



RESOURCE AND PATIENT MANAGEMENT SYSTEM

# **iCare Population Management GUI**

(BQI)

## **Installation Guide and Release Notes**

Version 2.9 Patch 5  
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Office of Information Technology  
Division of Information Technology

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## Preface

The site should have already installed up to the latest version, which is Version 2.9 Patch 4. V2.9 P5 includes functionality to implement change requests from iCare users and updates to the current iCare GUI.

The intended audiences for the *Installation Guide and Release Notes* are Indian Health Service (IHS) site managers and other technical staff. Technical documentation accompanies this installation document in this release. Please refer to the *Technical Manual* for additional information.

The iCare system is an integrated case management system intended to provide any IHS direct, tribal, or urban (I/T/U) healthcare providers with decision support and patient management for single or multiple disease states and care conditions for a single patient or for user-defined groups of patients. iCare provides a graphical interface to existing Resource and Patient Management System (RPMS) data, presenting different views to include individual patient provider-defined groups, and population and community-centric views of patient data.

The iCare application allows providers to proactively track conditions and health statuses of their patients, any individual patient, or populations of patients, based on specific or multiple user-defined clinical concerns. A more complex and integrated level of logic for certain chronic conditions is defined in underlying RPMS components and is accessible through iCare to assist non-specialist providers in improving clinical decision-making and compliance with clinical guidelines. This type of integrated system provides a mechanism to inform healthcare providers about and follow up on clinical interventions and information about single or multiple disease states and conditions.

The iCare package is intended for use by both general and specialist healthcare providers, as well as disease-specific case managers at any I/T/U using RPMS. The experience and skill level of all hands-on users of RPMS will range from non-expert to expert. The providers' knowledge of clinical guidelines and disease-specific treatment will range from general to specialists.

The iCare system consists of two components—the RPMS M programming language and the graphical user interface (GUI)—both of which must be installed and functioning in order for this application to work.

## 1.0 Release Notes

iCare Version 2.9 Patch 5 (v2.9 p5) contains the following Change Requests:

Table 1-1: Change Requests

| CR ID | CR Description   |
|-------|--|
| 60078 | CR_9149 - BQI - Correct Taxonomy Maintenance Category Value  |
| 73220 | CR_5241 - BQI - Select SNOMED Concept ID(s) to Search for Problems   |
| 73604 | CR_5789 - BQI - Care Management - Add STD/STI Group  |
| 73850 | CR_6122 - BQI - Panel Definition - Add Filter for Facility (Location Code)                                   |
| 75421 | CR_9020 - BQI - Save Patients to Existing ACM Register from iCare  |
| 75480 | CR_9145 - BQI - Include the 3-27 Month Immunization Report in iCare  |
| 75492 | CR_9159 - BQI - Add new column to Hep C Care Mgmt Group  |
| 75618 | CR_9806 - BQI - Update Panel View - Def Details tab to include Sched Appts Data for Validation [HEAT 368073] |
| 75785 | CR_10962 - BQI - Panel View - Batch Update Provider Category (Specialty)                                     |
| 75868 | CR_11208 - BQI - Add Search for Waitlist Patients to Scheduled Appts   |
| 76017 | CR_11845 - BQI - Prenatal Care Mgmt Grp  |
| 78633 | BQI-Comm Alert - HIV Lab Result trigger  |
| 85143 | BQI - Prenatal Care Mgmt Group Add Additional Columns  |
| 85494 | BQI - Panel View, PN/Patient Name merging for different HRNs   |
| 87612 | BQI - Windows 10 compatibility setting   |
| 93337 | Update iCare GUI to Implement Infragistics 2022 Vol 2  |
| 94476 | BQI - Hep C Care Mgmt Group - FIB4 Calc  |
| 94797 | BQI - iCare Feature for DM Individual Audit report items missing   |
| 95381 | BQI - Panel Layout - fix Date Time fields width  |
| 96010 | BQI - Update COVID CPT Taxonomies  |
| 96947 | BTPW - CMET Duplicate Entry reported   |
| 95382 | BQI - Unlock Error Message   |

## 2.0 Installation Notes

**Prefix:** BQI

**Current Version:** 2.9 p5

### 2.1 Contents of Distribution

| File                        | Description   |
|-----------------------------|---|
| bqi_0290.05k                | v2.9 p5 KIDS installation file                                      |
| bqi_0290.05i.pdf            | Installation Guide and Release Notes                                |
| bqi_0290.05gui.zip          | v2.9 p5 GUI installation files in Compressed Folder (zipped) format |
| bqi_0290.05u_panel_view.pdf | User Manual for Panel View  |
| bqi_0290.05u_panel_def.pdf  | User Manual for Panel Def   |

### 2.2 Required Resources

#### 2.2.1 RPMS

The RPMS server portion of the iCare application does not require a specific version, cache, or operating system (OS). However, the RPMS server must be able to fully support BMXNet (BMX) 4.0 or higher and is therefore subject to any requirements need to run that application. Please refer to the *BMX Version 4.0 Technical Manual* for details.

**Note:** The following are required builds to install the KIDS:  
BQI\*2.9\*4

Table 2-1 shows required RPMS server software.

Table 2-1: Required RPMS software

| Module                                       | Minimum Version    |
|--|--------------------|
| IHS ICD/CPT Lookup & Grouper (AICD)          | v4.0 p1            |
| Taxonomy (ATX)                               | v5.1 p48           |
| VA FileMan (DI)                              | v22.0 p1020        |
| VA Kernel (XU)                               | v8.0 p1020         |
| Toolkit (XT)                                 | V7.3 p1019         |
| BMXNet (BMX)                                 | v4.0 p5            |
| IHS/VA Utilities (XB)                        | v3.0 through p11   |
| Patient Information Management System (PIMS) | v5.3 through p1021 |

| <b>Module</b>                        | <b>Minimum Version</b> |
|--------------------------------------|------------------------|
| IHS Clinical Reporting (BGP)         | V23.0                  |
| PCC Data Entry (APCD)                | v2.0 through p10       |
| PCC Health Summary (APCH)            | v2.0 through p17       |
| Q-Man (AMQQ)                         | v2.0 through p21       |
| HIV Management System (BKM)          | v2.1 p2                |
| IHS Asthma Register (BAT)            | v1.0                   |
| IHS PCC Suite (BJPC)                 | v2.0 p28               |
| IHS MU Performance Reports (APCM)    | v2.0                   |
| Referred Care Info System (BMC)      | v4.0 p14               |
| Patient Registration (AG)            | v7.1 p16 and v7.2 p8   |
| Immunization (BI)                    | v8.5 p5 and v8.5 p1013 |
| iCare (BQI)                          | v2.9 p5                |
| IHS User Security Audit (BUSA)       | v1.0 p4                |
| Diabetes Management System (BDM)     | v2.0 p16               |
| Designated Provider Mgt System (BDP) | v1.0 p1                |
| Electronic Health Record (EHR)       | v1.1 p34               |
| Clinical Reminders (PXRМ)            | v2.0 p2009             |
| Text Integration Utilities (TIU)     | v1.0 p1027             |
| CPT FILES (ACPT)                     | v2.23 p2               |
| ICD UPDATE (AUM)                     | v23.0 p3               |
| Lab Service (LR)                     | v5.2 p1052             |
| IHS DICTIONARIES (PATIENT) (AUPN)    | v99.1 p29              |
| IHS DICTIONARIES (POINTERS) (AUT)    | v8.1 p32               |
| IHS VA SUPPORT FILES (AVA)           | v93.2 p27              |
| CCDA (BCCD)                          | v2.0 p2                |
| IHS COMMUNICATION SUPPORT (BCOM)     | v1.0                   |

## 2.2.2 GUI Client

Table 2-2 shows client workstation specification details.

Table 2-2: GUI client

| <b>Client PC</b>  | <b>Minimum Versions</b>                           |
|-------------------|---|
| Microsoft Windows | Windows 10 or newer, Windows 2016 Server or newer |

| <b>Client PC</b>  | <b>Minimum Versions</b>   |
|---|---|
| Microsoft .NET Framework<br>(The iCare installation package will check for the .NET framework prerequisite and will assist the user with download and installation if needed) | V4.6.2  |
| Suggested client PC hardware  | Processor:<br>Minimum: Pentium III 800MHz<br>Suggested: Pentium 4 2GHz+<br>Memory (RAM):<br>Minimum: 2048MB<br>Suggested: 4096MB+ |
| Approximate disk space requirements   | iCare application footprint ≈ 58MB  |

## 2.3 Before You Begin: Installation Issues

1. Make a copy of this distribution for offline storage.
2. Print all notes and readme files.
3. Capture the terminal output during the installation using an auxport printer attached to the terminal where the software installation is performed to ensure a printed audit trail if any problems should arise.
4. iCare users should be off-line.

## 3.0 Installation Instructions

The iCare package contains components that run on both the RPMS server and the client personal computer (PC). Installation of the RPMS server components is conventional and consists of a Kernel Installation and Distribution System (KIDS) build.

The client PC component is currently deployed via a standard Windows installation package application as an “msi” file. New versions of the client software can be installed on the client PC as updates are available so that the client software version matches the version of iCare installed on the server. Previous versions of the client software will be automatically removed from the client workstation when the new version is installed.

If desired, the iCare client may be uninstalled via the Windows control panel, in the **Add or remove programs**, or the **Apps & features** option for Windows. Select the entry in the list for the iCare version to uninstall and click the **Uninstall** option.

In addition, the iCare client PC installation program will check for Microsoft .NET 4.6.2 Framework on the client PC, and if it has not been previously installed, installation will be halted.

### 3.1 Special Considerations for Multi-Divisional Sites

Different facilities that use the same RPMS database are considered to be multi-divisional sites. Once installed the KIDS on the RPMS server, all facilities will be affected.

### 3.2 Before Installation

Determine the method of installing the new iCare GUI client for all iCare users. Refer to Appendix A for descriptions of some of the available deployment options, including options for automated installation.

Coordinate with all iCare users when the KIDS will be installed with the GUI, so the GUI is ready to go when the KIDS is installed.

The following sections provide instructions on how to install iCare.

### 3.3 Pre-installation Instructions

1. If possible, initially load the software into a test account, then into the production account. There are no routines or globals to remove after the installation is complete.

2. Refer to the RPMS Server Installation Instructions (Section 3.4) and the Sample RPMS Client Installation (Section 3.5) for the applicable prompts and user responses. User responses appear in bold type.
3. Ensure that the BMX system is installed and that a BMX monitor process is running. The BMX Integrated Security feature allows connection to RPMS without having to re-specify access and verify codes every time. For this feature to work, the integrated security field of the BMX monitor port must be set to Yes. See the *BMX user and installation manuals* for details on BMX.
4. Starting with iCare 2.9 p3, because the Community Alerts Export is being moved from using ‘sendto’ to using the IHS Communication Support package (BCOM), be sure that an archive folder exists on your server. To check for this folder, go to the RPMS SITE file and check what the FILE EXPORT PATH is.

```

select OPTION: INQUIRE TO FILE ENTRIES

OUTPUT FROM WHAT FILE: ICARE SITE PARAMETERS// RPMS SITE
                        (1 entry)
select RPMS SITE LOCATION NAME: 2016 DEMO HOSPITAL
ANOTHER ONE:
STANDARD CAPTIONED OUTPUT? Yes// (Yes)
Include COMPUTED fields: (N/Y/R/B): NO// - No record number (IEN), no Computed
Fields

NUMBER: 1                LOCATION NAME: 2016 DEMO HOSPITAL
PATIENT CARE COMPONENT PRESENT: YES    UNIVERSAL LOOKUP FOR VISITS: ALLOWED
THIRD-PARTY BILLING PRESENT: YES       MFI RUNNING: NOT USED
QMAN RUNNING: Y                       OPERATING SYSTEM: DOS
PCC FILE 200 CONVERSION: YES
DATE PCC VISIT RELINKER RUN: APR 17, 2020
FILE IMPORT PATH: H:\Temp\F1Q1D        FILE EXPORT PATH: H:\Temp\F1Q1D
LEAD DIGITS FOR RECORD IDS: 505430

select RPMS SITE LOCATION NAME: █

```

Figure 3-1: RPMS SITE data

The archive folder should be in the folder before the FILE EXPORT PATH. For example, the archive folder (from above) should be in H:\Temp (aka H:\Temp\archive). If the FILE EXPORT PATH is G:\Pub\Export, the archive folder should be in G:\Pub (aka G:\Pub\archive).

### 3.4 RPMS Server Install Instructions

1. On the RPMS server, load and install **bqi\_0290.05k** file using the KIDS menu options. From the **KIDS** menu, select the **Installation** menu.
2. From the **Installation** menu, select **Option 1: Load a Distribution**.
3. Type **bqi\_0290.05k** at the “Enter a Host File” prompt (the file name might need to be preceded with the appropriate host path to retrieve from the appropriate software directory).

4. The KIDS file bqi\_0290.05k contains the following: ICARE MANAGEMENT SYSTEM 2.9 P5 (BQI\*2.9\*5) and CARE MANAGEMENT EVENT TRACKING (BTPW \*1.2\*5).
5. Type **Yes** (or press Enter to accept the default) at the “Want to Continue with Load? YES//” prompt.
6. From the **Installation** menu, select **Option 2: Verify Checksums in Transport Global**, which provides a mechanism for ensuring the integrity of routines by verifying checksums for the components of the Transport global, and reports any errors uncovered.
7. Type **BQI\*2.9\*5** as the install name.

Optional: At this time, an optional election to exercise one of the following installation options is available. Use BQI\*2.9\*5 as the install name.

- a. **Back Up a Transport Global:** Creates a MailMan message that will back up all current routines on the system that would be replaced by this release (because this is a new release no files will be replaced).
  - b. **Compare Transport Global:** Previews all changes that will result from the installation of this patch and compares them with the values currently loaded on the system (routines, data dictionaries, templates, etc.).
8. From the **Installation** menu, select the **Install Packages(s)** option.
  9. At the “Select Install Name” prompt, type **BQI\*2.9\*5**.
  10. Respond to the following prompts as indicated:
    - a. At the “Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES//” prompt, type **NO**.
    - b. At the “Want KIDS to INHIBIT LOGONs during the install?//YES” prompt, type **NO**.
    - c. At the “Want to DISABLE Scheduled Options, Menu Options and Protocols?// YES” prompt, type **NO**.
  11. Type the device that will print the install messages. Exit the **Installation** menu.

Proceed to Section 5.0 for further information and setup instructions.

|   |
|---|
| <p><b>Note:</b> Please read the Post-Installation notes for more information.</p> |
|---|

## 3.5 Client Installation

Determine the method of installing the GUI for all iCare users. Note that the bqi-iCareInstall-v2\_9\_5.msi file is a Microsoft installation file intended to be suitable for use with automated workstation install “push” technologies, such as Microsoft Active Directory Group Policy deployment. Refer to Appendix A for descriptions of some of the available deployment options, including options for automated installation.

The installation of the iCare client must be coordinated with the installation of the KIDS on the RPMS server so that the GUI is ready to be installed after the KIDS is installed.

To install the iCare Windows GUI client portion of the iCare application for a basic single-workstation, perform the following tasks:

1. Copy the bqi\_0290.05gui.zip file into a local directory or centrally accessible network share directory, and extract its contents:
  - a. **bqi-iCareInstall-v2\_9\_5.msi**
2. Log into the client PC with administrator privileges.
3. Copy bqi-iCareInstall-v2\_9\_5.msi to the client PC from the network share directory.
4. Install the iCare software by executing bqi-iCareInstall-v2\_9\_5.msi on the client PC.
5. When prompted with the **Destination Folder** dialog, click **Next** to confirm and complete the installation.
6. To run the iCare package, click **Start**.
  - a. Choose **All Programs**.
  - b. Select **IHS iCare**.
  - c. Click **iCare Version 2.9.5**.

## 4.0 Sample Installations

### 4.1 Sample Cache Install

**Note:** User responses appear in bold type.

An installation option must be selected to begin the installation process (Figure 4-1).

```
Select OPTION NAME: XPD MAIN   Kernel Installation & Distribution System

      Edits and Distribution ...
      Utilities ...
      Installation ...

Select Kernel Installation & Distribution System Option: Installation

1   Load a Distribution
2   Verify Checksums in Transport Global
3   Print Transport Global
4   Compare Transport Global to Current System
5   Backup a Transport Global
6   Install Package(s)
    Restart Install of Package(s)
    Unload a Distribution

Select Installation Option: 1   Load a Distribution
```

Figure 4-1: Selecting installation option

```
Enter a Host File: d:\pub\bqi_0290.05k <Enter> (Note: Type the appropriate
path for your system.)

KIDS Distribution saved on Jul 20, 2023@09:56:17
Comment: iCare v2.9 Patch 5 and CMET v1.2 Patch 5

This Distribution contains Transport Globals for the following Package(s):
  BQI*2.9*5
  BTPW*1.2*5
Distribution OK!

Want to Continue with Load? YES//
Loading Distribution...

  BQI*2.9*5
  BTPW*1.2*5
Use INSTALL NAME: BQI*2.9*5 to install this Distribution.

Select Installation Option: Verify Checksums in Transport Global <Enter>
```

Figure 4-2: Installation prompts

```

Select Installation <TEST ACCOUNT> Option: 2  Verify Checksums in Transport
Global
Select INSTALL NAME: BQI*2.9*5          Loaded from Distribution
7/20/23@11:14:45
=> iCare v2.9 Patch 5 and CMET v1.2 Patch 5 ;Created on Jul 20,
2023@09:

This Distribution was loaded on Jul 20, 2023@11:14:45 with header of
iCare v2.9 Patch 5 and CMET v1.2 Patch 5 ;Created on Jul 20,
2023@09:56:17
It consisted of the following Install(s):
    BQI*2.9*5      BTPW*1.2*5

Want each Routine Listed with Checksums: Yes// NO
DEVICE: HOME//    VIRTUAL

PACKAGE: BQI*2.9*5      Jul 20, 2023 11:14 am          PAGE 1
-----

74 Routines checked, 0 failed.

PACKAGE: BTPW*1.2*5      Jul 20, 2023 11:14 am          PAGE 1
-----

2 Routines checked, 0 failed.
.

```

Figure 4-3: Installing iCARE

Other prompts are shown on subsequent installation pages (Figure 4-4).

```

Select Installation Option:
1   Load a Distribution
2   Verify Checksums in Transport Global
3   Print Transport Global
4   Compare Transport Global to Current System
5   Backup a Transport Global
6   Install Package(s)
    Restart Install of Package(s)
    Unload a Distribution
Select Installation Option: Install Package(s)

```

Figure 4-4: Installation options

## 4.1.1 Installation

```

Select Installation <TEST ACCOUNT> Option: 6  Install Package(s)

Select INSTALL NAME: BQI*2.9*5          Loaded from Distribution
7/20/23@11:14:45
    => iCare v2.9 Patch 5 and CMET v1.2 Patch 5 ;Created on Jul 20,
2023@09:

This Distribution was loaded on Jul 20, 2023@11:14:45 with header of
    iCare v2.9 Patch 5 and CMET v1.2 Patch 5 ;Created on Jul 20,
2023@09:56:17
    It consisted of the following Install(s):
        BQI*2.9*5      BTPW*1.2*5
Checking Install for Package BQI*2.9*5

Install Questions for BQI*2.9*5

Incoming Files:

    90505      ICARE USER
Note:  You already have the 'ICARE USER' File.

    90506      ICARE DEFINITIONS (including data)
Note:  You already have the 'ICARE DEFINITIONS' File.
I will OVERWRITE your data with mine.

    90506.9    ICARE TIMEFRAMES (including data)
Note:  You already have the 'ICARE TIMEFRAMES' File.
I will OVERWRITE your data with mine.

    90507.4    ICARE IMMUNIZATION GROUPS (including data)
Note:  You already have the 'ICARE IMMUNIZATION GROUPS' File.
I will OVERWRITE your data with mine.

    90508      ICARE SITE PARAMETERS
Note:  You already have the 'ICARE SITE PARAMETERS' File.

Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//

Checking Install for Package BTPW*1.2*5

Install Questions for BTPW*1.2*5

Incoming Files:

    90629      CM EVENT QUEUE
Note:  You already have the 'CM EVENT QUEUE' File.

Want KIDS to INHIBIT LOGONs during the install? NO//

```

```

Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME//

Install Started for BQI*2.9*5 :
          Jul 20, 2023@11:23:02

Build Distribution Date: Jul 20, 2023

  Installing
Routines:.....
.....
          Jul 20, 2023@11:23:03

Running Pre-Install Routine: PRE^BQI29P5.

Installing Data Dictionaries: .....
          Jul 20, 2023@11:23:04

Installing Data:
          Jul 20, 2023@11:23:05

Installing PACKAGE COMPONENTS:

Installing REMOTE PROCEDURE....

Installing OPTION..
          Jul 20, 2023@11:23:05

Running Post-Install Routine: POS^BQI29P5.....
Creating [BQI HERPES SIMPLEX ANTIBODY LC] taxonomy...
Creating [BQI HERPES SIMPLEX NUCL LOINC] taxonomy...
Creating [BQI HERPES SIMPLEX CULT LOINC] taxonomy...
Updating [BQI COVID ALL CPTS] taxonomy...
Updating [BQI COVID ADDTL DOSE CPTS] taxonomy...

Updating Routine file.....

Updating KIDS files.....

BQI*2.9*5 Installed.
          Jul 20, 2023@11:23:07

Not a VA primary domain

NO Install Message sent

Install Started for BTPW*1.2*5 :
          Jul 20, 2023@11:23:07

Build Distribution Date: Jul 20, 2023

  Installing Routines:...

```

```

Jul 20, 2023@11:23:07

Running Pre-Install Routine: PRE^BTPW12P5.

Installing Data Dictionaries: ..
Jul 20, 2023@11:23:07

Running Post-Install Routine: POS^BTPW12P5.....

Updating Routine file.....

Updating KIDS files.....

BTPW*1.2*5 Installed.
Jul 20, 2023@11:23:07

Not a VA primary domain

NO Install Message sent

```

Figure 4-5: Installation Completed

## 4.2 Sample GUI Client Installation

The following section outlines the installation procedure for loading the iCare GUI client application onto a single workstation. Options are available to install the iCare client on multiple workstations through automated deployment methods. Please refer to Appendix A for descriptions of these options.

Navigate to the folder on the client machine that contains the iCare installation program and launch the `bqi-iCareInstall-v2_9_5.msi` program (Figure 4-6):

| Name  | Date modified     | Type                  | Size      |
|---|-------------------|-----------------------|-----------|
|  bqi-iCareInstall-v2_9_5.msi | 5/19/2023 4:24 PM | Windows Installer ... | 39,132 KB |

Figure 4-6: install program

Click **Next** on the Welcome screen to continue (Figure 4-7).

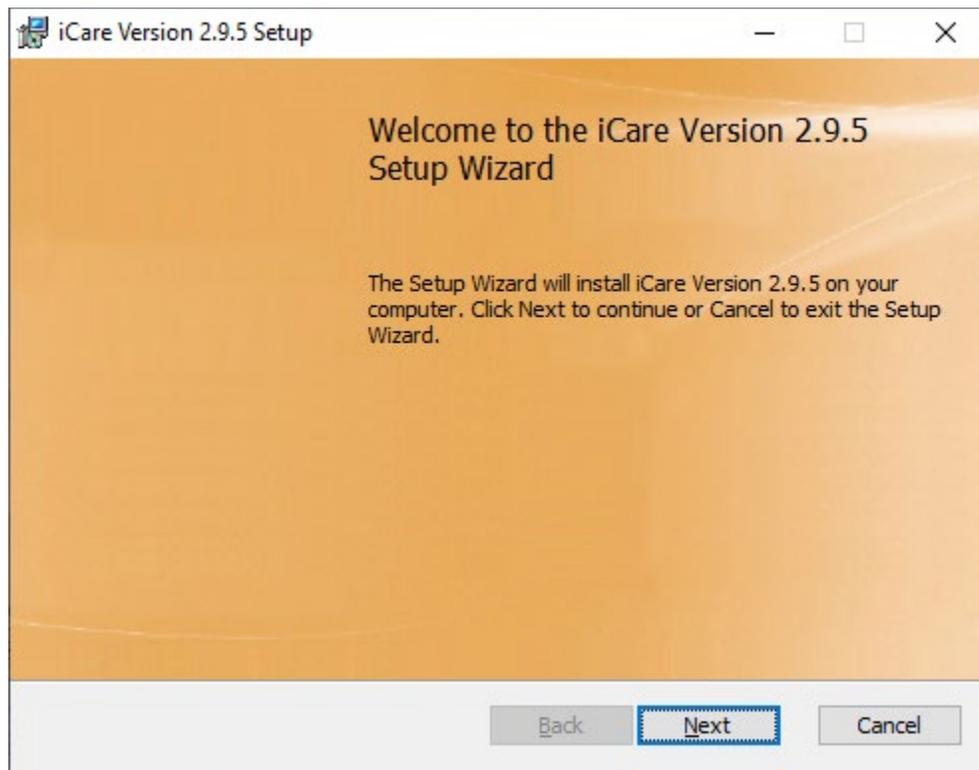


Figure 4-7: Welcome screen

Click **Next** on the **Destination Folder** screen to continue (Figure 4-8).

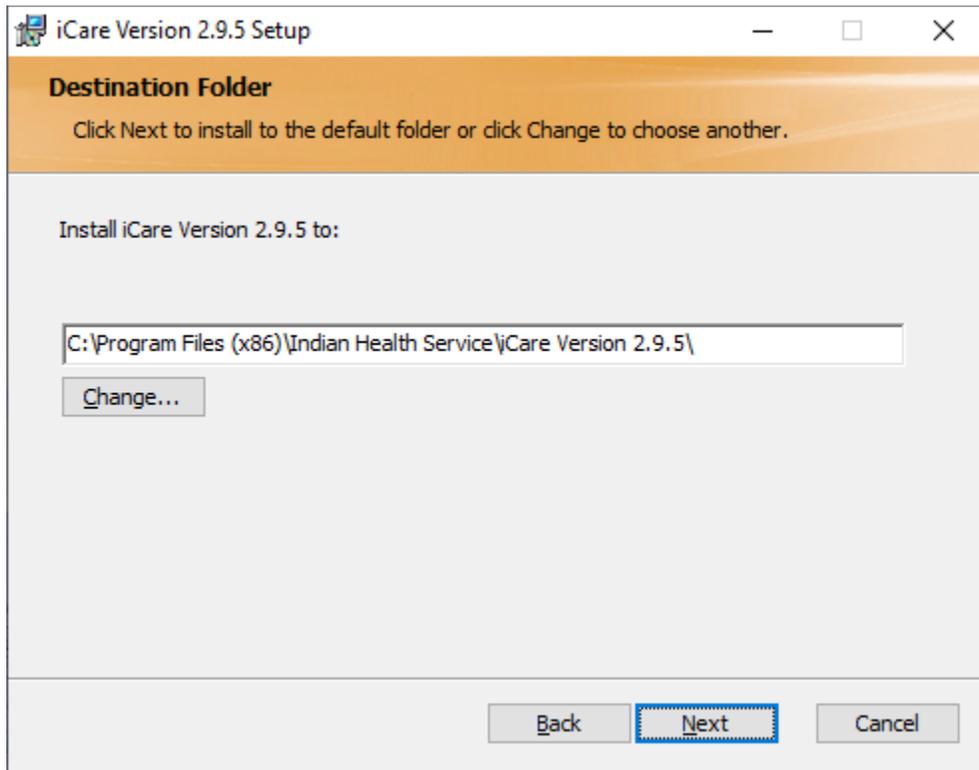


Figure 4-8: Destination Folder screen

Click **Install** to confirm installation (Figure 4-9).

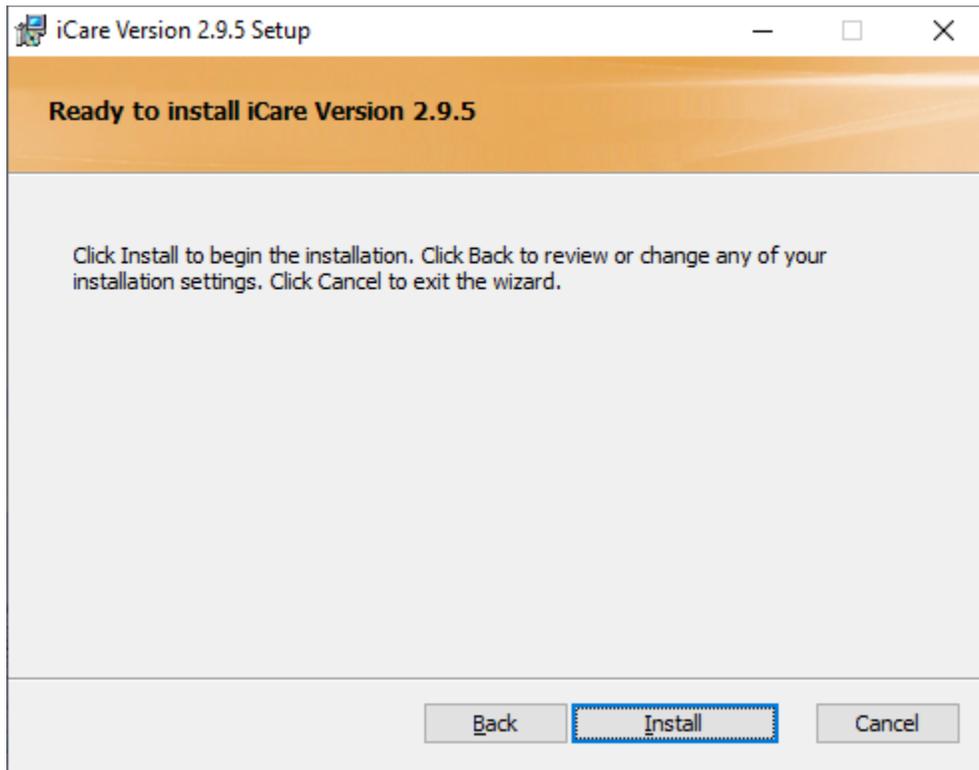


Figure 4-9: Confirm Installation screen

Wait for the installation to be complete (Figure 4-10).

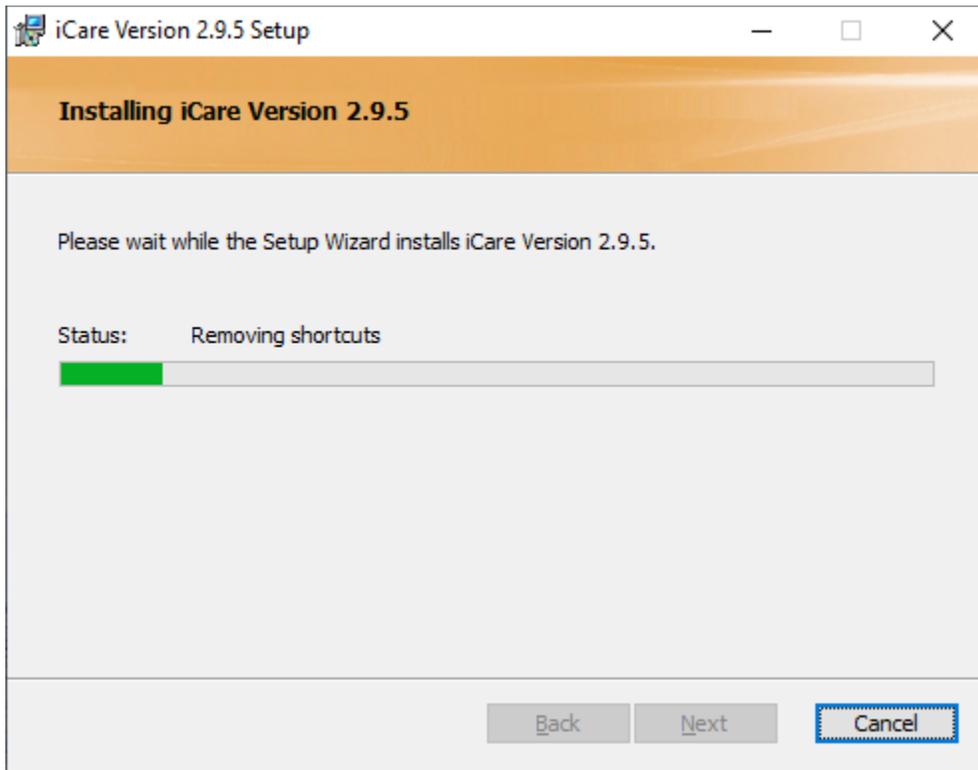


Figure 4-10: Installing screen

Click **Finish** to complete the installation (Figure 4-11).

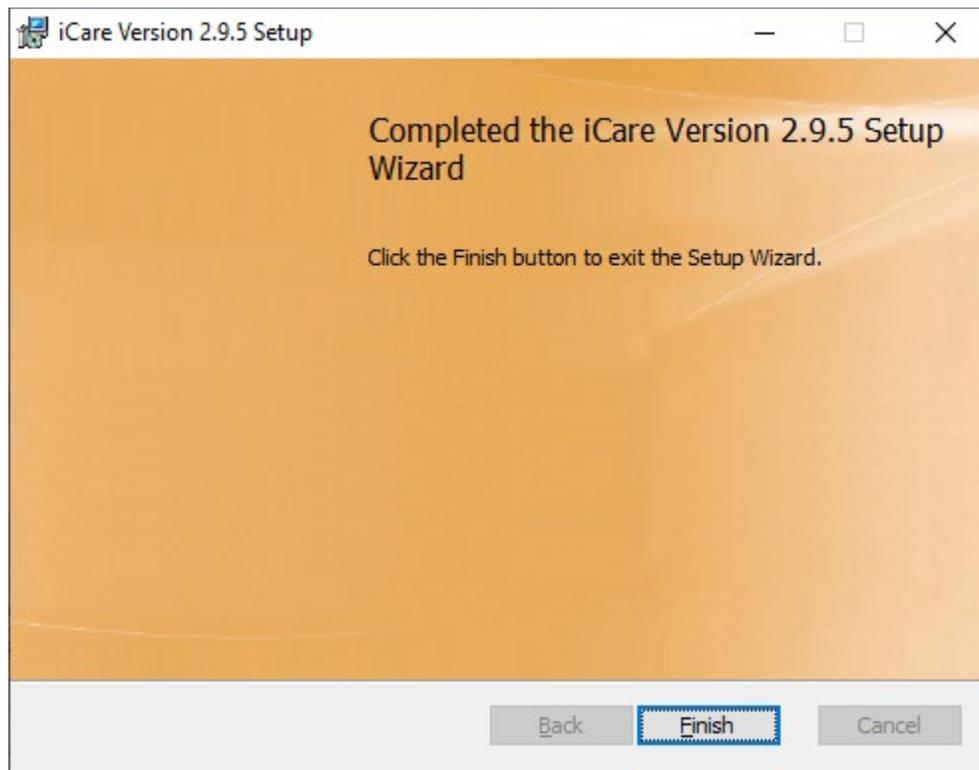


Figure 4-11: Installation Complete screen

It's possible the .NET Framework 4.6.2 or higher check will fail and will display the following error message. Click **OK** to close the error message (Figure 4-12).

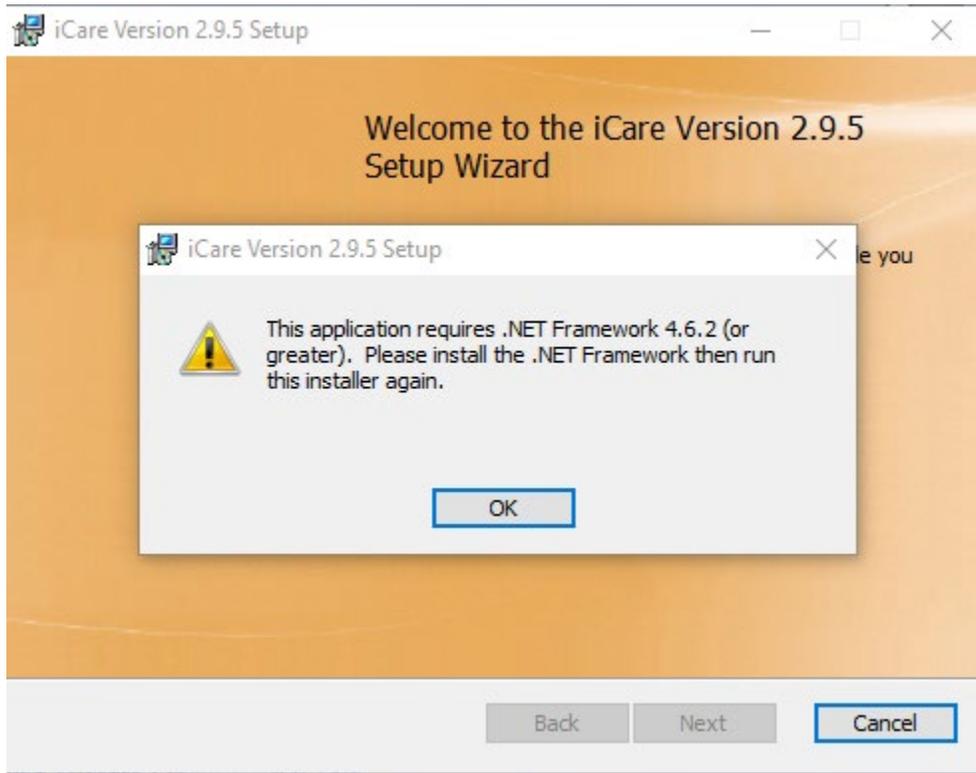


Figure 4-12: .Net Framework 4.6.2 or higher requirement check failed error message.

Click **Finish** on the iCare Version 2.9.5 Setup Wizard ended prematurely screen (Figure 4-13).



Figure 4-13: iCare Version 2.9.5 Setup Wizard ended prematurely screen.

## 5.0 Installation Configuration

### 5.1 Disk Space

Auditing was implemented for Certification and for each iCare release after v2.3 p4; be aware of disk space. See *IHS User Security Audit 1.0* manual for more information.

### 5.2 Journaling

The main iCare patient data global ^BQIPAT does not need to be journaled, as it can be refreshed if needed. For Care Management Event Tracking (CMET), data global ^BTPWPQ does not need to be journaled as it also can be refreshed, if needed.

If the site is being upgraded to Ensemble or other higher version of cache, the ^BQIPAT and ^BTPWPQ globals should be placed in the same special non-journaled database as globals: ^TMP and ^XTMP.

### 5.3 Post-Installation

**IMPORTANT NOTE:** All panels that have been defined with Ad Hoc Visit information will be converted to the new Visit format and parameters. However, the panels updated with the new parameter format **WILL NOT** be re-populated.

Users must decide to re-populate Scheduled Appointment and Visit panels. Users will not see the new Definition Details for those two types of panels until they are re-populated.

#### 5.3.1 Post-Installation Tasks

During the post-install process, a background job will be tasked off to TaskMan. Do not delete or terminate this task:

Childhood Immunizations – This goes through all patients 18 years and younger to set up their immunizations for the new Childhood Immunizations Care Mgmt Group.

## Appendix A GUI Deployment Options

### A.1 Basic Single-Workstation Installation

The basic single-workstation procedure is outlined in Section 3.5. Step-by-step instructions are provided for executing the iCare GUI client install package to install directly on a user's workstation.

### A.2 Terminal Services/Citrix Server Installation

For sites that use thin client/terminal services such as Citrix or Microsoft Terminal Services to manage application delivery, the update process for multiple users is simplified, as the iCare client version will only need to be updated on the terminal server machines via standard application install procedures for publishing applications.

### A.3 Windows SMS

Some IHS sites may utilize Microsoft Systems Management Server (SMS) to assist with management of software on desktop machines. The iCare GUI client installation files were created with automated deployment in mind and should be compatible with SMS deployment. The iCare GUI client install is provided as an "msi" Microsoft installer package, along with a setup.exe file that provides .Net bootstrapping to check for installed .Net framework environment, if required.

Based on site administrator feedback from previous versions, the default behavior for the .msi installation includes the automatic removal of previous iCare GUI versions to simplify the deployment process.

The details of deploying/publishing applications via SMS are beyond the scope of this document. Please refer to the Microsoft SMS documentation to identify the procedure to deploy the application with appropriate installation options such as silent install, etc.

### A.4 Active Directory Application Deployment

Microsoft Active Directory is another option for deploying the iCare GUI Client to desktops through an automated process. To use this method, the installation files are placed in a shared network folder that allows at least reader access for all users that will be installing the application. Once this has been created, an Active Directory administrator can go into the Group Policy Editor and assign the application to the appropriate group(s) of users, or machines that are registered in the Active Directory.

Additional details and a walk-through of this process are available:

- [Group Policy to remotely install software](#)

## A.5 Command Line Argument Options

Command-line arguments are available to provide additional options for managing the server connection list that is provided to the user upon login.

If no command-line arguments are provided, the application will present a blank server connection list and allow the user to enter new connection entries that will be stored in the user's Windows roaming local application folder. The roaming local application folder was chosen based feedback from sites using Citrix thin-client deployments.

The available arguments are defined below. The options may be used together to achieve desired server connection management results.

## A.6 /configpath:{File path}

```
Example:  
"C:\Program Files (x86)\Indian Health Service\iCare Version 2.9.5 bqi-  
iCare.exe" /configpath:\\appserver1\shared\iCareConfig\
```

Figure A-1: Configuration Path

When the “/configpath” argument is specified (Figure 5-1), the application will check in the defined file path location for the server connection configuration file named `bm_x_config.xml`. If a configuration file is found, then it will load the connection items for the user to select from in the login screen. If no configuration file is found and the folder path specified is a valid then a new blank `bm_x_config.xml` configuration file will be created in that location and changes will be stored and managed at that location.

The file location may be any valid storage location, including network shares and local system directories. The user must however have read/write access to the directory.

If an invalid directory is specified, the application will present a message indicating that the location is not valid, and it will ignore the parameter and use the default location.

## A.7 /lockedit

```
Example:  
bqi-iCare.exe /lockedit
```

Figure A-2: Lockedit argument

When the “/lockedit” argument is included (Figure 5-2), the application will disallow the user from editing the defined server connection information, and will be limited to the items that are defined in the list.

The /lockedit argument is useful in conjunction with the “/configpath” argument specified above to achieve a centrally-managed configuration in which users are not allowed to edit the shared configuration file. Refer to Appendix A.9 for more details.

## A.8 /rpms:

```
Example:  
bqi-iCare.exe /rpms:"server1,10501,MyServer  
Connection,PRD1,Win,60000,40000"
```

Figure A-3: RPMS argument

The “/rpms” argument (Figure 5-3), allows the specification of a specific server connection entry to be passed into the application from the command-line. The entry that is specified will appear as an entry in the server connection list. This argument may be used in conjunction with the “/lockedit” option to force the user to connect to a single specific location.

The comma-delimited arguments are as follows:

- Server Address (Numeric IP or server name)
- Port Number for the BMXNet listener
- Display name of connection (This will be the title used in the list)
- Name space (optional)
- Windows Authentication (set to Win for Windows authentication)
- Receive Timeout (in milliseconds, recommended 60000)
- Send Timeout (in milliseconds, recommended 40000)

## A.9 Setting Up a Central Shared Server Configuration List

Site managers may choose to implement a central `bm_x_config.xml` configuration file to be shared by multiple users, new users will not need to enter the server configuration settings when first connecting the iCare GUI to the RPMS server(s). Also, if configuration changes are made to the RPMS server such as a change or network address or BMXNet port number, the changes can be centrally managed by editing the single configuration file.

To configure this approach, the following steps may be followed:

1. An administrator should create the `bm_x_user_config.xml` file with the server connections that are desired.
  - a. Install iCare GUI on one client machine and configure the BMX connection(s) via the BMX connection tool.
  - b. Find the `bm_x_user_config.xml` file on the client machine after you have setup the valid connection(s) by searching within the Users folder for `bm_x*.xml`. A sample file location is shown as an example:

```
Example:
C:\Users\firstname.lastname\AppData\Roaming\IndianHealthService\iCare\bm_x_
ser_config.xml
```

Figure A-4: RPMS argument

```
Example:

<?xml version="1.0" ?>
  - <ArrayOfRpmsConnectionSpec xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RpmsConnectionSpec Name="DEV6" Server="DEMOSRVR01"
ReceiveTimeout="900000" SendTimeout="40000" Port="10561" Namespace="DEV6"
IsDefault="false" UseWindowsAuthentication="false"
UseDefaultNamespace="false" />
    <RpmsConnectionSpec Name="TEST6" Server="DEMOSRVR01"
ReceiveTimeout="900000" SendTimeout="40000" Port="10562" Namespace="TEST6"
IsDefault="false" UseWindowsAuthentication="false"
UseDefaultNamespace="false" />
  </ArrayOfRpmsConnectionSpec>
```

Figure A-5: RPMS argument

2. The administrator should start the iCare application using the `/configpath` command line argument to specify the network location where the file is to be stored.
3. Then, the administrator can specify the connections that are desired to be available to the users sharing this configuration file.

**Note:** After signing in to the iCare GUI application, the file at the specified /configpath location will contain the connection entries that were entered.

4. Once the bmx\_config.xml file has been created in the desired shared location with the appropriate connection entries, each user's application shortcut/launch string should be edited to include the same /configpath location so that the connection settings are loaded when the user starts the application.

**Note:** It is recommended that the /lockedit argument also be used so that user's sharing the central configuration file are not allowed to edit that file, but instead can only select from the available choices.

5. If you are pushing the iCare application via msi or other Active Directory approach and can edit the shortcut, add the parameter from Section A.9 using the /configpath parameter from Section A.6 to identify the shared configuration file.
6. The /configpath parameter should be added to each user's iCare shortcut as shown below. The /configpath value should be the shared folder where the shared bmx\_user\_config.xml file is stored. The shortcut with parameter would have to be updated this way for each iCare user's GUI instance.

Alternatively, you could copy the standard bmx\_user\_config.xml file (based on the first user you set up to define the connections) to each user's AppData location rather than having to create the connection for each user.

`\AppData\Roaming\IndianHealthService\iCare\`

## Acronym List

| Acronym | Meaning                                     |
|---------|---|
| AG      | Patient Registration Namespace              |
| AICD    | IHS ICD/CPT Lookup & Grouper                |
| AMQQ    | Q-Man Namespace                             |
| APCD    | PCC Data Entry Namespace                    |
| APCH    | PCC Health Summary Namespace                |
| ATX     | Taxonomy Namespace                          |
| BAT     | IHS Asthma Register Namespace               |
| BDM     | Diabetes Management System Namespace        |
| BGP     | IHS Clinical Reporting Namespace            |
| BI      | Immunization Namespace                      |
| BJPC    | IHS PCC Suite Namespace                     |
| BKM     | HIV Management System Namespace             |
| BMC     | Referred Care Info System Namespace         |
| BMX     | BMXNet                                      |
| BQI     | iCare Namespace                             |
| BUSA    | IHS User Security Audit Namespace           |
| CMET    | Care Management Event Tracking              |
| DI      | VA FileMan                                  |
| DSPM    | DESIGNATED PROVIDER MGT SYSTEM              |
| DX      | Diagnosis Tags                              |
| GUI     | Graphical User Interface                    |
| HIV     | Human Immunodeficiency Virus                |
| HMS     | HIV Management System                       |
| IHS     | Indian Health Service                       |
| IPC     | Improving Patient Care Collaborative        |
| KIDS    | Kernel Installation and Distribution System |
| OIT     | Office of Information and Technology        |
| OS      | Operating System                            |
| PC      | Personal Computer                           |
| PCC     | RPMS Patient Care Component                 |
| PCMH    | Patient Centered Medical Home               |
| PIMS    | Patient Information Management System       |
| RPMS    | Resource and Patient Management System      |
| SMS     | Microsoft Systems Management Server         |

| <b>Acronym</b> | <b>Meaning</b>             |
|----------------|----------------------------|
| XB             | IHS/VA Utilities Namespace |
| XU             | VA Kernel Namespace        |

## Contact Information

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

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