RESOURCE AND PATIENT MANAGEMENT SYSTEM

Bar Code Medication Administration Configuration and Test

Announcement and Agenda

January 27 – February 1, 2014

Chickasaw Nation Medical Center, Ada, Oklahoma

Office of Information Technology
Division of Information Technology
Albuquerque, New Mexico

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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 Configuration and Test

The primary purpose of this BCMA activity is to both configure and test the BCMA hardware to include printers, scanners, and labels; BCMA Resource and Patient Management System (RPMS) software, and BCMA client in preparation for Software Quality Assurance (SQA) certification and release. Prior to the testing, the software must be loaded on the BCMA Test Account and the BCMA Team should test the software for functionality. If the software is not functioning as designed, this severely compromises the ability to assess the software from a usability perspective.

Test patients with appropriate test orders need to be set up prior to testing. If the BCMA Test account is open to other users, the patients to be used for the usability testing should be isolated or assigned to a single ward to prevent non-testing users from inadvertently disturbing the patients reserved for testing. If necessary, ensure the test user account is already set-up with the same levels of access that he or she is assigned in the live/production account to ensure the user experience is as close to the live/production experience as possible.

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 Technology (OIT), Department of Veterans Affairs (VA)
Kompkoff	Jeanette	RPMS Acting Investment Manager, OIT, IHS
Taylor	David	BCMA Federal Lead, OIT, IHS
Alcorn	Deborah	BCMA Co-Federal Lead, OIT, IHS

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
Baylis	Randall	Clinical 1 Support Team, OIT, VA
Bishop	Bradley	Pharmacy Consultant, OIT, IHS
Bloch	Jaci	Clinical 1 Support Team, OIT, VA
Alcorn	Deborah	BCMA Nurse Consultant, OIT, IHS
Connolly	Barbara	Clinical 1 Support Team, OIT, VA
Cook	Sean	Business Analyst, DNC Contractor
Corma	Stephen	Pharmacist Consultant, BCRO, OIA, VHA
Cownie	Kevin	Clinical 3 Support Team, OIT, VA
Darwin	Wil	Chair, IHS National Pharmacy Council
Devlin	Vitalia	Clinical Product Support Division Director, OI&T, 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
Lyttle	Kim	Clinical 1 Support Team, OIT, VA
Mian	Naeem	Clinical 1 Support Team, OIT, VA
Nelson	Joe	VHA IHS Liaison and IT Informatics
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
Scott	Hugh	VHA IHS Liaison and IT Informatics
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)
Von Bibra	Linda	CIMTAC Representative, Business Owner, IHS
Zeller	Jan	BCMA Education Project Manager, Employee Education System (EES), OI&T, VA

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)
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

Last Name	First Name	Title
Loving	Becky	Nurse Consultant, Oklahoma City Area Office
Mosely	Elvira	Clinical Application Coordinator, Phoenix Area Office
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
Odle	Phil	Nurse/BCMA Coordinator, Marion VA Medical Center, Marion, IL
Shum	Daphen	Pharmacist, Perry Point VA Medical Center, Perry Point MD
Strauss	Leanne	Nurse/BCMA Coordinator, VA New Jersey Healthcare System

3.6 Aberdeen Area Office BCMA Team

Last Name	First Name	Title
Rauth	Leslye	Clinical Applications Coordinator, Aberdeen Area Office
		Nurse Consultant, Aberdeen Area Office
Schuchardt	John	Pharmacy Consultant, Aberdeen Area Office
Hall	Martin	Information Technology Specialist, Aberdeen Area Office

3.7 Oklahoma City Area Office BCMA Team

Last Name	First Name	Title
Rubin	Amy	Clinical Applications Coordinator, Oklahoma City Area Office

Last Name	First Name	Title
Loving	Becky	Nurse Consultant, Oklahoma City Area Office
Patten	Tracie	Pharmacy Consultant, Oklahoma City Area Office
Cross	Charles	Information Technology Specialist, Oklahoma City Area Office

3.8 Navajo Area Office BCMA Team

Last Name	First Name	Title
Ray	Kathy	Clinical Applications Coordinator, Navajo Area Office
Yazzie	Jeannette	Nurse Consultant, Navajo Area Office
Kopenhaffer	Thand	Pharmacy Consultant (A), Navajo Area Office
Cody	Keri	Information Technology Specialist, Navajo Area Office

4.0 Detailed Agenda

Note: Agenda is flexible and only intended to be a guide for BCMA Configuration & Test Activities. Activities are subject to change based upon unforeseen circumstances, availability of Subject Matter Experts & Professionals, technological challenges & barriers; and whatever else may arise.

All Times are Central Time
Monday

Start	Topic
8:30 AM	At the end of this session participants should be able to: • Conduct an Emergency Room and Inpatient walk through and Medication Administration Assessment as well as general hospital tour • Examine the Inpatient Admission, Discharge, and Transfer process • Examine Observation Beds utilization • Examine ADT Inpatient Ward and Assignment of Beds Configuration • Reconfigure Delayed Orders and Auto Discontinuation or Orders to align with Emergency Department, Ambulatory Clinic, Observation Bed Utilization, and CMS 2-Midnight Rule • Examine the BCMA Performance Improvement Checklist and apply to the BCMA Configuration and Test Process • Examine the ThinkTank® entries and apply to the BCMA Configuration and Test Process • Survey Performance Improvement data as it applies to the Medication Administration Process • Delineate the Medication Administration Process as it applies to BCMA and eMAR • Test the Converted IV Continuous and IV Intermittent as delineated in the EHR Version 1.1 Patch Note • Review Configuration of IV Continuous and IV Piggyback Medications • Configure Omnicell/Pyxis User Options (Appendix A:)
5:00 PM	**Adjourn**

Tuesday

Start	Topic
8:30 AM	**BCMA Hardware and Installation** • Install, configure, and test BCMA printers/scanners – (if possible will attempt remote configuration with each site prior to onsite configuration): – Plug in scanner and scan setup card (each scanner has its own card). **Note**: Cards need to be retained in order to obtain warranty service and to reconfigure scanners as needed. – Install BCMA barcode wristband printer.[ZEBRA2824] – Test Using PRINT PATIENT WRISTBAND [DGPW PATIENT WRISTBAND PRINT]. – Install, configure, and test BCMA IV Label Printer [ZEB_IV_BCMA]. • Test using INDIVIDUAL LABELS (IV) [PSJI LBLI]. • Install, configure and test BCMA UD Label Printer [ZEB_UD_BCMA] • Test using Barcode Label Print [PSBO BZ] • Finalize printer setup including printhead adjustment and move to Intended Locations
12:30 PM	**Lunch**
1:30 PM	**BCMA GUI Software Installation** • Install BCMA GUI on all workstations. (Requires Administrator Privileges): – BCMA Software and Documentation are provided by Software Quality Assurance (SQA) as a controlled release. – BCMA Client Install: Unzip Broker_BCMA_42.zip Follow the instructions found in the Bar Code Medication Administration GUI Guide to install and configure the BCMA Client and BCMA Parameter icons (bcma0300.42o.pdf). This Guide is copied to this document as Appendix B. – Test BCMA Client and BCMA Parameters Applications. **Note**: When directed BCMA is activated by checking PSB Online (or set parameter PSB Online to “Yes”).
5:00 PM	**Adjourn**

Wednesday

Start	Topic
8:30 AM	**BCMA PSB3*42 RPMS and EHR Configuration** (Appendix C:) • Associate Nursing Units with MAS Wards (ADT): – Using Enter/Edit of FileMan NURS LOCATION file #211.4 (Create nursing unit names). – Match with the WARD LOCATION file #42. **Note**: Assess the Staffing, Geography, and Location of the Nursing Units to be able to combine reports. **Note**: Refer to the VA Nursing Package Documentation pages 17-23 regarding Nurse Location set-up and Ward Activation: http://www.va.gov/vdl/documents/Clinical/Nursing/nurs4_um.pdf • Create a Mock Medication Entry for a demo patient in the BCMA Medication Log: – Using Enter/Edit of FileMan, in file #53.79 BCMA MEDICATION LOG. – Select a demo patient and enter a simple medication (e.g., Acetaminophen). This mock entry in the BCMA Medication Log is necessary to prevent a null subscript error that will occur if the file is empty. • Create RPMS MailMan group and members “BCMA Issues” for: – BCMA order problems. – BCMA missing doses. – Make the Mailman group type: Public. – Consider including one or more printers as part of the group. • Configure the EHR Parameter ORWRP REPORT LIST to Include BCMA Reports: – ORRP BCMA MAH. – ORRP BCMA MED LOG. • Using Enter/Edit of Fileman in file #101.24 OE/RR REPORT configure Field Max Days Back for ORRP BCMA MAH and ORRP BCMA MED LOG Max Days Back to 30 • Confirm that TaskMan is running. • Listener XWBTCP on PORT for Broker Access must be running: – Menu [XWB MENU]. – Confer with RPMS site manager to identify the port number. • Ensure proper configuration with matching Station Number/Facility Number in: – INSTITUTION file #4 – MEDICAL CENTER DIVISION file #40.8 – STATION NUMBER (TIME SENSITIVE) file #389.9 • Ensure proper configuration of MEDICATION ROUTES FILE to “Prompt for Injection Site in BCMA” and “Display in IV IVPB Tab in BCMA” using Medication Route File Enter/Edit menu in PDM. – Prompt for Injection Site in BCMA//Yes (IVPB, IV Push, IM, SQ, SC) – Display in IV IVPB Tab in BCMA//Yes (IVPB, IV Push) – Review “Flag” and “Package” for IVPB, IV Push, IM, SQ, and SC.
12:30 PM	**Lunch**

Start	Topic

1:30 PM	**BCMA Site Parameter GUI Configuration** (Appendix D:)
	Configure BCMA GUI Parameter Tabs for:
	• Facility Tab: Check the BCMA On-Line box
	• Parameters Tab:
	– Output Devices: The print out can be defined at the division level only using the GUI
	Note: PSB PRINTER MISSING DOSE may be set for the following:
	`1 Location LOC [choose from HOSPITAL LOCATION]`
	`2 Division DIV [choose from INSTITUTION]`
	`Enter selection: 1 Location HOSPITAL LOCATION`
	
	`Select HOSPITAL LOCATION NAME: 9A-MED ----------`
	`Setting PSB PRINTER MISSING DOSE for Location: 9A-MED -`
	`----------MISSING`
	`DOSE PRINTER: [You Can Define your Printer of Choice]`
	– Mail Groups
	– Reports
	– Bar Code Options
	– 5 Rights Override
	– Administration: require e-Sig to administer? (Suggest “No”)
	– Allowable time limit (in minutes):
	• Scheduled admin time before (suggest 60 min)
	• Scheduled admin time after (suggest 60 min)
	• PRN effectiveness entry within (suggest 240 min)
	– Virtual due list default times: (suggest 1 hour before and 1 hour after)
	– Include Schedule Types
	– Miscellaneous options:
	• Allowable server-client clock variance
	• BCMA time out (suggest 15 minutes)
	• Default Answer Lists tab:
	– Injection sites
	– Reasons given PRN
	– Reasons held
	– Reasons refused.
	Note: Refer to the BCMA Manager Manual for default answer list suggestions: http://www.va.gov/VDL/documents/Clinical/Pharm-Bar_Code_Med_Admin_(BCMA)/psb_3_man_um_r0912.pdf
	• IV Parameters:
	– Location
	– IV Type
	– Prompts

5:00 PM	**Adjourn**

Thursday

Start	Topic
8:30 AM	**Drug File, Medication Quick Orders, and Medication Quick Order Menus** (Appendix E:) At the end of this session participants should be able to: • Complete drug file clean up as needed for training scenarios and create BCMA Medication Quick Orders and Menus **Note**: See Appendix A – Create Medication Menu Headers. – Create Medication Quick Orders. – Hang the Medication Quick Orders to the Medication Menus. • Create 10-12 Demo,Patient BCMA patients for testing and training: – Demo, Patient BCMA **Trial** (to be used for all testing during configuration, test, training, and go-live). Note: "**Test"** will no longer work with EHR Patch 12. – Demo, Patient BCMA Alpha – Demo, Patient BCMA Bravo – Demo, Patient BCMA Charlie – Demo, Patient BCMA Delta – Demo, Patient BCMA Echo – Demo, Patient BCMA Fox – Demo, Patient BCMA Golf – Demo, Patient BCMA Hotel – Demo, Patient BCMA **Instructor** (to be used by BCMA Instructor during configuration, test, training, and go-live) – Demo, Patient BCMA Juliet – Demo, Patient BCMA Kilo – Demo, Patient BCMA Lima – Demo, Patient BCMA Mike – Admit demo patients BCMA to inpatient unit. • Enter and finish medication orders as needed for testing and training scenarios. • Validate system setup is adequate for BCMA testing and training.
12:30 PM	**Lunch**

Start	Topic
1:00 PM	**BCMA Clinical User Accounts** (Appendix F:) At the end of this session participants should be able to: • Assign BCMA Secondary Menus: – OR BCMA ORDER COM (Med Order Button) – PSB NURSE (Medication Administration Menu Nursing) – PSB PHARMACY (Medication Administration Menu Pharmacy) – PSB MGR (Bar Code Medication Coordinator/Administration Manager) – PSB GUI CONTEXT to each BCMA User • Allocate BCMA Keys: – PSB CPRS MED BUTTON for each User – PSB MANAGER to BCMA Coordinator and Nurse Managers • Load PIMS patch 1017 which includes the routine DGPWBD that contains the printer directions for printing the Wrist Band Bar Code, routine DGPMV, three Terminal Type and Device file entries for the IV, UD and Wrist Band Printers, and five options: – BCMA Med Order Button by Date Range – BCMA Med Order Button Night Task – BCMA Drug Synonym Check – BCMA Drug iEN Synonym Check – BCMA Drug Pointer Check • Modify routine APCDMSR1.This will later be distributed in BJPC patch 10. • Load EHR patch 12 to bring in routine BEHOENPC • Modify routine %ZISTCP. This will later be distributed in a Kernel patch. • Additional Keys for Pharmacists, Students, and Instructors will be Assessed on a Site-by-Site Basis.
Whenever	**Adjourn – Whenever All Preparation Tasks Are Completed**

Friday

Start	Topic
8:30 AM	**BCMA Configuration, Test, and Super End User & Coordinator Training Final Preparation** • Admit BCMA Demo Patients • Order Unit Dose, IV Infusion, IV Piggyback, IVP, Tansdermal, Topical, and Special Medictions off the BCMA Medication Training Menu • Pharmacy Verify and Complete Medication Orders • Generate Wrist Band and Medication Bar Code Labes • Create Mock Medication Drawers with Labels for each Patient • Set Up Computer Work Stations with Bar Code Scanner for each patient • Conduct “End-to-End” testing for both Wrist Band and Medication Bar Codes • Prepare to configure each student for “Demo Mode Only” prior to each Super End User Class
	Conduct EHR Patch 13 MU Stage 2 End-to-End Alpha Testing for the eMAR (BCMA) in preparation for Certification.
Whenever	**Adjourn – Whenever All Preparation Tasks Are Completed**

Friday and/or Saturday

Start	Topic
8:30 AM	**Conduct EHR Patch 13 MU Stage 2 End-to-End Alpha Testing for the eMAR (BCMA) in preparation for Certification.** • Test and Configure BCMA Parameters thru BCMA Parameter GUI • Admit Patient into Inpatient via ADT – Print a Wristband – Print a Wristband for a different patient to be used for the “Wrong Patient” scenario. • Order Medication through EHR GUI – Finish Medications in Pharmacy Package – Be sure to order medications that will be due at time of testing – Order a dosage that will require multiple scans – Order a medication that will require medication nurse to enter the administered dose (Insulin) – Print a Wristband for a different patient to be used for the “Wrong Patient” scenario. – Order IV Admixture and IVPB medication. Print IV labels – Using the BCMA Pharmacist menu, option 10 “Barcode Label Print” generate unit-dose barcodes for the medications needed to administer the Unit Dose medications ordered. Also print labels for some drugs that you might use to generate error messages (wrong dose, wrong drug, wrong route).
12:30	**Lunch**

Friday and/or Saturday

Start	Topic
8:30 AM	**Conduct EHR Patch 13 MU Stage 2 End-to-End Alpha Testing for the eMAR (BCMA) in preparation for Certification.** • BCMA Client Application – Scan the 3D bar code on the patient wristband when the “BCMA – Scan Patient Wristband” window appears and the bar is green. – Verify patient identity dialog boxes should appear – The medication due list (VDL) should appear. – Change the Stop Time and Start Times to change the number of medications displayed – Click on the different tabs on the bottom left (Cover Sheet, Unit Dose, IVP/PVPB, IV) –each should open whether or not there are meds due in those categories – Scan the barcode on a UD label for a single-strength solid oral medication that is due and administer the medication. – The status should change to “G” – Scan a drug for which multiple scans are needed (ie. two tablets). The multiple scan dialog box should appear. – Scan the product the specified number of times and click “Done” – The medication status in the VDL should be changed to “G” – Scan an insulin dose. A window appears requesting details on what was administered. – Enter a dose and click OK – An “Injection Site Needed” dialog box appears. Select the site of administration and click OK – The medication status in the VDL should be changed to “G” – View the Medication Log – Click on the text in the 2nd Row: “Medication Log” – Verify the medications just administered are on the log – Right click on an administered medication and Mark a medication as “Not Given” by selecting Mark GIVEN. – The “G” disappears from the Status column • BCMA Client Application – Scan the 3D bar code on the patient wristband when the “BCMA – Scan Patient Wristband” window appears and the bar is green.
12:30	**Lunch**

Start	Topic
1:00 PM	**Conduct EHR Patch 13 MU Stage 2 End-to-End Alpha Testing for the eMAR (BCMA) in preparation for Certification.** **Note**: This activity is Tentative and May or May Not Occur for Chickasaw Nation depending up EHR Version 1.1 Patch 13 End-to-End Testing. • Bar Code Failure: Unable to Scan **Note**: This test assumes the proper function of the Bar Code Scanner and that there is a problem with the bar code on the product being scanned. The aim at this point is to facilitate the nurse administering the medication in the presence of a problem barcode. The tests in this section will be done using the BCMA client on the workstation • Wrist Band Failure – Right click the medication to be administered and select “Unable to Scan” – In the BCMA Unable to Scan dialog box, select a reason and click “OK” – Verify Medication by entering the human readable number from the item and clicking “Submit” – Verify the medication is correct and click “OK” – The display should return to the VDL and G should appear in the drug status – Choose a different medication and repeat the steps and select “Verify Five Rights” – Check each of the five boxes and click “OK” – The display should return to the VDL and G should appear in the in the drug status. • Violation of “Five Rights” **Note:** This section tests BCMA’s ability to detect violations of the “Five Rights” (Right Patient, Right Drug, Right Dose, Right Route, and Right Time). The user will be required to scan items they know are wrong to elicit an error message from BCMA. – Select patient and review VDL – Scan a drug or IV not on the list and the error message appears – Scan a different strength tablet of an medication on the VDL (i.e., 500mg capsule vs. 250mg capsule) and error message appears – Attempt to administer a medication that is currently not due and error message appears – Attempt to administer the same medication via a different route by scanning an inappropriate product (i.e., IV form of a PO med or PO med instead of a patch) and the error message appears – Scan a different patient wristband and note that the system displays “wrong patient”
Whenever	**Adjourn – When All Tasks Are Completed**

5.0 Biographical Sketches

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. CAPT Alcorn 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.

Deborah Alcorn 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 CAPT. Alcorn. Deborah's 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.

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
EHR Deployment Coordinator, 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

Masters degree in Healthcare Innovation. In addition, she has served in a variety of positions ranging from IT Specialist where she implemented an area Help Desk 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.

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.

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.

Stephen Corma, BS Pharm, RPh
Pharmacist Consultant
VHA Office of Informatics and Analytics, Barcode Resource Office
U.S. Department of Veterans Affairs

Stephen Corma is a registered Pharmacist serving as the Pharmacy Consultant for the U.S. Department of Veterans' Affairs Barcode Resource Office. He joined the VA in 1990 after spending 7 years as a staff pharmacist in various private sector hospitals. He began his VA career at the Wilkes-Barre VA Medical Center in Wilkes-Barre, PA and has performed in a variety of roles which included staff Pharmacist (both inpatient and outpatient), Inpatient Pharmacy Supervisor, Assistant Chief of Pharmacy, Acting Chief of Pharmacy, and Automated Data Processing Coordinator (ADPAC).

Stephen became interested in informatics with the initial roll out of Barcode Medication Administration (BCMA) and worked closely with the BCMA site coordinator, Pharmacy and Nursing staff to successfully implement through site set up, training, and ongoing support. He was selected as a site team member for the National BCMA Collaborative Breakthrough Series to optimize BCMA use. He has also participated on various national VHA Pharmacy Benefits Management work groups (medication reconciliation as site POC, and Systems & Parameters workgroup). He also worked with Physicians, Clinical Application Coordinators, & Clinical Pharmacists to create computerized order sets for various clinical pathways such as severe sepsis, diabetes management, hypertension, and anticoagulation. In his supervisory capacity, Stephen was responsible for oversight of Pharmacy Service programs which included expansion of Clinical Pharmacy services, budget control, planning, inventory management, staffing, performance, & quality assurance activities.

Stephen is a graduate of St. John's University, College of Pharmacy and Allied Health where he earned his Bachelor of Science degree in Pharmacy. He is also the newest addition to the Barcode Resource Office, joining them as Pharmacist Consultant in October 2013.

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 for the last 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. Cathi 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: RPMS Omnicell & Pyxis Configuration

```
Select Omnicell/ILC User Menu Option: ??

TRB    Omnicell Interface Trouble shooting ... [VEFSO O TROUBLESHOOT MENU]
DIS    Display Queue for a Patient [VEFSO O PATIENT DISPLAY]
MSD    set quantity multiple for missed doses [VEFSO O MISSED DOSE QTY MULT]
PICK   ILC Omicell Pick List Re-Print [VEFSO O PICK LIST REPRINT]
PUSH   Push a Single Drug [VEFSO OMNICELL PUSH A DRUG]
SEND   Send one patient adt/orders to interface [VEFSO O TRANSMIT ONE PATIENT]
SHO    Show Ready Queue [VEFSO OMNICELL SHOW]
SITE   Site Parameter Edit [VEFSO OMNICELL SITE]
SUR    Send Surgery Data [VEFSO O SEND SURGERY]
```

Notes: The bag labels (v label) will no longer work after a change from Observation to Full Admit. RPMS ^send will send the orders that are dropped from Omnicell® back to Omnicell.

Active medications are restored to the patient on the Full admission. However, though the IVPB or IV infusion orders appear to be active, the Pharmacy generated IV labels ***will not work*** for BCMA. Pharmacy must generate new labels and re-label the bags.

Appendix B: BCMA GUI GUIDE

B.1 Install BCMA Broker and BCMA Client Software

1. Log on to the workstation as administrator.
2. Unzip **Broker_BCMA_42.zip** and locate **Install.cmd** within the unzipped folder.

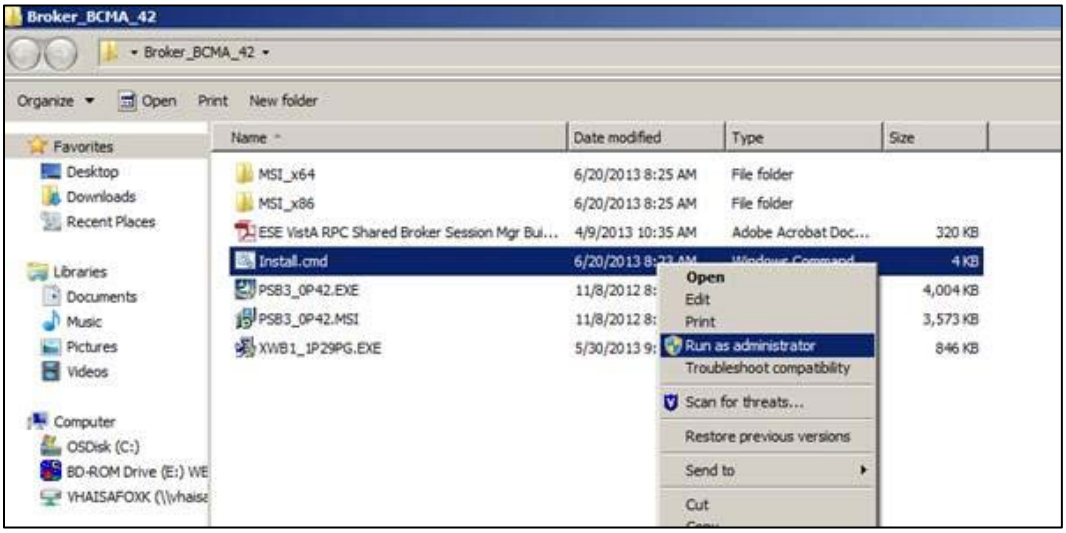

Figure B-1: Windows Explorer window showing the contents of the unzipped folder

3. Right click **Install.cmd** and select **Run as administrator** (This is necessary even though you logged in as Administrator). The **Welcome** dialog (Figure B-2) displays. The Broker (XWB1_1P29PG.EXE) will be installed first.

Figure B-2: Installation Wizard, **Welcome** dialog

4. Click **Next**. The **Read Me File** dialog (Figure B-3) displays.

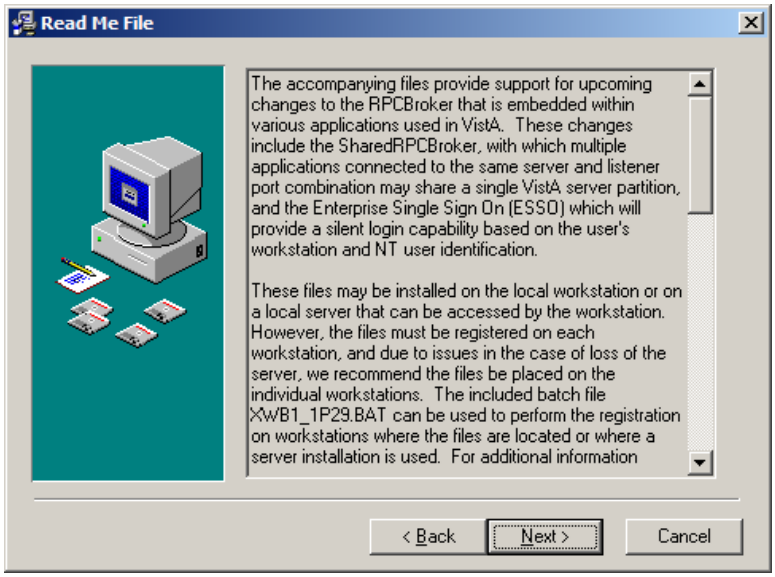

Figure B-3: Installation Wizard, **Read Me File** dialog

5. Click **Next**. The **Choose Destination Location** dialog (Figure B-4) displays.

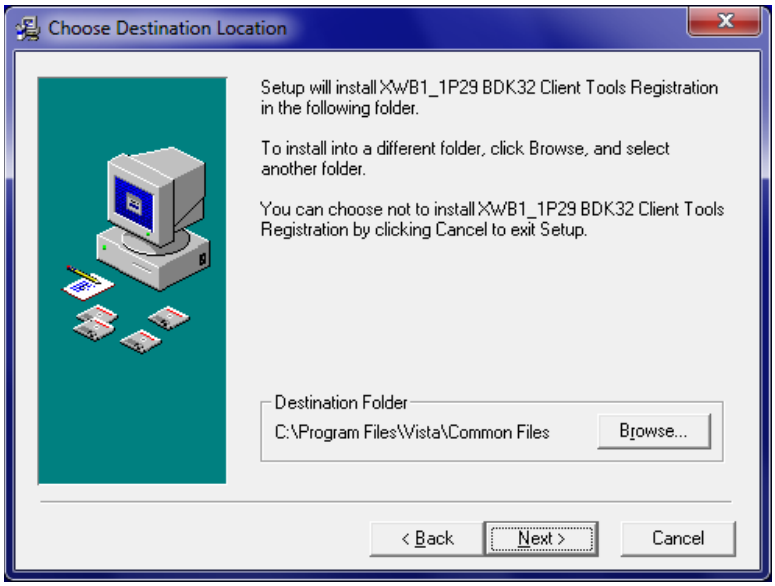

Figure B-4: Installation Wizard, **Choose Destination Location** dialog

6. Click **Next,** accepting the default **Destination Folder** without change; ***do not click*** **Browse**. The **Start Installation** dialog (Figure B-5) displays.

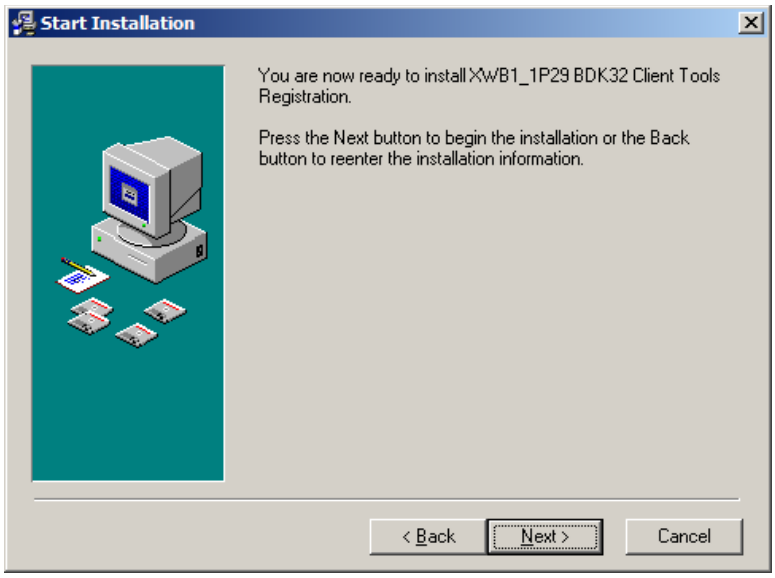

Figure B-5: Installation Wizard, **Start Installation** dialog

7. Click **Next**. The **Installation Complete** dialog (Figure B-6) displays.

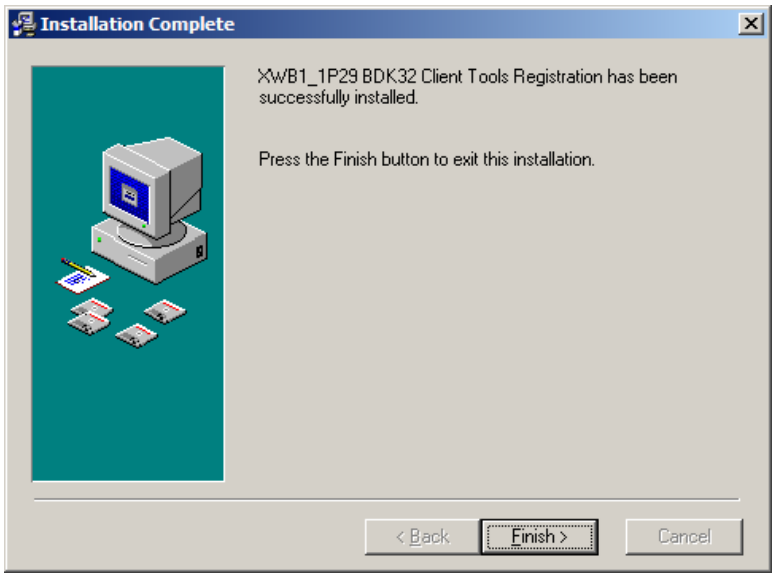

Figure B-6: Installation Wizard, **Installation Complete** dialog

8. Click **Finish**.
9. Wait for the following to install; these are silent background installs:
   - RPMS/VistA RPC Shared Broker Session Manager Update.
   - BCMA GUI PSB*3*42.
10. When finished (command screen closes), locate the **BCMA Client** shortcut (Figure B-7) on the desktop.

Figure B-7: **BCMA Client** shortcut

11. Right click the **BCMA Client** shortcut to display the right click menu (Figure B-8).

Figure B-8: BCMA Client shortcut right click menu

12. Select **Properties**. The **BCMA Client Properties** dialog (Figure B-9) displays.

Figure B-9: **BCMA Client Properties** dialog, **Shortcut** tab

13. Leaving the existing path statement in the **Target** field unmodified, append the Server DNS Name or IP address, the RPMS RPC Broker Port number, and **/NOCCOW** at the end. It should look something like this:
    "C:\Program Files (x86)\Vista\BCMA\BCMA.exe" S= 161.223.34.1 p=9522 /NOCCOW

    where:

    - S = the site's fully qualified DNS name or the site's IP address.
    - P = the RPC Broker port number as defined in the PORT field of the RPMS RPC BROKER SITE PARAMETERS file.

14. Click **Apply**, then click **OK**.

B.2 Install the BCMA Parameters Shortcut

The BCMA Parameters shortcut is typically installed only on the BCMA Coordinator or Pharmacy Manager's workstation. To create a shortcut to BCMApar.exe, start at the **BCMA Client Properties** dialog, **Shortcut** tab (Figure B-9):

1. Click **Open File Location**. The Windows Explorer window (Figure B-10) displays.

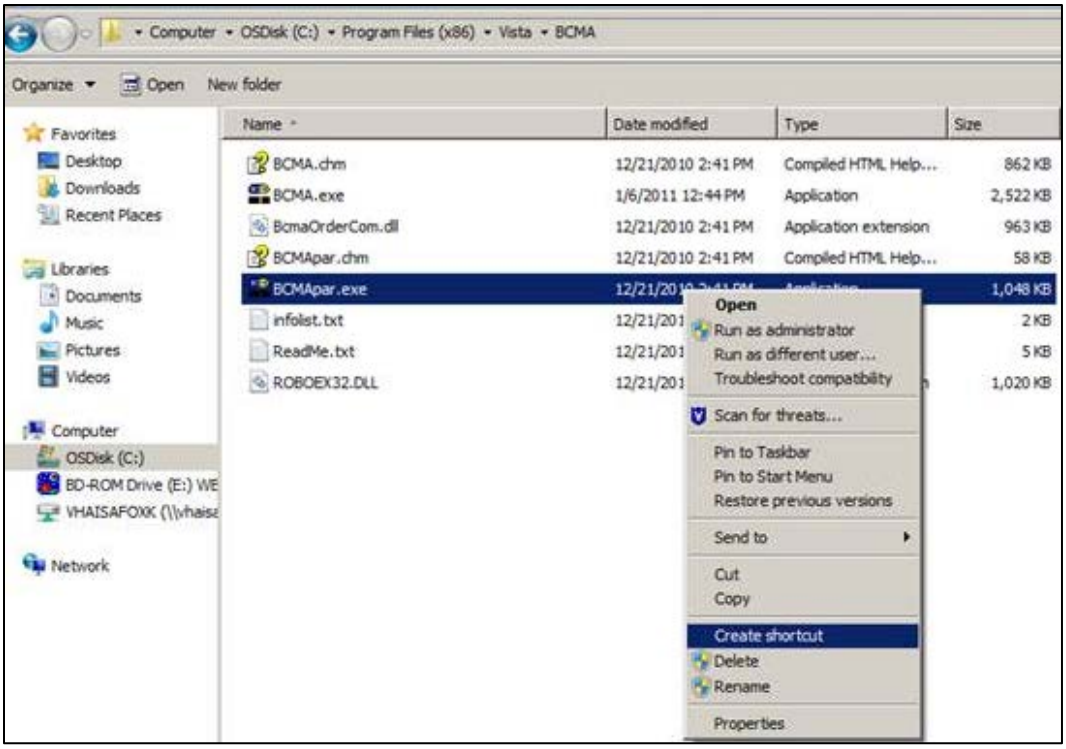

Figure B-10: Windows Explorer right click menu

2. Right click **BCMApar.exe** and select **Create shortcut**.

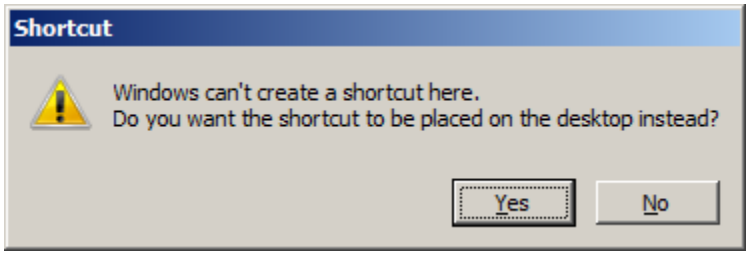

Figure B-11: **Shortcut** warning dialog

3. If the **Shortcut** warning dialog (Figure B-11) displays, click **Yes**. Otherwise, find the shortcut in the currently-opened folder and move it to the desktop.

4. When finished, locate the shortcut on the desktop; its current name should be **Shortcut to BCMApar.exe** or **BCMApar.exe-shortcut**.

5. Right click the BCMA Local Parameters shortcut to display the right click menu (Figure B-12).

Figure B-12: Shortcut right click menu

6. Select **Properties**. The **BCMA Local Parameters Properties** dialog (Figure B-13) displays.

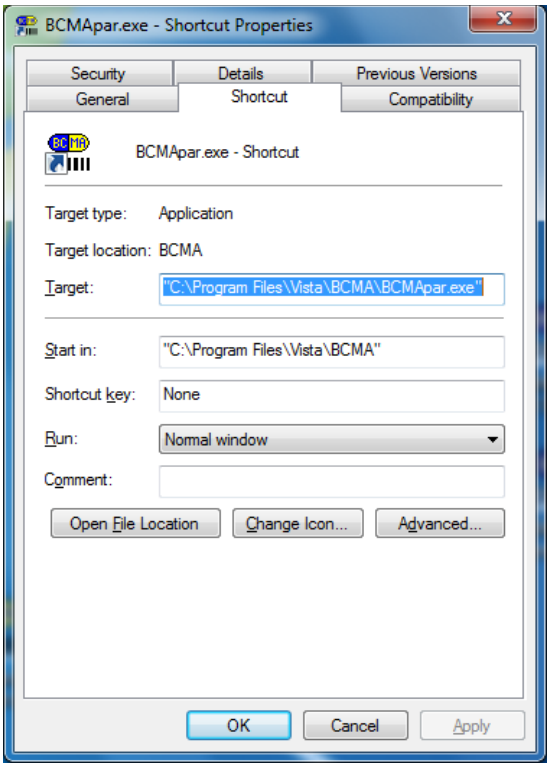

Figure B-13: **BCMA Local Parameters** Properties, **Shortcut** tab

7. In the **Target** field, append the Server DNS Name or IP address, and the RPMS RPC Broker Port number to the existing path statement. It should look something like this:
   "C:\Program Files (x86)\Vista\BCMA\BCMA.exe" S= 161.223.34.1 p=9522
   where:

   - S = the site's fully qualified DNS name or the site's IP address.
   - P = the RPC Broker port number as defined in the PORT field of the RPMS RPC BROKER SITE PARAMETERS file.

8. Select the **General** tab.

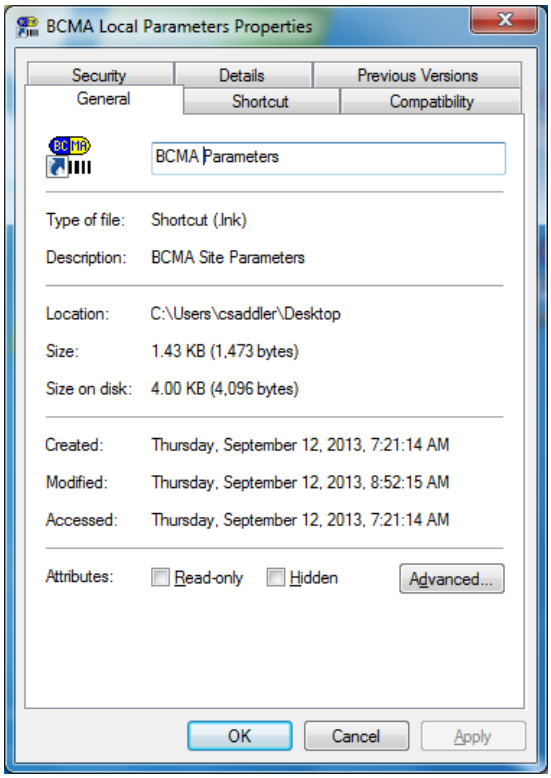

Figure B-14: **BCMA Local Parameters Properties**, **General** tab

9. Type **BCMA Parameters** in the name field.

10. Click **OK**.

Appendix C: BCMA PSB3*42 RPMS and EHR Configuration Notes

C.1 BCMA Setup at Choctaw Nation Health Services Authority

```
PACKAGE: PIMS*5.3*1017     Jan 12, 2014 8:07 pm                          PAGE 1
-------------------------------------------------------------------------------
TYPE: SINGLE PACKAGE                                TRACK NATIONALLY: YES
NATIONAL PACKAGE: PIMS                            ALPHA/BETA TESTING: NO

DESCRIPTION:
DGPMV, DGPWBD routines, BCMA IHS Options/Routines, BCMA Terminal Type and
Device file entries

ENVIRONMENT CHECK: BDGP17PS                       DELETE ENV ROUTINE: No
 PRE-INIT ROUTINE:                           DELETE PRE-INIT ROUTINE:
POST-INIT ROUTINE: POST^BDGP17PS            DELETE POST-INIT ROUTINE: No
PRE-TRANSPORT RTN:

                                            UP    SEND  DATA                USER
                                            DATE  SEC.  COMES   SITE  RSLV  OVER
FILE #      FILE NAME                       DD    CODE  W/FILE  DATA  PTRS  RIDE
-------------------------------------------------------------------------------

3.2         TERMINAL TYPE                   NO    NO    YES     MERG  NO    NO

3.5         DEVICE                          NO    NO    YES     MERG  YES   NO

ROUTINE:                                        ACTION:
   DGPMV                                           SEND TO SITE
   DGPWBD                                          SEND TO SITE
   PSBIHS1                                         SEND TO SITE
   PSBIHS2                                         SEND TO SITE
   PSBIHS3                                         SEND TO SITE

OPTION:                                         ACTION:
   PSBIHS CORRECT DRUG POINTERS                    SEND TO SITE
   PSBIHS DRUG CHECK                               SEND TO SITE
   PSBIHS DRUG IEN CHECK                           SEND TO SITE
   PSBIHS MOB DATE                                 SEND TO SITE
   PSBIHS MOB TASK                                 SEND TO SITE

INSTALL QUESTIONS:

 Default Rebuild Menu Trees Upon Completion of Install: YES
```

C.2 Issues from Cherokee

- When a PCC Vitals date ended in zero, it was interpreted as a string rather than a numerical date. Fix will be distributed in BJPC Patch 10.

```
APCDMSR1 ; IHS/CMI/LAB - Cumulative Vital Measurement Report
SETUT+3
S EVDATE=+$E(EVDATE,1,12)  ;IHS/OIT/FBD - 7/16/2013 - ADDED '+' TO FORCE
SORTING BY NUMERIC DATE VALUE
```

- The BCMA GUI Vitals Cumulative report erred because entries were being created with a null value. Fix will be distributed in EHR Patch 12.

```
BEHOENPC ;MSC/IND/DKM - PCC Data Management
MSR+7
I XM="" S DATA(1)="" Q  ;IHS/VA/KF 07172013 Patch for to not create
measurement for a Null Value
```

- The routine %ZISTCP contained a modification for IHS Patient Chart that should be removed. Fix will be distributed in a Kernel patch.

```
%ZISTCP  ;ISC-SF/RWF - DEVICE HANDLER TCP/IP CALLS ;06/23/2004
         ;ROUTINE CONTAINS IHS MOD AT CONT+4 AND LONT+11
CONT+4
;line below changed from "-M" to "S" for GUI Patient Chart
;O NIO:(IP:SOCK:"S"::512:512):TO G:'$T NOOPN ;Make work like DSM
O NIO:(IP:SOCK:"-M"::512:512):TO G:'$T NOOPN ;Make work like DSM
;IHS/OIT/CLS 01/08/2014

LONT+11
;line below changed from "-M" to "S" to work with GUI Patient Chart
;U NIO:(::"S") ;Work like DSM
U NIO:(::"-M") ;Work like DSM  ;IHS/OIT/CLS 01/08/2014
```

C.3 PSBIHS Options

```
NAME: PSBIHS CORRECT DRUG POINTERS      MENU TEXT: BCMA Drug Pointer Check
  TYPE: run routine                     CREATOR: SADDLER,CHRIS L
  PACKAGE: BAR CODE MED ADMIN
DESCRIPTION:   This option checks for consistency of drug file pointers. Items
on this report will not scan in BCMA.

This report looks at the following files for 'Correct Drug Pointers'
   Drug File (50)
   Pharmacy Orderable Item (50.7)
   IV Additive (52.6)
   IV Solution (52.7)
ROUTINE: PSBIHS3
UPPERCASE MENU TEXT: BCMA DRUG POINTER CHECK
NAME: PSBIHS DRUG CHECK                 MENU TEXT: BCMA DRUG SYNONYM CHECK
  TYPE: run routine                     CREATOR: SADDLER,CHRIS L
   PACKAGE: BAR CODE MED ADMIN
 DESCRIPTION:   This option checks the Drug file for duplicate synonyms as part
   of the Drug file cleanup for BCMA.
 ROUTINE: PSBIHS2
 UPPERCASE MENU TEXT: BCMA DRUG SYNONYM CHECK

NAME: PSBIHS DRUG IEN CHECK             MENU TEXT: BCMA DRUG IEN SYNONYM CHECK
  TYPE: run routine                     CREATOR: SADDLER,CHRIS L
   PACKAGE: BAR CODE MED ADMIN
 DESCRIPTION:   This option checks a specific drug in the Drug file using its
   IEN to search for other entries that match or contain the IEN as its synonym.
   ROUTINE: SCANNER^PSBMLTS
  UPPERCASE MENU TEXT: BCMA DRUG IEN SYNONYM CHECK

NAME: PSBIHS MOB DATE
  MENU TEXT: BCMA Med Order Button by Date Range
  TYPE: run routine                     CREATOR: SADDLER,CHRIS L
  PACKAGE: BAR CODE MED ADMIN
```

```
 DESCRIPTION:   This option runs a routine that finds the med orders that were
  entered into the system using the BCMA Med Order Button in EHR/CPRS. It allows
  the user to select a date range.
  ROUTINE: PSBIHS1
  UPPERCASE MENU TEXT: BCMA MED ORDER BUTTON BY DATE

NAME: PSBIHS MOB TASK
  MENU TEXT: BCMA Med Order Button Night Task
  TYPE: run routine                     CREATOR: SADDLER,CHRIS L
  BAR CODE MED ADMIN
 DESCRIPTION:   This option runs a routine that finds the med orders that were
   entered into the system using the BCMA Med Order Button in EHR/CPRS. It does
   not allow the user to select a date range. It should be scheduled to be run daily
   after midnight and before the day shift begins. It will report the previous day's
   MOB orders.
  ROUTINE: NTASK^PSBIHS1                SCHEDULING RECOMMENDED: YES
  UPPERCASE MENU TEXT: BCMA MED ORDER BUTTON NIGHT TA

NAME: PSBIHS CORRECT DRUG POINTERS      MENU TEXT: BCMA Drug Pointer Check
  TYPE: run routine                     CREATOR: COSEN,RICHARD L
  PACKAGE: BAR CODE MED ADMIN
 DESCRIPTION:   This option checks for consistency of drug file pointers. Items
 on this report will not scan in BCMA.

 This report looks at the following files for 'Correct Drug Pointers'
   Drug File (50
   Pharmacy Orderable Iten (50.7)
   IV Additive (52.6)
   IV Solution (52.7)
  ROUTINE: PSBIHS3
  UPPERCASE MENU TEXT: BCMA DRUG POINTER CHECK
```

C.4 TaskMan Schedule/Unschedule Option

```
PSBIHS MOB TASK BCMA Med Order Button Night Task Schedule to be run daily after
midnight. Specify printer.

                          Edit Option Schedule
    Option Name: PSBIHS MOB TASK
    Menu Text: BCMA Med Order Button Night Task          TASK ID: 5550554
  ____________________________________________________________________________

    QUEUED TO RUN AT WHAT TIME: SEP 15,2013@01:00

DEVICE FOR QUEUED JOB OUTPUT: TALRXIP;P-HPIII-P12;96;58

  QUEUED TO RUN ON VOLUME SET: TAL

           RESCHEDULING FREQUENCY: 1D

                             TASK PARAMETERS:

                            SPECIAL QUEUEING:
```

C.5 Menu Structure

C.5.1 Place on PSJU MGR Unit Dose Medications Menu:

```
BCMA  PSB PHARMACY
```

C.5.2 Place on PSB PHARMACY Medication Administration Menu Pharmacy menu:

```
BMOB  PSBIHS MOB DATE                  BCMA Med Order Button by Date Range
CDP   PSBIHS CORRECT DRUG POINTERS     BCMA Drug Pointer Check
DSYN  PSBIHS DRUG CHECK                BCMA DRUG SYNONYM CHECK
DIEN  PSBIHS DRUG IEN CHECK            BCMA DRUG IEN SYNONYM CHECK
```

C.5.3 Place on PSB NURSE PSB NURSE Medication Administration Menu Nursing

```
BMOB  PSBIHS MOB DATE                  BCMA Med Order Button by Date Range
```

C.5.4 Secondary Menu for All BCMA Users:

```
OR BCMA ORDER COM  OR BCMA ORDER COM VERSION 1.

PSB GUI CONTEXT-USER  BCMA Client Context
```

C.5.5 Secondary Menu for CAC/BCMA Coordinator:

```
PSB  PSB MGR    Bar Code Medication Administration Manager
 [locked with PSB MANAGER key]
```

C.5.6 Secondary Menu for BCMA Coordinator:

```
TOOL  PSB TOOL MENU ITEMS  BCMA GUI Tool Menu Items
```

C.5.7 Secondary Menu for Nurses:

```
BCMA  PSB NURSE   Medication Administration Menu Nursing
```

C.5.8 Secondary Menu for Inpatient Pharmacists:

```
BCMA  PSB PHARMACY   Medication Administration Menu Pharmacy
```

C.5.9 Key for All BCMA Users:

```
PSB CPRS MED BUTTON
```

C.5.10 Key for BCMA Coordinator:

```
PSB UNABLE TO SCAN
```

C.5.11 Key for CAC/BCMA Coordinator:

```
PSB MANAGER
```

C.6 Terminal Type

IV Terminal Type modified for Choctaw to print on 3.5 x 2 inch labels. Usual IV label is 3 x 3 inches.

```
NAME: P-TCP-ZEB IV BCMA DATA MATRIX     RIGHT MARGIN: 60
  FORM FEED: #                          PAGE LENGTH: 84
   BACK SPACE: $C(8)
NUMBER: 1                               CTRL CODE ABBREVIATION: FI
FULL NAME: FORMAT INITIALIZATION      CONTROL CODE: W "^XA",!,"^LH0,0^FS",!
NUMBER: 2                               CTRL CODE ABBREVIATION: SB
   FULL NAME: START OF BARCODE
   CONTROL CODE: W "^BY2,3.0,100,^FO500,15^BXN,,200,,,,"
NUMBER: 3                               CTRL CODE ABBREVIATION: ST
   FULL NAME: START OF TEXT
   CONTROL CODE: W "^FO",PSJBARX,",",PSJBARY,"^A0N,25,25" S PSJBARY=PSJBARY+25
NUMBER: 4                               CTRL CODE ABBREVIATION: EB
   FULL NAME: END OF BARCODE
   CONTROL CODE: W !!,"^FO",450,",",115,"^A0N,20,20","^FB200,,,C,^FD",PSJBCID,"^F
S" S LINE=LINE+1,PSJBARY=15
NUMBER: 5                               CTRL CODE ABBREVIATION: STF
   FULL NAME: START OF TEXT FIELD        CONTROL CODE: W "^FD"
NUMBER: 6                               CTRL CODE ABBREVIATION: SBF
   FULL NAME: START OF BARCODE FIELD     CONTROL CODE: W "^FD"
NUMBER: 7                               CTRL CODE ABBREVIATION: ETF
   FULL NAME: END OF TEXT                CONTROL CODE: W "^FS"
NUMBER: 8                               CTRL CODE ABBREVIATION: SL
   FULL NAME: START LABEL
   CONTROL CODE: W "^XA",! S PSJBARY=15,PSJBARX=60
NUMBER: 9                               CTRL CODE ABBREVIATION: EL
   FULL NAME: END OF LABEL               CONTROL CODE: W "^XZ"
NUMBER: 10                              CTRL CODE ABBREVIATION: EBT
   FULL NAME: END OF BARCODE             CONTROL CODE: W "^FS"
NUMBER: 11                              CTRL CODE ABBREVIATION: SM
   FULL NAME: START OF MED ROUTE
   CONTROL CODE: S PSJBARY=PSJBARY-20 W "^FO",PSJBARX,",",PSJBARY,"^A0N,25,25",!!
NUMBER: 12                              CTRL CODE ABBREVIATION: EM
FULL NAME: END OF MED ROUTE           CONTROL CODE: S PSJBARY=PSJBARY+25
NUMBER: 13                              CTRL CODE ABBREVIATION: SMF
   FULL NAME: START MED ROUTE FIELD      CONTROL CODE: W "^FD"
NUMBER: 14                              CTRL CODE ABBREVIATION: EMF
   FULL NAME: END MED ROUTE FIELD        CONTROL CODE: W "^FS"
NUMBER: 15                              CTRL CODE ABBREVIATION: EBF
```

```
   FULL NAME: END BARCODE FIELD          CONTROL CODE: W "^FS"

NAME: P-TCP-ZEB UD BCMA DATA MATRIX     RIGHT MARGIN: 60
   FORM FEED: #                          PAGE LENGTH: 84
   BACK SPACE: $C(8)
NUMBER: 1                               CTRL CODE ABBREVIATION: SL
  FULL NAME: START LABEL                CONTROL CODE: W !,"^XA",!,"^LH0,0^FS"
NUMBER: 2                               CTRL CODE ABBREVIATION: EL
   FULL NAME: END OF LABEL               CONTROL CODE: W "^XZ"
NUMBER: 3                               CTRL CODE ABBREVIATION: ST
   FULL NAME: START TEXT
   CONTROL CODE: W !,"^FO"_PSBTYPE_"^A0N,30,20^CI13^FR^FD"_TEXT_"^FS"
NUMBER: 4                               CTRL CODE ABBREVIATION: SB
   FULL NAME: START OF BARCODE
 CONTROL CODE: W "^BY2,3.0,75,^FO59,80^BXN,,200,,,,^FD"_PSBBAR_"^FS" W !,"^A0N,
30,20^FB100,,,C,^FO50,160,^FD"_PSBBAR_"^FS"
NUMBER: 5                               CTRL CODE ABBREVIATION: STF
   FULL NAME: START OF TEXT FIELD
   CONTROL CODE: S PSBTYPE=$S(PSBTLE="PSBDRUG":"20,15",PSBTLE="PSBDOSE":"20,50",P
SBTLE="PSBNAME":"275,60",PSBTLE="PSBWARD":"275,90",PSBTLE="PSBLOT":"275,120",PSB
TLE="PSBEXP":"275,150",PSBTLE="PSBMFG":"400,150",PSBTLE="PSBFCB":"275,180",1:"0,
0")

NAME: P-TCP-ZEB WRISTBAND               RIGHT MARGIN: 60
   FORM FEED: #                          PAGE LENGTH: 84
   BACK SPACE: $C(8)
NUMBER: 1                               CTRL CODE ABBREVIATION: FI
FULL NAME: FORMAT INITIALIZATION      CONTROL CODE: W "^XA^PW203^LH0,0",!
NUMBER: 2                               CTRL CODE ABBREVIATION: SL
FULL NAME: START OF LABEL             CONTROL CODE: S DGY=510,DGX=7,CPSPID=0
NUMBER: 3                               CTRL CODE ABBREVIATION: EL
   FULL NAME: END OF LABEL               CONTROL CODE: W "^XZ"
NUMBER: 4                               CTRL CODE ABBREVIATION: STF
   FULL NAME: START TEXT FIELD           CONTROL CODE: W "^FB450,1,,L,^FD"
NUMBER: 5                               CTRL CODE ABBREVIATION: ETF
   FULL NAME: END TEXT FIELD             CONTROL CODE: W "^FS"
NUMBER: 6                               CTRL CODE ABBREVIATION: SHR
   FULL NAME: START PID
   CONTROL CODE: W "^FO",DGX,",",DGY,",","^FWR^A0B,20,20" S DGX=DGX+20
NUMBER: 7                               CTRL CODE ABBREVIATION: EHR
   FULL NAME: END PID                    CONTROL CODE: W "^FS"
NUMBER: 8                               CTRL CODE ABBREVIATION: EB
   FULL NAME: END BARCODE                CONTROL CODE: W "^FS"
NUMBER: 9                               CTRL CODE ABBREVIATION: SBF
   FULL NAME: START BARCODE FIELD        CONTROL CODE: W "^FD"
NUMBER: 10                              CTRL CODE ABBREVIATION: EBF
   FULL NAME: END BARCODE FIELD          CONTROL CODE: W "^FS"
NUMBER: 11                              CTRL CODE ABBREVIATION: SLIN1
   FULL NAME: START LINE 1
   CONTROL CODE: W "^FO",DGX,",",DGY,",","^A0B,30,30" S DGX=DGX-40
NUMBER: 12                              CTRL CODE ABBREVIATION: ELIN1
   FULL NAME: END LINE 1                 CONTROL CODE: W "^FS"
NUMBER: 13                              CTRL CODE ABBREVIATION: SLIN2
   FULL NAME: START LINE 2
   CONTROL CODE: W "^FO",DGX,",",DGY,",","^A0B,20,20" S DGX=DGX-20
NUMBER: 14                              CTRL CODE ABBREVIATION: ELIN2
   FULL NAME: END LINE 2                 CONTROL CODE: W "^FS"
NUMBER: 15                              CTRL CODE ABBREVIATION: SLIN3
   FULL NAME: START LINE 3
   CONTROL CODE: W "^FO",DGX,",",DGY,",","^A0B,20,20" S DGX=DGX-20
NUMBER: 16                              CTRL CODE ABBREVIATION: ELIN3
   FULL NAME: END LINE 3                 CONTROL CODE: W "^FS"
```

```
NUMBER: 17                              CTRL CODE ABBREVIATION: SLIN4
   FULL NAME: START LINE 4
   CONTROL CODE: W "^FO",DGX,",",DGY,",","^A0B,20,20"
NUMBER: 18                              CTRL CODE ABBREVIATION: ELIN4
   FULL NAME: END LINE 4                 CONTROL CODE: W "^FS"
NUMBER: 19                              CTRL CODE ABBREVIATION: SBALL
   FULL NAME: BARCODE ALL
   CONTROL CODE: W "^BY2,3.0,75,^FO100,"_DGY1_"^FWR^BXB,,200,,,,"
NUMBER: 20                              CTRL CODE ABBREVIATION: EBALL
   FULL NAME: END BAR ALL                CONTROL CODE: W "^FS"
NUMBER: 21                              CTRL CODE ABBREVIATION: SB128
   FULL NAME: BAR CODE 128
  CONTROL CODE: W "^BY1.5,2.0^FO35,200^BCB,40,Y,N,N"
NUMBER: 22                              CTRL CODE ABBREVIATION: EB128
   FULL NAME: END BAR 128                CONTROL CODE: W "^FS"
NUMBER: 23                              CTRL CODE ABBREVIATION: PTDT
   FULL NAME: PRINT DATE
   CONTROL CODE:  W "^FO",DGX,",",350,",","^A0B,20,20" S DGX=DGX-20
NUMBER: 24                              CTRL CODE ABBREVIATION: EPTDT
   FULL NAME: END PRINT DATE             CONTROL CODE: W "^FS"
```

C.7 Device File

IV and UD printers - $I and OPEN PARAMETERS fields modified to use Windows/DataRay software.

```
NUMBER: 194                             NAME: ZEB_IV_BCMA
   $I: |PRN|BCMA_TESTIV                  VOLUME SET(CPU): TAL
   LOCATION OF TERMINAL: NIC             ASK HOST FILE: NO
   ASK HFS I/O OPERATION: NO             SUPPRESS FORM FEED AT CLOSE: YES
   OPEN COUNT: 146                       OPEN PARAMETERS: "I"
MNEMONIC: IV
   SUBTYPE: P-TCP-ZEB IV BCMA DATA MATRIX
  TYPE: TERMINAL

NUMBER: 433                             NAME: ZEB_UD_BCMA
  $I: |PRN|BCMA_TESTUD                  TASKMAN PRINT A HEADER PAGE: NO
   VOLUME SET(CPU): TAL                  LOCATION OF TERMINAL: NIC
   ASK HOST FILE: NO                     ASK HFS I/O OPERATION: NO
   OPEN COUNT: 142                       OPEN PARAMETERS: "I"
MNEMONIC: UNIT DOSE
MNEMONIC: UD
   SUBTYPE: P-TCP-ZEB UD BCMA DATA MATRIX
   TYPE: TERMINAL
   LAST SIGN-ON USER (c): CHANNEL,HEATHER N
```

C.8 Wristband Printer

OPEN PARAMETERS fields modified to use site specific IP address:

```
NUMBER: 431                              NAME: ZEBRA2824
   $I: |TCP|9100                          TASKMAN PRINT A HEADER PAGE: NO
   VOLUME SET(CPU): TAL                   LOCATION OF TERMINAL: NETWORK
   ASK HOST FILE: NO                      ASK HFS I/O OPERATION: NO
   SUPPRESS FORM FEED AT CLOSE: YES       OPEN COUNT: 1363
   OPEN PARAMETERS: ("172.16.14.88":9100:"ACS"::512:512)
MNEMONIC: WRISTBAND
   SUBTYPE: P-TCP-ZEB WRISTBAND           TYPE: NETWORK CHANNEL
```

Appendix D: BCMA Site Parameter GUI Configuration

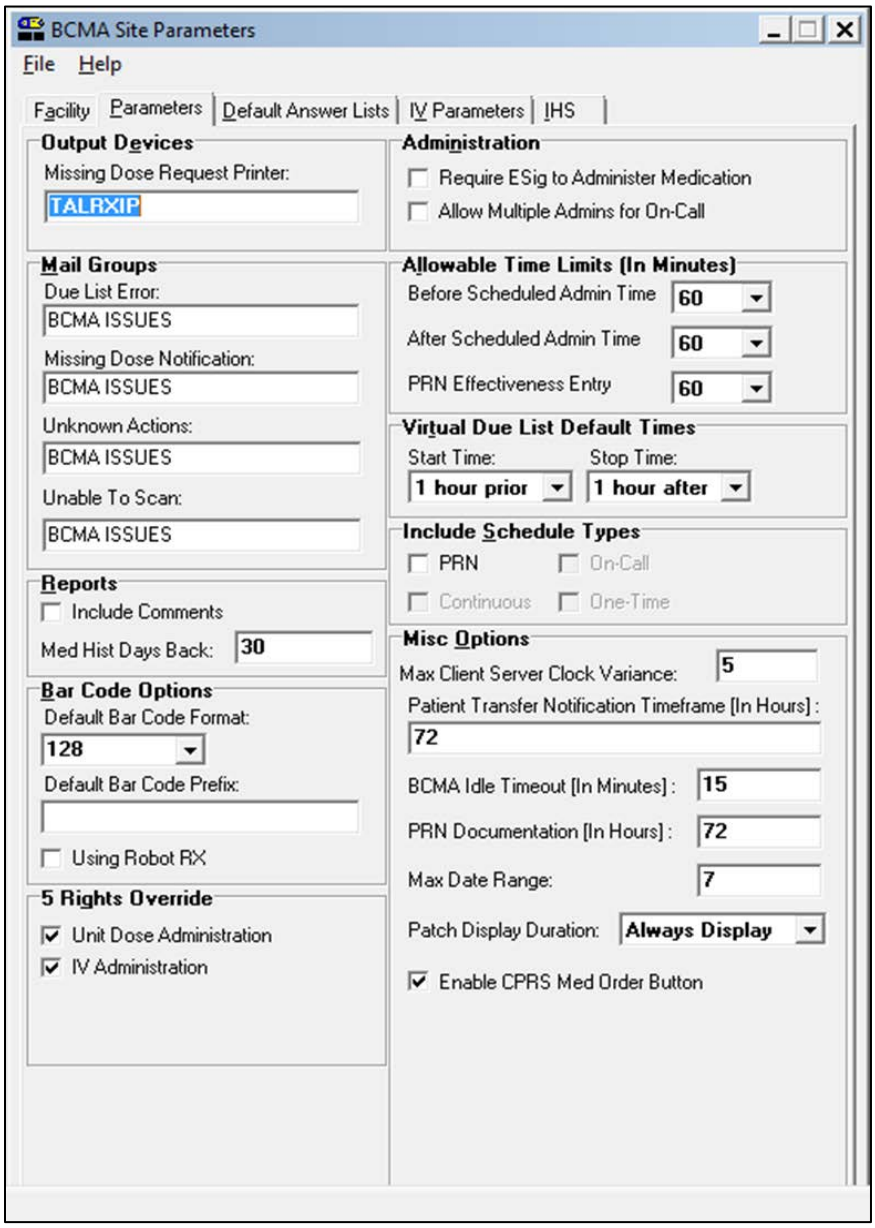

Figure D-1: **BCMA Site Parameters** dialog, **Parameters** tab

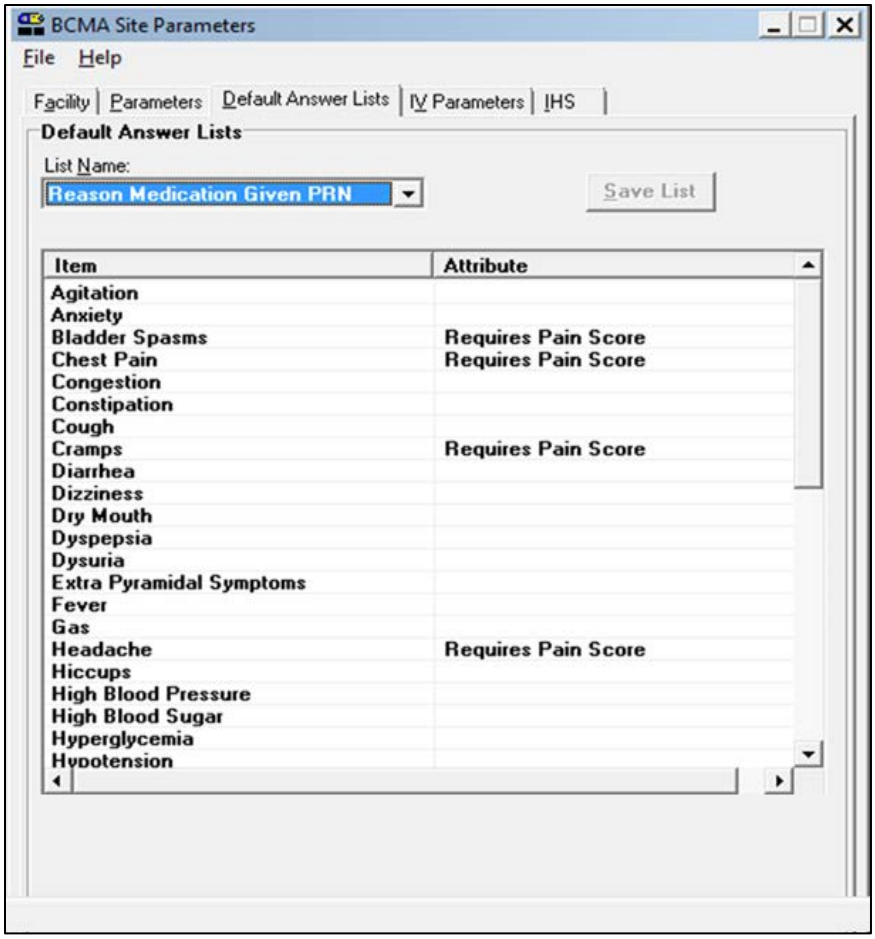

Figure D-2: **BCMA Site Parameters** dialog, **Default Answer Lists** tab, **Reason Medication Given PRN** list

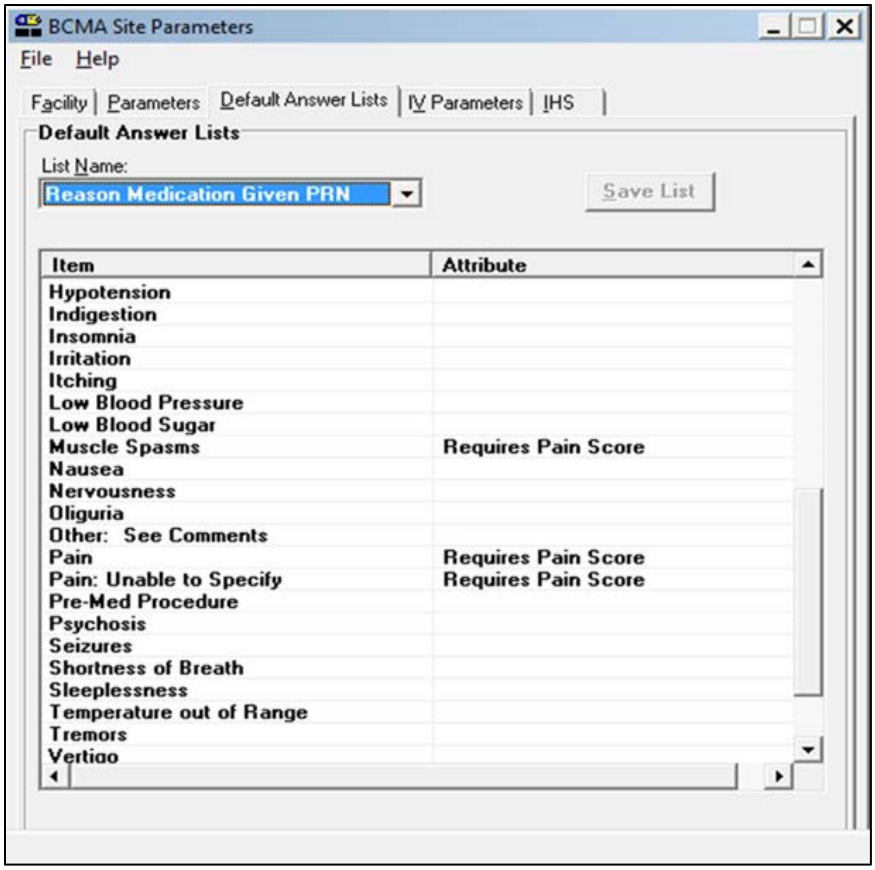

Figure D-3: **BCMA Site Parameters** dialog, **Default Answer Lists** tab, **Reason Medication Given PRN** list (cont.)

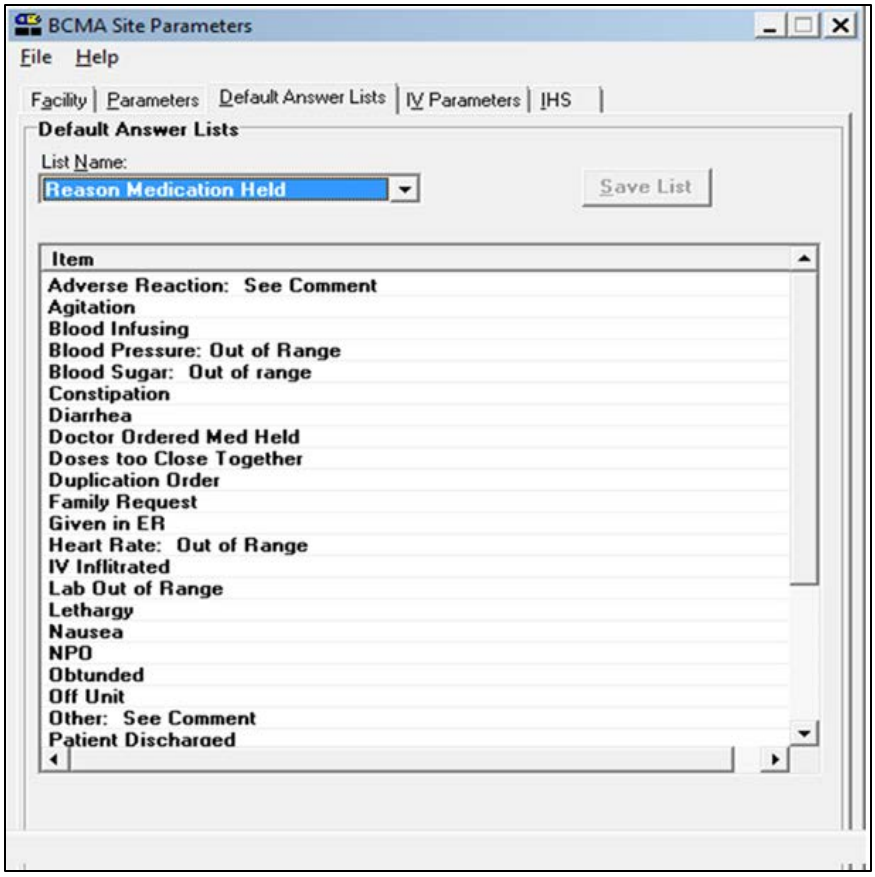

Figure D-4: **BCMA Site Parameters** dialog, **Default Answer Lists** tab, **Reason Medication Held** list

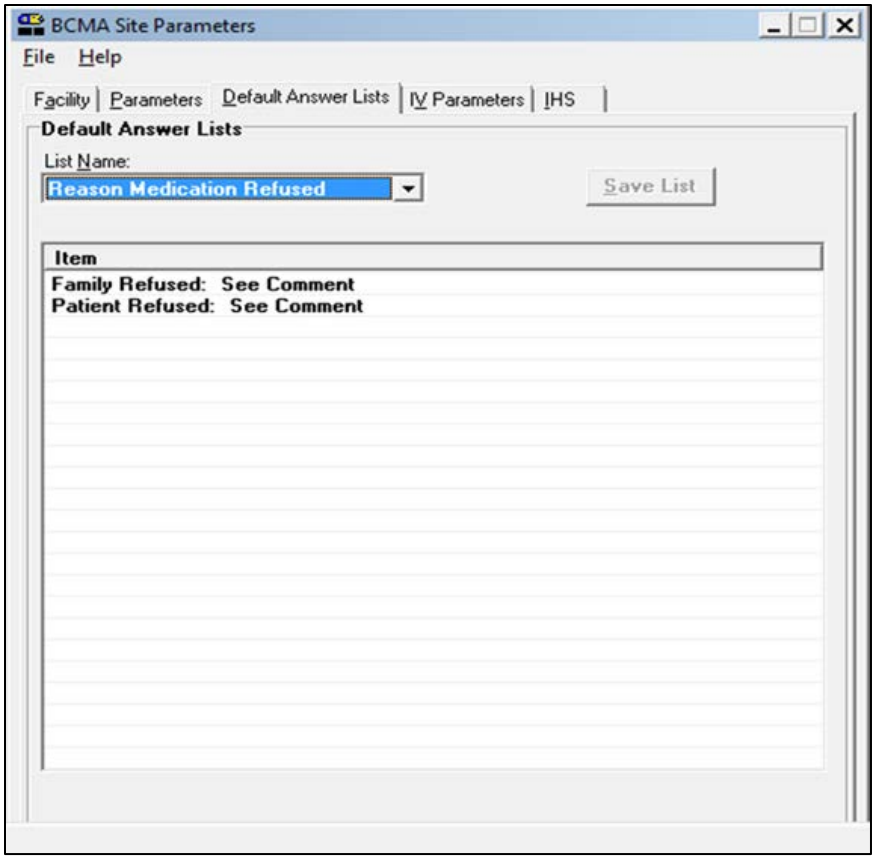

Figure D-5: **BCMA Site Parameters** dialog, **Default Answer Lists** tab. **Reason Medication Refused** list

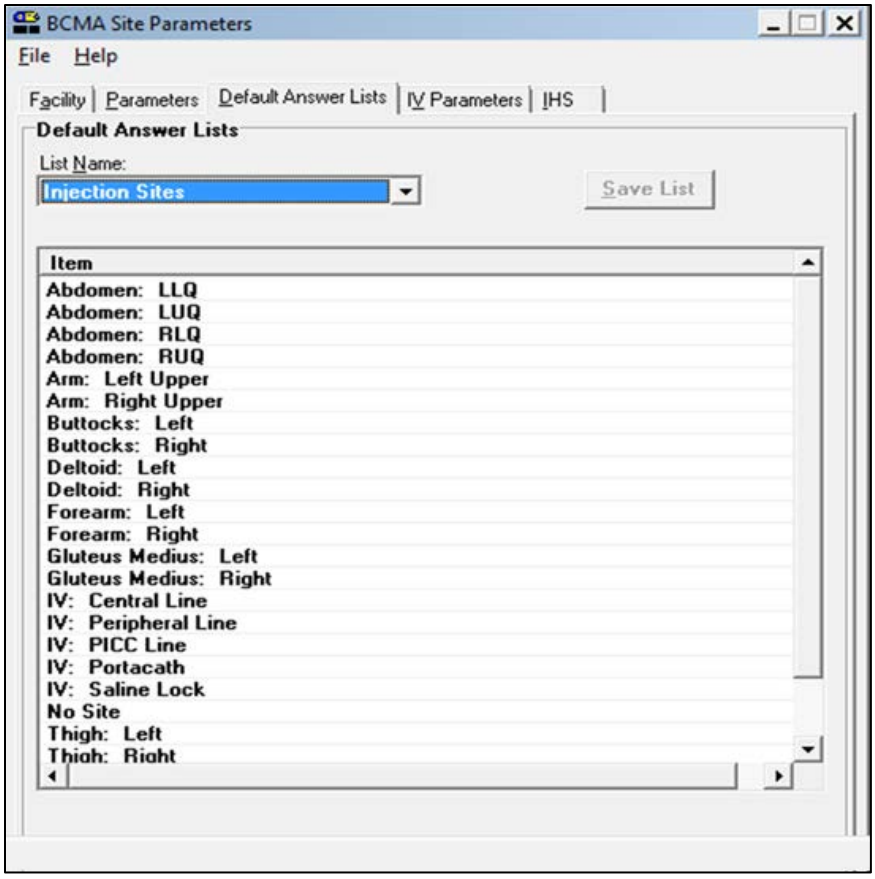

Figure D-6: **BCMA Site Parameters** dialog, **Default Answer Lists** tab, **Injection Sites** list

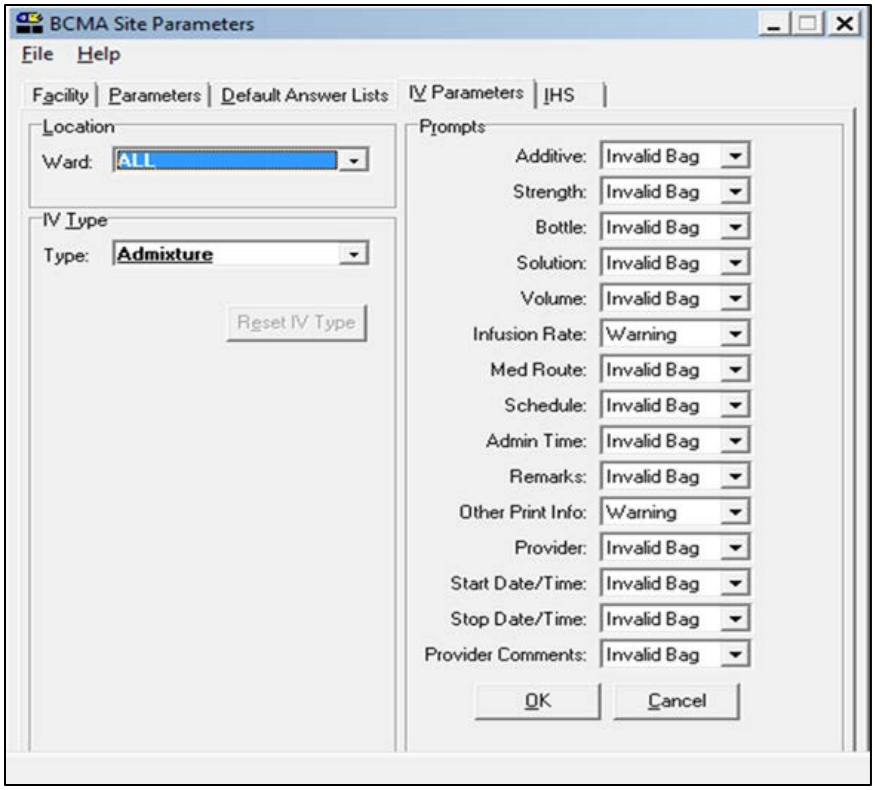

Figure D-7: **BCMA Site Parameters** dialog, **IV Parameters** tab

Appendix E: BCMA Inpatient Medications Menus

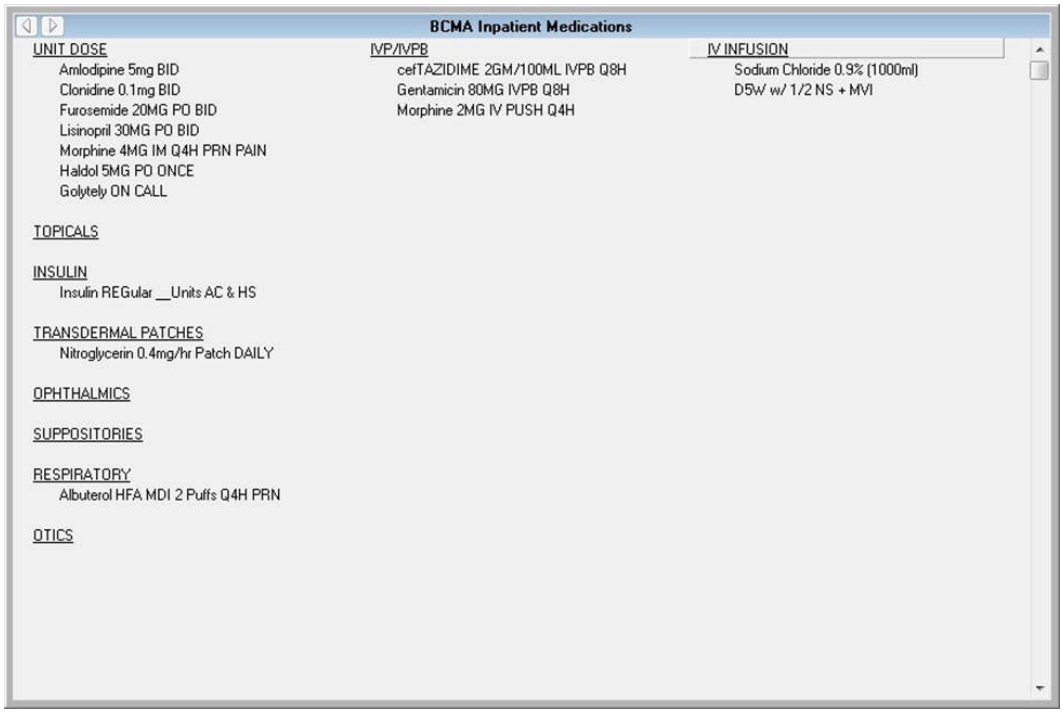

Figure E-1: **BCMA Inpatient Medications** training menu

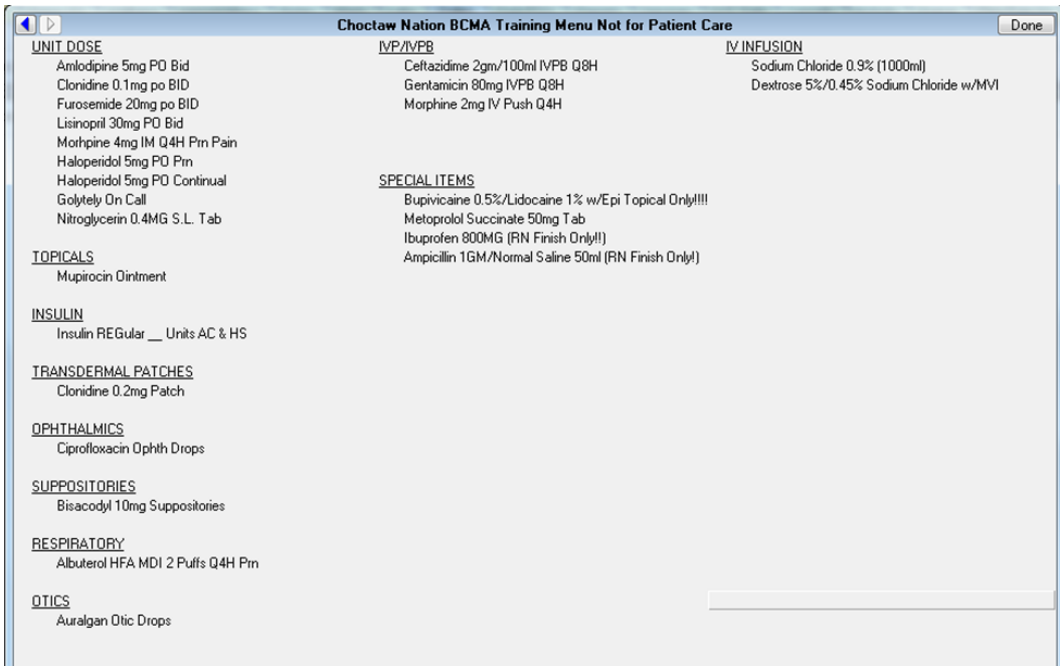

Figure E-2: **BCMA Inpatient Medications** training menu, Choctaw Nation Health Care Center

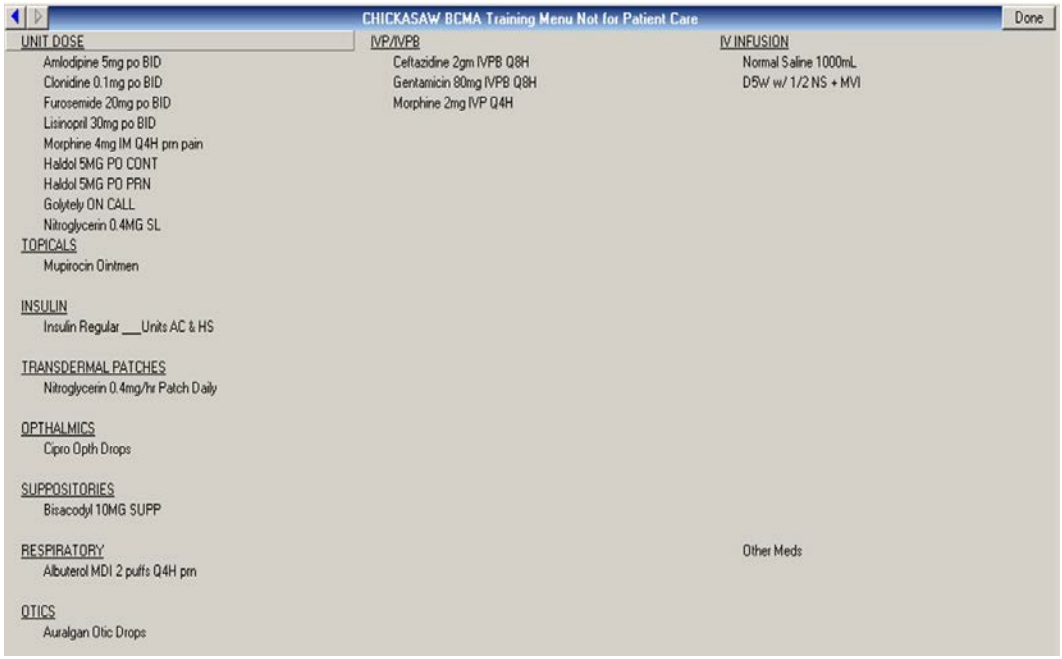

Figure E-3: **BCMA Inpatient Medications** training menu, Chickasaw Nation Medical Center

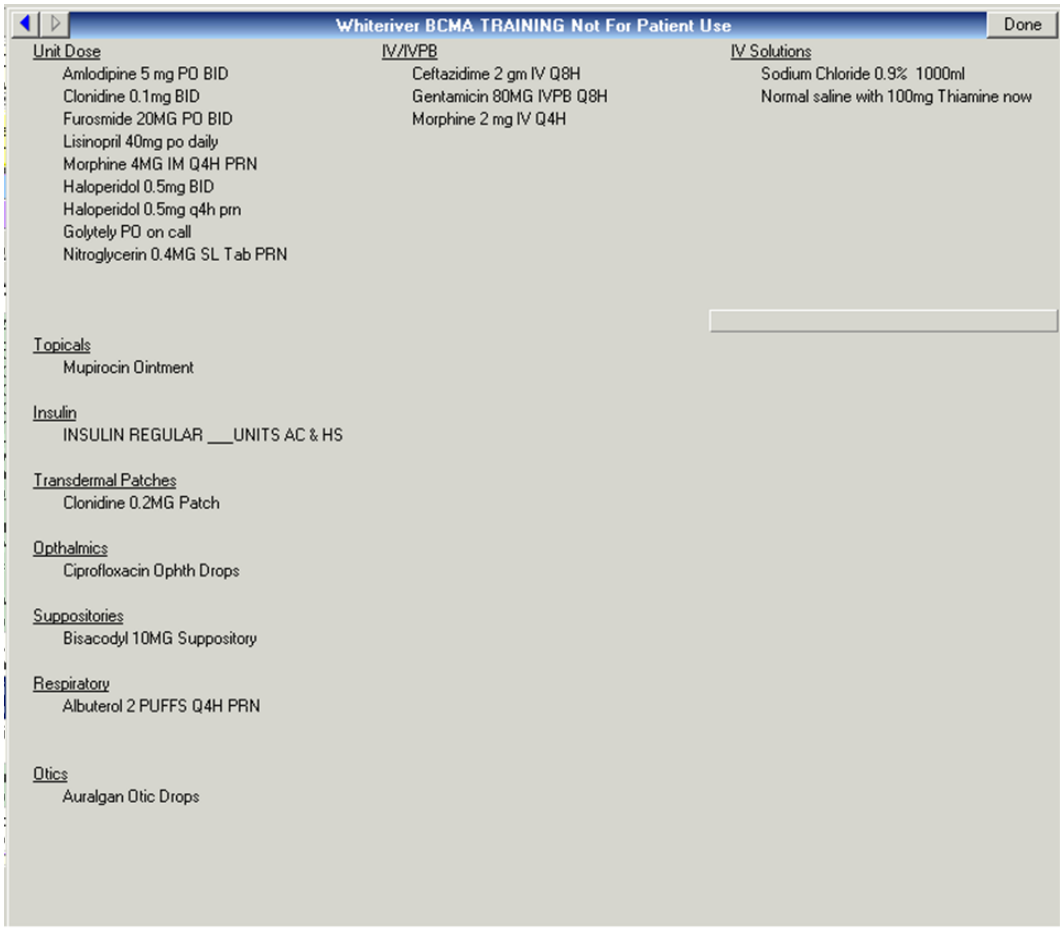

Figure E-4: **BCMA Inpatient Medications** training menu, Whiteriver Hospital

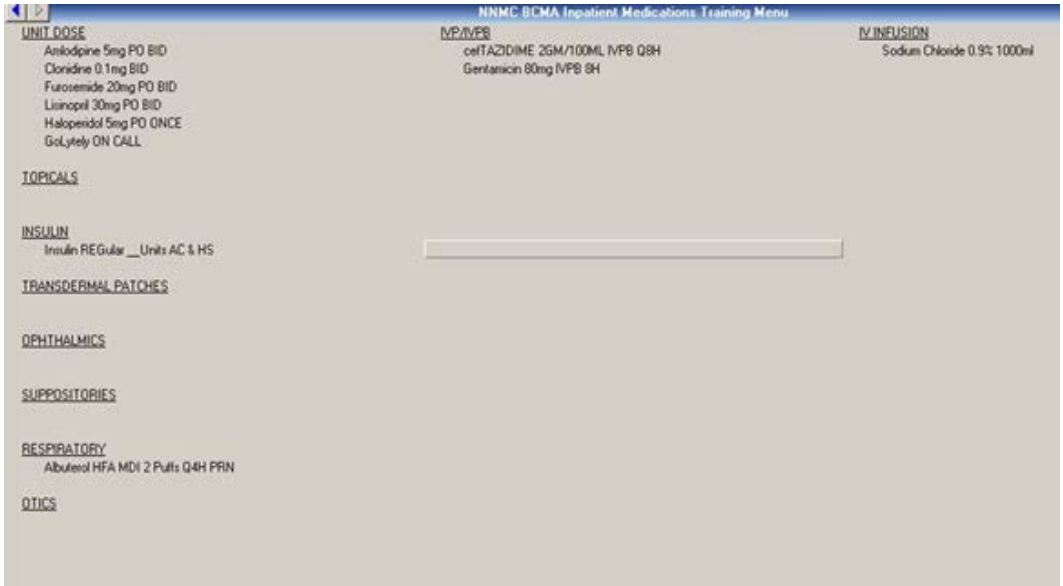

Figure E-5: **BCMA Inpatient Medications** training menu, Northern Navajo Medical Center

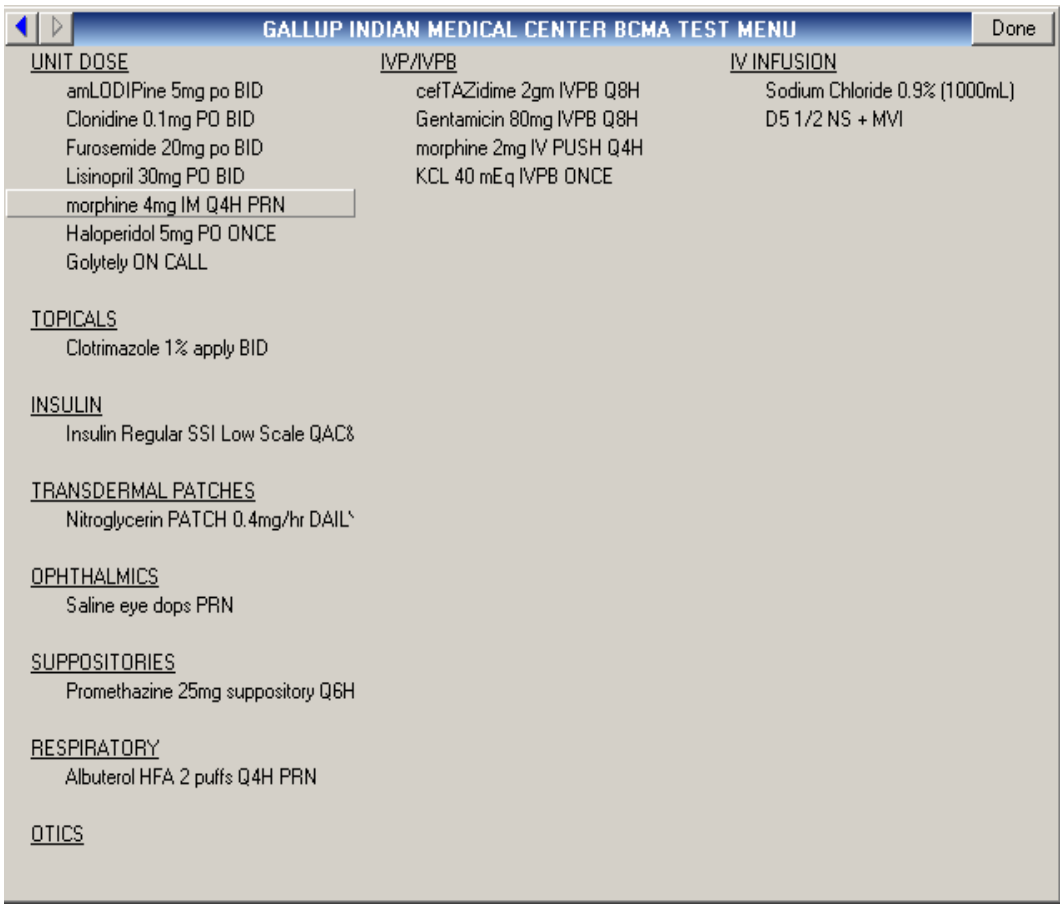

Figure E-6: **BCMA Inpatient Medications** training menu, Gallup Indian Medical Center

Appendix F: RPMS Provider Setup for BCMA

Role	TIU Class1	Secondary Menu	Keys
Physician	PHYSICIAN	PSB GUI Context User	PSB READ ONLY
Nurse	REGISTERED NURSE	PSB NURSE PSB GUI Context User OR BCMA ORDER COM	PSB CPRS MED BUTTON
Pharmacist	PHARMACIST	PSB PHARMACY PSB GUI Context User	
BCMA Coordinator	CLINICAL COORDINATOR	PSB NURSE PSB GUI Context User OR BCMA ORDER COM	PSB MANAGER PSB UNABLE TO SCAN PSB CPRS MED BUTTON
Nurse Manager (not for training)	REGISTERED NURSE	PSB NURSE PSB GUI Context User OR BCMA ORDER COM	PSB MANAGER PSB UNABLE TO SCAN
Pharmacy Informaticist (not for training)	PHARMACIST	PSB PHARMACY PSB GUI Context User	PSB MANAGER PSB UNABLE TO SCAN

Appendix G: Scanable Canned BCMA Comments

INSULIN GIVEN BY POLICY

Given by policy for insulin supplemental scale coverage

GIVEN LATE --- MED UNAVAILABLE

Medication Given Late, Medication unavailable earlier

MED GIVEN EARLY

Medication Given Early at patient request

MED NOT SCANNED -- GIVEN TO PT OFF WARD

Medication Not Scanned When Given. Taken to patient off ward. 5 Rights Used

MED SCANNED -- GIVEN TO PT OFF WARD

Medication Given Late Patient Off Ward

GIVEN LATER PER PT REQUEST

Medication Given Late at patient request

MED GIVEN LATER -- PT REFUSED EARLIER

Medication Given Late, Patient had refused earlier

NO BOWEL MOVEMENT

No bowel movement, patient has positive bowel sounds on auscultation

PAIN SCORE WITH ASSESSMENT TIME

Pain in ( ) decreased to /10 from /10 when reassessed @

GIVEN PER CIWA-AR

Given per CIWA-AR protocol score ( ). Refer to progress note.