ICU Medical
MedNet™

Software User Guide

For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support.

icumedical

human connections

Notes:

ICU Medical MedNet™ Software

User Guide

$R_{X\,only}$

REF 16037-92-03

IMPORTANT

Refer to this guide for proper use, warnings, and cautions associated with the installation and upgrade of the ICU Medical MedNet™ Software performed by the ICU Medical Service Team. Please contact your sales representative for any questions associated with installing and configuring the ICU Medical MedNet™ Software. The help files included with the ICU Medical MedNet™ software are provided as reference only. Please read this entire guide before using the ICU Medical MedNet™ Software.

Please also read the ICU Medical Release Notes before using the ICU Medical MedNet™ Software.

Intended Use

The ICU Medical MedNet™ Medication Management Suite (MMS) is intended to facilitate networked communication between MMS compatible computer systems and MMS compatible Infusion pumps. The MMS provides trained healthcare professionals with the capability to send, receive, report, and store information from interfaced external systems, and to configure and edit infusion programming parameters.

The MMS is intended to provide a way to automate the programming of infusion parameters, thereby decreasing the amount of manual steps necessary to enter infusion data. All data entry and validation of infusion parameters is performed by a trained healthcare professional according to physician's orders.

For a list of ICU Medical MedNet™ compatible devices approved for your country with their software versions, for assistance with ICU Medical MedNet™ and ICU Medical MedNet™ Meds, or to access knowledge based articles, contact:

in the USA
The ICU Medical Technical Support Center
1-800-241-4002

outside the USA
The local ICU Medical Sales office

From our ICU Medical website, you can access the MedNet User Guides in the support section under *System Operating Manuals and Technical Service Manuals.*

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Change History

Part Number	Description of Change
IFU0000479 (01, 2023-07)	Initial Release
IFU0000479 (02, 2023-09)	Internal links update

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Symbols Glossary Table

Symbol	Name and Meaning	Standards or Regulations	Reference
	Manufacturer	EN ISO 15223-1 Medical devices: Symbols to be used with medical device labels, labelling and information to be supplied	5.1.1
EC REP	Authorised Representative in the European Community		5.1.2
	Date of Manufacture - the date when the software build was completed		5.1.3
REF	Catalogue or Product List Number		5.1.6
	Consult the instructions for use provided electronically in the software		5.4.3
	Caution - Consult the instructions for use for precautions and warnings (in yellow)		5.4.4
	EU Importer		5.1.8
MD	This is a medical device		5.7.7
Rx only	CAUTION: Federal (USA) law restricts this device to sale by or on the order of a doctor or other licensed practitioner	21 CFR 801 Labeling	N/A
CE 2797	CE mark	EU Medical Device Directive/Regulation	N/A

Registered: ICU Medical B.V. Postbus 26, 3984 ZG Odijk The Netherlands
Contact: ICU Medical B.V. Hofspoor, 3994 VZ Houten The Netherlands

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

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Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

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Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Chapter 1: Introduction

ICU Medical MedNet™ is a server-based safety software product intended for use in healthcare facilities by trained healthcare professionals to provide valuable bedside guidance by managing IV infusion information with compatible ICU Medical infusion systems. The ICU Medical MedNet™ suite of software also includes a separate application, ICU Medical MedNet™ Meds™.

ICU Medical MedNet™ software enhances safety at the point of care with highly customizable drug libraries that guides users and help to protect patients by alerting to hard and soft, upper and lower dosing limits intended to help prevent infusion errors. These limits are based on a hospital's specific IV administration practices.

ICU Medical MedNet™ software reduces manual programming steps by providing the option to allow pharmacy settings to flow directly into the compatible infusion pumps through the IV EHR Interoperability solution. ICU Medical MedNet™ software connects the pharmacy validated medication order with the infusion pump and the patient's electronic health record (EHR), providing the opportunity for automated programming of the infusion pump.

ICU Medical MedNet™software generates more than 20 different reports based on data, settings, and changes that are automatically and wirelessly collected from the compatible infusion pumps. The generated reports help to turn data into actionable data to provide visibility to clinical practice. Depending on the EHR system capability, automated documentation in the EHR is also supported by ICU Medical MedNet™.

ICU Medical MedNet™ software packages consist of the components listed below. The specific components available to you will depend on your institution's license.

ICU Medical MedNet™ Administrator™ provides the ability to manage system users, infusers, drug library downloads, infuser software updates, access points, and other configurations.

ICU Medical MedNet™ Connect™ establishes the connectivity between the ICU Medical MedNet™ server and the infusers. It incorporates Ethernet and wireless components permitting ICU Medical MedNet™ Meds™ and ICU Medical MedNet™ Administrator™ to exchange information with infusers.

ICU Medical MedNet™ Integrator™ provides interfaces to a hospital's enterprise level applications and serves as the conduit for the exchange of data between infusers, the ICU Medical MedNet™ server, and a variety of hospital information systems.

ICU Medical MedNet™ Meds™ provides functionality to the pharmacy for the definition and management of medications, drug libraries, clinical care areas, and infuser configurations.

ICU Medical MedNet™ Performance™ delivers data from the ICU Medical MedNet™ server into reports designed for asset management as well as clinical assessment of ICU Medical MedNet™ use with selectable options to best meet the needs of the user.

ICU Medical MedNet™ Programmer™ takes medication dispensing orders from the Bar Code Medication Administration (BCMA) system and translates them into operational commands which automatically populate settings on the infuser. For more information, see **ICU Medical MedNet™ Software User Guide**, Appendix B.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Terminology

This document uses the following conventions:

- References to specific values are approximations only, unless otherwise indicated.
- The terms "ICU Medical MedNet™ Software" and "the Software" are used interchangeably throughout this manual.

Note: Illustrations and screen representations are for illustrative purposes only and may vary from the actual software. Your computer's display settings may affect screen representations.

Note: The ICU Medical MedNet™ user interface uses "Auto-Documentation" as an alternative name for Infusion Documentation, and uses "Auto-Programming" as an alternative name for Smart Pump Programming.

General Warnings and Cautions

The following conventions are used in this user guide to denote warnings or cautions

⚠ **CAUTION:** Contains information that could prevent product damage or hardware failure. Failure to observe a caution could result in patient or user injury.

⚠ **WARNING:** Warning messages contain special safety emphasis and must be observed at all times. Failure to observe a warning message is potentially life threatening.

For incidences in a Member State of the European Union (or states that recognize European Union Medical Device Regulations), serious incidences should be reported to ICU Medical, Inc. at www.icumed.com, or contact your local ICU Medical representative.

For incidences in a Member State of the European Union (or states that recognize European Union Medical Device Regulations), serious incidences should also be reported to the competent authority of the Member State where the incident occurred.

⚠ **CAUTION:** Federal (USA) law restricts this device to sale by or on the order of a physician or other licensed practitioner.

⚠ **CAUTION:** Hand held devices such as tablets or phones are not supported and should not be used.

⚠ **WARNING:** RESIDUAL RISK - Read the User Guides prior to use. Improper use may lead to the following hazardous situations: delay of therapy, embolism from blood clot, infusion of drug precipitate/particulate, or overdose/underdose. The harms potentially associated with these hazardous situations vary by patient and clinical condition and may include reversible injury, permanent injury, or death.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Computer Management and Security

- Except for virus data files (typically called "dat" files), do not install upgrades, service packs, or patches to non-ICU Medical software on computers on which ICU Medical MedNet™ Software is installed, except as authorized by ICU Medical.

- Do not enable automatic updates to operating systems on computers on which ICU Medical MedNet™ Software is installed.

- Ensure that procedures are in place for backing up and restoring data, and that administrators can successfully restore data from earlier backups.

- Ensure that the network on which ICU Medical MedNet™Software is used has effective security procedures in place, including physical and network access control.

- Ensure that user passwords are protected.

- Ensure a backup power supply (uninterrupted power source) is available to prevent critical data loss.

Important: We highly recommend that you regularly backup and purge your database. A database can grow to a large size that will affect the performance of your ICU Medical MedNet™ system.

Although we suggest to purge a database every four years at a minimum, if you have more than 2,000 infusers it would be wise to consider doing so more often. Complete instructions to back up a database are provided under "Database Maintenance".

Note: You must configure the backup device before continuing. For instructions on setting up a backup device to work with SQL Server, refer to the SQL server documentation.

Note: It is your organization's responsibility to assure a safe, validated, and functioning environment. This includes providing proper training of hospital staff, protecting systems, controlling medical devices from cyber-security threats, and performing maintenance on hardware. Your IT department should also provide physical security for PCs and server hosts.

Handling Infusers

- Refer to the *System Operating Manual* for the applicable infuser for warnings and cautions before handling the infusers.

- Use care when handling connectors and cables.

- Avoid twisting or bending cables and connectors.

- Ensure compliance to IEC 60601-1-1 for connecting accessories to medical devices.

Note: The infusion devices compatible with ICU Medical MedNet will display selectable options based on your licensing and ICU Medical's compatibility matrix.

Transferring Data

- Ensure that only one instance of the ICU Medical MedNet™ Meds™ software is running on a computer at a time.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Minimum System Requirements

The ICU Medical MedNet™ system is installed by a highly trained ICU Medical Service team. The system installation includes the installation or upgrade of the software databases. Please consult with the ICU Medical Service team for information regarding the preparation of servers and interfacing with 3rd party systems.

The following minimum system requirements are for the ICU Medical MedNet™ program, including the ICU Medical MedNet™ Software and ICU Medical MedNet™ Meds™.

> Important: The ICU Medical MedNet™ Software has been developed and tested using the hardware components and software application versions described below. To ensure support, the minimum hardware configurations listed below must be met.
>
> In virtual environments, reserve a minimum of 100 GB of storage. Depending on the infuser type and number of infusers, the storage requirements may grow to 1 TB over the product's expected lifecycle.

Distributed SQL Environment

> Important: Recommended for Auto-Programming (Smart Pump Programming) and IHE-based client solutions for optimum performance.

For a distributed environment when ICU Medical MedNet software is on one machine and the ICU Medical MedNet database is physically located on another machine, you will need the following:

- A server* to house the ICU Medical MedNet Software (Server 1)
- A server* to house the ICU Medical MedNet Database (SQL) software (Server 2)

> Note: For HMSS Server: Hex (6) Core Intel Xeon Processor (e.g. X5675) - 3.0 GHz or better and For SQL Server: Quad (4) Core Intel Xeon Processor (e.g. X5675) - 3.0 GHz or better

Each machine should meet the following requirements:

- 12 GB RAM (6 GB allocated to ICU Medical MedNet HMSS Service)
- Redundant power supply
- SAS hardware RAID 1+0 controller card (minimum recommended RAID level 1+0)
- Reserved database disk space (see Recommended Disk Space table)
- (4) 1 TB 15K-RPM 6-Gb/s SAS disk drives or better
- 120 GB Hard Drive for operating system
- Dual Gigabit Ethernet NICs with link aggregation support
- Internet Protocol version 4 (IPv4)
- Backup capability

> Note: *Install the software described below, including the Microsoft updates on **each** of the two servers. Security updates can be downloaded from the Microsoft website.

Full Server

This configuration is to support up to 500 infusers when using the following minimum configuration:

Hardware

- Quad Core Intel Xeon processor - 3.0 GHz or better
- 12 GB RAM
- Redundant power supply
- SAS hardware RAID controller card (minimum recommended RAID level 1+0)
- (4) 250 GB 15K-RPM 6-Gb/s SAS disk drives or better
- 120 GB Hard Drive for operating system
- Dual Gigabit Ethernet NICs with link aggregation support
- Internet Protocol version 4 (IPv4)
- Backup capability

Mini Server

This configuration is to support 100 infusers when using the following minimum configuration:

Hardware

- Dual Core Intel Xeon processor - 3.0 GHz or better
- 12 GB RAM
- Redundant power supply
- (2) 250 GB 15K-RPM 6-Gb/s SAS disk drives or better
- Dual Gigabit Ethernet NICs, with link aggregation support
- Internet Protocol version 4 (IPv4)
- Backup capability

Note: We recommend this configuration for test servers.

Recommended Disk Space

The recommended disk space for the MedNet™ database is dependent on the type and count of infusers connected to MedNet™. ICU Medical recommends having a least enough disk space to store 4 years' worth of infuser data.

Infuser Data Disk Space					
Pump Configuration	**1 Infuser per Year**	**500 Infusers per Year**	**1000 Infusers per Year**	**2000 Infusers per Year**	**4000 Infusers per Year**
LifeCare PCA 7.02 or higher	40 MB	20 GB	40 GB	80 GB	160 GB
Plum 360 15.11 or higher	250 MB	125 GB	250 GB	500 GB	1 TB

Note: If the recommend disk space is 80 GB per year, 4 years of data would require 320 GB of disk space, which would reside on a RAID 1+0 setup, requiring 640 GB of disk space.

Wireless Connectivity

Depending on wireless connectivity, the Plum 360 infuser can generate extra data that gets stored in the database, e.g. log messages. Therefore, we highly recommend monitoring the disk usage during the first few months of deployment to determine the rate of disk space consumption.

Software for ICU Medical MedNet server

- Microsoft Windows Server 2016, or
  Microsoft Windows Server 2019, or
  Microsoft Windows Server 2022
- Microsoft SQL Server 2016 Standard Edition with Service Pack 2, or
  Microsoft SQL Server 2019 Standard Edition, or
  Microsoft SQL Server 2022 Standard Edition
- Microsoft Edge
- Adobe Acrobat Reader DC
- The ICU Medical MedNet Software
- The ICU Medical MedNet Meds software

Important: We strongly recommend the use of a virus checking software. However, we suggest you consider ignoring scanning directories where the datafiles reside or to ignore MDF and LDF type files. Updates or changes to the antivirus software after installation could affect ICU Medical MedNet server performance. Please consult the ICU Medical Technical Support Center's article **Configuring Antivirus Software on an ICU Medical MedNet server.**

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Microsoft Updates

Please contact the ICU Medical Technical Support Center for a list of Microsoft updates that have been validated with ICU Medical MedNet™.

Important: The above configurations are for licensable features of ICU Medical MedNet including Auto-Programming (Smart Pump Programming), Auto-Documentation (Infusion Documentation) and Enhanced Asset Tracking via the ICU Medical MedNet Clinical Integration Interface.

Calling the ICU Medical MedNet *GetPumpStatus* and *GetMatchingPumps* clinical integration interfaces to retrieve information from the ICU Medical MedNet server should occur on a low frequency to avoid overwhelming the server and interrupting normal operations.

Client Computers

The Client is used to host the web browser. Most computing is done on the server but display and processing of 500 or more infusers may need significant client side memory as well.

Hardware

- Network adapter (Ethernet or Wi-Fi)

Software (Web Browser Access to ICU Medical MedNet Server)

- Microsoft Windows 10, or
  Microsoft Windows Server 2016, or
  Microsoft Windows Server 2019, or
  Microsoft Windows Server 2022
- Microsoft Edge
- Adobe Acrobat Reader DC

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

ICU Medical MedNet™ Meds™

Hardware

- Network adapter (Ethernet or Wi-Fi) *Software*

- Microsoft Windows 10, or
  Microsoft Windows Server 2016, or
  Microsoft Windows Server 2019, or
  Microsoft Windows Server 2022

- Microsoft Edge

- Adobe Acrobat Reader DC

- ICU Medical MedNet Meds software

Additional Non-ICU Medical Software

- Java Runtime Environment 1.8.0_362

General Notes

It may only be necessary to install anti-virus software once, at the end of the entire installation process, to ensure system safety; if there is any question, consult with your System Administrator regarding advisability of when to perform this step.

Illustrations and screen representations are for illustrative purposes only and may vary from the actual software. Your computer display may affect screen representation.

Some features and infuser types described in this document are enabled by the software license agreement. Your license may not enable all of these features and infuser types.

ICU Medical MedNet is intended to communicate with multiple compatible infuser types. It can support a range of patients undergoing IV infusion therapy, depending on the connected infusers, which can include adults, pediatrics, and neonates. Please refer to the infuser's System Operating Manual for more information on its supported patient population.

Some infuser types may not be available in a country or region, and references in this guide are not intended as a promotion of those infuser types. For a list of infuser types available in your country or region, please refer to the ICU Medical MedNet Device Compatibility Matrix available through the Technical Support Center.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
          Compatibility Matrix available through your ICU Medical Technical Support Center.

Chapter 2: Setting Up ICU Medical MedNet Software

Overview

This chapter provides information necessary to set up ICU Medical MedNet Software.

The system administrator must perform the following procedures in order to enable users to access and use the application:

- Login
- Enter information about your hospital
- Add the System Administrator user account
- Add user accounts and set up user privileges
- Change the default password

Logging In

Overview

This procedure allows users to log into the application. To perform the set up procedures in the following section, log into the application as a system administrator with full access privileges.

User

System Administrator

Navigation Path

The navigation path varies based upon the configuration of your system.

Steps

To log into the application, do the following:

1. Open Microsoft Edge and enter the URL of the ICU Medical MedNet server for the application's Login page.

Note: If you do not know the address of the ICU Medical MedNet Software Login page, ask your Information Technology (IT) department. The security settings on your computer can sometimes be responsible for difficulty logging in. See your IT department for assistance.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

The **Login** screen appears.
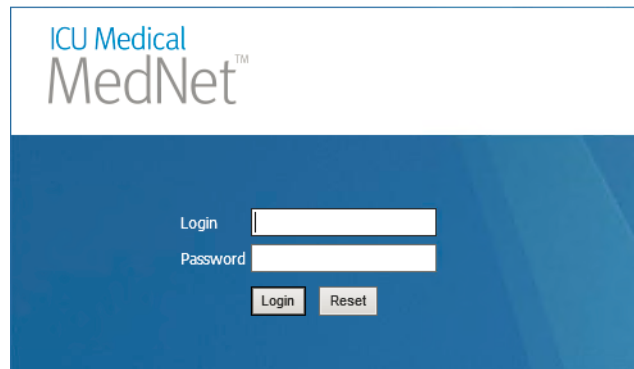
2. Enter the following user ID and password:

    User ID: mednet_admin

    Password: Enter the ICU Medical password.

Note: The ICU Medical password can only be used once by each user (including the system administrator), and is needed in order to perform password changes.

Important: As a protection against cyber-attacks and if you do not have administration privileges, five missed logins will result in the application being inaccessible. You will then need to contact the System Administrator to reset the password.

If the System Administrator is locked out after five missed logins, the application will be inaccessible for five minutes after which the System Administrator can attempt to log in again.

Note: Login ID is not case sensitive for both LDAP and non-LDAP environments.

The User ID **mednet_admin** has full Administrator privileges (see Appendix D: User Roles and Privileges on page 221).

3. Click **Login**. If the installation was successful, the application opens to the logged in home view.
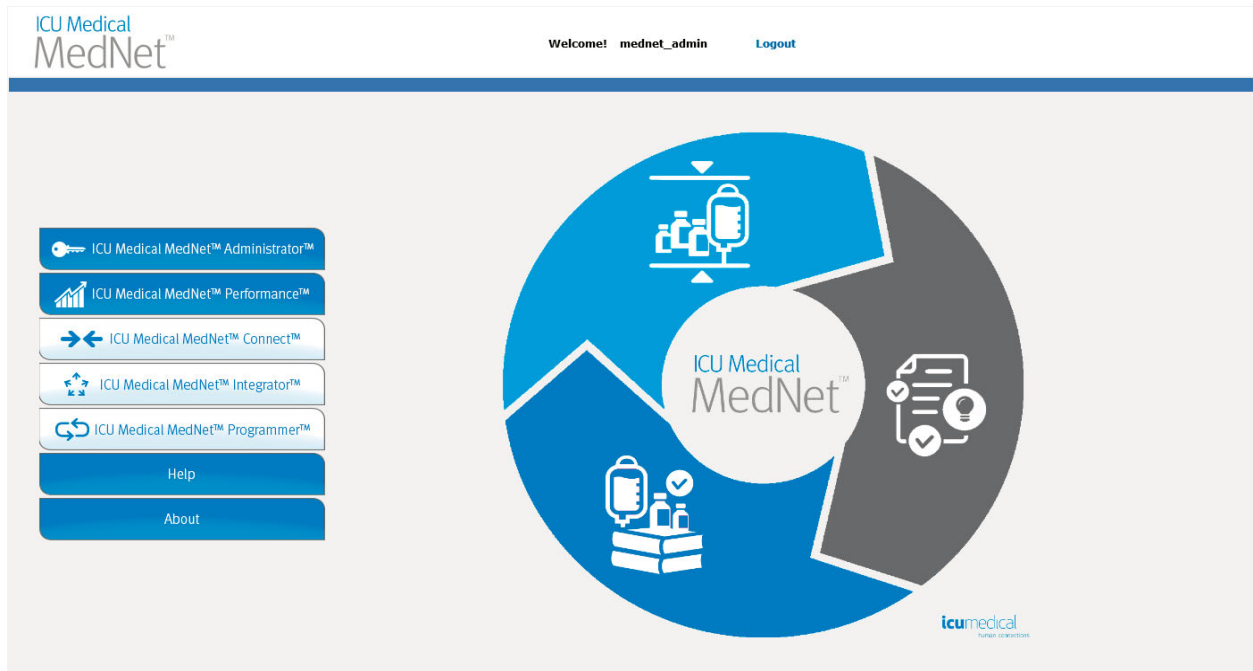
4. Depending on your software licenses, the home view displays one or more of the following accessible graphics and buttons:

- ICU Medical MedNet Administrator - Allows access to administrative views providing user account management, infuser management, library download, and other configuration views.
- ICU Medical MedNet Performance - Allows access to the Reports view.
- ICU Medical MedNet Connect - Indicates the server is enabled to collect data from the supported infusers.
- ICU Medical MedNet Integrator - Indicates the server is enabled for connection to an external system.
- ICU Medical MedNet Programmer - Indicates the server is enabled for Auto-Programming (Smart Pump Programming) functionality with a BCMA system.
- Help
- About

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

5. If a user has Administrator privileges and selects **ICU Medical MedNet Administrator**, the following options will be displayed:

- Home
- My Account
- Users & Roles
- Software Import

- Access Point Mapping (not available with Enhanced Asset Tracking)
- Administrative Setup
- Authentication Services
- About

See to enter information or change the current settings in the Administrative Setup view.

6. **ICU Medical MedNet Performance** is only available with Protected Health Information privileges. A user with Administrator privileges can select the following options:

- Home
- Reports
- About

7. When a user selects **About**, the following selectable views will be displayed:

- Home
- About

Logging Out

To log out of the application, click **Logout**. The Login screen reappears.

Note: ICU Medical MedNet Software automatically logs you off if your account is inactive beyond the lockout period. The default lockout period is 30 minutes.

Chapter 3: My Account

Overview

User accounts provide the basis for system security. In this chapter, you will learn how to manage your account and change your password.

User Accounts and Windows Network Login (LDAP)

LDAP (Lightweight Directory Access Protocol) is a network protocol that enables applications to use an organization's existing network directory listing for user names and passwords. In an LDAP-enabled environment, you can use your organization's network login information with the same credentials (user name and password) to access ICU Medical MedNet Software (see Chapter 4: Users and Roles on page 21 for more information on LDAP).

Navigating

> **Note:** Depending on licensing and privileges, some tabs will either be visible or unavailable.

Click the **My Account** tab on the navigation bar. The My Account view appears.

The My Account view displays your access information, Login ID, and the Change Password button. The My Account view also displays the roles and privileges you have been assigned. See Chapter 4: Users and Roles on page 21, and Appendix D: User Roles and Privileges on page 221 for more information.

> **Note:** Roles and Privileges are assigned to your account by a system administrator.

Locale Settings

Use the following process to select the preferred ICU Medical MedNet language.

1. Select the desired language from the Locale drop-down list.

2. Click the **Save Locale** button.

Managing Your Account

You may change your name, initials, department, and password in the My Account view.

1. To change your name, initials, and/or department, enter the following information (see):

   - **First Name**
   - **Middle Name or Initial**
   - **Last Name**
   - **Suffix**
   - **Initials**
   - **Department** (select from drop-down list)

> **Note:** The Edit Department List appears if you have administrator privileges.
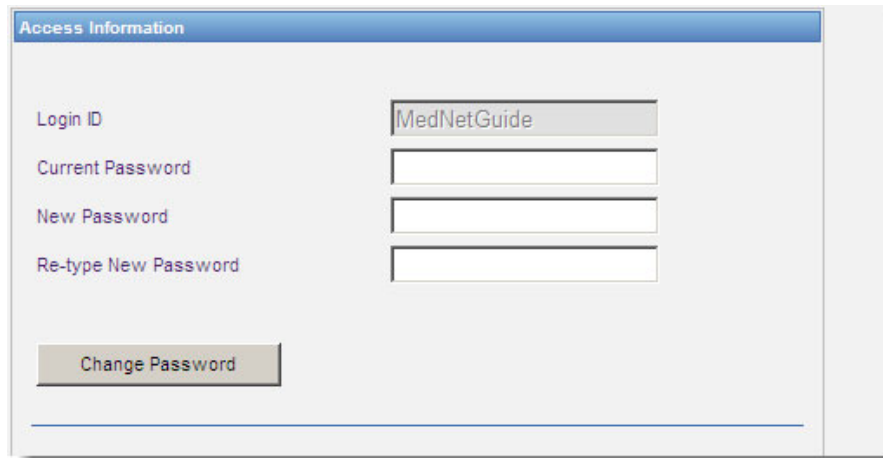
2. Click **Save Changes**.

Changing Your Password

You should change your password periodically to ensure that your account is secure.

The My Account view allows only the user who is logged in to change their own password.

To change your password:

1. In the My Account view, go to the Access Information section.

2. Enter the current password.

3. Enter the new strong password, containing at least eight characters including at least one number, one symbol and mixed-case characters.

4. Re-type the new password.

5. Click **Change Password**.

6. The password confirmation message appears.

Note: In an LDAP-enabled environment, the changing password feature is unavailable.

Changing the View

You can select the view that displays once you are logged in.

1. In the My Account view, use the drop-down list next to **Choose the view to display after login** to select a view other than the **Home** default.
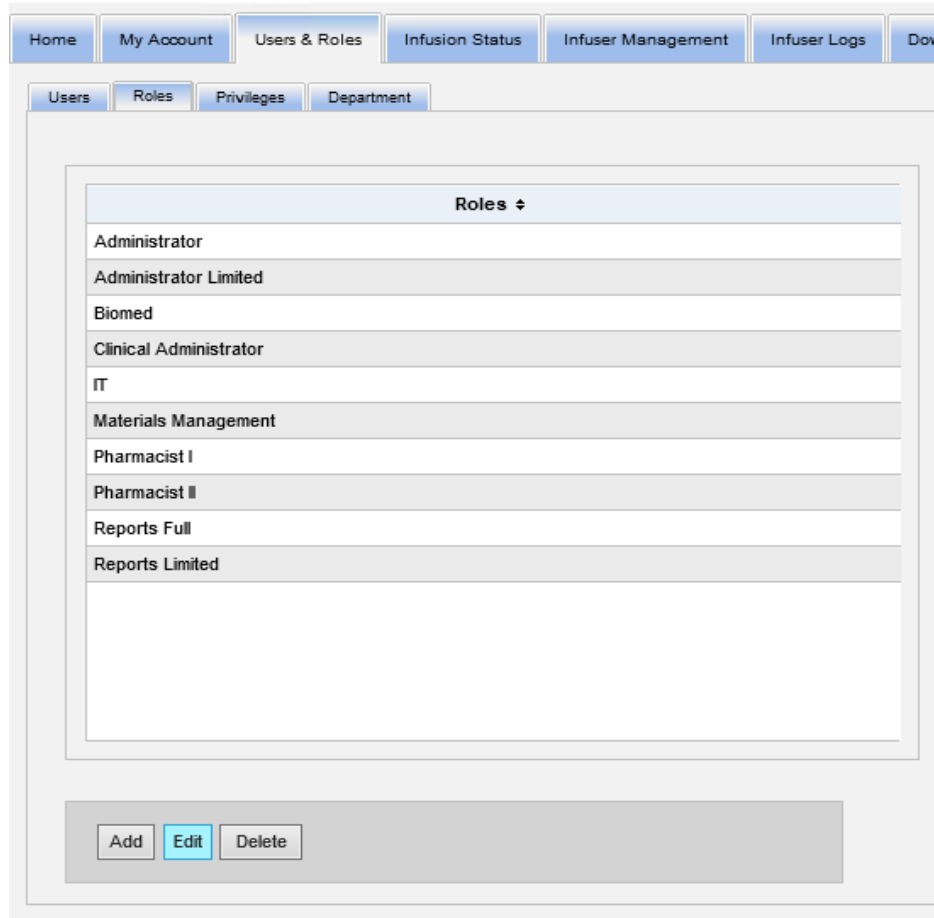

2. Click **Save Changes**.

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*
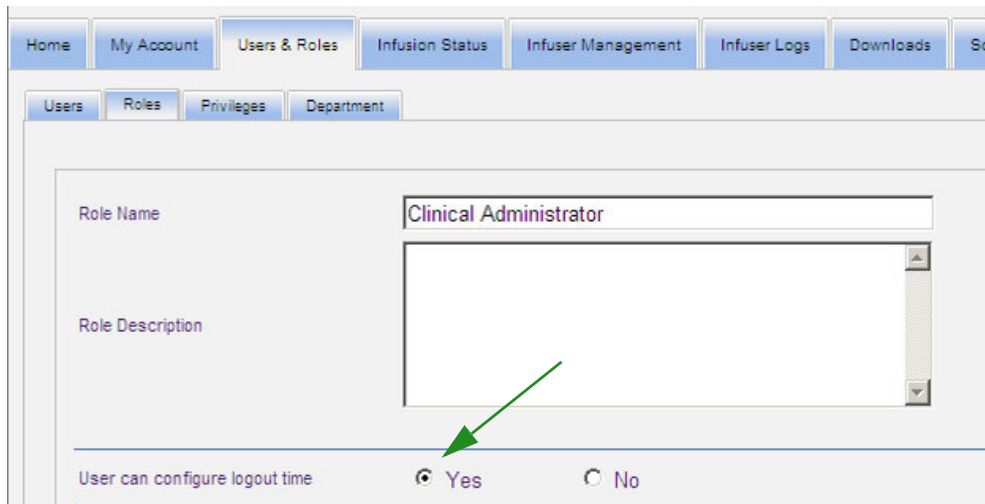
Changing the Logout Time

The default Logout Time is 30 minutes. In order to change that time, you will need to have a role that allows you to do so.

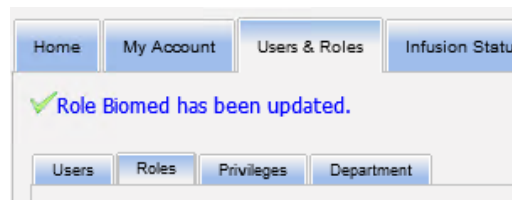1. Select the Users & Roles tab.

2. Select the Roles tab.

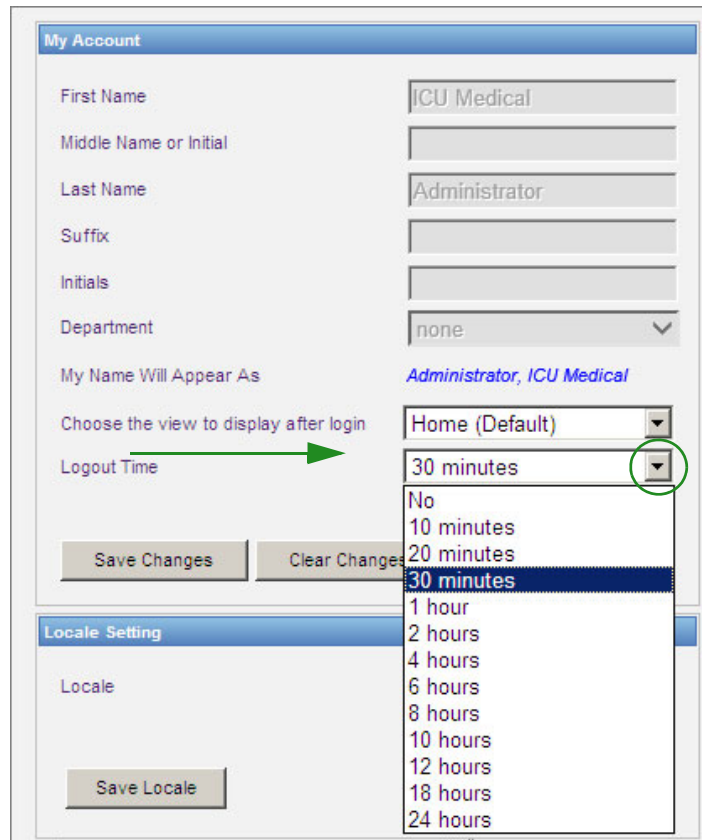3. From the Roles view, select a role.

4. Click **Edit**.

5. At **User can configure logout time**, click **Yes**.

6. Click **Save Changes**.

7. A message displays to show the role has been updated.

8. Return to the My Account tab. You can now edit the Logout Time from **No** to **24 hours**.

9. Click **Save Changes**.

Notes:

Chapter 4: Users and Roles

Overview

Authorized users, such as system administrators, define the users, roles, and privileges for using ICU Medical MedNet Software. Each account is protected by a password; appropriate privileges are assigned to each user. This chapter instructs how to establish user accounts.

If you do not have Windows Network Login (see below), the Users & Roles view allows you to:

- **Add, edit, and delete users**
- **View and assign roles and privileges**

The relationship of roles and privileges are described in Appendix D: User Roles and Privileges on page 221.

Windows Network Login

User Accounts and Windows Network Login (LDAP)

LDAP (Lightweight Directory Access Protocol) is an application protocol that enables applications to use a company's existing network directory listing for user names and passwords. This allows the network administrator to manage login access to multiple applications from one central source. ICU Medical MedNet Software supports both LDAP and non-LDAP environments.

In an LDAP-enabled environment, you can use your company's network login information with the same credentials (user name and password) to access ICU Medical MedNet Software.

The LDAP-enabled environment is able to retain a history of user-configurable passwords. However, a user will be unable to change their password to any password in their history.

After a successful login, if a user password is scheduled to expire in a user-configured number of days, the user receives a warning message and is required to change the password immediately. After a user-configurable password expiration period elapses, an LDAP server automatically expires the password and disables the user's account until the user's password is changed.

Support for LDAP is enabled or disabled during installation.

Summary of Users & Roles with Windows Network Login

- User accounts cannot be added, edited, or deleted from the Users & Roles view.
- User names appear in the Users list once they have logged into the ICU Medical MedNet server.
- A new role can be added with its own set of privileges.
- A role can be assigned to an LDAP group.
- Privileges cannot be added, edited, or deleted.

Roles

The default list of roles consists of:

- Administrator
- Administrator Limited
- Biomed
- Clinical Administrator
- IT

- Materials Management
- Pharmacist I
- Pharmacist II
- Reports Full
- Reports Limited

The Administrator, Administrator Limited, and Clinical Administrator have access to the Users and Roles page and can add, modify, or delete a role.

Note: The Administrator must self assign View Protected Health Information privileges and is the only person authorized to assign the View Protected Health Information privileges.

Privileges

Privileges include:

- Access Point Mapping
- Administrative Setup
- Authentication Services
- Database Maintenance
- Infuser Logs
- Infuser Management
- Infusion Status
- Library Download
- Manage Finalized Libraries
- Manage Medications
- Manage Message Queues

- Manage Patient/Pump Assignments
- Manage Worksheets
- My Account
- Reports Full
- Reports Limited
- Software Management
- Users & Roles
- View Drug Libraries
- View Medications
- View Protected Health Information

Note: The Protected Health Information includes such data as Patient Name, Patient Date of Birth, Patient ID, Room and Patient Location i.e., Room and Bed location.

Privileges cannot be changed.

Departments

The list of departments can be created by either the Administrator, Administrator Limited, or Clinical Administrator.

Navigating

Note:	Depending on licensing and privileges, some tabs will either be visible or unavailable.

Click the **Users & Roles** tab on the navigation bar. The Users & Roles view appears.
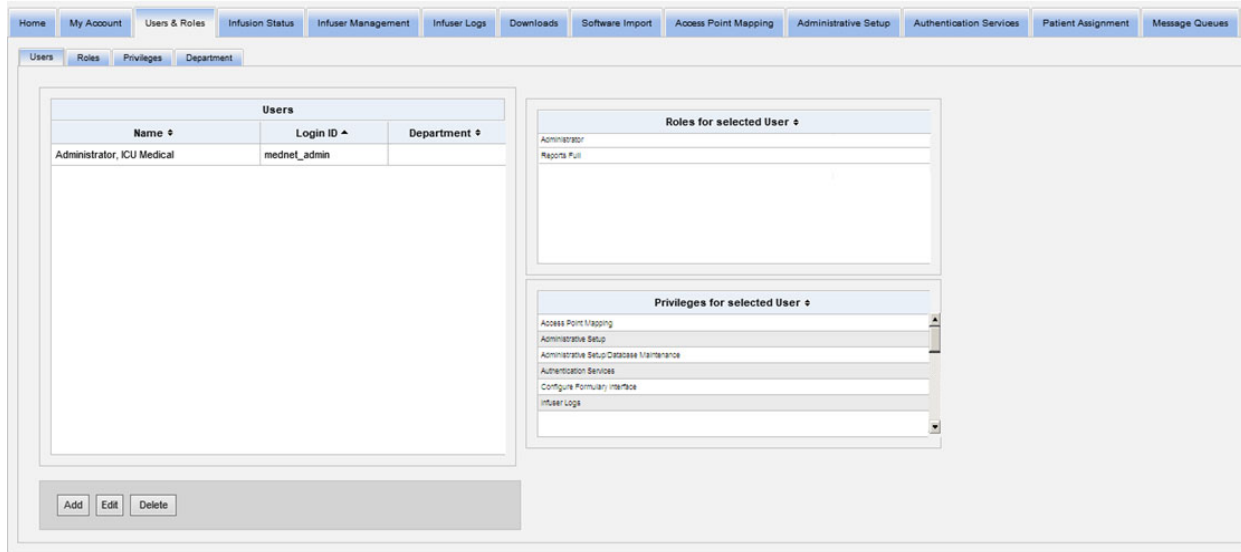
You may focus on Users, Roles, Privileges or Departments in this view. Click the tab to change the view.
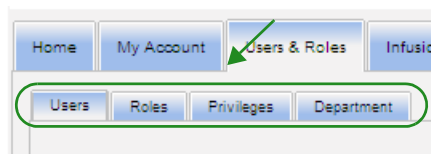
Adding, Editing, or Deleting a User

In the Users & Roles view, click the **Users** tab to view users, then click the **Add**, **Edit**, or **Delete** buttons to add, edit, or delete a user.

Note: The **Add**, **Edit**, and **Delete** buttons are disabled in an LDAP environment.

To add a user:

1. In the Users & Roles view, click **Add**. The Add User window appears.

2. Assure the **Name & Login** tab is highlighted, and enter the following information (see Appendix E: Character String Specifications on page 223):

   - **First Name**
   - **Middle Name or Initial**
   - **Last Name**
   - **Suffix**
   - **Initials**
   - **Department** (select from a drop-down list)

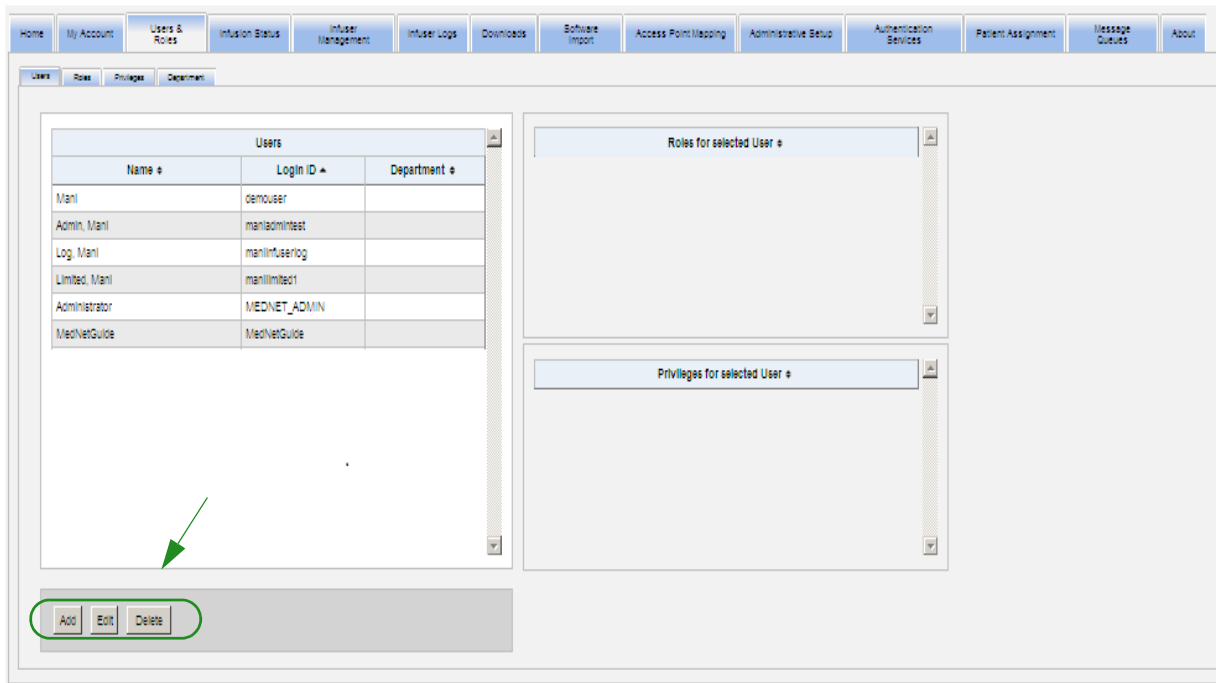**Note:** The Edit Department List appears if you have Administrator privileges.

   - **Login ID**
   - **Password**

Note: The new password must contain at least one (1) numeric character, one (1) symbol character, and must contain mixed-case text characters; or must be the MedNet default password.

   - **Confirm Password**
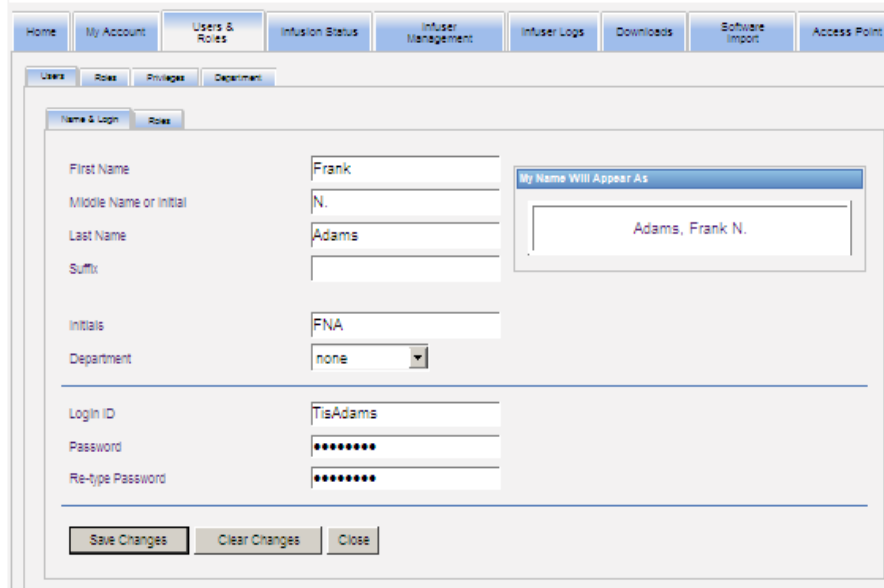
3. Click **Save Changes** to save the new user. The confirmation message appears.
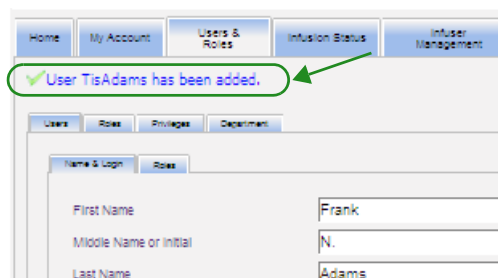
4. Click **Close** to exit the window and return to Users & Roles.

To edit a user:

1. In the Users & Roles view, highlight a user name. Then, click **Edit**. The User Edit window opens.

2. Make changes to the applicable fields, and click **Save Changes**. The message "User Updated!" appears.
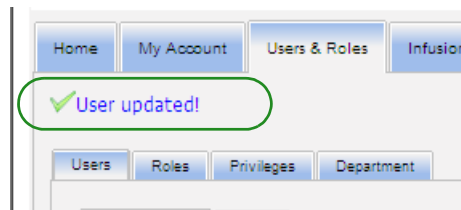
3. If there are no further edits to be made, click **Close**.

To delete a user:

1. In the Users & Roles view, highlight a user name, then click **Delete**. The Delete User pop-up window opens and the following message displays:
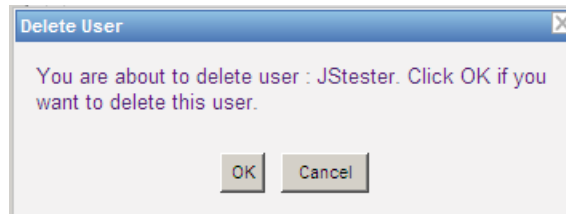
2. Click **OK** and the user is deleted from the list of users.

3. The following confirmation message appears.

Adding, Editing, or Deleting a Role and its Privileges

In the Users & Roles view, click the **Roles** tab to see the following: roles, users assigned to the selected role, and privileges for the selected role.
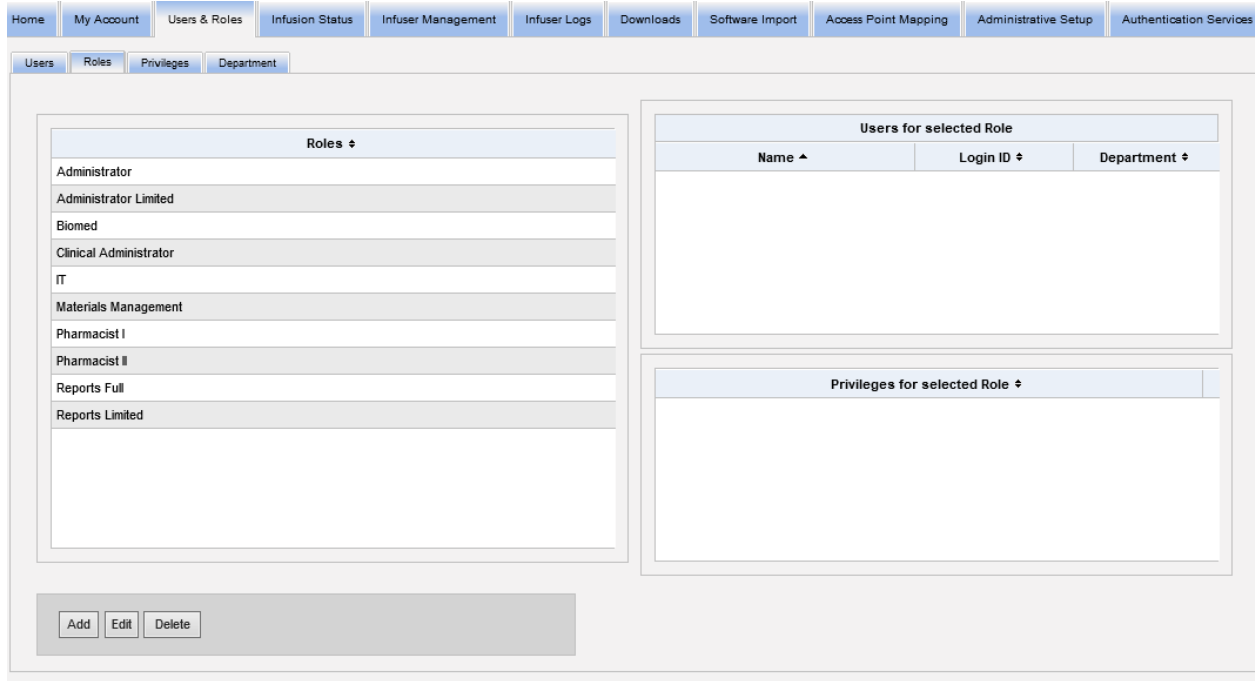
To add a role:

1. In the Roles view, click **Add**. The Add Role window appears.
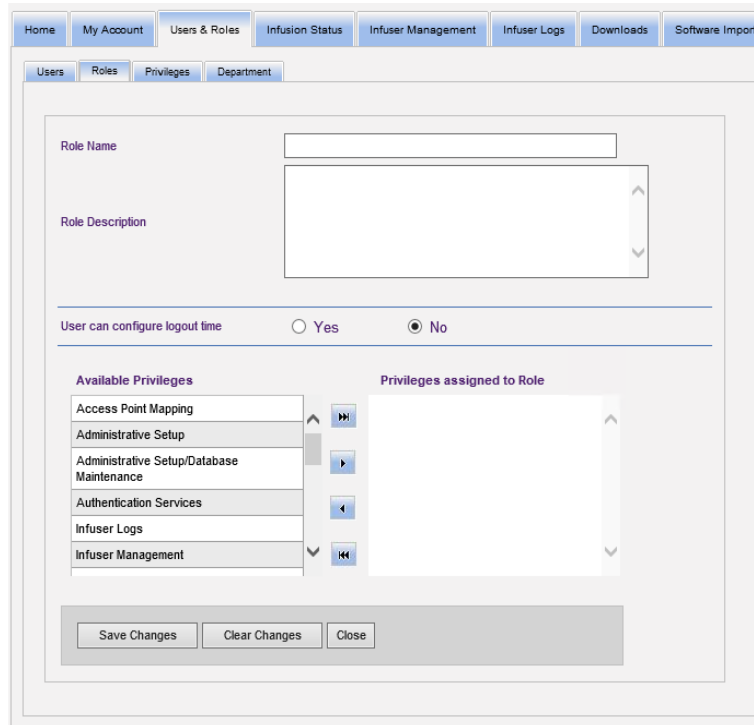
2. Enter the Role Name, Description, and LDAP group (if applicable).

Note: **Available Privileges** are displayed. You may want to assign them at this time by following the instructions below.

3. Highlight one selection at a time from the **Available privileges** list. Using the add (>) button, assign the privileges to the role; then, click **Save Changes** when done.

4. Click **Close**.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

To edit a role:

1. In the Users & Roles view, do the following: select the **Roles** tab, select a role, click **Edit**.
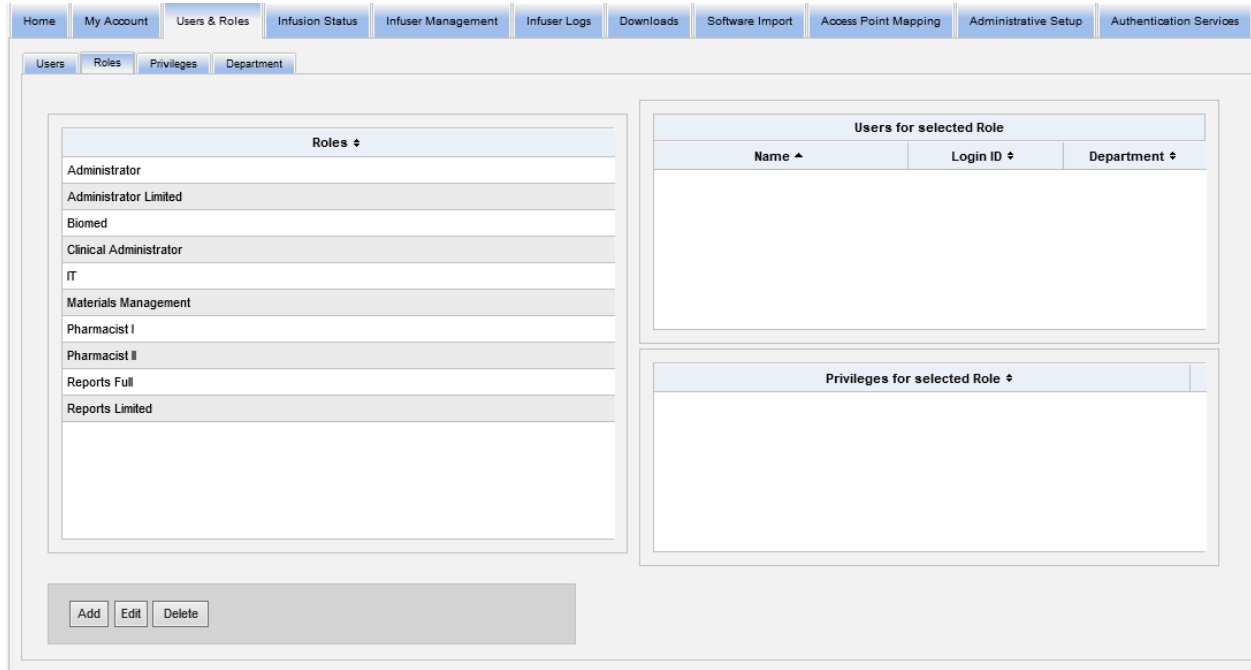
The following window will appear.
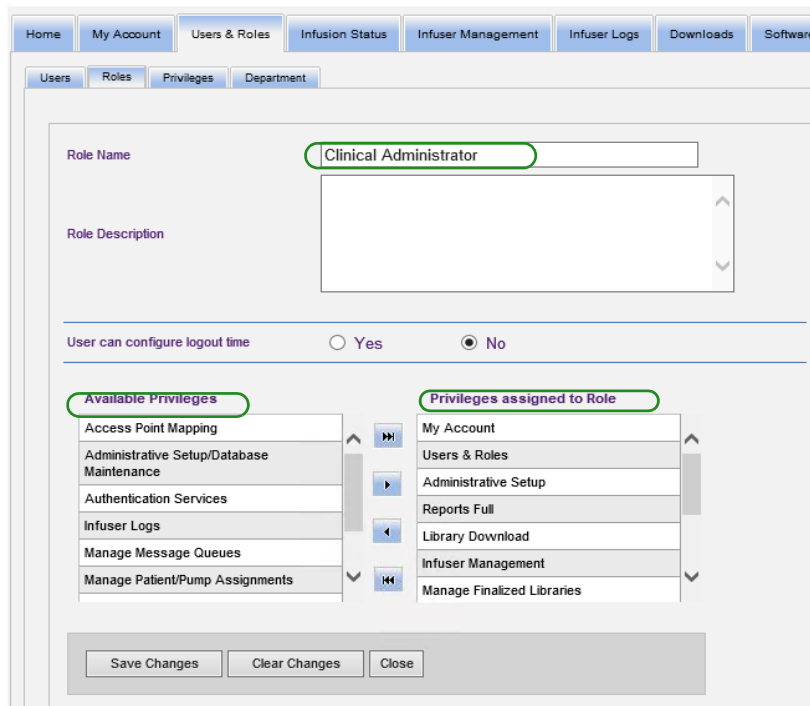
2. Highlight one of the available **Privileges** or **Privileges Assigned to Role**. Using the add (>), add all (>>), remove (<), and remove all (<<) buttons, assign the privileges to the role, then click **Save Changes**.

3. Click **Close**.

To delete a role:

1. Users & Roles view, select the **Roles** tab, highlight a role. Then click **Delete**. The Delete Role dialog pop-up window appears.

2. Click **OK**. The role is deleted from the list of roles.
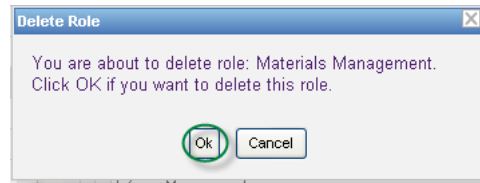
To view Roles:

In the Users & Roles view, click the **Roles** tab, highlight a role and the Users for selected Role displays as well as the privileges for the selected Role. Should you select to do so, you can edit from this view.
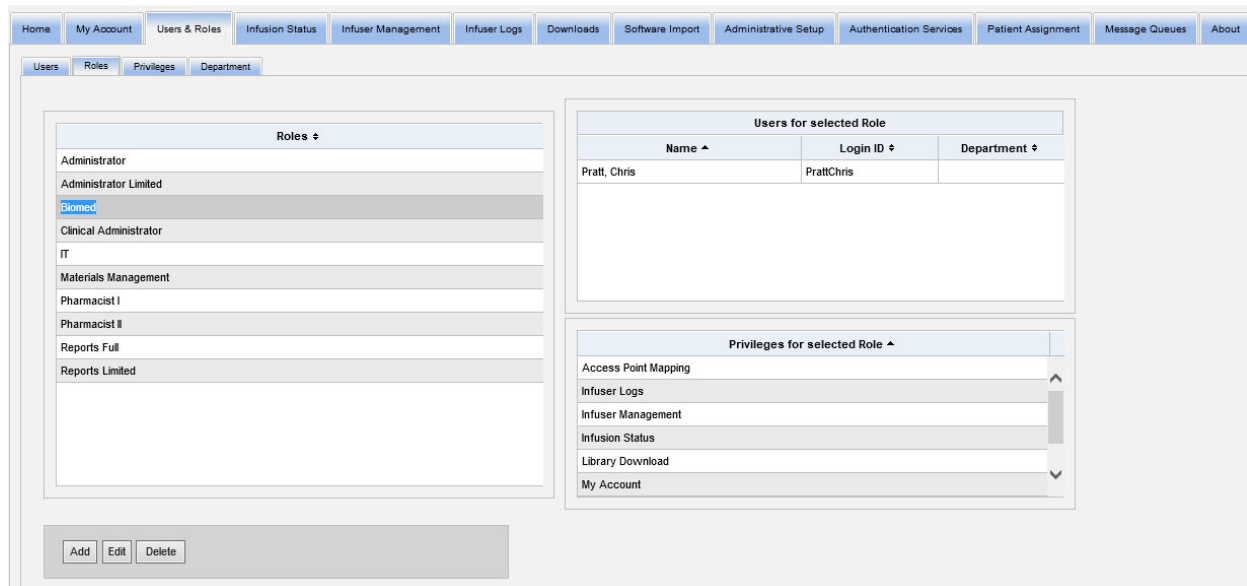
To view Privileges:

In the Users & Roles view, click the **Privileges** tab to view privileges, users for selected privilege, and roles with selected privilege.
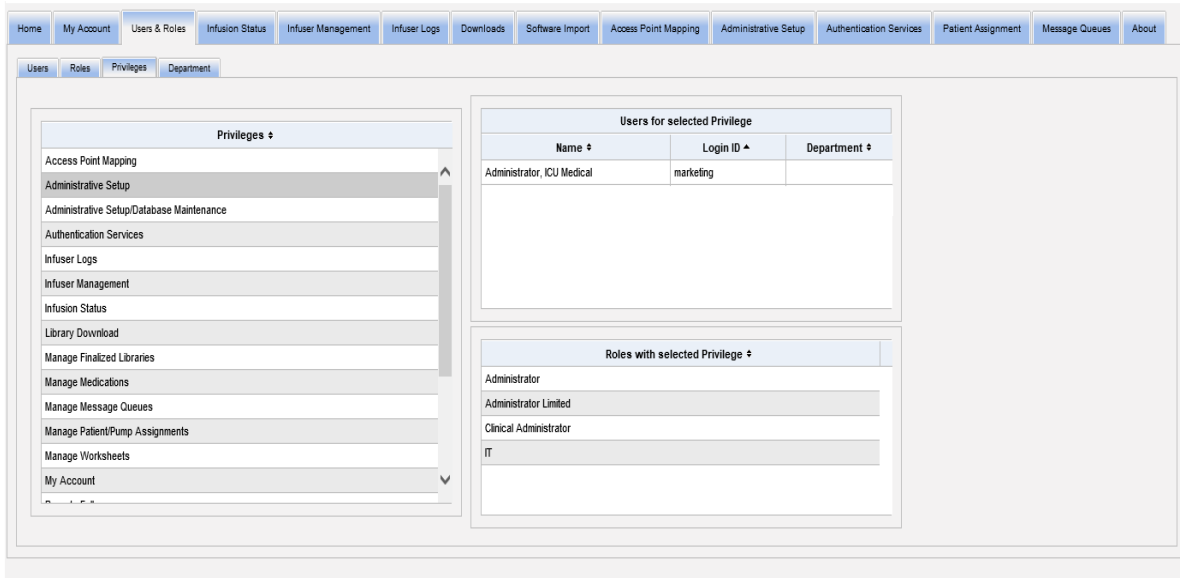
1. The **Add**, **Edit**, and **Delete** buttons are not available in the Privileges view. If you need to edit the roles assigned to the user, click the **Roles** tab. The User Roles window appears.

2. Select one or more of the options from the **Roles for Selected User** list or the **Available Roles** list. Using the add (>), remove (<), add all (>>), and remove all (<<) buttons, assign the roles; then, click **Save Changes**.
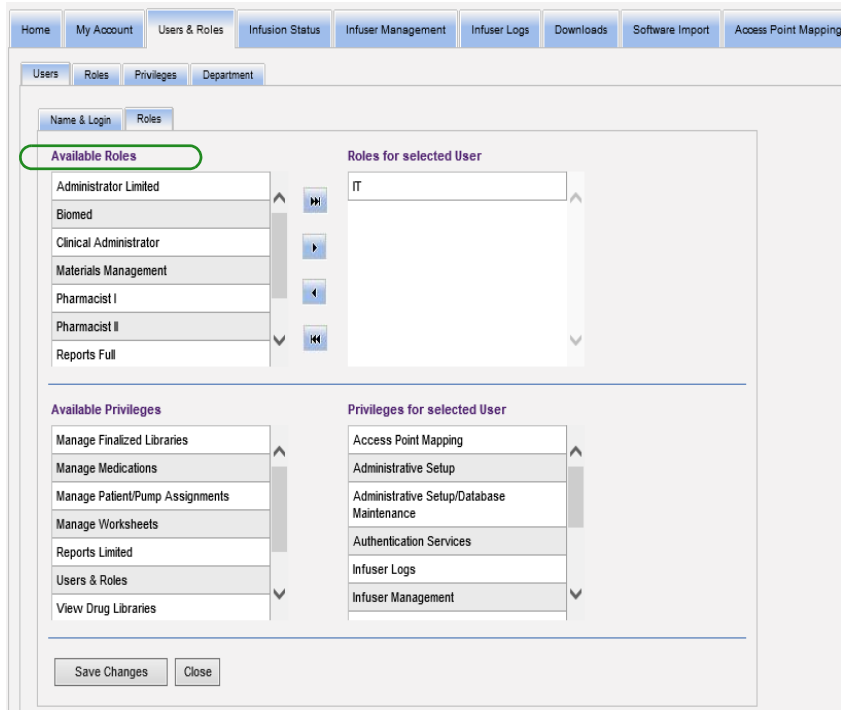
3. If you made changes, a confirmation message appears.

4. Click **Close**.

Adding, Editing, or Deleting a Department

The **Department** tab displays in the Users & Roles view. Any changes to the Department list on this tab are reflected in the Department drop-down list located on the Add User and Edit User windows.

> **Note:** The default department name is "none."

To add a Department:

1. To add a department click the **Add** button and type the department name.
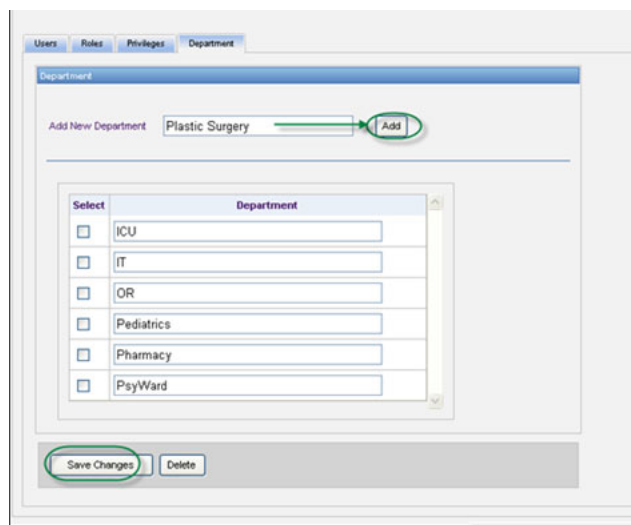
The following confirmation message appears.
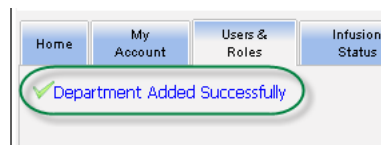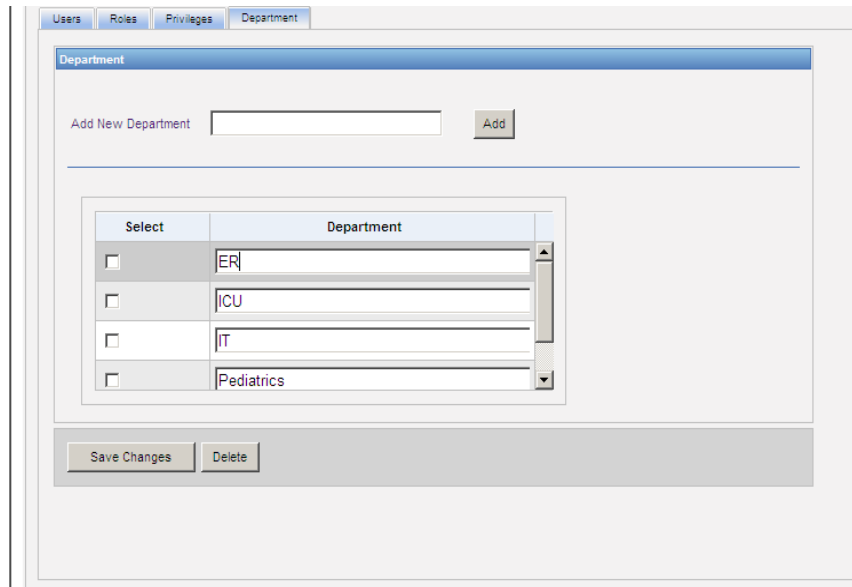
2. Click **Save Changes**.

To edit a department list:

1. In the **Department** tab, select a department name from the Department list, and edit the department name.

Note: You can edit several entries at a time. Enter the change, place a check mark in the check box next to the Department name you have edited, then go on to the next name you want to change.

2. Click **Save Changes**.

   The following confirmation message appears.
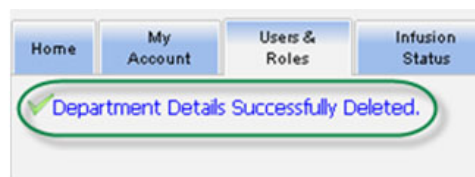
To delete a department:

1. To delete a department select the department to delete and click delete.
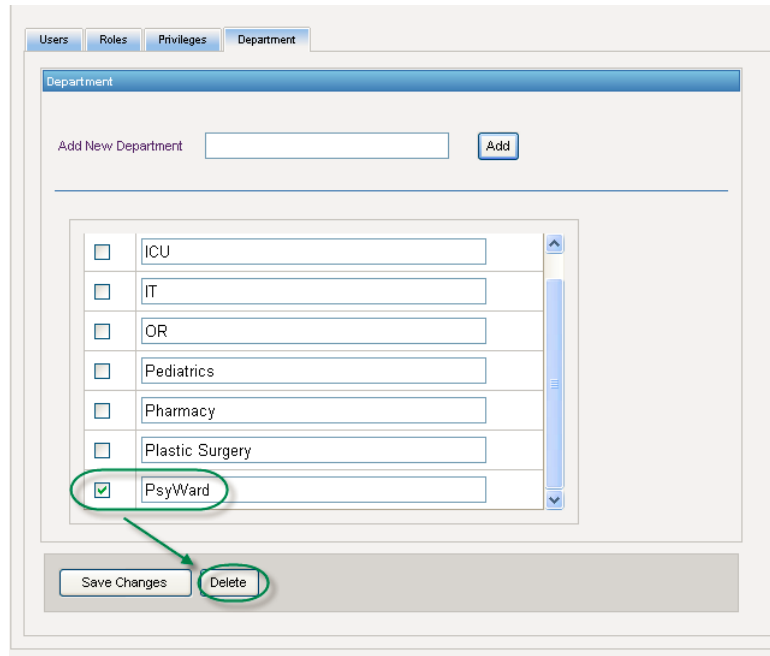
2. Click **OK** at the prompt.
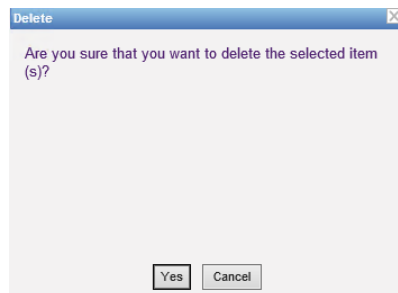
The following confirmation message appears.
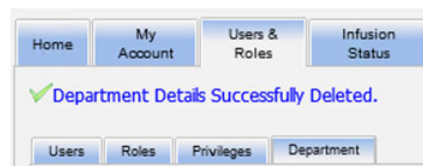
3. Click **Save Changes**.

Notes:

Chapter 5: Infusion Status

Overview

The Infusion Status provides a real-time view of infusions, including information about their remaining volume and time, drug library compliance, and alarm status. Infusion Status View is only available if you have View Protected Health Information privileges.

Navigating

1. Click the **Infusion Status** tab. The Infusion Status search instructions window appears. The default will display all the options listed for all infusers.

2. Should you wish to refine your search to a specific patient, you can do so either by indicating the Patient ID or you can type the Patient First Name and Patient Last Name. You can use the wildcard ("*") after just the first letter of the patient's first or last name or enter a partial first or last name followed by the wildcard asterisk ("*").

Note: Do not use the wildcard ("*") as the first character when conducting a search.

3. Choose the desired options for the number of Infusions to display per page, Infuser Type, Nursing Unit, CCA, Medication and Infusion Status. The latest status of all infusions that were communicating within the past hour will be displayed. Click the **Show information for last 24 hours** checkbox to view last status received, even if it was prior to the last hour (up to 24 hours).

4.   Select **Apply** to display or refresh the list below.

⚠️   **WARNING:** Information displayed may not be up to date. Confirm information on the infusion device before taking any action.

5.   You can sort the list by any column, except Dose/Rate, by clicking on the column name.

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Infusion History Snapshot

You can view the historical data for the associated infuser by clicking on the row displaying an infusion.

Each infuser and each channel displays for one hour or 24 hours if you selected **Show information for last 24 hours**.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Infusion Status View

> **Note:** The list will automatically refresh unless the **Stop Auto Refresh** button is clicked. Refresh can be resumed by clicking the **Start Auto Refresh** button.

The following table describes the Infusion Status view fields:

Field/Label	Information
Nursing Unit	Displays the Nursing Unit associated with Auto-Programming (Smart Pump Programming) and Patient.
Room/Bed	Room number and Bed number.
Patient ID	Patient identifier.
Patient Name	Patient name that is visible only if the user has the View Protected Health Information privilege.
Medication	Medication being infused. If the infuser has a library unknown to ICU Medical MedNet, the medication will display "Unknown."
Channel	The channel currently in use on the infuser. For LifeCare PCA, channel will be blank.
Dose/Rate	The Dose or Rate at which the medication is being infused. The column will display "KVO" if the post infusion delivery is a KVO or Continue Rate. It will display "Piggyback Flush" if the current delivery is a flush. > **Note:** Piggyback Flush is a Plum 360 feature available in software version 15.20 and above. Flush delivery events will be included in the Event/Alarm Log report.
Limit Exceeded (⚠ ⬍)	When a warning icon is displayed, it indicates that the therapy violated a rule set that was overridden. Hovering the mouse over the icon displays a pop-up showing the limits in the drug library that were overridden by the user.
Remaining	Displays volume (mL) of infusion remaining for the current delivery. Applies to licensed infusers but not LifeCare PCA.
Time	Displays the time remaining in the infusion for the current delivery. Applies to licensed infusers but not LifeCare PCA.
Status and Last Updated	Status (running, stopped, or alarming) and Last Updated appear in *italics* when the last status update is more than 5 minutes old. Status is also indicated by color: Green = Running; Red = Stopped; Blinking Yellow/Red = Alarming.
Location	The location of the infusion.
CCA	Either an established CCA, or may display as "Unknown." Unknown displays when none of the finalized drug libraries was on the infuser and, therefore, the infusion occurred with the existing library on the infuser (possibly a default drug library or the drug library downloaded from a different ICU Medical MedNet server).
Serial Number	The serial number of the infuser used in the therapy.
Infuser Type	The Infuser Type column in the report will only display when "All" is selected for the Infuser Type. The report will only show licensed infuser type(s) used in the therapy.

Printing

1. To print, select **Printer Friendly Version**.
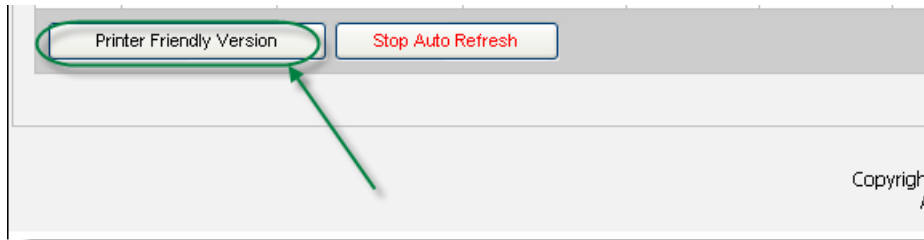
2. Once the Print Window opens, select **Print**.
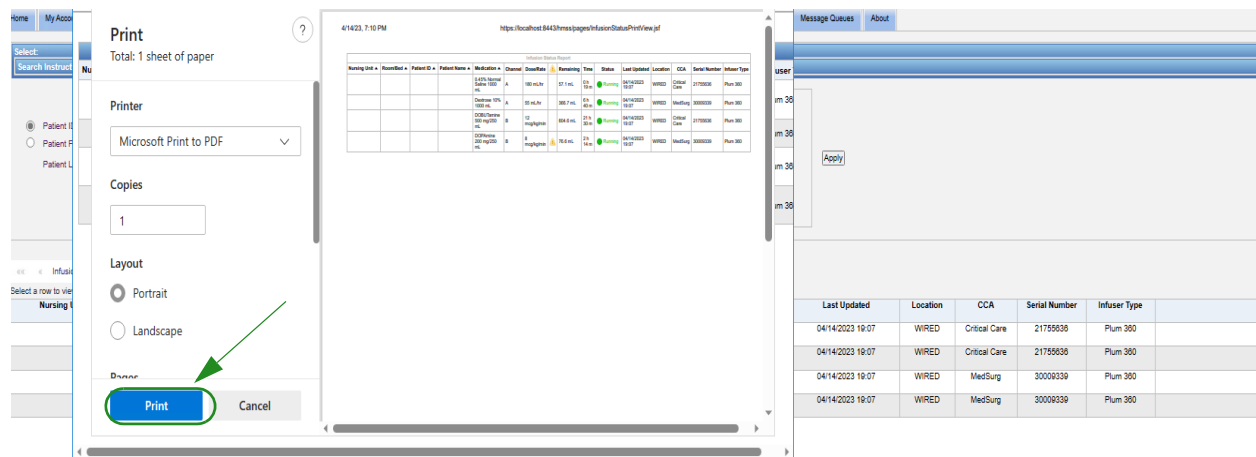
3. Print as you would any other document.

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Notes:

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Chapter 6: Infuser Management

Overview

The Infuser Management view displays a list of all the infusers at your institution and allows you to maintain inventory status and asset ID information for each infuser.

Note:	This view is only accessible for users with the following roles: Administrator, Administrator Limited, Biomed, Clinical Administrator, IT, and Materials Management. The logged-in user will also need to have the View Protected Health Information privilege.

Note:	If your institution is licensed for multi-facility reporting, the Infuser Management view will display the facility with which each infuser is associated. A user with the Biomed role can manually associate a facility with an infuser. All other roles can only view infuser/facility associations.

Navigating

Click the **Infuser Management** tab. The Infuser Management view appears

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Infuser Management View

The following table describes the Infuser Management view fields:

Field/Label	Information
Select	Click on the checkbox to select an infuser. Click again to deselect it.
Infuser Type	Licensed infuser type(s) Position the mouse over the Infuser Type and a photo of the device appears.
Device	Logical ID of the infuser. The dot to the left of the device indicates its network status. The green dot indicates that the device is online and communicated with the ICU Medical MedNet Software in the last 5 minutes. The red dot indicates that the device is offline and not communicating with the ICU Medical MedNet Software.
Facility	Facility with which the infuser is associated. If a facility has not been associated with an infuser, the value will be "Unknown". This column will only display if your institution is licensed for multi-facility reporting and can only be edited by a user with the Biomed role. To change the associated facility for an infuser, select a new value from the drop-down list. To update one or more infusers to the current facility, select the checkbox for those infuser(s), click the Update to Current Facility button, and select Yes when asked to confirm the action. If an infuser is assigned to a facility, but the infuser's current IP address is outside of the range defined for that facility or the facility is inactive, a facility warning icon ( ) will display by the facility name. If you hover your cursor over the warning icon, details about the warning will display.
Serial Number	Serial number of the infuser.
Location	The descriptive physical access point location receiving data from the infuser or the access point that last communicated with the infuser.
Software Release	The version of software residing on the infuser. The hourglass icon appears when a software download is in progress; it disappears after the download is complete.
Inventory Status	The inventory status of the device. The inventory status for any infuser will be independent of the inventory status of other infusers, even when several infusers share a CE.
Asset ID	The hospital-assigned asset ID of the device (25 characters).

Note:	The Infuser Management view automatically updates every two minutes to show changes in the infusers' status.

The following table describes the Infuser Management view filters. To filter, enter information or select a value from the drop-down lists, and click **Apply**.

Filter	Information
Infusers Per Page	You can select the number of infusers to display per page by using the Show (number of) feature. You can view 10, 25, 50, 100, 200, 500, or all infusers. **Note:** When All Infusers per page is selected the following buttons are disabled: Delete, Save Changes, Clear Changes.
Device	Allows you to create a filtered view of infusers by their device ID.
Serial Number	Allows you to create a filtered view of infusers by their serial number.
Inventory Status	Allows you to create a filtered view of infusers by their inventory status.
Infuser Type	Allows you to create a filtered view of infusers by their type. Only licensed infuser type display.
Network Status	Allows you to create a filtered view of infusers by their network status: Online, Offline, or All.
Facility	Allows you to create a filtered view by the assigned facility. This will only display if your institution is licensed for multi-facility reporting.
Show only facility mismatch	Allows you to create a filtered view showing only infusers that have a facility warning icon. This will only display if your institution is licensed for multi-facility reporting.
Select All Infusers Meeting the Criteria	Allows you to automatically select all infusers that meet criteria.

Note:	Filters that allow you to enter text will accept all or part of the field. It is not necessary to enter the entire number or value. For example, to filter by serial number, you may enter "154" to show all infusers whose serial numbers begin with 154, or you may enter the exact serial number if desired.

Navigate through the list of infusers by using the first, previous, next, and last buttons.
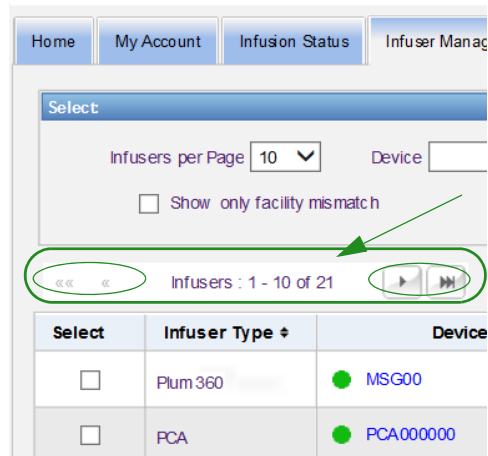
Position the mouse over the Device or Serial Number of any infuser to display a pop-up showing the **Device**, **Last Communication**, **IP Address**, and **Serial Number** of the infuser.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
         Compatibility Matrix available through your ICU Medical Technical Support Center.

Position the mouse over the Infuser Type of an infuser to display a pop-up showing the device.

To enter an asset ID for an infuser, enter the ID in the **Asset ID** field and click **Save Changes**.

The **Inventory Status** column assigns the following status descriptions to an infuser.

- **Active**
- **Scheduled for Service**
- **Servicing**
- **Inactive**
- **Cleaning**
- **Out for Repair**
- **No status**

To assign an inventory status, click the arrow in the Inventory Status field and select the desired status from the pop-up window.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
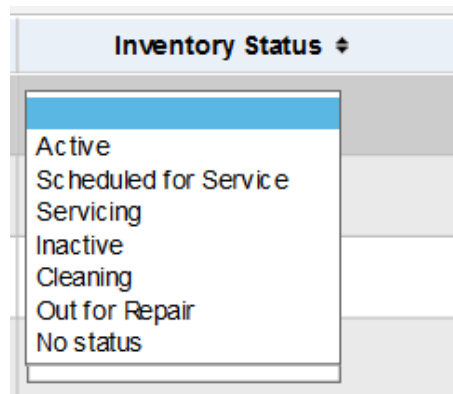
An arrow may display to the right of an infuser to show whether the last communication contained log messages. This arrow is useful to determine whether the infuser has completed sending its logs to the server.

All online infusers with 802.11a/b/g wireless capability will automatically synchronize their time with the ICU Medical MedNet server time whenever they are online and there is a difference of +/- 5 seconds or more between infuser and server time.

> **Note:** Synchronization will not happen during infusion.

If the **Delete** button is selected, the infuser is marked for deletion. Deleted infusers are not displayed in other views. Data from deleted infusers will not be contained in any reports unless "Include Deleted Infusers" is selected on the Report Options page when a report is run.

If an infuser selected to be deleted is assigned to a patient, a message displays that the specified infuser cannot be deleted. The message will contain the Infuser Serial Number, Patient ID, and if so privileged, the full Patient Name. If not so privileged, the Patient Name will be obscured by asterisks.

If a deleted infuser communicates its status to the server at a later time, it will be undeleted and will then be displayed again.

> **Note:** An infuser will have a serial number of "Unknown" if the server has never received a full status message from the infuser. The full status message contains all elements including the serial number. Full status messages are sent when the infuser is turned on. For infusers that have accumulated usage hours, yet do not report a serial number, it is possible that the hours of use occurred prior to the software version upgrade, and the infuser has not been turned on since the upgrade. Once the infuser is turned on, the server will receive its serial number in the next full status message.

The **Save Changes** button saves entered information.

The **Clear Changes** button clears any changes that you have not saved.

The **Export** button generates an Asset ID list.

The **Stop Auto Refresh** button toggles the auto refresh feature, so the Infuser Management screen does not update with the latest pump status.

Import/Export Asset ID List

The Infuser Management view allows you to import or export a file containing a list of serial numbers, asset IDs, and inventory statuses. If your institution is licensed for multi-facility reporting, exports will include facility information (if created by a user with the Biomed role). A Biomed user may also choose to include facilities in an import. Facility information will only be included if an import is executed by a user with the Biomed role.

File Format

The import file must be in **CSV** format. It must have a header row containing the fields Serial Number, Asset ID, and Inventory Status. It may also have a facility field that will be

imported if the user importing the file has the Biomed role. The file format is specified in the following table.

Serial Number	Asset ID	Inventory Status	Facility
Required, up to 50 characters	Not required, up to 25 characters	Must be one of the following: • (blank) • Active • Scheduled for Service • Servicing • Inactive • Cleaning • Out for Repair • No status	Not required, up to 30 characters

To import an Asset ID list:
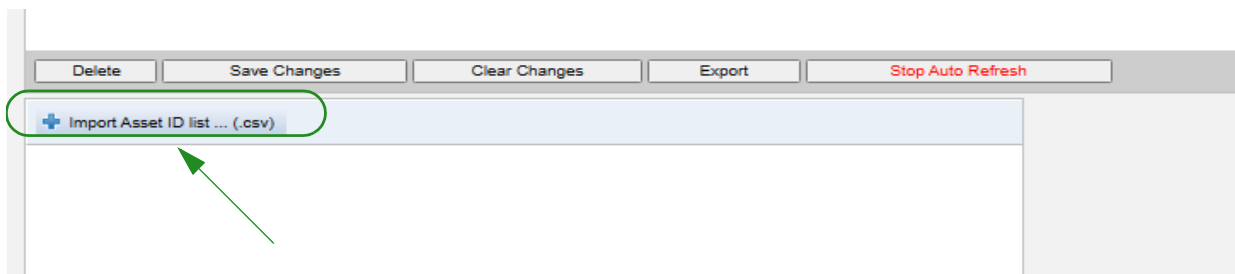
1. Click **Import Asset ID list ... (.csv)**. A navigation window appears and allows you to browse for a **.csv** file containing the serial number and asset ID information.

Note: If a serial number is not found, or the .csv file is not properly formatted, an error message is displayed.

2. Click the **Start Import** button.

Note: The following rules apply when importing a file with facility information:
- If the facility name for an infuser is an active facility, an inactive facility or "Unknown", the facility name will be imported.
- If the facility name for an infuser is empty, the facility name will not be changed in HMSS.

To export an Asset ID list:

Click the **Export** button. A pop-up window like the example below appears, allowing you to open the file in Excel, or save the file in **.csv** format.
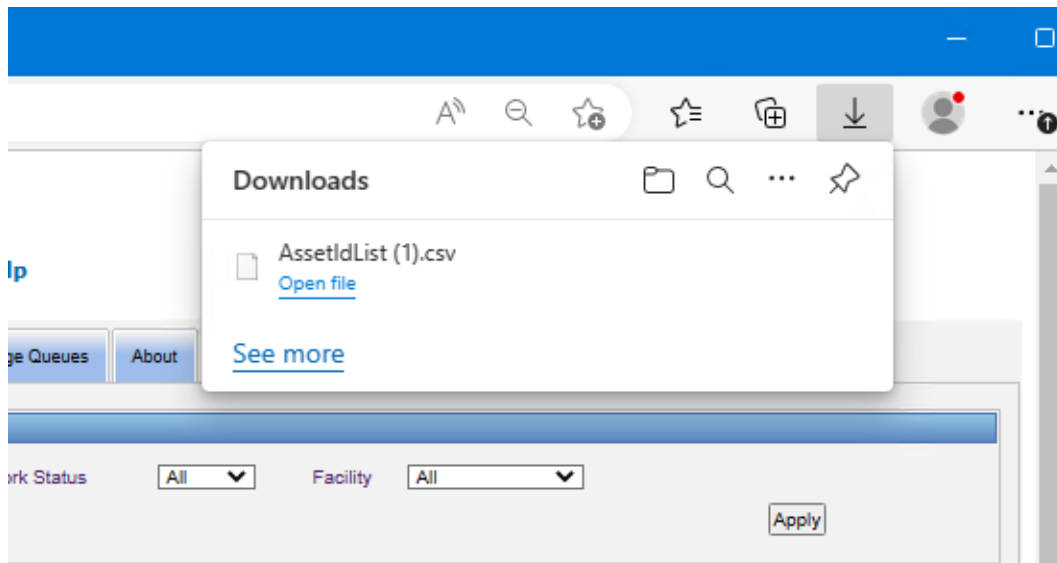
Note: Deleted Infusers will not be included in the export file.

Chapter 7: Infuser Logs

Overview

The Infuser Logs view displays a list of all the infusers at your institution.

Note:	This view is only accessible for users with the following roles: Administrator, Administrator Limited, Biomed, IT, and Materials Management. The logged-in user will also need to have the View Protected Health Information privilege.

Navigating

Click the **Infuser Logs** tab. The Infuser Logs view appears.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Infuser Logs View

The following table describes the Infuser Logs view fields:

Field/Label	Information
Infuser Type	Licensed infuser types.
Device	Device Name. The dot to the left of the device indicates its network status. The green dot indicates that the device is online and communicated with the ICU Medical MedNet Software. The red dot indicates that the device is offline and not communicating with the ICU Medical MedNet Software.
Serial Number	Serial number of the infuser.
Date Range	The date range specified in the log request.
Log Type	The type of log entries associated with the particular device.
Duration	Period of time required to obtain data.
Timeout	The period of time you selected.
%Complete	Percentage completed.
Status	Displays a status message i.e., Complete, Cancelled, Error: Timeout or Complete (Partial). If an error is present in the infuser log request "Infuser Error" will display. Other messages may include "Error: Disk Space," "No Logs Found," "Retrieving from infuser", "Retrieving from DB," etc.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
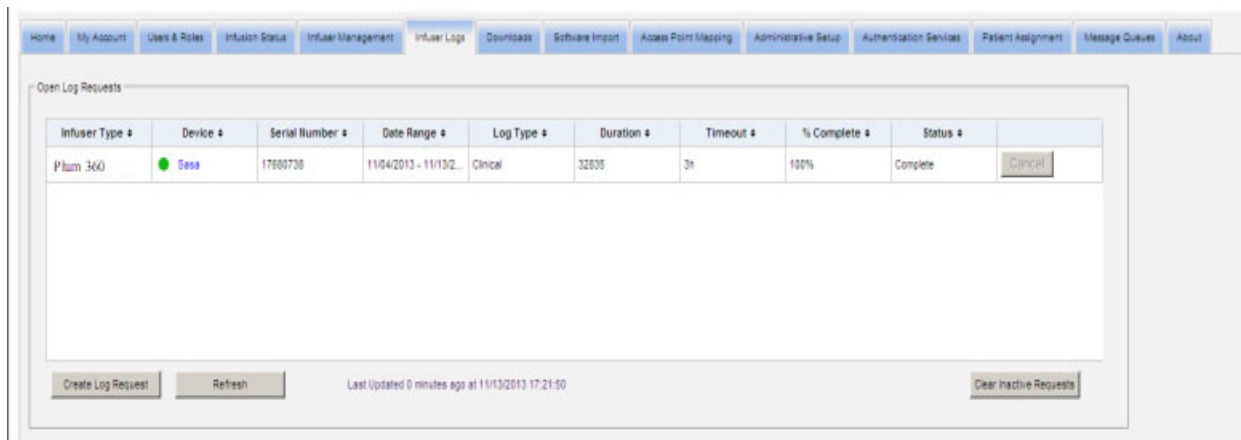
To Create a Log Request

1. Click Create Log Request. A pop-up window displays.

2. Enter the **Device Name** (alphanumeric format).

3. At **From:**, either accept the current date, or type in a start date using the mm/dd/yyyy format, or use the Calendar.

4. At **To:,** either accept the current date, or type in an end date using the mm/dd/yyyy format, or use the Calendar.

5. At **Log Type**:, use the drop-down list to select a Log type. The choices include **Clinical**, **Diagnostic**, **Audit**, or **All**, depending on the device.

6. At **Timeout:**, enter a time in hours (1-168), if you so desire.

7. The default is C:\ICU_Medical\DropZone. Your Network Administrator can extract the files from the default repository.

8. Click **Submit**.

You can use the **Refresh** button to get the most current data and the **Cancel** button to cancel the associated log request.

The **Clear Inactive Requests button** will remove completed, cancelled, or error log requests from the queue.

Notes:

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Chapter 8: Downloads

Overview

The Downloads view is used to download the active drug library to the selected infusers and to monitor the download status of libraries.

1. Click the **Downloads** tab. The Downloads view appears.

2. Select the infuser type and click **Apply**. The following screen appears:

Note: The ICU Medical MedNet software shall not allow a Plum 15.1x Drug Library which was finalized by any version of MedNet prior to 6.3 to be downloaded to a Plum 15.11 or higher infuser.
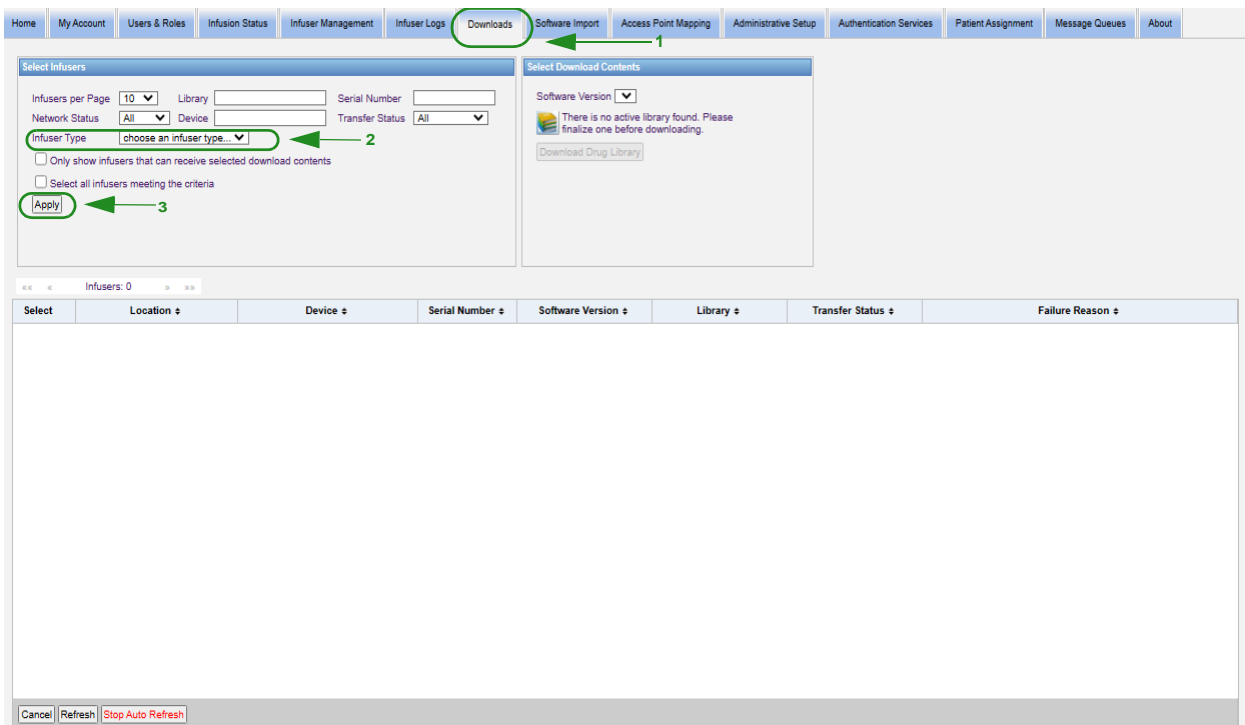
Note: The Downloads view automatically refreshes every 2 minutes to reflect any changes in the infusers' status.

To filter, enter information or select a value from the drop-down list, and click **Apply**.

To sort by column, click the header of a column. Click again to sort the results in reverse order.

Downloads Fields

The following table describes the fields in the Downloads view:

Field/Label	Information
Select	Click on the checkbox to select an infuser. Double click to deselect it.
Location	Descriptive physical location of the access point receiving data from the infuser or the access point that last communicated with the infuser.
Device	Logical ID of the infuser. The dot to the left of the device indicates its network status. The green dot indicates that the device is online and communicating with the ICU Medical MedNet Software. The red dot indicates that the device is offline and not communicating with the ICU Medical MedNet Software.
Serial Number	Serial number of the infuser.
Software Version	Displays component name and software version information.
Library	The version number of the drug library on the infuser. Descriptions include: Not Available, Version Number, Invalid Library, and DDL.
Transfer Status	**New Device:** A drug library has never been downloaded to the infuser.
	Pending: The server is attempting to download the library to the infuser. The server has not yet received any indication that the infuser is using the new drug library.
	Completed: The infuser has received a new library and it has been activated on the infuser by a clinician.
	Requested: The infuser is scheduled to receive a new drug library.
	Failed: An error occurred while the infuser was receiving a new drug library. The new drug library must be sent again before it can be activated by a clinician.
	On Pump: The library has been successfully transferred to the infuser's CE. Once the clinician accepts the library, the status will change to **Completed**.
	Installing: The library is being downloaded from the CE to the infuser.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Field/Label	Information
Failure Reason	**Unsupported File**: If a deployment descriptor file is unrecognized by a device (such as invalid deviceClass, componentType, fileType or subcomponent NUM or a combination of one or more fields) then the device will return an unsupported file response code. For example, a componentType MCU and a fileType KERNEL would return this error code. **Invalid File**: If a file fails integrity check (like unmatched hash or invalid decryption) then the device will return an invalid file response code. **File Not Found**: If the device cannot locate the file defined in the Deployment Manifest.url, then the device will respond with a file not found response code. **Drug Library Pending**: If there is a deployment already queued, pending, or updating, then the system will reject the deployment request and return the pending response code. **Invalid Manifest:** If the manifest contains any invalid fields, the device will report invalid manifest. Additional details may be injected in the DeployUpdateRes.responseStrings repeated field. For example, a required field in the Deployment Manifest or Deployment File being empty would result in this error code. **Failed Download**: While processing file downloads, if a file download fails or exceeds retries then a failed download response will be generated. **Download Timeout**: Timeout error while downloading the file. **CRC Mismatch**: CRC File error. **Data Framing Error**: Receive framing error. **Incorrect File ID**: File ID mismatch. **Unknown**: Error while flashing file or other unspecified error. **Invalid Drug Library**: There were issues with the construction or offsets as defined in the drug library. **Invalid Digital Signature**: The signature of the resource does not match the expected signature. **No Certificate**: Indicates that the MCU does not have a certificate that can be used to validate the signature of the resource. **Certificate Expired**: Indicates that the signature of the resource update could not be verified as the certificate has expired. **Canceled**: The download was canceled by a user. **Download Expired**: The pending drug library download expired (6 hour timeout). **New Drug Library Finalized [Active Drug Library Version]**: The drug library download retry was interrupted with the finalization of a new drug library.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

List of Infusers

> **Note:** Only the infusers for which you are licensed will be displayed.

You can navigate through the list of infusers by using the first, previous, next, and last buttons.

Downloads Filters

The following table describes the filters in the Downloads view.

> **Note:** Filters that allow you to enter text will accept all or the first few field values. It is not necessary to enter the entire number or value. For example, to filter by serial number, you may enter "154" to show all infusers whose serial numbers begin with 154, or enter the exact serial number if desired.

Filter/Label	Information
Infusers per page	This function allows you to select the number of infusers to display per page by entering a number in the Show (number of) Infusers per page feature. You can view 10, 25, 50, 100, 200, 500 or all infusers. > **Note:** When All Infusers per page is selected, the following buttons are disabled: Download and Cancel.
Library	This function allows you to enter a drug library version that has been downloaded.
Serial Number	This function allows you to create a filtered view of infusers by their serial number.
Device	This function allows you to filter by the device ID.
Network Status	This function allows you to create a filtered view of infusers by their network status: All, Online, or Offline.
Transfer Status	This function allows you to create a filtered view of infusers by their library download status: All, New Device, Requested, Pending, Installing, Completed, Failed, and On Pump.
Infuser Type	This function allows you to select the infuser type desired for the library download. Only licensed infusers can be selected.
Only show infusers that can receive selected download contents	This function allows you to filter by known information. You can choose to show only infusers that can receive the selected download contents.
Select all infusers meeting the criteria	This function allows you to automatically select all infusers meeting the criteria.

Transfer Status

This section provides detailed information concerning the Requested and Pending States. For information concerning the New Device, Pending, Completed, Requested, Failed, On Pump, and Installing states, see .

Requested State

An infuser is in the "Requested" state for the following reasons:

- It has been queued to receive a drug library, but the server has not yet begun the download.
- A previous drug library download was unsuccessful.

The infuser remains in the "Requested" state until the next download interval. If an infuser is in the "Requested" state, the drug library download can be cancelled by selecting the infuser and pressing the **Cancel** button.

Pending State

An infuser is in the "Pending" state if the server is currently downloading the drug library to the infuser.

The download to an infuser in the "Pending" state cannot be cancelled.

Drug Libraries

Invalid LifeCare PCA Infusers Drug Libraries

If a LifeCare PCA infuser is turned off and plugged in, a minimal status message is generated that does not include the drug library name. If a drug library was downloaded and installed on the infuser, but the infuser was turned off before it has sent the drug library name to the server, the server will report an "invalid library." Once the infuser is turned on, a standard status message is sent to the server, updating the library name to reflect the library on the infuser. A status message is generated approximately five minutes after the infuser is turned on.

Downloading a Library

To download a library to infusers:

1. Verify the library version information.

2. Select the desired infusers.

Note: Some libraries require a software version to be selected before beginning the download.

---

3. Click **Download Drug Library**.

Note: When the library is not current, Library Version is displayed in **red** text. It remains in **red** text until the download is successful. When the download is successful, the Library Version changes to the current active library and is displayed in **blue** text.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

If the **Stop Auto Refresh** button at the bottom of the screen is selected, the Library Download screen does not update with the latest pump status.

Important: Verify the downloaded library on several infusers before deploying the new library across the entire institution.

Note: The current active drug library version downloaded to the selected infusers is identified by the Drug Library ID found on the Library Directory page of the ICU Medical MedNet Meds application.

Note: Under some conditions, when sending a new library to infusers, "Invalid Library" will display in the Library field. If this happens, click **Refresh** until the library download is completed. After the download is completed, the description in the Library field changes to the current active library.

Drug Library Report

The Library Download view provides the following reports:

- Drug Library
- CCA Library
- Master Infuser and CCA Settings
- LifeCare PCA Master Protocol Report (PCA Only)

To select a report:

1. In the Library Download view, click on the icon that looks like a book.
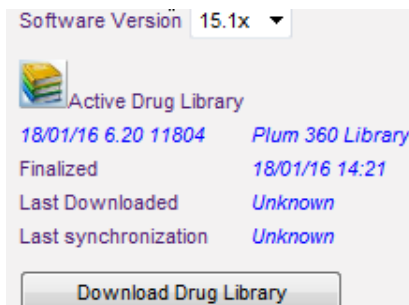
Select a report type and library version, then click **Submit**. Only finalized libraries will be displayed.
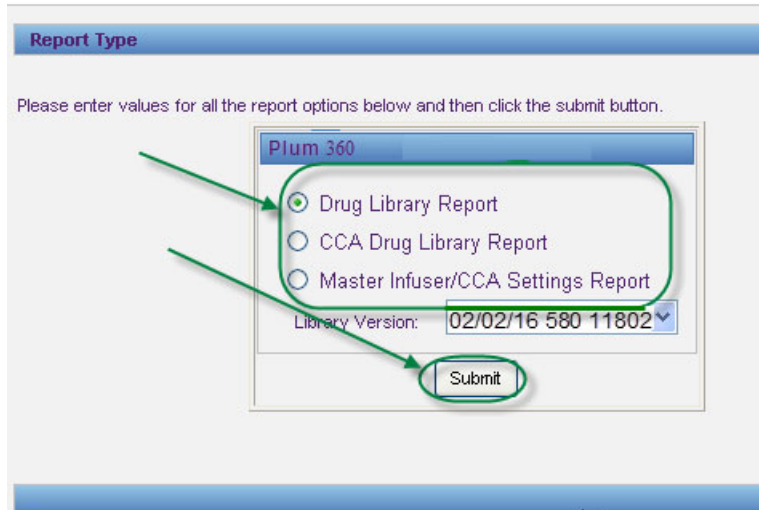
2. The report is displayed as shown in the following example.

3. You may print the report using your browser's **Print** button.

Notes:

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Chapter 9: Software Import

Overview

The Software Import view allows the software for compatible infusers to be updated to a new version. Once imported to the server using this view, the new software can be downloaded to the infusers.

Important: Infuser software updates are managed only by ICU Medical Service Representatives.

Click the **Software Import** tab on the navigation bar, and the Software Import view appears.
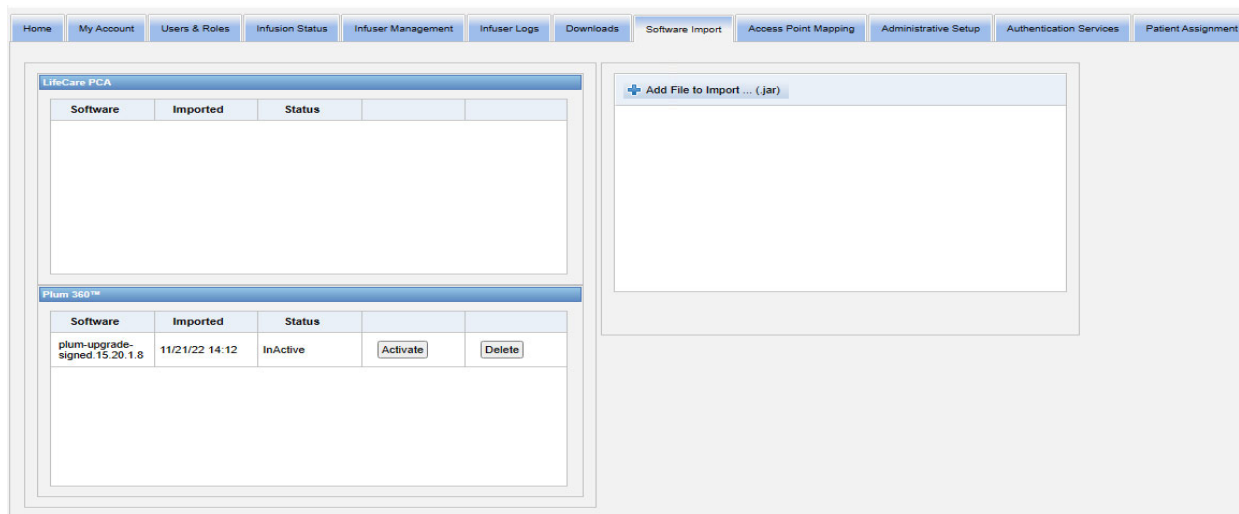
The Software Import view allows you to import a file to load the new software version to the server. The software update process is initiated on the infuser itself.

Note: After a software update, the infuser reverts to a default drug library. Before using the infuser in a clinical setting, a new drug library must be downloaded to the infuser.

Uploading a file to the server

1. Click the **Add File to Import** button.
2. Find the .jar file in the browser window and select the file to add by clicking **Open**.
3. Click the **Upload/Import** button.

Once the software versions are loaded, you can activate or delete the software version for a particular infuser type using the **Activate** and **Delete** buttons next to each version.

Notes:

Chapter 10: Access Point Mapping

Overview

The Access Point Mapping view allows you to enter a description for each wireless access point. This description appears in online views and on reports that include an infuser's location. It also provides a means to import or export a list of access points and descriptions.

> **Note:** If your hospital has licensed Asset Tracking, the Access Point Mapping view is not displayed. See Appendix C: Enhanced Asset Tracking on page 219 for more information.
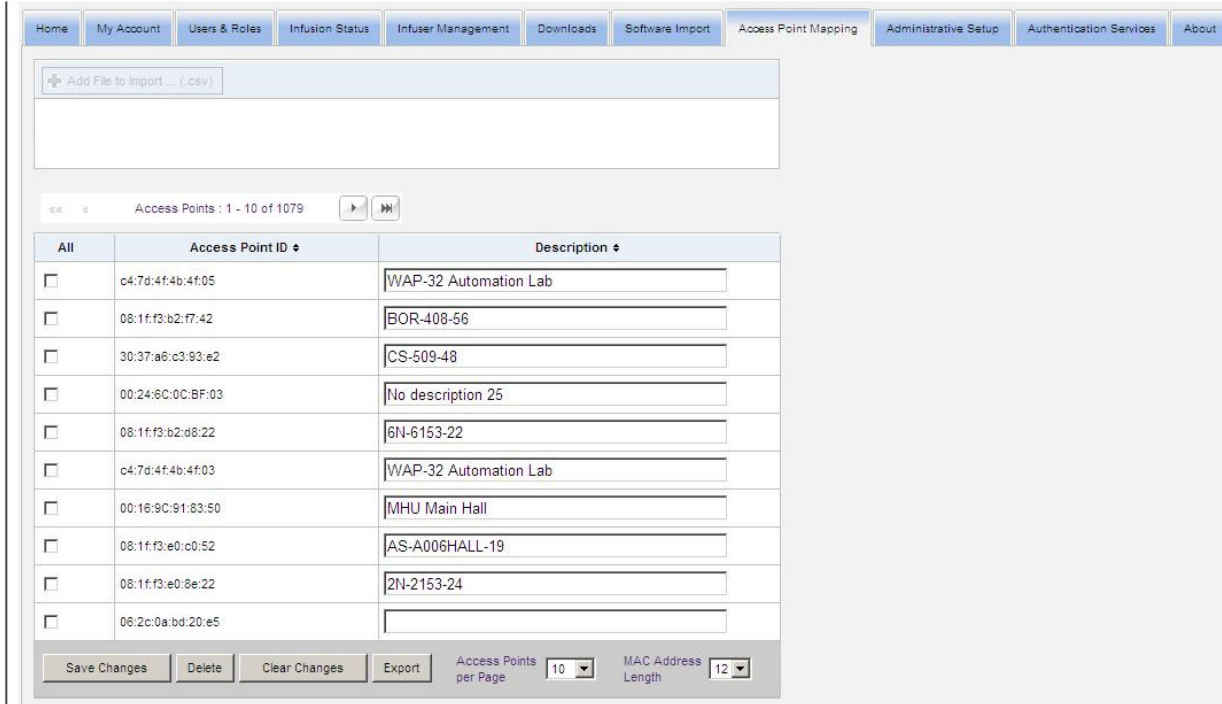
The following table describes the fields in the Access Point Mapping view:

Field/Label	Information
Access Point ID	The MAC address of the wireless access point through which the infuser communicates with ICU Medical MedNet Software.
Description	This feature allows you to enter a descriptive location for the access point used for online views and in reports. The description field is optional.
Access Points Per Page	User Selectable with options per page of 10, 25, 50, 100, 250, or All.

> **Note:** Your system administrator can provide the physical locations for wireless access points.

Navigating

Click the **Access Point Mapping** tab, and the Access Point Mapping view appears. You may click on the Access Point ID column or the Description column to sort the view. Clicking again will sort in reverse order.

Enter a descriptive name for a wireless access point ID in the Description field, then click **Save Changes**.

To delete an access point, enter a check mark in the box next to the access point ID you want to delete, then click **Delete**.

Note: If the selected access point recently communicated with an active infuser, the access point cannot be deleted.

Importing And Exporting An Access Point List

To import an access point list:

1. Click the **Add File to Import** button to locate the file.
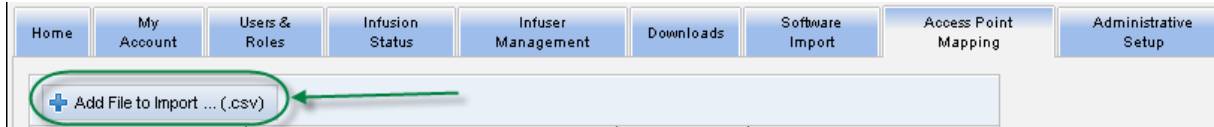
2. A navigation pop-up window appears; use it to browse for a **.csv** file, so you can import access point IDs and descriptions.

3. Click the **Start Import** button.

4. The upload may be canceled by using the **Cancel** button.

Note: If the .csv file is not properly formatted, an error message is displayed in the Access Point Mapping view.

To export an access point list:

1. Click the **Export** button.
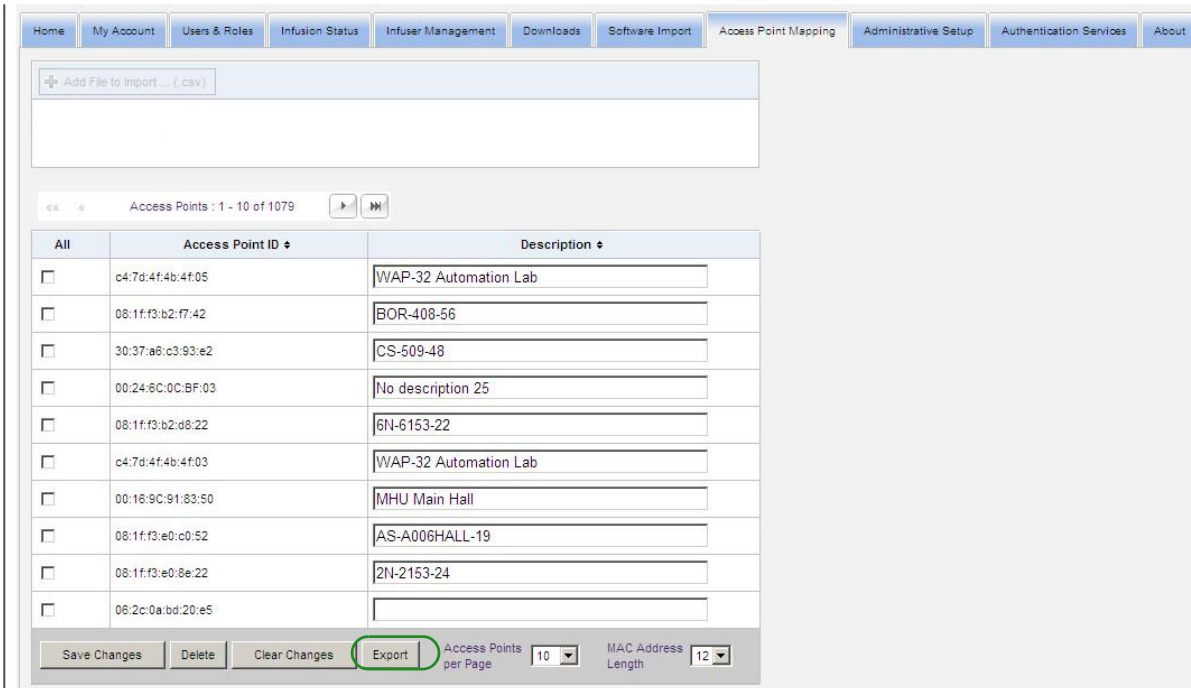
2. A pop-up window appears like the example below. Open the file in Excel, or save the file in **.csv** format.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
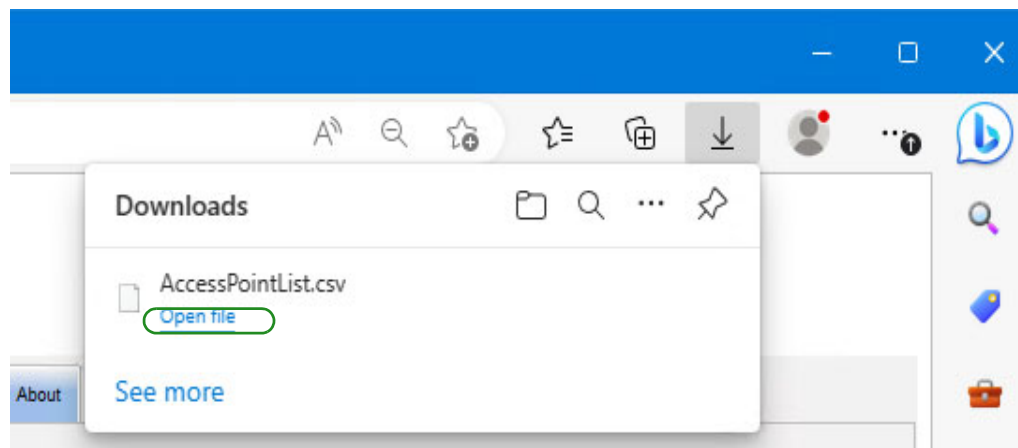
Chapter 11: Administrative Setup

Overview

The administrative setup configuration typically occurs during the installation of ICU Medical MedNet Software. The Administrative Setup view is used to maintain information about your institution and facilities, maintain infuser software download settings, view, or update your software license file, and configure settings for database maintenance.

The Facility Settings section will only display if multi-facility reporting is licensed at your institution.

Note: Only users with appropriate login privileges can see the Administrative Setup view.

Institution Settings

1. Click the **Administrative Setup** tab to display the Administrative Setup view.

2. To add or change **Institution Settings**, enter the following information:
   - Institution Name (default is "Institution Name")
   - Contact Name
   - Title
   - Phone
   - Pager

Note: The **Institution Name** field is printed on reports. It is displayed on Plum 360 infusers when they are powered on.

3. Set Facility Displayed on Reports by selecting the appropriate radio button (Currently Located Facility or Manually Assigned Facility; default is Currently Located Facility)

Note: This setting determines whether the facility the infuser is currently located in or the manually assigned facility displays in reports that include facility information.

4. Click **Save Changes** in the Institution Settings section to save the changes.

Facility Settings

Note: The Facility Settings section will only display if your institution is licensed for multi-facility reporting.

Click the Administrative Setup tab to display the Administrative Setup view.

The Facility Settings section displays below the Institution Settings section and contains all facilities that have been added.

The following table describes the **Facility Settings** fields:

Column	Information
Facility Name	The name of the facility
Address	The address of the facility
Contact	The facility contact name
Department	The contact's department
Email	The contact's email
Phone	The contact's phone number
IP Range	The IP address range that the facility uses
Status	Status of the infuser - Active or Inactive

To add a facility:

1. In the Facility Settings section, click **Add Facility.** The Add Facility window opens.

2. Enter the following information (see Appendix E: Character String Specifications on page 223):
    - Facility Name (must be unique)
    - Address 1
    - Address 2
    - Address 3
    - City
    - State/ Province
    - Postal Code/ Zip
    - Country
    - IP Range - Enter in CIDR notation (XXX.XXX.XXX.XXX/##). Range cannot overlap with IP ranges defined for other facilities.

Note: Hovering over the information icon by the IP range field will display information on the required IP range format.

    - Facility Status (select from drop-down list)
    - Contact
    - Department
    - Email
    - Phone

3. Click **Clear Changes** to discard any changes and return to Facility Settings.

4. Click **Save Changes** to save the facility and return to Facility Settings.

To edit a facility:

1. In the Facility Settings section, click the **Edit** link in the row of the facility you want to edit. The Edit Facility window opens.

2. Make changes to the applicable fields, and click **Save Changes**:

Note: You cannot delete a facility. If you no longer need a facility, set the Facility Status to Inactive.

Software Download Settings

To change **Software Download Settings**, click the **Software Download Settings** tab, and enter the following information:

- Maximum Retries (maximum 999; default is 3)
- Minimum Retry Interval (default is 120 seconds)
- Click Save Changes
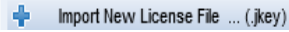
Note: The maximum retries and minimum retry interval are configuration settings for the software update capability on the LifeCare PCA infusers. Any changes needed are made by your ICU Medical Field Service Representative.

Note: If you select a software version to download that is older than the one previously set, the ICU Medical MedNet software will detect it. Also, if you check the **Notify administrator on Software Downgrade** check box, an email will be sent to the email address you indicated in SMTP Maintenance.

The default value for the **Notify Administrator on Software Downgrade** check box is unchecked.

Also, the downgrade will generate an entry in the **Audit Log**. It will include the **Infuser Logical ID**, the **Infuser Serial Number,** the **Registered Infuser Version** and the **Reported Infuser Version**.

License Information

The **License Information** section is empty until a license file is imported. In the Import New License File section, click ➕ Import New License File ... (.jkey) to locate it on your PC, then click **Import**. The **Current License Details** fields will be populated.
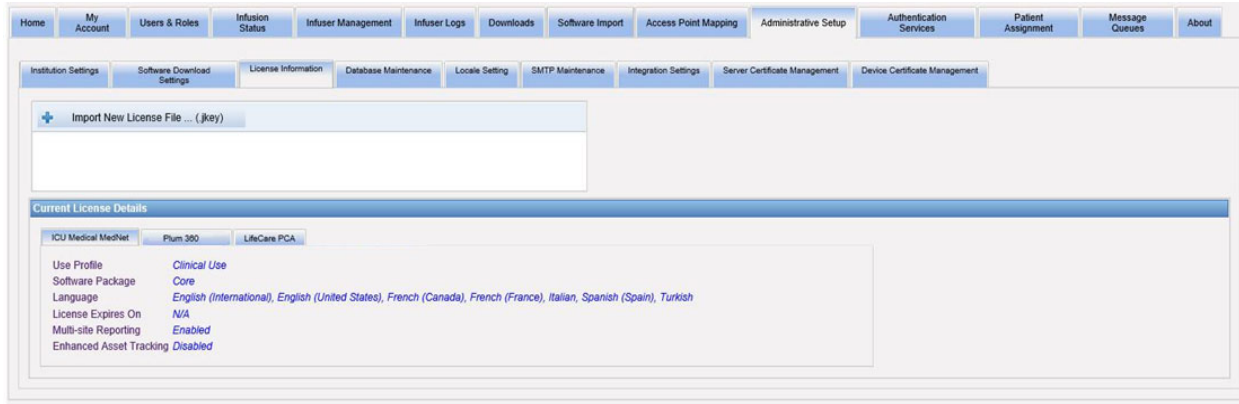
Current License Details include the following:

- Use Profile
- Software Package
- Languages
- License Expires On
- Enhanced Asset Tracking
- Multi-facility Reporting

- Infuser(s) License(s)
- Auto-programming (Smart Pump Programming)
- Auto-documentation (Infusion Documentation)
- Alarm Forwarding (Alert Forwarding)
- Drug Library Size Level 2

Note: License files are provided by the ICU Medical Implementation team.

Importing a License

Use the following process to import a License.

1. While in the **License Information** tab, select Import New License File (must be a .jkey file type).

2. From the Choose File dialog box, find the desired file, then select it to populate the file name window.

3. Press **Open** to begin import of new license.
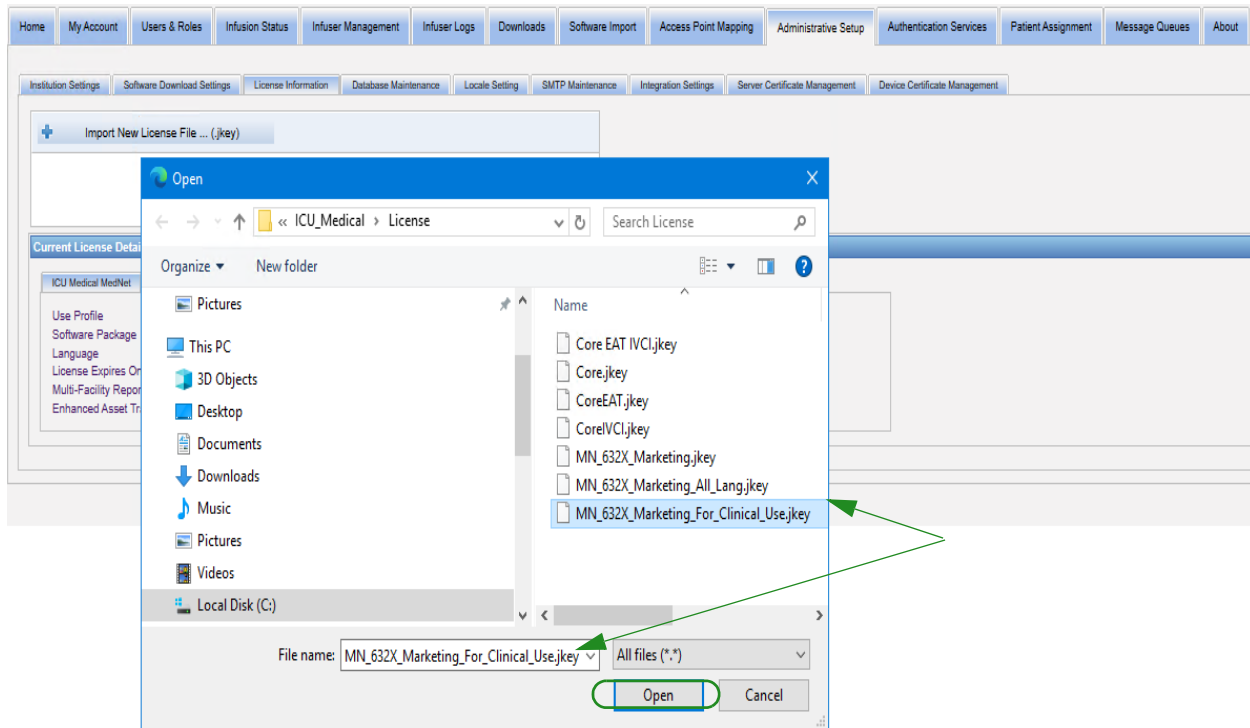
4. Verify the file in the window is the correct file.

5. Select **Start Import**.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
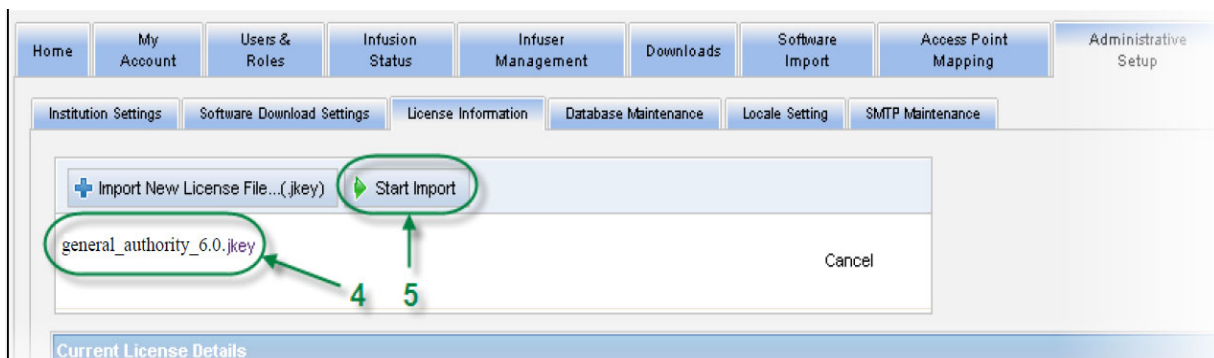
6. Verify that the import was successful.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
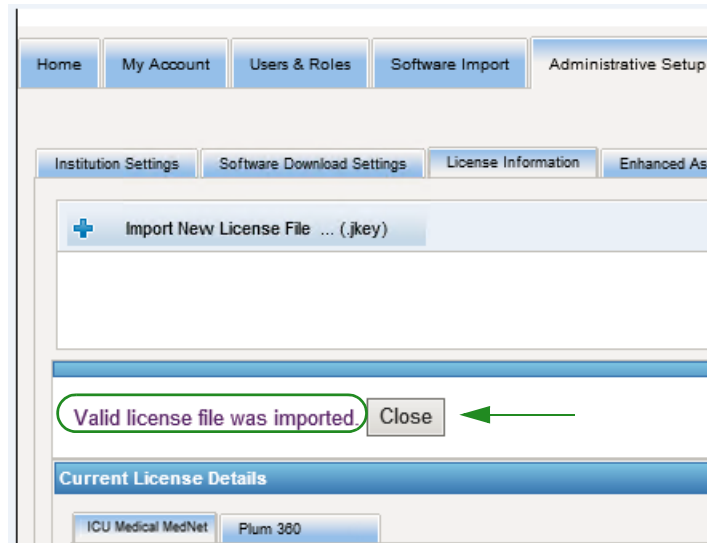
Database Maintenance

The **Database Maintenance** settings are used to rid or purge the database of old transactions, thereby freeing more space for more effective and speedy operation of your ICU Medical MedNet system. The designated owner of the database maintenance is usually the DB or system administrator.

We highly recommend that you backup your database.

Backing up the ICU Medical MedNet Databases

In order to back up the database, you first must configure the backup device. For instructions on setting up that device to work with SQL Server, refer to the SQL Server documentation.

Restoring the ICU Medical MedNet Databases

To restore the database, the backup device must also be configured according to the SQL Server documentation.

Important: Restoring a backup of the database requires stopping the ICU Medical MedNet™ Server Software service.

Note: To avoid running out of server hard drive space, we suggest managing the size of the SQL Server Transactional Log file while purging is in process. Truncating the log files may be necessary with large databases.

1. In the **Data Retention Period** field, enter the time period for which you want to keep the data. You can select from:

    • 6 months
    • 1 year
    • 2 years
    • 3 years
    • 4 years

2. Enter your User ID.

3. Enter your Password.

4. You can also opt to set a future start time and date:

    • Using the drop-down list, select a Start Time (DB event time based).
    • Using the calendar, select a date.

5. Once satisfied with your choice, click **Start** or if you want to make a change, click **Reset** and re-enter the information.

6. Should you wish to abort the purging process, click on **Abort Purge**.

Note: Transactions purged prior to aborting cannot be recovered.

The oldest system transaction and last purge dates are displayed for your convenience.

Enhanced Asset Tracking

The **Enhanced Asset Tracking** section allows configuration of this optional feature.

Note: When Enhanced Asset Tracking is enabled, the **Access Point Mapping** tab is hidden.

1. Enter the Server Name (and port if required), the User ID, and Password.

2. Set the Preferred Identifier to be used by the Asset Tracking application to identify your infusers. Possible values are Infuser Serial Number (default), Device ID, and Asset ID.

3. If you are using a Real-Time Location System (RTLS), select the level of Location Detail:

   • Space
   • Zone/Space (default)
   • Floor/Zone/Space
   • Building/Floor/Zone/Space
   • Site/Building/Floor/Zone/Space

4. The current status is displayed once you save your configuration by clicking the **Save Changes** button. The following status messages can be displayed:

   • Enhanced Asset Tracking is setup properly
   • Enhanced Asset Tracking has NOT been setup properly

- Enhanced Asset Tracking is receiving location change events
- Enhanced Asset Tracking is ready but has not received location change events since the ICU Medical MedNet server was started

5. After you have entered your information, click **Test Connection** to verify the connection. The following status messages can be displayed:

- Network failure trying to connect to asset tracking service
- Internal error while trying to ping asset tracking server
- Asset tracking server present but tracking service denied
- Asset tracking server present but tracking service is not available
- Successfully pinged to the Asset Tracking server

Possible conditions causing the internal error message include:

- Invalid asset tracking username or password
- Invalid preferred ID type being used
- Host name or IP address missing for asset tracking server
- Any server error relating to retrieving asset information from external system

Locale Setting

Use the following process to select your preferred ICU Medical MedNet language.
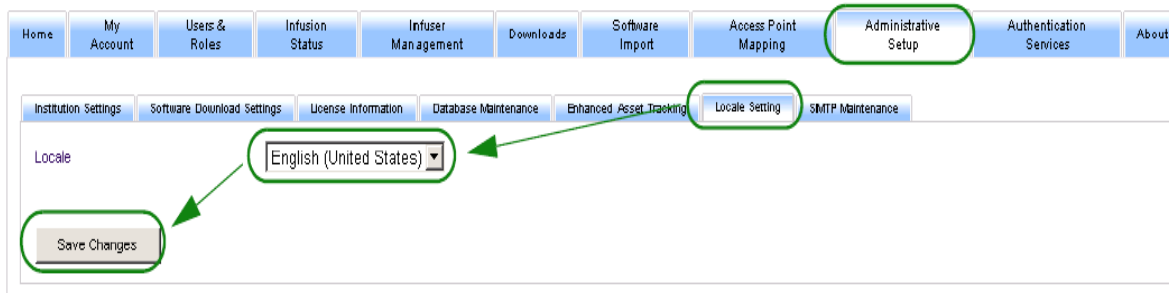
1. Select Locale Setting.
2. Select the desired language from the Locale drop down list.
3. Click the **Save Changes** button.

SMTP Maintenance

Use the following screen to access SMTP Maintenance.

- SMTP Server (server name or address for the email server of the organization)
- SMTP Port
- SMTP User Name (20 character limit) (leave blank for non-authenticating SMTP servers)
- SMTP Password (20 character limit) (leave blank for non-authenticating SMTP servers)
- Email (email address of the administrator that will receive monthly messages about the database archives)
- Test Connection

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Integration Settings

The **Integration Settings** tab is only available if IV EHR Integration (Smart Pump Programming, Infusion Documentation and Alert Forwarding) has been licensed and if you have View Protected Health Information privilege.

> **Note:** For setting the necessary profiles, the ICU Medical MedNet user interface uses "Auto-Documentation" as an alternative name for Infusion Documentation, and "Auto-Programming" as an alternative name for Smart Pump Programming.

The information you set in the General window will be dictated by your specific integration system.

> Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Navigating

1. At **Automatically unassign patient after infuser has not communicated for this period**, select from the following range:

    - Power Off
    - 15 minutes
    - 30 minutes
    - 1 hour
    - 2 hours
    - 4 hours
    - 8 hours
    - 12 hours
    - 24 hours

ICU Medical MedNet will disassociate any patient from a pump that has not communicated to its server for the time period selected.

2. Select the **Purge interval for Inpatients**, that is how often can the information be discarded from the ICU Medical MedNet database:

    - Weekly
    - Monthly
    - Every 3 months
    - Every 6 months
    - Yearly

3. Select the **Purge interval for Outpatients**:

    - Weekly
    - Monthly
    - Every 3 months
    - Every 6 months
    - Yearly

4. The **Online Status Change Detection** indicates online/offline status of the Plum 15.11 and LifeCare PCA infusers. ICU Medical MedNet can forward the information on at one of the selected intervals from:

    - 6 minutes
    - 8 minutes
    - 10 minutes
    - 15 minutes

5. For the Plum 360, the **Frequency of Periodic Updates** allows you to select how often the infuser sends periodic status information to ICU Medical MedNet while a therapy is running. Use the drop-down list to select from:

    - 30 seconds
    - 60 seconds
    - 90 seconds

- • 2 minutes
- • 2.5 minutes
- • 3 minutes
- • 3.5 minutes
- • 4 minutes
- • 4.5 minutes
- • 5 minutes

6. Select a **Primary Patient Identifier**. This will most likely be dictated by the third-party admission system (ADT) used at your facility.

- • Medical Record Number
- • Patient ID
- • Alternate Patient ID
- • Patient Account Number
- • Visit ID
- • Alternate Visit ID

7. Select a **Preferred Infuser Identifier**. Once you select a Preferred Infuser ID, that ID will be used throughout the User Interface (UI).

- • Serial Number
- • Device ID
- • Asset ID

8. At **Patient and Infuser Unassignment**, select between:

- • Do not allow manual unassignment (this option provides only the Patient Assignment List view in the Patient Assignment tab that allows you to view patient/pump assignments)

or

- • Allow manual unassignment (this option adds an additional tab in the Patient Assignment tab called Unassign that allows you to manually disassociate a patient from a pump)

9. Click **Save Changes** once you have made your selections.

Integration Profiles

The Integration Profiles that can be set for the elements that are licensed are:

- • Auto-Documentation Status (Infusion Documentation Status)
- • Auto-Documentation Events (Infusion Documentation Events)
- • Auto-Programming (Smart Pump Programming)
- • Alarm Forwarding (Alert Forwarding)
- • Patient Assignment Status Change

Note: As each profile is created, a confirmation message appears and the profile name, type and clinical integration version displays. Profiles can be disabled, edited, or deleted (see instructions after profile creations).

Clinical Integration Versions

The following table of infusers displays the list of licensed infusers and their supported interface versions:

Infuser Type	Version	CE	Supported Clinical Integration Interface
LifeCare PCA™	7.02, 7.03	1.8	2.1, 2.2
LifeCare PCA™	7.4.1	1.9	2.2
Plum 360™	15.11	03.04	2.2
Plum 360™	15.20	3.5	2.2

Following are the steps to create a profile. In each case, you will need to select **Add Integration Profile...**

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Profile for Auto-Documentation Status

Note: For setting the necessary profiles, the ICU Medical MedNet™ user interface uses "Auto-Documentation" as an alternative name for Infusion Documentation. Infusion Documentation is one of the IV EHR Interoperability features that allows populating medication administration records, I&O flow sheet and dashboards with infusion events in an EHR system.

1. At **Profile Type**, select **Auto-Documentation Status** from the drop-down list.

2. At **Name**, accept either the default (Auto-Documentation Status) (Infusion Documentation Status) or enter a name of your choice.

3. At **Clinical Integration Version**, select the appropriate version from the **Clinical Integration Versions** table provided earlier.

4. Click **Next**.

5. At **Receiver Host**, enter a valid server host name or an IP Address.

6. At **Receiver Port**, enter a port. The port must be an integer from 1 to 65535.

7. At **Receiver Path**, enter the path of your choice (optional field).

8. Place a checkmark in the box next to **Use secure transmission when sending messages to the receiving system** if you wish to use that optional selection.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

9. Click **Next**.

10. Place a check mark next to the selections you wish to enable:

    - Only transmit messages for infusers that are powered on and programmed.
    - Only transmit messages for infusers associated with a patient.
    - Transmit infuser online messages.
    - Transmit infuser offline messages.
    - Transmit messages while infuser is off.
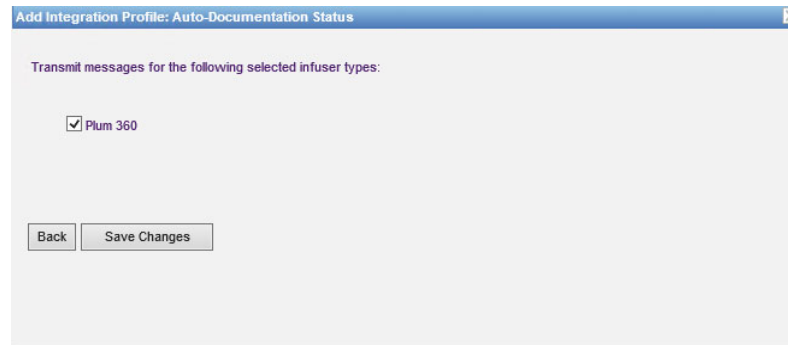
11. Click **Next**.

12. Select the infuser types for which messages are to be transmitted.

Note: Only licensed infusers display.

---

13. Click **Save Changes**. Your Auto-Documentation Status (Infusion Documentation Status) profile has been created.

Profile for Auto-Programming (Smart Pump Programming)

Note:	For setting the necessary profiles, the ICU Medical MedNet user interface uses "Auto-Programming" as an alternative name for Smart Pump Programming. Smart Pump Programming is one of the IV EHR Interoperability features that allows populating clinical orders from EHR systems on pumps.

Once you have clicked on **Add Integration Profile...**

1. At **Profile Type**, select **Auto-Programming (Smart Pump Programming)** from the drop-down list.

2. At **Name**, accept either the default or enter a name of your choice.

3. At **Clinical Integration Version**, select the appropriate version from the **Clinical Integration Versions** table provided earlier.

4. Click **Next**.

5. At **Receiver Host**, enter a valid server host name or an IP Address.

6. At **Receiver Port**, enter a port. The port must be an integer from 1 to 65535.

7. At **Receiver Path**, enter the path of your choice (optional field).

8. You may select to place a check mark in the box next to **Use secure transmission when sending messages to the receiving system** (optional field).

9. Click **Save Changes**. Your Auto-Programming (Smart Pump Programming) profile has been created.

Profile for Alarm Forwarding (Alert Forwarding)

Once you have clicked on **Add Integration Profile...**

1. At **Profile Type**, select **Alarm Forwarding (Alert Forwarding)** from the drop-down list.

2. At **Name**, accept either the default or enter a name of your choice.

3. At **Clinical Integration Version**, select the appropriate version from the **Clinical Integration Versions** table provided earlier.

⚠️ **WARNING:** Alarm forwarding through ICU Medical MedNet™ to peripheral computing systems may experience potential delays. Alarm forwarding functionality is intended to be used as a Secondary Alarm and SHOULD NOT be used as the primary alarm that enables Clinical Intervention of an Infusion Pump alarm condition.

4. Click **Next**.

5. At **Receiver Host**, enter a valid server host name or an IP Address.

6. At **Receiver Port**, enter a port. The port must be an integer from 1 to 65535.

7. At **Receiver Path**, enter the path of your choice (optional field).

8. You may select to place a check mark in the box next to **Use secure transmission when sending messages to the receiving system** (optional field).

---

9. Click **Next**.

10. You may select to place a check mark in the box next to **Only transmit messages for infusers associated with a patient** if you wish (optional selection).

11. Click **Next.**

12. Select the infuser types for which messages are to be transmitted.

Note: Only licensed infusers display.

13. Click **Next**.

*Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
Compatibility Matrix available through your ICU Medical Technical Support Center.*
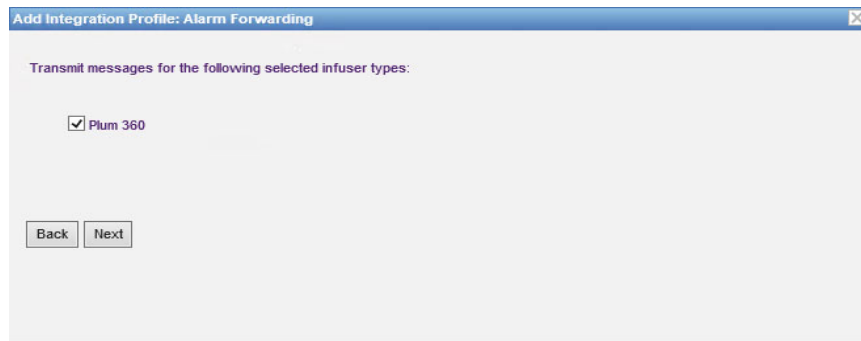
14. Select events that will be sent to the alarm forwarding (alert forwarding) system from the following:

• Air-in-Line Alarm	• Infusion Completed
• Barcode Error Alarm	• Infusion Near Completion Alarm
• Callback Alarm	• Lockout Violation Alarm
• Cassette Door Open Alarm	• Low Battery Alarm
• Check Cassette Alarm	• Malfunction Alarm
• Check Flowstop Alarm	• Pendant Fault Alarm
• Check Injector Alarm	• Power Loss Alarm
• Check Settings Alarm	• Proximal Occlusion Alarm
• Check Syringe Alarm	• Pump Idle Alarm
• Check Vial Alarm	• Service Battery Alarm
• Depleted Battery Alarm	• Service Charger Alarm
• Distal Occlusion Alarm	• Syringe Empty Alarm
• Emergency Stop Alarm	• Warning Alarm
• Flow Restriction Alarm	

The editable alarm description and corresponding infusers are in the right columns.
   • Place a check mark in the Forward column
   • Select the Importance using the drop-down list.
Use the scroll bar to navigate up and down.

*Helpful Hint: Click the **Forward** column heading to select or deselect all events.*

Note: Whatever you enter into the Alarm Description field is sent in the message to the third-party clinical system when the alarm occurs. The Importance level selected also is transmitted to the third-party clinical system when the alarm occurs.

15. Click **Save Changes**. Your Alarm Forwarding (Alert Forwarding) profile has been created.

Profile for Patient Assignment Status Change

Once you have clicked on **Add Integration Profile...**

1. At **Profile Type**, select **Patient Assignment Status Change** from the drop-down list.

2. At **Name**, accept either the default or enter a name of your choice.

3. At **Clinical Integration Version**, select the appropriate version from the **Clinical Integration Versions** table provided earlier.

4. Click **Next**.

5. At **Receiver Host**, enter a valid server host name or an IP Address.

6. At **Receiver Port**, enter a port. The port must be an integer from 1 to 65535.

7. At **Receiver Path**, enter the path of your choice (optional field).

8. You may select to place a check mark in the box next to **Use secure transmission when sending messages to the receiving system** (optional field).

9. Click **Next**.

10. Select to **Transmit patient assignment status change information for assignments.**

    and/or

    Transmit patient assignment status change information for unassignments.

> **Note:** When ICU Medical MedNet is advised by the third-party clinical system that patients are associated with an infuser, a message is transmitted if the assignment check box has been checked.
> When ICU Medical MedNet is advised by the third-party clinical system that patients are disassociated from an infuser, or if patients are disassociated from an infuser manually or automatically by ICU Medical MedNet, a message is transmitted if the unassignment check box is checked.

11. Click **Save Changes.** Your Patient Assignment Status Change has been created.

Disable, Edit or Delete a Profile

You can select to **Disable** a profile in order to substitute or use another created profile. To disable, simply place a checkmark in the box next to the profile you wish to disable in the Disable column.

To **Edit** a profile:

1. Click on **Edit** and you will be taken to the first screen. The information you created will be present.

To **Delete** a profile:

1. Click on **Delete** and the data you provided is erased from each of the selected profile's screens. The selected profile to be deleted also disappears from the list of profiles.

Certificate Management

ICU Medical MedNet with Plum 360 requires digitally signed drug libraries to increase the integrity of MedNet drug libraries. The Certificate Management tab is used to manage the digital certificates used for the drug library signature.

Important: Certificates are required in order to finalize drug libraries in ICU Medical MedNet Meds and to download a drug library to a Plum 360.
The ICU Medical MedNet Software requires certificates to download a digitally signed drug library.
Our Technical Support Center or your local ICU Medical representative can provide assistance in installing the certificates.

Following are the ICU Medical MedNet supported formats:

Suitable for Import:

Note: We recommend the use of PKCS #12 for easier installation. PKCS #12 are the certificates (with private key) password-protected using .p12 file extensions.

Format	Encoding		Contents
	DER encoded binary	**Base64 PEM**	
X.509	Yes	Yes	Certificate only (no private key)
PKCS #7	Yes	Yes	Certificate chain only (no private key)
PKCS #8	Yes	Yes	Private key only (no certificate)
PKCS #12	Yes	N/A	Certificate with private key

Note: When importing a private key in PKCS #8, the associated certificate must also be imported by adding it as a second file in import dialog.

Suitable for Export:

Format	Encoding		Contents
	DER encoded binary	**Base64 PEM**	
X.509	Yes	Yes	Certificate only (no private key)
PKCS #7	Yes	Yes	Certificate chain only (no private key)
PKCS #12	Yes	N/A	Certificate with private key

Following are the certificates used by ICU Medical MedNet:

HMSS certificates	
Type	**Description**
CA.cer	The digital certificate from the Certificate Authority that issued the HMSS and DLE certificates
HMSS.p12	This certificate identifies the MNS server. If you only have one server, this certificate will be used to digitally sign Plum 360 15.1x or above drug libraries
DLE.cer	Certificate used to authenticate the MedNet Meds (DLE) with MedNet (HMSS)
CE.cer (optional)	Certificate used for Mutual Authentication between the CE on the Plum 360 15.1x or above infusers and MNS
DL.p12 (optional)	Drug Library Certificate

DLE certificates	
Type	**Description**
CA.cer	The digital certificate from the Certificate Authority that issued the HMSS and DLE certificates
DLE.p12	Certificate with private key for mutual authentication with HMSS
HMSS.cer	The HMSS HTTPS certificate

Plum 360 15.11 and later certificates	
Type	**Description**
CA.cer	The digital certificate from the Certificate Authority that issued the HMSS and DLE certificates
CE.p12	Certificate with password-protected private key
DL.cer	Drug Library Certificate
WiFi.p12	Wi-Fi certificate (WebConfig requires this as two separate files: WiFi.key, WiFi.cer)
WebConfig.p12	The Webconfig SSL certificate

Important: Certificates have an expiration date and will need to be renewed.

*Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
Compatibility Matrix available through your ICU Medical Technical Support Center.*

Server Certificate Management

The Server Certificate Management feature allows you to import, export or delete server certificates (HMSS certificates). The Server Certificate Management view lets you know if a certificate is in use; shows its description, name, issuer, its valid period, algorithm/key size and whether it has a private key.

Importing Server certificates

1. Click **Import**.
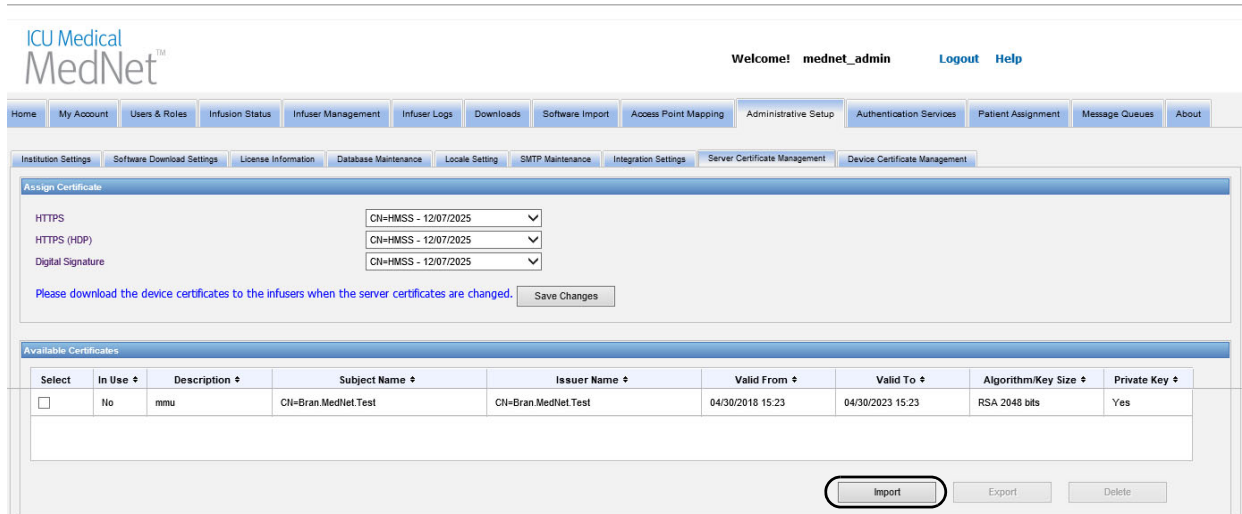
2. From the Import Certificate pop-up, click on the + **Import** button to browse for the certificate you want to import.
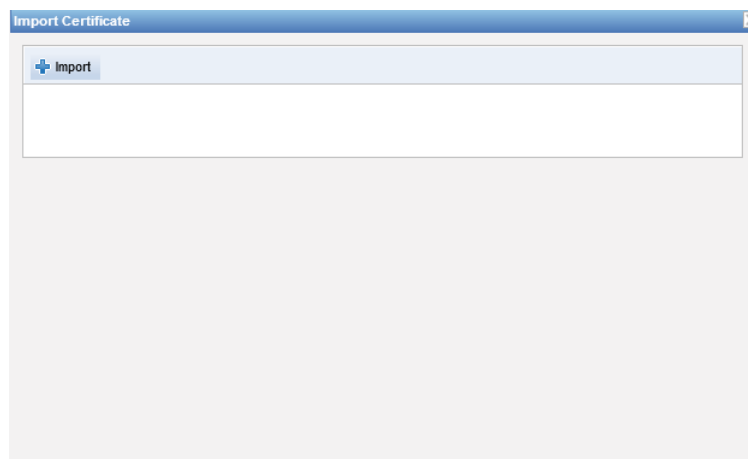
3. Browse for the location of the server certificate you wish to import and click **Open**. The selection displays.

4. Click **Start Import**.
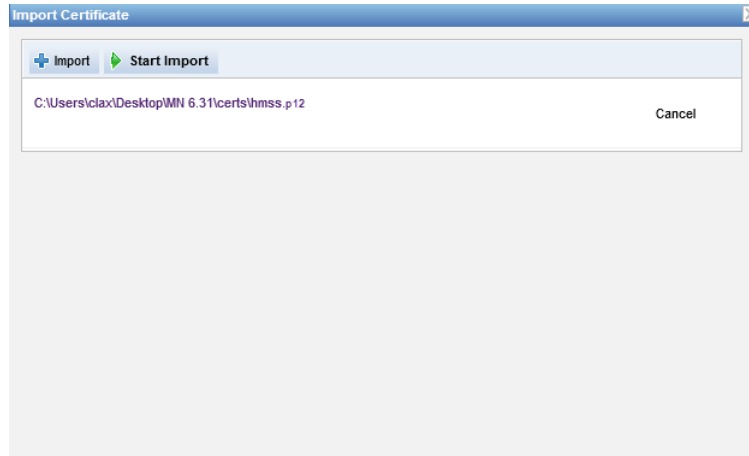
5. A message indicates the import was **Done**. Enter a description if you wish and click **OK**. For a .p12 certificate, you will need to enter a password.
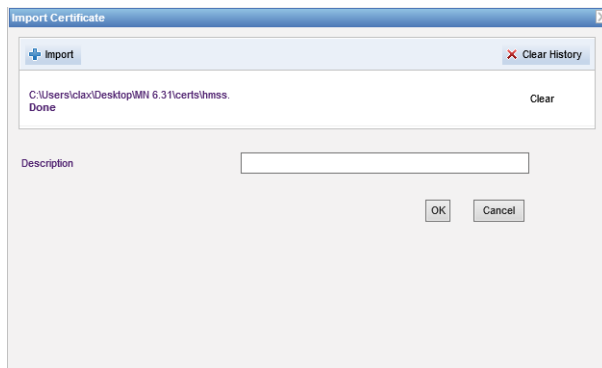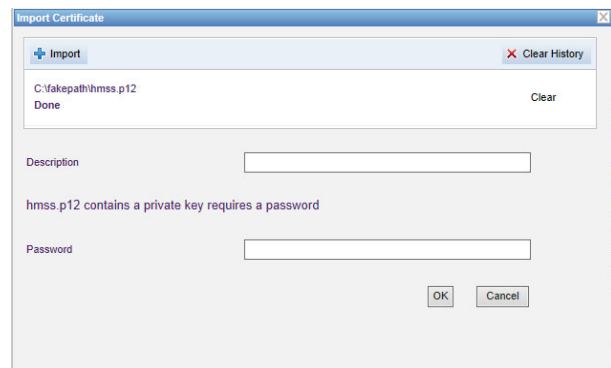
.cer example   .p12 example

6. Repeat the process of importing for any additional certificate to use.

7. From the drop-down list, select the certificate you wish assigned to HTTPS, HTTPS (HDP) and Digital Signature.
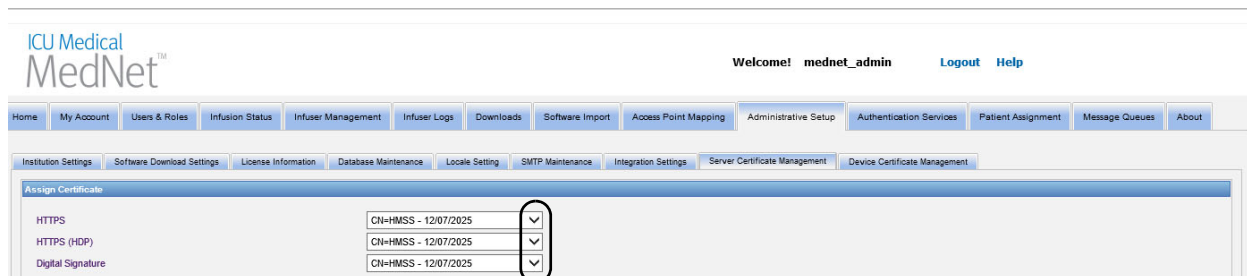
You can, if you wish create more than one private key certificate. Only private key certificates will be available from the drop-down list.

Important: Every time you change server certificates, you will need to save the changes and download the device certificates to the infusers.

8. Restart the application.

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Exporting Server Certificates

1. From the **Available Certificates** list, select the certificate you wish to export.

Select	In Use ⇕	Description ⇕	Subject Name ⇕	Issuer Name ⇕	Valid From ⇕	Valid To ⇕	Algorithm/Key Size ⇕	Private Key ⇕
☐	No	JW_CA	CN=MedNet CA	CN=MedNet CA	12/07/2015 14:21	12/07/2025 14:21	RSA 2048 bits	No
☐	Yes	JW_HMSS	CN=HMSS	CN=MedNet CA	12/07/2015 14:34	12/07/2025 14:34	RSA 2048 bits	Yes
☐	No	JW_CE	CN=CE	CN=MedNet CA	12/17/2015 10:19	12/17/2025 10:19	RSA 2048 bits	No
☑	No	JW_DLE	CN=Meds	CN=MedNet CA	12/07/2015 14:30	12/07/2025 14:30	RSA 2048 bits	No

Import   Export   Delete

2. Click **Export**.

3. You will be able to either **Open** or **Save**.

Deleting Server Certificates

1. From the **Available Certificates** list, select the certificate you wish to delete.

2. Click **Delete**.

Delete Certificate

Are you sure you want to delete Certificate CN=ICU,OU=Software,
O=ICU,L=San Diego,ST=CA,C=US - 08/27/2019?

Yes   No
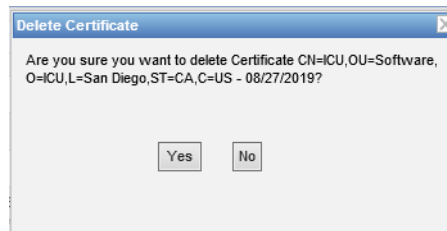
3. When asked if you are sure you want to delete the chosen certificate, make your selection.

Device Certificate Management

The Device Management feature allows you to import and view the download status of all: Drug Library, Wi-Fi, Mutual authentication, Web Config and Server certificates. The Device Certificate Management also includes email notification of pending certificate expiration when the SMTP server is configured.

> **Note:** Although the Device Certificate Management tab displays all of the certificates, server certificates can only be imported using the **Server Certificate Management** window.

Preparing formatted ZIP file

The Device Certificates (certs) to import to the HMSS server need to be within a ZIP file. You will need to assemble this file as follows:

1. Create a new folder that will contain everything that you'll eventually add to the ZIP file. (We are calling this file the **Staging folder**.) It will look something like this once all the data is created:
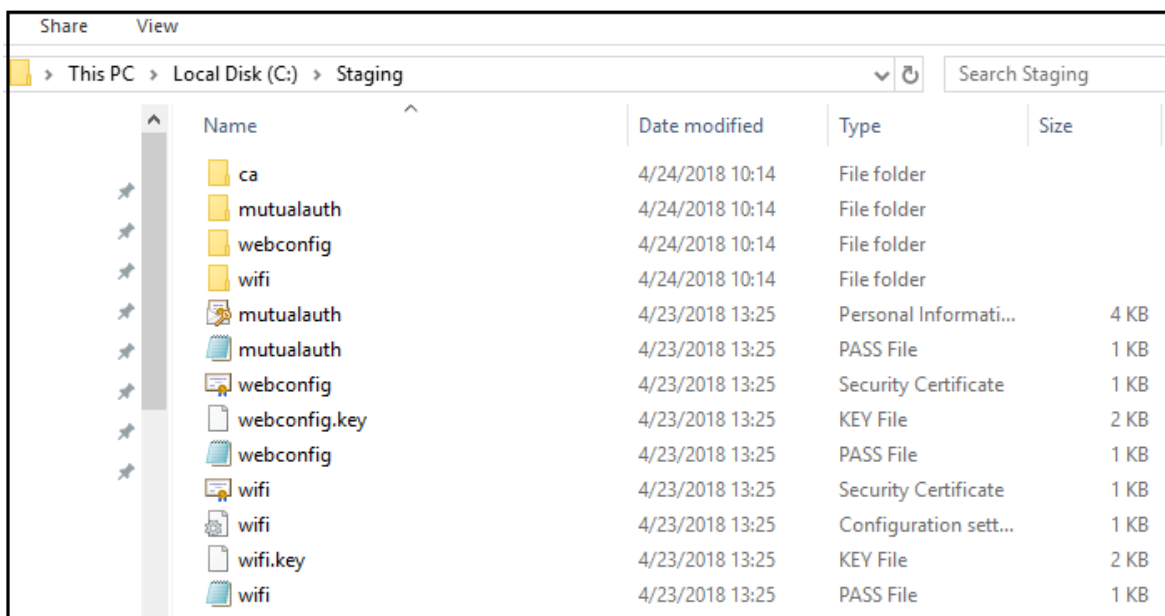
2. Create a folder called ca and copy the root CA cert + all of the other certs in the chain (e.g., intermediate CA certs) to that folder

3. If you're using mutual authentication, copy the mutual authentication .p12 file to the directory and rename it mutualauth.p12

4. Create a new text file called mutualauth.pass in the directory and put the password for the mutual authentication .p12 file in it

5. If you want to replace the web config cert on the pumps, copy a web config cert .p12 file to the directory and rename it webconfig.p12

6. Create a new text file called webconfig.pass in the directory and put the password for the web config .p12 file in it

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7. If the wireless network configuration requires a certificate, and if that certificate is shared across all of the infusers at the site, copy the Wi-Fi .p12 file to the directory and rename it wifi.p12

8. Create a new text file called wifi.pass in the directory and put the password for the Wi-Fi.p12 file in it

9. For any of the previous steps, if the certificate and private key are delivered as two separate files (e.g., a X.509 cert and a separate PKCS #8 private key, or a .cer and a .pem file), rename them accordingly (e.g., mutualauth.cer and mutualauth.pem)

10. Create a new text file called wifisettings.ini in the directory. This optional file should contain additional wireless network settings required by your Wi-Fi network, e.g.,

    • Identity=WiFiClient
    • Password=YrH0sp1t@1!!
    • AnonymousIdentity=WiFiClient

11. If your Wi-Fi network requires every infuser to have its own certificate and/or credentials, then start by creating a directory called wifi in the main directory.

    For every infuser at your site you will need to rename its certificate with the infuser's device ID or serial number (e.g., 17731862 or INT7004). For example, for an infuser called INT004, you would have:

    • INT004.p12
    • INT004.pass
    • INT004.ini
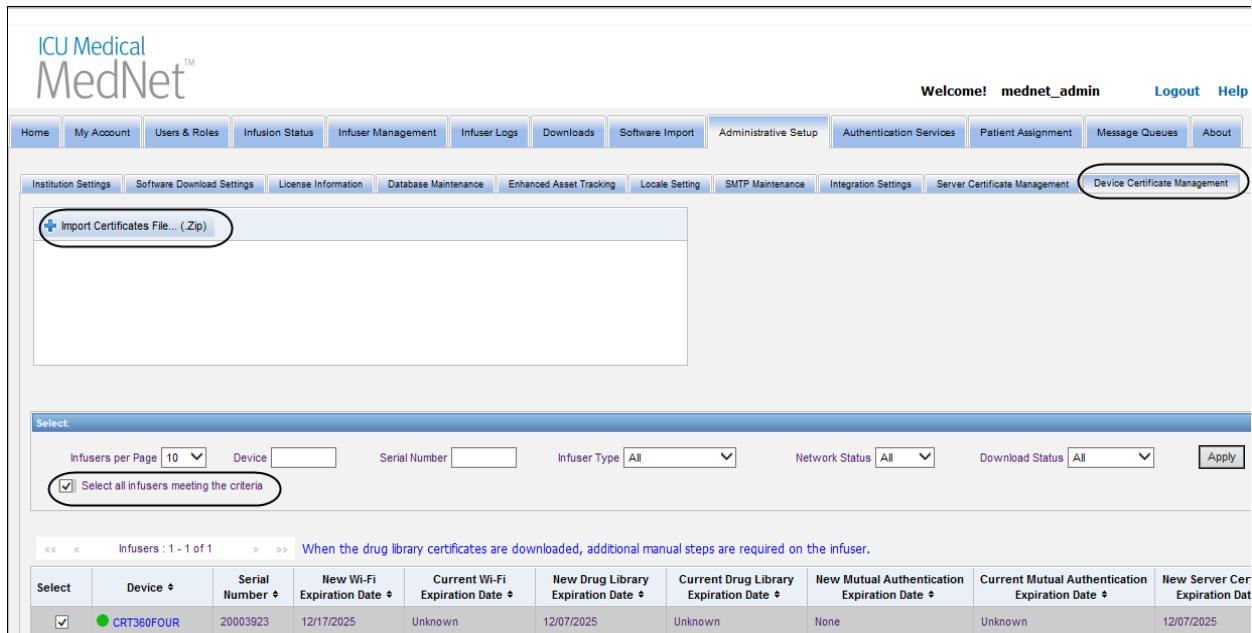
    The .p12 file contains that infuser's certificate and password protected key, the .pass file contains the password for the protected key (in plain text), and the .ini file contains any additional Wi-Fi settings for that infuser. The password file must not contain a new [additional] line.

12. Finally, copy the contents of the root directory to a ZIP file. You are now ready to upload the file to MedNet.

Note: The ZIP file will need to be password protected.

Importing Device Certificates
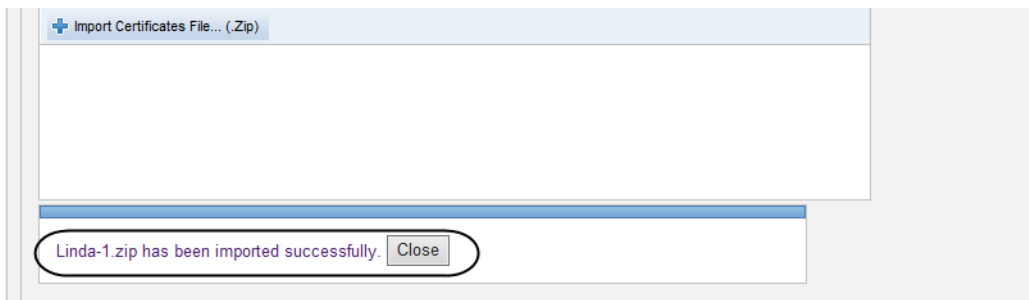
1. Select the **Device Certificate Management** tab from Administrative Setup. All the infusers entered into Infuser Management are automatically displayed.

2. Select **Import Certificates File...**

3. Using printable characters, enter the password in the password field.

4. From the pop-up **Choose File to Upload**, locate the ZIP certificate file and click **Open**.

5. The file will upload and a successful message displays.

6. Select the infusers to receive the certificates, either individually by placing a checkmark next to the device identification or next to "Select all infusers meeting the criteria".

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

7. Select **Download Certificates** to download the certificates to the selected infusers.
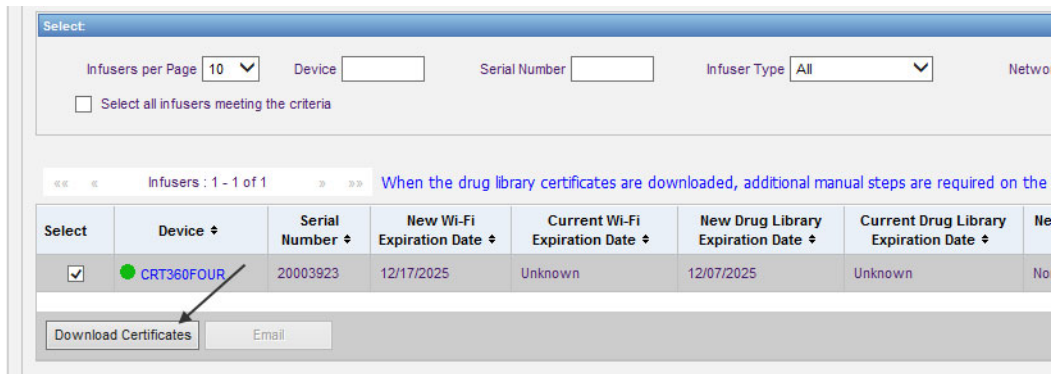
8. When asked if you want to download the new certificates, click **OK**.

9. The Download Status column will show **Requested**
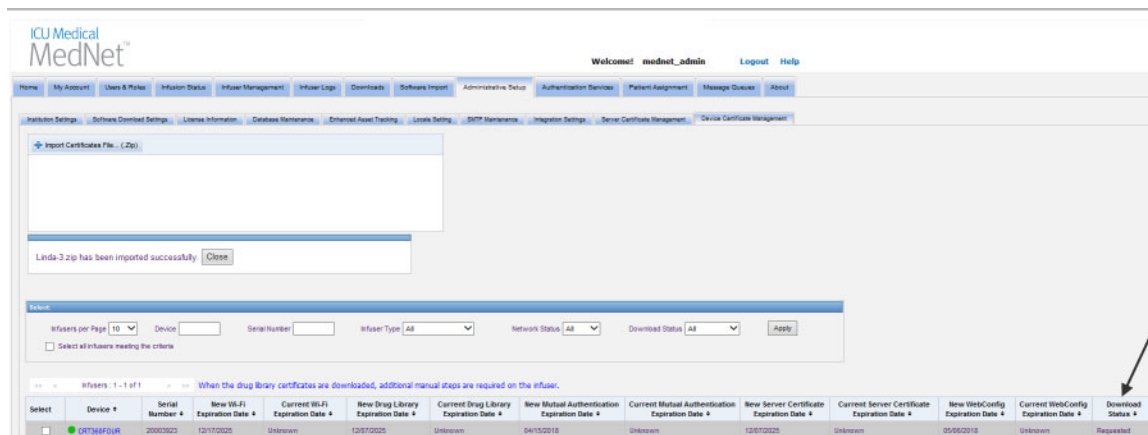
The next status will be either **Up-to-Date** or **Failed**.

Should the certificate be in the "Failed" status, or if "Requested" does not change to "Up-to-Date," the application will retry for the period of time configured. The default is to try every 30 minutes for 365 days.

Device Certificates Management Fields

The following table describes the Device Certificate Management view filters. To filter, enter information or select a value from the drop-down lists, and click **Apply**.

Filter	Information
Infusers Per Page	You can select the number of infusers to display per page by using the Show (number of) feature. You can view 10, 25, 50, 100, 200, 500, or all infusers. **Note:** When All Infusers per page is selected the following buttons are disabled: Delete, Save Changes, Clear Changes.
Device	Allows you to create a filtered view of infusers by their device ID.
Serial Number	Allows you to create a filtered view of infusers by their serial number.
Infuser Type	Allows you to create a filtered view of infusers by their type. Only licensed infuser type display.
Network Status	Allows you to create a filtered view of infusers by their network status: **Online**, **Offline**, or **All**.
Download Status	If not uploaded to HMSS from the infuser, the status will be **New Device**. If the certificate are uploaded to HMSS but not on the infuser, the status will be **Out-of-date**. If the certificates match HMSS and infuser, the status will be Up-to-Date. If HMSS has scheduled the download of the certificates, the status will be **Requested**. Requested certificates that are expired will show **Failed** on a retry.
Select All Infusers Meeting the Criteria	Allows you to automatically select all infusers that meet criteria.

The following table describes the Device Certificate Management view fields.

When hovering over a New or Current Certificate a pop-up will display the selected certificate's Subject, Issuer, Thumbprint and Signature Algorithm. If the current expiration date is unknown, there will be no pop-up. Should the certificates fail to download, the failure reason supplied by the infuser will display in a pop-up window.

Field/Label	Information
Select	Click on the checkbox to select an infuser. Click again to deselect it.
Device	Logical ID of the infuser.
Serial Number	Serial number of the infuser.
New WiFi Expiration Date	The expiration date and time of the Wi-Fi Certificate pending for download.
Current Wi-Fi Expiration Date	Current information, if available from the infuser.
New Drug Library Expiration Date	The expiration date and time of the new Drug Library Certificate pending for download.
Current Drug Library Expiration Date	Current information, if available from the infuser.
New Mutual Authentication Expiration Date	The expiration date and time of the Mutual Authentication Certificate pending for download.
Current Mutual Authentication Expiration Date	Current information, if available from the infuser.
New Server Certificate Expiration Date	The expiration date and time of the Server Certificate pending for download.
Current Server Certificate Expiration Date	Current information, if available from the infuser.
New WebConfig Expiration Date	The expiration date and time of the WebConfig Certificate pending for download.
Current WebConfig Expiration Date	Current information, if available from the infuser.
Download Status	The download status will be either Requested, Up-to-Date or Failed. Should the status be Requested, the application will retry according to the configuration specified. The default is every 30 minutes. Should the download fail, the pop-up will display the failure reason provided by the infuser.

Emailing

The email feature becomes available when the SMTP is set up.

      1. From the Administrative Setup, select **SMTP Maintenance**.

      2. Fill out the information in the appropriate fields.

      3. Click **Save Changes**.

      4. Go back to the Device Certificate Management tab and click **Email**.

      5. A confirmation message displays.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
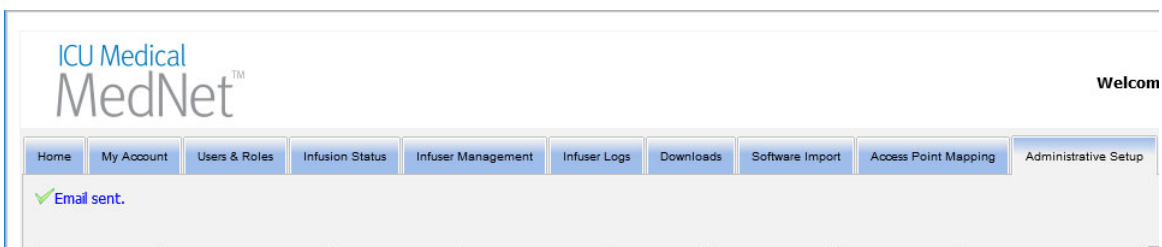
Additional Information:

- Certs in the root directory are copied to all of the infusers unless an infuser-specific cert exists in one of the directories.

  For example, if the webconfig directory contains a cert called INT005.p12 (etc.) AND the root directory contains a cert called webconfig.p12, then INT003 and INT004 will get the default webconfig cert, but INT005 will get the INT005 cert in the webconfig directory.

- The MedNet server certificate and the drug library digital signature certificate as well as all of the CAs in those chains will always be copied to infusers when a certificate download is initiated from MedNet.

- If the receiving Plum 360 is not in Biomed mode, then it will not install the Digital Signature certificate (i.e., the certificate used to digitally sign the drug library).

Chapter 12: Authentication Services

Overview

The Authentication Services configuration is part of the installation of ICU Medical MedNet Software. This allows the ICU Medical MedNet server to connect with the LDAP server if LDAP is used in your institution.

Note:	Only users with the appropriate login privileges can see the Authentication Services view.

Authentication Information

Click the **Authentication Services** tab. The Authentication Services view appears:

Note:	Buttons are enabled only if LDAP has been installed.

1. To change the Authentication Service, select the appropriate service from the drop-down list and click **Save Changes**.

Note:	LDAP Server URL, Domain Suffix, and Search Base cannot be changed in this view. The software must be reinstalled if a change to these parameters is required.

2. You can test the LDAP connection by entering your Login ID and Password. Click the **Test Connection** button to display a list of groups from the LDAP server.

Note:	Login ID, Password, and LDAP Groups Retrieved are not saved when you navigate away from this tab or logout.

The Authentication Services view includes the following fields and buttons:

Field/Label	Information
Authentication Service	View or select the Active Directory (or None)
LDAP Server URL	View the server name and port
Domain Suffix	Domain suffix used by the authentication server
Search Base	LDAP search string
Login ID	Login ID for the LDAP server, used to test the LDAP connection and map a user to the HMSS
Password	Password for the Login ID entered
LDAP Groups Retrieved	List of groups from the LDAP server
Save Changes **Clear Changes**	Save changes or clear changes
Test Connection	Authenticates the Login ID and password through the Authentication Service, retrieves the LDAP groups associated with the Login ID, and displays the LDAP groups in the LDAP Groups Retrieved list box

Chapter 13: Patient Assignment

Overview

Patient Assignment can only be seen if you have View Protected Health Information privilege. The Patient Assignment List view is the default. The **Unassign** tab is only available when the appropriate integration profile has been created and appears in addition to the **Patient Assignment List** tab.

The Patient Assignment view is to allow you to determine the association of a patient with an infuser.

Navigating the Patient Assignment List

You can find the Patient/Infuser association by using any or a combination of the Patient ID, the Patient First Name, the Patient Last Name, the Infuser ID or if you want to see the entire list, by selecting a Nursing Unit, or all Nursing Units.

You can use an asterisk (*) to represent any character except as the first character. For example, if you were looking for a patient with a last name starting with "Sm", you would enter **Sm*** but could not use *Sm. If you were entering either the Patient ID or Infuser ID, you could enter one or more digits followed by the asterisk, i.e., **2*** or have the asterisk in the middle of the sequence, i.e., **12*9**.

If you wish to search for more than one Patient or Infuser, you can do so using complete or partial information as described above and separating the information by commas (,). For instance, you could enter at Patient Last Name(s) **Smith, Smythe, Sm*e**.

Click on **Apply** to populate the fields containing the patient/infuser assignment(s).

Field/Label	Information
Nursing Unit	The nursing unit information provided by the third-party clinical system
Room/Bed	Room and bed number as received from the third-party clinical system
Patient ID	Patient identification number
Patient Name	Patient Name
Birth Date	Birth date of the patient
Infuser ID	Logical ID of the infuser
Infuser Status	Indicates whether the infuser is running, stopped, or unassigned
Assignment Date/Time	The date and time when patient/infuser assignment occurs
Infuser Type	The licensed infuser type

The screen does refresh automatically every five minutes or you can click the **Refresh** button to get the most current information instantly.

Navigating Unassignments

If you created a **Profile for Patient Assignment Status Change** as part of the Administrative Setup's Integration Settings, the Unassign view displays.

If searching by patient, enter a complete patient ID or enter a complete or partial first and/or last name. If entering a partial name, enter an asterisk (*) to represent any character(s) except as the first character. Then click **Search**.

If searching by infuser ID, enter one or more complete or partial infuser IDs separated by commas. If entering a partial ID, enter an asterisk (*) to represent any character(s) except as the first character. Then click **Search**.

Field/Label	Information
Patient ID	Patient identification number
Patient Name	Patient Name
Birth Date	Birth date of the patient
Nursing Unit	The nursing unit information provided by the third-party clinical system
Room/Bed	The room and bed number associated with the patient from the third-party clinical system

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Once the fields are populated, select the patient.

Field/Label	Information
Select	Check boxes to indicate the infuser ID affected
Infuser ID	Logical ID of the infuser
Infuser Type	The licensed infuser type
Status	Assigned or Unassigned
Patient ID	Patient identification number
Patient Name	Patient name
Birth Date	Patient date of birth

Place a check mark in the box next to the infuser from which you want to unassign the patient and click **Unassign Selected Infusers**. The patient selected will no longer be assigned to those infusers.

or

Click **Unassign All Displayed Infusers**. The patient selected will no longer be assigned to any infuser.

Chapter 14: Message Queues

Overview

The real-time Message Queues view allows you to track outbound messages to a third-party clinical system that are awaiting to be transmitted and JMS Queues which contain messages incoming from the infuser(s).

Navigating

Click the **Message Queues** tab to access the view. The Outbound Message Queue displays.

The following table describes the Outbound Message Queue fields:

Field/Label	Information
Table Entry ID	Unique identification number of the outbound message. This column can be sorted in ascending or descending order.
Integration Profile Name	The type name of the Integration Profile, i.e., Auto-Programming (Smart Pump Programming), Alarm Forwarding (Alert Forwarding) Auto-Documentation (Infusion Documentation), etc.
Event Date/Time	The event message date and time. This column can be sorted in ascending or descending order.
Purge	Messages will be purged that are older than the selected time. The default is 4 hours. (Alarm messages are only retained for 24 hours.)

To see a specific message, click on **View Message** adjacent to the transaction you wish to see. Click **OK** to close the message.

Click the **Refresh** button to update the screen to current time.

Click the **Purge** button when you want messages to be purged. Use the drop-down list to select a time. The messages older than the time selected will be permanently removed.

- 30 minutes
- 1 hour
- 2 hours
- 4 hours
- 8 hours
- 12 hours
- 16 hours
- 20 hours

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Click on the **JMS Queues** tab and the transactions display.

The following table describes the JMS Queue fields.

Field/Label	Information
Message ID	Unique identification number from the infuser associated with the incoming message. This column can be sorted in ascending or descending order.
Queue Name	The name of the log type. This column can be sorted in ascending or descending order.
Transaction ID	This column can be sorted in ascending or descending order.
Transaction Operation	This column can be sorted in ascending or descending order.
Export Messages	Allows you to export messages to a location of your choice.

To see a specific message, simply click on **View Message** adjacent to the transaction you wish to see. Click **OK** to close the message.
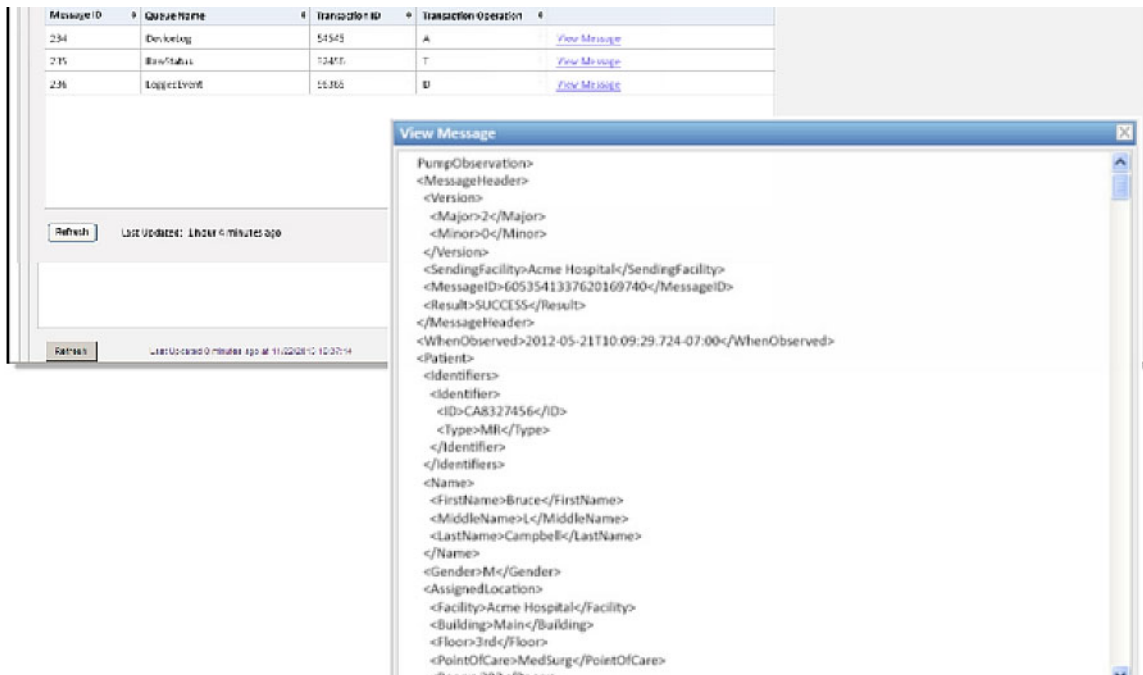
Click the **Refresh** button to update the screen to current time.

Click **Export Messages** to access the Windows browser and designate a location where you want to transfer the JMS Queues messages.
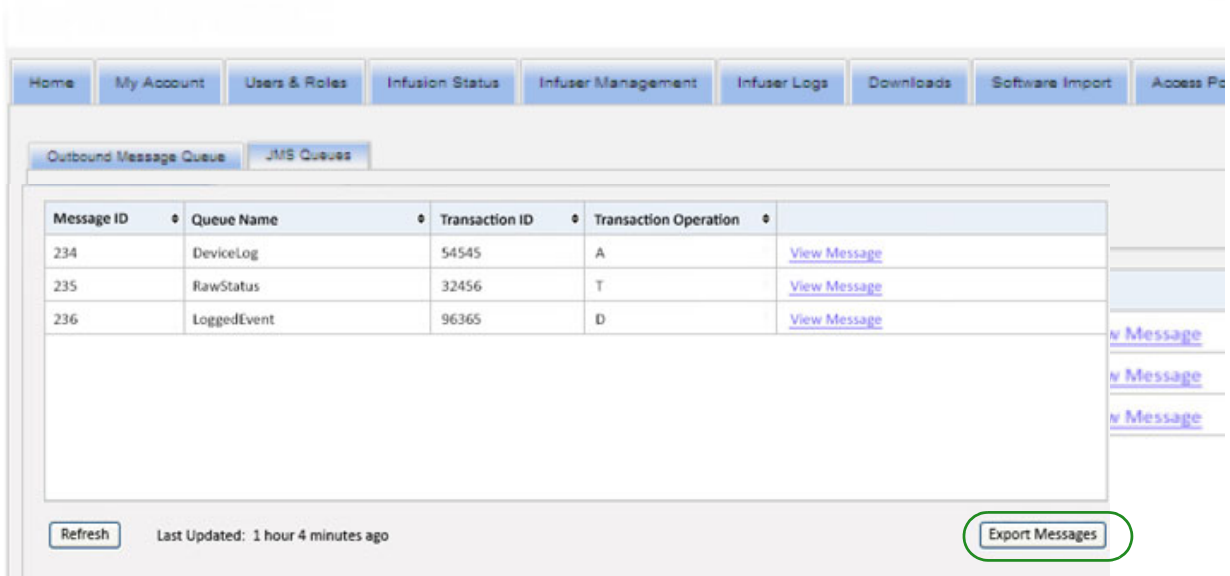
Notes:

Chapter 15: About ICU Medical MedNet Software

Overview

The About view displays the following system information:

- **ICU Medical MedNet Unique Device Identifier Number**
- **ICU Medical MedNet Software** version and **Module Versions**
- **Status to and from CE** -- shows SSL communication configuration
- **Status from PDA** -- shows SSL communication configuration (applies to **ICU Medical MedNet Programmer** only)
- **For each licensed infuser type:**
  - Active Library
  - Finalized Date
- **ICU Medical Web site**
- **ICU Medical Technical Support phone number**

Click the **About** tab on the navigation bar and the About view appears.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Notes:

Chapter 16: Reports
Introduction

ICU Medical MedNet Reports are intended to serve the following purposes:
- to help hospitals assess their compliance with ICU Medical MedNet safety software
- to understand best practice information as it relates to IV infusion therapy
- to track infusion devices and their usage within the institution

ICU Medical MedNet Reports are designed for use by various staff members:

Nurse Managers, Risk Managers, and Quality Managers

The following reports are used by Nurse Managers, Risk Managers, and Quality Managers:

• Infusion Summary	• Line Usage Analysis	• Auto-Programs with Unmatched Medication	• Total Program Activity
• Medications Selected by Time of Day	• Most Commonly Infused Medications	• Override Variance Detail	• Override Variance Summary
• PCA History	• Auto-Programming (Smart Pump Programming)	• Medications Infused	• PCA Utilization

Pharmacists

The following reports are used by Pharmacists:

• Next IV Due	• Software Download	• Edit Variance Detail	• Edit Variance Summary
• Most Commonly Infused Medications	• Override Variance Detail	• Override Variance Summary	• PCA Utilization
• Auto-Programming (Smart Pump Programming)	• Auto-Programs with Unmatched Medication		

Biomedical, IT, and Materials Management Staff

The following reports are used by Biomedical, IT, and Materials Management Staff:

• Asset Tracker	• Asset Utilization	• Event/Alarm Log	• Software Download
• Infuser Status			

Senior Leadership

The following reports are used by Senior Leadership:

• Infusion Summary	• Edit Variance Detail	• Line Usage Analysis

Physicians

The following reports are used by Physicians:

• Edit Variance Summary	• Edit Variance Detail

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

ICU Medical MedNet Reports can be categorized by the type of report:

Asset Management

Examples of asset management reports include the Asset Tracker, Asset Utilization, Infuser Status, and Event/Alarm Log reports. These reports provide data to help users efficiently manage their entire inventory of infusers. The data is utilized as part of a root cause analysis for adverse drug events. Also, the data is used by biomeds to determine the sequence of events for malfunction evaluations.

Operational Efficiency

Examples of Operational Efficiency reports include the Medications Selected by Time of Day, Total Program Activity, Next IV Due, and PCA History reports. ICU Medical MedNet Software reports offer value by showing current information about the operational status of infusers and medications delivered.

Clinical Reports - High Level

Examples of high-level clinical reports include the Infusion Summary, Line Usage Analysis, and Most Commonly Infused Medications reports. These reports are graphical in nature and provide a quick overview of the usage of ICU Medical MedNet and infuser functionality. They provide the support for quality initiatives to ensure maximization of ICU Medical MedNet Software.

Clinical Reports - Drill Down/Detail

Examples of Drill Down/Detail clinical reports include the Medications Infused (by Medication, by CCA, by Service Line), Override and Edit Summary, and Detail, and PCA Utilization reports. These detail reports are text-based and support the data found in the high-level reports. Drill Down/Detail clinical reports are used to manage large amounts of data generated from the infusers. The data provided by the Medications Infused report can be prioritized to determine which medications and/or CCAs require a more detailed analysis. Once prioritized, the analysis of the Variance Detail reports are more manageable and provide actionable data.

> **Note:** Should you wish to view ICU Medical MedNet data across facilities and nursing units, we recommend that you contact the Technical Support Center or, if outside the USA, your local ICU Medical Representative.

Report Formats

ICU Medical MedNet Reports use the following formats:

Format	Description
Table	Standard report format showing data in rows and columns
Pie Chart	Shows data in pies containing individual slices which total to 100% in each pie
Line Graph	Shows data as one or more continuous lines, typically across a period of time
Bar Graph	Shows data as bars which are often stacked to indicate different results within an individual bar, typically across a period of time
Crosstab	Shows a comprehensive view of data in a grid, with subtotals for each section. Totals are typically provided for both rows and columns

Reports Terminology

The following terms are used in ICU Medical MedNet Reports:

Term	Description
CCA	Acronym for Clinical Care Area, a patient group for which the infusion therapy parameters are the same. A CCA may be the same as a physical nursing unit, or may encompass a patient population or a clinical use. For example, the following may be defined as CCAs: ICU, Blood Products, Med/Surg, Orthopedics, and Endoscopy.
Device	The Device name (also known as Logical ID) is an identifier assigned to each device during manufacturing. The value assigned is the letters "LN" followed by the last six digits of the MAC address.
Edit	The user responded to an alert by changing the value entered.
Hard Limit Alert	An alert presented to the user when a Hard Limit is exceeded. The user's response depends on the infuser.
Infusion	A single medication and concentration (which may consist of multiple sequential containers of fluid) infused on a patient. A single infusion is associated with one or more programs. Reports that represent infusions include: *Line Usage Analysis*, *Medications Selected by Time of Day, Most Commonly Infused Medications, Next IV Due,* and *PCA Utilization.*
ICU Medical MedNet Usage Compliance	Usage compliance is achieved when the clinician selects a medication entry from the drug library list.
Offline	An infuser is considered Offline if it has not communicated with the ICU Medical MedNet server within the past five minutes.
Online	An infuser is considered Online if it has communicated with the ICU Medical MedNet server within the past five minutes.

Term	Description
Override	The user responded to an alert by acknowledging it and accepting the value entered.
Partial Dose or Partial Attempt	A partial PCA dose may be delivered by the LifeCare PCA if any of the following occur: interrupting delivery by pressing [START/STOP], opening the door, loss of power, reaching the dose limit, emptying the vial or a malfunction alarm.
Program	Infuser settings made by the clinician which can result in an alert. These include the settings to start a new infusion and changes to the dose or rate. One or more programs may be associated with an infusion. For infuser information, see the related infuser's System Operating Manual. Reports that represent programs include: Infusion Summary, Medications Infused by Medication, CCA, or Service Line, Override Variance Summary, Override Variance Detail, Edit Variance Summary, Edit Variance Detail, and Total Program Activity.
Report Options	Configurations entered by the user to define the desired report output (for example, Time Period, CCA, Medication, etc.). The report options screen will only display licensed infuser types.
Rule Set	The type of rule for the medication in the drug library. Rule set information is detailed in the ICU Medical MedNet Meds User Guide.
Soft Limit Alert	An alert presented to the user when a Soft Limit is exceeded. The user may choose to edit or override the value entered in response to the alert.
Unknown CCA or Unknown Drug	Mismatch between what the infuser reports and the information available on the server. Unknown CCA and Unknown Drug are reported when ICU Medical MedNet has received data from a pump that was using a drug library that was not finalized on the same ICU Medical MedNet server that the reports are run from. Often related to situations in which there has been a migration of data or transfer of servers. New infusers are occasionally shipped with test data. When connected to the ICU Medical MedNet server, this data may appear in ICU Medical MedNet reports as Unknown.
Variance	A calculated value intended to represent how far away the user's initial programmed value was compared to the defined limit. Variance is defined as ((Initial Value - Limit Violated) / Limit Violated).The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.

See for other terms used in ICU Medical MedNet Software.

Reports List

The following table shows each report, the infusers supported, and its suggested audience.

Report *provides real-time information	Plum 360	LifeCare PCA	Suggested Audience
Asset Management			
Asset Tracker	X	X	Biomed, IT, Materials Management
Asset Utilization	X	X	Biomed, IT, Materials Management
Event/Alarm Log	X	X	Nursing, Pharmacy, Risk Management
Infuser Status*	X	X	Biomed, IT, Materials Management
Software Download*	X	X	For ICU Medical Field Service Use
Operational Efficiency			
Medications Selected by Time of Day	X		Nursing, Pharmacy
Total Program Activity	X	X	Nursing, Pharmacy
Next IV Due*	X	X	Pharmacy
PCA History		X	Nursing, Pharmacy
Auto-Programming (Smart Pump Programming)	X	X	Nursing, Pharmacy
Auto-Programs with Unmatched Medication	X		Nursing, Pharmacy
Clinical Reports - High Level			
Infusion Summary	X	X	Nursing, Pharmacy, Leadership
Line Usage Analysis	X		Nursing, Pharmacy, Materials Management, Leadership
Most Commonly Infused Medications	X	X	Nursing, Pharmacy
Clinical Reports - Drill Down/Detail			
Medications Infused by			
Medication	X	X	Nursing, Pharmacy
CCA	X	X	Nursing, Pharmacy

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Report *provides real-time information	Plum 360	LifeCare PCA	Suggested Audience
Service Line	X	X	Nursing, Pharmacy
Override Variance Summary	X	X	Nursing, Pharmacy, Leadership
Override Variance Detail	X	X	Nursing, Pharmacy
Edit Variance Detail	X	X	Nursing, Pharmacy
Edit Variance Summary	X	X	Nursing, Pharmacy, Leadership
PCA Utilization		X	Nursing, Pharmacy

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Access to Reports

ICU Medical MedNet reports can be accessed from any web browser configured to point to the ICU Medical MedNet server. You must have a user account in order to access reports. Contact your ICU Medical MedNet system administrator for a user account and the address to link to the server home page.

Configuring Report Access

Users are permitted to view only reports that are available to their assigned privilege. The Administrator uses the **Apply** button to set the reports to either a Full or Limited role.

An Administrator can specify limited access to reports by defining a user and the related roles. To configure limited access ("Reports Limited"), follow the instructions below.

1. On the Logged In Home View, click **ICU Medical MedNet Performance**. The Reports view appears, as shown in the following example.

Home	Reports	About

Reports

Report Name			Description	Date
	Scheduled Reports	Apply		
Asset Tracker			Includes data to efficiently manage the entire inventory of infusers.	05/09/2016 13:11
Asset Utilization			Information on the number of hours infusers have been in use.	05/09/2016 13:11
Auto-Programming			Information about usage of auto-programming functionality.	05/09/2016 13:11
Auto-Programs with Unmatched Medication			Information about auto-programming requests resulting in No Drug Selected or Other Drug on infuser.	05/09/2016 13:11
Edit Variance Detail			Line-item detail of every program where user received an alert and edited the program.	05/09/2016 13:11
Edit Variance Summary			Summary of programs where user received an alert and edited the program.	05/09/2016 13:11
Event/Alarm Log			Information about the events/alarms reported for a specific infuser.	05/09/2016 13:11
Infuser Status			Snapshot of current infuser usage and power status. Identifies infusers that have not communicated for specific time period.	05/09/2016 13:11
Infusion Summary			High level summary of infusion activity, percentage of each type of infuser alert and user response to alert.	05/09/2016 13:11
Line Usage Analysis			Visual depiction of infusion administration activity on each line on the Plum 360 infuser.	05/09/2016 13:11
Medications Infused by CCA			Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Infused by Medication			Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Infused by Service Line			Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Selected by Time of Day			Number of infusions started during each hour of the day and whether a medication was selected.	05/09/2016 13:11
Most Commonly Infused Medications			Graphical representation of the 15 most commonly infused medications selected from the drug library.	05/09/2016 13:11
Next IV Due			Information about which IV fluids are due to facilitate timely preparation.	05/09/2016 13:11
Override Variance Detail			Line-item detail of every program where user received an alert and chose to continue with entered value.	05/09/2016 13:11
Override Variance Summary			Summary of programs where the user received an alert and chose to continue with entered value.	05/09/2016 13:11
PCA History			PCA medication usage data for an individual infuser.	05/09/2016 13:11
PCA Utilization			PCA therapy statistics including frequency of use for each mode and use of protocols.	05/09/2016 13:11
Software Download			Status of downloaded infuser software including version and last transfer status.	05/09/2016 13:11
Total Program Activity			Programming activity, including total edits and overrides for the selected time period.	05/09/2016 13:11

Note: The **Apply** button and the associated check boxes are only accessible to those with Administrator privileges.

2. The Administrator determines which reports the user will be given access to with the Reports Limited role. Check the box next to the appropriate report(s) in the column shown in the example below.

3. Click **Apply**.

4. Create the user with the Reports Limited role, as shown in the two screens below. First click the primary **Users & Roles** tab.

5. Click the secondary **Users** tab below that.

6. Click the **Add** button at the bottom of the screen.

7. At the **Name & Login** tab, input the user's name, login ID, and password (at a minimum).

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
         Compatibility Matrix available through your ICU Medical Technical Support Center.

8. Click **Save Changes**.

9. Click the **Roles** tab next to **Name & Login**.

10. From the Available Roles list, choose "Reports Limited" and click the right arrow. Reports Limited will show under Roles for selected user.

11. Click **Save Changes**.

12. Click **Close** to return to **Users**. The Roles for selected User box shows "Reports Limited."

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

The user only has access to the reports that were specified by the Administrator, as shown in the example below.

See Chapter 3: My Account on page 13 and Chapter 4: Users and Roles on page 21 for more information about user account management.

Navigating Reports

All reports are listed in the Reports view of the application. Users are permitted to view only reports that are available to their assigned privilege.

1. On the Logged In Home View, click **ICU Medical MedNet Performance**. The Reports view appears, as shown below.

2. Click on the name of the report you wish to open.
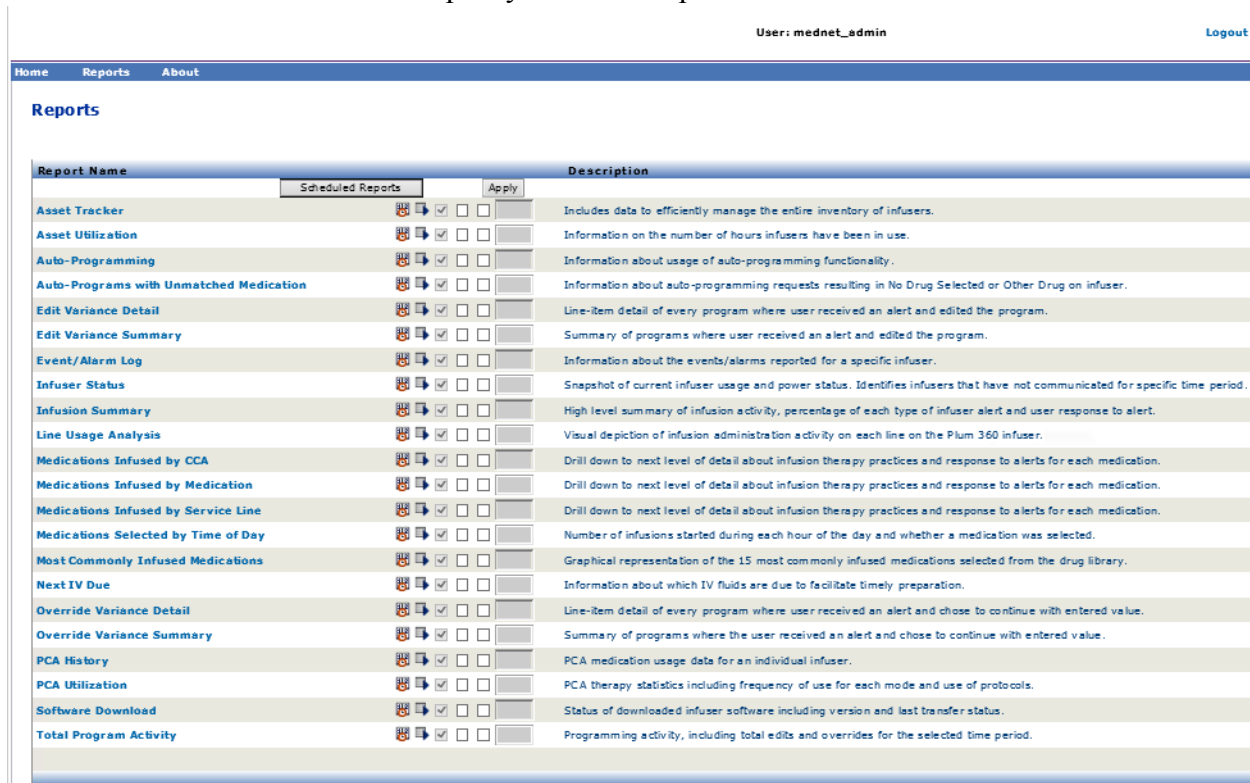
The **Report Options** screen then appears and displays the available options for the report you selected. For a list of report options, and to view the **Report Options** screens, refer to the description for each individual report later in this chapter. The Report Options will only reflect the infusers that are licensed.

Running a Report

You may run any of the reports that are listed in the Reports view. To run a report, open the **Report Options** screen, select the desired options, then click **Submit**.

| **Note:** | It may take up to 5 minutes after an infusion completes to display accurate data on a report. |

| **Note:** | If you attempt to view more than one report output at a time, navigating through one of the reports may produce an error. |

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Scheduling Reports

ICU Medical MedNet Software allows you to schedule reports to run at predetermined times, intervals, or days of the week. Scheduled report output may be sent to a location on your network, such as a folder. It can be sent to a printer, an email address, or list.

From the ICU Medical MedNet Software home page, click on **ICU Medical MedNet Performance**.
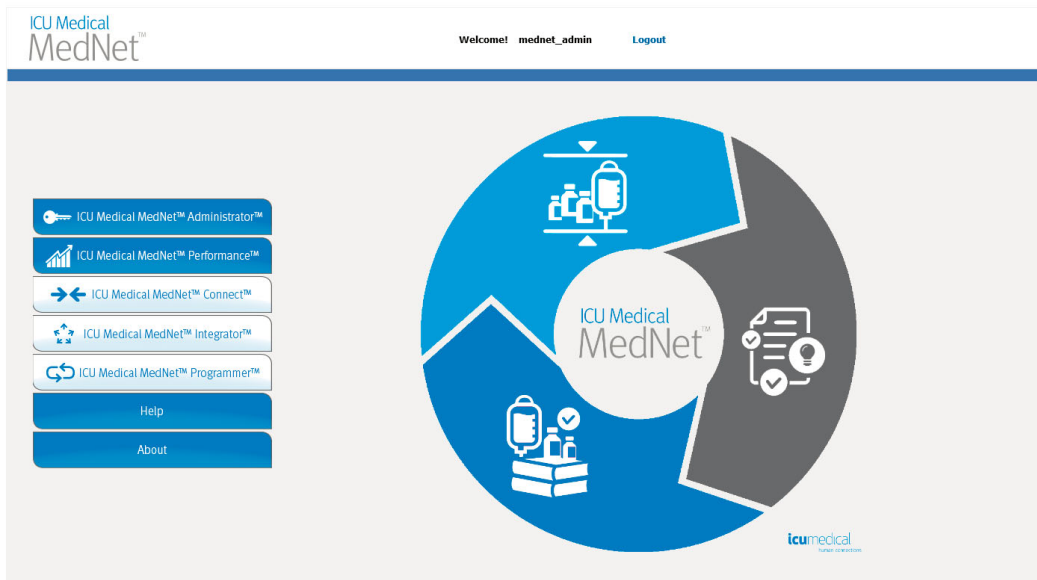
The Reports view appears, as in the example that follows.

The first icon to the right of the report name is used to schedule reports. The second icon to the right of the report name is used to run a report in the background. (For information on this field and capability, see) The date to the right of the report description is the Report Publish Date; this is the date the software was installed.

Home	Reports	About			

Reports

Report Name		Description
	Scheduled Reports Apply	
Asset Tracker		Includes data to efficiently manage the entire inventory of infusers.
Asset Utilization		Information on the number of hours infusers have been in use.
Auto-Programming		Information about usage of auto-programming functionality.
Auto-Programs with Unmatched Medication		Information about auto-programming requests resulting in No Drug Selected or Other Drug on infuser.
Edit Variance Detail		Line-item detail of every program where user received an alert and edited the program.
Edit Variance Summary		Summary of programs where user received an alert and edited the program.
Event/Alarm Log		Information about the events/alarms reported for a specific infuser.
Infuser Status		Snapshot of current infuser usage and power status. Identifies infusers that have not communicated for specific time period.
Infusion Summary		High level summary of infusion activity, percentage of each type of infuser alert and user response to alert.
Line Usage Analysis		Visual depiction of infusion administration activity on each line on the Plum 360 infuser.
Medications Infused by CCA		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.
Medications Infused by Medication		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.
Medications Infused by Service Line		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.
Medications Selected by Time of Day		Number of infusions started during each hour of the day and whether a medication was selected.
Most Commonly Infused Medications		Graphical representation of the 15 most commonly infused medications selected from the drug library.
Next IV Due		Information about which IV fluids are due to facilitate timely preparation.
Override Variance Detail		Line-item detail of every program where user received an alert and chose to continue with entered value.
Override Variance Summary		Summary of programs where the user received an alert and chose to continue with entered value.
PCA History		PCA medication usage data for an individual infuser.
PCA Utilization		PCA therapy statistics including frequency of use for each mode and use of protocols.
Software Download		Status of downloaded infuser software including version and last transfer status.
Total Program Activity		Programming activity, including total edits and overrides for the selected time period.

1. To Schedule a report, click on the Calendar Icon to the right of the desired report.

	User: mednet_admin		Logout	Help

Home	Reports	About		

Reports

Report Name		Description	Date
	Scheduled Reports Apply		
Asset Tracker		Includes data to efficiently manage the entire inventory of infusers.	05/09/2016 13:11
Asset Utilization		Information on the number of hours infusers have been in use.	05/09/2016 13:11
Auto-Programming		Information about usage of auto-programming functionality.	05/09/2016 13:11
Auto-Programs with Unmatched Medication		Information about auto-programming requests resulting in No Drug Selected or Other Drug on infuser.	05/09/2016 13:11
Edit Variance Detail		Line-item detail of every program where user received an alert and edited the program.	05/09/2016 13:11
Edit Variance Summary		Summary of programs where user received an alert and edited the program.	05/09/2016 13:11
Event/Alarm Log		Information about the events/alarms reported for a specific infuser.	05/09/2016 13:11
Infuser Status		Snapshot of current infuser usage and power status. Identifies infusers that have not communicated for specific time period.	05/09/2016 13:11
Infusion Summary		High level summary of infusion activity, percentage of each type of infuser alert and user response to alert.	05/09/2016 13:11
Line Usage Analysis		Visual depiction of infusion administration activity on each line on the Plum 360 infuser.	05/09/2016 13:11
Medications Infused by CCA		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Infused by Medication		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Infused by Service Line		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Selected by Time of Day		Number of infusions started during each hour of the day and whether a medication was selected.	05/09/2016 13:11
Most Commonly Infused Medications		Graphical representation of the 15 most commonly infused medications selected from the drug library.	05/09/2016 13:11
Next IV Due		Information about which IV fluids are due to facilitate timely preparation.	05/09/2016 13:11
Override Variance Detail		Line-item detail of every program where user received an alert and chose to continue with entered value.	05/09/2016 13:11
Override Variance Summary		Summary of programs where the user received an alert and chose to continue with entered value.	05/09/2016 13:11
PCA History		PCA medication usage data for an individual infuser.	05/09/2016 13:11
PCA Utilization		PCA therapy statistics including frequency of use for each mode and use of protocols.	05/09/2016 13:11
Software Download		Status of downloaded infuser software including version and last transfer status.	05/09/2016 13:11
Total Program Activity		Programming activity, including total edits and overrides for the selected time period.	05/09/2016 13:11

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

2. Click **Schedule Job**.

3. Complete the Job information.
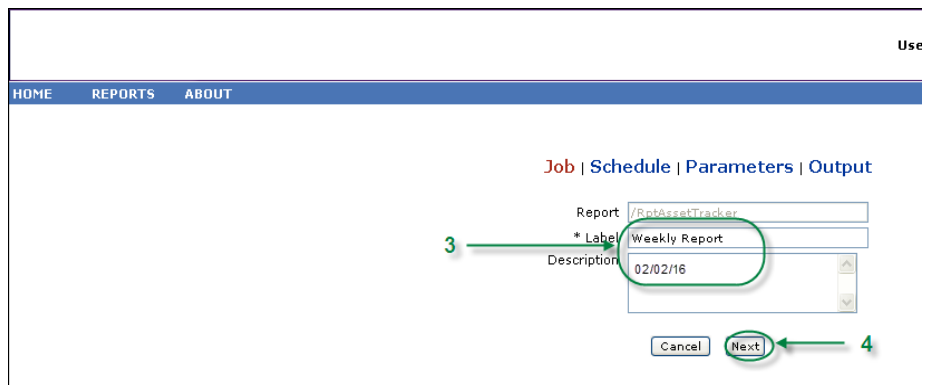
a. Specify the name of the report in the Report field.

b. The Label field is required and is used to identify the report.

c. Add additional notes in the Description field.

4. Click **Next**.

The Schedule screen appears.
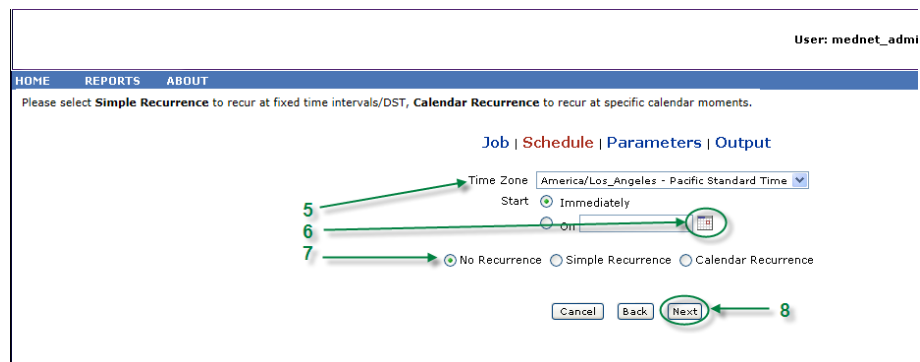
5. Select the time zone.

6. Specify the desired start date by clicking on the calendar icon on the right.

7. Specify the recurrence schedule. When you specify the recurrence schedule, other options may appear due to the simple recurrence or calendar recurrence selections.

   a. **No recurrence** means it is one-time only. However, you can set the time zone from the drop-down list and either start the report immediately or set a specific date by typing it in or using the calendar icon to select a date from it.

   b. **Simple recurrence** allows you to schedule the job to recur at fixed time intervals. Once you select to start immediately or specify the start date/time you can determine how many times or for how long the job repeats:

      - Every (the interval between jobs, in minutes, hours, days or weeks)
      - Indefinitely (until you delete the job)
      - Times (runs the specified number of times)
      - Until (runs until a calendar date is reached. Use the calendar to select the date)

   c. **Calendar recurrence** allows you to set a high level of detail:
      Start date (immediately or type in the date or use the calendar)
      End Date (type in the date or use the calendar)
      *Minutes (0-60)
      *Hours (24-hour clock)
      Every Day or **Week Days** or **Month Days** (for Month Days select the date of the month)
      Months (select "All" or make a specific selection)

      *You can enter multiple minutes or hours as well as ranges, separated by commas. For example, entering 0, 15, 20, 45 for the minutes and 9-17 for the hours, runs the report every 15 minutes from 9:00 a.m. to 5:45 p.m. Enter an asterisk (*) to run the job every minute or every hour.

8. Click **Next**.

   The Report Options screen is displayed for licensed infuser types.

9. Complete the required information. See additional information in this chapter for specific reports.

10. Click **Submit**.

The Output screen appears:

Note: If you have **View Protected Health Information** privilege, the Hide Patient Name checkbox displays for the following reports: Auto-Programming (Smart Pump Programming), Auto Programs with Unmatched Medication, Event/Alarm Log, and Next IV Due.

11. Specify the base output file name.

12. Specify the output format.

13. Specify the report destination by choosing a folder from the drop-down list.

    • Check the **Sequential File Names** (not an option if **No Recurrence** was selected) and/or the **Overwrite Files** boxes, if applicable.

14. Specify the email notification parameters (optional) by typing the email address in the **To** box and the subject in the **Subject** box.

15. Enter a description in the **Message Text** box.

16. Check the **Attach Files** box to receive a report file attachment via email (optional).

17. Click **Save**. The report is scheduled for Asset Tracker.

Important: When creating a scheduled report to run within the same scheduling parameters for two different infusers, you will need to give the reports different names.

The edit option allows you to change the scheduled report options (see below).

To un-schedule the report, place a check in the Remove box and click the **Remove** button.

To view the scheduled reports at the bottom of the Reports View, click the **Scheduled Reports** button at the top of the list of reports. By clicking on the scheduled report name, you can also run that report with the report options you had selected.

Auto-purge of Scheduled Reports

For a report that has been scheduled to run, the Administrator can specify the number of days to keep the generated, scheduled report output.

For example, in the screen below, the scheduler-generated "Asset Tracker" report will be kept for 5 days; it will be deleted after that time period.

Report Name		Description	Date
	Scheduled Reports Apply		
Asset Tracker	☑ 5	Includes data to efficiently manage the entire inventory of infusers.	03/26/2012 10:09
Asset Utilization	Auto-purge	Information on the number of hours infusers have been in use.	03/26/2012 10:09
Auto-Programming		Information about usage of auto-programming functionality.	03/26/2012 10:09
Auto-Programs with Unmatched Medication		Information about auto-programming requests resulting in No Drug Selected or Other Drug on infuser.	03/26/2012 10:09
Edit Variance Detail		Line-item detail of every program where user received an alert and edited the program.	03/26/2012 10:09
Edit Variance Summary		Summary of programs where user received an alert and edited the program.	03/26/2012 10:09
Event/Alarm Log		Information about the events/alarms reported for a specific infuser.	03/26/2012 10:09
Infuser Status		Snapshot of current infuser usage and power status. Identifies infusers that have not communicated for specific time period.	03/26/2012 10:09
Infusion Summary		High level summary of infusion activity, percentage of each type of infuser alert and user response to alert.	03/26/2012 10:09
Line Usage Analysis		Visual depiction of infusion administration activity on each line on the infuser.	03/26/2012 10:09
Medications Infused by CCA		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	03/26/2012 10:09
Medications Infused by Medication		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	03/26/2012 10:09
Medications Infused by Service Line		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	03/26/2012 10:09
Medications Selected by Time of Day		Number of infusions started during each hour of the day and whether a medication was selected.	03/26/2012 10:09
Most Commonly Infused Medications		Graphical representation of the 15 most commonly infused medications selected from the drug library.	03/26/2012 10:09
Next IV Due		Information about which IV fluids are due to facilitate timely preparation.	03/26/2012 10:09
Override Variance Detail		Line-item detail of every program where user received an alert and chose to continue with entered value.	03/26/2012 10:09
Override Variance Summary		Summary of programs where the user received an alert and chose to continue with entered value.	03/26/2012 10:09
PCA History		PCA medication usage data for an individual infuser.	03/26/2012 10:09

1. In the column shown above, place a check mark next to the report to be auto-purged.

2. Under the Apply button column, specify the number of days the report output should be kept before it is deleted.

3. Click **Apply**.

Running a Report in the Background

Run in Background is a "just-in-time" version of the scheduled reports. Rather than do formal scheduling of the report, Run in Background uses the same scheduling wizard, but runs the report immediately as a background task.

1. To run the report in the background, click on the second icon from the left below.
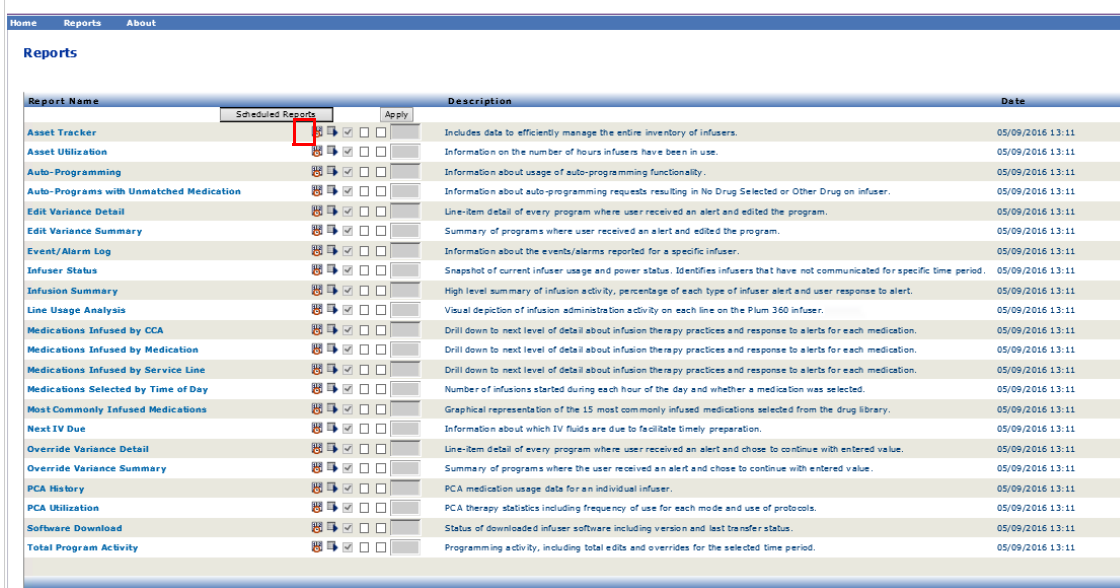
The Report Options screen is displayed:
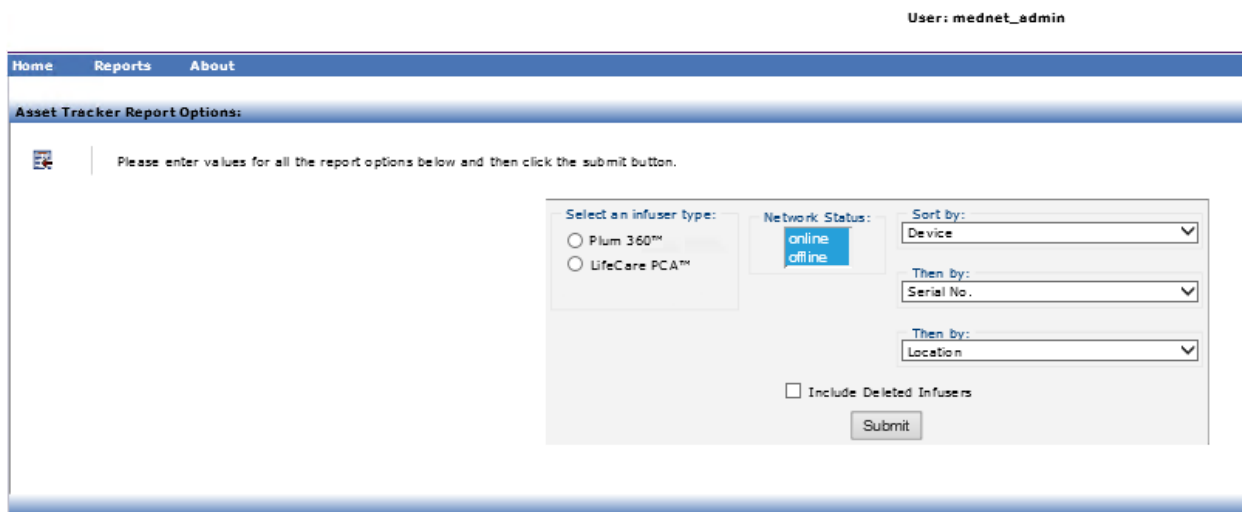
2. Complete the required information. See additional information in this chapter for your specific report.

3. Click **Submit**.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

The Output screen appears:

Note: if you have **View Protected Health Information** privileges, the Hide Patient Name checkbox displays for the following reports: Auto-Programming (Smart Pump Programming), Auto Programs with Unmatched Medication, Event/Alarm Log and Next IV Due.

4. Specify the base output file name.

5. Specify the output format.

6. Specify the report destination or repository by choosing a folder from the drop-down list.

   • Check the **Sequential File Names** (not an option if **No Recurrence** was selected), and/or the **Overwrite Files** boxes, if applicable.

7. Specify the email notification parameters (optional) by typing the email address in the **To** box and the subject in the **Subject** box.

8. Enter a description in the **Message Text** box.

9. Check the **Attach Files** check box to receive a report file attachment via email (optional).

10. Click **Save**.

To view the reports run in the background at the bottom of the Reports View, click the **Scheduled Reports** button at the top of the list of reports. By clicking on the report name, you can also run that report with the report options you had selected.

Reports

Report Name		Description	Date
	Scheduled Reports Apply		
Asset Tracker		Includes data to efficiently manage the entire inventory of infusers.	05/09/2016 13:11
Asset Utilization		Information on the number of hours infusers have been in use.	05/09/2016 13:11
Auto-Programming		Information about usage of auto-programming functionality.	05/09/2016 13:11
Auto-Programs with Unmatched Medication		Information about auto-programming requests resulting in No Drug Selected or Other Drug on infuser.	05/09/2016 13:11
Edit Variance Detail		Line-item detail of every program where user received an alert and edited the program.	05/09/2016 13:11
Edit Variance Summary		Summary of programs where user received an alert and edited the program.	05/09/2016 13:11
Event/Alarm Log		Information about the events/alarms reported for a specific infuser.	05/09/2016 13:11
Infuser Status		Snapshot of current infuser usage and power status. Identifies infusers that have not communicated for specific time period.	05/09/2016 13:11
Infusion Summary		High level summary of infusion activity, percentage of each type of infuser alert and user response to alert.	05/09/2016 13:11
Line Usage Analysis		Visual depiction of infusion administration activity on each line on the Plum 360 infuser.	05/09/2016 13:11
Medications Infused by CCA		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Infused by Medication		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Infused by Service Line		Drill down to next level of detail about infusion therapy practices and response to alerts for each medication.	05/09/2016 13:11
Medications Selected by Time of Day		Number of infusions started during each hour of the day and whether a medication was selected.	05/09/2016 13:11
Most Commonly Infused Medications		Graphical representation of the 15 most commonly infused medications selected from the drug library.	05/09/2016 13:11
Next IV Due		Information about which IV fluids are due to facilitate timely preparation.	05/09/2016 13:11
Override Variance Detail		Line-item detail of every program where user received an alert and chose to continue with entered value.	05/09/2016 13:11
Override Variance Summary		Summary of programs where the user received an alert and chose to continue with entered value.	05/09/2016 13:11
PCA History		PCA medication usage data for an individual infuser.	05/09/2016 13:11
PCA Utilization		PCA therapy statistics including frequency of use for each mode and use of protocols.	05/09/2016 13:11
Software Download		Status of downloaded infuser software including version and last transfer status.	05/09/2016 13:11
Total Program Activity		Programming activity, including total edits and overrides for the selected time period.	05/09/2016 13:11

Scheduled Reports

	Remove ☐		
Asset Tracker		Asset Tracker	05/09/2016 13:11

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Printing a Report

You can print any report that you generate. To print a report, convert the report into a PDF file, and print the report from the PDF document.

When printing a scheduled report that has more than one page, you will need to click the scheduled report button again.

Report Conventions

The following conventions are common to all reports:

• Users with the appropriate privileges may generate reports using the Reports view.

• Drop-down lists display all valid selections. Items contained in drop-down lists may vary based upon your previous input and the system configuration.

• If a report features more than one sort criterion, the first field, Sort By, is required while the remaining Then By fields are optional.

• Reports only display data existing in your system. A report's content may vary depending upon your data and the time period selected.

• Reports may span multiple pages; if so, the report may be navigated using the buttons a the top of the page.

• Users may employ a "wildcard," or asterisk [*], to expand search terms. For example, the wildcard [13*] returns all data, such as Serial Number, that begins with the numbers "13".

• If there is no data to display for a report or a field, a message displays to alert you that there is no data to display. When a report is grouped by CCA or Medication, and there is no data for a particular CCA or medication, a message will alert you to that effect.

• Reports will not display a medication's concentration when it has not been defined in the drug library.

Note:	Reports illustrated in this User Guide are intended to represent layout and typical content rather than actual data provided by any infuser or drug library.

Report Display Format

Reports contain the following three main sections:

- **Page Header:** The page header appears on the top of every page. The first page displays the report title and hospital name. Subsequent pages display the report title only.

- **Detail**: The details appear in the middle of every page and contain the report data.

- **Page Footer:** The page footer appears at the bottom of every page, and displays the time period of the report (or the time the report was run), print date, and page number.

Asset Tracker

The following table provides detailed information about the Asset Tracker report.

Asset Tracker	
Users	Biomedical, IT, Materials Management
Synopsis	The Asset Tracker report includes data to help the user efficiently manage the entire inventory of infusers. Information is provided to track and identify infusers that have not communicated with the network for extended periods of time, and to verify that all infusers have the correct version of ICU Medical MedNet Meds installed.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	None
Report Options	*Infuser Type:* Licensed infuser type(s) *Sort by:* Device, Serial Number, Location, CCA, Hours of use in last 30 days (Increasing/Decreasing), Hours of use in last 90 days (Increasing/Decreasing) The user may select a combination of any three sort criteria. Include Deleted Infusers
Usage Notes	Adjunct to the **Asset Utilization** and **Infuser Status** reports. Infusers are grouped by their network status (offline or online). An infuser is considered offline if it has not communicated with the ICU Medical MedNet server within the past five minutes. The library version is highlighted in yellow for all infusers that do not have the current library version. This allows infusers that need a library update to be quickly identified. In order to monitor infuser usage to assure that each is used somewhat equally, the number of hours of use for each infuser over the last 30- and 90-day period is also included. Hours of use include the time when the infuser's power is turned on, including standby and delayed start modes. Hours of use for the last 30 days and last 90 days are calculated based on the date the report is run.
See Also	**Asset Utilization** **Event/Alarm Log** **Infuser Status** **Software Download**

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Report Details

This section provides report details and an illustration of the **Asset Tracker** report for one type of infuser.

Plum 360 and LifeCare PCA	
Field/Column Label	**Description**
Network Status	*Online* is when ICU Medical MedNet Software has received a valid status message or log message from the infuser within the past five minutes. *Offline* is when ICU Medical MedNet Software has not received a valid status message or log message from the infuser within the past five minutes.
Serial No./Asset ID	The infuser's serial number and asset ID
Location	The physical location of the wireless access point with which the infuser last communicated. Location names match Access Point Description in the Access Point Mapping Screen or are based on Enhanced Asset Tracking.
Device	The logical ID of the infuser
CCA	The CCA to which the infuser was last assigned
Last Communication	Date and time the infuser last communicated with ICU Medical MedNet Software.
Library Version	The ICU Medical MedNet Meds drug library version on the infuser
Date of Transfer	Date of the drug library transfer
Hours of Use Last 30 Days	Number of hours the infuser has been in use in the last 30 days
Hours of Use Last 90 Days	Number of hours the infuser has been in use in the last 90 days

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

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| ICU Medical MedNet™ Reports | Asset Tracker Extended | | | | | | | | icumedical |

Infuser: Plum 360™ Infusion System

Network Status: online

Serial No. / Asset ID	Location	Device	CCA Name	Last Communication	Library Version	Date Of Transfer	Hours of Use Last 30 Days	Hours of Use Last 90 Days
17731946	WIRED	Plum1511	I~@I$#%%^^^*()	08/09/2017 13:16:01	08/09/17 6.30 11809	08/09/17 12:26	21.53	21.68
20140076	WIRED	Plumdry	Plum1511	08/10/2017 11:33:11	08/10/17 6.30 11815	08/10/17 11:26	29.50	29.50

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Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Asset Utilization

The following table provides detailed information about the **Asset Utilization** report.

Asset Utilization	
Users	Biomedical, IT, Materials Management
Synopsis	Asset Utilization allows efficient management of the entire inventory of infusers by providing information on the number of hours infusers have been in use. Reported for each infuser are the actual number of hours of use per month, and the average usage for the selected time period. Similarly, the report provides the average hours of use per month and for the selected time period for the entire infuser population.
Report Format	Crosstab
Infusers	Licensed infusers
Report Differences by Infuser	None
Report Options	*Infuser Type:* Licensed infuser type(s) *From: To: Quarter and Year:* For example, Q1 (Jan - Mar) 2015 *Sort by:* Device, Serial Number Include Deleted Infusers
Usage Notes	Adjunct to the Asset Tracker report: When cross-referenced with the Asset Tracker report, the user can determine whether low usage is the result of an infuser not communicating with the network, as well as when it last communicated, and where it was located at the time. Up to four consecutive quarters can be reported. Hours of use include the time when the infuser's power is turned on, including standby and delayed start modes. Average Number of Infusers Used Per Day: If an infuser was on during a given day, it is counted as being in use for the day.
See Also	**Asset Tracker** **Event/Alarm Log** **Software Download**

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Report Details

This section provides report details and an illustration of the **Asset Utilization** report for one type of infuser.

Plum 360 and LifeCare PCA	
Field/Column Label	**Description**
Infuser Type	Licensed infuser types
Device	Logical ID of the infuser
Serial Number	Serial number of the infuser
Average Number of Devices Used Per Day	Average number of devices used per day within the date range selected
Hours of Use	Hours of use per month per device within the date range selected Average hours of use per month across entire infuser population Average hours of use for all months across entire infuser population
Sort By	Device or Serial Number

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| ICU Medical MedNet™ Reports | Asset Utilization Extended | | icumedical |

Infuser: Plum 360™ Infusion System

Average Number of Infusers Used per Day: 0.00

Hours of Use

Device	Serial No	2017 Q1			
		Jan	Feb	Mar	Average
Plumdry	20140076	0.00	0.00	0.00	0.00
	Average	0.00	0.00	0.00	0.00
	Average	0.00	0.00	0.00	0.00

From: 05/04/17 13:41   To: 08/04/17 13:41   Printed: 08/04/17 13:41   Page 1 of 1

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Auto-Programming (Smart Pump Programming)

The following table provides detailed information about the **Auto-Programming (Smart Pump Programming)** report.

Auto-Programming (Smart Pump Programming)	
Users	Nurse Manager, Pharmacist
Synopsis	Provides information about the usage of the Auto-Programming (Smart Pump Programming) functionality when ICU Medical MedNet Software is integrated with a BCMA system using ICU Medical MedNet Programmer.
Report Format	Table
Infusers	Licensed infusers
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period:* Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range) CCA Name *Sort by*: Serial Number, Medication, CCA, Date/Time, Device. The user may select a combination of any three sort criteria Include Deleted Infusers *Hide Patient Name.* If selected, the patient name will be replaced by asterisks. (View Protected Health Information privilege must be assigned to see Patient Name)
Usage Notes	The Auto-Programming (Smart Pump Programming) report provides a summary section that contains Auto-Programming (Smart Pump Programming) and Manual Programming information for each CCA during the report period. Also, it provides a Manual Programming Detail section that provides detailed information about each infusion the clinician performed without using the Auto-Programming (Smart Pump Programming) function. This section includes information, such as the infuser's Network Status, to help determine why Auto-Programming (Smart Pump Programming) may not have been utilized. Auto programs that result in No Drug Selected (Plum 360) are included in this report.
See Also	**Auto-Programs with Unmatched Medication**

Report Details

This section provides report details and an illustration of the **Auto-Programming (Smart Pump Programming)** report for one type of infuser and a summary.

Plum 360 and LifeCare PCA	
Field/Column Label	**Description**
Infuser Type	Licensed infusers
Medication*	Medication's display name and concentration, or unknown
CCA Name	CCA selected when the auto-program occurred
Date/Time	Date and time from the start of infusion
Day of Week	Day of the week
Serial Number	Infuser's serial number
Device	Infuser's logical ID
Patient Name*	Patient name
Caregiver Name*	Caregiver's name
Unit*	Nursing unit
Room/Bed*	Room and bed number
*Information provided by BCMA system	
Summary and Manual Programming Report	
Summary	Number and percentage of Auto-Programming (Smart Pump Programming) and manual programming events by CCA
Manual Programming Detail	Medication, CCA, Date/Time, Serial Number, Device are shown for each manual program
Total	Sum of Total Count values
Note: LifeCare PCA includes: Auto-programming (Smart Pump Programming) summary, Manual programming summary, Auto-programming (Smart Pump Programming) detail and Manual programming detail.	

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ICU Medical MedNet™ Reports	**Auto-Programming** **Extended**		**icu**medical

Infuser: Plum 360™ Infusion System ▢▢▢   Active Drug Libraries 08/08/17 6.30 11800
                                                               08/08/17 6.30 11801
                                                               08/08/17 6.30 11802
                                                               08/08/17 6.30 11806
                                                               08/08/17 6.30 11807
                                                               08/09/17 6.30 11809
                                                               08/09/17 6.30 11813
                                                               08/10/17 6.30 11815

Summary

CCA Name	Auto-Programming		Manual Programming		Total	
	Count	%	Count	%	Count	%
!~@!$#%%^^^*()	0	0.0%	1	100.0%	1	3.2%
Plum1511	0	0.0%	2	100.0%	2	6.5%
Plum1511 a	0	0.0%	2	100.0%	2	6.5%
Plum1511 b	0	0.0%	2	100.0%	2	6.5%
Plum1511 c	0	0.0%	24	100.0%	24	77.4%
X1	0	0.0%	0	0.0%	0	0.0%
Total	**0**	**0.0%**	**31**	**100.0%**	**31**	**100.0%**

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Auto-Programming

Infuser: Plum 360™ Infusion System   ▢▢▢   **icu**medical

Auto- Programming Detail

Medication	CCA Name	Serial Number	Device	Date/Time	Day of Week
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 14:57:14	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:00:05	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:02:07	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:04:35	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:05:12	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:06:59	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:07:59	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:08:35	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:09:08	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:09:26	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:09:55	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:18:54	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:23:07	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:30:30	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:35:38	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:38:42	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:48:41	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/09/2017 11:30:51	Wednesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 13:08:33	Tuesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 14:57:37	Tuesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 15:31:06	Tuesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 15:36:07	Tuesday

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Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Auto-Programming

Infuser: Plum 360™ Infusion System

icumedical

Manual Programming Detail

Medication	CCA Name	Serial Number	Device	Date/Time	Day of Week
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 14:57:14	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:00:05	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:02:07	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:04:35	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:05:12	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:06:59	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:07:59	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:08:35	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:09:08	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:09:26	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:09:55	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:18:54	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:23:07	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:30:30	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:35:38	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:38:42	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/08/2017 15:48:41	Tuesday
Abciximab - 10 nanog/20 mL	Plum1511	20140076	Plumdry	08/09/2017 11:30:51	Wednesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 13:08:33	Tuesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 14:57:37	Tuesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 15:31:06	Tuesday
Aldesleukin - 7777 mL	Plum1511	20140076	Plumdry	08/08/2017 15:36:07	Tuesday

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Auto-Programming

Infuser: Plum 360™   Infusion System

icumedical

Manual Programming Detail

Medication	CCA Name	Serial Number	Device	Date/Time	Day of Week
Blood Products - 10 mcg/20 mL	Plum1511	17732384	Plum1511	08/08/2017 13:25:52	Tuesday
Cimetidine - 2222 mL	Plum1511	17732384	Plum1511	08/08/2017 13:28:35	Tuesday
Cimetidine - 1414 mL	Plum1511	20140296	Plum1511	08/08/2017 13:55:38	Tuesday

From: 08/03/17 11:28	To: 08/10/17 11:28	Printed: 08/10/17 11:28	Page 4 of 4

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Auto-Programs with Unmatched Medication

The following table provides detailed information about the **Auto-Programs with Unmatched Medication** report.

Note: Auto-Programs with Unmatched Medication is an optional feature and is only visible on your menu if it is part of your licensed package.

Auto-Programs with Unmatched Medication	
Users	Nurse Manager, Pharmacist
Synopsis	Provides information about Auto-Programming (Smart Pump Programming) requests that resulted in No Drug Selected or Other Drug on the infuser. Auto-Programming (Smart Pump Programming) functionality is available when ICU Medical MedNet Software is integrated with a BCMA system using ICU Medical MedNet Programmer.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	None
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period:* Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). CCA Name Medication *Sort by:* Medication, Date/Time, CCA, Unit, Location, Caregiver ID, Caregiver Name, Patient Name (if View Protected Health Information privilege assigned), External ID, Order ID. The user may select a combination of any two sort criteria. Include Deleted Infusers *Hide Patient Name.* If selected, the patient name will be replaced by asterisks. (View Protected Health Information privilege must be assigned to see Patient Name)
Usage Notes	This report provides a mechanism to evaluate auto programs which resulted in No Drug Selected or Other Drug on the infuser. This occurs when the External ID in the drug library does not match the one provided by the BCMA, or if concentration parameters or units do not match.
See Also	**Auto-Programming (Smart Pump Programming)**

Report Details

This section provides report details and an illustration of the **Auto-Programs with Unmatched Medication** report.

Plum 360	
Field/Column Label	**Description**
Date/Time	Date and time
CCA	CCA selected when the auto-program occurred
Location	Description of the access point to which the infuser was communicating
Caregiver ID*	ID of the caregiver
Caregiver Name*	Name of the caregiver
Patient ID*	Patient identification number
Patient Name*	Patient name
Unit*	Nursing unit
External ID*	External ID of the medication being programmed
Order ID*	Order number (ID) associated with the medication being programmed
Medication*	Medication being programmed
*Information provided by BCMA system	

ICU Medical MedNet™ Reports	**Auto-Programs with Unmatched Medication** **Extended**	icumedical

Infuser: Plum 360™ Infusion System

Active Drug Libraries 08/08/17 6.30 11800
08/08/17 6.30 11801
08/08/17 6.30 11802
08/08/17 6.30 11806
08/08/17 6.30 11807
08/09/17 6.30 11809
08/09/17 6.30 11813
08/10/17 6.30 11815

Medication Date/Time	External ID	Order ID CCA Name	Caregiver ID Caregiver Name	Patient ID Patient Name	Unit Location
Argatroban 1/4 Strength 125 mg/500 mL 02/18/14 13:33	349	90005 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED
Argatroban 1/4 Strength 125 mg/500 mL 02/18/14 15:19	349	80001 Medical	IOPUser Dhanush, Sekar R	MR8001 **********	Ace WIRED
Argatroban 1/4 Strength 500 mL 02/18/14 15:33	35001	80004 Medical	IOPUser Dhanush, Sekar R	MR8004 **********	Ace WIRED
Argatroban 1/4 Strength 1 125 mg/500 mL 02/18/14 14:01	349	90005 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED
Argatroban 1/8 Strength 125 mg/500 mL 02/18/14 15:21	35000	80002 Medical	IOPUser Dhanush, Sekar R	MR8002 **********	Ace WIRED
Blood Products 50 mg/250 mL 02/14/14 15:21	104899	60013 Medical	IOPUser Dhanush, Sekar R	MR613 **********	Ace WIRED
Blood Products 7 mg/111 mL 02/18/14 11:49	104899999	10002 Medical	IOPUser Dhanush, Sekar R	MR1102 **********	Ace WIRED
Blood Products 7 mg/111 mL 02/18/14 13:26	1048999	10002 Medical	IOPUser Dhanush, Sekar R	MR9000 **********	Ace WIRED
Blood Products 23 mg/234 mL 02/18/14 13:28	1048999	90001 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED

From: 08/03/17 11:32	To: 08/10/17 11:32	Printed: 08/10/17 11:32	Page 1 of 2

icumedical

Auto-Programs with Unmatched Medication

Infuser: Infusion System

Blood Products 300 mL 02/18/14 13:30	1048999	90001 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED
Blood Products 7 mg/33 mL 02/18/14 13:31	1048999	90002 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED
HYDROmorphone (Stnd) 75 mg/150 mL 02/18/14 13:33	62	90005 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED
HYDROmorphone (Stnd) 75 mg/150 mL 02/18/14 15:19	62	80001 Medical	IOPUser Dhanush, Sekar R	MR8001 **********	Ace WIRED
HYDROmorphone (Stnd) 1 75 mg/150 mL 02/18/14 14:01	62	90005 Medical	IOPUser Dhanush, Sekar R	MR9001 **********	Ace WIRED
HYDROmorphone (StndsTest) 75 mg 02/18/14 15:22	620	80003 Medical	IOPUser Dhanush, Sekar R	MR8003 **********	Ace WIRED

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Edit Variance Detail

The following table provides detailed information about the **Edit Variance Detail** report.

Edit Variance Detail	
Users	Pharmacist, Nurse Manager, Risk Manager
Synopsis	Provides a line-item detail of every infuser program where the user received an alert and then proceeded to edit the program. These edits suggest that a potential ADE (Adverse Drug Event) has been avoided
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	Includes user edits to Soft Limit alerts and/or Hard Limit alerts as applicable, per licensed infuser.
Report Options	*Infuser Type*: Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). The report will show the result of the specific data combination selected. Facility CCA Name Medication *Group by:* Facility, CCA, Medication Include Deleted Infusers, Include Inactive Facilities **Note:** The facility-related options will be available only if the license supports multi-facility reporting.
Usage Notes	Variance is a calculated value intended to represent how far away the user's initial programmed value was compared to the defined limit. Variance is defined as *(Initial Value − Limit Violated) / Limit Violated*. The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance. The report can be run by Facility or CCA or by Medication and contain data for selected Facility or CCAs or medications or for all Facility, CCAs and medications. Running the report by Medication for high risk medications can easily identify any variances for these medications and grouping will show the result of the specific data combination selected. **Initial Dose** is the programmed value that triggered the alert. **Final Dose** is the value accepted at final confirmation when the infuser was started. If several alerts were encountered during a programming sequence, the Final Dose value in the report will be the same for each alert. The date and time of each alert are also displayed in the report.

See Also	**Edit Variance Summary**
	Override Variance Detail
	Override Variance Summary

Report Details

This section provides report details and illustrations of the **Edit Variance Detail** report.

Plum 360	
Field/Column Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	Medication name if results are grouped by CCA; CCA name if results are grouped by medication.
Alert Date/Time	Date and time of each alert
Rule Set	Type of rule set violated
Limit	Amount and Units
Limit Violated	Upper Soft, Lower Soft, Upper Hard, Lower Hard
Initial Value *	Initial value entered by user
	*Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Final Value *	Final value entered by user
	*Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Variance	Defined as *(Initial Value − Limit Violated) / Limit Violated*
	The result is expressed as a percentage, and shown as a negative number for Lower Limit violations and a positive number for Upper Limit violations.10,000% is the maximum displayable variance.
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."	

ICU Medical MedNet™ Reports

Edit Variance Detail
County General

icu medical

Infuser: Plum 360™ Infusion System

Active Drug Libraries 05/29/19 6.32 11800
05/31/19 6.32 11811
06/04/19 6.32 11817
05/29/19 6.32 11803
05/31/19 6.32 11810
05/29/19 6.32 11802
05/30/19 6.32 11807
05/30/19 6.32 11808
05/31/19 6.32 11809
06/04/19 6.32 11814
06/04/19 6.32 11815
06/04/19 6.32 11816
06/07/19 6.32 11818
06/07/19 6.32 11819
06/10/19 6.32 11821
06/10/19 6.32 11822

Facility: All

Facility	CCA	Medication/Concentration	Alert Date/Time	Rule Set	Limit	Limit Violated	Initial Value	Final Value	Variance
Urgent Care	134	Cisplatin 150 mEq/10 mL	06/10/2019 15:22:44	Dose	10 mL/hr	↓ lower hard	5	25	-50.00%
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	06/04/2019 10:38:54	Bolus Amount	20 mL	↓ lower soft	12	16	-40.00%
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	06/04/2019 10:39:22	Bolus Amount	20 mL	↓ lower soft	19	12	-5.00%
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	06/04/2019 10:40:04	Bolus Amount	20 mL	↓ lower soft	11	18	-45.00%
Walk-In Clinic	134	Cisplatin 150 mEq/10 mL	06/10/2019 12:59:28	Dose	150 mL/hr	↑ UPPER HARD	152	25	1.33%
Walk-In Clinic	134	Cisplatin 150 mEq/10 mL	06/10/2019 12:59:46	Dose	25 mL/hr	↓ lower soft	12	25	-52.00%

| From: 05/14/19 00:07 | To: 06/13/19 00:07 | Printed: 06/13/19 00:07 | Page 1 of 4 |

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

LifeCare PCA	
Field/Column Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	Medication name if results are grouped by CCA; CCA name if results are grouped by medication.
Alert Date/Time	Date and time of each alert
Rule Set	LifeCare PCA: Loading, Continuous, PCA, Dose Limit
Limit	Amount and Units
Limit Violated	Upper Soft, Lower Soft, Upper Hard, Lower Hard
Initial Value*	Initial value entered by user *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Final Value*	Final value entered by user *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Variance	Defined as *(Initial Value − Limit Violated) / Limit Violated* The result is expressed as a percentage, and shown as a negative number for Lower Limit violations and a positive number for Upper Limit violations.10,000% is the maximum displayable variance.
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL".	

		Edit Variance Detail								
ICU Medical MedNet™ Reports		County General								icumedical

Infuser: LifeCare PCA™ Infusion System   Active Drug Libraries 05/29/19 6.32-1801
                                                                                                           06/01/19 6.32-1812

Facility: All

Facility	CCA	Medication/Concentration	Alert Date/Time	Rule Set	Limit		Limit Violated	Initial Value	Final Value	Variance
Walk-In Clinic	CCA5x	Albumin 15 mcg/mL	05/29/2019 12:37:00	Continuous	40 mcg/hr	↑	UPPER HARD	65	25	62.50%

Total for All: 1

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Edit Variance Summary

The following table provides detailed information about the **Edit Variance Summary** report.

Edit Variance Summary	
Users	Pharmacist, Nurse Manager, Risk Manager
Synopsis	Provides a summary of infuser programs where the user received an alert then proceeded to edit the program. These edits suggest that a potential ADE has been avoided. Contains the same data as Edit Variance Detail except that it averages the number of occurrences of edits for each medication/alert type combination (Lower Hard, Lower Soft, Upper Soft, and Upper Hard).
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	Includes user edits to Soft Limit alerts and/or Hard Limit alerts as applicable, per licensed infuser.
Report Options	*Infuser Type*: Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). The report will show the result of the specific data combination selected. Facility CCA Name Medication *Group by:* Facility, CCA, Medication Include Deleted Infusers, Include Inactive Facilities **Note:** The facility-related options will be available only if the license supports multi-facility reporting.
Usage Notes	Variance is a calculated value intended to represent how far away the user's initial programmed value was compared to the defined limit. Variance is defined as *(Mean Initial Value – Limit Violated) / Limit Violated*. The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance. The report can be run by Facility or CCA or by Medication and contain data for selected Facility or CCAs or medications or for all Facility, CCAs and medications. Running the report by Medication for high risk medications can easily identify any variances for these medications and grouping will show the result of the specific data combination selected. **Initial Dose** is the programmed value that triggered the alert. **Final Dose** is the value accepted at final confirmation when the infuser was started.
See Also	**Edit Variance Detail** **Override Variance Detail** **Override Variance Summary**

Report Details

This section provides report details and illustrations of the **Edit Variance Summary** report.

Plum 360	
Field/Column Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	You may choose to group the report results by either Medication or CCA.
Rule Set	Type of rule set violated
Limit	Amount and Units
Limit Violated	Upper Soft, Lower Soft, Upper Hard, Lower Hard
Mean Initial Value*	Average of initial value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Mean Final Value*	Average of final value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Variance	Defined as *(Mean Initial Value – Limit Violated) / Limit Violated* The result is expressed as a percentage, and it is shown as a negative number for Lower Limit violations and a positive number for Upper Limit violations.10,000% is the maximum displayable variance.
Sample Size (Count)	Number of edits performed for the specific entry (row) in the report (for example: If LHL of Dose Rate value is edited twice the sample size count of the Dose Rate - lower hard entry would be 2)
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."	

ICU Medical MedNet™ Reports	Edit Variance Summary County General		icumedical

Infuser: Plum 360™ Infusion System

Active Drug Libraries
05/29/19 6.32 11800
05/31/19 6.32 11811
06/04/19 6.32 11817
05/29/19 6.32 11803
05/31/19 6.32 11810
05/29/19 6.32 11802
05/30/19 6.32 11807
05/30/19 6.32 11808
05/31/19 6.32 11809
06/04/19 6.32 11814
06/04/19 6.32 11815
06/04/19 6.32 11816
06/07/19 6.32 11818
06/07/19 6.32 11819
06/10/19 6.32 11821
06/10/19 6.32 11822

Facility: All

Facility	CCA	Medication/Concentration	Rule Set	Limit	Limit Violated	Mean Initial Value	Mean Final Value	Variance	Sample Size (Count)
Urgent Care	134	Cisplatin 150 mEq/10 mL	Dose	10 mL/hr	↓ lower hard	5.00	25.00	-50.00%	1
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	Bolus Amount	20 mL	↓ lower soft	14.00	15.333	-30.00%	3
							Subtotal for Urgent Care :		4
Walk-In Clinic	134	Cisplatin 150 mEq/10 mL	Dose	10 mL/hr	↓ lower hard	5.00	26.00	-50.00%	1
Walk-In Clinic	134	Cisplatin 150 mEq/10 mL	Dose	25 mL/hr	↓ lower soft	12.00	25.00	-52.00%	1
Walk-In Clinic	134	Cisplatin 150 mEq/10 mL	Dose	150 mL/hr	↑ UPPER HARD	186.00	25.00	24.00%	3
Walk-In Clinic	CCA13x-1	Amikacin 150 mcg/15 mL	Dose	40 mcg/hr	↑ UPPER HARD	58.00	13.00	45.00%	3
							Subtotal for Walk-In Clinic :		8
							Total for All :		12

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Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

LifeCare PCA	
Field/Column Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/ Concentration[1] or CCA	You may choose to group the report results by either Medication or CCA.
Rule Set	LifeCare PCA: Loading, Continuous, PCA, Dose Limit
Limit	Amount and Units
Limit Violated	Upper Hard, Lower Hard, Upper Soft, Lower Soft
Mean Initial Value*	Average of initial value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Mean Final Value*	Average of final value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Variance	Defined as *(Mean Initial Value − Limit Violated) / Limit Violated* The result is expressed as a percentage, and it is shown as a negative number for Lower Limit violations and a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.
Sample Size (Count)	Number of programs that exceed the limit
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/ 250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL".	

ICU Medical MedNet™ Reports	Edit Variance Summary County General	icumedical

Infuser: LifeCare PCA™ Infusion System

Active Drug Libraries 05/29/19 6.32-1801
06/01/19 6.32-1812

Facility: All

Facility	CCA	Medication/Concentration	Rule Set	Limit	Limit Violated	Mean Initial Value	Mean Final Value	Variance	Sample Size (Count)
Walk-In Clinic	CCA5x	Albumin 15 mcg/mL	Continuous	40 mcg/hr	↑ UPPER HARD	65.00	25.00	62.50%	1
							Subtotal for Walk-In Clinic :		1
							Total for All :		**1**

From: 05/14/19 00:22	To: 06/13/19 00:22	Printed: 06/13/19 00:22	Page 1 of 2

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Event/Alarm Log

The following table provides detailed information about the **Event/Alarm Log** report.

Event/Alarm Log	
Users	Biomedical, IT, Materials Management, Risk Manager
Synopsis	Provides a detailed look at all events, alarms, and alerts associated with an infuser in chronological order.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	Contains a listing of all logged events and alarms reported by an infuser. Specific items reported depend on the type of infuser.
Report Options	*Infuser Type:* Licensed infuser type(s)
	Time Period: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range).
	Serial Number
	Event Type: All
	Include Deleted Infusers
	Hide Patient Name. If selected, the patient name will be replaced by asterisks. (View Protected Health Information privilege must be assigned to see Patient Name)
Usage Notes	This report displays all data recorded in the infuser's event log. Typically, this report would be used when doing a root cause analysis for a patient incident involving an infusion device. The user can select the specific device by serial number and specify the time period to review (for example, Since 12 a.m. today, Last 24 hours, Last 48 hours, Last 7 days, etc.). One or more infusers may be selected.
	The Event/Alarm Log report is primarily intended to be run in order to identify events on, or issues with, a particular infuser. Since each infuser reports hundreds or thousands of events daily, report performance may be significantly affected when the report user selects more than a single infuser or selects a time period longer than 7 days.
	Certain events are displayed in different color text.
	•Battery warnings are displayed in blue text.
	•Alarms are displayed in red text.
	•New drug library versions are displayed in green text.
	Event descriptions for each infuser can be found in the appendices of this guide.
See Also	***Asset Tracker***
	Asset Utilization
	Software Download

Report Details

This section provides report details and an illustration of the **Event/Alarm Log**.

Plum 360 and LifeCare PCA	
Field/Column Label	**Description**
Infuser Serial Number	Serial number of the infuser
Infuser Library Version(s)	Library version(s) which were active during specified time period
Event Date	Date of event
Description	Description of event Battery warnings are highlighted in blue, and other warnings are highlighted in red. New drug libraries are highlighted in green. See the appropriate infuser System Operating Manual for more information about infuser events and alarms.

Infuser Status

The following table provides detailed information about the **Infuser Status** report.

Infuser Status	
Users	Biomedical, IT, Materials Management
Synopsis	Provides: • a snapshot of the status of infusers (infusing, idle or offline) • a snapshot of the power status of online infusers (on AC or Battery) • a list of idle infusers • a list of offline infusers
Report Format	Table, Pie Charts
Infusers	Licensed infusers
Report Differences by Infuser	None
Report Options	*Infuser Type:* Licensed infuser type(s) *Sort By:* Last Communication, Serial Number, Device, Last CCA, Last Location, Last Infusing, Asset Tag. The user may select a combination of any three sort criteria. Include Deleted Infusers
Usage Notes	The Infuser Status and Power Status of Online Infusers pie charts show the real-time status for infusers. The numbers and percentages reported in the Infuser Status chart refer to all infusers, whether offline or online. **Infusing** refers to infusers that are currently online and infusing. **Idle** refers to infusers that are online and idle. **Offline** refers to infusers that are currently offline. A legend box is displayed defining the color, number, percentage of infusers per slice, and totals for each pie chart. The *Idle Infusers* list provides details about infusers that are online and not currently infusing. The *Offline Infusers* list provides details about the last known status of infusers which have not communicated in the selected time period.
See Also	**Asset Tracker** **Asset Utilization** **Software Download**

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Report Details

This section provides report details and illustrations of the **Infuser Status** report.

<table>
<tr><td colspan="2" align="center">Plum 360 and LifeCare PCA</td></tr>
<tr><td align="center">Pie Chart</td><td align="center">Description</td></tr>
<tr><td>Infuser Status</td><td>Infusing: Percentage of infusers that are currently online and infusing.

Idle: Percentage of infusers that are currently online and idle.

Offline: Percentage of infusers that are currently offline.</td></tr>
<tr><td>Power Status of Online Infusers</td><td>AC: Percentage of online infusers currently using AC power.

Battery: Percentage of online infusers currently using battery power.</td></tr>
<tr><td align="center">Table</td><td align="center">Description</td></tr>
<tr><td>Idle Infusers</td><td>Serial Number, Device, Asset Tag, Last CCA, Last Location, Last Communication, Last Infusing</td></tr>
<tr><td>Offline Infusers</td><td>Serial Number, Device, Asset Tag, Last CCA, Last Location, Last Communication, Last Infusing</td></tr>
</table>

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Infusion Summary

The following table provides detailed information about the **Infusion Summary** report.

Infusion Summary	
Users	Nurse Manager, Risk Manager, Quality Manager, Pharmacist
Synopsis	Provides a high level summary of infusion activity, including the percentage of each type of alert supported by the infuser as well as the users' responses to the alerts (Edit or Override).
Report Format	Pie chart
Infusers	Licensed infusers
Report Differences by Infuser	This report contains pie charts indicating Total Programs and Alerts according to each licensed infuser type.
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). Facility CCA Name *Group by:* Facility, CCA Include Deleted Infusers Include Inactive Facilities **Note:** The facility-related options will be available only if the license supports multi-facility reporting.

Usage Notes	The pie charts displayed in the report provide a summary of infusion activity, including Total Programs, Alerts, Soft Limit Alerts, and Hard Limit Alerts (LifeCare PCA).
	The **Total Programs** pie shows clinicians' compliance with using the drug library.
	Note: A Program is defined as any change in the infusion that triggers a user confirmation on the pump.
	The **Alerts** pie shows the percentage of programs where each type of alert occurred. (Note: The clinician may encounter more than one alert during a programming sequence.)
	The **Soft Limit Alerts** and **Hard Limit Alerts** pies show the clinician's response to each type of alert. Specifically, did the clinician override the alert and continue programming or did the clinician edit the value? This information is useful to determine whether dosing limits are set correctly.
	An edit made to a program in response to an alert suggests that a potential ADE (Adverse Drug Event) has been avoided. More than a very small number of overrides in response to an alert may indicate the Rule Set is too restrictive and does not reflect actual practice in the hospital.
	The Total Programs pie represents compliance with using the safety software.
	Plum 360 15.11 or later infusers will display bolus, time, and dose rate alerts.
See Also	Line Usage Analysis, Edit Variance Summary
	Edit Variance Detail, Override Variance Summary, Override Variance Detail

Report Details

The following section provides report details and illustrations of the **Infusion Summary** report.

Plum 360	
Pie Chart	**Contents**
Total Programs	With Limits, Label Only, Simple Delivery, No Drug Selected, Unknown
Alerts	No Alert, Hard Limit Edit, Soft Limit Edit, Soft Limit Override
Soft Limit Alerts	Edit, Override
Hard Limit Alerts	Edit, Override

> **Note:** Each slice is a different color and indicates the percentage of alerts in each category. A legend box defines the color, number, percentage of alerts for each slice, and totals for the chart.

Infusion Summary
Infuser: Plum 360™ Infusion System

CCA: All, Facility: All

icumedical

Total Programs
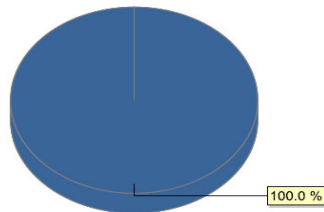
100.0 %

With Limits	40	100.0%
Simple Delivery	0	0.0%
No Drug Selected	0	0.0%
Label Only	0	0.0%
Unknown	0	0.0%
Total:	40	100%

Alerts

6.1 %
6.1 %
32.7 %
53.1 %
2.0 %
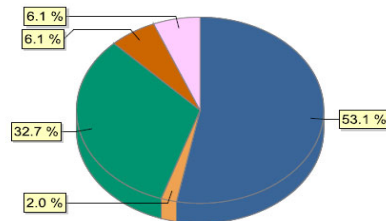
No Alert	26	53.1%
Dose-Edit	1	2.0%
Dose-Override	16	32.7%
Dose Rate-Edit	0	0.0%
Dose Rate-Override	0	0.0%
Time-Edit	0	0.0%
Time-Override	0	0.0%
Bolus-Edit	3	6.1%
Bolus-Override	3	6.1%
Total:	49	100%

> *Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Infusion Summary
Infuser: Plum 360™ Infusion System

icumedical

CCA: All

Soft Limit Alerts
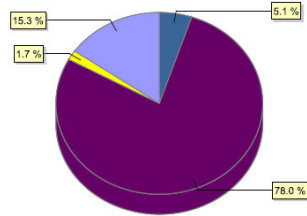
■	Override	3	5.1%
■	Edit	0	0.0%
■	Dose-Override	0	0.0%
■	Dose-Edit	0	0.0%
■	Dose Rate-Override	46	78.0%
■	Dose Rate-Edit	1	1.7%
■	Time-Override	9	15.3%
■	Time-Edit	0	0.0%
■	Bolus-Override	0	0.0%
■	Bolus-Edit	0	0.0%
	Total:	59	100%

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
         Compatibility Matrix available through your ICU Medical Technical Support Center.

LifeCare PCA	
Pie Chart	**Contents**
Total Programs	With Limits
Alerts	No Alert, Soft Limit Edit, Soft Limit Override, Hard Limit Edit
Hard Limit Alerts	Loading, PCA, Continuous, Dose Limit
Soft Limit Alerts	Loading-Edit, Loading-Override, PCA-Edit, PCA-Override, Continuous-Edit, Continuous-Override, Dose Limit-Edit, Dose Limit-Override

Note: Each slice is a different color and indicates the percentage of alerts in each category. A legend box defines the color, number, percentage of alerts for each slice, and totals for the chart.

ICU Medical MedNet™ Reports	Infusion Summary Extended		icumedical

Infuser: LifeCare PCA™ Infusion System

CCA: All

Active Drug Libraries 08/08/17 6.30-1803

Total Programs
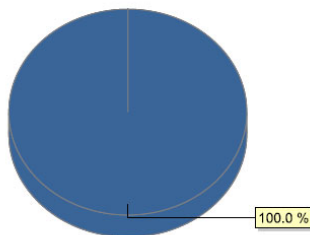
100.0 %

■ With Limits		3	100.0 %
Total:		3	100 %

Alerts

25.0 %

75.0 %
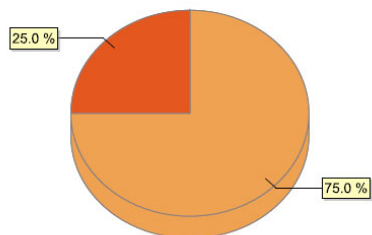
■ No Alert		0	0.0 %
■ Soft Limit Override		3	75.0 %
■ Soft Limit Edit		0	0.0 %
■ Hard Limit		1	25.0 %
Total:		4	100 %

From: 07/11/17 12:23	To: 08/10/17 12:23	Printed: 08/10/17 12:23	Page 1 of 7

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Infusion Summary
Infuser: LifeCare PCA™ Infusion System

icumedical

CCA: All

Hard Limit Alerts
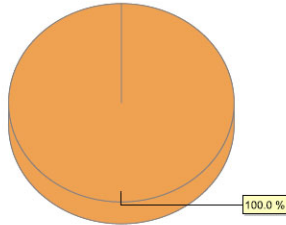
100.0 %

■ PCA	0	0.0 %
■ Dose Limit	1	100.0 %
■ Continuous	0	0.0 %
■ Loading	0	0.0 %
Total:	1	100 %

Soft Limit Alerts

33.3 %

66.7 %
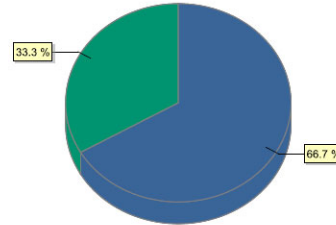
■ PCA-Override	2	66.7 %
■ PCA-Edit	0	0.0 %
■ Dose Limit-Override	1	33.3 %
■ Dose Limit-Edit	0	0.0 %
■ Continuous-Override	0	0.0 %
■ Continuous-Edit	0	0.0 %
■ Loading-Override	0	0.0 %
■ Loading-Edit	0	0.0 %
Total:	3	100 %

From: 07/11/17 12:23   To: 08/10/17 12:23   Printed: 08/10/17 12:23   Page 2 of 7

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Line Usage Analysis

The following table provides detailed information about the **Line Usage Analysis** report.

Note: The Line Usage option will only appear in the Reports Menu if your infuser type is licensed.

Line Usage Analysis	
Users	Nurse Manager, Pharmacist, Materials Management
Synopsis	Provides a depiction of infusion administration activity on each of two lines on the Plum 360 infuser.
Report Format	Pie Chart
Infuser	Licensed infusers
Report Differences by Infuser	None
Report Options	*Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). Facility CCA Name *Group by:* Facility, CCA Include Deleted Infusers Include Inactive Facilities **Note:** The facility-related options will be available only if the license supports multi-facility reporting.
Usage Notes	Three pie charts indicate the relative usage of Line A and Line B, as well as the specific use of each line (Simple Delivery, Standard Program, Loading Dose, Multistep, and Bolus). In addition, the delivery mode use for Line B is shown (Concurrent or Piggyback). Simple Delivery indicates that the drug library was not used, or the clinician selected "No Drug Selected." The Line B pie chart can be evaluated to help ensure that the use of Line B is optimized with regard to Concurrent and Piggyback delivery modes.

Report Details

This section provides report details and an illustration of the **Line Usage Analysis** report.

Plum 360	
Pie Chart	**Contents**
Line A vs. Line B	Percentage of infusions on Line A, Percentage of infusions on Line B
Line A	Percentage of infusions: •Simple Delivery •Standard Program •Loading Dose •Multistep •Bolus
Line B	Percentage of infusions: •Concurrent - Simple •Concurrent - Standard •Concurrent - Loading •Concurrent - Multistep •Concurrent - Bolus •Piggyback - Simple •Piggyback - Standard •Piggyback - Loading •Piggyback - Multistep •Piggyback - Bolus
Note:	A legend box defines the color, number, percentage of programs per infusion type for each slice, and totals for the chart.

Line Usage Analysis

Extended

icu medical

Infuser: Plum 360™ Infusion System

CCA: All

Line A vs. Line B

■ Line A	27	54.0 %
■ Line B	23	46.0 %
Total :	50	100 %
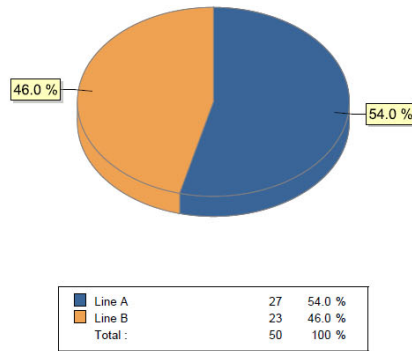
Line Usage Analysis

Infuser: Plum 360™ Infusion System
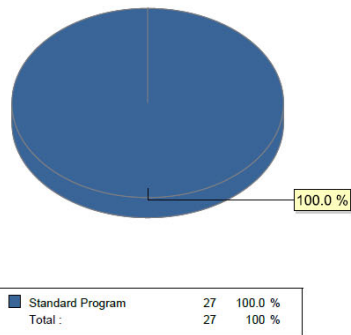
icu medical

CCA: All

Line A	Line B
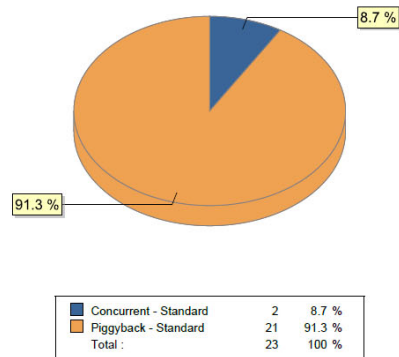
■ Standard Program	27	100.0 %
Total :	27	100 %

■ Concurrent - Standard	2	8.7 %
■ Piggyback - Standard	21	91.3 %
Total :	23	100 %

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Medications Infused

The tables in this section are common to the following reports:

- Medications Infused by CCA
- Medications Infused by Medication
- Medications Infused by Service Line

Medications Infused	
Users	Nurse Manager, Pharmacist, Risk Manager
Synopsis	This report allows the user to drill down into the next level of detail about infusion therapy practices and provides information on the clinician's response to alerts for each individual medication. The report can be viewed by CCA, Medication, or Service Line.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	Includes Soft Limit alerts and/or Hard Limit alerts as applicable, per licensed infuser.
Report Options	*Infuser Type*: Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). Facility *CCA Name* (by CCA and Medication views) *Medication* (by CCA and Medication views) *Service Line* (by Service Line view) *Sort by:* Medication (by CCA and by Service Line views) or CCA (by Medication view), Frequency, Total Alerts Include Deleted Infusers Include Inactive Facilities **Note:** The facility-related options will be available only if the license supports multi-facility reporting.

Usage Notes	There are three ways to view the Medications Infused report, as follows:
	Medications Infused by CCA: The user can determine which medications are the most problematic from an alert perspective, review infusion therapy practices, and adjust the Rule Sets accordingly.
	Medications Infused by Medication: The user can compare the number of alerts and the response to those alerts for an individual medication across all CCAs. With an understanding of which CCAs have the same Rule Sets defined, differences in infusion therapy practice among CCAs will stand out. Select high risk medications to narrow the amount of data in the report.
	Medications Infused by Service Line: A service line represents a medical or surgical specialty, such as Oncology, Pediatrics, Labor and Delivery, Critical Care, etc. The service line mapping functionality in ICU Medical MedNet Meds normalizes CCA definition at each site to a common denominator to support system-wide analysis. For example, Hospital A has CCA 3 North that is an adult medicine unit, while Hospital B of the same healthcare system has CCA 5 South that is the adult medicine unit. Because Hospital A maps 3 North to the service line Medicine-Adult, and Hospital B maps 5 South to Medicine-Adult, infusion therapy practices for similar patients populations can be compared between sites.
See Also	Infusion Summary, Edit Variance Detail, Edit Variance Summary, Override Variance Detail, Override Variance Summary

The following table provides details for all **Medications Infused** reports

Licensed Infusers	
Field/Column Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
CCA[1]	Name of CCA (if results are grouped by medication)
Medication/Concentration[2]	Name and concentration of medication (if results are grouped by CCA or Service Line)
Service Line[3]	Name of Service Line
Frequency[4]	Number of programs
Total Alerts[5]	Total number of alerts
Hard Limit Alerts •Lower: Total, Edit •Upper: Total, Edit	Number and percentage of Hard Limit alerts and Edits for both lower and upper limits
Soft Limit Alerts •Lower: Total, Override, Edit •Upper: Total, Override, Edit	Number and percentage of Soft Limit Alerts, Edits, and Overrides for both lower and upper limits
Final Program - Confirmed	Number and percentage of times that the clinician has chosen to confirm the program on the initial confirmation screen on the infuser without any changes.

Licensed Infusers	
Field/Column Label	**Description**
Final Program - Changed	Number and percentage of times that the clinician has chosen to edit or go back at the initial confirmation screen on the infuser. Even if this is done more than once and the clinician eventually confirms the program, it is counted as a single edit. Not all infusers support this functionality. For those infusers, the report will show a value of "0."

[1]Appears in *Medications Infused by CCA* and *Medication Infused by Medication* reports only.
[2]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."

[3]Appears in Medications Infused by Service Line report only.

[4]Frequency is equal to the sum of the Final Program values for Confirm and Edit.

[5]A program can have no alerts or can have one or more alerts.

Note: A Program is defined as any change in the infusion that triggers a user confirmation on the pump.

Medications Infused by CCA

The following graphic displays the **Medications Infused by CCA** report.

ICU Medical MedNet™ Reports	Medications Infused - by CCA County General	icumedical

Infuser: Plum 360™ Infusion System

Active Drug Libraries 05/29/19 6.32 11800
05/31/19 6.32 11811
06/04/19 6.32 11817
05/29/19 6.32 11803
05/31/19 6.32 11810
05/29/19 6.32 11802
05/30/19 6.32 11807
05/30/19 6.32 11808
05/31/19 6.32 11809
06/04/19 6.32 11814
06/04/19 6.32 11815
06/04/19 6.32 11816
06/07/19 6.32 11818
06/07/19 6.32 11819
06/10/19 6.32 11821
06/10/19 6.32 11822

CCA: All

Facility	Medication/Concentration	Frequency	Total Alerts	Hard Limit Alerts		Soft Limit Alerts										Final Program			
				Lower Total	Upper Total	Lower Total	Lower Override		Lower Edit	Upper Total	Upper Override		Upper Edit		Confirmed		Changed	
Urgent Care	Amikacin 100 mg/1 mL	8	6	0	0	6	3	50.00%	3	50.00%	0	0	0.0%	0	0.0%	8	100%	0	0.0%
Walk-In Clinic	Amikacin 150 mcg/15 mL	6	6	0	3	3	3	100%	0	0.0%	0	0	0.0%	0	0.0%	6	100%	0	0.0%
Urgent Care	Cisplatin 150 mEq/10 mL	2	1	1	0	0	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	2	100%	0	0.0%
Walk-In Clinic	Cisplatin 150 mEq/10 mL	4	5	1	3	1	0	0.0%	1	100%	0	0	0.0%	0	0.0%	4	100%	0	0.0%
Walk-In Clinic	Unknown	1	0	0	0	0	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	1	100%	0	0.0%
Total		21	18	2	6	10	6	60.00%	4	40.00%	0	0	0.0%	0	0.0%	21	100%	0	0.0%

From: 05/14/19 00:13	To: 06/13/19 00:13	Printed: 06/13/19 00:13	Page 1 of 48

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Medications Infused by Medication

The following graphic displays the **Medications Infused by Medication** report for the LifeCare PCA.

ICU Medical MedNet™ Reports	Medications Infused - by Medication															icumedical
	County General															

Infuser: LifeCare PCA™ Infusion System

Active Drug Libraries 05/29/19 6.32-1801
06/01/19 6.32-1812

Medication: Albumin 15 mcg/mL

Facility	CCA Name	Frequency	Total Alerts	Hard Limit Alerts		Soft Limit Alerts									Final Program			
				Lower Total	Upper Total	Lower Total	Lower Override		Lower Edit	Upper Total	Upper Override		Upper Edit		Confirmed		Changed	
Walk-In Clinic	CCA5x	1	2	0	1	1	1	100%	0	0.0%	0	0	0.0%	0	0.0%	1	100%	0	0.0%
Total		1	2	0	1	1	1	100%	0	0.0%	0	0	0.0%	0	0.0%	1	100%	0	0.0%

From: 05/14/19 00:23	To: 06/13/19 00:23	Printed: 06/13/19 00:24	Page 1 of 1

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Medications Infused By Service Line

The following graphic displays the **Medications Infused by Service Line** report.

ICU Medical MedNet™ Reports	**Medications Infused - by Service Line** **County General**	icumedical

Infuser: Plum 360™ Infusion System

Active Drug Libraries 05/29/19 6.32 11800
05/31/19 6.32 11811
06/04/19 6.32 11817
05/29/19 6.32 11803
05/31/19 6.32 11810
05/29/19 6.32 11802
05/30/19 6.32 11807
05/30/19 6.32 11808
05/31/19 6.32 11809
06/04/19 6.32 11814
06/04/19 6.32 11815
06/04/19 6.32 11816
06/07/19 6.32 11818
06/07/19 6.32 11819
06/10/19 6.32 11821
06/10/19 6.32 11822

Service Line: Ambulatory

Facility	Medication/ Concentrati	Frequency	Total Alerts	Hard Limit Alerts		Soft Limit Alerts									Final Program			
				Lower Total	Upper Total	Lower Total	Lower Override		Lower Edit	Upper Total	Upper Override		Upper Edit		Confirmed		Changed	
Urgent Care	Amikacin 100 mg/1 mL	8	6	0	0	6	3	50.00%	3	50.00%	0	0	0.0%	0	0.0%	8	100%	0	0.0%
Walk-In Clinic	Amikacin 150 mcg/15 mL	6	6	0	3	3	3	100%	0	0.0%	0	0	0.0%	0	0.0%	6	100%	0	0.0%
Total		14	12	0	3	9	6	66.67%	3	33.33%	0	0	0.0%	0	0.0%	14	100%	0	0.0%

From: 05/14/19 00:25	To: 06/13/19 00:25	Printed: 06/13/19 00:25	Page 1 of 34

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Medications Selected by Time of Day

The following table provides detailed information about the **Medications Selected by Time of Day** report.

Medications Selected by Time of Day	
Users	Nurse Manager, Risk Manager
Synopsis	Displays a bar graph showing the number of infusions started during each hour of the day, including whether or not the clinician selected a medication in the drug library.
Report Format	Bar graph
Infusers	Licensed infusers
Report Differences by Infuser	Plum 360: No Medication Selected includes infusions for which the user chose No Drug Selected
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range) CCA Name Include Deleted Infusers
Usage Notes	This report may be used to determine whether there is a difference in compliance with using the drug library during different times of the day. Selecting different days or time periods may show that compliance differs at busy times of the day or for different shifts. *Medications Selected by Time of Day* evaluates infusions to determine whether or not a medication was selected. Specifically, the report includes the time of day that the infusion was started and whether a medication in the drug library was selected. Typically, after an infusion is started, rate changes are made and new bags hung without the need to reselect the medication. If a new medication is selected, however, it is counted as a new infusion.
See Also	Infusion Summary Total Program Activity

Report Details

This section provides report details and an illustration of the **Medications Selected by Time of Day** report for one type of infuser.

Plum 360	
Field/Label	**Description**
Medication Selected	Number of infusions where a medication was selected.
No Medication Selected	Number of infusions where a medication was not selected.
Each bar includes the number of infusions initiated during a one hour period.	
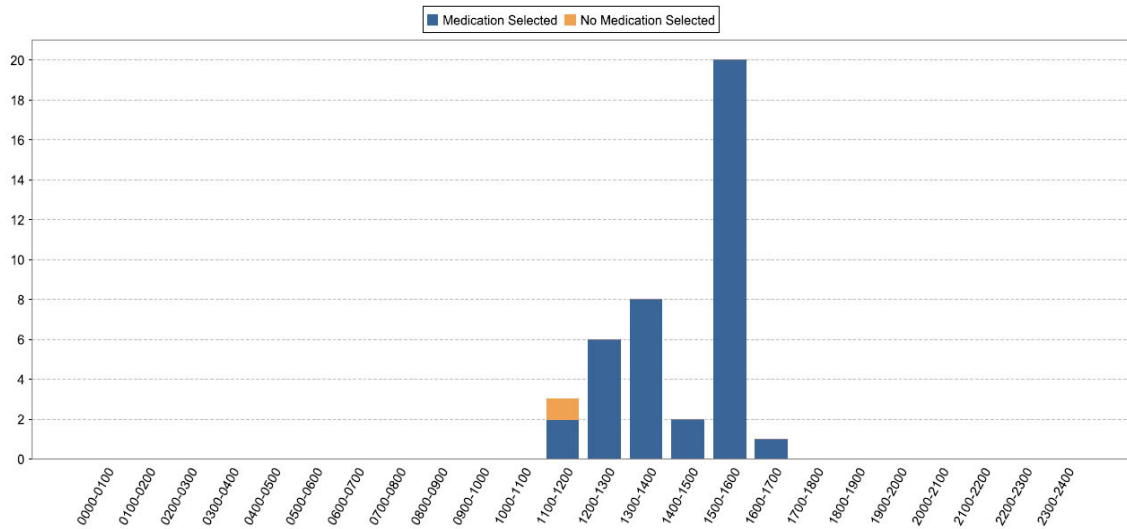
Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Most Commonly Infused Medications

The following table provides detailed information about the **Most Commonly Infused Medications** report.

Most Commonly Infused Medications	
Users	Nurse Manager, Pharmacist
Synopsis	Provides a graphical representation of the 15 most commonly infused medications selected from the drug library
Report Format	Pie chart
Infusers	Licensed infusers
Report Differences by Infuser	None
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). CCA Name Include Deleted Infusers
Usage Notes	This report can assist in determining compliance with the drug library, since only medications infused using the library will be reported. LifeCare PCA: There will typically be less than 15 medications reported since it is likely that only a few medications are administered via this method. Infusions where the medication is not known are not included. For example: No Drug Selected or Other Drug. Medications not included in the top 15 as well as those totaling less than 1% of total infusions will be grouped together and displayed as "Other."
See Also	Medications Selected by Time of Day

Report Details

This section provides report details and an illustration of the **Most Commonly Infused Medications** report.

Plum 360 and LifeCare PCA	
Pie Chart	Description
Most Commonly Infused Medications	The top 15 infused medications are displayed. Medications with different concentrations appear in different slices.
	If the report contains more than 15 medications, a slice named "Other" contains medications not included in the top 15 as well as those accounting for less than 1%.
Note: A legend box defines the color, number, and percentage of infusions per medication for each slice, and totals for the chart.	

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Next IV Due

The following table provides detailed information about the **Next IV Due** report.

Next IV Due	
Users	Pharmacist
Synopsis	Provides the pharmacist with information about which IV fluids are due in order to facilitate timely preparation
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	LifeCare PCA: For PCA Only mode, Current Rate and Time IV Due are not displayed. Remaining Volume should be used to determine when the next vial is likely to be due.
Report Options	*Infuser Type:* Licensed infuser type(s) Lead Time in Hours Remaining VTBI less than __mL Exclude containers less than __ mL (Plum 360 only) *Patient Name*: (if View Protected Health Information privilege is assigned). CCA Name Medication *Sort by:* Medication, Time IV Due, Patient Name (with View Protected Health Information privilege) Include Deleted Infusers *Hide Patient Name*. If selected, the patient name will be replaced by asterisks. (View Protected Health Information privilege must be assigned to see Patient Name.)

Usage Notes	The Next IV Due report is a tool for the pharmacist to manage IV solution replenishment. The report shows the volume remaining for each medication and the "Time IV Due" to help efficiently schedule the admixture of replacement solutions. Data provided in this report will help minimize nursing calls for new IV bags and reduce pharmacy time spent managing admixture services.
	Lead Time in Hours is required
	Remaining VTBI less than is optional. If it is specified, the report uses the value as a filter so that infusions with a larger VTBI are not shown.
	Exclude containers less than is optional. If it is specified, the report uses the value as a filter so that smaller containers are not shown. The container size is the VTBI programmed by the user. This setting may be useful to help eliminate "noise" that would otherwise be created by antibiotic piggybacks.
	This report contains information about currently running infusions only. For example, if there is an infusion on both the primary and secondary lines, and the secondary infusion is currently running, the primary infusion will not be included.
	Time IV Due is calculated based on the infuser's determination of remaining VTBI, which in turn is based on the VTBI entered by the clinician. For multistep infusions, Time IV Due is based on the step that is currently infusing. For LifeCare PCA, the volume of every vial is assumed to be 30 mL.
	While patient information is not displayed for a ICU Medical MedNet BCMA implementation, this report should still be useful, especially if most of the IVs are mixed in a batch mode once or twice a day and there are only a handful of medications that require special attention, such as those that are high cost or have limited stability in solution. By selecting a specific CCA and the desired medications, the report can be cross-referenced to the pharmacy IV records to determine which patient is on which IV.

Report Details

This section provides report details and an illustration of the **Next IV Due** report for one type of infuser.

Plum 360	
Field/Column Label	**Description**
Patient Name	Patient name
Patient ID	Patient identification number
Room/Bed	Room and bed number
Medication[1]	Name of medication
Concentration	Medication concentration
Current Rate	Current flow rate of infusion
Remaining Volume	Remaining volume at time of report
Time IV Due[1]	Date and time IV is due

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Plum 360	
Field/Column Label	**Description**
[1]You may sort report results by this field.	

ICU Medical MedNet™ Reports	Next IV Due Extended					icumedical

Infuser: Plum 360™ Infusion System

CCA: All

Patient Name	Patient ID	Room/Bed	Medication	Concentration	Current Rate	Remaining Volume	Time IV Due
			Abciximab	10 nanog/20 mL	40 mL/hr	54.7 mL	08/08/17 16:48

Report Date: 08/08/17 15:41   Printed: 08/08/17 15:41   Page 1 of 6

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
         Compatibility Matrix available through your ICU Medical Technical Support Center.

Override Variance Detail

The following table provides detailed information about the **Override Variance Detail** report.

Override Variance Detail	
Users	Pharmacist, Nurse Manager, Risk Manager
Synopsis	Provides a line-item detail of every infuser program where the user received an alert and chose to continue with the entered value. Frequent overrides to a limit may indicate that it may not be set properly to account for actual clinical practice in the hospital.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	Includes user overrides to Soft Limit alerts, as applicable for each infuser type
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). The report will show the result of the specific data combination selected. Facility CCA Name Medication *Group by:* Facility, CCA, Medication Include Deleted Infusers, Include Inactive Facilities **Note:** The facility-related options will be available only if the license supports multi-facility reporting.
Usage Notes	Variance is a calculated value intended to represent how far away the user's initial programmed value was compared to the defined limit. Variance is defined as *(Initial Value – Limit Violated) / Limit Violated*. The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance. The report can be run by Facility or CCA or by Medication and contain data for selected Facility or CCAs or medications or for all Facility, CCAs and medications. Running the report by Medication for high risk medications can easily identify any variances for these medications and grouping will show the result of the specific data combination selected. **Initial Dose** is the programmed value that triggered the alert. **Final Dose** is the value accepted at final confirmation when the infuser was started. If several alerts were encountered during a programming sequence, the Final Dose value in the report will be the same for each alert. The date and time of each alert are also displayed in the report.

See Also	Edit Variance Summary
	Edit Variance Detail
	Override Variance Summary

Report Details

This section provides report details and illustrations of the **Override Variance Detail** report.

Plum 360	
Field/Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	Medication name if results are grouped by CCA, CCA name if results are grouped by medication.
Alert Date/Time	Date and time of each alert
Rule Set	Type of rule set violated
Limit	Amount and Units
Limit Violated	Upper Soft or Lower Soft
Initial Value*	Initial value entered by user *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Final Value*	Final value entered by user *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Variance	Defined as *(Initial Value − Limit Violated) / Limit Violated* The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.

[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/ 250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."

ICU Medical MedNet™ Reports

Override Variance Detail
County General

icumedical

Infuser: Plum 360™ Infusion System

Active Drug Libraries 05/29/19 6.32 11800
05/31/19 6.32 11811
06/04/19 6.32 11817
05/29/19 6.32 11803
05/31/19 6.32 11810
05/29/19 6.32 11802
05/30/19 6.32 11807
05/30/19 6.32 11808
05/31/19 6.32 11809
06/04/19 6.32 11814
06/04/19 6.32 11815
06/04/19 6.32 11816
06/07/19 6.32 11818
06/07/19 6.32 11819
06/10/19 6.32 11821
06/10/19 6.32 11822

Facility: All

Facility	CCA	Medication/Concentration	Alert Date/Time	Rule Set	Limit	Limit Violated	Initial Value	Final Value	Variance
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	06/04/2019 10:38:59	Bolus Amount	20 mL	↓ lower soft	16	16	-20.00%
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	06/04/2019 10:39:25	Bolus Amount	20 mL	↓ lower soft	12	12	-40.00%
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	06/04/2019 10:40:10	Bolus Amount	20 mL	↓ lower soft	18	18	-10.00%
Walk-In Clinic	CCA13x-1	Amikacin 150 mcg/15 mL	05/29/2019 11:51:32	Dose	20 mcg/hr	↓ lower soft	13	13	-35.00%
Walk-In Clinic	CCA13x-1	Amikacin 150 mcg/15 mL	05/29/2019 12:18:09	Dose	20 mcg/hr	↓ lower soft	13	13	-35.00%
Walk-In Clinic	CCA13x-1	Amikacin 150 mcg/15 mL	05/29/2019 12:20:29	Dose	20 mcg/hr	↓ lower soft	13	13	-35.00%

Total for All: 6

| From: 05/14/19 00:03 | To: 06/13/19 00:03 | Printed: 06/13/19 00:03 | Page 1 of 3 |

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

LifeCare PCA	
Field/Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	Medication name if results are grouped by CCA. CCA name if results are grouped by medication.
Alert Date/Time	Date and time of each alert
Rule Set	LifeCare PCA: Loading, Continuous, PCA, Dose Limit
Limit	Amount and Units
Limit Violated	LifeCare PCA: Upper Soft, Lower Soft
Initial Value*	Initial value entered by user *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Final Value*	Final value entered by user *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Variance	Defined as *(Initial Value − Limit Violated) / Limit Violated)* The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."	

| ICU Medical MedNet™ Reports | Override Variance Detail County General | | | | | | | | icumedical |

Infuser: LifeCare PCA™ Infusion System

Active Drug Libraries 05/29/19 6.32-1801
06/01/19 6.32-1812

Facility: All

Facility	CCA	Medication/Concentration	Alert Date/Time	Rule Set	Limit	Limit Violated	Initial Value	Final Value	Variance
Walk-In Clinic	CCA5x	Albumin 15 mcg/mL	05/29/2019 12:37:00	PCA	20 mcg	↓ lower soft	12	12	-40.00%

Total for All: 1

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Override Variance Summary

The following table provides detailed information about the **Override Variance Summary** report.

Override Variance Summary	
Users	Pharmacist, Nurse Manager, Risk Manager
Synopsis	Provides a summary of infuser programs where the user received an alert and chose to continue with the entered value.
	Frequent overrides to a limit may indicate that it may not be set properly to account for actual clinical practice in the hospital.
	Contains the same data as Override Variance Detail except that it sums the number of occurrences of Overrides for each Alert Type.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	Includes user overrides to Soft Limit alerts as applicable, per infuser type
Report Options	*Infuser Type*: Licensed infuser type(s)
	Time Period: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range).
	The report will show the result of the specific data combination selected.
	Facility
	CCA Name
	Medication
	Group by: Facility, CCA, Medication
	Include Deleted Infusers, Include Inactive Facilities
	Note: The facility-related options will be available only if the license supports multi-facility reporting.
Usage Notes	Variance is a calculated value intended to represent how far away the user's initial programmed value was compared to the defined limit. Variance is defined as *(Initial Value – Limit Violated) / Limit Violated*. The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.
	The report can be run by Facility or CCA or by Medication and contain data for selected Facility or CCAs or medications or for all Facility, CCAs and medications. Running the report by Medication for high risk medications can easily identify any variances for these medications and grouping will show the result of the specific data combination selected.
	Initial Dose is the programmed value that triggered the alert. **Final Dose** is the value accepted at final confirmation when the infuser was started.

See Also	Edit Variance Summary
	Edit Variance Detail
	Override Variance Detail

Report Details

This report details section describes features, and provides graphic examples of the **Override Variance Summary** report.

Plum 360	
Field/Column Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	Medication name if results are grouped by CCA, CCA name if results are grouped by medication.
Rule Set	Type of rule set violated
Limit	Amount and Units
Limit Violated	Upper Soft or Lower Soft
Mean Initial Value*	Average of initial value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Mean Final Value*	Average of final value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time. This is applicable to Plum 360 infuser.
Variance	Defined as *(Mean Initial Value − Limit Violated) / Limit Violated* The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations.10,000% is the maximum displayable variance.
Sample Size (Count)	Number of programs that exceed the limit
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/ 250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."	

Infuser: Plum 360™ Infusion System

Active Drug Libraries 05/29/19 6.32 11800
05/31/19 6.32 11811
06/04/19 6.32 11817
05/29/19 6.32 11803
05/31/19 6.32 11810
05/29/19 6.32 11802
05/30/19 6.32 11807
05/30/19 6.32 11808
05/31/19 6.32 11809
06/04/19 6.32 11814
06/04/19 6.32 11815
06/04/19 6.32 11816
06/07/19 6.32 11818
06/07/19 6.32 11819
06/10/19 6.32 11821
06/10/19 6.32 11822

Facility: All

Facility	CCA	Medication/Concentration	Rule Set	Limit	Limit Violated	Mean Initial Value	Mean Final Value	Variance	Sample Size (Count)
Urgent Care	CCCAAA111	Amikacin 100 mg/1 mL	Bolus Amount	20 mL	↓ lower soft	15.333	15.333	-23.33%	3
							Subtotal for Urgent Care :		3
Walk-In Clinic	CCA13x-1	Amikacin 150 mcg/15 mL	Dose	20 mcg/hr	↓ lower soft	13.00	13.00	-35.00%	3
							Subtotal for Walk-In Clinic :		3
							Total for All :		6

From: 05/14/19 00:29	To: 06/13/19 00:29	Printed: 06/13/19 00:30	Page 1 of 3

LifeCare PCA	
Field/Label	**Description**
Facility	Facility with which the infuser is associated. A multi-facility license is required for this feature.
Medication/Concentration[1] or CCA	Medication name if results are grouped by CCA; CCA name if results are grouped by medication.
Rule Set	LifeCare PCA: Loading, Continuous, PCA, Dose Limit
Limit	Amount and Units
Limit Violated	LifeCare PCA: Upper Soft, Lower Soft
Mean Initial Value*	Average of initial value entered *Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device
Compatibility Matrix available through your ICU Medical Technical Support Center.

LifeCare PCA	
Field/Label	**Description**
Mean Final Value*	Average of final value entered
	*Value can represent either dose or time, depending on the type of rule set that is reported. In the specific report, the "Rule Set" column clarifies if the value refers to dose or time.
Variance	Defined as *(Mean Initial Value – Limit Violated) / Limit Violated*
	The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.
Sample Size (Count)	Number of programs that exceed the limit
[1]Medication/Concentration is comprised of the displayed name of the medication and its concentration value. If a displayed name for a particular medication includes concentration (for example, Drug 500 mg/ 250 mL), Medication/Concentration may appear as "Drug 500 mg/250 mL 500 mg/250 mL."	

ICU Medical MedNet™ Reports

Override Variance Summary
County General

icumedical

Infuser: LifeCare PCA™ Infusion System

Active Drug Libraries 05/29/19 6.32-1801
06/01/19 6.32-1812

Facility: All

Facility	CCA	Medication/Concentration	Rule Set	Limit	Limit Violated	Mean Initial Value	Mean Final Value	Variance	Sample Size (Count)
Walk-In Clinic	CCA5x	Albumin 15 mcg/mL	PCA	20 mcg	↓ lower soft	12.00	12.00	-40.00%	1
							Subtotal for Walk-In Clinic :		1
							Total for All :		1

From: 05/14/19 00:31　　　To: 06/13/19 00:31　　　Printed: 06/13/19 00:31　　　Page 1 of 2

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

PCA History

The following table provides detailed information about the **PCA History** report.

PCA History	
Users	Nurse, Nurse Manager
Synopsis	This report allows the user to obtain PCA medication usage data for an individual infuser.
Report Format	Table
Infusers	LifeCare PCA
Report Options	*Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). Serial Number Include Deleted Infusers
Usage Notes	The user specifies an infuser and the time period for the report. The output contains a summary of the infusion settings, history of drug infusion data, and PCA attempts by hour. This information may be useful to report total amounts of medication infused, or calculating oral medication needs when transitioning patients off of PCA therapy. The Medication Delivered and PCA Attempts sections indicate a time period for the program. The value reported for the end of the time period may be the start time of the new program or the end of the report period if ICU Medical MedNet is unable to determine the precise end of the program. Continuous Rate values reported in the Medication Delivered section are estimated based on the programmed Continuous rate setting. This value is reported in the Program Settings section. These values do not take into account the time during which the infuser was paused or stopped. Continuous Rate displays zero in the hourly time periods after a Dose Limit has been reached. The Medication Delivered and PCA Attempts sections will not display a row for any hour period in which no medication was delivered or no PCA attempts were made. If an infusion lasts less than five minutes, the Medication Delivered recorded in the report will not match the Medication Delivered on the infuser. However, the infusion can be seen in real time in the Infusion Status view.

Report Details

This section provides report details and an illustration of the **PCA History** report.

LifeCare PCA	
Field/Label	**Description**
Program Settings Section	
Drug Name	Name of medication

LifeCare PCA	
Field/Label	**Description**
Program Settings Section	
PCA Dose	Programmed PCA dose
PCA Lockout	Time duration of lockout
Loading Dose	Programmed loading dose
Continuous Rate	Programmed Continuous Rate
X Hour Limit	Programmed Dose Limit **X** refers to the number of hours that the Dose Limit was programmed.
PCA History Section	
Medication Delivered	Loading, PCA, Continuous, Total Displayed for each hour during the report period
PCA Attempts	Completed, Partial, Denied Attempts displayed for each hour during the report period.
Note: Depending on the program settings made on the infuser, the Medication Name, PCA Dose, PCA Lockout, Loading Dose, Continuous Rate, and/or Hour Limit may be displayed.	

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

ICU Medical MedNet™ Reports	PCA History Extended	icu medical

Infuser: LifeCare PCA™ Infusion System

Infuser Serial Number: 19359290

Active Drug Libraries 08/08/17 6.30-1803

Program Settings identified 08/08/17 14:08

Medication Name	Abciximab 5 mcg/mL
PCA Dose	22.00 mcg
Loading Dose	
PCA Lockout	5 min
Continuous Rate	
4 Hour Limit	22.00 mcg

Medication Delivered

From 08/08/17 14:08 to 08/08/17 14:08

	Loading	PCA	Continuous	Total
08/08/17 14:00 to 15:00	0.00	1.00	0.00	1.00
Total	0.00	1.00	0.00	1.00

PCA History

Infuser: LifeCare PCA™ Infusion System

icu medical

New Patient identified 08/08/17 17:07

Program Settings identified 08/08/17 17:08

Medication Name	A-25 0.5 mg/mL
PCA Dose	2.00 mg
Loading Dose	
PCA Lockout	5 min
Continuous Rate	
4 Hour Limit	33.00 mg

Medication Delivered

From 08/08/17 17:08 to 08/08/17 18:42

	Loading	PCA	Continuous	Total
08/08/17 17:00 to 18:00	0.00	2.00	0.00	2.00
Total	0.00	2.00	0.00	2.00

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

PCA Utilization

The following table provides detailed information about the **PCA Utilization** report.

PCA Utilization	
Users	Pharmacist, Nurse Manager
Synopsis	Provides statistics regarding PCA therapy, such as the frequency of use for each mode as well as the use of protocols
Report Format	Table
Infusers	LifeCare PCA
Report Options	*Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). CCA Name Include Deleted Infusers
Usage Notes	The PCA Utilization report provides a variety of statistics regarding how PCA therapy is used in the hospital. For each CCA, the user can see which medications and modes of therapy are used most often. In addition, the user can assess how frequently clinicians are using the protocol feature of the LifeCare PCA (if protocols have been defined in the drug library).

Report Details

This section provides report details and an illustration of the **PCA Utilization** report for the LifeCare PCA infuser.

LifeCare PCA	
Field/Label	**Description**
Medication/Concentration	Medication name and displayed concentration
Mode	PCA Only, PCA With Continuous, Continuous Only Totals for each mode appear at the bottom of the report
Protocol	Yes/No, indicates whether a protocol was used
Location	Access point description

| ICU Medical MedNet™ Reports | PCA Utilization Extended | | | | | icumedical |

Infuser: LifeCare PCA™ Infusion System   Active Drug Libraries 08/08/17 6.30-1803

CCA: All

		Mode		Protocol		
Medication/Concentration	PCA Only	PCA With Continuous	Continuous Only	Yes	No	Location
A-25 0.5 mg/mL	2	0	0	0	2	WIRED
Abciximab 5 mcg/mL	1	0	0	0	1	WIRED
Totals:	3	0	0	0	3	

| From: 08/03/17 12:30 | To: 08/10/17 12:30 | Printed: 08/10/17 12:30 | Page 1 of 4 |

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Software Download

The following table provides detailed information about the **Software Download** report.

Software Download	
Users	Biomedical, IT, Materials Management
Synopsis	Provides data for each infuser on its software version and latest transfer status.
Report Format	Table
Infusers	Licensed infusers
Report Differences by Infuser	None
Report Options	*Infuser Type:* Licensed infuser type(s) *Time Period*: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range). *Transfer Status:* All, Retry, Pending, Completed, Failed, Retry Failed, Refused *Sort by:* Device, Serial Number Include Deleted Infusers
Usage Notes	Software download will be managed by ICU Medical Field Service Representatives. This is not a customer activity. The report includes all infusers able to receive software download from ICU Medical MedNet. It does not include infusers requiring a firmware upgrade (i.e., a new plug and play module).
See Also	Asset Tracker Asset Utilization Event/Alarm Log

Report Details

This section provides report details and an illustration of the **Software Download** report.

Plum 360 and LifeCare PCA	
Field/Label	**Description**
Device	The logical ID of the infuser
Serial Number	The infuser's serial number
Transfer Start Time	Date and time transfer began
Transfer End Time	Date and time transfer ended (or "---" if it has not completed)

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

<table>
<tr><td colspan="2" align="center">Plum 360 and LifeCare PCA</td></tr>
<tr><td align="center">Field/Label</td><td align="center">Description</td></tr>
<tr><td>Software Release Name</td><td>Name of software release transferred</td></tr>
<tr><td>Status</td><td>Download status received from the device (for example, Retry, Pending, Completed, Failed, Retry Failed, Refused)</td></tr>
<tr><td>Transferred Components/ Total Components</td><td>The number of successfully downloaded, and total number of components

Appears as a ratio (for example, 3/5)</td></tr>
<tr><td colspan="2">Note: The report can be filtered by Infuser Type and Transfer Status.</td></tr>
</table>

ICU Medical MedNet™ Reports	Software Download Extended					icumedical

Infuser: Plum 360™ Infusion System

Device	Serial No.	Transfer Start Time	Transfer End Time	Software Release Name	Status	Transferred Components /Total Components
PlumDF934	700011915	08/09/17 10:04	08/09/17 12:51	Plum1511	Completed	1 / 1

From: 08/03/17 12:32	To: 08/10/17 12:32	Printed: 08/10/17 12:33	Page 1 of 1

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Total Program Activity

The following table provides detailed information about the **Total Program Activity** report.

Total Program Activity	
Users	Nurse Manager, Risk Manager
Synopsis	Provides a view of all programming activity including total edits and overrides for the selected time period. This quick overview indicates how appropriate the library limits are for clinical practice.
Report Format	Line graph
Infusers	Licensed infusers
Report Differences by Infuser	The LifeCare PCA version does not include a "Medication Selected" line. A medication is always selected because the infuser requires the user to scan a vial with a recognized barcode.
Report Options	Infuser Type: Licensed infuser type(s)
	Time Period: Since 12 a.m. today, Since 12 a.m. yesterday, Last 12 hours, Last 24 hours, Last 48 hours, Last 7 days, Last 30 days, Last 1 month, Last 3 months, Last 6 months, Last 12 months, Other (specific date range).
	CCA Name
	Select a Graph: Day of Week, Hour of Day, Hour Range/Day
	Include Deleted Infusers
Usage Notes	Total program activity includes the line graphs of the total number of programs, as well as total programs with a medication selected, total number of edits, and total number of overrides for each time period.
	A single program may include multiple edits and/or overrides.
	Select a Graph may be changed to view the results differently: by Day of Week, Hour of Day, or Hour Range per Day. Using different views of results may facilitate the discovery of practice variations by time of day or day of week.
	Since the report displays results by day (Hour of Day, Hour Range/Day), or by week (Day of Week), you should select a time period of a minimum of one day or one week, accordingly. Using longer time periods may provide more meaningful results.
See Also	Infusion Summary
	Line Usage Analysis

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Report Details

This section provides report details for each type of infuser and an illustration of the **Total Program Activity** report.

<table>
<tr><td colspan="2" align="center">Plum 360 and LifeCare PCA</td></tr>
<tr><td align="center">Field/Label</td><td align="center">Description</td></tr>
<tr><td>Total Programs</td><td>Number of total programs</td></tr>
<tr><td>Med Selected
(Does not include LifeCare PCA)</td><td>Number of medications selected</td></tr>
<tr><td>Edits</td><td>Number of edits</td></tr>
<tr><td>Overrides</td><td>Number of overrides</td></tr>
<tr><td colspan="2" align="center">Select a Graph Options</td></tr>
<tr><td>Hour of Day</td><td>Reports display a graph of four lines with data points for each hour of the day.

Horizontal axis displays time periods for each hour of the day, expressed in military time.</td></tr>
<tr><td>Day of Week</td><td>Reports display a graph of four lines with data points for each day of the week.

Horizontal axis displays days of the week, arranged Sunday through Saturday.</td></tr>
<tr><td>Hour Range/Day</td><td>Reports display a graph of four lines with data points for each day of the week.

Days of the week are abbreviated as: Su, M, Tu, W, Th, F, and Sa.

Horizontal axis displays time periods labeled 0000-0600, 0600-1200, 1200-1800, and 1800-2400, with the abbreviation for each day of the week (for example, 1800-2400 Su).</td></tr>
</table>

Note: Since the reports display results by day or week, you should select a time period of a minimum of one day or one week, accordingly.

Appendix A: ICU Medical MedNet Integrator

ICU Medical MedNet Integrator provides interfaces to a hospital's enterprise level applications and serves as the conduit for the exchange of data between infusers, the ICU Medical MedNet server, and a variety of hospital information systems. This functionality is also known as auto documentation. ICU Medical MedNet Integrator can also support an interface from the pharmacy system to ICU Medical MedNet Meds.

When interfaced to a BCMA (Bar Code Medication Administration) or EHR (Electronic Health Record) system, ICU Medical MedNet Integrator supports electronic documentation of IV administration events into the patient record. This integration also allows the BCMA system to incorporate the IV infusion rate into the Five Rights verification process.

When interfaced to a monitoring system, ICU Medical MedNet Integrator supports the display of current program values (medication, concentration, dose, rate, and volume infused) as well as events such as start, stop, or rate change in the patient record.

Integrations with BCMA, EHR, or monitoring systems may require a workflow that provides the ability to associate the patient with the infuser.

The workflow for the clinician is as follows:

- Scan the patient identification, the medication container and the pump using the BCMA or eMAR (Electronic Medication Administration Record) system and its bar code scanner
- Program the infuser based on the physician's order
- Confirm the programming and start the infusion

Once the infusion has started, ICU Medical MedNet sends the program values (medication/concentration, dose, rate, volume infused) back to the other system (for review and documentation).

Note: The specific functionality available to you will depend on your institution's ICU Medical MedNet software license.

Setting up ICU Medical MedNet Integrator for BCMA integration

- Define a bar code strategy for identifying each channel of the infusers that will be used and affix the bar code label to each channel

WARNING: To ensure that information is sent to the Bar Code Medication Administration (BCMA) system from the correct infuser, ICU Medical strongly recommends that before you go-live with ICU Medical MedNet™ Integrator™, you verify the bar code label affixed to each infuser corresponds to the correct channel.

Note: Please compare the infuser data on the infuser with the data received in the third party clinical system. In the event of a discrepancy, please chart the infuser data manually.

Notes:

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Appendix B: ICU Medical MedNet Programmer

ICU Medical MedNet Programmer provides the ability for an IV medication order from the BCMA (Bar Code Medication Administration) system to be translated into operational settings that can automatically populate on the infuser. This functionality is also known as auto-programming.

The integration with a BCMA system supports electronic documentation of IV administration events into the patient record, allows the BCMA system to incorporate the IV infusion rate into the Five Rights verification process, and reduces the number of steps to manually program the infuser as well as the potential for programming errors.

ICU Medical MedNet Programmer provides two level of functionality:
- Medication ID Programming where the medication name and concentration are automatically populated on the infuser
- Complete Auto-Programming (Smart Pump Programming) where the medication name and concentration along with the dose, rate, and volume to be infused are automatically populated on the infuser

Both Medication ID Programming and Complete Auto-Programming
(Smart Pump Programming) help ensure that the drug library limits for each medication are enforced.

The workflow for the clinician is as follows:

- Scan the patient identification, the medication container, and the pump using the BCMA application and its bar code scanner
- Enter any other required programming values on the infuser (for example, for Medication ID Programming, rate, and volume to be infused)
- Confirm the program and start the infusion

Once the infusion has started, ICU Medical MedNet sends the program values (medication/concentration, dose, rate, volume to be infused, and duration) back to the BCMA system (for review and documentation).

How ICU Medical MedNet Programmer Works

- The medication order parameters received from the BCMA system are compared to those in the ICU Medical MedNet Meds library based on the External ID associated with the medication.
- After verifying the order is within the allowed parameters, the ICU Medical MedNet software sends the program parameters to the infuser
- All data entry and infusion parameters are validated by the clinician at the infuser according to the physician's order
- The clinician always has the option of programming the infuser manually

The Auto-Programming (Smart Pump Programming) feature is intended to be used each time the clinician hangs a new IV container.

> **Note:** The specific functionality available to you will depend on your institution's ICU Medical MedNet software license.

Setting up ICU Medical MedNet Programmer

- Ensure your Medication List import file contains the External ID used by the BCMA system when patient orders are sent to ICU Medical MedNet (see *ICU Medical MedNet Meds User Guide*)
- Define a bar code strategy for identifying each channel of the infusers that will be used; affix the bar code label to each channel

WARNING: To ensure a therapy is being sent to the correct infuser, ICU Medical strongly recommends that before go-live with ICU Medical MedNet™ Programmer™ you verify the bar code label affixed to each infuser corresponds to the correct channel to which the software sends Auto-Programming (Smart Pump Programming) information.

Note: Please verify the auto-program received from the third party clinical system matches the auto-program received on the infuser before starting the therapy. In addition, please verify the auto-program response from the infuser matches the auto-program response received by the third party clinical system.

Error Handling

The ICU Medical MedNet software will reject or modify medication orders under certain conditions. When a medication order is rejected, an error message is sent to the BCMA system and no values display on the infuser.

Rejected Orders

Medication orders are rejected when the following occurs:

- Dose rate units in the medication order are not supported by the infuser
- Dose rate units in the medication order do not match the dose rate units for the corresponding medication entry in the drug library
- The infuser and/or channel scanned by the clinician is unknown or offline
- The channel is currently infusing and cannot accept a new program
- The medication order contains a program parameter(s) that exceeds the range accepted by the infuser and/or CCA
- The patient weight on the infuser does not match the patient weight in a weight-based order (Plum 360 infuser only)
- The channel has already been programmed for Standby or Delayed Start

Note: If an order is rejected by the infuser, ICU Medical MedNet automatically sends a message to the BCMA to inform of the rejection and the reason for it.

Modified Orders

The information displayed on the infuser will be modified as follows:

- The ICU Medical MedNet software attempts to convert a strength value contained in the medication order to a related unit in order to successfully match a medication entry in the drug library; applies to grams and units family only. For example, 2 grams is converted to 2000 mg.
- The ICU Medical MedNet software will round dose, rate, and patient weight values received from the BCMA system according to the level of precision that can be accepted by the infuser. For example, if ICU Medical MedNet receives a rate of 45.6667 mL/hour from the BCMA system, a rate of 45.7 mL/hr will be sent to the infuser.
- When the ICU Medical MedNet software is unable to identify a medication entry corresponding to the medication in the order, the program parameters will be sent to the pump and the medication will be displayed as "No Drug Selected" for the Plum 360.

> **Note:** Medication orders that consist of more than one additive will generally display as "No Drug Selected".

Notes:

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Appendix C: Enhanced Asset Tracking

The optional Enhanced Asset Tracking feature integrates ICU Medical MedNet and radio frequency identification (RFID) location information from an external real-time location system (RTLS).

General Information

A RFID tag is attached to each infuser. Each tag is configured to communicate its location frequently. Please see your vendor information for details.

RFID tags have an estimated battery life of up to five years.

The description of the location depends on the level of detail maintained in the RTLS system.

Enhanced Asset Tracking (EAT) is a licensed feature that can be **Enabled** or **Disabled**. When **Enabled** and connected to an asset tracking server that is registered with ICU Medical MedNet, the infusers' location information becomes available.

Navigating

1. Log in and access ICU Medical MedNet Administrator.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.
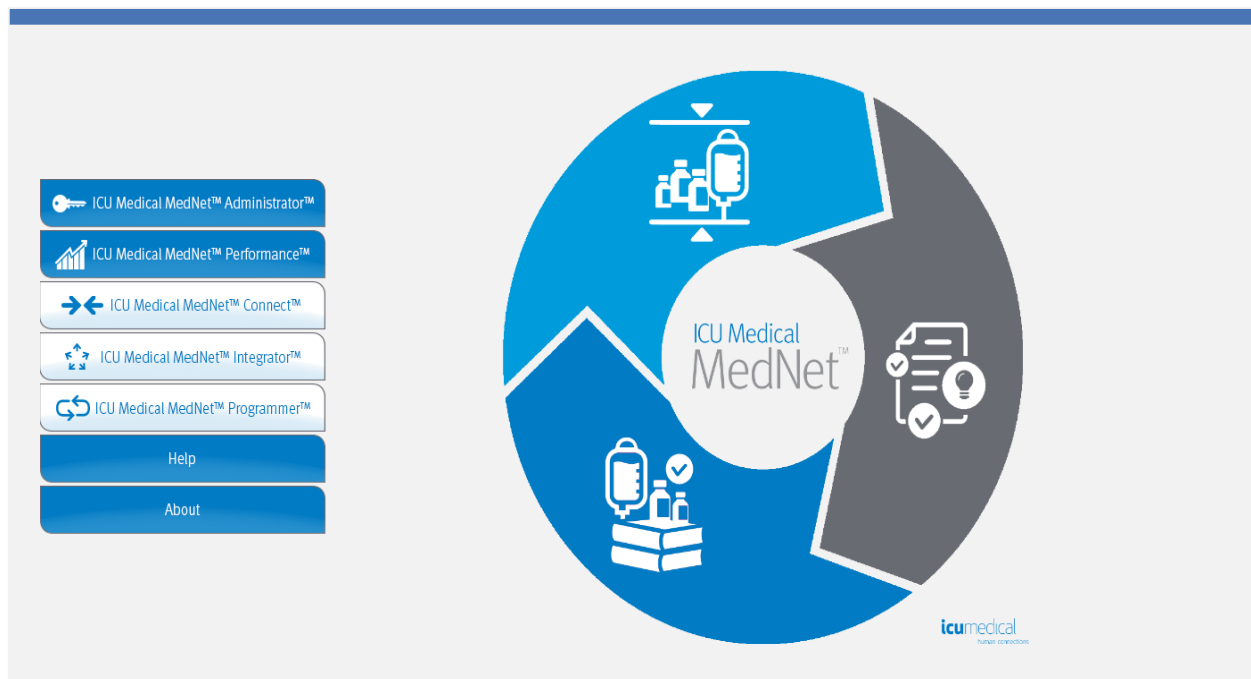
2. Select the Infuser Management tab or the Downloads tab.

3. The information in the Location column is provided by the RTLS. The same location information is also used in ICU Medical MedNet reports.

4. Hover over the icon next to the infuser's Location to see a pop-up showing the current location, last update time, and previous location. The location is displayed as it is specified in the RTLS.

Note: If you click on the icon next to the location of the infuser, you will be taken to the asset tracking server.

For additional information, please refer to the RLTS vendor's documentation.

Appendix D: User Roles and Privileges

Privilege ID	Privilege Title	1 Administrator	2 Administrator Limited	3 Clinical Administrator	4 Reports Limited	5 Reports Full	6 Pharmacist I	7 Pharmacist II	8 Biomed	9 IT	10 Materials Management
1	My Account	X	X	X	X	X	X	X	X	X	X
2	Users & Roles	X	X	X							
3	Administrative Setup	X	X	X						X	
4	Reports Limited				X						
5	Reports Full	X	X	X		X	X	X	X	X	X
6	Library Download	X	X	X					X	X	X
7	Infuser Management	X	X	X					X	X	X
8	Access Point Mapping	X	X						X	X	X
9	Manage Finalized Libraries	X		X				X			
10	Manage Worksheets	X		X			X	X			
11	View Drug Libraries	X	X	X			X	X			
12	Software Management	X	X						X	X	X
13	View Medications	X	X	X			X	X			
14	Manage Medications	X		X				X			
15	Authentication Services	X								X	
16	Infusion Status	X	X	X	X	X	X	X	X	X	X
17	Manage Patient/Pump Assignments	X									
18	View Protected Health Information	X Must be set up									
19	Manage Message Queues	X								X	
20	Infuser Logs	X	X						X	X	X
21	Administrative Setup/ Database Maintenance									X	

Note: Shaded rows indicate privileges for ICU Medical MedNet Meds.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Notes:

Note: *For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.*

Appendix E: Character String Specifications

Field	Minimum Length	Maximum Length	Characters Allowed	Interior Spaces Allowed
Password	8	20	Any printable character	Yes
Login ID	8	20	Any printable character	No
First Name	0	20	Any printable character	Yes
Middle Name	0	10	Any printable character	Yes
Last Name	0	20	Any printable character	Yes
Suffix	0	10	Any printable character	Yes
Initials	0	5	Any printable character	Yes
Role Name	1	50	Any printable character	Yes
LDAP Group Name	0	50	Any printable character	Yes
Role Description	0	1024	Any printable character	Yes
Patient ID	0	20	Any printable character	Yes
Patient First Name	0	30	Any printable character	Yes
Patient Last Name	0	50	Any printable character	Yes
Infuser ID	0	32	Any printable character	Yes
Institution Name	1	17	Alphanumeric characters, space ( ), and underscore (_)	Yes
Facility Name	1	30	Any printable character except comma (,). Cannot start or end with a whitespace character.	Yes
Address 1, Address 2, Address 3	0	100	Any printable character. Cannot start or end with a whitespace character.	Yes
City, State, Country	0	50	Any printable character. Cannot start or end with a whitespace character.	Yes
Postal Code / Zip	0	25	Any printable character. Cannot start or end with a whitespace character.	Yes
Contact Name	0	30	Alphanumeric characters, space ( ), and underscore (_)	Yes
Contact	0	30	Any printable character. Cannot start or end with a whitespace character.	Yes

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Field	Minimum Length	Maximum Length	Characters Allowed	Interior Spaces Allowed
Department	0	20	Any printable character. Cannot start or end with a whitespace character.	Yes
Title	0	20	Alphanumeric characters, space ( ), and underscore (_)	Yes
Phone, Pager	0	20	Alphanumeric characters, pound (#), asterisk (*), period (.), left parenthesis ((), right parenthesis ()), dash (-), space ( ) and underscore (_)	Yes
Email	0	254	Any printable character. Cannot start or end with a whitespace character.	Yes
IP Range	0	100	A valid network address in CIDR notation	Yes

Note: If you have the View Protected Health Information privilege, Patient ID, Patient First Name, Patient Last Name, Infuser ID each have a minimum of 0 and a maximum of 100.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Appendix F: Troubleshooting

Problem	Reason	Solution

Infuser status displays as "Requested" for a very long time in the Library Download view	The download to the infuser failed for one of the following reasons:
	• The library download page did not refresh
	• The library is invalid
	• The infuser is not connected to the network
	• The infuser rejected the library
		1. Click Refresh.
		2. If the problem is not resolved:
		  a. Turn off and unplug the infuser from AC power for two minutes
		  b. Switch infuser connectivity: if wireless, connect an Ethernet cable; if wired, disconnect the Ethernet cable
		3. Select the infuser, click Cancel. Attempt the library download again.
		
		If the problem continues, contact ICU Medical.

Difficulties logging in	Security settings in Microsoft Edge may be set too high	Adjust security settings in Microsoft Edge to Medium privacy and Local Intranet Zone.
Events are not displayed in the server	Infuser has not been connected long enough to the server, or the infuser is in low battery state	If the infuser is in low battery state, connect to AC power and wait at least ten minutes. If the problem is not resolved: 1. Turn off and unplug the infuser from AC power for approximately two minutes, then reconnect AC and turn back on or Switch the infuser's connectivity: if wireless, connect an Ethernet cable; if wired, disconnect the Ethernet cable 2. Replace the battery If the problem continues, contact ICU Medical.

System Logs

ICU Medical MedNet Software system logs can be useful when troubleshooting. They are located in a location similar to the one specified below.

To access system logs:

1. Using any text editor, enter the path below to access ICU Medical MedNet Software system logs:

   C:\ICU_Medical\ICU_Medical-MedNet-6.32.2\jboss-4.2.3.GA\server\hmssv6\log

   and

   C:\ICU_Medical\ICU_Medical-MedNet-6.32.2\virgo-tomcat-server-3.6.4.RELEASE\serviceability\logs

   Note: The ICU Medical MedNet Software version number, as well as the JBoss application server location, could be different from what is specified above, depending on how ICU Medical MedNet Software is installed and set up.

Notes:

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Glossary

Active Drug Library	Worksheet that has been finalized and is available to send to infusers
Alert Forwarding	Alert Forwarding may also be referred to as Alarm Forwarding: Alert Forwarding is the ability to send IV device alarm data to EHR or Alarm Management Systems. Clinicians can now receive secondary alerts remotely and retain the ability to identify the specific device, patient and alert type involved.
Archived Drug Library	Previously active library
BCMA	Bar Code Medication Administration
Callback Notification	Setting that configures the infuser to emit an audible tone
CCA (Clinical Care Area)	A CCA may be the same as a physical nursing unit or may encompass a patient population. For example, the following may be defined as CCAs: ICU, Blood Products, Med/Surg, Orthopedics, Endoscopy, etc.
CE	Acronym for Connectivity Engine that allows the infuser to communicate with a wired or wireless network
Concurrent Delivery	Setting for Line B mode
Container Volume	Volume of the bag, bottle, syringe or vial used to define a medication entry
Continue Rate	Delivery rate after the VTBI amount has been infused
CSV file	Comma separated value file format used by the software for importing and exporting certain files
Custom Syringe or Vial	See LifeCare PCA Vial
Default Occlusion Pressure	Pressure at which the infuser will sound the distal occlusion alarm
Delayed Start	Programming option that allows the infusion to be started at a later time
Deliver Together	Setting that defines the type of delivery mode, piggyback or concurrent
Diluent Amount	Volume of fluid in which a medication is diluted
Distal Occlusion	Blockage between the infuser and the patient
Dose Limit (LifeCare PCA)	User-programmable parameter specifying the maximum amount of drug that can be administered via LifeCare PCA dose and continuous delivery in a programmable rolling time period consisting of discrete accumulation periods of six minutes **Note:** When the default drug library is used, a 1-hour or 4-hour Dose Limit period may be selected in Biomed mode. When a user-defined drug library is used, a 1-hour, 4-hour, 6-hour, or 12-hour Dose Limit period may be specified for each medication.

Drug Library	Collection of medication entries and infuser settings that, when used with compatible infusers, may reduce the frequency of human errors by restricting the ways in which medications can be administered
Drug Library Worksheet	Drug library that can be edited but cannot be sent to infusers until it is finalized
Edit	The user responded to an alert by changing the value entered
EHR System	Electronic Health Records System
External ID	An identifier for a Medication. Each Medication in the Medication List must have a unique External ID
Finalized Drug Library	Drug library that has been approved for use on infusers and can no longer be changed
Finalization	The act of approving a Worksheet and making it the Active library
Full Rule Set	Type of rule set that allows medication entries to be configured with a medication name, complete or partial concentration, specific dosing unit, and corresponding dose rate limits
Hard Limit	Upper and/or lower limits for the selected medication and selected CCA that cannot be overridden (LifeCare PCA) It is recommended that hard limits be defined to prevent medication errors. Hard limits may vary for different CCAs
Hard Limit Alert	An alert presented to the user when a hard limit is exceeded. The user's response depends on the infuser.
HIS	Hospital Information System
Infusion	Medication with a defined concentration that is administered via IV infusion to a patient.
Infusion Documentation	Infusion Documentation is an alternative name for Auto-Documentation Is the feature that allows populating medication administration records, I&O flow sheet and dashboards with infusion events in an EHR system.
KVO (keep vein open)	Very low delivery rate that may reduce the potential for clot formation at the catheter tip
Label Only Rule Set	A Label Only rule set allows the clinician to see the medication name displayed on the infuser. There are no dosing limits associated with this rule set. Label Only rule sets are not found in LifeCare PCA drug libraries.
LDAP	Lightweight Directory Access Protocol, a network protocol that enables applications to use a company's existing network directory listing for user names and passwords, thus allowing the company's network administrators to manage login access to multiple applications from one central source. For example, users can use their company's network login information with the same credentials (user name and password) to access ICU Medical MedNet Software

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

LifeCare PCA Lockout Interval	Programmed time interval specifying the minimum time that must pass after a loading dose or PCA dose (bolus) is administered; this time interval specifies when the next PCA dose can begin. Requests made during the lockout interval are denied.
LifeCare PCA Vial	Vial or syringe that is compatible with the LifeCare PCA infuser, which is either pre-filled and barcoded (standard) or filled and barcoded by the hospital pharmacy (custom)
Limited Rule Set	Type of rule set that allows medication entries to be configured with a medication name, diluent volume, and rate limits
Loading Dose	Dose which can be administered at any time by the clinician during the programmed therapy (LifeCare PCA only)
Master Drug Formulary	Comprehensive list of medications and rule sets defined for use in a drug library
Maximum Dose Rate	Highest rate at which the infuser can be programmed to run. This rate is defined as the upper hard limit
Medication Entry	Rule set defined for a unique combination of a medication and concentration
Medication List	List of medications used by the hospital. The Medication List is used to define drug libraries
Multistep	Programming option that allows delivery in steps or phases with different dosing parameters for each step
Occlusion	Blockage in the tubing set that prevents the infuser from infusing fluid into the patient. Possible causes of occlusions are kinked or plugged tubing
Override	The User acknowledged the alert and retains the values that triggered the soft alert. Hard alerts are not able to be overridden
Piggyback Mode	Programming option that allows the delivery of a secondary infusion while delivery from the primary infusion is suspended. When the secondary infusion has completed delivery of the volume to be infused, the primary infusion resumes delivery
Prime	Clear out or purge air from the tubing. Same as Purge
Program	A Program is any change in the infuser settings that triggers a user confirmation on the pump.
Protocols (LifeCare PCA)	Frequently used therapy settings which can be saved making it unnecessary for the clinician to program the same settings each time. Protocols are determined by the health care facility
Proximal Occlusion	Blockage between the infuser and the fluid IV infusion
Purge	Clear out or "purge" air from the tubing. Same as Prime
Report Options	Configurations entered by the user to define the desired report output. Examples include Time period, CCA, Medication, etc.
Rule Set	Constraints that are assigned to medication entries. The type of rule for the medication in the drug library. Rule sets can include both soft and hard limits.

Note: For a list of ICU Medical MedNet compatible devices approved by country, refer to the ICU Medical MedNet Device Compatibility Matrix available through your ICU Medical Technical Support Center.

Service Line	A designation used in reports to aggregate data across multiple CCAs or facilities. Each CCA is mapped to a Service Line. For example, a service line called Med/Surg may be used to examine data from the CCAs Four West, Five North, and Five East in a single hospital
Smart Pump Programming	Smart Pump Programming functionality is integrated with a BCMA system using ICU Medical MedNet Programmer. Smart Pump Programming is an alternative name for Auto-Programming
Soft Limit	Upper and/or lower dose limits for the selected medication and selected CCA that can be overridden. Soft limits for a particular medication may vary across CCAs
Soft Limit Alert	An alert presented to the user when a soft limit is exceeded. The user may choose to edit or override the value entered in response to the alert
Standby	Programming option that allows the infusion to be started at a later time. Similar to delayed start
Standard Syringe	See LifeCare PCA Vial
Value	Value can represent either dose or time, depending on the type of rule set that is reported.
Variance	Variance is a calculated value intended to represent how far away the user's initial programmed value was compared to the defined limit. Variance is defined as *(Initial Value - Limit Violated) / Limit Violated*. The result is expressed as a percentage and shown as a negative number for Lower Limit violations, and as a positive number for Upper Limit violations. 10,000% is the maximum displayable variance.
VTBI	Volume To Be Infused
Worksheet	Draft drug library that has not yet been finalized

Note: Please refer to the System Operating Manual for information on each infuser

Notes:

CE 2797

EC REP

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