



RESOURCE AND PATIENT MANAGEMENT SYSTEM

**Bar Code Medication Administration (BCMA)
End User, Super User & Coordinator
VA-IHS Cross Functional Team Training**

Announcement and Agenda

April 15-18, 2013

Office of Information Technology (OIT)
Albuquerque, New Mexico

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1.0 General Information

1.1 Background

CMS recently published a final rule that specifies the Stage 2 criteria that eligible professionals (EPs), eligible hospitals, and critical access hospitals (CAHs) 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 eligible professionals (EPs), eligible hospitals, and critical access hospitals (CAHs) must meet in order to qualify for Medicare and/or Medicaid electronic health record (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 (BCMA) 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.

1.3 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.

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

1.4 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).

1.5 Attestation Requirements

DENOMINATOR/ NUMERATOR/THRESHOLD/EXCLUSION

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

1.6 Certification and Standards

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

(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.*

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 VA-IHS Cross Function Team End User, Super User, and Coordinator Training

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

- BCMA Coordinator
- BCMA Multidisciplinary Committee members
- BCMA End User
- BCMA Super User

2.1 BCMA Coordinator

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

- Acts as a liaison between the Bar Code Resource Office and facility level management.
- Serves as a liaison between administration, clinical staff, and IT regarding BCMA medication management process
- Monitors and reports effectiveness of change outcomes to local management and national oversight groups
- Recommends local procedural and policy changes as appropriate
- Test and verifies updates, patches, and new releases of BEMC prior to activation
- Disseminates information to end users on policies and procedures

- Facilitates training, installation, maintenance, and overall use of BCMA throughout the Hospital
- Provides user support to nursing, pharmacy, and other service lines by troubleshooting operational issues
- Plans and ensures initial ongoing training for all BCMA users, students, and temporary staff.
- Designs, develops, updates, and maintains training documents within the facility
- Actively participates in local facility multidisciplinary committee
- Participates in the national BCMA conference calls and training initiatives
- Develops, implements, and monitors a performance improvement plan for the medication management process as it relates to BCMA
- Actively participates in the Pharmacy and Therapeutics Committee

2.2 BCMA Multidisciplinary Committee

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

BCMA Multidisciplinary Committee Responsibilities include but are not limited to:

- Oversees medication manage process and interdependencies
- Creates accountability and an ownership approach to BCMA use
- Guides facility or health care direction
- Assesses, treats, and standardizes clinic, technical and operational direction
- Recommends policy and procedural changes to optimize BCMA use
- Centralizes and streamlines systems and process channels

- Provides guidance to facility sponsors and end users
- Supports and maintains best practice models
- Provides early warning of performance deficiencies and makes recommendations for improving performance to achieve business results
- Facilitates alignment of BCMA performance objectives with facility or health care system strategic goals

BCMA Multidisciplinary Committee Membership should comprise:

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

2.2 BCMA End User and Super User

Verified medication orders become available in the nursing staff's point-of-care BCMA. The Virtual Due List (VDL) is the electronic counterpart of an electronic Medication Administration Record (eMAR), and is used to display medications and the appropriate administration time frame for each. Medications may be scanned and administered, following a medication orders verification by an end user nurse authorized to administer medications. As a handheld barcode reader registers each medication, the software verifies the correct medication was ordered, administered on time, and measured in the correct dosage, while at the same time documenting the actual administration of the medication. This process ensures the "Five Rights" universal standard of medication administration is maintained. Once the medication administration procedure has been completed for a particular timeframe, the nurse uses the Missed Medication function to generate a report of omitted medications and takes steps to resolve any reported discrepancies.

Recording and reporting features of BCMA include:

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

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

- **Unable to Scan (Detailed) Report:** Provides detailed information related to each “unable to scan” event for a selected ward/nurse unit, or for all wards. The report includes (a) patient, (b) date/time of unable to scan event, (c) location, (d) type of bar code failure, (e) drug, (f) user’s name, (g) reason for scanning failure and (h) optional comments. The user can specify report selection criteria including start and stop date/time, type of scanning failure, and the unable to scan reason, in addition to up to three levels of sort fields.
- **Unable to Scan (Summary) Report:** Provides totals and percentages of wristband and medication bar codes scanned and when scanning is bypassed. The report will include totals and percentages for (a) total wristband scanned, (b) total wristbands bypassed, (c) total medications scanned, and (d) total medications bypassed. The user will be able to print the reports for the entire facility, by nurse unit/location or by ward.

3.0 VA-IHS BCMA Cross Functional Team

	<i>Last Name</i>	<i>First Name</i>	<i>Title</i>
CFT Voting Members	<i>Curtis</i>	<i>Clayton, MD</i>	<i>Veterans Health Administration (VHA) Indian Health Service (IHS) Liaison and IT Informatics</i>
	<i>Peters</i>	<i>Dave</i>	<i>Assistant Deputy Chief Information Officer, Development Management, Office of Information and Technology (OIT), Department of Veterans Affairs (VA)</i>
	<i>Kompkoff</i>	<i>Jeanette</i>	<i>Resource and Patient Management System (RPMS) Acting Investment Manager, OIT, IHS</i>
	<i>Ayala</i>	<i>Mollie</i>	<i>Co- Project Manager, IHS BCMA Co-Federal Lead</i>
VA FTF Attendees	<i>Scott</i>	<i>Hugh</i>	<i>Management and Program Analyst, VHA Office of Health Informatics</i>
	<i>Beene</i>	<i>Murielle</i>	<i>Chief Nursing Informatics Officer, VHA Health Informatics</i>
	<i>Tucker</i>	<i>Chris</i>	<i>Director, Bar Code Resource Office, Office of Health Informatics, VHA Office of Informatics and Analytics (OIA)</i>
	<i>Graves</i>	<i>Cathi</i>	<i>Senior Management Analyst, Bar Code Resource Office, Office of Health Informatics, VHA OIA</i>
	<i>Bagby</i>	<i>Jonathan</i>	<i>Nurse Consultant, Bar Code Resource Office, Office of Health Informatics, VHA OIA</i>
	<i>Zeller</i>	<i>Jan-Erik</i>	<i>BCMA Education Project Manager, Employee Education System (EES), OIT, VA</i>

	Cownie	Kevin	Clinical 3 Support Team, OIT, VA
	Fox	Kirk	Clinical 1 Support Team, OIT, VA
	Shum	Daphen	VHA Pharmacy SME from the VA Maryland HCS - Perry Point Division
IHS FTF Attendees	Taylor	David	Bar Code Medication Administration (BCMA) Federal Lead, OIT, IHS
	Allen	Mike	BCMA Pharmacy Consultant, OIT, IHS
	Bishop	Bradley	BCMA Pharmacy Consultant, OIT, IHS
	Whaley	Cathy	Project Manager, DNC Contractor
	Burkybile	Deborah	BCMA Nurse Consultant, OIT IHS
	Saddler	Chris	BCMA IT Support, OIT, IHS
	Cook	Sean	Business Analyst, DNC Contractor

4.0 Detailed Agenda

All times are Mountain Time!

Monday

Start	Topic
9:00 AM – 12:00 PM	<p>BCMA End User</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Administer Unit Dose Medications • Administer IV Push and IV Piggyback Medications • Administer IV Solutions (Unit Dose and Ward Stock) • Use the Med Order Button • Assess PRN Effectiveness • Administer Early/Late Medications • Edit the Medication Log • Examine Read-Only and Limited Access of BCMA • Use the BCMA Coversheet • View, Print, and Examine BCMA Reports to include: <ul style="list-style-type: none"> • Medication Administration History <ul style="list-style-type: none"> Medication Administration Log Missed Medications Report PRN Effectiveness Report Medication Administration History • Manage Scanning Failures
12:00 PM	Lunch
1:00 PM – 4:00 PM	<p>BCMA End User (Repeat of the Morning Session)</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Administer Unit Dose Medications • Administer IV Push and IV Piggyback Medications • Administer IV Solutions (Unit Dose and Ward Stock) • Use the Med Order Button • Assess PRN Effectiveness • Administer Early/Late Medications • Edit the Medication Log • Examine Read-Only and Limited Access of BCMA • Use the BCMA Coversheet • View, Print, and Examine BCMA Reports to include: <ul style="list-style-type: none"> • Medication Administration History <ul style="list-style-type: none"> Medication Administration Log Missed Medications Report PRN Effectiveness Report Medication Administration History • Manage Scanning Failures
4:00 PM – 4:30 PM	<p>Wrap Up, Discussion, and Planning</p> <p>Adjourn</p>

- **Tuesday & Wednesday**

Start	Topic
8:30 AM – 4:30 PM	<p>BCMA Super User Training</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • Examine In-Depth Troubleshooting Techniques to include: <ul style="list-style-type: none"> Medication not Displaying in BCMA Medication not Scanning Patient Armband not Scanning Wrong Dispensed Dose (e.g. wrong dose in Pyxis drawer) Order finished with Wrong Route Fractional Dose or Multiple Tabs User bypassing Scanning Using BCMA in Isolation Rooms Running Managing Scanning Failures (MSF) Report • Utilize Competency Checklist and User Assessment • Enter Data via BCMA CHUI • Print Reports via BCMA CHUI
4:30 PM	Adjourn

Thursday

Start	Topic
8:30 AM – 4:30 PM	<p>BCMA Coordinator Training</p> <p>At the end of this session participants should be able to:</p> <ul style="list-style-type: none"> • See End User and Super User Objectives • Agenda to be Developed During the Week
4:30 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 & 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 U.S. Department of Veterans Affairs (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 Bar Code Medication Administration (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 as the Pharmacy Consultant for the IHS Office of Information Technology.

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 has been 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 Bar Code Medication Administration (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 (5 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 & 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 Bar Code

Medication Administration (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 5 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 HealthVet 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 6 years as a Medical Technologist, and 7 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 Department of Veteran Affairs (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 Indian Health Service (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 & Analytics
Health Informatics

Chris L. Tucker, RPh, is the Director of the Bar Code Resource Office (BCRO) within the Veterans Health Administration Office of Informatics and Analytics (VHA OIA). His office provides strategic direction and oversight for Bar Code Medication Administration (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 (VHA)**

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.

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