading the Radiology package for EHR. Other projects included the upgrade to Kernel v 8 and other infrastructure packages, PCC+, Vista Imaging, Women's Health, and serving as IHS Database Administrator for two years. She provided technical support for EHR deployment in Alaska, and continues to support multi-division and urban sites.

Daphen Shum, BS Pharm, RPh
Pharmacy Supervisor/Informaticist (@ Perry Point Division)
BCMA Coordinator, VA Maryland Health Care System (VAMHCS)
Pharmacy Clinical Specialist, VHA PBM Clinical Informatics/Pharmacy Reengineering

Daphen Shum is a registered pharmacist working in a variety of roles within the VA. She has over 31 years of service in the VA, with a few years working as a hospital pharmacist in the private sector. Her VA career started as a Pharmacy Technician. After becoming a pharmacist, when was involved in the initial implementation of DHCP / VISTA. She was involved as an ADPAC / Informaticist soon after she started working at VAMC Perry Point in 1988, in addition to working in both the inpatient and outpatient pharmacy areas. She was involved in the implementation of BCMA in 2000 and was appointed BCMA Coordinator in 2005. She was involved on the team from VAMHCS, selected as a part of the national BCMA Collaborative Breakthrough Series, to facilitate the resolution of issues to optimize the use of BCMA. Other BCMA projects include a VISN 5 Pharmacist BCMA training initiative, BCMA Cross-Functional Team and BCMA Web-based Training Planning team. Current projects include iEHR Pharmacy SME, iEHR Bar Coding SME and BCMA for IHS.

LCDR Carla Stearle, PharmD, BCPS, NCPS
ePrescribing EHR Pharmacy Consultant, IHS Office of Information Technology
United South and Eastern Tribes (USET) Regional Extension Center

LCDR Carla Stearle is a Commissioned Officer in the United States Public Health Service and has been in the Indian Health Service since 2004. She received her Bachelor of Science Degree in Biology from Penn State University in 2000 and her Doctor of Pharmacy degree from the University of Maryland College of Pharmacy in 2004. Carla completed a pharmacy practice residency at W.W. Hastings Cherokee Nation Indian Hospital in 2004 and remained at Hastings as a staff pharmacist until 2009. During her years at Hastings she was a member of both the local EHR implementation team and the local Medication Safety Team. She is now employed as an ARRA Pharmacy Consultant with the Office of Information Technology.

CAPT (ret) David R. Taylor, MHS, RPh, PA-C, RN
EHR Training and Deployment Manager, IHS Office of Information Technology
United South and Eastern Tribes (USET) Regional Extension Center

Captain (ret) Taylor is a retired Commissioned Officer in the United States Public Health Service and is a certified physician assistant, registered pharmacist, and registered nurse. He holds more than 36 years of public health, clinical, and clinico-administrative experience in the IHS as both a Commissioned Officer and Federal Employee. Mr. Taylor has served as a pharmacist, physician assistant, quality manger, risk manager, and compliance officer for the Pine Ridge, South Dakota and Cherokee, North Carolina Indian Hospitals. He has also served as an HIV/AIDS/STD consultant, performance improvement consultant, pharmacy consultant, diabetes clinical consultant, and RPMS health informatics consultant for the Nashville Area Indian Health Service. Since 2002 David Taylor has been assigned to the Indian Health Service Office of Information Technology as a National Medical Informatics Consultant and has been charged with both training and deployment of the Meaningful Use of an Electronic Health Record throughout the entire Indian Health Care system. David was awarded the PHS Meritorious Service Medal (MSM) in recognition for his accomplishments in the EHR arena during his Commission.

Phil Taylor, BA, RN (Contractor)
Clinical Applications Specialist, Medsphere Corporation

Phil is a Clinical Consultant for Medsphere Systems Corporation. Phil has been a Registered Nurse for over 35 years. He holds a degree in Nursing from Vincennes University and a B.A. in Classical Studies from Indiana University. Phil provided clinical application support to VA Medical center staff using the VistA electronic medical record system for over 12 years prior to joining Medsphere. Phil's clinical history was primarily in Psychiatric Nursing. Currently Phil's primary responsibilities are providing training support (such as Basic CAC School and EHR for Inpatient) and configuration/setup support to OpenVista/EHR installations.

Chris Tucker, RPh
Director, Bar code Resource Office
Veterans Health Administration, Office of Informatics and Analytics
Health Informatics

Chris L. Tucker, RPh, is the Director of the BCRO within the Veterans Health Administration Office of Informatics and Analytics (VHA OIA). His office provides strategic direction and oversight for BCMA and other bar code technology applications such as Clinical Laboratory, Anatomic Pathology, and Transfusion Verification. He received his pharmacy degree from Kansas University in 1979 and a Masters Certificate in Project Management from George Washington University's School of Business and Public Management in 2003.

Mr. Tucker has been an Industry Adviser in the Prescription for Change Series, First Do No Harm for the Clinical Initiatives Center of the Advisory Board Company, Washington, DC. He was a member of the Executive Council for the Patient Safety Reporting System administered by the National Aeronautics and Space Administration (NASA) Ames Research Center from 2003 through 2009. Mr. Tucker co-chaired the Product Identification (GTIN) Workgroup for GS-1 US Healthcare from 2008 through 2012 working together with healthcare leaders to adopt and use standards that will help organizations share data, promote accuracy, and work more efficiently to improve patient safety and lower healthcare costs through healthcare track and trace technology standardization.

He has been involved in software development and performance management for medication administration bar coding since 1994, assisting in the development of the BCMA prototype software at the Topeka VA Medical Center. BCMA has received two National Performance Review Awards from then Vic-President Al Gore. Mr. Tucker was a USA Today - RIT Quality Cup Finalist in 2000, and received the Health Information Management Systems Society (HIMSS) Article of the Year Award in 2002. His Office has received a Way Paver Award from the UnSummit in 2006 and a Cheers Award from the Institute of Safe Medication Practices (ISMP) in 2009. Mr. Tucker's has authored the following publications concerning the use of point of care medication administration technology:

- "Using BCMA Software to improve Patient Safety in Veterans Administration Medical Centers." Journal of Healthcare Information Management, vol 16, No.1,pg 46-51
- "VA pursues Bar Code Quality." American Journal of Health-System Pharmacists, July 2004
- "Using Point of Care to Reduce Medication Errors." Understanding Health Communications Technologies, edited by Michigan State University's Institute of Health Care Studies in collaboration with Kansas University Medical School's Health and Technology Outreach. Josey-Bass Publishers, September 2004
- "The VA's Multidisciplinary Approach to Bar Coded Medication Administration Implementation." Pharmacy Purchasing and Products, May 2009, vol 6, no.5
- "Quality-monitoring Program for Bar-Code-Assisted Medication Administration." American Journal of Health System Pharmacy, June 2009, Vol. 66

Catherine Whaley, PMP (Contractor)
EHR and BCMA Project Manager

Catherine Whaley is a Data Networks Corporation Project Manager based in Tucson, AZ. She holds an AAS in Accounting and an AA in General Studies from Anoka-Ramsey Community College with a PMP Certification from PMI. Her experience includes over 20 years of Information Technology including customer support, software development, design and development of classroom training documentation, training/instruction/facilitation, testing, business analysis, and project management. She has participated in the requirements gathering efforts and developed requirements for multiple applications. Since she started with IHS in 2010, she has worked as Project Lead for the 2012 Meaningful Use Certification project, Project Manager of the Stage 1 Meaningful Use Team and most recently Project Manager for the EHR Deployment and Training, eRx Deployment, and BCMA projects.

Jan-Erik R. Zeller, RN-BSN, MBA-TM
Education Project Manager
Employee Education System (EES0
Veterans Health Administration

Jan-Erik Zeller is currently a Project Manager with the EES Clinical IT Applications Division charged with developing and implementing education and training plans involving various VHA clinical applications projects. He specializes in clinical applications such as the Bar Code Medication Administration, Bar Code Expansion, Simulation, and CPRS packages. His professional career consists of eight years of IT experience followed by eight years of working as a registered nurse in the Neuro-Trauma and Surgical ICUs and three years working as a Clinical Applications Coordinator. He has served as a Subject Matter Expect for numerous clinical applications and Root Cause Analyses. Over the years he has assisted with and presented at various health care related conferences.

Appendix A: BCMA Pharmacy Training Detailed Agenda

A.1 RPMS-EHR – Order Entry

Topic	Highlights	Local site notes
Order entry via Medication Dialog		
Order entry via Quick Orders	• More standard; decrease potential error	
Unit Dose Orders	• Will appear on Unit dose tab in BCMA GUI	
IV orders	• Check Medication Route set up for IV routes: IV FLAG: YES// PROMPT FOR INJ. SITE IN BCMA: YES// DSPLY ON IVP/IVPB TAB IN BCMA?: YES//	
IVP (IV Push) IVPB	• Consider adding "IVP" as a route • Will appear on IVP/IVPB in BCMA GUI	
IV Infusion	• Will appear on IV tab in BCMA GUI	Delayed orders from ER/OP Transfer from OP
Transferred orders	• Delayed orders from ER/OP	Delayed orders from ER/OP Transfer from OP

A.2 Pharmacy RPMS – Order Finish

Topic	Highlights	Local site notes
In General	• Only ACTIVE orders will appear in BCMA • ALL meds dispensed from Pharmacy must be bar coded	Half-tab prepacks

Topic	Highlights	Local site notes
Schedule (8) – Admin Time	• Schedule is associated with a default Admin Time, which determines when the dose is due • Admin Time associated for all orders except PRN and IV infusions • need to consider Admin Time in relation to when the first dose/order is to start	Consider adjustments per local policy, e.g., insulin/meal times
Start Date/Time (3) - (discussion will use the site parameter – default of now) *(3)Start: 03/19/13 09:14 REQUESTED START: 03/20/13 09:00 *(5) Stop: 04/18/13 12:00	• Site parameter determines when the order becomes effective • Inpatient Ward Parameters Edit DEFAULT START DATE CALCULATION:? Choose from: 0 USE CLOSEST ADMIN TIME AS DEFAULT 1 USE NEXT ADMIN TIME AS DEFAULT 2 USE NOW AS DEFAULT • Requested start is when first dose will be due	
Daily (assume Admin Time is 0900)	• Order entered up to 0859, order start will be order entry time, first dose will be due Today@0900 • Order entered after 0901, Med will be due Tomorrow @0900	If you have local policy you can back-up the start time, or you can get a separate NOW order for “today’s” dose
BID (0900-1700) Q6H (0600-1200-1800-2400), etc.	• First dose will be the first scheduled Admin Time after the order entry/start time e.g., order @1001, BID due T@1700 Q6H due T@1200	

Topic	Highlights	Local site notes
Q3D, Q7D, etc., (@0900)	• Order entered up to 0859, order start order entry time, first dose will be due Today@0900 • Order entered after 0901, – Med will be due +3 days@0900 Or: – Med will be due +7 days@0900 e.g., fentanyl patch – determine when the next patch is due and adjust the start date accordingly	
Weekly vs. Day-of-Week	• "Qweek" vs. a schedule which specifies the Day-of-the-week (e.g., MO@0900) – the Day-of-the-week is much clearer in identifying what day the doses are due • -MO-WE-FR schedule – system will know which days are Mon, Wed, Fri, etc.	
NOW orders	• Review the "now" time relative to the next scheduled dose (calculated start date/time) if any.	Check policy – if the NOW order is in the Provider comment – do you create a NOW order, back-time the current order, or require the provider to enter the NOW order.
Complex Orders (duration type – titration or taper) (3)Start: 03/20/13 09:00 Calc Start: 03/19/13 09:14 *(5) Stop: 03/22/13 09:00 Calc Start: 04/20/13 12:00	• Multiple orders generated in Pharmacy • The orders are linked, so once all order components are verified, no changes can be made to any component • When reviewing, check the Start & Stop • Start is when first dose will be due • Stop is when order stops, Note – NO doses will be due at this time • Calc Start & Stop would have been the defaults • The second component Start should be the Stop of the first component, etc.	

Topic	Highlights	Local site notes
Dispense drug (12) -- Units / dose	• The Dispense Drug on the order must be what is dispensed for the order • -Units/dose identify the number of units dispensed, e.g. 2 (tabs) or 0.5 (half-tab) for the dose	
Multiple dispense drugs	• May have multiple dispense drug to make up dose, e.g., 10mg plus 5mg to make 15mg dose	
Fractional Doses	• -BCMA will prompt for a fractional dose – half tab, fraction of “ml”, UD cup, etc. • Half tab “doses” are NOT fractional, if pharmacy provides the “split tab”	
Changing dispense drug on verified order	• If your stock availability changes, you may want to change the Dispense Drug • Be aware of the Admin Time of the next dose, if the nurse still has sufficient supplies, do not change the Dispense Drug until their supply is exhausted • The original dispense drug must be Inactivated by entering a date; then select the new Dispense Drug	
Provider comments and Special Instructions (11)	• EHR Provider comments may be copied into the Special Instructions field, which will appear in RED on the VDL • Special Instructions may be “flagged” with an “!” to “pop-up” the instructions in a box in BCMA • Be aware of alert fatigue – make sure the Special Instructions are important to warrant a pop-up • PRN orders – per TJC – indications are required, should be included in the Special Instructions	Consider process on what should be flagged Include dosage reminder, e.g., 10mg= 0.5ml, if that is your policy; does not require pop-up

Topic	Highlights	Local site notes
IVP and IVPB orders	• As they are scheduled with Admin Times, will behave as the UD orders do relative to start date and due date/times • "WS" bag numbers may be generated from scanning the components – IV additive and IV solution, if pharmacy does not provide IV label/bag, e.g., if pharmacy is closed	
IV Admixture orders	• Does not have a schedule, so order is active & available on BCMA as soon as pharmacy verifies the order • "WS" bag numbers may be generated from scanning the components – IV additive and IV solution, if pharmacy does not provide IV label/bag, e.g., if pharmacy is closed • If solutions are ward stocked (in Automated Dispensing Cabinets), pharmacy does not have to print label (does not need to generate IV bag number)	If WS consider how the bag is to be labeled – patient's name, rate, etc as required by TJC
Hyperal (TPN) orders	• Similar order entry/finishing as IV Admixtures • No "schedule", adjust start date/time if it is to be hung beginning at a specific time	

A.3 BCMA GUI

Topic	Highlights	Local site notes
In General	• Should be available in Pharmacy • (follow Nursing BCMA training) • BCMA full vs Read-Only Access for pharmacist • "Test scanning" can create med errors and throw off MSF reports, however "given" can be "undone" • Nurse scan patient's wristband to bring the patient's record • May use BCMA Limited Access if nurse would like to pull meds ahead or document prn effectiveness, mark doses held or refused	
VDL – Virtual Due List	• Meds will be available once the medication order is Active, on the appropriate Tab, and Time Interval	
Unit Dose tab	• All UD, aka, NOT IV type orders	
IVP/IVPB tab	• IV push and IVPB orders	
IV tab	• IV Infusions, TPN, no "schedule"	
Cover Sheet	• Summary of active, recently expired & future (not yet due) orders	
Fractional dose / Multiple dose	• Separate dialog will display to remind nurse of the fractional or multiple dose (additional scanning required for each unit)	
Missing Dose Request	• Nurse is able to request a "missing dose" from VDL – should print in Pharmacy	

Topic	Highlights	Local site notes
"Unable to Scan" (UTS or UAS)	• If bar code scan displays an error, or "unable" to get a good scan, nurse may use this option to be prompted to either type in the bar code or verify the 5 rights manually of the medication package(s) available before administering the dose	
CPRS Med Order Button (if turned on)	• Allows nurse to scan the medication package, in urgent or emergent situations, to generate an ACTIVE order in BCMA, and an alert in EHR for provider signature. • Order will appear in Pharmacy as a Non-Verified order for retrospective review, & Pharmacist verification (report to be made available soon)	Only allow for drugs on the Override list?
RN Finish key (if assigned)	• Allow RN to finish orders, in the absence of a pharmacist • Order still needs pharmacist verification???	

A.4 Special Consideration

Topic	Highlights	Local site notes
"First" dose of med (TJC)	• Consider that a BLANK Last Action column in the BCMA VDL means that it is the FIRST dose, whether patient received as an outpatient or not	
Sliding scale insulin – Continuous vs PRN order	• Continuous orders will always prompt nurse to check blood glucose on schedule, if not needed enter dose of "0" units or mark order Held • PRN orders will only require dose documentation if administered, but will not prompt for blood glucose checks	

Topic	Highlights	Local site notes
Fill on Request items –	• Used for multi-dose dosage forms, i.e., inhalers, topicals, etc., BCMA labels may be printed to include patient's name (TJC requirement) • Missing Dose Request may used to request additional	
IV Label Reprint vs New Label	• New label will create a new IV bag number ("V") • Reprint label will also create a new IV bag number, but also invalidate the original bag number	Add IV bag expiration to IV label
PCA Infusion	• Finish a PCA as an IV fluid – easier for documentation • Finish a PCA as PRN IV Push med - will require a "one-time" PRN Effectiveness in BCMA, which does not really provide accurate documentation of the assessment of pain/pain relief over the course of the infusion. A flow sheet or progress note document would be necessary	
Auto-cancellation of orders on ward transfer	• May be managed within EHR parameters or Pharmacy parameters	
Order verification process /obtaining meds when Pharmacy is closed	• Remote Pharmacy finishing – RN Finish? – CPRS Med Order button? – Automated Dispensing Cabinets and Ward Stock	
Pharmacist auto-verification of orders	• Must be set for individual pharmacist • Allows "accepting" and "verification" of order in one step	An order left "unverified" by the pharmacist may be verified by a nurse, which will make it available on BCMA

Topic	Highlights	Local site notes
Contingency Plan	• Back up of Health Summary / MAH to a Contingency PC at pre-determined times (e.g. hourly); MAH would be printed if BCMA was unavailable • Print MAH from Pharmacy reports • Print Pharmacy Medication Profile • Use daily Pharmacy cart fill pick list	
Policy consideration – variable doses	• Not recommended by TJC – use separate orders, including parameters, e.g., Percocet-5, 1 -2 tabs q4h prn pain – would be Percocet-5, 1 tab q4h prn for pain 2-5 & Percocet-5, 2 tabs q4h prn for pain 6 or greater	
Policy consideration – variable schedule	• Adjust if your policy allows – e.g. morphine 2mg iv q4-6h prn pain > morphine 2mg iv q4h prn pain	
“Flagged” orders	• Red flag block will appear on the BCMA GUI cover sheet, but not on the med/iv tabs	

A.5 Troubleshooting

Topic	Highlights	Local site notes
Scanners	• Recommend that the scanners used throughout the facility, including Pharmacy are the same model	-When a med does not scan for nurses at the point of care, a response from Pharmacy like “It scans in Pharmacy” doesn’t cut it with nurses.
Bar code scan, but error message “Drug Not Found”	• Check patient med order – is the dispensed product the same as the Dispense Drug, including strength? • If the product was repackaged – is the bar code on the package correct for the Dispense Drug?	

Topic	Highlights	Local site notes
Drug File Inquiry [PSB DRUG INQUIRY]	• Scanning bar code here will display the Dispense Drug associated with it, if the product is marked for Unit Dose use • If "???" display, the bar code in not recognized or drug not marked for Unit Dose use	
Synonym Enter/Edit [PSS SYNONYM EDIT]	• Scanning bar code here will display multiple Dispense Drugs if the bar code (most often NDC) has been entered as Synonyms in multiple drugs; the NDC may only associated with ONE Dispense Drug	
PSD Patients on Specific Drug(s) [PSJ PDV]	• If an Orderable Item or Dispense Drug is found to be problem, this option may be used to find other orders for the same product	
Bar Code Quality	• Damaged bar code – printer printing too dark, or "misprints" of lines/spaced • Bar codes on shiny/reflective paper – will be difficult to scan • Insufficient "white space" around the linear bar codes • -White bar codes on bags of clear IV bags may be difficult to scan. Try a dark background behind the bag when scanning. • Manufacturer package bar code may be submitted to VA BCRO for analysis	
IV bag labels	• Order changes may invalidate the bar code – review BCMA parameters for EACH IV type –IVPB, Admixture, Hyperal, Chemo & Syringe	Do you want the IV bag bar code to be valid if the only change is the schedule?

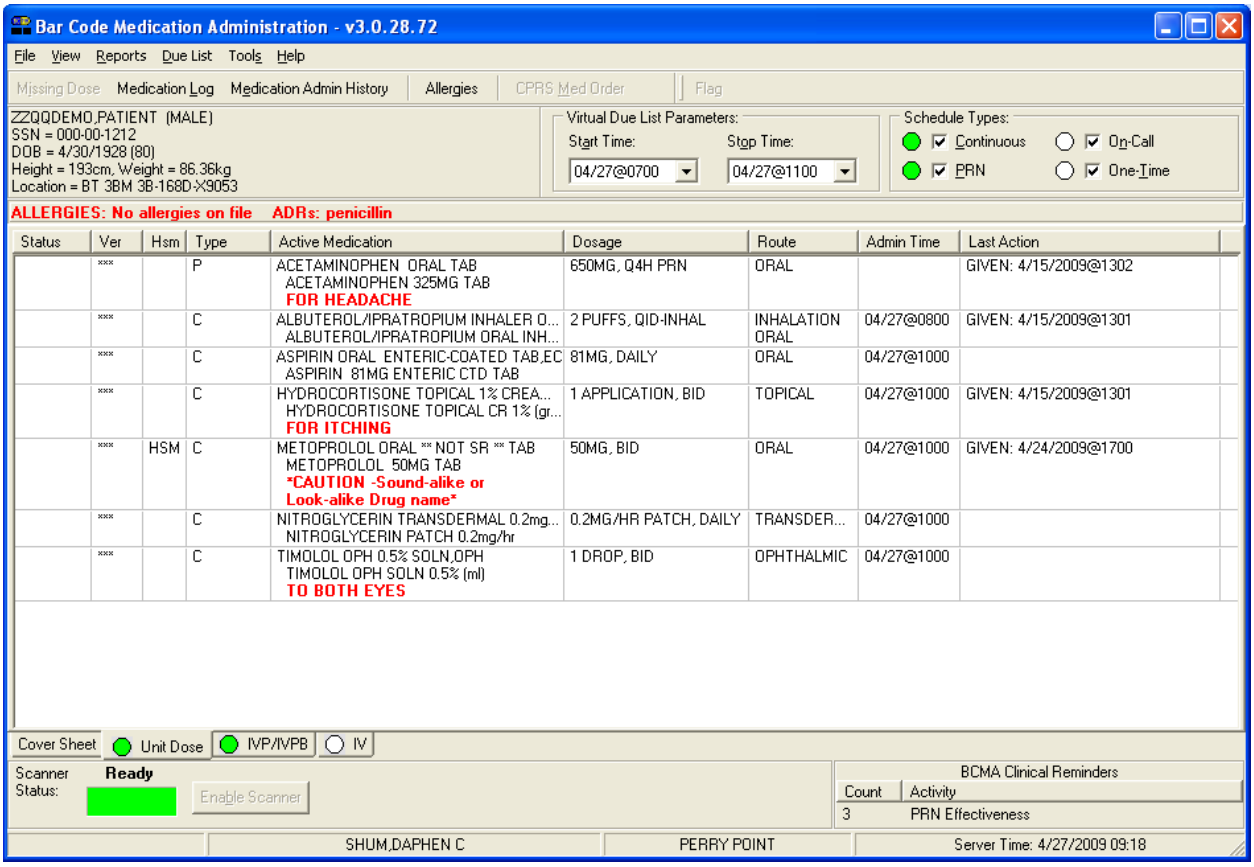
Topic	Highlights	Local site notes
Order is NOT appearing on BCMA VDL	• Is order still pending pharmacy review? • Check start date/time of order (in RPMS Pharmacy) • Check Admin Time of order – relative to Start date/time • Review the BCMA Cover sheet for summary of current, future and expired orders • Check the Virtual Due List Parameters - Start & Stop time – does this include the Admin Time associated with the order? • Check the Schedule Type on VDL parameters – especially if the order is PRN, one-time or On-call • Check the tab being viewed – UD, IVP/IVPB or IV • Occasionally "unknown" errors occur with an orders, where it appears in Pharmacy but not in BCMA – however error messages are generated which are sent to the designated mail group; also can be found in the BCMA Unknown Action report • Also possible to have provider enter a nursing "text" order for a medication (which will never get to pharmacy), instead of a medication order	

A.6 Reports

Topic	Highlights	Local site notes
BCMA Unable to Scan (Detailed) On BCMA GUI	• Will provide report of when MSF is used, including the reason, can sort for meds only	May be useful for troubleshooting
Missing Dose Follow-up [PSB MISSING DOSE FOLLOWUP]	• May be used to document follow up on missing doses and get report	

Topic	Highlights	Local site notes
Pick List Menu ... [PSJU PLMGR]	• Pick List, which includes the Dispense Drug on the order, may be printed to identify what drugs are to be dispensed	

Appendix B: BCMA GUI Unit Dose Page



Appendix C: Inpatient Medications Incorrectly Displaying

Medsphere® Helpdesk and developers have determined the most likely workflow that is causing the issue of Inpatient Medications incorrectly displaying as Outpatient Medications on a recently admitted patient. The sequence of events that causes this problem appears to be:

1. Select a Patient.
2. Select a Clinic (Outpatient) visit.
3. Leave the Patient/Clinic Visit displayed in EHR.
4. Have the Patient admitted thru RPMS and then wait a minute to make sure that processes.
5. In EHR, ***without changing patients***, click in the encounter box and choose the inpatient admission.
6. Place the admission order and then the other orders.

Choosing the Inpatient visit changes the ***Encounter Context*** but not the ***Patient Context***. Testing RPMS produced the same behavior, so this issue is present in the VA's application as well. A user should never have to select the inpatient encounter to have it appear in the encounter box. If it is not showing in that box, the user should change patients and then selected the patient from the Wards list before writing orders.

This is a GUI issue and not related to RPMS, Pharmacy (IHS has special programming to synchronize Patient selection in RPMS Pharmacy with the EHR GUI), Orders, etc. That's why the orders appear correctly on the Meds Tab. Medsphere Development is investigating the best way to avoid this behavior (to be included in a future patch). In the meantime, train users to ***not change*** the Encounter from a Clinic visit to the Inpatient admission; instead, select a different patient, (or use the Clear function) then select the patient from the Wards list before entering new inpatient orders. Now that the sequence of actions that causes this problem is known, users can change process and avoid the problem until a programmatic fix can be included in an EHR release.

It appears that this issue may also impact pharmacists using RPMS. Therefore it is also recommended that pharmacists utilize the same process to select the inpatient in the EHR GUI so that the RPMS synchronization function also selects the correct inpatient and encounter.

Appendix D: Choctaw Nation Health Care Center BCMA Competency

AGE/PATIENT POPULATION(S) SERVED KEY (Check all that apply)

Age of Patient Population Served [ ] Neonate (birth - 28 days) [ ] Infant (29 days – less than 1 year) [ ] Pediatric (1 - 12 yrs.) [ ] Adolescent (13 – 17 yrs.) [ ] Adult (18 – 64 yrs.) [ ] Geriatric (65 yrs. & older) [ ] Non-age Specific Task (N/A)	**Population:** [ ] Bariatric Patients [ ] Patient with communication needs [ ] Patient with developmental delays [ ] Patient at the end of life [ ] Patient under isolation precautions [ ] All Populations
Competency: RN FINISH KEY FOR USE AFTER PHARMACY HOURS	**Description:** Staff will demonstrate the ability to: **For Orders Written on Paper:** 1. Primary nurse will enter all medications into EHR and electronically sign orders. 2. Charge nurse will finish orders in RPMS as follows: a. Log into RPMS. b. Type NURS, press Enter. c. Type IOE, press Enter. d. Type patient name or chart #, press Enter. e. Type NO for New Order Entry, press Enter. f. Select Drug option will show, DO NOT type drug here, press Enter only. g. Select IV Type option will appear, DO NOT type medications in, press Enter only. h. Select Action will appear—Type SO for Select Order and press Enter. i. Select Order will show—enter all pending medication numbers (i.e., 1-4 or 1, 2, 3, 4) and press Enter. j. Type FN to Finish order and press Enter. k. Check order to make sure everything is correct. You can enter ED to edit order if necessary. If no edit is necessary, enter AC to accept order and press Enter. l. Checks to make sure order is correct again and enter VF to verify order. Press Enter. m. Press Enter again. Order will be verified and made active in EHR. **If orders placed in EHR by Physician after hours:** • Charge nurse will follow instructions above to finish medications in RPMS and make medications active in EHR.
Level of Experience (Check one): [ ] Little or no experience [ ] Some experience [ ] Competent, can perform independently [ ] Competent, can perform independently and assess competency of others	**Validation** (Check all that apply): [ ] Peer review (chart audit) [ ] Observation [ ] Lecture [ ] Written evaluation [ ] Oral evaluation [ ] Return demonstration

Competency: ACCESSING BCMA Competency:	**Description**: Staff will demonstrate the ability to: • Access the BCMA application from the computer desktop. • Open the patient's Medical Record. • Access the Reports Menu to print out the Medication Due List. • Properly scan the patient's wrist band. • Confirm correct patients. • Resize columns. • Identify the relative components of the virtual Due List. • Access the BCMA Clinical Reminders. • Identify the relative components of the Coversheet Functionality.
Level of Experience (Check one): [ ] Little or no experience [ ] Some experience [ ] Competent, can perform independently [ ] Competent, can perform independently and assess competency of others	**Validation** (Check all that apply): [ ] Peer review (chart audit) [ ] Observation [ ] Lecture [ ] Written evaluation [ ] Oral evaluation [ ] Return demonstration
Competency: BCMA UNIT DOSE MEDICATIONS	**Description**: Staff will demonstrate the ability to: • Access Medication Details. • Access scanner status. • Submit a missing dose. • Scan medications. • Add a comment. • Chart medications as Not Given, Held or Refused. • Scan PRN medication. • Refresh the Due List. • Enter multiple orders and multiple orders of the same medication. • Enter early/late medications. • Enter multi-dose containers. • Enter injection sites. • Scan an On-Call medication. • Enter PRN Effectiveness. • Enter removal of patches. • Assess scanning of wrong medication. • Print missed medication report.
Level of Experience (Check one): [ ] Little or no experience [ ] Some experience [ ] Competent, can perform independently [ ] Competent, can perform independently and assess competency of others	**Validation** (Check all that apply): [ ] Peer review (chart audit) [ ] Observation [ ] Lecture [ ] Written evaluation [ ] Oral evaluation [ ] Return demonstration

Competency: BCMA IV MEDICATIONS & ADDITIONAL INFORMATION	**Description**: Staff will demonstrate the ability to: • Administer IV medications • Administer IV piggyback medications • Access BCMA Read Only function • Access the IV piggyback tab • Utilize the Edit Med Log function • Access Limited Access Mode • Managing scanning failures • CPRS Med Order Button
Level of Experience (Check one): [ ] Little or no experience [ ] Some experience [ ] Competent, can perform independently [ ] Competent, can perform independently and assess competency of others	**Validation** (Check all that apply): [ ] Peer review (chart audit) [ ] Observation [ ] Lecture [ ] Written evaluation [ ] Oral evaluation [ ] Return demonstration

Signature of Evaluator and Date

Employee Signature and Date

Appendix E: BCMA Inpatient Pharmacy Checklist

- ☐ **Inpatient Pharmacy:**
  - ☐ Monday – Friday: 7:30 am – 4:30 pm
  - ☐ Saturday and Sunday: 8 am – 12:00 pm
  - ☐ VA Pharmacists verifies orders after regular business hours.
- ☐ **Review overnight orders:**
  - ☐ Deliver any non-ward stock meds needed for new admissions prior to afternoon cart fill:
    - ^IPF (Inpatient Profile): may be run for individual patients to review ward stock vs non-ward stock medications.
    - Most meds scheduled for 'qday' are to be given at 10 am.
- ☐ **Print Ward Roster:**
  - ☐ ^WR to inpatient printer (PTINPRX).
  - ☐ Print copy for yourself and any pharmacy students assigned to the inpatient pharmacy.
- ☐ **Attend inpatient rounds at 8:30am in inpatient conference room:**
  - ☐ Record pertinent information presented during rounds to follow patient progress.
- ☐ **Review and verify MD orders:**
  - ☐ UDM (Unit Dose Menu) > NON (Non-Verified/Pending Orders).
  - ☐ When completing order be mindful of how they will present for the RN through BCMA:
    - Think: Dispense Drugs, Units per Dose, Provider Comments, Dosage Forms, Start Time.
    - Requested Start is when the first dose will be due.
    - Complex Orders: Multiple orders are linked together; ***once verified, the components of the complex order cannot be edited***:
      - Ex: Loperamide 4mg now, then 2mg prn diarrhea…will be split into two separate orders that are linked in the background.
      - The start time for the second component of the complex order is the stop time for the first component.
    - Changing the dispense drug on a finished order:
      - You may need to do this if stock availability changes.
      - ^IOE > Select the patient > Edit the Dispense Drug:
        - Enter an inactive date for the previous dispense drug and choose a new dispense drug based on your stock.

- ☐ Document any interventions through Webcident.
- ☐ Meds may be given up to 1 hour before through 1 hour after the scheduled administration time:
  - Start time must be before the administration time in order for the RN to "give first dose now."

☐ **Print IV Labels:**

- ☐ IVM (IV Menu).
- ☐ Run the Manufacturing List (Options 1,2,5,6,8).
- ☐ Run the Ward List (Options 1,2,5,6,8).
- ☐ Label Menu > Scheduled Labels (Options 1,5,6,8):
  - Extra IV Labels are kept in the cupboards near the printer.

☐ **Make IVs:**

- ☐ All IVs must have a patient name AND expiration date on the label:
  - See Stability chart for expiration dates.
  - "Vial Mated" antibiotics/fluids are stable for 30 days.
- ☐ Remember to use a foil seal, if necessary.
- ☐ Extra Vial-Mate Adapters are kept in Supply.

☐ **Hood Maintenance:**

- ☐ Clean all surfaces, once weekly, with Cavicide.
- ☐ Change gloves attached to sleeves once weekly:
  - Gloves may need to be changed more frequently if torn.
- ☐ Clean 'silver surfaces' daily with 70% Isopropyl Alcohol.
- ☐ Change trash and sharps containers when full as needed:
  - Sharps containers are kept in Supply.
  - Full sharps containers should be returned to Lab.
- ☐ Extra bottles of Cavicide, EtOH are kept in Supply.

☐ **New Admissions:**

- ☐ Complete a Medication Reconciliation, Renal Assessment, and Fall Risk Assessment (for patient's >65 years old) on each new admission.
- ☐ Document patient education: Medication-Medication Reconciliation.
- ☐ Complete any consults for inpatient ward: Pharmacokinetic, Anticoagulation, Fall Risk.

- ☐ **Discharges:**
  - ☐ Print two outpatient medication lists: one for the patient to keep and one for the patient to sign.
  - ☐ Signed copy of med list is filed in the inpatient chart, kept at the ward clerk desk.
  - ☐ Document patient education: Medication-Medication Reconciliation.
- ☐ **Fill Omnicell Controlled Substances and deliver to wards daily.**
- ☐ **Lunch: 12 pm – 1 pm.**
- ☐ **Cart Fill:**
  - ☐ This is a 24 hour supply of meds delivered to the floor daily by 2 pm.
  - ☐ Print ^IPF (Inpatient Profile) > Ward > Inpatient > Print to PTINPRX.
  - ☐ Review patient profiles for ward stock versus non-ward stock medications.
  - ☐ Deliver all 'continuous' medications (including those marked as 'WS', or ward stock) to the floor, AND any 'PRN' medications that are non-ward stock.
  - ☐ All items leaving the inpatient pharmacy must have a bar code!
    - Use MILT software to create U/D barcodes:
      - Items unit dosed from a stock bottle expire one year from the date of re-packaging, or the manufacturer's expiration date, which ever is earlier.
      - To find an IEN Number for MILT: ^UDM > BCMA > #9: Drug File Inquiry.
    - Multi-dose items, like a tube of clotrimazole cream or albuterol MDI, need to be labeled with the patients name along with a bar code.
  - ☐ Code for COW (computer on wheels): 0-5-3-1.
- ☐ **BCMA Unable to Scan Report:**
  - ☐ Log into BCMA:
    - This is loaded on the inpatient pharmacy computer.
    - Access and verify codes are the same as for RPMS-HER.
    - Click on Reports > Unable to Scan – Detailed > Print.
    - Review this report on a daily basis, address scanning errors, and file in the binder labeled "Barcode Scanning Failures":
      - Provide notes or comments on the steps you took to correct the problem.
- ☐ **Involuntary Commitments to the ER:**
  - ☐ ER nursing staff will notify the inpatient pharmacist of any patients committed to the ER.
  - ☐ Deliver a 24 hour supply of meds to the ER for these patients based off the paper MAR (medication administration record) at the ER nursing station.
  - ☐ Each patient will have a bin in the ER medication room labeled with their name.

- ☐ **Infusion Specialty Clinic:**
  - ☐ Clinic RNs may call throughout the day requesting IVPB meds for patients receiving outpatient IVs:
    - Blue and Green Clinic usually print a list of their specialty clinic patients to the inpatient printer each morning.
    - Use this as a reference and tool to help plan your day.
  - ☐ These labels may print during the daily label print; occasionally, you may need to enter the IV medication to get a label to print:
    - ^IVM (IV Menu) > IOE (Inpatient Order Entry) > Select the patient > "This patient has been discharged as of xx/xx/xxxx. Do you want to continue?" > Yes.
    - IV Type: Piggyback (will give you a frequency), Admixture (will ask for an infusion rate), we do not currently use any other 'IV Type'.
- ☐ **Empty Return Bins once weekly:**
  - ☐ Return Bin Keys are kept in the inpatient pharmacy drawer by the sink.
- ☐ **Complete workload statistics daily at the end of shift.**

Appendix F: BCMA Troubleshooting for Pharmacists

- ☐ **How to handle scanning failures:**
  - ☐ If possible, obtain the barcode the RN was attempting to scan that failed.
  - ☐ Ensure the nurse was scanning the medication for the correct patient.
  - ☐ Ensure the barcode is intact and not damaged in a way that could prevent scanning.
  - ☐ Review the DISPENSE DRUG selected for the medication attempting to be scanned, for the intended patient:
    - The DISPENSE DRUG needs to match the actual product being given to the RN for administration:
      - For example, Lisinopril 20mg is ordered for a patient…the RN is scanning a Lisinopril 20mg tablet but the order was finished with Lisinopril 10mg tablets as the DISPENSE DRUG…this discrepancy will create a scanning error.
    - Choose DISPENSE DRUGS titled 'Unit Dose' whenever possible.
  - ☐ Unit Dose Menu (UDM) > BCMA > Drug File Inquiry:
    - Scan the barcode of the item failing to scan…if this does not pull up a drug then:
      - You need to ADD a SYNONYM:
        - ^PDM > Synonym Enter/Edit > Enter the Drug Name (be sure to select the Unit Dose or appropriate Inpatient choice) > Scan the barcode at the synonym field.
    - If the bar code does scan and pull up the correct drug in the BCMA Drug File Inquiry Menu, review the other synonyms to ensure there are no duplications:
      - The BCMA Drug File Inquiry menu will show the synonyms marked for Inpatient Use.
      - The ^PDM > Synonym Enter/Edit will show ALL the synonyms for that drug.
      - Remove duplicate or obsolete synonyms with an '@'.
  - ☐ Check with your informaticist if you are still having difficulty getting a specific drug item to scan in BCMA.
- ☐ **Meds are not appearing on the Virtual Due List (VDL) for RNs:**
  - ☐ Ensure that the dose is actually due…one hour before or one hour after the scheduled time:
    - The RN can change the time interval of the VDL.
  - ☐ Ensure the RN is looking on the correct tab in BCMA for the medication:
    - BCMA Unit Dose tab for unit dose medications.

- BCMA IVP/IVPB tab for IV Push or IV Piggyback medications.
- BCMA IV tab for infusions such as maintenance fluids.

☐ **Meds or Patients are not appearing on Omnicell:**

☐ Omnicell Customer Support: 1-800-910-2220.

☐ CIHA IT: x6217…may need to restart the server.

☐ From the Omnicell Brain:

- Admin > Omni Supplier List Maintenance > Select correct ward > Basic Actions > Send to Cabinet: Patients > Process.
- Admin > Omni Supplier List Maintenance > Select correct ward > Basic Actions > Send to Cabinet: Med Orders > Process.

Appendix G: BCMA Drug Issues

Check the following:

- Drug File Inquiry:
  - If "??" appears – not recognized in drug file or drug marked for inpatient use.
- Synonym Enter/Edit:
  - Will identify if there are multiple drugs with the same synonym (NDC, synonym).
  - If there is more than one drug – delete the synonym off of the "incorrect" drug; could be an inactive drug or a drug not marked for Inpatient Use.
- EHR medication quick orders:
  - Check the dispense drug associated with the QO, make sure the dispense drug is marked for Inpatient use.
- Check patient order:
  - Was drug dispensed the same as that on the order (field #12)?
  - Does the Unit/dispensed drug correspond to the dose?
  - IV orders – check for new orders, order changes, etc.
- Patient movements (A/D/T)?

Appendix H: FileMan to Identify Meds Unable to Scan

```
Select ADPAC FileManager Menu Option: print File Entries

OUTPUT FROM WHAT FILE: BCMA UNABLE TO SCAN LOG//
SORT BY: NUMBER// [*BCMA MUAS (Sep 03, 2010@16:04) User #9769 File #53.77 SORT

WANT TO EDIT '*BCMA MUAS' TEMPLATE? NO// y YES
NAME: *BCMA MUAS//
READ ACCESS: PpQqDd\//
WRITE ACCESS: PpQqDd\//
SORT BY: UAS TYPE;N//
* Previous selection: UAS TYPE equals MUAS (MEDICATION UNABLE TO SCAN)
START WITH UAS TYPE: MUAS// MEDICATION UNABLE TO SCAN
GO TO UAS TYPE: MUAS// MEDICATION UNABLE TO SCAN
  WITHIN UAS TYPE, SORT BY: UAS EVENT DATE/TIME//
  * Previous selection: UAS EVENT DATE/TIME from Sep 9,2013 to Sep 5,2013@24:00
  START WITH UAS EVENT DATE/TIME: Sep 9,2013//   (SEP 09, 2013)
  GO TO UAS EVENT DATE/TIME: Sep 15,2013//   (SEP 15, 2013)
    WITHIN UAS EVENT DATE/TIME, SORT BY:
STORE IN 'SORT' TEMPLATE:
FIRST PRINT FIELD: [*MED UAS USER-COMMENTS    (Jul 24, 2013@11:50) User #9769 File
#53.77
WANT TO EDIT '*MED UAS USER-COMMENTS' TEMPLATE? No// y  (Yes)
NAME: *MED UAS USER-COMMENTS  Replace
READ ACCESS: PpQqDd\//
WRITE ACCESS: PpQqDd\//
FIRST PRINT FIELD: UAS EVENT DATE/TIME//
THEN PRINT FIELD: UAS TYPE//
THEN PRINT FIELD: USER ID;L20//
THEN PRINT FIELD: DISPENSE DRUG//     (multiple)
  THEN PRINT DISPENSE DRUG SUB-FIELD: DISPENSE DRUG;L30//
  THEN PRINT DISPENSE DRUG SUB-FIELD: //
THEN PRINT FIELD: $P(UAS EVENT LOCATION,"$",1)  Replace
THEN PRINT FIELD: UAS REASON;L15//
THEN PRINT FIELD: ENTERED COMMENT;L15//
THEN PRINT FIELD: UAS E-MESSAGE ID;L20  Replace
THEN PRINT FIELD:
Heading (S/C): BCMA UNABLE TO SCAN LOG LIST  Replace
```

Appendix I: Timely Administration of Scheduled Drugs

Sample Policy)

SUBJECT: Timely Administration of Scheduled Drugs	**REFERENCE #:**
	PAGE: 1 **OF: 4**
DEPARTMENT: Pharmacy	**EFFECTIVE DATE: 8/16/12**
POLICY TYPE: Pharmacy	**REVISED DATE: 8/14/12**
APPROVED BY: pharmacy/ nursing units/ medical staff	**References:** 1. ISMP acute care guidelines for timely administration of scheduled medications. Institute for Safe Medication Practices. Horsham (PA): 2011. 2. Drug information: Lexicomp. UpToDate, Inc. 2012

FORT DEFIANCE INDIAN HOSPITAL BOARD, INC. (FDIHB)

I. **Purpose**: The Institute for Safe Medication Practices (ISMP) developed guidelines for the timely administration of scheduled medications in response to a survey of nurses in 2010 regarding the CMS "30-minute rule". The CMS Interpretive Guidelines require the administration of medications within 30 minutes before or after the scheduled time, however nurses reported in the survey the pressure to comply with the "30-minute rule" has led to more errors, and relatively few medications require exact timing of administration. This policy is based on the ISMP Acute Care Guidelines for Timely Administration of Scheduled Medications and includes a hospital-specific list of time-critical scheduled medications.

II. **Policy**: Medications are required to be administered in a timely fashion based on their category: time critical medications or non-time critical medications.

III. **Procedure**:

A. **Scheduled Medications**: All maintenance doses administered according to a standard, repeated cycle of frequency (e.g., Q4h, QID, TID, BID, daily, weekly, monthly, annually). Scheduled medications are categorized as time critical and non-time critical, (see tables 1 and 2).

1. Does not include:

a. STAT and Now doses

b. First and Loading doses

c. One-time doses

d. Specifically timed doses (e.g., antibiotic for surgical patient to be given a specific amount of time before incision, drug desensitization protocols)

e. On-call doses (e.g., pre-procedure sedation)

f. Time-sequenced or concomitant medications (e.g., chemotherapy and rescue agents, n-acetylcysteine, and iodinated contrast media)

g. Drugs administered at specific times to ensure accurate peak/ trough/ serum drug levels

h. Investigational drugs in clinical trials

i. PRN medications

B. **Time-critical Scheduled Medications**: If early or delayed administration of maintenance doses of greater than 30 minutes before or after the scheduled dose may cause harm or result in substantial sub-optimal therapy or pharmacological effect. Because of this, these medications should be given within 30 minutes of the scheduled time (see Table 1).

1. Medications administered around mealtimes require nursing judgment regarding the actual scheduled time of administration, which may fluctuate based on meal delivery time, actual consumption of the meal, and the patient's condition.

2. Any scheduled medication can be designated "time-critical" by prescribers, pharmacists, or nurses by indicating on the medication order or electronic medication administration record (eMAR) entry.

C. **Non-time-critical Scheduled Medications**: Early or delayed administration within a specified range of either one or two hours should not cause harm or result in substantial sub-optimal therapy or pharmacological effect (see Table 2).

D. **First Doses**: For certain types of medications, it is essential to ensure the patient receives the first dose of the medication in a timely manner. To provide for this, CMS has created guidelines to follow. These guidelines are shown in Table 3.

TABLES

Table 1: Time Critical Medications

Time-Critical Scheduled Medication	Reason "Time-Critical"
Dosing schedule more frequent than every 4 hours	Small dosing intervals require timely administration to avoid toxicity or sub-optimal therapy.
Opioids	Scheduled use for chronic pain or palliative care (not PRN); Fluctuations in the dosing interval may result in unnecessary break-through pain.
Antibiotics (IV)	For specific diagnosis/ indications (e.g., worsening sepsis).

Time-Critical Scheduled Medication	Reason "Time-Critical"
Tacrolimus (Prograf) Cyclosporine (SandIMMUNE)	Prevention of solid-organ transplant rejection; Administer with or without food; be consistent with timing and composition of meals if GI intolerance occurs and administration with food becomes necessary (per manufacturer). If dosed once daily, administer in the morning. If dosed twice daily, doses should be 12 hours apart. If the morning and evening doses differ, the larger dose (differences are never >0.5-1 mg) should be given in the morning. If dosed 3 times/day, separate doses by 8 hours.
Fluoroquinolones	Medications must be administered at least 2 hours before or 6 hours after antacids or other products containing calcium, iron or zinc.
Itraconazole Ketoconazole	Antacids may decrease serum concentrations of itraconazole and ketoconazole. Administer itraconazole at least 1 hour after or 2 hours before antacids, and ketoconazole at least 2 hours before antacids.
Insulin glulisine (Apidra) Insulin aspart (NovoLOG) Insulin lispro (HumaLOG)	Requires administration within 15 minutes before meal, insulin aspart immediately before meals (within 5-10 minutes).
Acarbose	Administered with the first bite of each main meal.
Nateglinide (Starlix), Repaglinide (Prandin)	Requires administration within 30 minutes before meals.
Sulfonylureas, oral hypoglycemic agents	Administer once daily with breakfast or first main meal of the day.
Pancrelipase (Creon)	Requires administration with meals.
Alendronate (Fosamax) Other bisphosphonates	Requires administration on empty stomach, 30 minutes prior to food or drink other than plain water.
Levothyroxine (Synthroid)	Requires administration in the morning on an empty stomach, at least 30 minutes prior to food.
Pyridostigmine (Mestinon) Neostigmine (Prostigmin)	Short duration of action; For treatment of myasthenia gravis - timely administration required to maintain symptomatic benefit.

Table 2: Non-time critical medications

Non-Time-Critical Scheduled Medications	Timing
Daily, weekly, monthly medications	Administer within 2 hours before or after the scheduled time; to prevent accidental omission of doses that might be more easily forgotten if delayed more than 2 hours.
Medications prescribed more frequently than daily, but not more frequently than every 4 hours	Administer within 1 hour before or after the scheduled time

Table 3: First Doses

First/ Loading doses	Targeted time frame for administration
Antibiotics (IV)	Within 15 minutes of medication order.
Anticoagulation (IV)	tPA for PE or Stroke – within 15 minutes of order.
Antiepileptic agents (IV)	Within 15 minutes of medication order.
Stat doses	Within 15 minutes of the medication order.
Now doses	Within 30 minutes of the medication order.

SIGNATURES:

_____ _____
Chief Pharmacist Date

_____ _____
Chief Nursing Officer Date

_____ _____
Chairman P&T/Chief Medical Officer Date

_____ _____
Chief Executive Officer Date

Appendix J: IHS and VA Collaborative Standard Operating Procedure

General Information

Purpose of Standard Operating Procedures for BCMA

This Standard Operating Procedures (SOP) incorporates the procedure for notification of problematic drug product bar codes to the manufacturer or supplier, appropriate governing authorities, and appropriate contracting authorities. This also includes evaluation of problematic patient wristband bar codes.

Definitions

None

Policy

The following procedures will be used by Indian Health Service (IHS) Office of Information Technology (OIT) Help Desk to follow up with the Bar Code Medication Administration (BCMA) Coordinator, Facility Point of Contact (POC), and product vendor if necessary, concerning scanning failures.

Procedures

Medications:

A. The BCMA Coordinator or Point of Contact will gather information related to the cause(s) of scanning failure. This information will be submitted to the IHS Help Desk.

B. If the problem is not related to a problematic bar code, IHS OIT Help Desk will follow up with the facility to request what corrective actions have been taken by the site to address the problem(s). The results of the intervention will be followed up for three consecutive months.

C. If the problem is related to a problematic bar code, the site will be requested to complete the form below (see Appendix A) and send a sample to the BCRO Verification lab at the following location:

   Cindy Smith
   VHA BCRO
   2200 SW Gage Blvd
   Bldg 3, Room C239A
   Topeka, KS 66622

D. When sending the bar code for verification, the following information is required:

1) The point-of-contact at the facility who will receive a report of verification findings;

2) The facility name and mailing address of the point-of-contact; and The best method (e-mail, telephone, ground mail) of communicating the findings to the point-of-contact.

E. If sending pharmaceutical manufacturer/repackaged bar codes, facilities must ensure the following:

1) Bar code label is intact;

2) Package contents have been removed (i.e. remove capsules, tablets, liquids, etc.);

3) Drug name is identified and the Manufacturer/packager is indicated on item or identified and attached to item.

F. If sending a facility-generated bar code, facilities must ensure the following:

1) Bar code label is intact;

2) Package contents have been removed (i.e. remove capsules, tablets, liquids, etc.);

3) Laboratory bar code labels will not be evaluated;

4) Bar Code labels on blood and blood products will not be evaluated;

5) The BCRO should be notified of persistent issues with problematic bar codes not resolved at the local level;

6) Patient identifiers have been blocked out;

7) Provide printer information to include:

a. Manufacturer

b. Name and/or model number

c. Printing method (i.e. ink-jet, direct thermal, thermal transfer, etc.)

d. Ribbon (if used) manufacturer, name, and type (i.e. resin, wax, etc.)

8) Provide print medium information to include:

a. Manufacturer

b. Type or Reorder Number

c. Source

G. The BCRO will perform bar code verification in accordance with ISO/IEC 15416. These industry standard methodologies and specifications have been developed for measuring and assessing the quality of the printed bar code for process control and quality assurance. The results of the

verification will be provided back to the Indian Health Care Facility that submitted the bar codes.

H. ANSI/ISO verification test results lower than grade C trigger communications to suppliers, manufacturers, and re-packagers for corrective action, and notify bar code governing bodies, and notify contracting authorities when minimum quality standards are not met.

I. The Indian Health Care Facility will initiate the Manufacturer Verification Communiqué that communicates the test results to suppliers, manufacturers, and/or re-packagers when the tester identifies an ANSI/ISO grade less than C (see Appendix C).

J. The distribution will be made in the following manner:

1) Manufacturer Letter:

Original hard copy letter will be sent certified mail to the supplier or manufacturer (see Appendix C).

2) Electronic communications to the National Supply Service Center (NSSC):

E-Mail Title:

“Bar Code Verification Results Communicated to Vendor Name”

E-Mail Body:

“The Indian Health Care Facility would like to keep you informed of problematic bar codes received for verification testing by the Veterans Health Administration (VHA) Bar Code Resource Office. The attached letter was sent certified mail on month/day/year. To maintain the integrity of our patient safety systems, we have requested our supplier partners conform to bar code quality printing guidelines by providing products that meet ANSI / ISO verification grade minimum C target A. If you have any questions please contact Name & phone number.

Electronic Attachments:

A copy of the hard copy letter provided to the supplier, manufacturer, and/or re-packager will be attached to these electronic communications.

K. Indian Health Care Facility will report bar code quality scanning problems on marketed drug products to the FDA Med Watch. The Drug Quality Reporting System encourages health care professionals to voluntarily report, through the Med Watch Program, observed or suspected defects or quality problems to provide additional safeguards ensuring bar code quality.

L. When a response is received from a manufacturer/ packager indicating that they are 'changing' their process, Indian Health Care Facility will inquire as to what lot number or expiration date the manufacturer/ packager anticipate these changes will occur. If the facility sends us a

product with an expiration date prior to the date given by the manufacturer, notice will be sent to the facility explaining the manufacturer/ packager indicates that they are 'changing' their process and will continue to monitor.

M. The Indian Health Care Facility will be notified of any actions by the manufacturer or re-packager concerning resolution of the problem.

Wristbands:

A. The BCMA Coordinator or Point of Contact will gather information related to the cause(s) of the wristband scanning failure. This information will be submitted to the IHS Help Desk.

B. IHS Help Desk will follow up with the facility to request what corrective actions have been taken by the site to address the problem(s). This information will be logged and recorded by the IHS Help Desk.

C. For instances where equipment failures are suspected:

1) A sample demo patient wristband will be obtained and sent to the BCRO verification lab following the steps identified above. Actual patient wristband should not be submitted.

a. Wristbands received will be tested for ANSI/ISO verification print quality parameters.

b. Suggestions will be made in writing regarding how to improve the quality of the printing.

2) Other equipment, process, or cultural issues will be addressed per the recommendations in the BCRO's "Improving Wristband Scan Success and Scan Compliance" document.

3) Additional assistance will be provided based on the individual needs of the facility.

1.5 Responsibility:

D. Medication Testing: The BCMA Coordinator will be responsible for conducting the monthly medication review.

E. Wristband Testing: The BCMA Coordinator will be responsible for conducting the monthly wristband review.

F. Verification Tester: If the BCMA Coordinator determines that a scanning failure is due to a bar code, the site will send the wristband or medication packaging to the BCRO Verification lab.

5.6 References:

None

5.7 Rescission Date:

None

5.8 Change Control:

The IHS OIT BCMA Team will provide any control changes to this SOP as it becomes necessary. A review of this SOP will be conducted annually.

5.9 Distribution:

IHS OIT BCMA Team

5.10 Appendices:

A. Clinical Bar Code Closed Loop Verification Reporting Tool

B. Bar Code Labeling Matrix

C. Letter to Manufacturer

5.11 Annual Review

Date	IHS OIT BCMA Employee	Action/ Modification

SOP Appendix A: Clinical Bar Code Closed Loop Verification Reporting Tool

The Clinical Bar Code Closed Loop Verification will evaluate and verify problematic bar code products received from VA Facilities. Problematic bar codes will be reported to the manufacturer, National Acquisition Center (NAC), Food & Drug Administration (FDA), Pharmacy Benefits Management (PBM), and GS1 as applicable. For facility-generated bar codes, the Bar Code Resource Office (BCRO) will make recommendations for improvement to the Bar Code Medication Administration (BCMA) or Bar Code Expansion (BCE) Coordinators.

Mail Problematic Bar Codes to:

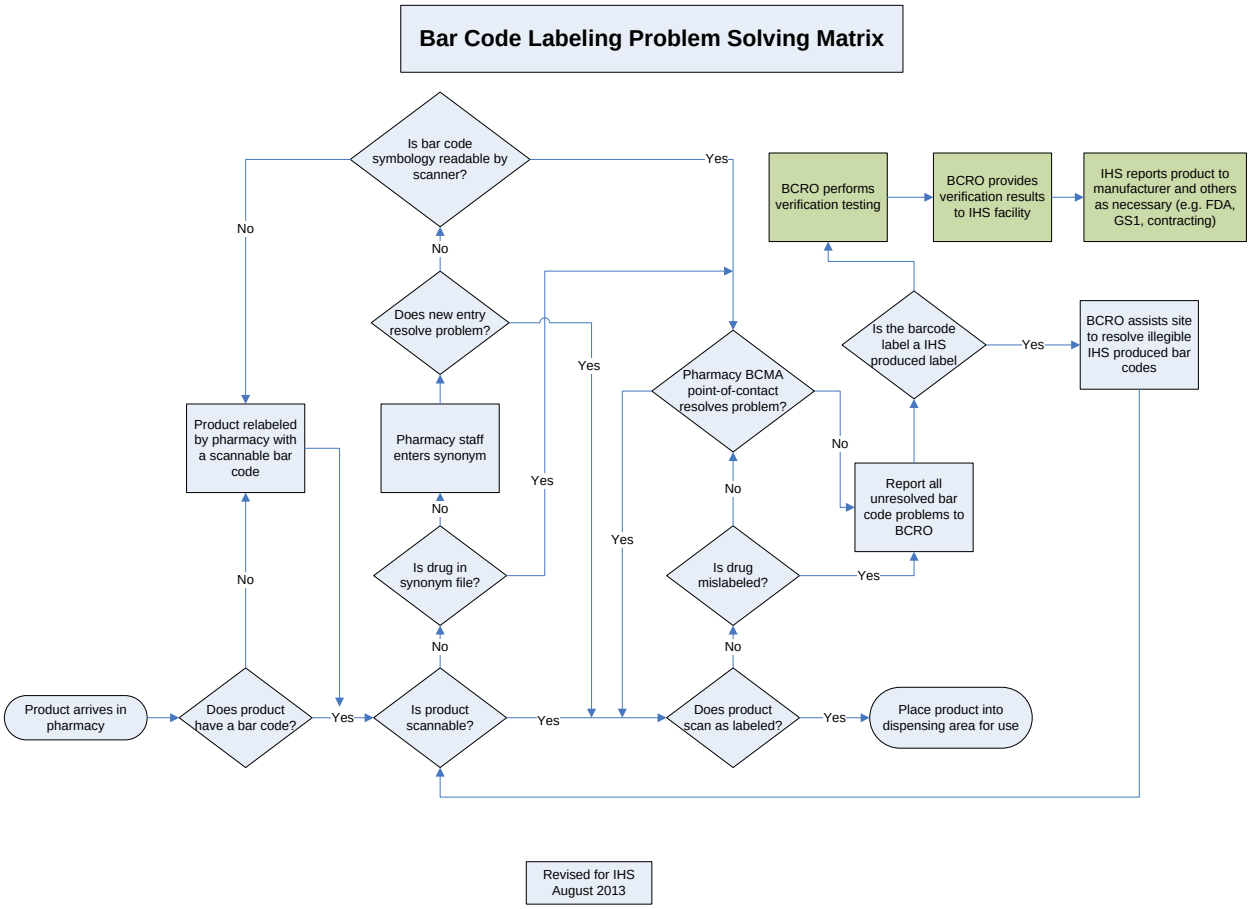
Cindy Smith
VHA BCRO
2200 SW Gage Blvd
Bldg 3, Room C239A
Topeka, KS 66622

Site Information		
Reporting Site	**Person Reporting**	**Email Address**

BCMA	**Problematic Medication Bar Code Information**			
	Medication Name		Strength	
	Drug Manufacturer		Drug Lot Number	
			Expiration Date	
	Problematic Relabeled or IV Label Bar Code Information			
	Printer Manufacturer		Printer Model	
	Print Method (Circle One)	Thermal	Direct Thermal	Ink Jet
	Label Stock Supplier		Label Stock Number	
	Problematic Wristband Bar Code Information			
	Wristband Media		Media Stock Number	
	Printer Manufacturer		Printer Model	
	Print Method (Circle One)	Thermal	Direct Thermal	Ink Jet
	Scanner Brand		Scanner Model	

BCE	**Problematic Laboratory Bar Code Information**			
	Label Stock		Label Stock Number	
	Printer Manufacturer		Printer Model	
	Scanner Brand (If		Scanner Model	
	Analyzer Brand		Analyzer Model	

SOP Appendix B: Bar Code Labeling Matrix



SOP Appendix C: Letter to Manufacturer

Indian Health Service
Office of Information Technology
[*Insert Address*]

Date

[*Manufacturer Name*]
[*Address*]
[*City*]

Dear Sir/Madam:

1. The Indian Health Service (IHS) Office of Information Technology (OIT) Help Desk has made a strategic commitment and is an industry leader in improving patient safety through the use of bar codes. Our organization currently administers over 600,000 medication doses each month. To maintain the integrity of our patient safety systems, we request our supplier partners conform to bar code quality printing guidelines by providing products that meet American National Standards Institute (ANSI)/International Standards Organization (ISO) verification grade minimum C target A.
2. The product [*product name*] with an NDC number of [*NDC number*] lot number of [*lot number*] and expiration date of [*expiration date*] was provided to the Veterans Health Administration Bar Code Verification Test Lab from an Indian Health Care Facility. Bar code verification testing with a WEBSCAN TruCheck model verifier (Calibrated Conformance Standard Test Card for European Article Numbering/Universal Product Code Symbol Calibration # UPC2-7175 presented the following results:

Verification Criteria	Results
Symbology	
Overall ANSI Grade	
X-Dimension	
Edge Determination	
Minimum Reflectance	
Minimum Edge Contrast	
Decode	
Contrast	
Modulation	
Decodability	
Defects	
Quiet Zone	

3. The product tested is enclosed with this letter.
4. Bar code minimum standards utilized within the Veterans Health Administration must meet ANSI/ISO standards of Grade C target A. The product tested had an overall ANSI grade of

[*ANSI grade*]. We request that you make appropriate adjustments based on the detailed information provided to meet or exceed our targeted minimum standards.

5. If you have any questions, do not hesitate to contact [*insert contact name, number and email address for IHS POC*].

Sincerely,

[*Insert name of appropriate signer*]
[*Title*], Indian Health Service