



# **BAR CODE MEDICATION ADMINISTRATION (BCMA)**

## **TECHNICAL MANUAL/SECURITY GUIDE**

Version 3.0  
February 2004

(Revised October 2009)



# Revision History

Each time this manual is updated, the Title Page lists the new revised date and this page describes the changes. If the Revised Pages column lists “All,” replace the existing manual with the reissued manual. If the Revised Pages column lists individual entries (e.g., 25, 32), either update the existing manual with the Change Pages Document or print the entire new manual.

Date	Revised Pages	Patch Number	Description
10/2009	i-ii, 7, 9, 17	PSB*3*47	Added PSBPXFL and PSBPXLP to the list of installed routines. Add Immunizations Documentation by BCMA Nightly Task [PSB PX BCMA2PCE TASK] option to the <i>Manager</i> [PSB MGR] menu. Added Patient Care Encounter to the External Relationships section.  <b>REDACTED</b>
01/2009	i-ii, iv, 6-7, 13-14, 18-19, 21	PSB*3*28	<ul style="list-style-type: none"> <li>- Update Table of Contents to include Remote Procedure Calls. (p. iv)</li> <li>- Increased the total for the BCMA V .3.0 routines to 85 and files to 6. (p.6-7)</li> <li>- Updated the files and “BCMA V.3.0 Routines Installed onto Vista Server” Example. (p.7)</li> <li>- Updated the Mail Group Types in BCMA V.3.0 to include scanning failures. (p. 13)</li> <li>- Updated Security Keys to include PSB UNABLE TO SCAN. (p. 14)</li> <li>- Added list of Remote Procedure Calls (RPCs). (p. 18)</li> <li>- Added new Glossary entry for LIMITED ACCESS BCMA. (p. 19)</li> <li>- Added new Glossary entry for PSB UNABLE TO SCAN. (p. 21)</li> </ul> <b>REDACTED</b>
03/2008	6-7, 9-10, C-1, C-2, C-4, C-5, C-7, C-9	PSB*3*2	<p>Description of [PSBO BZ] functionality added, code strings updated (p. C-1.)</p> <ul style="list-style-type: none"> <li>- Updated Intermec Printer Team Type Codes Information, Intermec Barcode Label Field Position Map, Intermec printer Sample Terminal Type File code descriptions updated (pp. C-4, C-5, C-7.)</li> <li>- Barcode samples updated – references to “Dosage” changed to “Dose” and space between colon and dose measurement deleted (p. C-9.)</li> </ul> <b>REDACTED</b>
09/2007	6-7	PSB*3*32	<ul style="list-style-type: none"> <li>– Increased the total for the BCMA V. 3.0. routines to 68. (p.6)</li> <li>– Updated the “BCMA V. 3.0 Routines Installed onto Vista Server” example to include the following routine: PSBO XA. (p. 7)</li> </ul> <b>REDACTED</b>
08/2006	6-7, 9, 13	PSB*3*13	<ul style="list-style-type: none"> <li>– Increased the total for the BCMA V. 3.0. routines to 68. (p.6)</li> <li>– Updated the “BCMA V. 3.0 Routines Installed onto Vista Server” example to include the following routine: PSBO XA. (p. 7)</li> <li>– Updated Manager Menu [PSB MGR] options list to include Missing Dose Followup (correction) and Unknown Action Status Report (new with this patch). (p. 9)</li> <li>– Added description of the “Unknown Actions” mail group parameter. (p. 13)</li> </ul> <b>REDACTED</b>

# Revision History

08/2006	iv, 6, C1-C10	PSB*3*2	<p><b>Note:</b> The functionality listed below will be activated with the release of PSB*3*2.</p> <ul style="list-style-type: none"> <li>– Updated Table of Contents to include new Appendix C. (p. iv)</li> <li>– Added reference to new Unit Dose label printing functionality and Appendix C. (p. 6)</li> <li>– Added Appendix C: Interfacing with the Bar Code Label Printer. (p. C1-C10)</li> </ul> <p><b>REDACTED</b></p>
12/2005	6-7	PSB*3*16	<ul style="list-style-type: none"> <li>– Increased the total for the BCMA V. 3.0. routines to 67. (p.6)</li> <li>– Updated the “BCMA V. 3.0 Routines Installed onto Vista Server” example to include the following routines: PSBCSUTL, PSBCSUTX, PSBCSUTY. (p. 7)</li> </ul> <p><b>REDACTED</b></p>
01/2005	6-7, 14, 20-21	PSB*3*4	<ul style="list-style-type: none"> <li>– Increased the total for the BCMA V. 3.0. routines to 64. (p.6)</li> <li>– Updated the “BCMA V. 3.0 Routines Installed on to Vista Server” example to include the PSBOPF routine. (p. 7).</li> <li>– Added description for new PSB READ ONLY security key. (p.14)</li> <li>– Added new Glossary entries for PSB READ ONLY and Read-Only BCMA. (p. 20-21)</li> </ul> <p><b>REDACTED</b></p>
10/2004	6-7	PSB*3*3	<ul style="list-style-type: none"> <li>– Increased the total for the BCMA V. 3.0 routines to 63. (p. 6)</li> <li>– Updated the “BCMA V. 3.0 Routines Installed on to Vista Server” example to reflect the inclusion of routines PSBML2, PSBML3, and PSBMLLKU to the Vista Server. (p. 7)</li> </ul> <p><b>REDACTED</b></p>
02/2004			<p>Original Released BCMA V. 3.0 Technical Manual/Security Guide</p> <p><b>REDACTED</b></p>

# Implementation and Maintenance

## Files Required to Run BCMA V. 3.0



### TIP:

The namespace for the BCMA package is PSB and the primary global is ^PSB.

BCMA V. 3.0 uses the following files installed on the VistA Server. “Journaling” is recommended.

- ^PSB (53.66, BCMA IV Parameters
- ^PSB (53.68, BCMA Missing Dose Request
- ^PSB (53.69, BCMA Report Request
- ^PSB (53.77, BCMA Unable to Scan Log
- ^PSB (53.78, BCMA Medication Variance Log
- ^PSB (53.79, BCMA Medication Log

**Note:** You can learn more about these files by generating a list with file attributes using VA FileMan.

## Routines Installed

Review the listing below to learn the routines installed on to your site’s VistA Server during the installation of BCMA V. 3.0. The first line of each routine briefly describes its general function.

**Note:** You can use the *Kernel First Line Routine Print* [XU FIRST LINE PRINT] option to print a list containing the first line of each PSB routine.

### Routine Mapping

At this time, we do *not* offer any recommendations for routine mapping. However, if you choose to map the BCMA V. 3.0 package routines, you will need to bring your system down, and then restart it to load the new routines into memory.

### Example: BCMA V. 3.0 Routines Installed onto VistA Server

PSBALL	PSBAPIPM	PSBCHIVH	PSBCHKIV	PSBCSUTL	PSBCSUTX	PSBCSUTY
PSBMD	PSBML	PSBML1	PSBML2	PSBML3	PSBMLN	PSBMLN1
PSBMLHS	PSBMLLKU	PSBMLTS	PSBMLU	PSBMLVAL	PSBO	PSB01
PSBOAL	PSBOBL	PSBOBLU	PSBOBZ	PSBOCE	PSBOCE1	PSBOCI
PSBOCI1	PSBOCM	PSBOCM1	PSBOCP	PSBOCP1	PSBODL	PSBODL1
PSBODO	PSBOHDR	PSBOIV	PSBOIV1	PSBOMD	PSBOMH	PSBOMH1
PSBOMH2	PSBOML	PSBOMM	PSBOMM2	PSBOMSF	PSBOMT	PSBOMT1
PSBOMV	PSBOPE	PSBOPF	PSBOPI	PSBOPM	PSBOSF	PSBOST
PSBOVT	PSBOWA	PSBOXA	PSBPAR	PSBPARIV	PSBPOIV	PSBPRN
PSBPXFL	PSBPXLP	PSBRPC	PSBRPC1	PSBRPC2	PSBRPC3	PSBRPCMO
PSBRPCXM	PSBSAGG	PSBSVHL7	PSBUTL	PSBVAR	PSBVDLIV	PSBVDLPA
PSBVDLPB	PSBVDLTB	PSBVDLU3	PSBVDLVL	PSBVITFL	PSBVLDU1	PSBVLDU2
PSBVLDUD	PSBVT	PSBVT1				

87 routines



# Exported Options

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## BCMA CHUI Menus

BCMA V. 3.0 exports three main menus. They include those listed below, in the CHUI version of BCMA V. 3.0. The options for each menu are listed in this section.

- **Manager Menu:** [PSB MGR] is assigned to managers
- **Pharmacist Menu:** [PSB PHARMACY] is assigned to all inpatient Pharmacists
- **Nurse Menu:** [PSB NURSE] is assigned to all clinicians and other personnel who administer active medication orders

### Manager Menu [PSB MGR]

This menu includes the following options:

- Drug File Inquiry
- Immunizations Documentation by BCMA Nightly Task
- Medication Administration Menu Nursing
  - Medication Administration Log Report
  - Missed Medications Report
  - Ward Administration Times Report
  - Due List Report
  - PRN Effectiveness List Report
  - Enter PRN Effectiveness
  - Manual Medication Entry
  - Medication Administration History (MAH) Report
  - Missing Dose Request
  - Medication Variance Log
  - Drug File Inquiry
- Medication Administration Menu Pharmacy
  - Medication Administration Log Report
  - Missed Medications Report
  - Due List Report
  - Medication Administration History (MAH) Report
  - Missing Dose Request
  - Missing Dose Followup
  - Missing Dose Report
  - Label Print
  - Drug File Inquiry
- Missing Dose Followup
- Reset User Parameters
- Trouble Shoot Med Log
- Unknown Action Status Report

# Exported Options

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## BCMA CHUI Menus (cont.)

### Pharmacy Medication Administration Menu [PSB PHARMACY]

This menu includes the following options:

- Medication Administration Log Report
- Missed Medications Report
- Due List Report
- Medication Administration History (MAH) Report
- Missing Dose Request
- Missing Dose Followup
- Missing Dose Report
- Label Print
- Drug File Inquiry

### Nursing Medication Administration Menu [PSB NURSE]

This menu includes the following options:

- Medication Administration Log Report
- Missed Medications Report
- Ward Administration Times Report
- Due List Report
- PRN Effectiveness List Report
- Enter PRN Effectiveness
- Manual Medication Entry
- Medication Administration History (MAH) Report
- Missing Dose Request
- Medication Variance Log
- Drug File Inquiry



# Internal and External Relations

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## Internal Relations

This section describes options, package-wide variables, and templates within BCMA V. 3.0.

### Options

You can invoke ALL options in BCMA V. 3.0 independently.

### Package-Wide Variables

BCMA V. 3.0 does *not* include package-wide variables.

### Templates

BCMA V. 3.0 does *not* include any templates for Sort, Input, or Print.

## External Relations

BCMA V. 3.0 can only be run in an environment that already has several existing features, such as a standard MUMPS operating system. It also requires the following Department of Veterans Affairs (VA) software packages (versions listed or higher) — and all current patches. Otherwise, BCMA V. 3.0 will *not* be fully functional for your users.

- Inpatient Medications 5.0
- Kernel 8.0
- MailMan 8.0
- Nursing 4.0
- Order Entry/Results Reporting 3.0
- Patient Care Encounter 1.0
- Pharmacy Data Management 1.0
- RPC Broker (32-bit) 1.1
- Toolkit 7.3
- VA FileMan 22.0
- Vitals/Measurements 5.0

# Internal and External Relations

## External Relations (cont.)

### Callable Routines, Entry Points, and Variables

BCMA V. 3.0 includes two callable routines: PSBAPIPM and PSBMLHS. Each routine is described in this section, along with the entry points and variables information for each.

- **PSBAPIPM:** Provides information to Inpatient Medications V. 5.0 for determining the start date for a renewed order.
- **PSBMLHS:** Provides other software packages with the ability to call the BCMA Medication History Report. The report lists medications, that a patient has received, by orderable item.

### Database Integration Agreements (DBIAs)

BCMA subscribes to Database Integration Agreements (DBIAs) with the Inpatient Medications, CPRS, Nursing, and Registration packages. BCMA V. 3.0 also offers DBIAs for other packages to subscribe to as well.

For detailed information about these DBIAs, log in to FORUM and select the *Integration Agreements Menu* [DBA IA ISC] option located under the *DBA* [DBA] option (Data Base Administrator). Once in the Integration Agreements Menu Option, select “Inquire” and type **BCMA** at the “Select INTEGRATION REFERENCES:” prompt.

### Remote Procedure Calls (RPCs)

Following is a list of Remote Procedure Calls associated with BCMA.

1 PSB ALLERGY	2 PSB BAG DETAIL
3 PSB CHECK IV	4 PSB CHECK SERVER
5 PSB COVERSHEET1	6 PSB CPRS ORDER
7 PSB DEVICE	8 PSB FMDATE
9 PSB GETIVPAR	10 PSB GETORDERTAB
11 PSB GETPRNS	12 PSB GETPROVIDER
13 PSB INSTRUCTOR	14 PSB IV ORDER HISTORY
15 PSB LOCK	16 PSB MAIL
17 PSB MAN SCAN FAILURE	18 PSB MAXDAYS
19 PSB MED LOG LOOKUP	20 PSB MEDICATION HISTORY
21 PSB MOB DRUG LIST	22 PSB NURS WARDLIST
23 PSB PARAMETER	24 PSB PUTIVPAR
25 PSB REPORT	26 PSB SCANMED
27 PSB SCANPT	28 PSB SERVER CLOCK VARIANCE
29 PSB SUBMIT MISSING DOSE	30 PSB TRANSACTION
31 PSB USERLOAD	32 PSB USERSAVE
33 PSB UTL XSTATUS SRCH	34 PSB VALIDATE ESIG
35 PSB VALIDATE ORDER	36 PSB VERSION CHECK
37 PSB VITAL MEAS FILE	38 PSB VITALS
39 PSB WARDLIST	