



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Bar Code Medication Administration Configuration and Test

Announcement and Agenda

June 24-28, 2013

Cherokee Indian Hospital Authority
Cherokee, NC

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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

Table 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)

Table 3-2: CFT Voting Members

Last Name	First Name	Title
Curtis	Clayton, MD	VHA IHS Liaison and IT Informatics
Peters	Dave	Assistant Deputy Chief Information Officer, Development Management, 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

Table 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
Chandler	Chris	Pharmacist Consultant, BCRO, OIA, VHA
Connolly	Barbara	Clinical 1 Support Team, OI&T, VA
Cook	Sean	Business Analyst, DNC Contractor
Cownie	Kevin	Clinical 3 Support Team, OI&T, 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, OI&T, VA
Johnson	Dale	Clinical 2 Support Team, OI&T, VA
Mian	Naaem	Clinical 1 Support Team, OI&T, VA
Parris	Chris	Clinical 1 Support Team, OI&T, VA
Patten	Tracie	Acting Principal Pharmacy Consultant, IHS

Last Name	First Name	Title
Petrich	Ruth	Nurse Consultant, BCRO, OIA, VHA
Ray	Kathy	Clinicians' Information Management Technology Advisory Council (CIMTAC) Chair, Business Owner, IHS
Saddler	Chris	BCMA IT support, OIT, IHS
Singer	Richard	BCMA Project Manager, OI&T, VA
Stearle	Carla	BCMA Pharmacy Consultant, OIT, IHS
Taylor	Phil	BCMA Nurse Consultant, MSC Contractor
Tucker	Chris	Director, BCRO, OIA, VHA
Urso	Eddie	BCMA Development Manager, OI&T, VA
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), OI&T, VA

Table 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
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

Table 3-5: Subject Matter Experts (VA – BCMA)

Last Name	First Name	Title
Strauss	Leanne	Nurse/BCMA Coordinator, VA New Jersey Healthcare System

Table 3-6: Nashville Area Office BCMA Team

Last Name	First Name	Title
Bartlett	Robin	Clinical Applications Coordinator, Pharmacy Consultant, Nashville Area Office
Boykin	Max	Nurse Consultant, Nashville Area Office
Wright	Mitch	Division of Information Resources Management Director, Nashville Area Office

4.0 Detailed Agenda

**All times are Eastern Time!
Monday**

Start	Topic
8:30 AM	<p>BCMA Hardware and BCMA GUI Software Installation</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Install, configure, and test BCMA printers/scanners – Review 2 hours (two weeks prior to training remote configuration will be performed with each site): <ul style="list-style-type: none"> – 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 RPMS barcode wristband printer. – Test Using PRINT PATIENT WRISTBAND [DGPW PATIENT WRISTBAND PRINT]. – Install, configure, and test RPMS IV Label Printer. <ul style="list-style-type: none"> • Test Using INDIVIDUAL LABELS (IV) [PSJI LBLI]. • Finalize printer setup including printhead adjustment and move to Intended Locations. • Install BCMA GUI on all workstations (Requires Admin Privileges): <ul style="list-style-type: none"> – Download instructions BCMA Documentation File BCMA Collaboration Site. The Software will be available at the RPMS Application Site or ftp://ftp.ihs.gov/rpms/dist/2013cert/ – Install the BCMA Broker Patch Setup: XWB1_1P29PG.EXE Install with default prompts. Save RPC.zip and extract the RPC folder to the BCMA Install directory. Run Install.cmd as Administrator. – BCMA Client Install: Use PSB3_0P42.EXE (Select “Typical” Setup for End Users, or “Complete” for CACs to include BCMA Site Parameter for Modification of Parameters). – Modify BCMA Client Properties: Target values will be site specific: S=Servername (or IP) and P=Port “C:\Program Files\vista\BCMA\BCMA.exe” S=10.154.33.224 P=9522. – Modify BCMA Site Parameter Configuration Properties: Target values will be site specific: S=Servername (or IP) and P=Port “C:\Program Files\vista\BCMA\BCMApar.exe” S=10.154.33.224 P=9522. – Test BCMA Client and BCMA Site Parameters Applications. <p>Note: When directed BCMA is activated by checking PSB Online (or set parameter PSB Online to “Yes”).</p>
5:00 PM	Adjourn

Tuesday

Start	Topic
8:30 AM	<p>BCMA PSB3*42 RPMS and EHR Configuration</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Associate Nursing Units with MAS Wards (ADT): <ul style="list-style-type: none"> – Using Enter/Edit of FileMan NURS LOCATION file #211.4 (Create nursing unit names). – Match with the WARD LOCATION file #42. <p>Note: Assess the Staffing, Geography, and Location of the Nursing Units to be able to combine reports.</p> <p>Note: Please 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</p> <ul style="list-style-type: none"> • Create a Mock Medication Entry for a demo patient in the BCMA Medication Log: <ul style="list-style-type: none"> – 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 groups and members for: <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> – ORRP BCMA. – ORRP BCMA MED LOG. • Confirm that TaskMan is running. • Listener XWBTCP on PORT for Broker Access must be started: <ul style="list-style-type: none"> – Menu [XWB MENU]. – Confer with RPMS site manager to identify the port number. • Ensure proper configuration with matching Station Number/Facility Number in: <ul style="list-style-type: none"> – INSTITUTION file #4 – MEDICAL CENTER DIVISION file #40.8 – STATION NUMBER (TIME SENSITIVE) file #389.9 • Configure the HFS Scratch Directory to enable all users to read and write to the HFS Scratch Directory:

Start	Topic
	<p>BCMA Site Parameter GUI Configuration.</p> <ul style="list-style-type: none"> • Configure BCMA GUI Parameter Tabs for: <ul style="list-style-type: none"> – Facility Tab: Check the BCMA On-Line box – Parameters Tab: <ul style="list-style-type: none"> • 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: <pre data-bbox="483 527 1421 768"> 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]</pre> • Mail Groups • Reports • Bar Code Options • 5 Rights Override • Administration: require e-Sig to administer? (Suggest “No”) • Allowable time limit (in minutes): <ul style="list-style-type: none"> – 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 • Misc options: <ul style="list-style-type: none"> – Allowable server-client clock variance – BCMA time out (suggest 15 minutes) – Default Answer Lists tab: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • Location • IV Type • Prompts
5:00 PM	Adjourn

Wednesday

Start	Topic
8:30 AM	<p>Drug File, Medication Quick Orders, and Medication Quick Order Menus</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Complete drug file clean up as needed for training scenarios and create BCMA Medication Quick Orders and Menus Note: See Error! Reference source not found. <ul style="list-style-type: none"> – Create Medication Menu Headers. – Create Medication Quick Orders. – Hang the Medication Quick Orders to the Medication Menus. • Create 4-6 Demo, Patient BCMA patients for testing and training: <ul style="list-style-type: none"> – 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.
5:00 PM	Adjourn

Thursday

Start	Topic
8:30 AM	<p>BCMA Clinical User Accounts</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Assign BCMA Secondary Menus: <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> – PSB CPRS MED BUTTON for each User – PSB MANAGER to BCMA Coordinator and Nurse Managers <p>Additional Keys for Pharmacists, Students, and Instructors will be Assessed on a Site-by-Site Basis. See Appendix B:</p>
5:00 PM	Adjourn

Friday

Start	Topic
8:30 AM	BCMA Configuration, Test, and Training Final Preparation
5:00 PM	Adjourn

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

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. 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, 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. Ms. Burkybile'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.

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 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.

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 manager, 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 Vice-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 Expert 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 Inpatient Medications Page

BCMA Inpatient Medications		
UNIT DOSE	IVP/IVPB	IV INFUSION
Amlodipine 5mg BID	ceftAZIDIME 2GM/100ML IVPB Q8H	Sodium Chloride 0.9% (1000ml)
Clonidine 0.1mg BID	Gentamicin 80MG IVPB Q8H	D5W w/ 1/2 NS + MVI
Furosemide 20MG PO BID	Morphine 2MG IV PUSH Q4H	
Lisinopril 30MG PO BID		
Morphine 4MG IM Q4H PRN PAIN		
Haldol 5MG PO ONCE		
Golytely QN CALL		
<u>TOPICALS</u>		
<u>INSULIN</u>		
Insulin REGular __Units AC & HS		
<u>TRANSDERMAL PATCHES</u>		
Nitroglycerin 0.4mg/hr Patch DAILY		
<u>OPHTHALMICS</u>		
<u>SUPPOSITORIES</u>		
<u>RESPIRATORY</u>		
Albuterol HFA MDI 2 Puffs Q4H PRN		
<u>OTICS</u>		

Appendix B: 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