



RESOURCE AND PATIENT MANAGEMENT SYSTEM (RPMS)

Prenatal Care Module Electronic Health Record (EHR) Graphical User Interface (GUI)

(BJPN)

Technical Manual

Version 1.0
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Preface

The purpose of this manual is to provide technical information about the EHR Prenatal Care Module (PCM) components which have been developed and released in the new BJPN package namespace. The PCM allows users to manage prenatal problems and issues for patients over the course of their pregnancies.

1.0 Introduction

The Prenatal GUI software is a component of the Indian Health Service (IHS) RPMS and EHR that provides prenatal management functions.

This manual provides IHS site managers with a technical description of the BJPN routines, files, menus, cross references, globals, and other necessary information required to effectively manage the Prenatal GUI system.

All routines, files, options, and keys are namespaced starting with the letters BJPN. The file number range for this package is 90680 – 90680.99.

2.0 Orientation

The PCM has no RPMS menu options for users. The only RPMS preparation specifically needed to run the PCM in EHR is to install the “PRENATAL CARE MODULE 1.0” Kernel Installation and Distribution System (KIDS) package, assign the appropriate Remote Procedure Call (RPC) menu option to users, and install the required Prenatal Dynamic Link Library (DLL) files into the EHR “lib” file directory. EHR is run on the personal computer (PC) client and can be managed from there. See the Installation Guide for details on server and client installation and configuration.

Interaction between the PCM (via EHR) and the RPMS system is accomplished entirely through the use of RPCs. All RPCs in this package begin with the namespace letters BJPN.

3.0 Implementation and Maintenance

The PCM is designed to work with RPMS through the EHR application.

3.1 General Information

The following table shows the prerequisite patch requirements.

Package and Version	Associated Patch Designation(s)	Brief Patch Description
BMXNET RPMS .NET UTILITIES 4.0	BMX 4.0	BMXNET Version 4.0

3.2 System Requirements

The following table shows the versions of other packages that should be installed for the PCM to work properly.

Module	Minimum Version	Recommended Version
VA FileMan (DI)	v22.0 Patch 1003	
VA Kernel (XU)	v8.0 Patch 1015	
BMXNet (BMX)	v4.0	v4.0 Patch 2
IHS/VA Utilities (XB)	v3.0 through Patch 11	
PCC Data Entry (APCD)	v2.0 through Patch 10	
IHS PCC Suite (BJPC)	v2.0 Patch 6	v2.0 Patch 7
EHR 1.1	v1.1 Patch 10	

3.3 Package-wide Variables

There are no package-wide BJPN variables in RPMS.

3.4 Security Keys

There are no BJPN specific security keys. Instead, access to the PCM is granted through the allocation of other package security keys as follows:

Key Name	Description
ORES, ORELSE, BGOZ PROBLEM LIST EDIT, PROVIDER	Users holding one or more of these keys will be granted full edit privileges to the PCM.
BGOZ VIEW ONLY	This key should be assigned to the person who has VIEW ONLY permission to the PCM. This overrules any other edit security key.

3.5 Parameters

There are two new parameters delivered with the BJPN package:

Parameter	Value Type	Precedence	Description
BJPN DISABLE PRENATAL EDITING	Boolean	User, Class	Users or users assigned to User Classes entered in this parameter will be excluded from using the PCM, regardless of their assigned security keys.
BJPN POST DEDD DAYS	Numeric	System	The number of days after a patient's definitive estimated date of delivery in which they can still make changes to their prenatal problem list.

4.0 Menu Diagram

There are no RPMS menus included in the BJPN system.

5.0 Routines

5.1 Routine List

The following routines have been released with version 1.0 of the PRENATAL CARE MODULE package.

B	B	B	B	B	B
J	J	J	J	J	J
P	P	P	P	P	P
N	N	N	N	N	N
1	1	A	A	P	P
0	0	P	P	D	K
P	P	I	I	E	L
R	S		1	T	
B	B	B	B	B	B
J	J	J	J	J	J
P	P	P	P	P	P
N	N	N	N	N	N
P	P	P	P	P	V
R	R	R	U	U	F
L	N	U	P	T	I
	T	T		L	L

5.2 Routines with Description

This routine list describes each routine in this version.

Routine	Description
BJPN10PR	BJPN package version 1.0 pre-installation routine.
BJPN10PS	BJPN package version 1.0 post-installation routine.
BJPNAPI	Routine containing Application Programmer Interface (API) calls utilized by Text Integration Utility (TIU) and Health Summary (HS) objects.
BJPNAPI1	Routine containing API call allowing outside applications to update the prenatal components.
BJPNPDET	Routine containing RPCs which return prenatal problem audit history and provide checks to determine whether the PCM should be displayed and whether it should be editable or view only.
BJPNPKL	Routine containing functions and RPCs which relate to the prenatal pick list and the retrieval of Systematized Nomenclature of Medicine--Clinical Terms (SNOMED CT®) entries.

Routine	Description
BJPNPRL	Routine containing functions and RPCs which primarily relate to the Pregnancy Issues and Problems List (PIP).
BJPNPRNT	Routine containing functions and RPC calls to handle printing of patient audit history.
BJPNPRUT	Routine which contains additional prenatal component function and RPC calls.
BJPNPUP	Routine which contains additional prenatal component function and RPC calls.
BJPNPUTL	Routine which contains some general prenatal component function and RPC calls (deleting Purpose of Visit (POV), setting provider, opening/closing the prenatal problem list, setting the prenatal problem list definitive estimated delivery date).
BJPNVFIL	Routine which sets V OB (#9000010.43) file entries.

5.3 Function List

5.3.1 APIP^BJPNAPI

Given a patient internal entry number (IEN) and the return format desired, returns prenatal problem information. Used for TIU and HS object definition.

5.3.2 LPIP^BJPNAPI

Given a patient IEN, returns prenatal problem information logged for the most recent patient visit. Used for TIU and HS object definition.

5.3.3 PROC^BJPNAPI

Given an IEN to a BJPN PRENATAL PROBLEMS (#90680.01) file entry, assembles the information to be utilized by the TIU and HS function calls.

5.3.4 VIP^BJPNAPI

Given a patient IEN and visit IEN, returns prenatal problem information for a particular visit. Used for TIU and HS object definition.

5.3.5 VFADD^BJPNAPI

Given the necessary patient and prenatal problem information, this function add/updates an entry in the BJPN PRENATAL PROBLEMS (#90680.01) file and also creates a new entry in the V OB (#9000010.43) file.

5.3.6 \$\$VALUE^BJPNPDET

Given an IEN of a V OB (#9000010.43) file entry and a field that was changed, returns the associated field name and new field value. Used by the detail display RPC call.

5.3.7 \$\$DEDD^BJPNPDET

Given the patient IEN, returns the last definitive estimated date of delivery for the patient on file.

5.3.8 \$\$PPRV^BJPNPKL

Given the visit IEN, the function returns the IEN of the primary provider assigned to the visit.

5.3.9 \$\$FMTE^BJPNPRL

Returns the external display of a date and time (utilizing a space between the two rather than an "@").

5.3.10 \$\$STC^BJPNPRL

Returns the external data dictionary field value for a given set of codes internal storage value.

5.3.11 PRINT^BJPNPRNT

Prints one copy of information compiled for a prenatal problem entry detail listing.

5.3.12 \$\$STZ^BJPNPRNT

Strips leading spaces from a supplied string of text.

5.3.13 WRAP^BJPNPRNT

Given a section of text, the optional right margin, and optional indentation of additional lines to utilize, returns the text properly broken out in an array.

5.3.14 \$\$ANOTE^BJPNPRUT

Given the IEN of a specific V OB file entry, a note text string, the entry date and time, and the user who entered, logs the text string as a new note for the given entry.

5.3.15 \$\$DATE^BJPNPRUT

Given an external date in the format “mm/dd/ccyy hh:mm:ss” (or any other format that has a space “ “ between the date and time, convert the value to an internal FileMan format.

5.3.16 UFREQ^BJPNPRUT

Given the IEN of a BJPN SNOMED TERMS (#90680.02) file entry and an optional prenatal pick list IEN, increment the term in the “Master_List” pick list and in the optional prenatal pick list to record that the code was added for a patient.

5.3.17 \$\$VPOV^BJPNPUP

Given the visit IEN and the prenatal problem list IEN to check, determine whether the code assigned to that IEN has been selected as a POV for that visit.

5.3.18 \$\$OEDATA^BJPNVFIL

Returns original entry date and time and user for a specified prenatal problem entry.

5.3.19 \$\$PNARR^BJPNVFIL

Given a text string, this function either saves the string as a new PROVIDER NARRATIVE (#9999999.27) file entry or locates a matching entry in the file.

5.3.20 TNOTE^BJPNVFIL

Given the IEN of a V OB (#9000010.43) file entry and a list of modified fields, this function logs the list of fields changed into the entry.

5.3.21 \$\$VFILE^BJPNVFIL

Given the IEN to a BJPN PRENATAL PROBLEMS (#90680.01) entry and an array of field information, this function logs an entry into the V OB (#9000010.43) file.

5.4 Prenatal Published Entry Points

5.4.1 Routine BJPNAPI API Calls:

APIP(TARGET,DFN,TYPE) ;PEP - Returns Prenatal PIP Entry Information

```
;
;Input:
; DFN - Patient IEN
; TYPE - "C" - Returns list of ALL ACTIVE problem entries on the PIP.
;           For each problem entry, returns any notes for each entry
;           entered within the date range for the current pregnancy.
```

```
;      "A" - Returns list of ALL ACTIVE problem entries on the PIP.
;      For each problem entry, returns ALL notes for each entry,
;      regardless of whether they apply to the current pregnancy
;      or to prior pregnancies.
```

Sample Output:

```
DEV1>S X=$$APIP^BJPNAPI("TMP("VUECC"),5478,"C")
DEV1>W X
~@TMP("VUECC")
DEV1>ZW TMP
TMP("VUECC",1,0)="1) Antenatal care|"
TMP("VUECC",2,0)=" (Entered 7/1/12 by EVERETT,BRIAN E)"
TMP("VUECC",3,0)=" "
TMP("VUECC",4,0)="2) Antenatal care: elderly primiparous|"
TMP("VUECC",5,0)=" (Entered 7/1/12 by EVERETT,BRIAN E)"
TMP("VUECC",6,0)=" *7/1/12 by EVERETT,BRIAN E - Put in note for other visit"
TMP("VUECC",7,0)=" *7/1/12 by EVERETT,BRIAN E - NOTE put in for elderly primp
arous"
TMP("VUECC",8,0)=" "
TMP("VUECC",9,0)="3) Abnormal fetal heart rate AND/OR rhythm affecting manageme
nt of mother|"
TMP("VUECC",10,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",11,0)=" "
TMP("VUECC",12,0)="4) Fetal distress affecting management of mother|PUTTING IN
A PROVIDER TEXT"
TMP("VUECC",13,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",14,0)=" "
TMP("VUECC",15,0)="5) Fetal distress affecting management of mother|"
TMP("VUECC",16,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",17,0)=" "
TMP("VUECC",18,0)="6) Fetus affected by breech delivery|PTEXT"
TMP("VUECC",19,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",20,0)=" *6/27/12 by EVERETT,BRIAN E - ADDING ANOTHER NOTE"
TMP("VUECC",21,0)=" "
TMP("VUECC",22,0)=" SKIPPED ONE LINE."
TMP("VUECC",23,0)=" SKIPPED TO THE NEXT LINE"
TMP("VUECC",24,0)=" *6/27/12 by EVERETT,BRIAN E - ADDING A NOTE."
TMP("VUECC",25,0)=" "
TMP("VUECC",26,0)="7) IUGR - Intrauterine growth retardation|"
TMP("VUECC",27,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",28,0)=" "
TMP("VUECC",29,0)="8) Activity intolerance|PTEXT"
TMP("VUECC",30,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",31,0)=" "
TMP("VUECC",32,0)="9) Water supply insufficient|"
TMP("VUECC",33,0)=" (Entered 6/28/12 by WETZEL,MIKE)"
```

LPIP(TARGET,DFN) ;PEP - Returns Prenatal Problems for LATEST prenatal visit

```
;
;Returns a list of all prenatal problem entries on the PIP that were used
;as the POV for the LATEST (most recent) prenatal visit for the patient. For
;each entry, displays the notes entered for that visit
;
;Input:
; DFN - Patient IEN
```

;

Sample Output:

```

DEV1>S X=$$LPIP^BJPNAPI("TMP("VUECC"),5478)

DEV1>W X
~@TMP("VUECC")
DEV1>ZW TMP
TMP("VUECC",1,0)="1) Water supply insufficient|"
TMP("VUECC",2,0)=" (Entered 6/28/12 by WETZEL,MIKE)"
TMP("VUECC",3,0)=" "
TMP("VUECC",4,0)="2) Antenatal care|"
TMP("VUECC",5,0)=" (Entered 7/1/12 by EVERETT,BRIAN E)"
TMP("VUECC",6,0)=" "
TMP("VUECC",7,0)="3) Antenatal care: elderly primiparous|"
TMP("VUECC",8,0)=" (Entered 7/1/12 by EVERETT,BRIAN E)"
TMP("VUECC",9,0)=" *7/1/12 by EVERETT,BRIAN E - NOTE put in for elderly primp
arous"
    
```

VPIP(TARGET,DFN,VIEN) ;PEP - Returns Prenatal POV Problems for a Visit

```

;
;Returns a list of all prenatal problem entries on the PIP that were used
;as the POV for the specified visit. For each entry, displays the notes
;entered for that visit.
;
;Input:
; DFN - Patient IEN
; VIEN (optional) - Visit IEN - If blank VIEN is pulled from Context
    
```

Sample Output:

```

DEV1>S X=$$VPIP^BJPNAPI("TMP("VUECC"),5478,3732180)

DEV1>W X
~@TMP("VUECC")
DEV1>ZW TMP
TMP("VUECC",1,0)="1) Abnormal fetal heart rate AND/OR rhythm affecting manageme
nt of mother|"
TMP("VUECC",2,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",3,0)=" "
TMP("VUECC",4,0)="2) Fetus affected by breech delivery|PTEXT"
TMP("VUECC",5,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",6,0)=" *6/27/12 by EVERETT,BRIAN E - ADDING ANOTHER NOTE"
TMP("VUECC",7,0)=" "
TMP("VUECC",8,0)=" SKIPPED ONE LINE."
TMP("VUECC",9,0)=" SKIPPED TO THE NEXT LINE"
TMP("VUECC",10,0)=" *6/27/12 by EVERETT,BRIAN E - ADDING A NOTE."
TMP("VUECC",11,0)=" "
TMP("VUECC",12,0)="3) IUGR - Intrauterine growth retardation|"
TMP("VUECC",13,0)=" (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",14,0)=" "
TMP("VUECC",15,0)="4) Activity intolerance|"
    
```

```
TMP("VUECC",16,0)="      (Entered 6/27/12 by EVERETT,BRIAN E)"
TMP("VUECC",17,0)="      "
TMP("VUECC",18,0)="5) Antenatal care: elderly primiparous|"
TMP("VUECC",19,0)="      (Entered 7/1/12 by EVERETT,BRIAN E)"
TMP("VUECC",20,0)="      *7/1/12 by EVERETT,BRIAN E - Put in note for other visit"
```

5.4.2 Routine BJPNAPI1 API Call:

VFADD(TARGET,PIPIEN,VIEN,APCDALVR) ;PEP - Add entry to the V OB file and update the PIP entry

```
;
;This API adds a new entry to the V OB (#9000010.43) file and also adds (or
updates)
;the corresponding prenatal problem list (#90680.01) entry with the new
information.
;The V OB file is a dynamic file, meaning it tracks the values of problems over
time. Therefore,
;a NEW entry to this file is created WHENEVER a problem is added to a patient's PIP
OR WHENEVER
;an UPDATE is made to that problem entry on the PIP. If an update and fields are
not passed in,
;current values are used in the new entry.
;
;The only exception is that notes are stored across entries (to save space in
resaving them each time).
;To see therefore ALL notes that have been entered for a problem on the PIP, you
have to loop through
;ALL V OB entries relating to that patient's PIP problem and pull ALL of the notes
in each.
;
;Input:
; PIPIEN - Pointer to prenatal problem list (#90680.01) entry - Null if NEW entry
; VIEN - Visit IEN
; APCDALVR - Array of entry values
;          - ("APCDSMD") - Pointer to BJPN SNOMED TERMS (#90680.02) entry.
*REQUIRED for NEW PIP entry
;          - ("APCDPRI") - Priority (L-Low,M-Medium,H-High)
;          - ("APCDSCO") - Scope (A-All Pregnancies,C-Current Pregnancy)
;          - ("APCDSTS") - Status (A-Active,I-Inactive)
;          - ("APCDEDD") - Definitive EDD - Internal FM format
;          - ("APCDPTX") - Provider Text String
;          - ("APCDPOV") - Visit Set as POV (1-Yes,""-No)
;          - ("NOTE") - Note to be added
;          - ("APCDDELDT") - Problem Deleted Date/Time - Internal FM format
;          - ("APCDDELB") - Problem Deleted By - DUZ value
;          - ("APCDDELR") - Problem Delete Reason - (D-Duplicate,E-Entered in
Error,O-Other)
;          - ("APCDDELO") - Delete Reason - if other
;
;Output:
; TARGET - Piece 1 - 1-Success/0-Failure
;          Piece 2 - PIPIEN
;          Piece 3 - Error Message
```

Samples

Emulate the Add Using Pick List functionality

```
DEV1>S APCDALVR("APCDSMD")=12 ←Using SNOMED code with IEN of 12
DEV1>D VFADD^BJPNAPI1("TMP",",",3732192,.APCDALVR)
DEV1>ZW TMP
TMP(1,0)="1^20^"
DEV1>D ^%G
Device:
Right margin: 80 =>
Screen size for paging (0=nopaging)? 24 =>
For help on global specifications DO HELP^%G
Global ^BJPNPL(20
^BJPNPL(20,0)="12^25830^12^^^C^A^3120620"
          1)="3120710.203311^3031^3120710.203311^3031"
Global ^AUPNVOB(46
^AUPNVOB(46,0)="20^25830^3732192^^^C^A^3120620^^12"
          12)="3120702.12^^^2994^^^^^^^^^^3120710.203311^3031^3120710.203312^
3031"
^AUPNVOB(46,22,0)="^9000010.4311^9^9"
^AUPNVOB(46,22,1,0)="C^Added Problem To PIP"
^AUPNVOB(46,22,2,0)="F^.08"
^AUPNVOB(46,22,3,0)="F^.09"
^AUPNVOB(46,22,4,0)="F^.1"
^AUPNVOB(46,22,5,0)="F^.12"
^AUPNVOB(46,22,6,0)="F^1216"
^AUPNVOB(46,22,7,0)="F^1217"
^AUPNVOB(46,22,8,0)="F^1218"
^AUPNVOB(46,22,9,0)="F^1219"
^AUPNVOB(46,22,"B","C",1)=" "
^AUPNVOB(46,22,"B","F",2)=" "
          3)=" "
          4)=" "
          5)=" "
          6)=" "
          7)=" "
          8)=" "
          9)=" "
```

Emulate the Add From PIP functionality (With Additional Field Sets)

```
DEV1>S APCDALVR("APCDSMD")=8 ←Using SNOMED code with IEN of 8
DEV1>S APCDALVR("APCDPOV")=1 ← Setting POV for visit
DEV1>S APCDALVR("NOTE")="NOTE ADDED FOR THE PROBLEM" ← Adding Note
DEV1>S APCDALVR("APCDPRI")="M" ←Set priority to Medium
DEV1>S APCDALVR("APCDSCO")="A" ← Set Scope to 'All Pregnancies'
DEV1>S APCDALVR("APCDPTX")="PROVIDER TEXT PUT IN HERE" ← Set Provider Text
```

```

DEVI>D VFADD^BJPNAPI1("TMP",",",3732192,.APCDALVR)

DEVI>zw TMP
TMP(1,0)="1^19^"

DEVI>D ^%G

Device:
Global ^BJPNPL(19
^BJPNPL(19,0)="8^25830^8^^770143^M^A^A^3120620"
    1)="3120710.14245^3031^3120710.14245^3031"
    3)="NOTE ADDED FOR THE PROBLEM"

Global ^AUPNVOB(37:38
^AUPNVOB(37,0)="19^25830^3732192^^1^M^770143^A^A^3120620^770146^8" ←Add Entry
    12)="3120702.12^^^2994^^^^^^^^^^^^^3120710.14245^3031^3120710.14245^30
31"
^AUPNVOB(37,21,0)="^9000010.431^1^1"
^AUPNVOB(37,21,1,0)="NOTE ADDED FOR THE PROBLEM^3120710.14245^3031"
^AUPNVOB(37,21,"B", "NOTE ADDED FOR THE PROBLEM",1)=" "
^AUPNVOB(37,22,0)="^9000010.4311^14^14"
^AUPNVOB(37,22,1,0)="C^Added Problem To PIP"
^AUPNVOB(37,22,2,0)="F^.05"
^AUPNVOB(37,22,3,0)="F^.06"
^AUPNVOB(37,22,4,0)="F^.07"
^AUPNVOB(37,22,5,0)="F^.08"
^AUPNVOB(37,22,6,0)="F^.09"
^AUPNVOB(37,22,7,0)="F^.1"
^AUPNVOB(37,22,8,0)="F^.11"
^AUPNVOB(37,22,9,0)="F^.12"
^AUPNVOB(37,22,10,0)="F^1216"
^AUPNVOB(37,22,11,0)="F^1217"
^AUPNVOB(37,22,12,0)="F^1218"
^AUPNVOB(37,22,13,0)="F^1219"
^AUPNVOB(37,22,14,0)="F^2100:1"
^AUPNVOB(37,22,"B", "C",1)=" "
^AUPNVOB(37,22,"B", "F",2)=" "
    3)=" "
    4)=" "
    5)=" "
    6)=" "
    7)=" "
    8)=" "
    9)=" "
    10)=" "
    11)=" "
    12)=" "
    13)=" "
    14)=" "
^AUPNVOB(38,0)="19^25830^3732192^^1^^^^^^770062^8" ← Set as POV entry
    12)="3120702.12^^^2994^^^^^^^^^^^^^3120710.14245^3031^3120710.142451^3
031"
^AUPNVOB(38,22,0)="^9000010.4311^4^4"
^AUPNVOB(38,22,1,0)="C^Set Problem As POV For Visit"
^AUPNVOB(38,22,2,0)="F^.05"
^AUPNVOB(38,22,3,0)="F^1218"
^AUPNVOB(38,22,4,0)="F^1219"
^AUPNVOB(38,22,"B", "C",1)=" "
^AUPNVOB(38,22,"B", "F",2)=" "
    3)=" "
    
```

```
4)=" "  
Global ^
```

Emulate the Update PIP Entry functionality

```
DEV1>S APCDALVR("APCDMSD")=13 ←Changing to SNOMED Term with IEN of 13  
DEV1>S APCDALVR("APCDPOV")=1 ←Setting as POV for visit  
DEV1>S APCDALVR("APCDPRI")="L" ← Setting priority to Low  
DEV1>S APCDALVR("APCDSCO")="A" ←Setting Scope to "All Pregnancies"  
DEV1>S APCDALVR("NOTE")="NOTE ENTRY ON UPDATE" ←Entered new note  
DEV1>D VFADD^BJPNAPI1("TMP", "20", 3732192, .APCDALVR)  
DEV1>D ^%G  
  
Device:  
Right margin: 80 =>  
Screen size for paging (0=nopaging)? 24 =>  
For help on global specifications DO HELP^%G  
Global ^BJPNPL(20  
^BJPNPL(20,0)="13^25830^12^^L^A^A^3120620"  
1)="3120710.203311^3031^3120710.203844^3031"  
3)="NOTE ENTRY ON UPDATE"  
  
Global ^AUPNVOB(47:48  
^AUPNVOB(47,0)="20^25830^3732192^^1^L^^A^A^3120620^^13"  
12)="3120702.12^^^2994^^^^^^^^^^^^^3120710.203311^3031^3120710.203844^  
3031"  
^AUPNVOB(47,21,0)="^9000010.431^1^1"  
^AUPNVOB(47,21,1,0)="NOTE ENTRY ON UPDATE^3120710.203844^3031"  
^AUPNVOB(47,21,"B","NOTE ENTRY ON UPDATE",1)=" "  
^AUPNVOB(47,22,0)="^9000010.4311^8^8"  
^AUPNVOB(47,22,1,0)="C^Updated Problem Entry"  
^AUPNVOB(47,22,2,0)="F^.05"  
^AUPNVOB(47,22,3,0)="F^.06"  
^AUPNVOB(47,22,4,0)="F^.08"  
^AUPNVOB(47,22,5,0)="F^.12"  
^AUPNVOB(47,22,6,0)="F^1218"  
^AUPNVOB(47,22,7,0)="F^1219"  
^AUPNVOB(47,22,8,0)="F^2100:1"  
^AUPNVOB(47,22,"B","C",1)=" "  
^AUPNVOB(47,22,"B","F",2)=" "  
3)=" "  
4)=" "  
5)=" "  
6)=" "  
7)=" "  
8)=" "  
^AUPNVOB(48,0)="20^25830^3732192^^1^L^^A^A^3120620^770152^12"  
12)="3120702.12^^^2994^^^^^^^^^^^^^3120710.203311^3031^3120710.203844^  
3031"  
^AUPNVOB(48,22,0)="^9000010.4311^4^4"  
^AUPNVOB(48,22,1,0)="C^Set Problem As POV For Visit"
```

```
^AUPNVOB(48,22,2,0)="F^.05"  
^AUPNVOB(48,22,3,0)="F^1218"  
^AUPNVOB(48,22,4,0)="F^1219"  
^AUPNVOB(48,22,"B","C",1)=""  
^AUPNVOB(48,22,"B","F",2)=""  
3)=""  
4)=""
```

Global ^

Emulate the Delete PIP Entry functionality

```
DEV1>D NOW^%DTC  
DEV1>S APCDALVR("APCDDELD")=%  
DEV1>S APCDALVR("APCDDELB")=DUZ  
DEV1>S APCDALVR("APCDDELR")="O"  
DEV1>S APCDALVR("APCDDELO")="DELETE OTHER REASON"  
DEV1>D VFADD^BJPNAPI1("TMP","20",3732192,.APCDALVR)  
DEV1>D ^%G  
  
Device:  
Right margin: 80 =>  
Screen size for paging (0=nopaging)? 24 =>  
For help on global specifications DO HELP^%G  
Global ^BJPNPL(20  
^BJPNPL(20,0)="13^25830^12^^^L^A^A^3120620"  
1)="3120710.203311^3031^3120710.205144^3031"  
2)="3120710.205056^3031^O^DELETE OTHER REASON"  
3)="NOTE ENTRY ON UPDATE"  
  
Global ^AUPNVOB(49:50  
^AUPNVOB(49,0)="20^25830^3732192^^^L^A^A^3120620^^13"  
2)="3031^3120710.205056^O^DELETE OTHER REASON"  
12)="3120702.12^^^2994^^^^^^^^^^^^^^3120710.203311^3031^3120710.205144^  
3031"  
^AUPNVOB(49,22,0)="^9000010.4311^7^7"  
^AUPNVOB(49,22,1,0)="C^Updated Problem Entry"  
^AUPNVOB(49,22,2,0)="F^2.01"  
^AUPNVOB(49,22,3,0)="F^2.02"  
^AUPNVOB(49,22,4,0)="F^2.03"  
^AUPNVOB(49,22,5,0)="F^2.04"  
^AUPNVOB(49,22,6,0)="F^1218"  
^AUPNVOB(49,22,7,0)="F^1219"  
^AUPNVOB(49,22,"B","C",1)=""  
^AUPNVOB(49,22,"B","F",2)=""  
3)=""  
4)=""  
5)=""  
6)=""  
7)=""
```

Global ^

6.0 Prenatal Package Files and Tables

6.1 File List

Table 1 contains a list of new files.

Table 6-1: New Files

File #	Filename	Description
90680.01	BJPN PRENATAL PROBLEMS	Contains a list of prenatal problems stored for patients as well as the current information stored for each prenatal problem.
90680.02	BJPN SNOMED TERMS	Contains an IHS supplied list of SNOMED terms (and their associated information).
90680.03	BJPN PICK LISTS	Contains a set of pick list definitions utilized by the prenatal components.
9000010.43	V OB	Contains historical prenatal problem list information.

6.2 File Access

Table 6-2 contains the FileMan access to new files.

Table 6-2: FileMan Access to New Files

File #	Filename	GL	RD	WR	LYG	DD	DEL
90680.01	BJPN PRENATAL PROBLEMS	^BJPNPL(@	@	@	@	@
90680.02	BJPN SNOMED TERMS	^BJPN(90680.02,	@	@	@	@	@
90680.03	BJPN PICK LISTS	^BJPN(90680.03,	@	@	@	@	@
9000010.43	V OB	^AUPNVOB(@	@	@	@	@

6.3 Cross References

90680.01 (BJPN PRENATAL PROBLEMS)

.02 PATIENT NAME

.03 SNOMED TERM

AC Regular type cross reference

.01 SNOMED CONCEPT ID

B Regular type cross reference

.03 SNOMED TERM

C Regular type cross reference

.02 PATIENT NAME

D Regular type cross reference

90680.02 (BJPN SNOMED TERMS)

.01 UNIQUE IDENTIFIER

B Regular type cross reference

.02 SNOMED TERM

C Regular type cross reference

90680.03 (BJPN PICK LISTS)

.01 PICK LIST

B Regular type cross reference

9000010.43 (V OB)

.02 PATIENT NAME

.01 PRENATAL PIP ENTRY

9999999-Visit Date (FMan format)

AA Regular type cross reference

.02 PATIENT NAME

AC Regular type cross reference

.03 VISIT

AD Regular type cross reference

.02 PATIENT NAME

.01 PRENATAL PIP ENTRY

1218 DATE/TIME LAST MODIFIED

AE Regular type cross reference

.02 PATIENT NAME

.03 VISIT

AF Regular type cross reference

.01 PRENATAL PIP ENTRY

B Regular type cross reference

6.4 Table Files

File: 90680.01 BJPN PRENATAL PROBLEMS

Global: ^BJPNPL(

Table 6-3: File 90680.01 - BJPN PRENATAL PROBLEMS

Field #	Field Name	Subscript	Piece	Type
.01	PLACEHOLDER FIELD	D0,0	1	N
.02	PATIENT NAME	"	2	P9000001
.03	SNOMED TERM	"	3	P90680.02
.04	SNOMED TERM (FUTURE)	"	4	Future field
.05	PROVIDER TEXT	"	5	P9999999.27
.06	CURRENT PRIORITY	"	6	S
.07	CURRENT SCOPE	"	7	S
.08	CURRENT STATUS	"	8	S
.09	CURRENT DEFINITIVE EDD	"	9	D
1.01	ORIGINAL ENTRY DATE	D0,1	1	D
1.02	ORIGINAL ENTERED BY	"	2	P200
1.03	LAST MODIFIED DATE/TIME	"	3	D

Field #	Field Name	Subscript	Piece	Type
1.04	LAST MODIFIED BY	"	4	P200
2.01	PROBLEM DELETED BY	D0,2	1	P200
2.02	DATE/TIME PROBLEM DELETED	"	2	D
2.03	REASON PROBLEM DELETED	"	3	S
2.04	DELETE REASON IF OTHER	"	4	F
3	CURRENT NOTE	D0,3	1	F
4	HISTORICAL NOTES (Not Used)	D0,4		

File: 90680.02 BJPN SNOMED TERMS

Global: ^BJPN(90680.02,

Table 6-4: File 90680.02 - BJPN SNOMED TERMS

Field #	Field Name	Subscript	Piece	Type
.01	UNIQUE IDENTIFIER	D0,0	1	N
.02	SNOMED TERM	"	2	F
.03	DESCRIPTION ID	"	3	F
.04	FREQUENCY	"	4	N
.05	SUBSET	"	5	F
.06	MAPADVICE	"	6	F
.07	SNOMED CONCEPT ID	"	7	F
1	MAPS TO ICD (#90680.21)	D0,1,D1,0		
.01	MAPS TO ICD	"	1	P80
.02	CODING SYSTEM	"	2	S
.03	DELIVERED CODE	"	3	F
2	SYSTEM PICK LIST (#90680.22)	D0,2,D1,0		

Field #	Field Name	Subscript	Piece	Type
.01	SYSTEM PICK LIST	"	1	P90680.03

File: 90680.03 BJPN PICK LISTS

Global: ^BJPN(90680.03,

Table 6-5: File 90680.03 - BJPN PICK LISTS

Field #	Field Name	Subscript	Piece	Type
.01	PICK LIST	D0,0	1	F
.02	HOSPITAL LOCATION	"	2	P44
.03	CLINIC	"	3	P40.7
.04	PROVIDER	"	4	P200
.05	OWNER	"	5	P200
.06	DISCIPLINE	"	6	P7
1	SNOMED CT TERMS (#90680.031)	D0,1,D1,0		
.01	SNOMED DISPLAY TEXT	"	1	F
.02	POINTER TO SNOMED TERMS	"	2	P90680.02
.03	FREQUENCY	"	3	N
.04	DATE UPDATED	"	4	D
2	MANAGERS	D0,2,D1,0		
.01	MANAGERS	"	1	P200

File: 9000010.43 V OB

Global: ^AUPNVOB(9000010.43,

Table 6-6: File 9000010.43 V OB

Field #	Field Name	Subscript	Piece	Type
.01	PRENATAL PIP ENTRY	D0,0	1	P90680.01
.02	PATIENT NAME	"	2	P9000001
.03	VISIT	"	3	P9000010
.05	USED AS POV	"	5	S
.06	PRIORITY	"	6	S
.07	PROVIDER TEXT	"	7	P9999999.27

Field #	Field Name	Subscript	Piece	Type
.08	SCOPE	"	8	S
.09	STATUS	"	9	S
.1	DEFINITIVE EDD	"	10	D
.11	PROVIDER NARRATIVE	"	11	P9999999.27
.12	SNOMED TERM	"	12	P90680.02
2.01	PROBLEM DELETED BY	D0,2	1	P200
2.02	DATE/TIME PROBLEM DELETED	"	2	D
2.03	REASON PROBLEM DELETED	"	3	S
2.04	DELETE REASON IF OTHER	"	4	F
1201	EVENT DATE AND TIME	D0,12	1	D
1202	ORDERING PROVIDER	"	2	P200
1203	CLINIC	"	3	P40.7
1204	ENCOUNTER PROVIDER	"	4	P200
1208	PARENT	"	8	P9000010.43
1209	EXTERNAL KEY	"	9	F
1210	OUTSIDE PROVIDER NAME	"	10	F
1213	ANCILLARY POV	"	13	P80
1215	ORDERING LOCATION	"	15	P44
1216	DATE/TIME ENTERED	"	16	D
1217	ENTERED BY	"	17	P200
1218	DATE/TIME LAST MODIFIED	"	18	D
1219	LAST MODIFIED BY	"	19	P200
2100	PROBLEM NOTE (#9000010.431)	D0,21,D1,0		

Field #	Field Name	Subscript	Piece	Type
.01	PRENATAL NOTE	"	1	F
.02	NOTE ENTRY DATE/TIME	"	2	D
.03	NOTE ENTERED BY	"	3	P200
2.01	NOTE DELETED BY	D0,21,D1,2	1	P200
2.02	DATE/TIME NOTE DELETED	"	2	D
2.03	REASON NOTE DELETED	"	3	S
2.04	DELETE REASON IF OTHER	"	4	F
2200	AUDITING (#9000010.4311)	D0,22,D1,0		
.01	AUDIT TYPE	"	1	S
.02	AUDIT VALUE	"	2	F
80101	EDITED FLAG	D0,801	1	S
80102	AUDIT TRAIL	"	2	F
81101	COMMENTS	D0,811	1	F
81201	VERIFIED	D0,812	1	S
81202	PACKAGE	"	2	P9.4
81203	DATA SOURCE	"	3	P839.7

6.5 Remote Procedure Calls

Table 6-7 lists the remote procedure calls added in this release and the associated tag and routine called by the remote procedure. These tags and routines are considered callable entry points, but are only available through the GUI interface.

Table 6-7: Remote Procedure Calls

Name	Tag	Routine	Description
BJPN CAN EDIT PIP	EDIT	BJPNPDET	This RPC returns whether the PIP can be edited.
BJPN CLOSE PIP	CLOSE	BJPNPUTL	This RPC makes each problem on the patient's PIP inactive and clears out the definitive estimated date of delivery.

Name	Tag	Routine	Description
BJPN DELETE PIP PROBLEM	DEL	BJPNPRUT	This RPC deletes a prenatal problem from the prenatal problem list (and marks V OB entries as deleted).
BJPN DELETE POV	DPOV	BJPNPUTL	This RPC removes the V POV entry for the SNOMED CT® prenatal problem.
BJPN DELETE PRB NOTE	DEL	BJPNPUP	This RPC will delete a note from the V OB file.
BJPN FIRE EHR EVENT	FIREEV	BJPNPDET	This RPC will fire an event in EHR.
BJPN GET DEF PRNT	GDFLT	BJPNPRNT	This RPC returns the current default printer for a user.
BJPN GET PICK LIST	PICK	BJPNPKL	This RPC returns entries from the BJPN PICK LISTS file (#90680.02) - It will return all SNOMED CT® entries for a particular Pick List Entry.
BJPN GET PICK LISTS	LST	BJPNPKL	This RPC returns top level entries from the BJPN PICK LISTS file (#90680.03).
BJPN GET PIP	PIP	BJPNPRL	This RPC returns the patient Pregnancy Issues and Problems.
BJPN GET PR NOTES	NOTES	BJPNPRL	This RPC returns notes entered for problems on the PIP.
BJPN GET PRIMARY PROVIDER	PPRV	BJPNPUTL	This RPC returns the primary provider for a visit.
BJPN GET PRINTER LIST	DEVICE	BJPNPRNT	This RPC returns the device list.
BJPN GET PRLIST HDR	HDR	BJPNPRL	This RPC returns header information pertaining to the prenatal problem list
BJPN GET SNOMED TERMS	SNO	BJPNPKL	This RPC returns entries from the BJPN SNOMED TERMS file (#90680.02) – If the DFN is supplied, it returns whether the patient has that problem on their PIP.
BJPN OPEN PIP	OPEN	BJPNPUTL	This RPC makes each 'All Pregnancies' problems on the patient's PIP active.
BJPN PICK LIST PRB DELETE	DEL	BJPNPKL	This RPC deletes a prenatal problem from the PIP (and removes it from V OB).
BJPN PRINT DETAIL	DETPRT	BJPNPRNT	This RPC prints the specific problem detail to the selected device.
BJPN PROBLEM DETAIL	DET	BJPNPDET	This RPC returns the problem detail for a prenatal problem entry (including paste deletes).
BJPN SET AS POV	POV	BJPNPUP	This RPC sets a problem as a POV for a visit.

Name	Tag	Routine	Description
BJPN SET DEDD	DEDD	BJPNPUTL	This RPC updates the definitive Estimated Date of Delivery (EDD) for each problem.
BJPN SET DEF PRNT	SDFLT	BJPNPRNT	This RPC sets the current default printer for a user.
BJPN SET PRB FROM PIP	ADD	BJPNPUP	This RPC adds a problem to the prenatal problem list using the "Add" button on the component.
BJPN SET PROB TO PIP	ADD	BJPNPRL	This RPC adds the prenatal problem to the patient's PIP.
BJPN SET PROBLEM NOTE	SNOTE	BJPNPUP	This RPC sets a note into the current note field and updates the V OB entry.
BJPN SET PROVIDER	PRV	BJPNPUTL	This RPC sets a V PROVIDER entry for the visit and also, if necessary, changes the primary provider.
BJPN UPDATE PROBLEM	UPD	BJPNPRUT	This RPC updates a particular item on the PIP.
BJPN VISIT LOCK CHK	VLOCK	BJPNPRL	This RPC returns whether a particular visit has been locked for editing.

7.0 Internal Relations

All functions within this application work independently.

There are no documented internal relations in BJPN.

8.0 External Relations

8.1 External Calls

Routine	is Invoked by:
^%DT	BJPNPRUT, dd9000010.43, dd9000010.431, dd90680.01 dd90680.014, dd90680.031
C^%DTC	BJPNPDET, BJPNPRL
NOW^%DTC	BJPNAPI1, BJPNPKL, BJPNPRL, BJPNPRNT, BJPNPRUT, BJPNPUP BJPNPUTL
^%ZTER	BJPNPDET, BJPNPKL, BJPNPRL, BJPNPRNT, BJPNPRUT, BJPNPUP BJPNPUTL
^APCDALVR	BJPNAPI1
AQE1^AUPNCIXL	dd9000010.43
AQEKILL1^AUPNCIXL	dd9000010.43
\$\$AGE^AUPNPAT	BJPNPRNT
\$\$HRN^AUPNPAT	BJPNPRNT
ADD^AUPNVSIT	dd9000010.43
SUB^AUPNVSIT	dd9000010.43
\$\$ISLOCKED^BEHOENCX	BJPNPRL
\$\$VSTR2VIS^BEHOENCX	BJPNAPI
DEL^BGOVPOV	BJPNPUTL
SET^BGOVPOV	BJPNPUP
SETVPRV^BGOVPRV	BJPNPUTL
\$\$BRDCAST^CIANBEVT	BJPNPDET
GETSUBSC^CIANBEVT	BJPNPDET
\$\$HASKEY^CIAVCXUS	BJPNPDET
\$\$GETVAR^CIAVMEVT	BJPNAPI
GETVAR^CIAVMEVT	BJPNAPI
GETPAR^CIAVMRPC	BJPNPDET, BJPNPRL
DEVICE^CIAVUTIO	BJPNPRNT
PRINT^CIAVUTIO	BJPNPRNT
PRTGETDF^CIAVUTIO	BJPNPRNT
PRTSETDF^CIAVUTIO	BJPNPRNT
^DIC	BJPN10PS, BJPNPRUT, BJPNPUP, BJPNPUTL, BJPNVFIL dd9000010.43 dd9000010.43
IX^DIC	dd9000010.43
FILE^DICN	BJPNAPI1, BJPNPRL, BJPNPRUT, BJPNPUP, BJPNVFIL
^DICR	dd9000010.43
DT^DICRW	BJPNPDET, BJPNPKL, BJPNPRL, BJPNPRNT, BJPNPRUT, BJPNPUP BJPNPUTL
FILE^DIE	BJPN10PS, BJPNAPI1, BJPNPKL, BJPNPRUT, BJPNPUP, BJPNPUTL BJPNVFIL
WP^DIE	BJPN10PS
^DIK	BJPN10PR
ENALL^DIK	BJPN10PS
IX^DIK	BJPNVFIL
\$\$IENS^DILF	BJPN10PS, BJPNPDET, BJPNPKL, BJPNPRL, BJPNPRUT, BJPNPUP BJPNPUTL
\$\$FMTE^DILIBF	BJPNPRL
\$\$GET1^DIQ	BJPN10PS, BJPNAPI, BJPNAPI1, BJPNPDET, BJPNPKL, BJPNPRL BJPNPRNT, BJPNPRUT, BJPNPUP, BJPNPUTL, BJPNVFIL
Y^DIQ	dd90680.01
EN^DIU2	BJPN10PR
\$\$FMTE^XLFDT	BJPNAPI
\$\$NOW^XLFDT	BJPNPDET, BJPNPKL, BJPNPRL, BJPNPRNT, BJPNPRUT, BJPNPUP BJPNPUTL, dd9000010.43

8.2 Callable Routines–Published Entry Points

Table 8-1: Callable Routines - Published Entry Points

Routine Called	Description
EN^APCDALVR ;PEP	Called to create PCC V File entries
AGE^AUPNPAT ;PEP	Return patient age
HRN^AUPNPAT ;PEP	Return patient health record number
ISLOCKED^BEHOENCX ;PEP	Returns whether visit has been locked for editing
VSTR2VIS^BEHOENXC ;PEP	Convert visit string to visit IEN
DEL^BGOVPOV ;EP – Documented EHR function call	Delete POV for visit
SET^BGOVPOV ;EP – Documented EHR function call	Set POV for visit
SETVPRV^BGOVPRV ;Documented EHR function call	Set provider for visit
BRDCAST^CIANBEVT ;EP – Documented EHR function call	Fire EHR event
GETSUBSC^CIANBEVT ;EP – Documented EHR function call	Return list of subscribers to EHR event
HASKEY^CIAVCXUS ;EP – Documented EHR function call	Return whether user has the specified security key
GETVAR^CIAVMEVT ;Documented EHR function call	Returns context variables for EHR patient/visit
GETPAR^CIAVMRPC ;Documented EHR function call	Returns the value for the specified parameter
DEVICE^CIAVUTIO ;Documented EHR function call	Returns a device listing
PRINT^CIAVUTIO ;Documented EHR function call	Prints compiled information
PRTGETDF^CIAVUTIO ;Documented EHR function call	Returns default print device for user
PRTSETDF^CIAVUTIO ;Documented EHR function call	Sets default print device for user

8.3 Exported options

There are no callable options in BJPN since the PCM components are accessed entirely from EHR. BJPNRPC is the broker option.

Table 8-2: Exported Options

Option Name	Description
BJPNRPC	This option hosts RPCs in the BJPN namespace. Users must have access to this option in order to use the PCM.

9.0 Archiving and Purging

There is no archiving or purging currently implemented in PCM.

10.0 Documentation Resources

This section describes some methods to generate Prenatal system technical documentation.

10.1 %INDEX Option

The %INDEX option analyzes the structure of a routine to determine in part if the routine adheres to RPMS programming standards. The %INDEX output can include the following components:

- Compiled list of errors and warnings
- Routine listing
- Local variables
- Global variables
- Naked globals
- Label references
- External references

Running %INDEX for a specified set of routines allows users to discover any deviations from RPMS programming standards that exist in the selected routines and to see how routines interact with one another (that is, which routines call or are called by other routines).

To run %INDEX for the Patient Registration package, type **BJPN** at the “Routine(s)?>” prompt.

10.2 List File Attributes Option

This Veteran’s Administration (VA) FileMan option allows users to generate documentation pertaining to files and file structure. Using the standard format of the List File Attributes option yields the following data dictionary information for a specified file:

- File name and description
- Identifiers
- Cross-references
- Files pointed to by the file specified
- Files that point to the file specified
- Input, print, and sort templates

In addition, the following applicable data is supplied for each field in the file:

- Field name, number, title, and description
- Global location
- Help prompt
- Cross-references
- Input transform
- Date last edited
- Notes

Using the Global Map format of this option generates an output that lists the following information:

- All cross-references for the file selected
- Global location of each field in the file
- Input, print, and sort templates

For a comprehensive listing of Prenatal package files, please refer to Section 6.0.

11.0 SAC Requirements and Exemptions

The following is a Standards and Conventions (SAC) Exemption Request for use of third-party User Interface (UI) controls.

Request for Exemption to RPMS Programming Standards	
Package: BJPN	Date: July '12
Program: N/A	
Line Number: N/A	
Applicable Standard: Section 9 of the 2009 SAC	
Section 9.3 states the following: Use of commercially purchased controls requires SAC Commission approval through the Request for Exemption process. The request must also contain the manufacturer's licensing and deployment agreements.	
Reason for Exemption:	
Requirements for the Prenatal application required the use of enhanced UI controls for datagrid, toolbars, tabbed MDI interface, Excel® export and print preview displays. To accommodate these needs without significant additional development time and cost associated with developing these custom controls, commercially available user interface controls were purchased from Infragistics for a nominal fee and were utilized within the GUI portion of the Prenatal application. The set of controls used at the time of this writing is the NetAdvantage® for Windows® Forms–Version 2010 Vol 3. A similar exemption was granted in January of 2007 for the ICARE MANAGEMENT SYSTEM (BQI) package.	
The licensing agreement is attached with this application, and our understanding is that the control dll files may be incorporated and distributed with applications freely. The charge only comes into play for the developer licenses, i.e. in order for a developer to use these controls within a new application, they must have a properly licensed copy of the developer tools on the machines used for development. Use of these tools was suggested and encouraged by IHS liaisons early in the design phase of the iCare project.	
Additional information about these controls is available from the Infragistics web site:	
Product Description:	
http://www.infragistics.com/dotnet/netadvantage/winforms.aspx#Overview	
508 Accessibility Information:	
http://www.infragistics.com/help/topic/3C16327B-359A-4288-AF74-74BCDCB5AFB7	
Current license agreement:	
http://www.infragistics.com/legal/license	
Developer:	
SACC Review	Date:
Recommend APPROVAL___ DISAPPROVAL___	
Duration:	
Comments:	
OIT Action	Date:
Request APPROVED___ DISAPPROVED___	
Comments:	
Director, DIT	

12.0 Templates, Forms, and Protocols

12.1 Print Templates

There are no print templates utilized by the PCM.

12.2 Sort Templates

There are no sort templates utilized by the PCM.

12.3 Input Templates

Table 12-1: Input Templates

Template	Description
APCDALVR 9000010.43 (MOD)	Template used by API call to add/update entries to the V OB (#9000010.43) file.

12.4 List Templates

There are no list templates utilized by the PCM.

12.5 Forms

There are no forms utilized by the PCM.

12.6 Protocols

There are no protocols utilized by the PCM.

13.0 Prenatal (EHR) Client

13.1 Description of Development Environment

The Prenatal application was developed using the programming language C# within Microsoft® Visual Studio® (MS VS) 2008 integrated development environment (IDE). The PCM is written to utilize the MS .NET 2.0 framework. All new classes created for the Prenatal application exist within the namespace IHS.PN.EHR.

In addition to the standard .NET object classes, the Prenatal application also uses commercially available Windows® form controls from Infragistics. All the controls used were part of a package of controls named Infragistics NetAdvantage® for Windows® Forms 2010 Volume 3.

In addition, the Prenatal application also utilizes the BMX version 4.0 software to facilitate security authentication and communication between the EHR application and the RPMS server data. All data retrieval and updates are handled through the RPCs defined in the BJPN namespace.

All of the DLL files upon which Prenatal depend are delivered with the EHR application install package and are stored in the EHR program directory.

13.2 Prenatal RPMS Server Requirements

The RPMS server portion of the Prenatal application does not require a specific version of Cache® or operating system (OS). However, the server needs to be able to support BMX 4.0 fully, and is therefore subject to any requirements needed to run that application. Please refer to the BMX version 4.0 Technical Manual for details.

Prenatal is included as part of EHR. Workstation OS and hardware requirements are the same as listed in EHR installation guide. Additional disk space (approximately 15 MB) will be required for the PCM's DLLs and help files.

13.3 Prenatal GUI Server–Install %

Table 13-1 shows all of the files that will be installed with the Prenatal application.

Table 13-1: PCM Specific Files included in the GUI PCM

Filename	Assembly Version	Description
IHS.PN.EHR.PrenatalProblemList.dll	1.0.0.6	This dll provides all the functionality to implement Prenatal Problem List in EHR.

Filename	Assembly Version	Description
IHS.PN.EHR.PrenatalPickList.dll	1.0.0.6	This dll provides all the functionality to implement Prenatal Pick List in EHR.
RichTextBoxPrintControl.dll	1.0.0.0	This class extends the RichTextBox control to allow for generation of formatted print documents in print preview and print to printer functions. Specifically, class is used to print character based reports pulled from RPMS and displayed in the Prenatal application.
IHS.PN.EHR.PrenatalProblemList.chm		Compiled HTML file that contains the online help for Prenatal Problem List.
IHS.PN.EHR.PrenatalPickList.chm		Compiled HTML file that contains the online help for Prenatal Pick List.

Table 13-2 shows all of the files that are part of a set of enhanced User Interface (UI) controls from Infragistics called NetAdvantage® for Windows Forms® Version 2010 Volume 3.

Table 13-2: Enhanced User Interface Controls Utilized By the PCM

Filename	Assembly Version	Description
Infragistics2.Shared.v10.3.dll	10.3.20103.1000	This file contains general functions and types common to all of the Infragistics controls.
Infragistics2.Excel.v10.3.dll	10.3.20103.1000	This file contains helper classes that allow export to Excel® format without requiring that MS Excel is installed on the client machine.

Filename	Assembly Version	Description
Infragistics2.Win.v10.3.dll	10.3.20103.1000	This file contains classes used at a high level to control application-wide styles and appearances and interface with Windows® XP themes, etc.
Infragistics2.Win.Misc. v10.3.dll	10.3.20103.1000	This is a set of other miscellaneous functions and data types used when working with the other Infragistics® classes.
Infragistics2.Win.UltraWinListBar.v10.3.dll	10.3.20103.1000	The UltraWinListBar is used to aid with navigation to forms.
Infragistics2.Win.UltraWinListView.v10.3.dll	10.3.20103.1000	The UltraWinListView is a user interface control to display lists of items.
Infragistics2.Win.UltraWinStatusBar.v10.3.dll	10.3.20103.1000	The UltraWinStatusBar provides the enhanced status bar used at the bottom of form to provide status text and row counts.
Infragistics2.Win.UltraWinGrid.v10.3.dll	10.3.20103.1000	The UltraGrid™ is an enhanced data-bound DataGrid used to display tabular data to the user. This also allows users to sort, filter, arrange columns, and select rows of data at run time.

Filename	Assembly Version	Description
Infragistics2.Win.UltraWinToolbars.v10.3.dll	10.3.20103.1000	This file contains classes to handle the toolbars, menu and context menus (right-click) within Windows® forms.
Infragistics2.Win.UltraWinGrid.ExcelExport.v10.3.dll	10.3.20103.1000	This file contains the classes used to handle export of information from UltraGrid™ DataGrid to Excel® format.
Infragistics2.Win.UltraWinPrintPreviewDialog.v10.3.dll	10.3.20103.1000	This file contains classes to handle print preview windows for printable items with the application and allows for zoom, page layout adjustments, etc.

Glossary

Pregnancy Issues and Problems List (PIP)

New functionality created in the BJPN namespace to implement pregnancy problem tracking for SNOMED CT® terms.

Pregnancy Issues and Problems Pick List (PIPPL)

New functionality created in the BJPN namespace to implement pregnancy problem tracking for SNOMED CT® terms. This module enables user selection of SNOMED CT® terms to add to the PIP module.

Pregnancy Problems Pick List (PPL)

New functionality created in the BJPN namespace to implement pregnancy problem tracking for SNOMED CT® terms. This module enables user selection of SNOMED CT® terms to add to the PIP module.

Electronic Health Record (EHR)

An application used by medical organizations to track patient medical records and care.

ICD Codes

One of several code sets used by the healthcare industry to standardize data. The International Classification of Disease (ICD) codes are an international diagnostic coding scheme. In addition to diseases, ICD also includes several families of terms for medical-specialty diagnoses, health status, disablements, procedures, and reasons for contact with HCPs. IHS currently uses ICD-9 for coding.

Microsoft® (MS)

Software company that develops and distributes the Visual Studio® (VS) tool used to develop the Prenatal application.

Office of Information Technology (OIT)

The organization within IHS that is responsible for developing and maintaining RPMS and related IT functions.

Purpose of Visit (POV)

In RPMS, ICD codes and narrative describing the patient's purpose of visit (POV) are documented in PCC V POV.

Resource and Patient Management System (RPMS)

A series of integrated software components that includes clinical, administrative, and financial functions.

RPMS Patient Care Component (PCC)

Refers to functions within RPMS as a clinical data repository, storing visit-related data about a patient.

Software Quality Assurance (SQA)

The office within OIT responsible for ensuring that the system conforms to RPMS Programming Standards and Conventions (SAC).

Text Integration Utility (TIU)

Refers to functions within RPMS used to store long blocks of text in the medical record.

Visual Studio® (VS)

Microsoft software development tool and integrated development environment (IDE) used to develop the Prenatal application.

Acronym List

APCD	PCC Data Entry
API	Application Programmer Interface
BJPC	IHS PCC Suite
BJPN	Namespace for Prenatal files and routines
BMX	BMXNET
DI	VA FileMan
DLL	Dynamic Link Library
EDD	Estimated Date of Delivery
EHR	Electronic Health Record
GUI	Graphical User Interface
HS	Health Summary
IEN	Internal Entry Number
IHS	Indian Health Service
KIDS	Kernel Installation and Distribution System
MS	Microsoft®
OIT	Office of Information and Technology
OS	Operating System
PC	Personal Computer
PCM	Prenatal Care Module
PIP	Pregnancy Issues and Problems
POV	Purpose of Visit

RPC	Remote Procedure Call
RPMS	Resource and Patient Management System
SAC	Standards and Conventions
SNOMED CT®	Systematized Nomenclature of Medicine--Clinical Terms
TIU	Text Integration Utility
UI	User Interface
VA	Veteran's Administration
VS	Visual Studio®
XB	IHS/VA Utilities
XU	VA KERNEL

Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

Phone: (505) 248-4371 or (888) 830-7280 (toll free)

Fax: (505) 248-4363

Web: <http://www.ihs.gov/GeneralWeb/HelpCenter/Helpdesk/index.cfm>

Email: support@ihs.gov