Hospira MedNet™ Meds™

USER GUIDE

Hospira

Notes:

Hospira MedNet™ Meds™

Software User Guide

REF | 16037-75-01

Rx Only

IMPORTANT

Refer to this User Guide for complete instructions for use, warnings, and cautions associated with the Hospira MedNet™ Meds™ Software after it has been properly installed. Refer to the Installation and Configuration Guide for proper use, warnings, and cautions associated with installing and configuring the Hospira MedNet™ Meds™ Software. The help files included with the Hospira MedNet™ Meds™ Software are provided as reference only.

Intended Use

The Hospira MedNet™ Medication Management Suite (MMS) is intended to facilitate networked communication between MMS compatible computer systems and Hospira 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.

Please read this entire guide before using the Hospira MedNet™ Meds™ Software.

Hospira Advanced Knowledge Centre
1-800-241-4002
Available 24 hours a day (in the USA)

For assistance outside the USA, contact your local Hospira Representative

For device feature compatibility with Hospira MedNet™ and/or to obtain a copy of this guide, contact the Hospira Advanced Knowledge Centre or your local Hospira representative, if outside the USA.

From our Hospira website, you can access our System Operating Manuals and this guide via the Support Centre's Infusion Pumps + Clinical Software.

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

Change History

Part Number	Description of Change	Pages Changed
430-98302-001 (B, 2015-06)	Initial release	
430-98302-001 (C, 2015-08)	Added hypertext markers for help links.	N/A

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

Symbols	Description
⚠	Caution
⚠	Warning
CE 0086	CE Mark
REF	Catalogue Number
Hospira, Inc., 275 North Field Drive, Lake Forest, IL 60045, USA	Manufacturer
EC REP	Authorised Representative in the European Union
RxOnly	CAUTION: Federal (USA) law restricts this device to sale by or on the order of a doctor or other licensed practitioner
📖	Consult Instructions for Use
⚒	Date of Manufacture

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

Notes:

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

CONTENTS

Chapter 1: Introduction

Hospira 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 Hospira infusion systems. The Hospira MedNet™ suite of software also includes a separate application, Hospira MedNet™ Meds™.

Hospira MedNet™ software enhances safety at the point of care with highly customisable 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.

Hospira 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 Clinical Integration (IVCI) solution. Hospira MedNet™ software connects the pharmacy validated medication order with the infusion pump and the patient's electronic medical record (EMR), providing the opportunity for automated programming of the infusion pump.

Hospira 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 EMR system capability, automated documentation in the EMR is also supported by Hospira MedNet™.

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

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

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

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

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

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

Hospira 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 **Hospira MedNet™ Software User Guide**, Appendix B.

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

Terminology

This document uses the following conventions:

- References to specific values are approximations only, unless otherwise indicated.
- The terms "Hospira 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.

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.

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

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

Computer Management and Security

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

- Do not enable automatic updates to operating systems on computers on which Hospira 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 Hospira 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 back up and purge your database. A database can grow to a large size that will affect the performance of your Hospira MedNet™ system.

Although we suggest to purge a database every four years at a minimum, if you have more than 2000 infusers it would be wise to consider doing so more often. Complete backup instructions are in the Installation and Configuration Guide or you can consult our Advanced Knowledge Centre.

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 Hospira MedNet will display selectable options based on your licencing and Hospira's compatibility matrix.

Transferring Data

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

- To avoid inconsistencies between drug libraries, and reports, ensure that all infusers are using the same drug library version.

Notes:

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

Chapter 2: Logging In and Out

Logging In

To log in to the Hospira MedNet Meds software:

1. Double-click the Hospira MedNet Meds 6.1 icon on the Windows desktop.

2. Enter your user ID and password into the appropriate fields. Each field must be between 8 and 20 characters.

3. Click **Log In**.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.
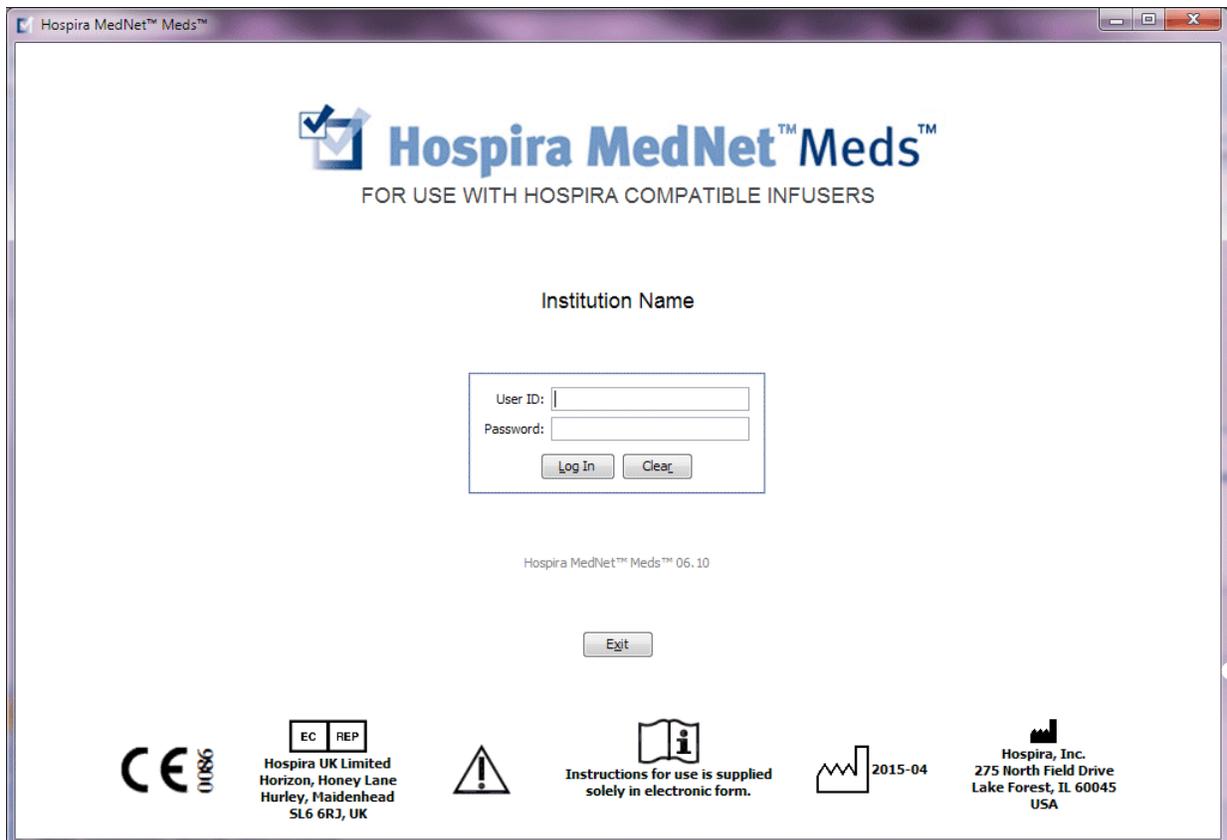
Logging Out and Exiting

To log out of Hospira MedNet Meds software:

1. Click **Log Out**.

2. Click **Yes**.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.
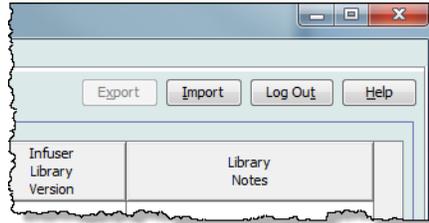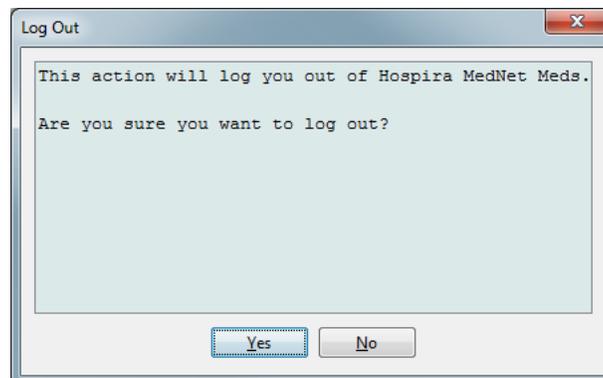
3. Click **Exit**.
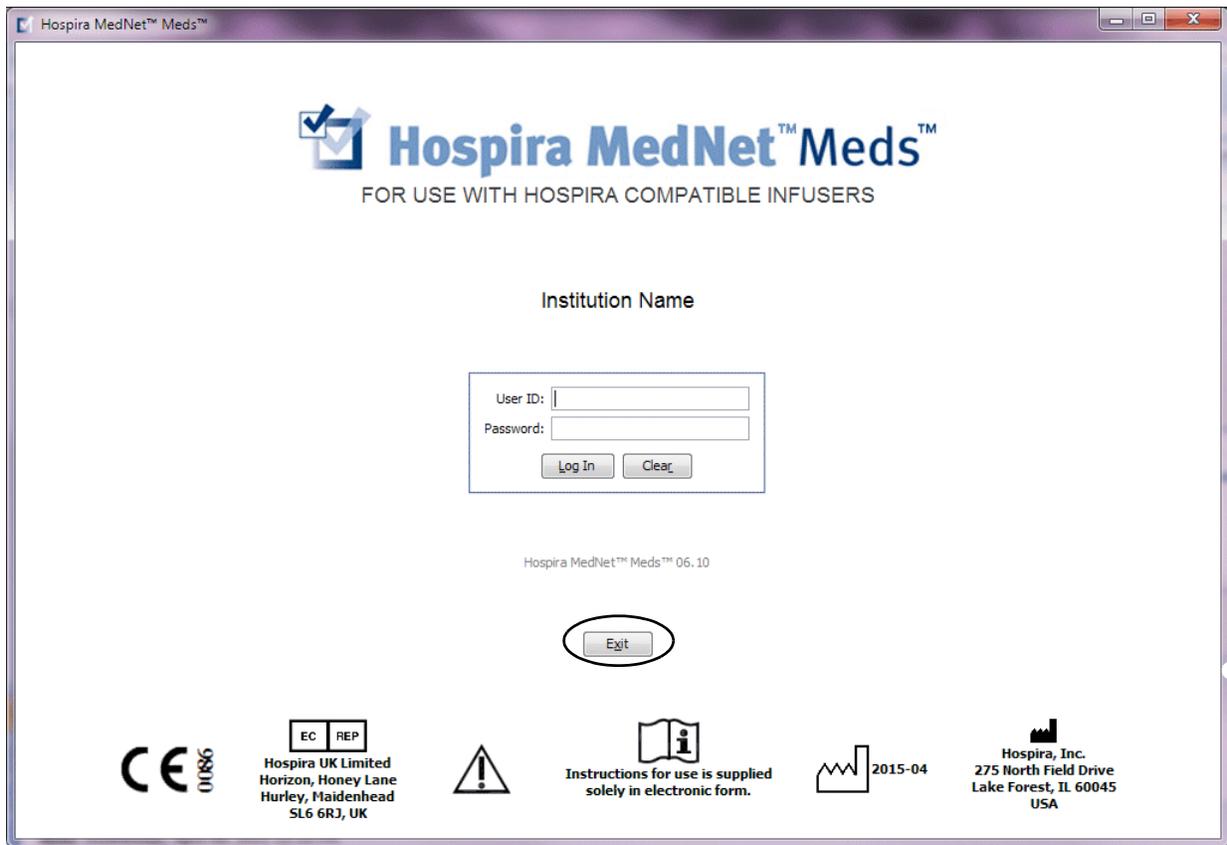
4. Click **Yes**.
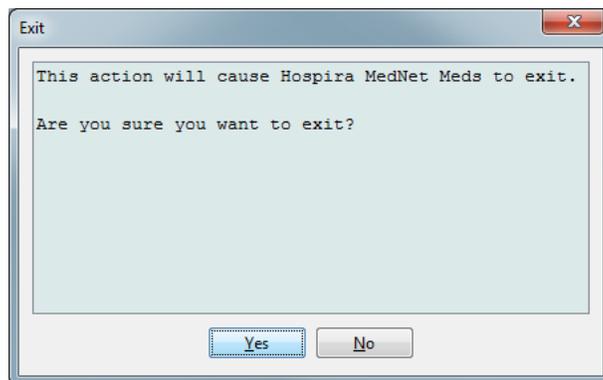
Note: You will be automatically logged out of the application after 60 minutes of inactivity.

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

Notes:

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

Chapter 3: Configuration

Overview

The configuration view allows you to set either English (International) or Spanish. Once you make a selection, the software will display all information in that language.

The default language is English (International).

Libraries associated with a language will be viewed, edited, imported or finalised in that language option.

The date format can be displayed as follows:

- dd/mm/yy
- dd/mm/yyyy
- dd/mmm/yy
- dd/mmm/yyyy

The distal pressure unit is mmHg.

You will need to navigate to the Configuration tab and make your selection.

Click **Save** and the appropriate language will be applied immediately.

> **Note:** The language selected in Hospira MedNet Meds will automatically apply to the Hospira MedNet Software.

Notes:

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

Chapter 4: Medication List

Overview

The **Medication List** is the list of medications used by the hospital; it contains important data elements used in the development of drug libraries for the infusers used in your hospital: Plum A+.

In this chapter, you will learn how to create, import, and manage the Medication List. The chapters that follow contain detailed information on developing a drug library.

Note: When a user is in the Medication List, no other user can be in the Medication List or any library. Each library allows only one user at a time.

Identifying medications in the Medication List

The Medication List requires each medication to have an External identifier (ID.) The External ID is especially important if your Hospira MedNet system is integrated with another system that sends programming information to the infuser. The External ID is used to assure a match between the medication sent by the sending system and the medication rule set used by the Hospira MedNet software.

Considerations for assigning an External ID

If Hospira MedNet is to be integrated with another system (such as a BCMA system) that sends programming information to the infuser (medication, concentration, rate, etc.), each generic name in the Medication List must have a unique External ID. This External ID must also be used by the sending system (in this case, the BCMA system.) This allows, for example, all dopamine products, such as amps, vials, and syringes, to be represented as a single entry in the Medication List referring to the generic name "dopamine". The corresponding generic level External ID number will vary depending on the BCMA system integrated to Hospira MedNet, for example, catalogue code or Multum ID for Cerner Millennium, etc. Your Pharmacy Consultant will work with you to create the correct file for your implementation.

If Hospira MedNet is not to be integrated with another hospital system that sends programming information to the infuser, all that is required is that each item in the Medication List has a corresponding External ID. In this case, you may want to have various manufacturers or package sizes of the same medication represented in the Medication List. Each generic name can appear multiple times as long as each has its own unique External ID. Numeric sequences or charge master identifiers can be used for this purpose.

How External ID is used in Drug Libraries

When a drug library is developed, certain rules (listed below) that involve the External ID are enforced.

Within a drug library, for medication entries in a Clinical Care Area (CCA):

- There can be only one rule set for each combination of External ID and Concentration.
- There can be only one rule set for each combination of Displayed Name and Concentration.

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

These rules enable both the Hospira MedNet software and the infuser software to positively identify the specific medication rule set in the drug library.

Import a Medication List

A Medication List file may be imported into Hospira MedNet Meds multiple times. Each import file should contain all medications that can be infused even if they have been imported previously.

Formatting the CSV file

Importing a Medication List involves the creation of a Comma Separated Value (.csv) file containing the medication information. Your pharmacy system may support creating a file in this format or in a similar format that can be manipulated in Excel. The file can have 12 columns as specified below, if importing an entire Medication List. However, if you want to edit only the External ID and Generic Names, you can do it through the Export feature as described in *Export a Medication List*, on page 23.

    a. The first line of the file is ignored by the Medication List Import function. It should contain the field names in the table below.

    b. Each subsequent line in the file should include one medication entry per line.

    c. Each subsequent line in the file must include data in the External ID and Generic Name fields.

Note: External ID and Generic Name are the only fields in which data is required.

Field Name	Field Type	Number of Characters allowed[1]
External ID	String	20
NDC	String	20
Generic Name	String	100
Brand Name	String	100
Strength	Numeric	20
Strength Units	String	25
Volume	Numeric	20
Volume Units	String	25
Therapeutic Class ID	String	20
Therapeutic Class Description	String	200
Dosage Form ID	String	20
Dosage Form Description	String	200

[1] Comma (,), angle bracket (<>), and inverted commas (") characters are not permitted within fields in the import file.

The Medication List can be created as a spreadsheet and saved in .csv format to be imported. An example of a 12-column spreadsheet containing the medication list information is as follows:

External ID	NDC	Generic Name	Brand Name	Strength	Strength Unit	Volume	Volume Units	Therapeutic Class ID	Therapeutic Class Description	Dosage Form	Dos. Form Description
1738	00173-0362-38	RANITIDINE	ZANTAC	50	MG	2	ML	56.28.12	HISTAMINE H2-ANTAGONISTS\I	VL	VIAL
2823	67286-0040-02	RETEPLASE	RETAVASE	10	UNITS	10	ML	08.12.20	THROMBOLYTIC AGENTS\I	VL	VIAL
2790	00944-2967-05	RHO(D) IMMUNE GLOBULIN(WINRHO)	WINRHO	1000	MCG	4.4	ML	80.04.00	SERUMS	VL	VIAL
2665	55390-0123-01	RIFAMPIN	RIFADIN (EQ)	600	MG	1	VIAL	08.16.00	ANTIMYCOBACTERIALS\I	VL	VIAL
412	00052-0450-15	ROCURONIUM	ZEMURON	50	MG	5	ML	12.20.20	NEUROMUSCULAR BLOCKING AGENTS\I	VL	VIAL
2412	00186-0863-77	ROPIVACAINE 0.5%	NAROPIN			30	ML	72.00.00	LOCAL ANESTHETICS (PARENTERAL)\I	VL	VIAL
32	00270-0556-15	SINCALIDE	KINEVAC	5	MCG	1	VIAL	36.34.00	GALLBLADDER FUNCTION	VL	VIAL
610	00409-6609-02	SODIUM BICARBONATE 4%	SODIUM BICARBONATE 4%			5	ML	40.08.00	ALKALINIZING AGENTS	VL	VIAL
1918	00409-6625-02	SODIUM BICARBONATE 8.4%	SODIUM BICARBONATE 8.4%	50	MEQ	50	ML	40.08.00	ALKALINIZING AGENTS	VL	VIAL
555	00409-1966-14	SODIUM CHLORIDE 0.9% BACT	SODIUM CHLORIDE 0.9% BACT			30	ML	40.12.00	REPLACEMENT PREPARATIONS	VL	VIAL
579	00409-4888-12	SODIUM CHLORIDE PF 0.9%	SODIUM CHLORIDE PF 0.9%			10	ML	40.12.00	REPLACEMENT PREPARATIONS	VL	VIAL
580	00409-4888-50	SODIUM CHLORIDE PF 0.9%	SODIUM CHLORIDE PF 0.9%			50	ML	40.12.00	REPLACEMENT PREPARATIONS	VL	VIAL
612	00409-6629-02	SUCCINYLCHOLINE	SUCCINYLCHOLINE	200	MG	10	ML	12.20.20	NEUROMUSCULAR BLOCKING AGENTS\I	VL	VIAL
1662	00703-9514-03	SULFAMETH/TRIMETH	BACTRIM (EQ)			10	ML	08.12.20	SULFONAMIDES (SYSTEMIC)\I	VL	VIAL
2329	00029-6571-26	TICARCILLIN/CLAVULANATE	TIMENTIN	3.1	GM	1	VIAL	08.12.16	PENICILLINS	VL	VIAL
10	63323-0303-55	TOBRAMYCIN	TOBRAMYCIN	1.2	GM	1	VIAL	08.12.02	AMINOGLYCOSIDES	VL	VIAL
1461	63323-0306-55	TOBRAMYCIN	TOBRAMYCIN	80	MG	2	ML	08.12.02	AMINOGLYCOSIDES	VL	VIAL

Considerations for the Medication List Import File in CSV format

Save the file to .csv format. Extracts from information systems are commonly Excel files, tab-separated files, or pipe-separated files. Each of these can be saved as a CSV file using Excel.

Remove any rows or columns in the CSV file that do not contain required data. Ensure that there are 12 columns.

Evaluate the information provided to determine how the fields provided can map to the import file specifications.

    a. Is there an identifier for each drug that can be used for External ID?

    b. Does each drug have a Generic Name that contains only the generic name (without strength, volume, or dosage form)?

    c. Are Therapeutic Class ID and Description provided?

       Therapeutic Class MUST have an ID. The Description is optional. (If only a Description is supplied, use the same information for ID and Description. Copy the Description column to the ID column.)

    d. Is there data for Dosage Form ID and Description?

       Dosage Form MUST have an ID. The Description is optional. (If only a Description is supplied, use the same information for ID and Description. Copy the Description column to the ID column.)

Remove medications that cannot be infused on a pump from the list.

Format the columns in the file to match the import file specifications.

    a. Ensure that all columns are present and are named correctly (even if there is no data contained in them).

    b. Ensure that columns are in the proper order.

    c. Remove special characters (commas, left and right angle brackets, and inverted commas characters.)

       In Excel, from the Edit menu, you may use the Find/Replace option.
- Find comma character, replace with blank.
- Find left angle bracket character, replace with left parenthesis.
- Find right angle bracket character, replace with right parenthesis.
- Find inverted commas character, replace with single quotation mark.

Final check:

- a. Sort file by External ID.
- b. A particular External ID should only appear in one row in the file.
- c. Ensure that each medication has data in both the External ID and Generic Name columns.
- d. A Generic Name can appear multiple times in the file with different External IDs.

Importing the Medication List

Important: Importing the Medication List replaces any medications already in the list. Complete instructions are provided in the next segment, Working with the Medication List on page 16.

Once the file has been formatted as described above:

1. From the Medication List view, select **Import**.
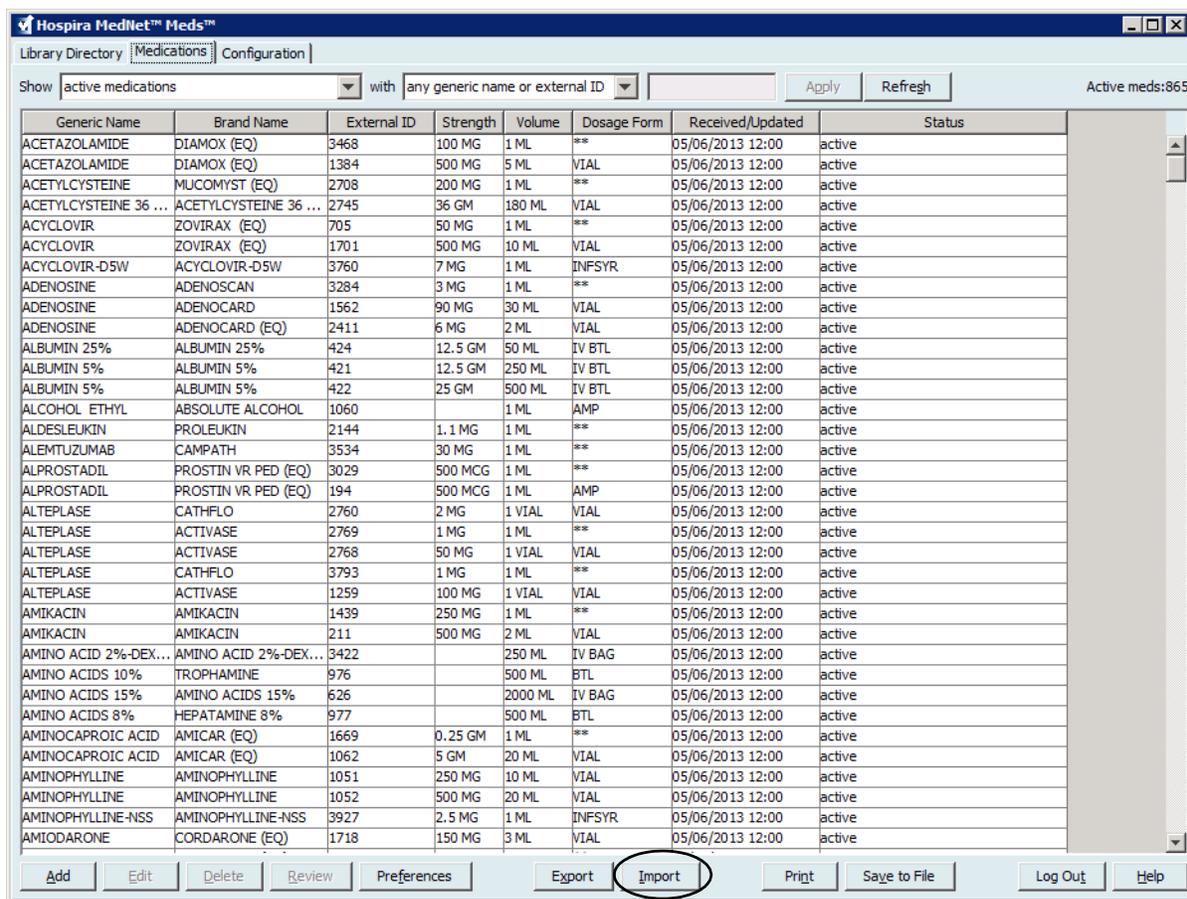

The File to Import screen displays.

2. Navigate to the location of the Medication List to import.
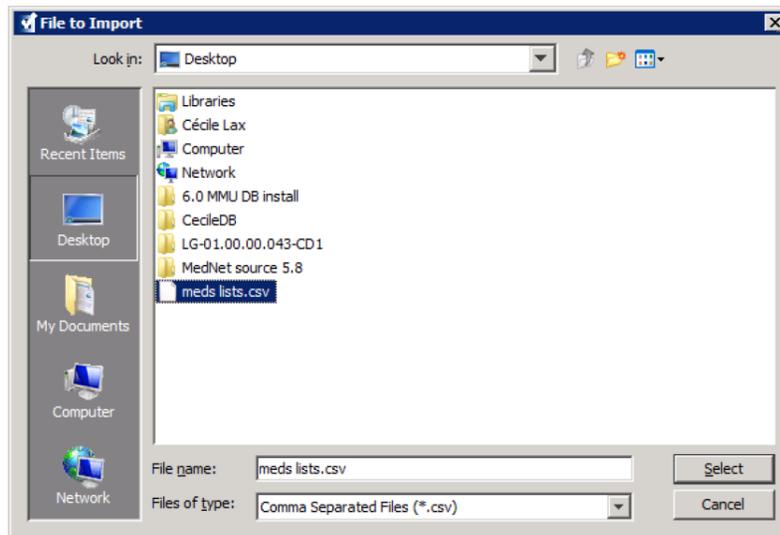
3. Click **Select**. A pop-up window displays a preview of changes to the Medication List. Medications that are being added are displayed in green. If the Medication List currently contains medications, you will see medications that are being deleted displayed in red and medications that are being updated displayed in blue.
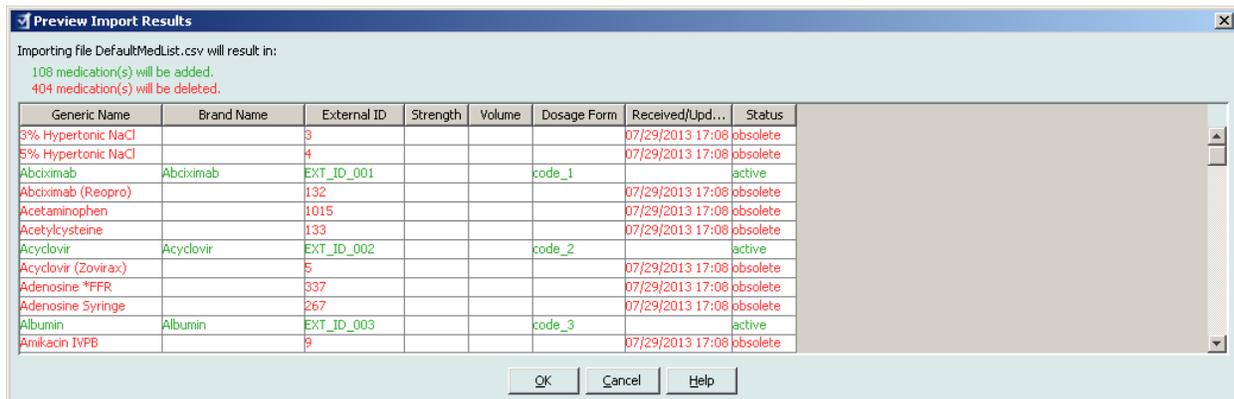
4. If satisfied with the preview, click **OK**.

5. To prevent the import, click **Cancel**.

6. If you clicked **OK**, a message confirming the import displays.

7. Click **OK**.

Note: It is not possible to undo the import of the medication list once it has been completed.

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

Working with the Medication List

Importing a Medication List file completely replaces the existing list. Any medication entries in a Worksheet that are associated with medications that are no longer in the medication list must be deleted or reassigned to a new medication before the Worksheet can be finalised.

The following table summarises the behaviour when a new medication list is imported when there are already medications present in the list:

Medication present in the Medication List	Medication present in Import File	Action
Y	N	Removed
Y	Y	Updated
N	Y	Added

For customers with the Hospira MedNet Meds Formulary Interface, any medications currently in "pending" status will be removed when a medication list is imported.

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

# Medication List View

The Medication List view displays:

- Generic Name
- Brand Name
- External ID
- Strength
- Volume
- Dosage Form
- Received/Updated
- Status

You can filter the medications displayed by:

- active medications
- active and pending medications
- pending medications

with

- any generic name or External ID
- generic names beginning with (any character)
- External IDs beginning with (any character)

Generic Name	Brand Name	External ID	Strength	Volume	Dosage Form	Received/Updated	Status
ACETAZOLAMIDE	DIAMOX (EQ)	3468	100 MG	1 ML	**	05/06/2013 12:00	active
ACETAZOLAMIDE	DIAMOX (EQ)	1384	500 MG	5 ML	VIAL	05/06/2013 12:00	active
ACETYLCYSTEINE	MUCOMYST (EQ)	2708	200 MG	1 ML	**	05/06/2013 12:00	active
ACETYLCYSTEINE 36 …	ACETYLCYSTEINE 36 …	2745	36 GM	180 ML	VIAL	05/06/2013 12:00	active
ACYCLOVIR	ZOVIRAX (EQ)	705	50 MG	1 ML	**	05/06/2013 12:00	active
ACYCLOVIR	ZOVIRAX (EQ)	1701	500 MG	10 ML	VIAL	05/06/2013 12:00	active
ACYCLOVIR-D5W	ACYCLOVIR-D5W	3760	7 MG	1 ML	INFSYR	05/06/2013 12:00	active
ADENOSINE	ADENOSCAN	3284	3 MG	1 ML	**	05/06/2013 12:00	active
ADENOSINE	ADENOCARD	1562	90 MG	30 ML	VIAL	05/06/2013 12:00	active
ADENOSINE	ADENOCARD (EQ)	2411	6 MG	2 ML	VIAL	05/06/2013 12:00	active
ALBUMIN 25%	ALBUMIN 25%	424	12.5 GM	50 ML	IV BTL	05/06/2013 12:00	active
ALBUMIN 5%	ALBUMIN 5%	421	12.5 GM	250 ML	IV BTL	05/06/2013 12:00	active
ALBUMIN 5%	ALBUMIN 5%	422	25 GM	500 ML	IV BTL	05/06/2013 12:00	active
ALCOHOL ETHYL	ABSOLUTE ALCOHOL	1060		1 ML	AMP	05/06/2013 12:00	active
ALDESLEUKIN	PROLEUKIN	2144	1.1 MG	1 ML	**	05/06/2013 12:00	active
ALEMTUZUMAB	CAMPATH	3534	30 MG	1 ML	**	05/06/2013 12:00	active
ALPROSTADIL	PROSTIN VR PED (EQ)	3029	500 MCG	1 ML	**	05/06/2013 12:00	active
ALPROSTADIL	PROSTIN VR PED (EQ)	194	500 MCG	1 ML	AMP	05/06/2013 12:00	active
ALTEPLASE	CATHFLO	2760	2 MG	1 VIAL	VIAL	05/06/2013 12:00	active
ALTEPLASE	ACTIVASE	2769	1 MG	1 ML	**	05/06/2013 12:00	active
ALTEPLASE	ACTIVASE	2768	50 MG	1 VIAL	VIAL	05/06/2013 12:00	active
ALTEPLASE	CATHFLO	3793	1 MG	1 ML	**	05/06/2013 12:00	active
ALTEPLASE	ACTIVASE	1259	100 MG	1 VIAL	VIAL	05/06/2013 12:00	active
AMIKACIN	AMIKACIN	1439	250 MG	1 ML	**	05/06/2013 12:00	active
AMIKACIN	AMIKACIN	211	500 MG	2 ML	VIAL	05/06/2013 12:00	active
AMINO ACID 2%-DEX…	AMINO ACID 2%-DEX…	3422		250 ML	IV BAG	05/06/2013 12:00	active
AMINO ACIDS 10%	TROPHAMINE	976		500 ML	BTL	05/06/2013 12:00	active
AMINO ACIDS 15%	AMINO ACIDS 15%	626		2000 ML	IV BAG	05/06/2013 12:00	active
AMINO ACIDS 8%	HEPATAMINE 8%	977		500 ML	BTL	05/06/2013 12:00	active
AMINOCAPROIC ACID	AMICAR (EQ)	1669	0.25 GM	1 ML	**	05/06/2013 12:00	active
AMINOCAPROIC ACID	AMICAR (EQ)	1062	5 GM	20 ML	VIAL	05/06/2013 12:00	active
AMINOPHYLLINE	AMINOPHYLLINE	1051	250 MG	10 ML	VIAL	05/06/2013 12:00	active
AMINOPHYLLINE	AMINOPHYLLINE	1052	500 MG	20 ML	VIAL	05/06/2013 12:00	active
AMINOPHYLLINE-NSS	AMINOPHYLLINE-NSS	3927	2.5 MG	1 ML	INFSYR	05/06/2013 12:00	active
AMIODARONE	CORDARONE (EQ)	1718	150 MG	3 ML	VIAL	05/06/2013 12:00	active

(Show: active medications | with: any generic name or external ID | Apply | Refresh | Active meds: 865)

Buttons: Add | Edit | Delete | Review | Preferences | Export | Import | Print | Save to File | Log Out | Help

Note: Pending medications will only display when the Hospira MedNet Meds Formulary Interface is installed. See Appendix B: Hospira MedNet Meds Formulary Interface on page 155.

Add a Medication

1.   Click the **Medications** tab.
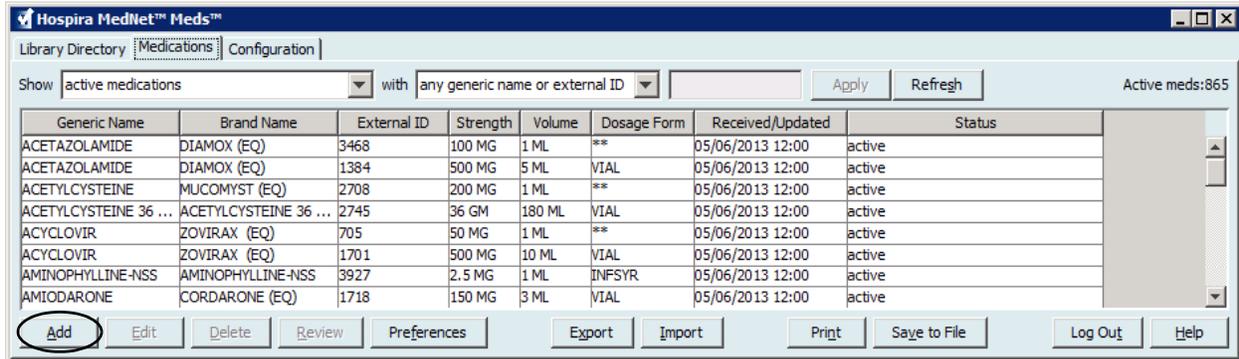
2.   Click **Add**. The Add Medication screen displays.

3.   Enter the medication name into the **Generic Name** field. This is a mandatory field.

4.   Enter the Brand Name (optional field).

5.   Enter the **External ID**. This is a mandatory field.

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

6. Enter the following optional information, if needed:

- • NDC (National Drug Code)
- • Strength - Amount and Unit
- • Volume - Amount and Unit
- • Therapeutic Class Code and Description (click on a row in the table to select)
- • Dosage Form Code and Description (click on a row in the table to select)

Note: The contents of the Therapeutic Class and Dosage Form tables are determined by the information in the Medication List import file. If you have the Hospira MedNet Formulary Interface, these tables will be updated as new Dosage Forms and Therapeutic Classes are processed.

Status, Source, Created On, Last Edited On, and Last Edited By, will be filled automatically after the medication has been added.

⚠ **Caution:** Generic names cannot contain the special characters greater than (>), less than (<), ampersand (&), inverted commas ("), and single quotation marks ('.)

7. Click **Save**.

Edit a Medication

1. From the Medication List view, highlight the medication you want to edit.
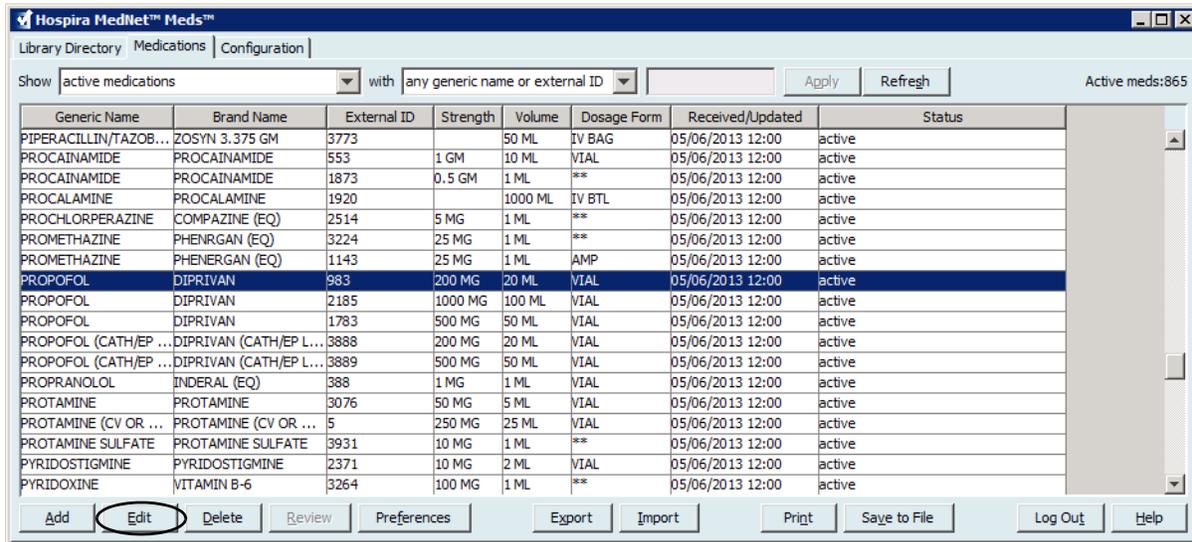
2. Click **Edit**. The Edit Medication screen displays.

3. Make the changes needed.

4. Click **Save**.

Delete a Medication

To Delete a Medication that is not used in a Drug Library:

1. From the Medication List view, highlight the medication to be deleted.
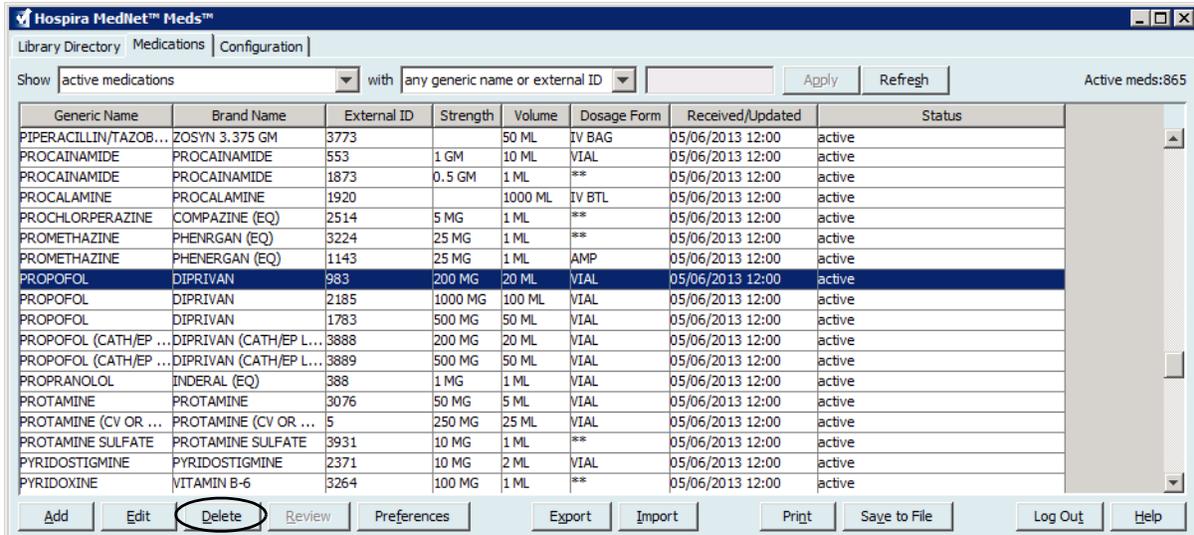
2. Click **Delete**. The Delete Medication screen displays.

3. Click **Delete**.

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

The confirmation screen indicates the medication is not used in any drug library.

Delete Active Medication

```
Are you sure you want to delete the medication,
PROPOFOL (CATH/EP LAB ONLY)? This medication is not
used by any rule sets in any drug library
worksheets.
```

    Yes   No
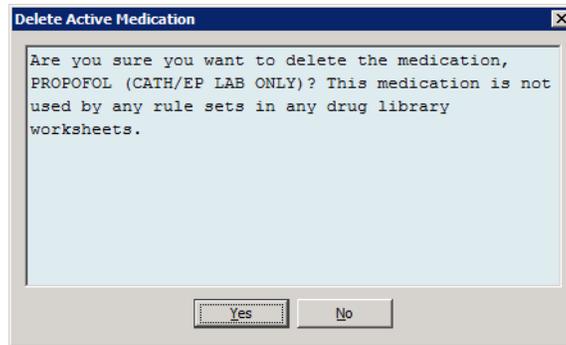
4. If you still wish to delete the medication, click **Yes**.

To Delete a Medication that is used in a Drug Library:

1. From the Medication List view, highlight the medication to be deleted.

   The Delete Medication pop-up displays.

2. Click **Delete**.

   The pop-up indicates the Drug Libraries that contain the medication.

Delete Active Medication

The medication you are about to delete MORPHINE is used by rule sets in the following drug library worksheets:

Infuser Type	Drug Library
Plum A+ 13.x	User Guide Plum A+

If you delete the medication, you will need to edit or delete the rule sets before you can finalize the worksheets.
Are you sure you want to delete the medication?

    Yes   No
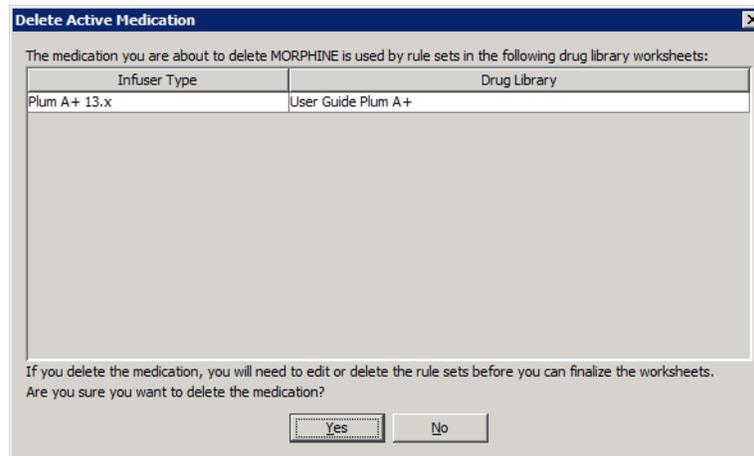
3. After reading the message, if you still wish to delete the medication, click **Yes**.

Export a Medication List

By selecting Export, you can export a file to a location of your choice.

1. From the Medication List view, select **Export**.
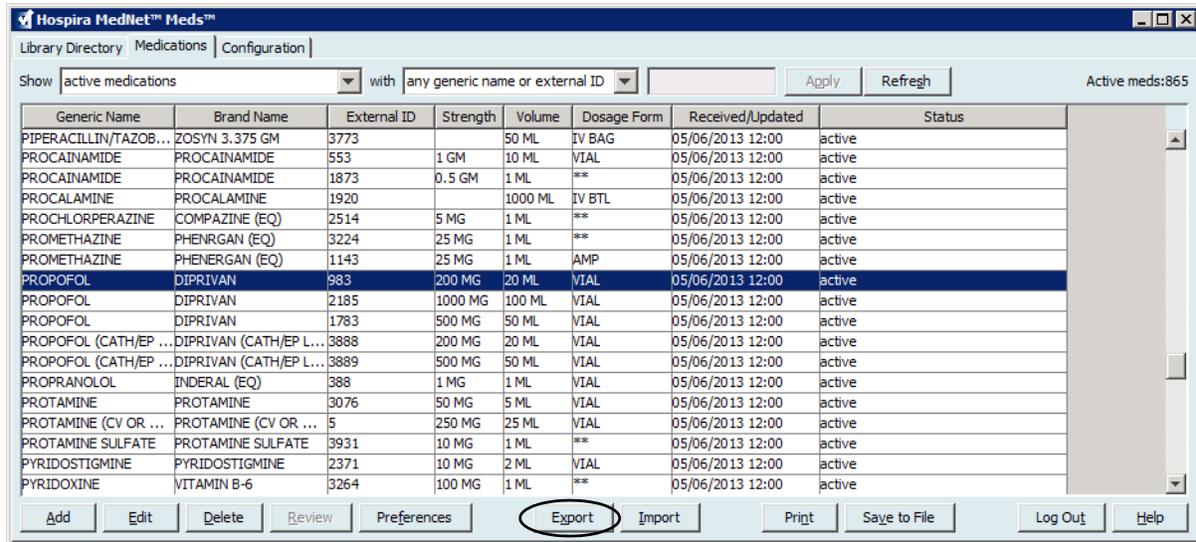
The Select Export File Contents screen displays.
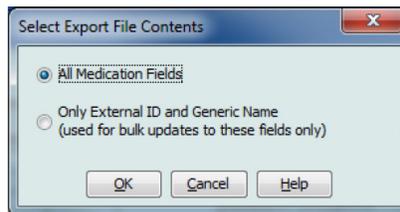
2. Select **All Medication Fields** or **Only External ID and Generic Name**.

Note: Selecting to export only the external ID and Generic Names allows you to edit those two fields and then re-import them into the Medication List.

3. Click **OK**. The Export to File screen displays.

4. Select a location for the export of the Medication List.
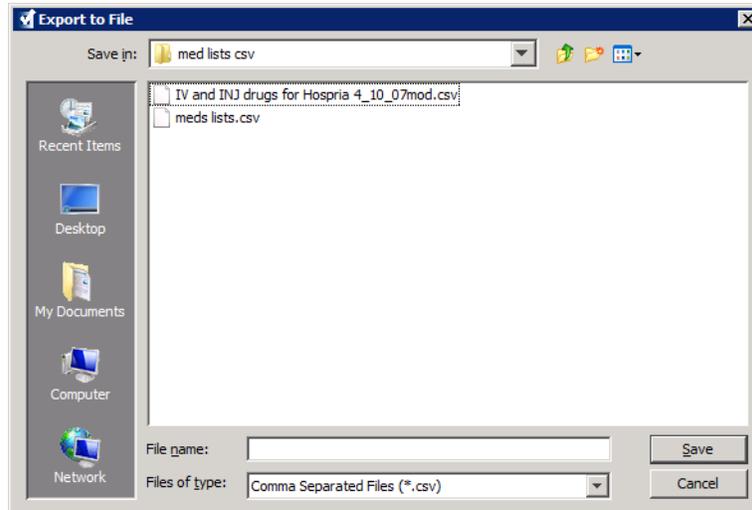
5. Enter a file name.

Note: The medication list can only be exported in .csv (comma separated value) and XML formats. If you selected to export only the External ID and Generic Name you must export in .csv format.

6. Click **Save**.

Note: If you have the Hospira MedNet Meds Formulary Interface, the export function does not include any pending medications in the exported file.

Editing an Exported External ID and Generic Name File

1. Select the .csv file you have exported and right-click to access Notepad or similar programme.
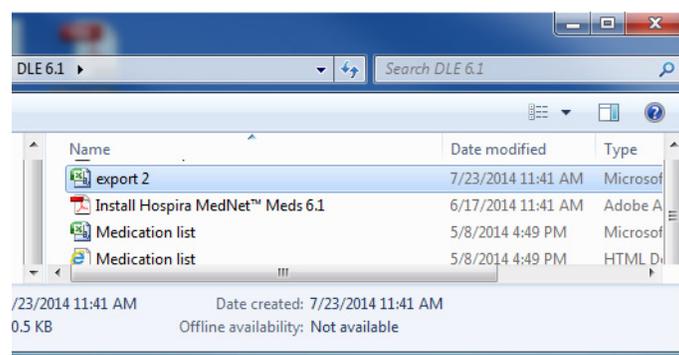
2. Right-click on the name of the file and using Notepad or similar programme, edit by adding a new External ID, and new Generic Name between commas.
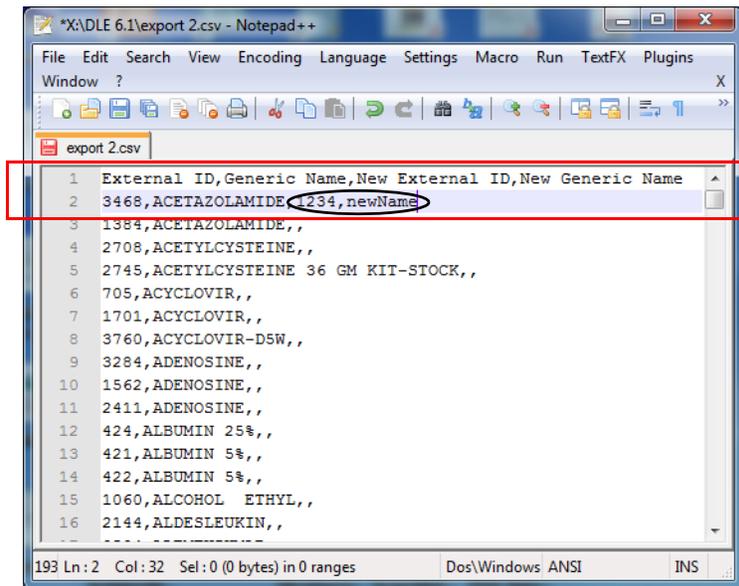
3. From the File menu, select **Save**.

   You can now import this edited file into the Medication List.

Medication List Report

1. You can select to either:

   a. Save the report in .html format to a selected location by clicking **Save to File**,

      or

   b. Print a report of the data currently being displayed in the Medication List view by clicking **Print**.

2. The appropriate window displays:
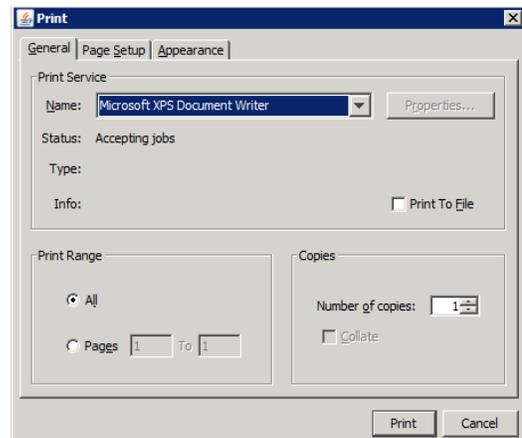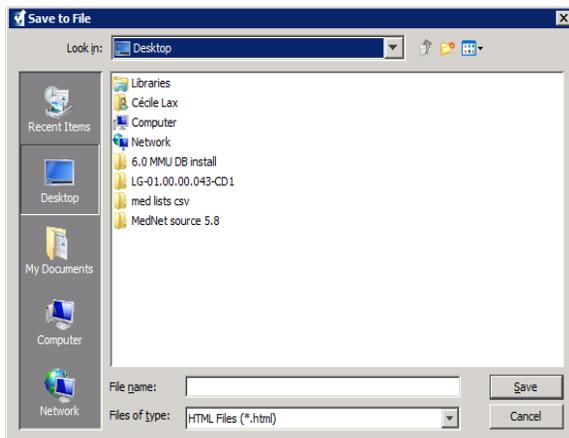
   Make your selections.

3. Click **Save** or **Print**.

Chapter 5: The Library Directory

Overview

A drug library is a collection of medication names, rule sets, Clinical Care Areas (CCAs), and infuser settings. Hospira MedNet Meds software stores drug libraries in three ways:

- Worksheets
- Active Libraries
- Archived Libraries

A *Worksheet* is a library that has not yet been approved (finalised) for transfer to infusers. You can store multiple Worksheets in the database. However, you may only edit one Worksheet at a time.

An *Active library* is a Worksheet that has been finalised. (To learn more about finalisation, see Finalising Worksheets on page 57.) Once a Worksheet has been finalised, no more changes can be made to it. Only an Active library can be transferred to infusers. Only one Active library per infuser type can exist at a time in the Hospira MedNet Meds software database.

An *Archived library* is a previously Active library that has been deactivated for transfer to infusers. Archived libraries can be copied but cannot be edited or downloaded to infusers.

Unless otherwise specified (for example, "Active library"), the term *library* used alone refers to Worksheets and to both Active and Archived libraries.

Finalising is the process of converting a Worksheet into an Active library.

When adding a Worksheet, you need to set up CCA names, infuser settings, and medication entries in order to create a complete library.

You can create Worksheets and libraries in the following ways:

- By creating new, blank Worksheets
- By copying existing libraries, Archived libraries, or Worksheets
- By importing special files that Hospira MedNet Meds software is able to convert into a Worksheet

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

The Library Directory view lists the active library for each infuser type, all Worksheet libraries, and all archived libraries in the database. The following information is displayed in the Library Directory view:

Library Directory	
Field	**Result**
Drug Library ID	A field automatically assigned by the system when a Worksheet is created
Infuser Type	The Plum A+®, or the Plum360 infuser
Drug Library[1]	The name you entered when you created the library
Library Status	Categorised as one of the following: • Worksheet • Active • Archive
Date Modified	The date and time the drug library was last modified
Date Finalised[2]	The date and time the drug library was finalised
Infuser Library Version[3]	The finalisation date, software version, and Drug Library ID that was assigned to the library when it was created
Library Notes	Additional information about a drug library entered by the user
[1] The library name cannot be edited after the library is created. [2] This field is blank if the drug library is a Worksheet. [3] The finalisation date is represented in Greenwich Mean Time (GMT), not local time.	

Library Directory Conventions

The Library Directory uses the following conventions:

• You may sort all columns in the Library Directory view in either ascending or descending order by clicking on the column heading.

• You may use the vertical and horizontal scroll bar(s) to scroll to an entry.

• When you highlight an entry on the Library Directory view, buttons or features that are not available appear as "greyed" or disabled.

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

Step-by-Step Procedures

The following section provides step-by-step procedures that enable you to manage the Library Directory. In this section you will learn how to do the following:

- Navigate to the Library Directory list view
- Create, edit, and add a note to a Worksheet
- Delete Worksheets and archived drug libraries
- View a drug library
- Copy a drug library
- Import a drug library
- Export a drug library

To navigate to the Library Directory list view, do the following:

1. Double-click the Hospira MedNet Meds software icon on the Windows desktop.

2. Enter your **User ID** and **Password**.

Note: In order to log in to the application and perform the procedures in this chapter, you must have the appropriate access privileges.

3. Click **Log in**.

   The Library Directory view appears.
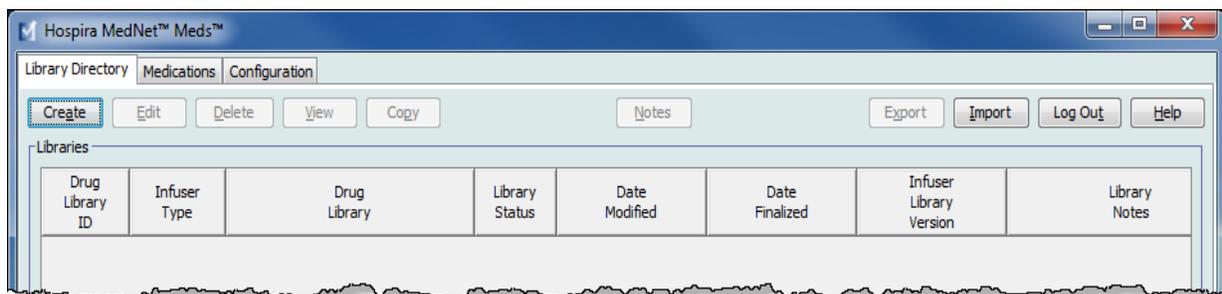
Note: You will not see any entries in the list until you create a Worksheet or import a library.

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

Create a Worksheet

1. On the Library Directory view, click **Create**.
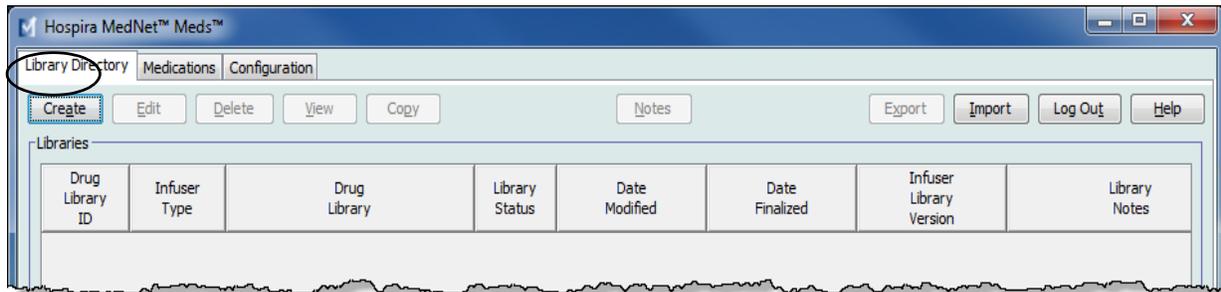
The Create Worksheet screen appears.
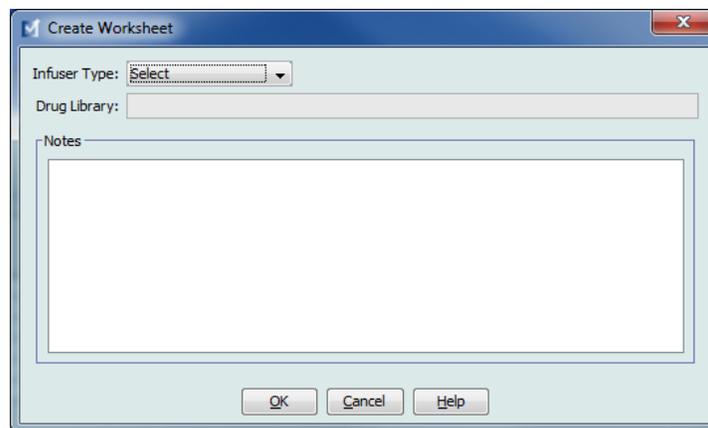
2. From the **Infuser Type** drop-down list, select an infuser type.

3. In the **Drug Library** field, type a name for the library.

4. Enter a Note, if desired, for the library.

Note: Your note may contain information such as "For P & T Review" or other helpful hints to keep you organised as you build the library.

---

5. Click **OK**.

The Create Worksheet screen closes and your entry appears in the Library Directory view.

Edit a Worksheet

1. On the Library Directory view, highlight a Worksheet.

2. Click **Edit**.

3. Make desired changes.

4. Click **Close**.

   Your modification is saved and the Library Directory view displays.

Note: **Additional information on editing worksheets can be found in the infuser-specific chapters:**

Delete a Worksheet or Archived Drug Library

You may delete a Worksheet or Archived drug library from the Library Directory. When you delete a library, it is permanently removed from the system.

To delete a Worksheet or Archived drug library, do the following:

1. On the Library Directory view, highlight a Worksheet or Archived drug library.

2. Click **Delete**.

   The Delete Library screen opens.

⚠️ **Caution:** By deleting a library, you remove it from the system permanently. You may want to ensure that your system has recently been backed up before deleting a drug library.
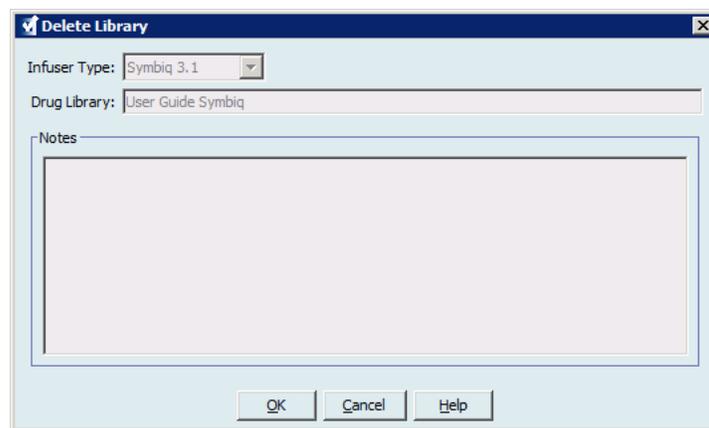
3. Click **OK**.

   The Worksheet or library is permanently deleted and the Library Directory view appears.

View a Drug Library

1. On the Library Directory view, highlight a drug library.

2. Click **View**.

   The Drug Library Management view appears.

Note: You cannot make changes when viewing a library.
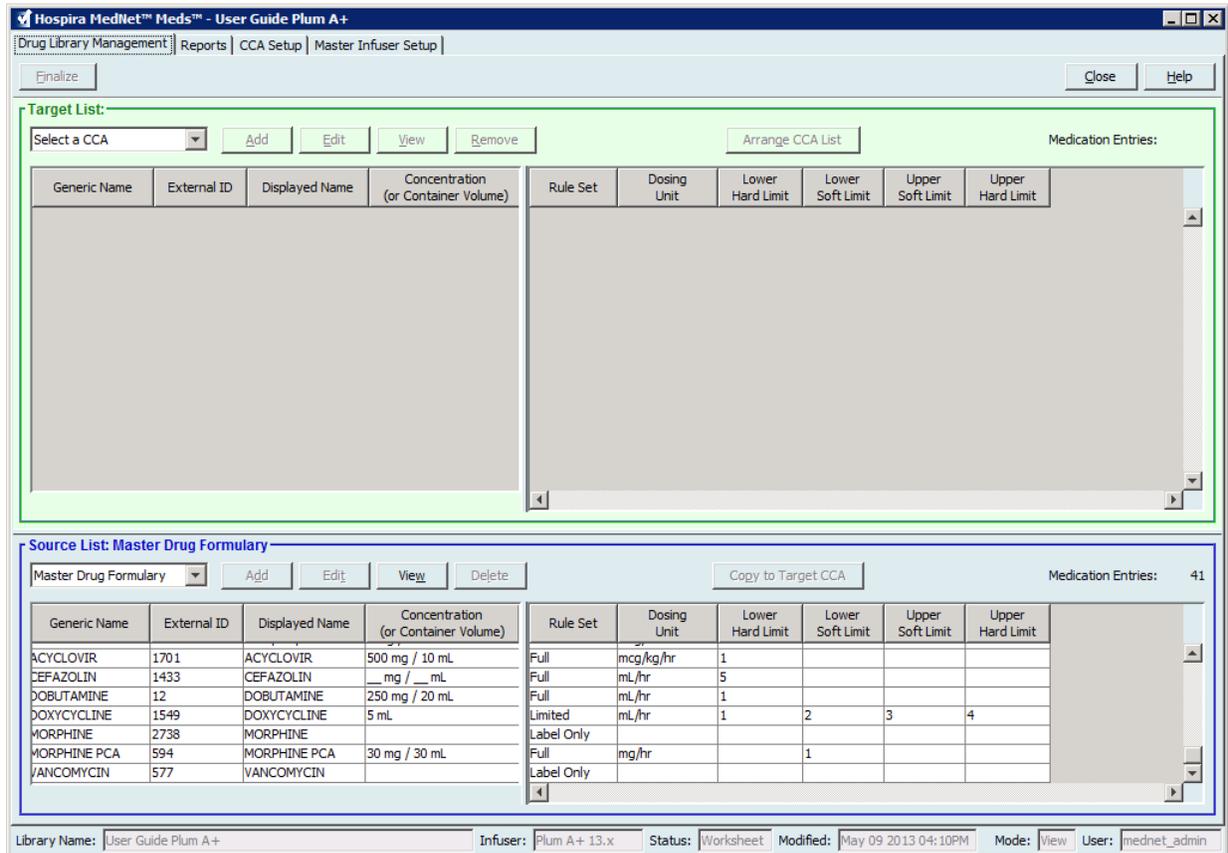
Helpful Hint: *If you hover the mouse pointer over any medication entry in the Master Drug Formulary, a "tool tip" displays the medication's generic name and concentration as well as the CCAs to which it has been assigned (see below). The tool tip will disappear after 5 seconds.*
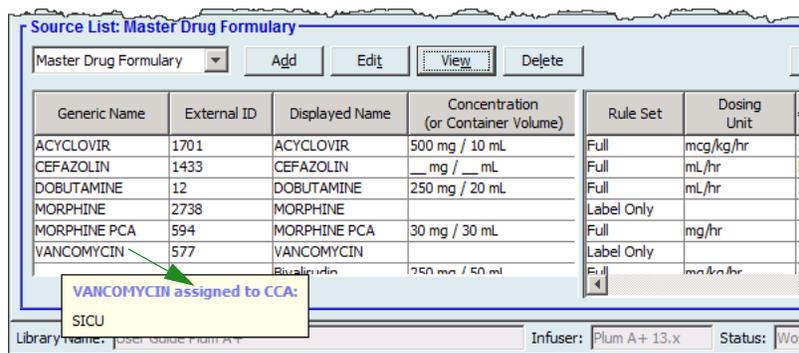
3. Click **Close** to return to the Library Directory view.

Copy an Archived Library, Active Library, or Worksheet

In order to facilitate creating or updating a drug library, you may copy Active or Archived drug libraries as well as Worksheets. When you copy a drug library, all medication rule sets, infuser settings, and CCA settings are included. The copied drug library appears as a new entry on the Library Directory view.

1. On the Library Directory view, highlight the desired drug library entry.

2. Click **Copy**.

   The Copy Library screen opens.
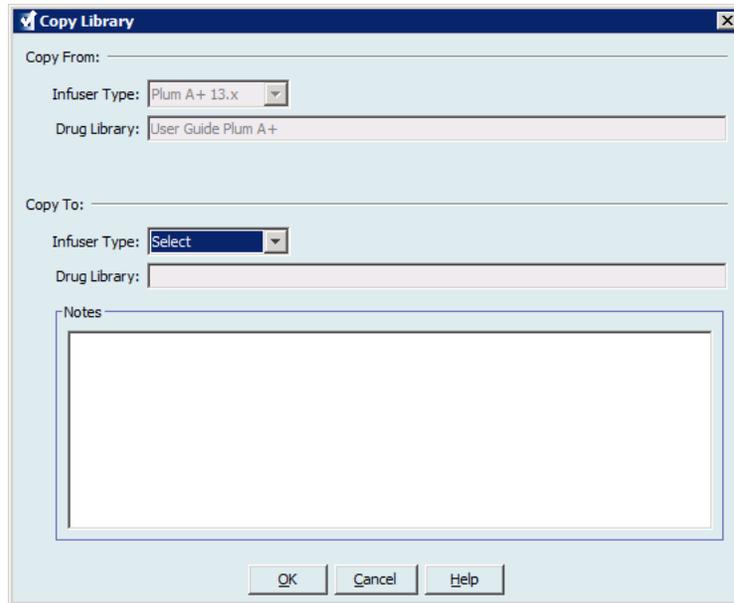
3. In the **Drug Library** field, type the name of the new drug library as you wish it to appear on the Library Directory view.

Note: You may enter information into the **Notes** field, if needed.

---

4. Click **OK**.

   Your drug library is copied. The new Worksheet appears on the Library Directory view.

Note: Copying is allowed only between libraries for the same infuser type.

Add or Edit Notes to a Worksheet

1. On the Library Directory view, highlight a Worksheet.

2. Click **Notes**.
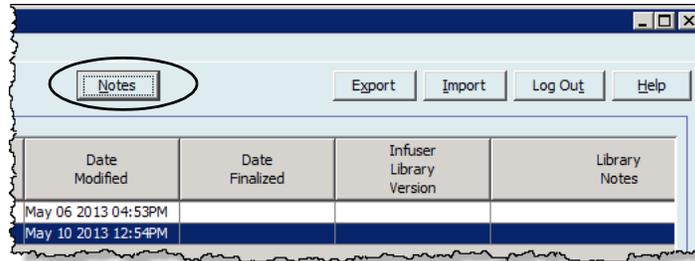
The Notes screen opens.

Note: The **Infuser Type** and **Drug Library** fields cannot be edited.
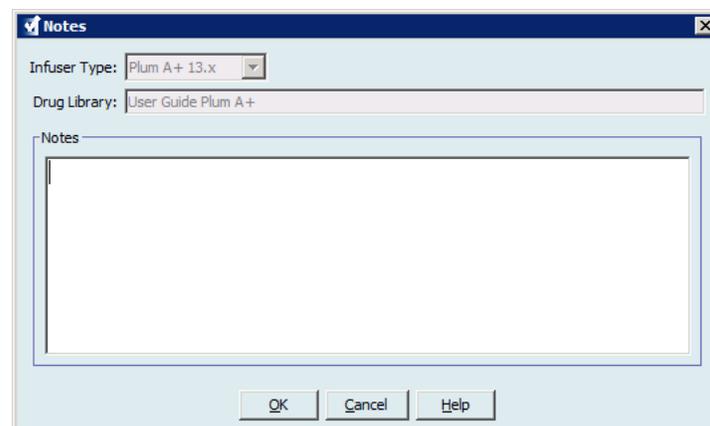
3. Type the note or edit text in the **Notes** field.

4. Click **OK**. The note is saved and appears in the **Library Notes** field of the Library Directory.

Note: The **Notes** field cannot be modified after a drug library is finalised.

Export an Archived Library, Active Library, or Worksheet

Note: Only users with the appropriate login privileges are able to export files.

You can export the rule sets from Worksheets, Archived libraries, and Active libraries as XML (Extensible Markup Language) files.

Note: If the exported XML file is modified, it cannot be re-imported into Hospira MedNet Meds.

You can also export a Worksheet, Archived library, or Active library as a Comma Separated (CSV) file. CSV filenames end in ".csv." The file can be used to view rule sets in Microsoft Excel.

Note: Comma Separated Value files cannot be re-imported into Hospira MedNet Meds.

When exporting a Worksheet, Archived library, or Active library, only medication entries that have been assigned to CCAs will be exported; medication entries that are listed only in the Master Drug Formulary are not exported.

The Master Infuser and CCA Settings are included in exported XML files.

You may export a drug library to an external location on your network or hard drive.

1. On the Library Directory view, highlight the desired drug library.

2. Click **Export**.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.
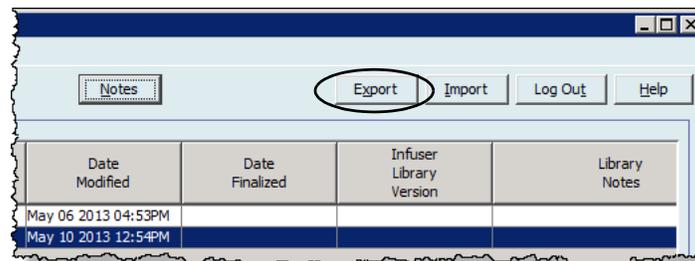
The Export Library screen opens.
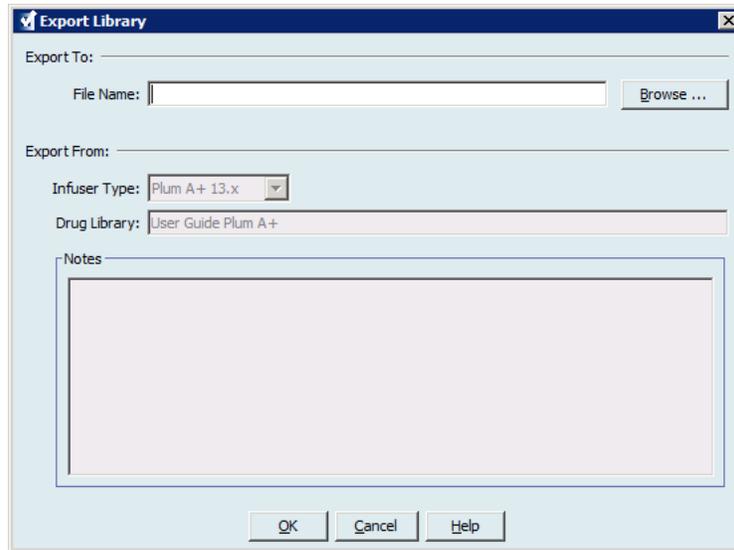
3. Click **Browse**.
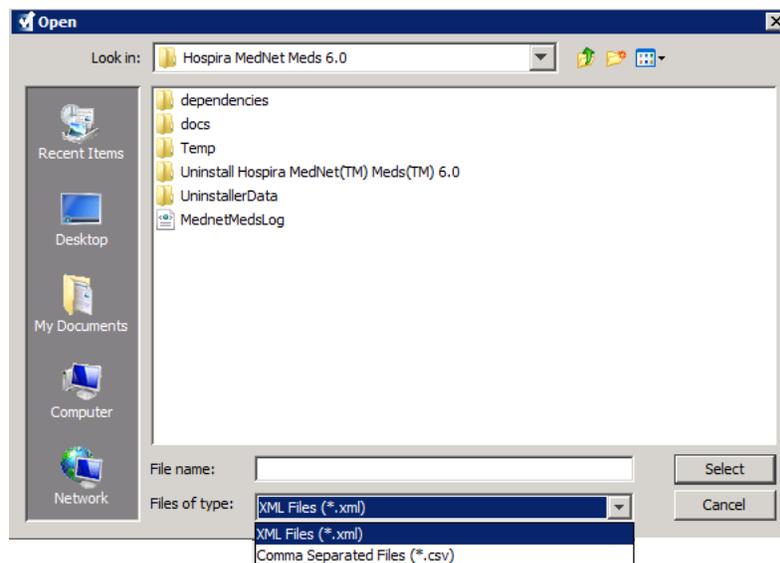
4. In the **File Name** field, type in a path and file name to use for the exported file.

5. Select either **XML Files** or **Comma Separated Files (CSV)** from the drop-down list.

6. Click **OK**.

The Export Library screen closes. The drug library is exported to the desired location.

Import a Drug Library

You may import a drug library from an XML file created by Hospira MedNet Meds. When you import a drug library, it becomes a Worksheet. The software fully validates the data ranges, precision, and relationships before adding imported data to the database.

1. From the Library Directory view, click **Import**.
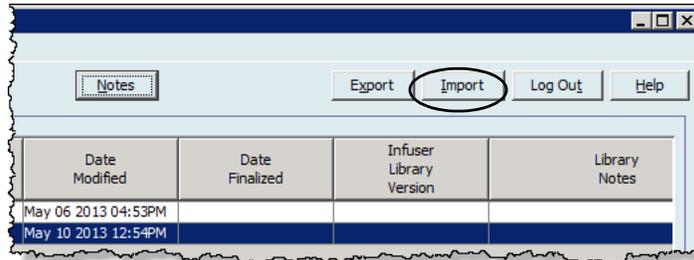
The Import Library screen opens.
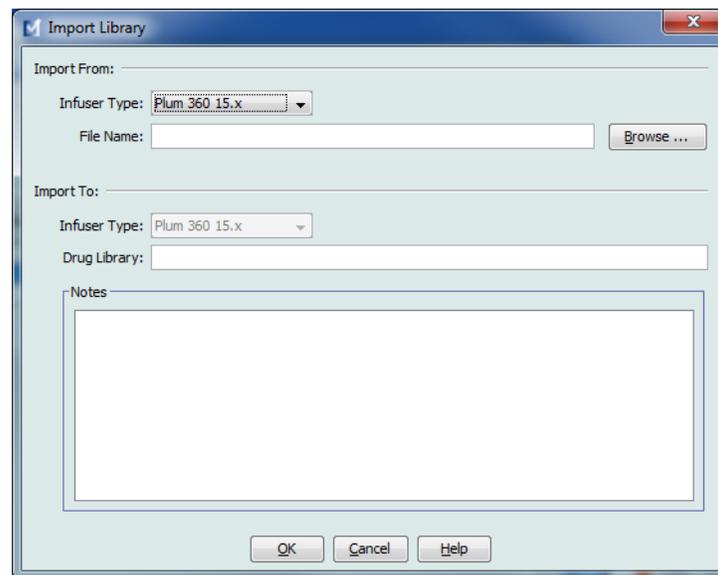
2. In the **Import From** screen area, select the **Infuser Type** that corresponds to the library you are importing.

3. In the **File Name** field, type in the path and file name of the drug library you wish to import.

Helpful Hint: *You may search for the file name and path by clicking* **Browse** *and navigating to the desired file.*

4. In the **Import To** screen area, select the **Infuser Type** that corresponds to the library you are importing.

5. In the **Drug Library** field, type in a name for the imported library, as you would like it to appear on the Library Directory view.

Note: You may enter information into the **Notes** field, if needed.

6. Click **OK**.

The Import Library screen closes and the newly imported Worksheet appears on the Library Directory view.

Note: A Drug Library that contains one or more Medication Entries referring to a medication which is not in the Medication List will be imported. In order for the library to be finalised, all medication entries will need to be assigned to a medication in the Medication List.

If the file you are attempting to import contains unusable data, the software displays an error message and does not import the file.

WARNING: If you make changes to an exported XML file, the file cannot be imported.

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

Notes:

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

Chapter 6: Drug Library Management

Overview

The Drug Library Management view allows you to create, edit, and delete safety limits for medication entries used by the Plum A+ infusers. The safety limits established are then incorporated directly by the rule sets used in the drug library.

The Drug Library Management view displays when you open a Worksheet or an Active or Archived library. This view consists of two panes that display the target and source medication lists associated with individual CCAs and the Master Drug Formulary. As a CCA is created, medications that have been assigned to it will be displayed in the Target List pane at the top of the view. The complete list of medications available in the Master Drug Formulary is displayed in the Source List pane at the bottom of the view. The Master Drug Formulary is the comprehensive list of medications and rule sets defined for use in a Drug Library.

The drop-down list in each pane displays the CCAs that have been defined for the library. The active functions (buttons) available in the Drug Library Management view will vary depending on the type of library you have opened and whether or not a CCA is selected. Functions that are not available from this view will be greyed out.

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

> **Note:** The Master Drug Formulary (MDF) contains a list of all medications available for use by the CCAs in the library. The MDF list functions as a "parent" to the medication entries in the Target List.

To create and complete a drug library suitable for transfer to an infuser, you will need to:

- Define the desired CCAs.

- Create the medication entries.

- Arrange the medication list in the desired order.

- Define the Master Infuser setting.

Drug Library Management Conventions

The Drug Library Management view uses the following conventions:

- The fields in the Target List and Source List panes are identical.
- The list grid includes a moveable split bar located after the fourth column. The remaining columns scroll under the first three.
- The Target List and Source List panes include a read-only field that displays the total number of medications in a selected list.
- All columns are re-sizeable and may be sorted in ascending or descending order by clicking on the column header.
- The view includes a read-only bottom status bar that displays the Library Name, Infuser, Status, Modified [date], Mode, and User.
- Commas (,) inverted commas (") and angle brackets (< >) are considered invalid characters and cannot be used in a name.

Managing Drug Libraries

The following procedures enable you to manage drug libraries for each infuser. The data that you see in the target and source panes will be different for each infuser and is consistent with the medication entry for the infuser.

Target List Procedures

- Viewing Medication Entries in a CCA
- Removing Medication Entries from a CCA
- Changing the Display Order of Medication Entries

Source List Procedures

- Viewing Medication Entries in the Master Drug Formulary
- Copying Medication Entries from One CCA to Another
- Deleting Medication Entries from the Master Drug Formulary

General Procedures

- Finalising Worksheets
- Closing Worksheets

⚠ **Caution:** In the case of an auto-programme, if the Hospira MedNet Software is unable to locate a matching rule set, the order will be sent to the infuser under "No Drug Selected" (Plum A+) (infuser- and CCA-dependent) and the order data will be transmitted to the infuser. No Rule Set Limits will be available for this order. If the order is a partial auto-programme, the remaining parameters will be manually programmed. See the specific infuser operating manual for additional information.

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

Viewing Medication Entries in a CCA

1. From the Library Directory view, highlight a Worksheet.

2. Click **Edit** or **View**.

   The Drug Library Management view opens.

3. From the Target List, select the CCA containing the medication entry you want to view.
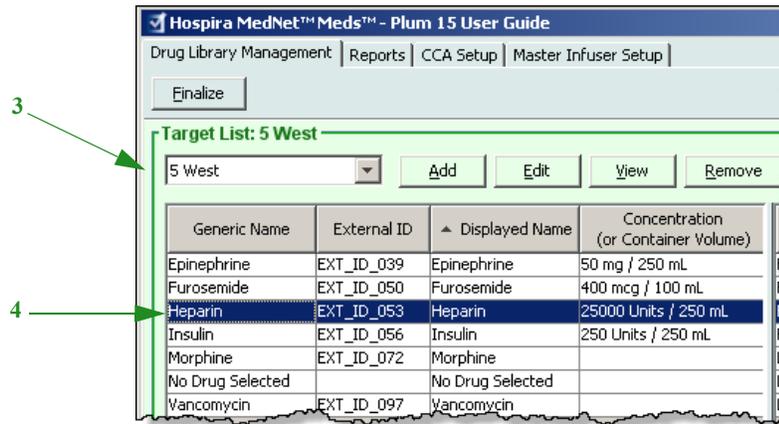
4. Select the medication entry.

5. From the Target List, click **View**.

6. When you have finished viewing the medication entry, click **Close**.

Removing Medication Entries from a CCA

Note: Only users with the appropriate login privileges are able to add and remove medication entries from CCAs.

1. From the Library Directory view, open a Worksheet for editing.
2. From the Target List, select the CCA containing the medication entry you want to remove.
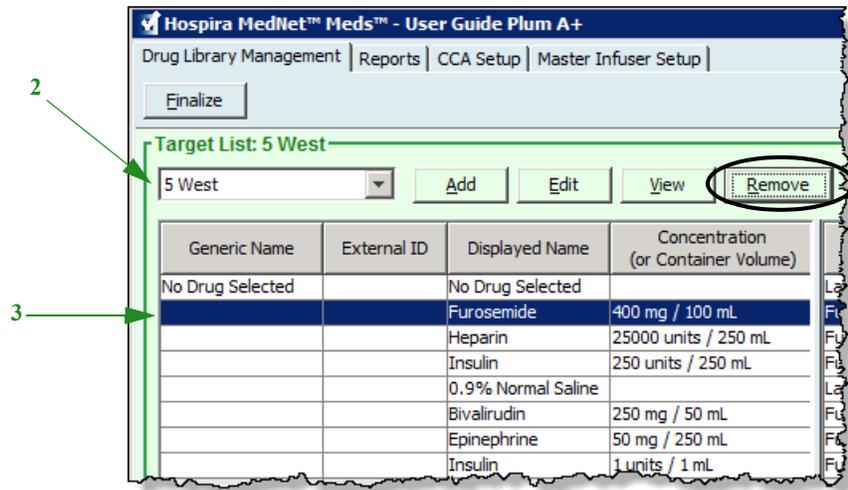
3. Select the medication entry to remove.
4. From the Target List, click **Remove**.
5. At **Confirm Remove** from CCA, click **Remove**.
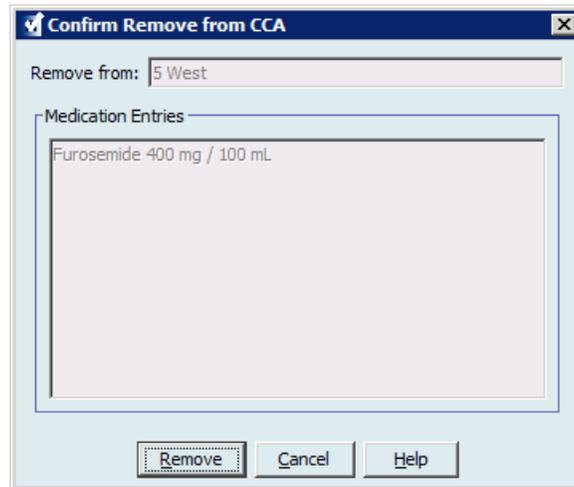
Note: You can delete one medication at a time from the Master Drug Formulary or you can delete several at a time by highlighting them, using the shift key or control key, and deleting them.

Changing the Display Order of Medication Entries

Note: Only users with the appropriate login privileges are able to change the display order of medication entries.

Important: The order in which the medications appear in the target list panel may not be the order in which the medications will appear on the infuser.

To change or view the order in which medication entries are displayed:

1. From the Target List, select a CCA.
2. Click **Arrange CCA List**.
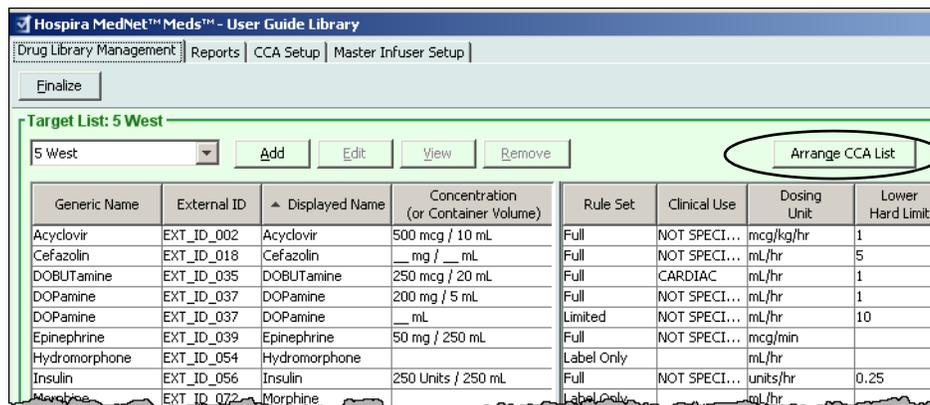
3. Select the medication entry you want to move.

Helpful Hint: *You can select multiple medications to move by highlighting them.*

4. Click **Move Up** or **Move Down** to position the selected medication entries.
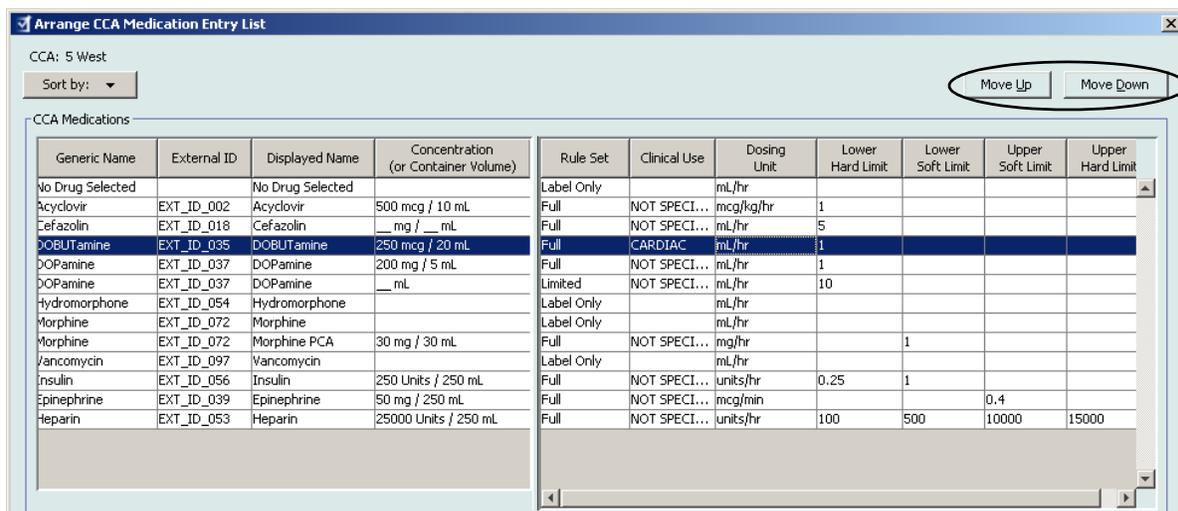
5. Repeat for all medication entries as needed.
6. Click **Save**.

Medication entries newly added to a CCA are placed at the bottom of the assigned medications list.

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

Sorting the medication entries within a CCA:

1. From the Library Directory view, open a Worksheet for editing.
2. On the Drug Library Management view, select a CCA from the Target List.
3. Click **Arrange CCA List**.
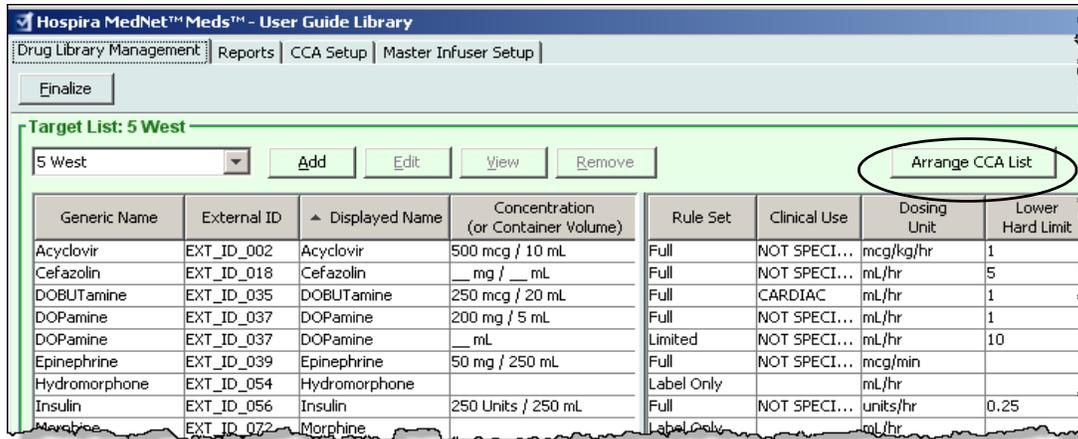
4. On the pop-up that appears, from the **Sort By** list, select the primary sorting criteria from the list. The selection will vary according to the infuser.
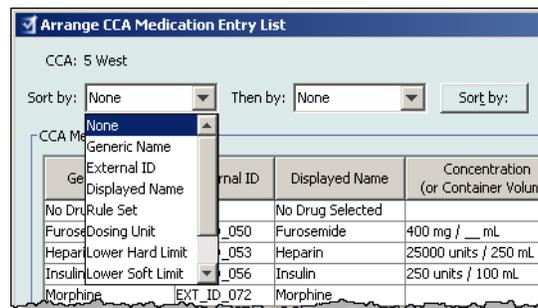
5. From the **Then By** list, select the secondary sorting criteria, if desired.
6. Click **Sort by**.

For Plum versions that support 40 CCAs, the **Sort By** button gives you the option to sort by the Displayed Name in either ascending or descending order. Medication entries with the same Displayed Name will remain together. (See the Hospira MedNet Software Device Compatibility Matrix to determine the availability of the Plum version(s). The matrix is available through your Advanced Knowledge Centre.)
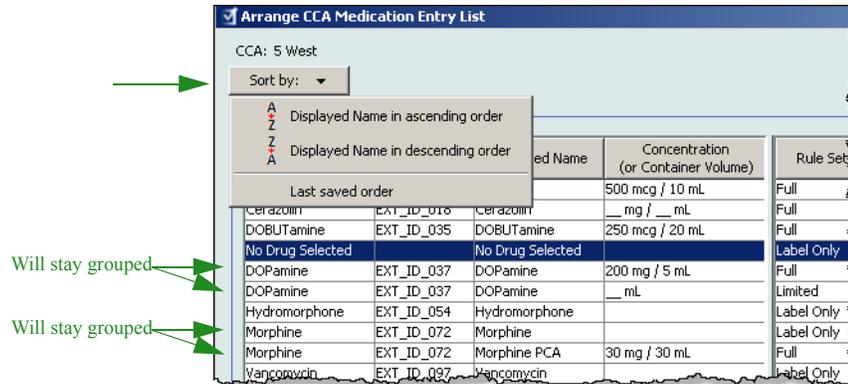
Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.

Viewing Medication Entries in the Master Drug Formulary

To view a medication entry in the Master Drug Formulary:

1. Select **Master Drug Formulary** as the source location.
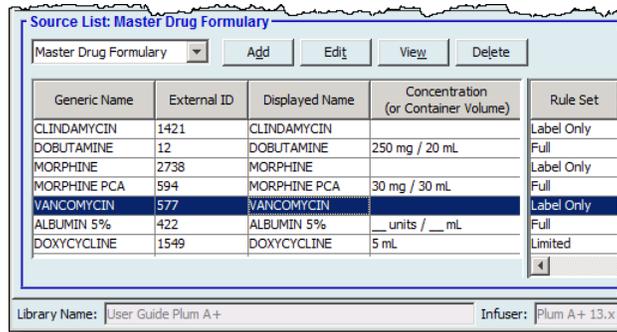
Helpful Hint: *If you hover your mouse pointer over any medication entry in the Master Drug Formulary, a "tool tip" displays the medication's generic name and concentration as well as the CCAs to which it has been assigned. The tool tip will disappear after 5 seconds.*
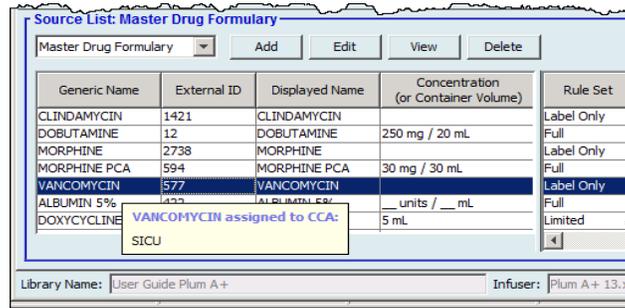
2. Select the medication entry you want to view.

3. From the Source List, click **View**. The Source List: View Rule Set screen displays.
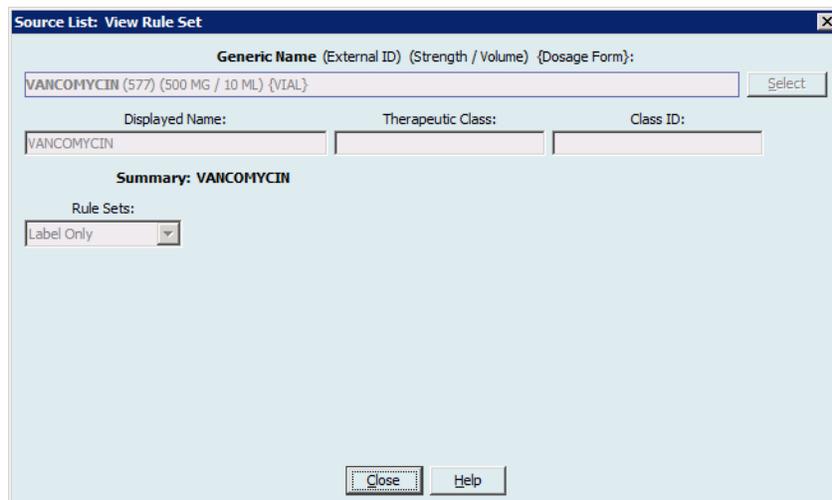
4. When you have finished viewing, click **Close**.

Helpful Hint: *If you are viewing an Active or Archived library, you may also double-click the medication entry to view it.*

Keeping or Clearing Rule Sets for Medication Entries

1. Highlight a medication entry with existing rule sets, in either the Source List Master Drug Formulary or Target List.

2. Click **Edit**.

The selected medication entry displays with its rule sets.

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

3. Click **Select**.

At this point, you will be able to either apply the current Rule Set to another medication or select the medication highlighted and clear its current Rule Set.

4. If you click **Select Medication and CLEAR Current Rule Set**, a confirmation message displays: **Rule set will be reset to default values.**

5. Click **OK** and the medication entry selected displays but the rule set fields are now empty.

6. You can now fill in the new rule set and then click **Save and Close** when satisfied or click **Cancel**.
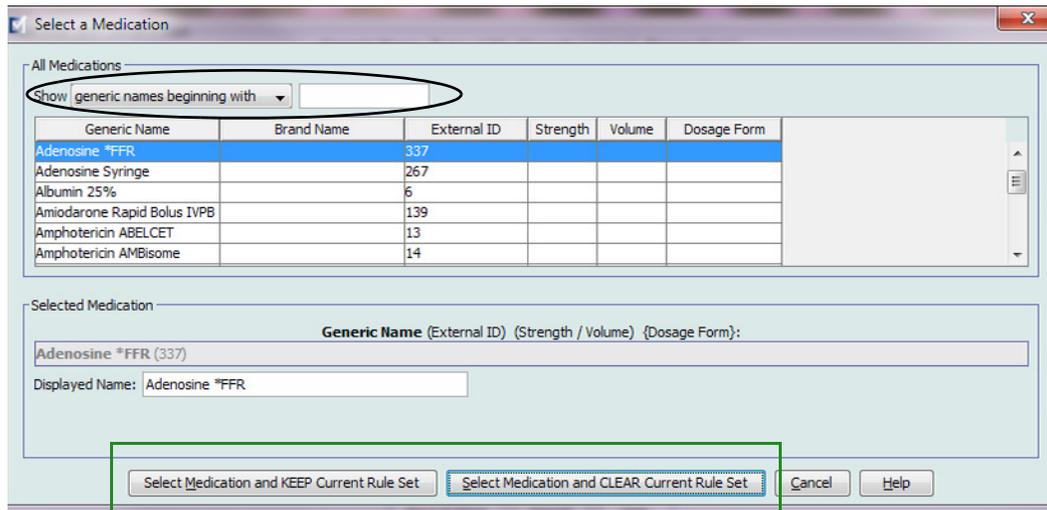
7. If you want to keep the rule set of the medication entry highlighted but want to apply that rule set to another medication:

    • Highlight the "new" medication entry

Helpful Hint: *To select the medication, you can use the scroll bar or type the first letter(s) of the medication or the entire name next to* **Show generic names beginning with.** *You can also find the medication by external ID if you use the drop-down button and select to show the medication using the* **External ID**, *then entering the External ID.*

    • Click **Select Medication and KEEP Current Rule Set**

    A confirmation message displays: **Review rule set values before saving this rule set.**

8. Click **OK**.

9. The new entry displays. Click **Save and Close** if the entry is to your satisfaction. If not, click **Cancel**.

Copying Medication Entries to one or more CCAs

1. Select the target CCA to which you want to copy a medication entry.
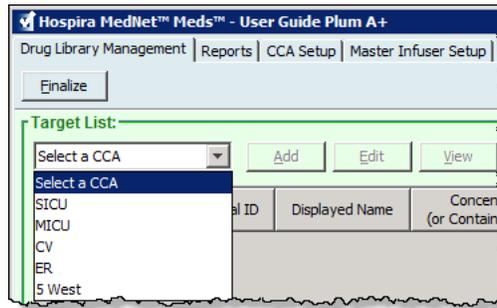
2. Select the Master Drug Formulary or Source CCA from which you want to copy a medication entry (either the Master Drug Formulary or another CCA).
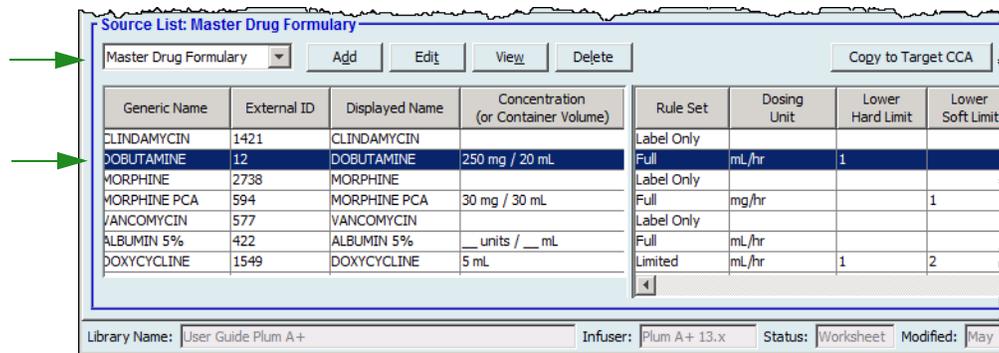
3. Select the medication entries you want to copy from the source CCA.

Helpful Hint: *You may select multiple entries by clicking the first medication entry you want to copy, and holding the shift key while clicking the last medication entry you want to copy. Add or remove medications from the group you have selected by using the Control key.*

4. Click **Copy to Target CCA**.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.
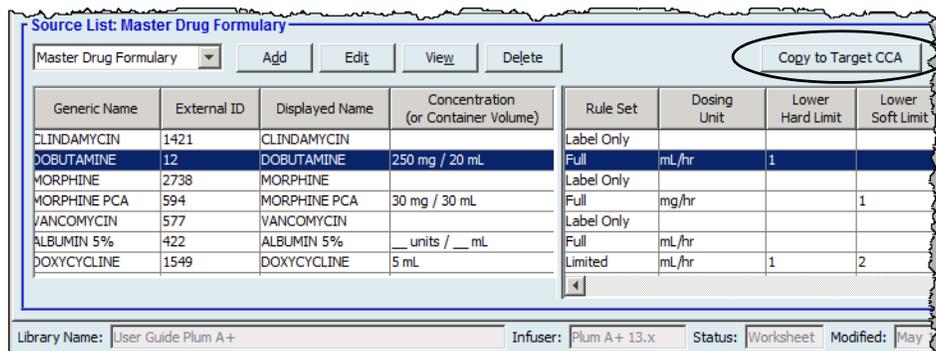
5. Verify you have selected the correct medication entries.
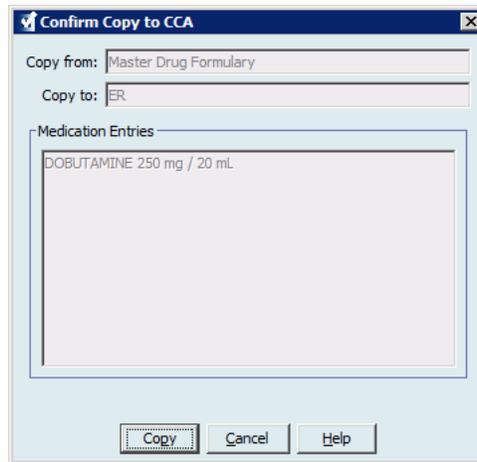
6. Click **Copy** to copy the selected medication entries to the target CCA.

Note: The maximum number of medication entries in a CCA is 150 for the Plum A+. For certain Plum infusers licenced for Drug Library Size Level 2, a CCA can contain up to 400 medication entries. (See the Hospira MedNet Software Device Compatibility Matrix to determine the availability of the Plum version. The matrix is available through the Advanced Knowledge Centre.)

Note: Duplicate or conflicting medication entries cannot be copied.

Deleting Medication Entries from the Master Drug Formulary

Note: Deleted medication entries are permanently removed from the Master Drug Formulary and from all CCAs in which they appear.

Only users with the appropriate login privileges are able to delete medication entries from the Master Drug Formulary.

1. Select **Master Drug Formulary** as the Source List.
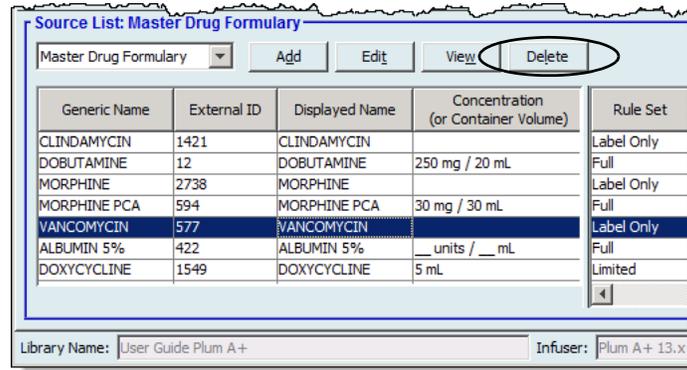
2. From the Source List, select the medication entry you want to delete.

3. Click **Delete**.

4. From the Source List: Delete Rule Set window, click **Delete**.
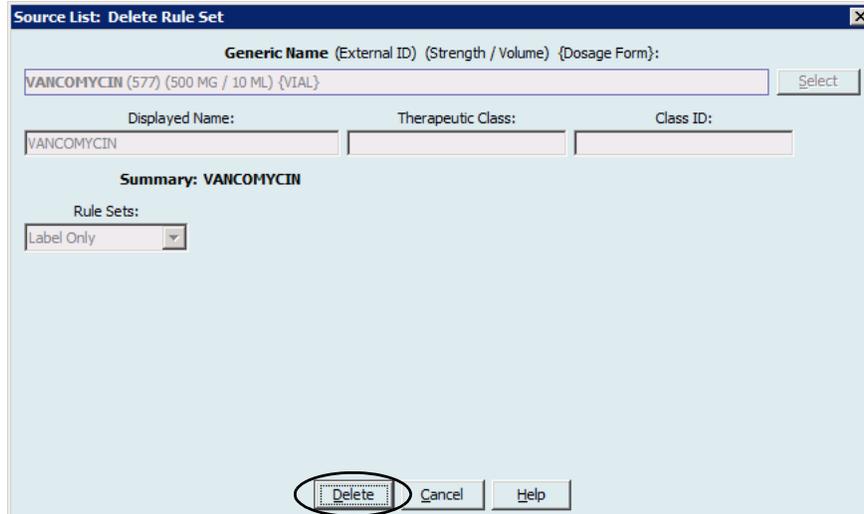
5. A confirmation message displays listing all affected CCAs. Click **OK** to permanently remove the selected medication entry from the Master Drug Formulary and all CCAs in which it appears.
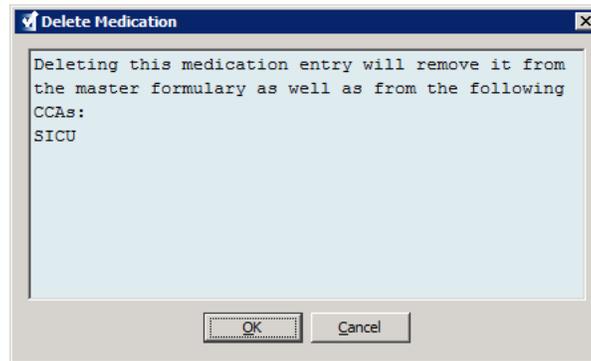
| **Note:** | You cannot delete the "No Drug Selected" entry from a Plum A+® Master Drug Formulary, or any CCA. |

Finalising Worksheets

Note: Before finalising a Worksheet, we recommend that a qualified person such as a hospital pharmacist or a multidisciplinary committee of clinicians review the drug library for accuracy, per hospital policy.

Only users with the appropriate login privileges are able to finalise a Worksheet.

To finalise a Worksheet:

Note: The Generic Name and External ID of a medication entry must be present in the Master Drug Formulary for the Worksheet to be finalised.

1. From the Drug Library Management view, click **Finalise**.
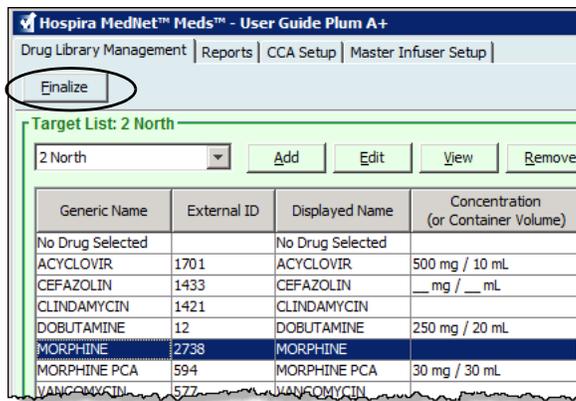
Note: Once the finalisation process begins, it cannot be stopped or undone.

2. Click **OK** to finalise the Worksheet.
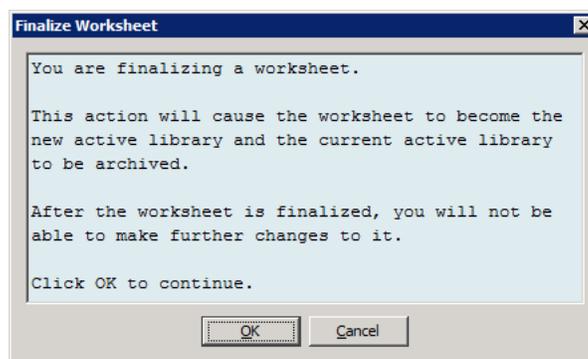
3. A progress bar appears briefly.

Important: If your network connection is lost during the finalisation process, copy the library that was being finalised, and then finalise the library.

Note: Finalisation may require several minutes for large libraries. A message may display if the library does not finalise successfully within 20 minutes.

4. A pop-up confirms that the Worksheet has been finalised successfully.
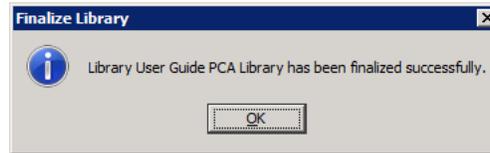
5. Click **OK**.

The Date Finalised displays in the Library Directory.

Closing Worksheets

To close a Worksheet:

1. From the Drug Library Management view, click **Close**.

You will be returned to the Library Directory view.

Note: When you close a worksheet, that worksheet is saved.

Chapter 7: Hospira MedNet Meds Reports

Overview

The Hospira MedNet Meds Reports view allows you to create and print reports on drug libraries for the Plum A+ and Plum 360 infusers. For individual report details, refer to the report by name later in this chapter.

> **Note:** For information about the Hospira MedNet Software reports, see **Chapter 16: Reports** in the Hospira MedNet Software User Guide.

Report Conventions

The following conventions are common to all reports:

- Users with the appropriate login privileges have access to the Reports View.
- Drop-down lists display all valid selections.
- Fields appear blank when no data is available.

Report Details

Reports may span multiple pages and are navigable using the vertical and horizontal scroll bars.

All Drug Library reports display the following information:

Plum A+/Plum 360	
Field	**Description**
Drug Library	The name of the drug library or Worksheet
Infuser Type	The type of infuser
Date Finalised	The date or time when the Active library or Archive was finalised (not available for Worksheets)
Library State	The state of the library: Active, Archive, or Worksheet

Additional details will vary depending on the infuser you select, as described later in this chapter.

> **Note:** The structure of reports from Hospira MedNet Meds cannot be altered or configured by the user.

To display the Reports page:

1. Open a Worksheet or library. (For instructions on opening a Worksheet or library, see **Chapter 5: The Library Directory on page 27**.)

2. Click the **Reports** tab.
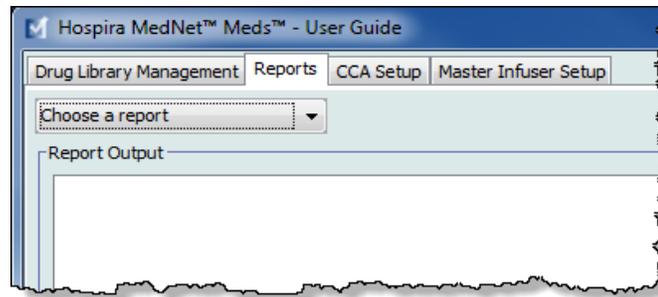
3. Select a report from the **Choose a report** drop-down list.

   The report selection will vary depending on the infuser, as described further in this chapter.
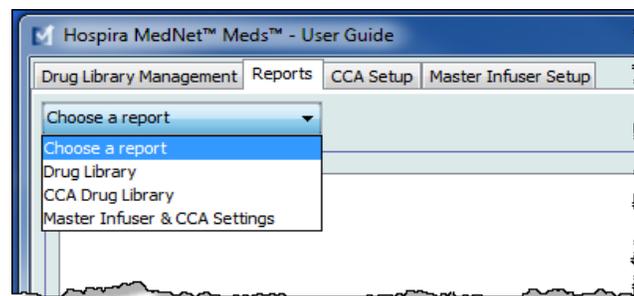
Plum A+ Drug Library Reports

The following reports are available for the Plum A+ infuser:

- Drug Library
- CCA Drug Library
- Master Infuser & CCA Settings

Plum 360 Drug Library

This report displays detailed information on all medications in the Plum A+ Master Drug Formulary.

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

Plum 360	
Medication Entries	**Description**
Generic Name	The generic name of the medication
Displayed Name	The medication name that displays on the infuser
Concentration (or Container Volume)[1]	Concatenation of medication amount, medication unit, diluent amount, and diluent unit
Rule Sets	The type of rule set created for the medication. Includes full, limited, and label only
Clinical Use (Plum 360 only)	The clinical use attributed to the medication
Dosing Unit	The dosing unit selected for the medication
LHL	Lower Hard Limit - the lower limit that cannot be overridden
LSL	Lower Soft Limit - the lower limit that can be overridden
USL	Upper Soft Limit - the upper limit that can be overridden
UHL	Upper Hard Limit - the upper limit that cannot be overridden
External ID	The ID number used to match an order to the medication entry in the drug library
Therapeutic Class	Therapeutic class assigned to the medication entry
Class ID	The ID number for the therapeutic class
Piggyback delivery allowed	Indicates whether this option was selected
Allow piggyback to interrupt this infusion	Indicates whether this option was selected
Assigned CCAs	CCAs to which the drug is assigned
[1] When the rule type is Limited, this field displays the container volume	

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

Plum A+ Drug Library

This report displays detailed information on all medications in the Plum A+ Master Drug Formulary.

Plum A+	
Medication Entries	**Description**
Generic Name	The generic name of the medication
Displayed Name	The medication name that displays on the infuser
Concentration (or Container Volume)[1]	Concatenation of medication amount, medication unit, diluent amount, and diluent unit
Rule Sets	The type of rule set created for the medication. Includes full, limited, and label only
Dosing Unit	The dosing unit selected for the medication
LHL	Lower Hard Limit - the lower limit that cannot be overridden
LSL	Lower Soft Limit - the lower limit that can be overridden
USL	Upper Soft Limit - the upper limit that can be overridden
UHL	Upper Hard Limit - the upper limit that cannot be overridden
Assigned CCAs	CCAs to which the drug is assigned
External ID	The ID number used to match an order to the medication entry in the drug library
Therapeutic Class	Therapeutic class assigned to the medication entry
Class ID	The ID number for the therapeutic class
[1] When the rule type is Limited, this field displays the container volume	

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

Plum 360 - CCA Drug Library

This report shows each CCA along with its associated medication entries. CCAs are listed in the order in which they are created.

Plum 360	
Medication Entries	**Description**
Generic Name	The generic name of the medication
Displayed Name	The medication name that displays on the infuser
Concentration (or Container Volume)[1]	Concatenation of medication amount, medication unit, diluent amount, and diluent unit
Rule Sets	The type of rule set created for the medication. Includes full, limited, and label only
Dosing Unit	The dosing unit selected for the medication
LHL	Lower Hard Limit - the lower limit that cannot be overridden
LSL	Lower Soft Limit - the lower limit that can be overridden
USL	Upper Soft Limit - the upper limit that can be overridden
UHL	Upper Hard Limit - the upper limit that cannot be overridden
Assigned CCAs	CCAs to which the drug is assigned
External ID	The ID number used to match an order to the medication entry in the drug library
Therapeutic Class	Therapeutic class assigned to the medication entry
Class ID	The ID number for the therapeutic class
[1] When the rule type is Limited, this field displays the container volume	

Plum A+ CCA Drug Library

This report shows each CCA along with its associated medication entries. CCAs are listed in the order in which they are created.

| Plum A+	
Medication Entries	**Description**
Generic Name	The generic name of the medication
Displayed Name	The medication name that displays on the infuser
Concentration (or Container Volume)[1]	Concatenation of medication amount, medication unit, diluent amount, and diluent unit
Rule Sets	The type of rule set created for the medication. Includes full, limited, and label only
Dosing Unit	The dosing unit selected for the medication
LHL	Lower Hard Limit - the lower limit that cannot be overridden
LSL	Lower Soft Limit - the lower limit that can be overridden
USL	Upper Soft Limit - the upper limit that can be overridden
UHL	Upper Hard Limit - the upper limit that cannot be overridden
Assigned CCAs	CCAs to which the drug is assigned
External ID	The ID number used to match an order to the medication entry in the drug library
Therapeutic Class	Therapeutic class assigned to the medication entry
Class ID	The ID number for the therapeutic class
[1] When the rule type is Limited, this field displays the container volume	

Plum 360 Master Infuser and CCA Settings

This report displays detailed information on all Plum A+ master infusers and active CCA settings.

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

Plum 360	
Master Infuser Settings	**Description**
Continue Rate	The default delivery rate the infuser switches to after a therapy completes: KVO or programmed rate
Callback Notification	The default callback setting: Yes or No
Deliver Together	The default deliver together method: Piggyback or Concurrent
Force Pump to Accept Drug Library Power Down	To automatically install a new Medication Library upon infuser turn off. The default is No.
Auto-programme Rejection Reason Timeout (seconds)	The amount of time a rejection reason appears on the infuser
Maximum Standby Time (hours)	The period of time the infuser can wait before beginning a therapy
Default Clinical Use	The default clinical use entered that will replace "Not Specified" fields in the rule set
CCA Settings	**Description**
CCA Name	The CCA name
Service Line	The service line name
BSA	The minimum and maximum value
Patient Height	The minimum and maximum patient height
Patient Weight	The minimum and maximum patient weight
Distal Occlusion Pressure	The default and maximum setting
Occlusion Pressure Auto-Reset	The occlusion pressure auto-resets
Distal Occlusion Auto-Reset	The distal occlusion auto-resets
Delayed Start	The default delay start setting: Enabled or Disabled
Standby	The default setting to Enable or Disable standby before the beginning of a therapy
Maximum Dose Rate (mL/hr)	The maximum delivery rate

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

Plum A+ Master Infuser and CCA Settings

This report displays detailed information on all Plum A+ master infusers and active CCA settings.

Plum A+	
Master Infuser Settings	**Description**
Continue Rate	The default delivery rate the infuser switches to after a therapy completes: KVO or programmed rate
Callback Notification	The default callback setting: Yes or No
Delay Start	The default delay start setting: Yes (Enabled) or No (Disabled)
Deliver Together	The default deliver together method: Piggyback or Concurrent
CCA Settings	**Description**
CCA Name	The CCA name
Service Line	The service line name
Default Occlusion Pressure	The default minimum pressure that will cause the infuser to report an occlusion alarm
Minimum Patient Weight	The minimum patient weight allowed in the CCA
Maximum Patient Weight	The maximum patient weight allowed in the CCA
Maximum Rate	The maximum delivery rate allowed in the CCA

Printing Reports

To print a report:

1. Click the **Reports** tab.
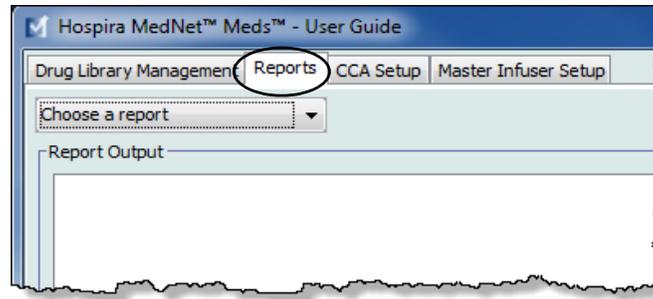
2. Select the report to print from the drop-down list.
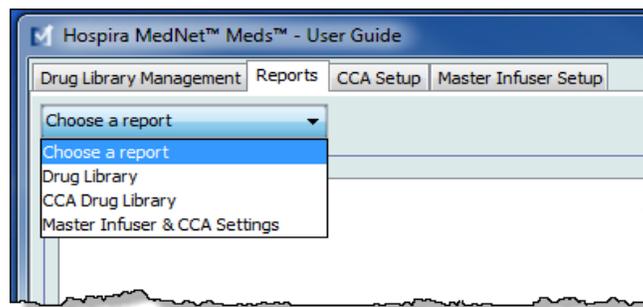
   The report displays.

3. Click **Print**.

   The Print menu displays. Make your selection.

4. Click **Print**.

To Save a Report

1. Select a report that you want to save.

2. Click **Save to File**.

3. Navigate to a location of your choice.
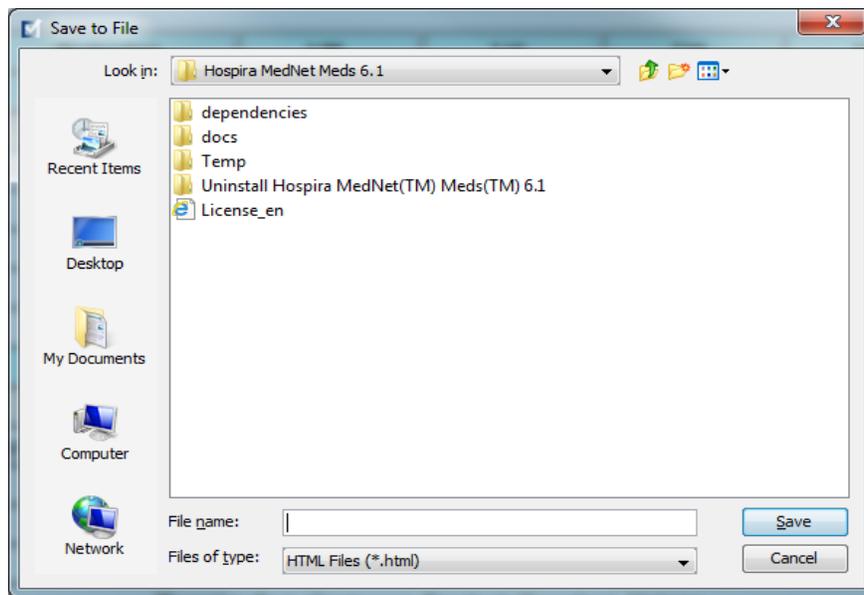
4. Type in a File name.

5. Click **Save** and the report will be saved in .html format.

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

Chapter 8: Setting Up CCAs

Overview

Before you can assign medication entries to a clinical care area (CCA), you need to add a CCA to your Worksheet. Use the CCA Set-Up view to add a CCA to the Worksheet. You can create a maximum of 18 CCAs for the Plum A+® 13.4x infuser. Hospira MedNet Meds also supports Plum versions that can accommodate up to 40 CCAs. (See the Hospira MedNet Software Device Compatibility Matrix to determine the availability of the Plum version. The matrix is available through the Advanced Knowledge Centre.)

The CCA Set-Up view allows you to:

- Create a new CCA and assign a Service Line to it
- Make changes to an existing CCA name and Service Line
- Remove an existing CCA
- View CCA names and Service Lines
- Arrange the order in which the CCA names display on the infuser
- Set up CCA-specific infuser settings

To display the CCA Set-Up view, open a Worksheet for editing and click the **CCA Set-Up** tab. (For instructions on opening a Worksheet, see **Chapter 5: The Library Directory**, on page 27.)
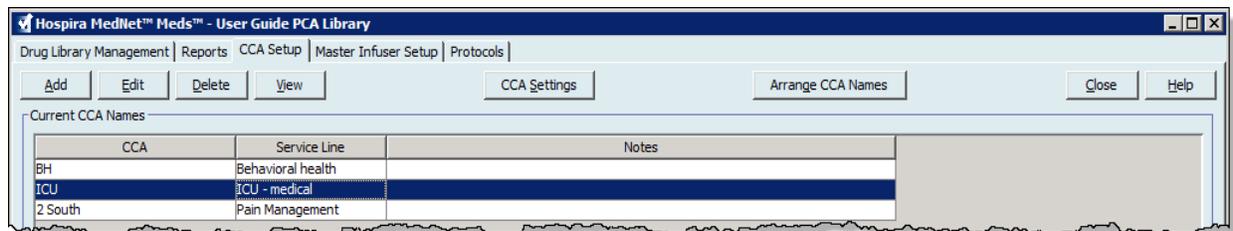
Note: If you try to add a medication to a CCA that already has the maximum allowable medication entries, you will receive an error message. You will need to delete a medication from the CCA then add a new medication to the CCA in the Drug Library Management window.

Service Lines

Service Lines are 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 **Surgical - adult** may be used to examine data from the CCAs Four West, Five North, and Five East in a single hospital.

The following Service Lines are available for use.

**Note:** You cannot edit or change the contents of the Service Line list.

- Ambulatory
- Anesthesia
- Behavioural health
- Bone marrow transplant
- Burn unit
- Ear, Nose and Throat
- Emergency services
- Endocrinology
- Eye
- Geriatric
- Haematology
- ICU - cardiac
- ICU - general
- ICU - medical
- ICU - neonatal
- ICU - paediatric
- ICU - surgical
- Labour & Delivery
- Medicine - adult
- Medicine - neonatal
- Medicine - paediatric

- Multiple service line
- Obstetrics/gynecology
- Oncology - adult
- Oncology - paediatric
- Orthopedics
- Other specialty
- Outpatient Surgery
- Pain Management
- Rehabilitation
- Renal
- Short Stay
- Skilled nursing
- Special Procedures
- Surgical - adult
- Surgical - cardiovascular
- Surgical - paediatric
- Telemetry
- Transfusion Centre
- Transplant
- Trauma
- Urology

Create a New CCA

To create a new CCA:

1. Click the **CCA Set-Up** tab.

2. Click **Add**.
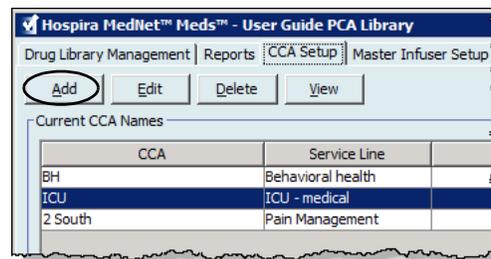
3. Enter the name of the new CCA.

Note: Displayed Names and CCA Names do not allow either commas (,) or inverted commas (".) The number of characters allowed in a CCA name varies for each type of infuser. Plum has a maximum of 29. You cannot exceed the maximum characters.

4. Select a Service Line for your CCA from the drop-down list.

5. To exclude the CCA from the reports, place a check mark in the box next to **Exclude from clinical reports**.

Note: Clinical reports include all reports except Asset Tracker, Asset Use, Event/Alarm Log, Infuser Status, and Software Download.

6. Enter a Note if desired.

7. Click **Save & Add Another** or **Save & Close**.

Edit a CCA

To edit a CCA, Service Line, or Note:

1. Click the **CCA Set-Up** tab.

2. Select the CCA you want to change.
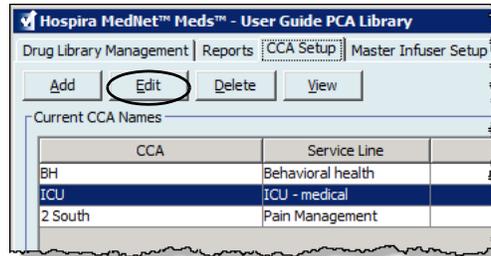
3. Click **Edit**.

4. Edit the CCA Name, Service Line, and Notes if desired.


5. Click **Save & Edit Next** or **Save & Close**.

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

View a CCA

To view a CCA:

1. Click the **CCA Set-Up** tab.

2. Select the CCA you want to view.
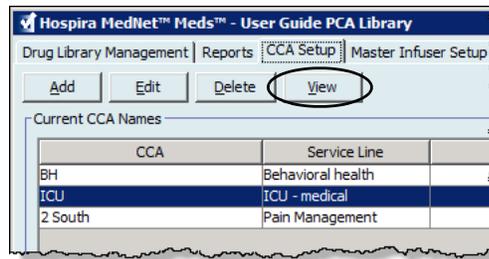
3. Click **View**.

4. When you have finished viewing, click **View Next** or **Close**.
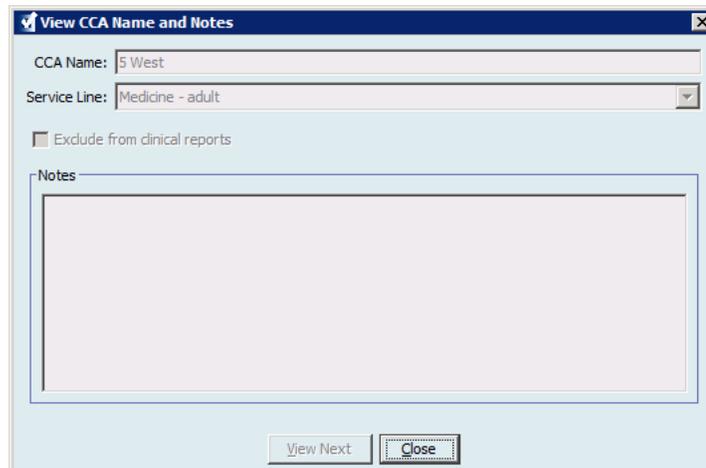
Delete a CCA

To delete a CCA:

1. Click the **CCA Set-Up** tab.

2. Select the CCA you want to delete.
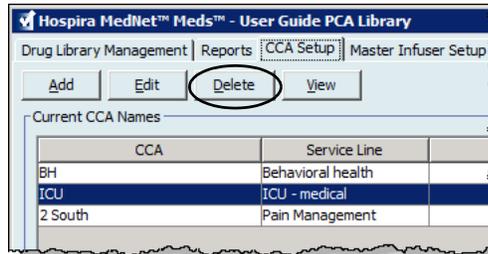
3. Click **Delete**.

4. A pop-up window appears to confirm the deletion.

5. Click **Delete**.
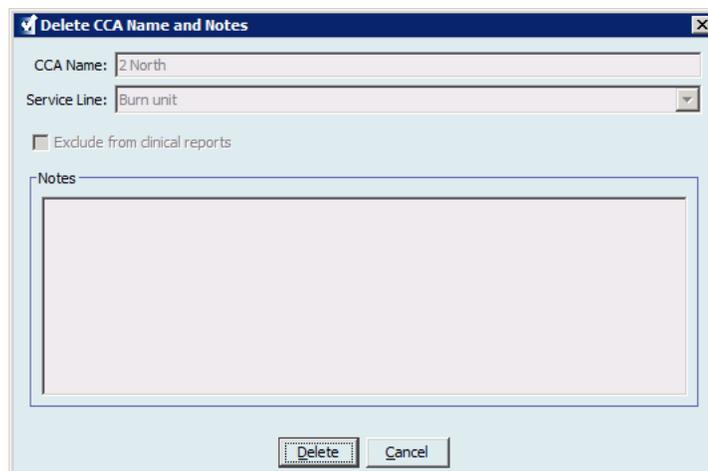
The CCA is permanently deleted from the Worksheet.

Note: Medication entries assigned to the deleted CCA will remain in the Master Drug Formulary and any other CCAs to which they were assigned.

Change the Display Order of CCA Names

To change the display order of CCA names on the infuser:

1. Click the **CCA Set-Up** tab.
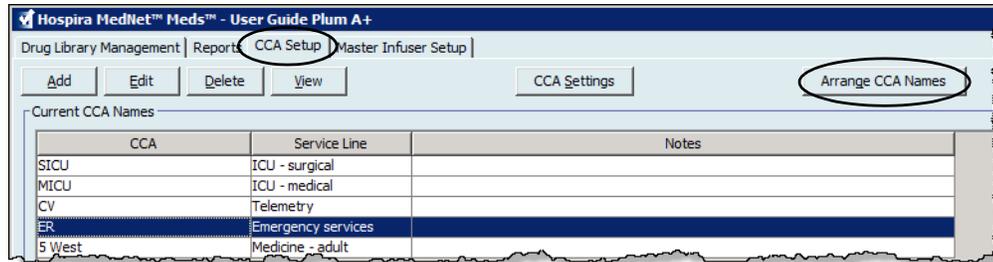
2. Click **Arrange CCA Names**.

3. Select the CCA names you want to move.

4. Click **Move Up** and **Move Down** to reorder the list as desired.

5. Click **Save** when you are satisfied with the display order.
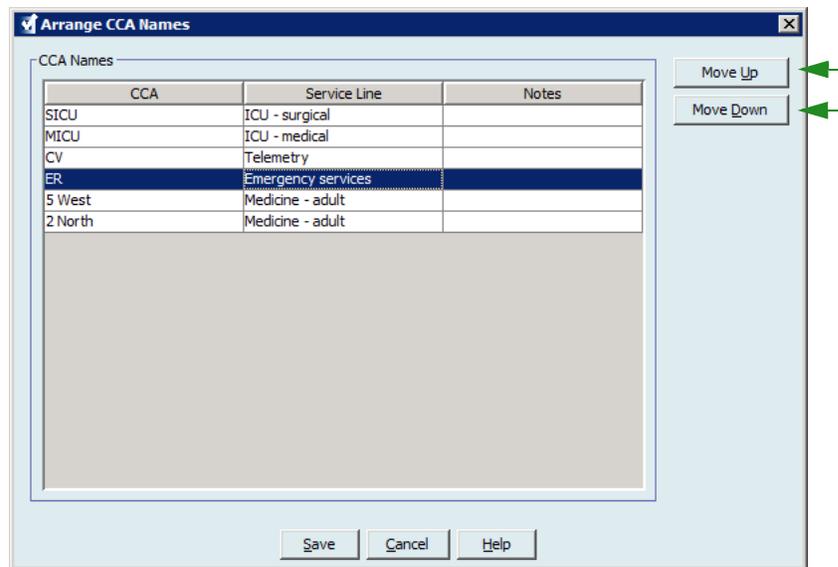
Helpful Hint: *You may select multiple CCAs by selecting the first CCA you want to move, and then holding the shift key while clicking the last CCA you want to move.*

Setting Up a Plum 360

Note: Only users with the appropriate login privileges are able to edit CCA infuser settings.

Each CCA is associated with specific infuser settings. For Plum infusers that can support 40 CCAs, the following settings are supported: Patient Limits consisting of minimum and maximum body surface area (BSA); minimum and maximum patient height and weight; Alarm Settings for the default occlusion pressure; and Other Infuser Parameters relating to start and standby, and dose rates.

Note: The CCA settings apply to all medications in the CCA.

The **Body Surface Area** setting allows you to set a minimum to maximum range for the specific CCA.

The **Minimum Patient Height** setting allows you to set the minimum patient height allowed in the CCA.

The **Maximum Patient Height** setting allows you to set the maximum patient height allowed in the CCA.

The **Minimum Patient Weight** setting allows you to set the minimum patient weight allowed in the CCA.

The **Maximum Patient Weight** setting allows you to set the maximum patient weight allowed in the CCA.

The **Default Occlusion Pressure** setting allows you to select the pressure at which the infuser will sound the distal occlusion alarm. This setting is used as the default setting for the selected CCA and can be changed when programming the infuser.

The **Distal Occlusion Pressure Auto-Reset** setting allows you to set the number of times the infuser will resume an infusion automatically if a distal occlusion is cleared within 60 seconds of detection. If you leave the Auto-Reset at zero, the default setting, occlusion alarms will not be automatically reset.

The **Maximum Dose Rate** is the maximum delivery rate allowed in the CCA.

The **Delayed Start** setting allows you to select this option in the CCA and in turn allows that option for the infuser.

The **Standby** setting allows you to select this option in the CCA and in turn allows that option for the infuser.

Note: The Minimum Patient Weight, Maximum Patient Weight, and Maximum Dose Rate cannot be changed by the clinician when programming the infuser.

Following are the default CCA infuser settings:

|	
Minimum BSA	**0.012 (m^2)**
Maximum BSA	**7.07 (m^2)**
Minimum Patient Height	**7.5 cm**
Maximum Patient Height	**305 cm**
Minimum Patient Weight	**0.1 kg**
Maximum Patient Weight	**500 kg**
Default Occlusion Pressure	**6 psi (310 mmHg)**
Distal Occlusion Pressure Auto-Reset	**0**
Maximum Dose Rate	**999 mL/hr**
Delayed Start	**Enabled**
Standby	**Enabled**

Note: When you create a new CCA, it contains the default infuser settings until you change them.

To set up CCA settings:

1. Display the CCA Set-Up view by opening a Worksheet for editing and clicking the **CCA Set-Up** tab (for instructions on opening a Worksheet, see **Chapter 5: The Library Directory on page 27**).
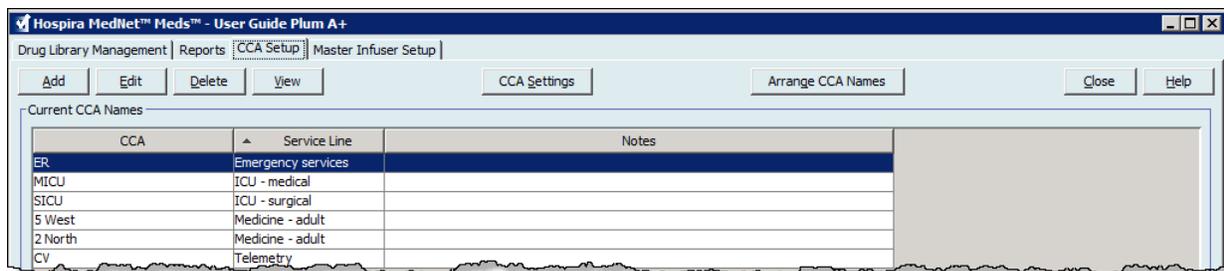

2. Select a CCA from the CCA Set-Up view.
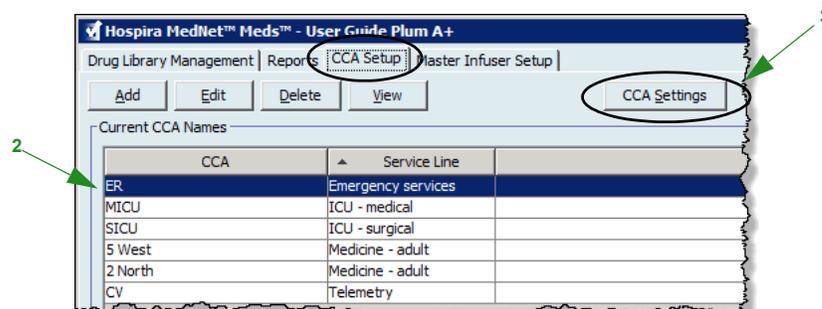
3. Click the **CCA Settings** button.

4. Select the **Patient Limits** tab and edit the following information:

  - **Minimum BSA** (0.012 to 7.07)
  - **Maximum BSA** (0.012 to 7.07)
  - **Minimum Patient Height** (7.5 to 305 cm)
  - **Maximum Patient Height** (7.5 to 305 cm)
  - **Minimum Patient Weight** (0.1 to 500 kg)
  - **Maximum Patient Weight** (0.1 to 500 kg)

5. Select the **Alarm Settings** tab and edit the following information:

  - **Distal Occlusion Pressure** (1 psi to 15 psi or 52mmHg to 776 mmHg))
  - **Distal Occlusion Auto-Reset** (0 to 10)

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

6. Select the **Other Infuser Parameters** tab.
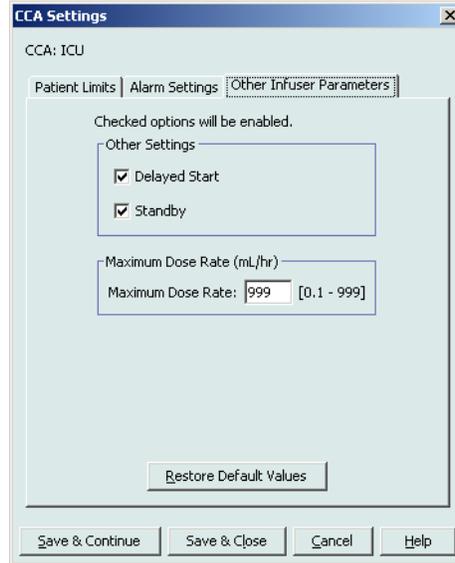
7. Select to allow the **Delayed Start** and **Standby** settings (recommended.)

8. Edit the **Maximum Dose Rate**.

9. Click **Save & Continue** or **Save & Close**.

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

Setting Up a Plum A+® CCA

Note:	Only users with the appropriate login privileges are able to edit CCA infuser settings.

Each CCA is associated with specific infuser settings. These settings include: the default occlusion pressure, minimum and maximum patient weight, and maximum dose rate settings.

Note:	The CCA settings apply to all medications in the CCA.

The **Default Occlusion Pressure** setting allows you to select the pressure at which the infuser will sound the distal occlusion alarm. This setting is used as the default setting for the selected CCA and can be changed when programming the infuser.

The **Minimum Patient Weight** setting allows you to set the minimum patient weight allowed in the CCA.

The **Maximum Patient Weight** setting allows you to set the maximum patient weight allowed in the CCA.

The **Maximum Dose Rate** is the maximum delivery rate allowed in the CCA.

Note:	The Minimum Patient Weight, Maximum Patient Weight, and Maximum Dose Rate cannot be changed by the clinician when programming the infuser.

Following are the default CCA infuser settings:

|	
Default Occlusion Pressure	**6 psi (310 mmHg)**
Minimum Patient Weight	**0.1 kg**
Maximum Patient Weight	**500 kg**
Maximum Dose Rate	**999 mL/hr**

Note:	When you create a new CCA, it contains the default infuser settings until you change them.

To set up the Plum A+® CCA settings:

1. Display the CCA Set-Up view by opening a Worksheet for editing and clicking the **CCA Set-Up** tab (for instructions on opening a Worksheet, see **Chapter 5: The Library Directory on page 27**).
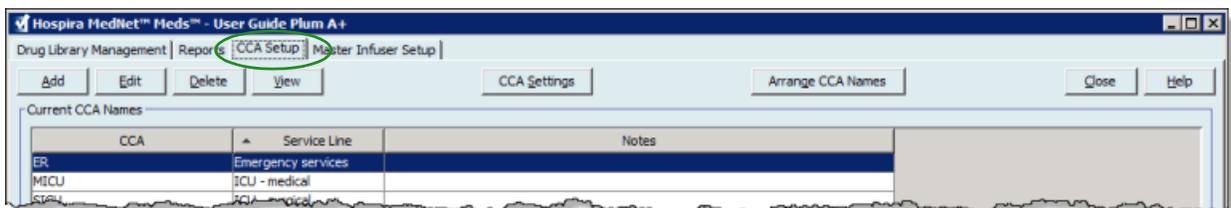
2. Select a CCA from the CCA Set-Up view.
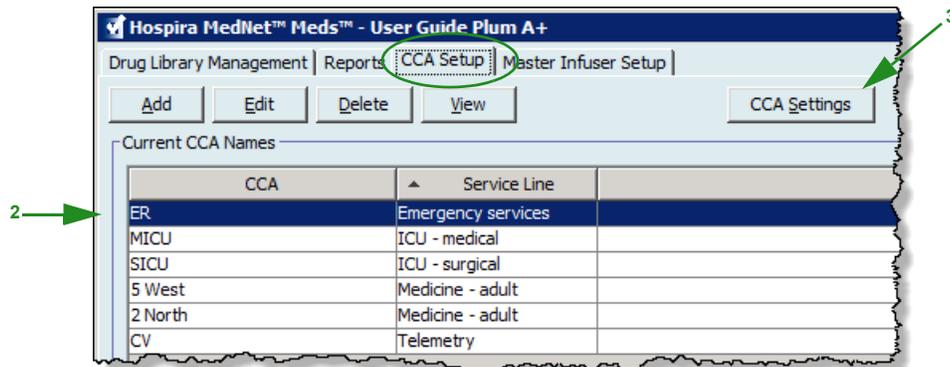
3. Click the **CCA Settings** button. The CCA Settings screen displays.

4. Edit the following information:

   • **Default Occlusion Pressure** (1 psi to 15 psi or 52 mmHg to 776 mmHg.) The Default Occlusion Pressure is the threshold for the distal occlusion alarm.

Note: If your institution uses Plum A+ HB Hyperbaric infusers (version 13.5), refer to the infuser's System Operating Manual for this model's expanded default occlusion pressure range. The clinician is able to set the default occlusion pressure value while programming the infuser for hyperbaric use.

   • **Minimum Patient Weight** (0.1 to 500 kg)
   • **Maximum Patient Weight** (0.1 to 500 kg)
   • **Maximum Dose Rate** (0.1 to 999 mL/hr)

5. Click **Save** to save the settings in the selected CCA.

Notes:

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

Chapter 9: Plum A+ and Plum 360 Medication Entries

Overview

In this chapter, you will learn how to define clinical decision rules for medications in the Plum A+ drug library. Hospira MedNet Meds software enables you to customise dose limits for medications used in drug libraries. You can customise clinical decision rules for up to the maximum number of clinical care areas (CCAs) in the hospital, and 150 (Plum A+) or 400 medication entries (Plum 360) in each CCA, depending on your licencing.

Medication entries can be created with one of three types of rule sets, described below.

- Full Rule Set: Medication entries configured with a medication name, a complete or partial concentration, a specific dosing unit, and corresponding dose rate limits.
- Limited Rule Set: Medication entries configured with a medication name, optional diluent volume, and rate limits.
- Label Only Rule Set: Medication entries configured with a medication name, complete or partial concentration, and a specific dosing unit.

The display of the medication in the Drug List and the programming sequence for the clinician on the infuser will vary depending on the type of rule set defined in the drug library.

> **Note:** The Clinical Use field (Plum 360 only) is an optional field and can be left blank. The default value of Clinical Use can be updated in the Master Infuser Set-Up.
>
> Reference to the Plum with 40 CCAs applies to the Plum 360.

Part 1: Plum 360

Defining Rule Sets

Full Rule Set

A Full rule set allows you to enter a complete concentration (for example, 250 mg/500 mL) or partial concentration (for example, 250 mg/_ mL, _mg/500 mL or, _mg/_mL.) Creating a medication entry for the standard concentrations of any medication reduces the number of programming steps on the infuser for the clinician. At least one dosing limit value **must** be entered for each Full rule set.

Leaving the medication or diluent amounts blank allows the clinician to enter a non-standard concentration at the time of programming. Full rule sets defined with a partial concentration will require the clinician to enter the concentration values when the dosing units are not mL/hr. When the dosing units are mL/hr, you do not have to enter concentration information.

Limited Rule Set

A Limited rule set does not require a concentration to be defined. At least one dosing limit value must be entered for each Limited rule set. The Container Volume field is optional. When programming the infuser for a medication with a Limited rule set, the clinician enters only the rate, volume to be infused (VTBI), and duration.


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 a Label Only rule set. The clinician selects the dosing units during programming. If the dosing units are not mL/hr, the clinician also enters the concentration values.

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

Each type of rule set will create a different display for the medication in the Drug List on the infuser. The pictures below provides examples of how the Drug List will look for each type.

Full Rule Set - Complete Concentration

Full Rule Set - Partial Concentration

Limited Rule Set

Label Only Rule Set

You can create medication entries by adding them to the Master Drug Formulary or by adding them directly to a CCA. Medication entries added to a CCA are automatically added to the Master Drug Formulary.

Within a CCA, no two medication entries may have exactly the same External ID and Concentration. Also, no two medication entries may have exactly the same Displayed Name and Concentration.

Within a CCA, a medication entry with a Displayed Name and a Concentration can have up to four Clinical Uses. Each Clinical Use can have up to four dosing units or a total of 16 possible dosing units for one medication in one CCA.

In the Master Drug Formulary, two medication entries may have the same display name, medication amount, medication unit, diluent amount, and dosing units, as long as one or more of the following limits are different:

- Lower soft limit (LSL)
- Lower hard limit (LHL)
- Upper soft limit (USL)
- Upper hard limit (UHL)

Setting Dose Rate Limits

Hospira MedNet Meds allows you to define dose rate limits for both primary and secondary infusions. It is important that you understand how the dose rate limits function so please read this section carefully.

You can define upper and lower soft and hard limits as part of the rule set for each medication entry that you create in the library. As you configure the limits, the software enforces the following rule:

Lower Hard Limit (LHL) < Lower Soft Limit (LSL) <= Upper Soft Limit (USL) < Upper Hard Limit (UHL)

Soft Limits

Soft Limits are dose rate limits that can be overridden when programming the infuser. When a value entered on the infuser is lower than the lower soft limit or higher than the upper soft limit, the infuser displays a soft limit override confirmation message. The infuser records soft limit alerts and the user's response to the alert in its history logs.

For example, if the upper soft limit is set to 15 mL/hr and the clinician enters 16 mL/hr, the infuser will display a soft limit override alert. This alert notifies the clinician that the entry is outside the range of the soft limits set for that medication entry. The clinician can choose to continue programming using the override, or cancel the override and edit the value. Both the override and edit events are recorded separately in the infuser's history log.

Hard Limits

Hard Limits are dose rate limits that cannot be overridden; the infuser cannot be programmed with a rate that is lower than the lower hard limit or higher than the upper hard limit.

> **Note:** The actual patient weight is not entered until the clinician programs the infuser. Therefore, Hospira MedNet Meds software cannot verify the validity of a lower limit when entering a weight-based medication entry. The infuser performs the final check when the clinician programs the infuser.

Medication Entry Rules and Conventions

The Hospira MedNet Meds software uses the following conventions for Plum A+ medication entries:

- Full or Limited rule sets require at least one hard or soft limit.
- You can create medication entries by adding them to the Master Drug Formulary or by adding them directly to a CCA. Medication entries added to a CCA Target List are automatically added to the Master Drug Formulary List.
- "Validity" messages appear in red at the bottom of the Rule Set window. When you enter a value that is not allowed, the message specifies the defined range for the field, or the reason the value is not permitted.
- You cannot use the following characters in the medication name: comma (,), less than (<), greater than (>), single quotation marks ('), inverted commas ("), and ampersand (&.)
- Once you select a medication unit, the dosing unit field will display only the enabled unit type.
- The software prohibits invalid numeric entries and signals such entries with an audible "beep."
- You may use the vertical and horizontal scroll bars to navigate to an entry.
- If you do not select or populate a required field, an error message appears.
- When you highlight an entry on the Drug Library Management list view, buttons or features that are not allowed appear as "greyed" or disabled.
- When you add a new medication in the Generic Name field of the rule set window, you may search for a medication by typing the first few characters of its generic name. The drop-down list will navigate to show any matching medications.

The Plum 360 Medication Rule Set

The Rule Set window shown here is used to configure a medication entry for the Plum A+ drug library.

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

Rule Set Fields

The following table lists the fields, a brief description, and allowed value range for the infuser.

Each medication entry must have a generic name and a displayed name; you cannot save a medication entry without a name in these fields. The number of characters in the displayed name is determined by how it is displayed on the infuser's screen. Depending on character width, the maximum number of characters allowed in a displayed name can vary from 17 to 29.

To avoid potential confusion when creating medication entries, use only the medication name in the **Displayed Name** field and ensure that the External ID is identical to the External ID used in your institution's formulary. Do not include the diluent as part of the medication name.

Parameter	Description	Allowable Range
Generic Name	This is the medication name from your Medication List. It is selected from the drop-down list and displays the External ID (the hospital's identifier for a medication). Strength/Volume and Dosage Form display only if part of your Medication List.	Not editable in the Rule Set
Displayed Name	This is the name that will be displayed on the infuser.	• Varies depending on the character width • Cannot be blank ⚠️ Caution: You cannot use the following characters in the displayed name: comma (,), less than (<), greater than (>), single quotation marks ('), inverted commas ("), and ampersand (&.) **Note:** The display font changes on the Plum A+ infuser for lengthy displayed names.
Therapeutic Class	The therapeutic class assigned to the medication entries.	Not editable in the Rule Set
Class ID	The ID number for the therapeutic class assigned to the medication entry.	Not editable in the Rule Set
Medication Amount	Allows you to enter the medication amount in the units selected. The combination of medication amount, medication unit, and diluent amount creates the medication's concentration.	For medication amounts in mcg, mg, grams, mEq, million units, or mmol: • 0.1–9999 and "Blank" For medication amounts in units: • 0.1–99999999 and "Blank"
Medication Unit	Allows you to select the unit of measure for your medication amount.	mcg, mg, grams, mEq, Million Units, mmol and units

Parameter	Description	Allowable Range
Diluent Amount	Allows you to set the diluent amount associated with the medication entry. The diluent amount will vary depending on the container size, overfill, and volume of added solution.	• 0.1–9999 and "Blank"
Piggyback delivery allowed	Allows you to enable a piggyback infusion.	Checked to enable or Unchecked (does not allow the functionality)
Allow piggyback to interrupt this infusion	Allows you to configure whether this medication can be interrupted by a piggyback infusion.	Checked to enable or Unchecked (does not allow the functionality)
Dosing Unit	Allows you to set the standard dosing unit for the medication. This will be the default value displayed on the infuser. Once dosing unit and concentration are set in Hospira MedNet Meds, they cannot be changed on the infuser by the clinician programming the device.	**Dosing units for grams family:** mcg, mg, g mcg/min, mcg/hr, mcg/day, mcg/kg/min, mcg/kg, mcg/kg/hr, mcg/kg/day, mcg/m², mcg/m²/min, mcg/m²/hr, mcg/m²/day mg/min, mg/hr, mg/day, mg/kg, mg/kg/min, mg/kg/hr, mg/kg/day, mg/m², mg/m²/min, mg/m²/hr, mg/m²/day grams/min, grams/hr, grams/day, grams/kg, grams/kg/min, grams/kg/hr, grams/kg/day, grams/m², grams/m²/hr, grams/m²/day, grams/m²/min nanog/min, nanog/hr, nanog/day, nanog/kg/min, nanog/kg/hr, nanog/kg/day, nanog/m²/min, nanog/m²/hr, nanog/m²/day **Dosing units for mL family:** mL, mL/hr, mL/kg, mL/kg/day, mL/kg/hr, mL/kg/min, mL/m²/day, mL/m²/hr, mL/m²/min, mL/min, liters/m²/day, liters/m²/hr, liters/m²/min **Dosing units for Units family:** milliUnits/min, milliUnits/hr, milliUnits/day, milliUnits/kg, milliUnits/kg/min, milliUnits/kg/hr, milliUnits/kg/day, milliUnitsm²/min, milliUnits/m²hr, milliUnits/m²/day units/min, units/hr, units/day, units/kg, units/kg/min, units/kg/hr, units/kg/day, units/m², units/m²/min, units/m²/hr, units/m²/day **Dosing units for Million Units family:** Million Units/min, Million Units/hr, Million Units/m² **Dosing units for mmol family:** mmol/min, mmol/hr, mmol/day, mmol/kg, mmol/kg/min, mmol/kg/hr, mmol/kg/day **Dosing units for mEq family:** mEq/min, mEq/hr, mEq/day, mEq/kg/min, mEq/kg/hr, mEq/kg/day, mEq/m²/min, mEq/m²/hr, mEq/m²day

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

Parameter	Description	Allowable Range
LHL, LSL, USL, UHL	Lower hard limit, lower soft limit, upper soft limit, upper hard limit. Allows you to set the upper and/ or lower dose rate limits for the selected medication.	The units for the soft and hard limits are the same as the dosing units selected in the medication rule set. **For the grams family:** Range: 0.001-9.999 use increments of 0.001 Range: 100-999* use increments of 1 **For the litres family:** Range: 0.001-9.999 use increments of 0.001 Range: 10.00-99.99 use increments of 0.01 Range: 100-1000 use increments of 1 **For the mEq family:** Range: 0.001-9.999 use increments of 0.001 Range: 1.00-9.99 use increments of 0.01 Range: 10.0-99.9 use increments of 0.1 Range: 100-999* use increments of 1 **For the mL/hr family:** Range: 0.1-99.9 in increments of 0.1 Range: 100-999 use increments of 1 **For the mL family:** Range: 0.001-9.999 use increments of 0.001 Range: 10.0-99.99 use increments of 0.01 Range: 100-1000 use increments of 1 **For the mmol family:** Range: 0.001-0.999 use increments of 0.001 Range: 1.00-9.99 use increments of 0.01 Range: 10.0-99.9 use increments of 0.1 Range: 100-999 use increments of 1 **For the Units family:** Range: 0.001-0.999 use increments of 0.001 Range: 1.00-9.99 use increments of 0.01 Range: 10.0-99.9 use increments of 0.1 Range: 100-99999999 use increments of 1 **For the Million Units family:** Range: 0.001-0.999 use increments of 0.001 Range: 1.00-9.99 use increments of 0.01 Range: 10.0-99.9 use increments of 0.1 Range: 100-999 use increments of 1

* Some infusers support a range of 100-9999.
Refer to your infuser's System Operating Manual for complete details and allowable range.

Step-by-step Procedures

The following section provides step-by-step procedures that will enable you to create and manage medication entries. In this section you will learn how to do the following:

- Add a medication entry with a Full rule set in a CCA
- Add a medication entry with a Limited rule set in a CCA
- Add a medication entry with a Label Only rule set in a CCA
- Edit a medication entry in a CCA
- View a medication entry in a CCA
- Remove a medication entry from a CCA
- Add a medication entry with a Full rule set the Master Drug Formulary
- Add a medication entry with a Limited rule set to the Master Drug Formulary
- Add a Label Only medication entry to the Master Drug Formulary
- Edit a medication entry in the Master Drug Formulary
- View a medication entry in the Master Drug Formulary
- Delete a medication entry from the Master Drug Formulary
- Copy a medication entry from the Master Drug Formulary to a Target CCA

Working with CCA Medication Entries

|	
Note:	When adding medication entries to the Target List, both the selected CCA and the Master Drug Formulary are updated. When adding to the Source List, only the Master Drug Formulary is updated.
	The maximum number of medication entries allowed in a CCA is 150-400 depending on your licencing.

In the Target List, the created medication entries are grouped by Displayed Name plus Concentration. If there is no grouping of medication entries with the same Displayed Name plus Concentration, the entry will go to the bottom of the list of medication entries.

Within the grouping there is a sorting

     a. Clinical Use with the Default setting of Clinical Use topping the series

     b. Each group in Alphabetical order

     c. Dosing units

To add a medication entry with a Full rule set in a CCA:

    1. Select the desired CCA from the Target List drop-down list.

    2. From the Target List, click **Add**.

3. Select the Generic Name of a medication.

Note: Selecting a generic name from the list automatically populates the **Displayed Name**, **External ID**, **Therapeutic Class**, and **Class ID** fields.


Note: If the desired generic name is not in the **Generic Name** list, you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

Note: The **Displayed Name** can be changed as desired; for example, to accommodate Tall Man lettering or another unique name. The maximum number of characters in a Displayed Name is determined by how it is displayed on the infuser screen. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

4. Select **Full** (if not selected) from the **Rule Sets** drop-down list.

5. Enter a Medication Amount. Select a Medication Unit from the drop-down list and enter a Diluent Amount, if desired.

6. Place a tick mark in the box next to Piggyback delivery allowed, if desired.

7. Place a tick mark in the box next to Allow piggyback to interrupt this infusion, if desired.

8. Enter a Clinical Use, if desired.

9. Click **Next**.

10. Select the dosing unit from the drop-down list and enter the values for soft and hard limits. (You must specify at least one limit.)

11. Once you enter a value for Dosing Unit and dosing limit(s), you will be able to add three more dosing units, for a total of four dosing units for the selected medication entry with the same Displayed Name and Concentration.

You can add each selection by clicking the green plus "**+**" sign.

Note: A tab with red text denotes either incomplete or invalid dosing unit and/or dosing limits.

12. Click **Save & Add Another Rule Set**, or **Save & Close** to add the medication entry to the CCA.

**To add a medication entry with a Limited rule set in a CCA:**

1. Select the desired CCA from the Target List drop-down list.

2. From the Target List, click **Add**.


3. Select the Generic Name of a medication.

Note: Selecting a generic name from the list automatically populates the **Displayed Name**, **External ID**, **Therapeutic Class**, and **Class ID** fields.

Note: If the desired generic name is not in the **Generic Name** list, you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

4. The **Displayed Name** can be changed as desired; for example, to accommodate Tall Man lettering or another unique name. The maximum number of characters in a Displayed Name is determined by how it is displayed on the infuser screen. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

5. Select **Limited** (if not selected) from the **Rule Sets** drop-down list.

6. Enter Container Volume, if desired.

7. Place a tick mark in the box next to Piggyback delivery allowed, if desired.

8. Place a tick mark in the box next to Allow piggyback to interrupt this infusion, if desired.

9. Enter a Clinical Use, if desired.

10. Click **Next**.

11. Select the dosing unit from the drop-down list and enter the values for soft and hard limits. (You must specify at least one limit.)

12. Once you enter a value for Dosing Unit and dosing limit(s), you will be able to add three more dosing units, for a total of four dosing units for the selected medication entry with the same Displayed Name and Concentration.

You can add each selection by clicking the green plus "+" sign.

Note: A tab with red text denotes either incomplete or invalid dosing unit and/or dosing limits.

13. Click **Save & Add Another Rule Set** or **Save & Close** to add the medication entry to the CCA.

To add a Label Only rule set medication entry in a CCA:

1. Select the desired CCA from the Target List drop-down list.

2. From the Target List, click **Add**.

3. Select the Generic Name of a medication.

Note: Selecting a **Generic Name** from the list automatically populates the **Displayed Name**, **External ID**, **Therapeutic Class**, and **Class ID** fields.


Note: If the desired generic name is not in the **Generic Name** list, you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

4. The **Displayed Name** can be changed as desired; for example, to accommodate Tall Man lettering or another unique name. The maximum number of characters in a Displayed Name is determined by how it is displayed on the infuser screen. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

5. Select **Label Only** from the **Rule Sets** drop-down list.

6. Place a tick mark in the box next to **Piggyback delivery allowed**, if desired.

7. Place a tick mark in the box next to **Allow Piggyback to interrupt this infusion**, if desired.

8. Click **Next**.

9. Click **Save & Add Another** or **Save & Close** to add the medication entry to the CCA.

To edit a medication entry in a CCA:

1. Select the CCA containing the medication entry you want to view from the Target List drop-down list.


2. From the Target List, select the medication entry you want to edit.

3. Click **Edit**.

Helpful Hint: *You can also double-click a medication entry to display the **Rule Set** dialogue box.*

4. Make changes as desired.

Note: You cannot change the **Therapeutic Class** or **Class ID** when editing a medication entry in a CCA.


5. Click **Save & Close** to save changes.

Note: If the medication entry that is edited is assigned to only one CCA, the medication entry will also be updated with the same change in the Master Drug Formulary. If the medication entry that is edited is assigned to more than one CCA, a new medication entry will be created in the Master Drug Formulary.

To view a medication entry in a CCA:

1. Select the CCA containing the medication entry you want to view from the Target List drop-down list.

2. From the Target List, select the medication entry you want to view.

3. Click **View**.

4. Click **Close** to exit the screen.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.
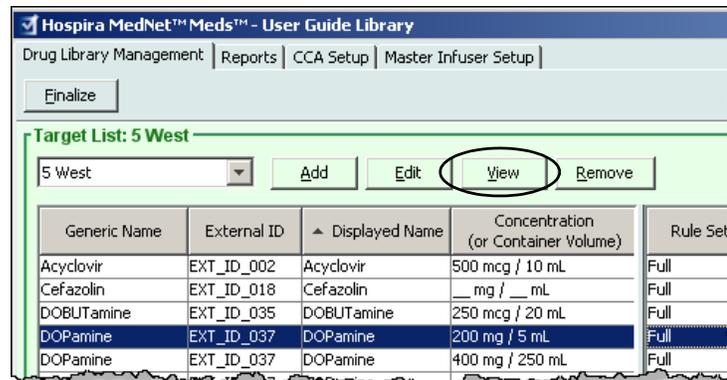
To remove a medication entry from a CCA:

1. Select the CCA containing the medication entry you want to remove from the Target List drop-down list.
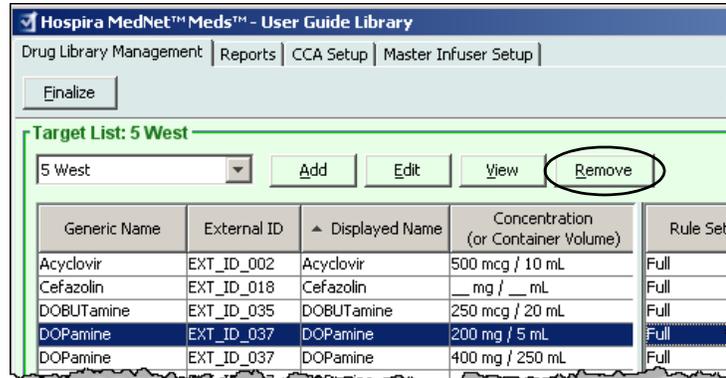
2. Select the medication entry you want to remove.
3. Click **Remove**.

4. At the confirmation to remove from the CCA, click **Remove**.

Working with the Master Drug Formulary

The Master Drug Formulary can contain medication entries not assigned to a CCA, to facilitate later use. The total number of medication entries in the Master Drug Formulary for the Plum A+ infuser cannot exceed 3510.

To add a medication entry with a Full rule set to the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, click **Add**.

3. Select the Generic Name for the medication entry.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID**, **Therapeutic Class**, and **Class ID** fields.

---

4. Click **Select Medication**.

Note: The **Displayed Name** field cannot be left blank. The maximum number of characters in a medication name is determined by how it is displayed on the infuser screen after it is downloaded. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

Note: If the desired generic name is not in the **Generic Name** drop-down list, you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

5. Select **Full** (if not already selected) from the **Rule Sets** drop-down list.

6. Enter a **Medication Amount** (optional), select the **Medication Unit** and **Diluent Amount** (optional.)

7. Select the dosing unit and type the values for soft and hard limits. (You must specify at least one limit.)

8. Click **Save & Add Another Dosing Unit** or **Save & Close** to add the medication entry to the Master Drug Formulary.

Note: When a medication entry is added to the Master Drug Formulary, it is not assigned to a CCA.

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

**To add a Limited rule set medication entry to the Master Drug Formulary:**

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, click **Add**.

3. Select the Generic Name for the medication entry.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID**, **Therapeutic Class**, and **Class ID** fields.

4. Click **Select Medication**.

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

Note: The **Displayed Name** field cannot be left blank. The maximum number of characters in a displayed name is determined by how it is displayed on the infuser screen after it is downloaded. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

Note: If the desired generic name is not in the **Generic Name** drop-down list, you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

5. Select **Limited** from the **Rule Sets** drop-down list.


6. Enter the **Container Volume** amount (optional).

7. Select mL/hr and enter the values for soft and hard limits. (You must specify at least one limit.)

8. Click **Save & Add Another Dosing Unit** or **Save and Add Another Rule Set** or **Close** to add the medication entry to the Master Drug Formulary.

Note: When a medication entry is added to the Master Drug Formulary, it is not assigned to a CCA.

To add a Label Only medication entry to the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, click **Add**.

3. Select the Generic Name for the medication entry.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID, Therapeutic Class**, and **Class ID** fields.

Note: The **Displayed Name** field cannot be left blank. The maximum number of characters in a displayed name is determined by how it is displayed on the infuser screen after it is downloaded. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

Note: If the desired generic name is not in the **Generic Name** drop-down list (or if no generic names appear in the list), you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

4. Select **Label Only** from the **Rule Sets** drop-down list.

5. Place a tick mark in the box next to **Piggyback delivery allowed**, if desired.

6. Click **Save & Add Another Rule Set** or **Save & Close** to add the medication entry to the Master Drug Formulary.

Note: When a medication entry is added to the Master Drug Formulary, it is not assigned to any CCA.

To edit a medication entry in the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, select the medication entry you want to edit.

3. Click **Edit**.

Helpful Hint: *You can also double-click a medication entry to display the **Rule Set** dialogue box.*

4. Make changes as desired.

5. Click **Save & Close** to save changes.

Important: Changing the dosing unit or medication unit will erase all previously entered limits.

Note: When a medication entry is edited, the changes are reflected in the Master Drug Formulary and a confirmation pop-up displays the CCAs that are affected.

To view a medication entry in the Master Drug Formulary:

1. Select **Master Drug Formulary** from the Source List.

2. From the Source List, select the medication entry you want to view.

3. Click **View**.

4. Click **Close** to exit the screen.

To delete a medication in the Master Drug Formulary:

1. Select **Master Drug Formulary** from the Source List.

2. From the Source List, select the medication entry you want to delete.

3. Click **Delete**.


4. Click **Delete**.

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

The following pop-up will display only if the medication entry is assigned to one or more CCA.

```
Delete Medication                                    [x]

Deleting this medication entry will remove it from
the master formulary as well as from the following
CCAs:
5 West




              [   OK   ]    [  Cancel  ]
```

5. Click **OK**.

To copy to Target CCA:

1. Select a medication entry from the Master Drug Formulary.

Note: A Target List CCA must be selected before you can copy a medication entry to a Target CCA from the Master Drug Formulary.

2. Click **Copy to Target CCA**.

3. Click **Copy** on the **Confirm Copy to CCA** pop-up.

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

Part 2: Plum A+

Defining Rule Sets

Full Rule Set

A Full rule set allows you to enter a complete concentration (for example, 250 mg/500 mL) or partial concentration (for example, 250 mg/_ mL, _mg/500 mL or, _mg/_mL.) Creating a medication entry for the standard concentrations of any medication reduces the number of programming steps on the infuser for the clinician. At least one dosing limit value **must** be entered for each Full rule set.

Leaving the medication or diluent amounts blank allows the clinician to enter a non-standard concentration at the time of programming. Full rule sets defined with a partial concentration will require the clinician to enter the concentration values when the dosing units are not mL/hr. When the dosing units are mL/hr, you do not have to enter concentration information.

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

Limited Rule Set

A Limited rule set does not require a concentration to be defined. At least one dosing limit value must be entered for each Limited rule set. The Container Volume field is optional. When programming the infuser for a medication with a Limited rule set, the clinician enters only the rate, volume to be infused (VTBI) and duration.

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 a Label Only rule set. The clinician selects the dosing units during programming. If the dosing units are not mL/hr, the clinician also enters the concentration values.

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

Each type of rule set will create a different display for the medication in the Drug List on the infuser. The pictures below provides examples of how the Drug List will look for each type.

Full Rule Set - Complete Concentration

Full Rule Set - Partial Concentration

Limited Rule Set

Label Only Rule Set

You can create medication entries by adding them to the Master Drug Formulary or by adding them directly to a CCA. Medication entries added to a CCA are automatically added to the Master Drug Formulary.

Within a CCA, no two medication entries may have exactly the same External ID and Concentration. Also, no two medication entries may have exactly the same Displayed Name and Concentration.

In the Master Drug Formulary, two medication entries may have the same display name, medication amount, medication unit, diluent amount, and dosing units, as long as one or more of the following limits are different:

- Lower soft limit (LSL)
- Lower hard limit (LHL)
- Upper soft limit (USL)
- Upper hard limit (UHL)

Setting Dose Rate Limits

Hospira MedNet Meds allows you to define dose rate limits for both primary and secondary infusions. It is important that you understand how the dose rate limits function so please read this section carefully.

You can define upper and lower soft and hard limits as part of the rule set for each medication entry that you create in the library. As you configure the limits, the software enforces the following rule:

Lower Hard Limit (LHL) < Lower Soft Limit (LSL) <= Upper Soft Limit (USL) < Upper Hard Limit (UHL)

Soft Limits

Soft Limits are dose rate limits that can be overridden when programming the infuser. When a value entered on the infuser is lower than the lower soft limit or higher than the upper soft limit, the infuser displays a soft limit override confirmation message. The infuser records soft limit alerts and the user's response to the alert in its history logs.

For example, if the upper soft limit is set to 15 mL/hr and the clinician enters 16 mL/hr, the infuser will display a soft limit override alert. This alert notifies the clinician that the entry is outside the range of the soft limits set for that medication entry. The clinician can choose to continue programming using the override, or cancel the override and edit the value. Both the override and edit events are recorded separately in the infuser's history log.

Hard Limits

Hard limits are dose rate limits that cannot be overridden. The infuser cannot be programmed with a rate that is lower than the lower hard limit or higher than the upper hard limit. (These events are not recorded in the infuser's history log file for Plum infusers with software versions prior to version 13.4.)

Note: The actual patient weight is not entered until the clinician programs the infuser. Therefore, Hospira MedNet Meds software cannot verify the validity of a lower limit when entering a weight-based medication entry. The infuser performs the final check when the clinician programs the infuser.

Medication Entry Rules and Conventions

The Hospira MedNet Meds software uses the following conventions for Plum A+ medication entries:

- Full or Limited rule sets require at least one hard or soft limit.

- You can create medication entries by adding them to the Master Drug Formulary or by adding them directly to a CCA. Medication entries added to a CCA Target List are automatically added to the Master Drug Formulary List.

- "Validity" messages appear in red at the bottom of the Rule Set window. When you enter a value that is not allowed, the message specifies the defined range for the field, or the reason the value is not permitted.

- You cannot use the following characters in the medication name: comma (,), less than (<), greater than (>), single quotation marks ('), inverted commas ("), and ampersand (&.)

- Once you select a medication unit, the dosing unit field will display only the enabled unit type.

- The software prohibits invalid numeric entries and signals such entries with an audible "beep."

- You may use the vertical and horizontal scroll bars to navigate to an entry.

- If you do not select or populate a required field, an error message appears.

- When you highlight an entry on the Drug Library Management list view, buttons or features that are not allowed appear as "greyed" or disabled.

- When you add a new medication in the Generic Name field of the rule set window, you may search for a medication by typing the first few characters of its generic name. The drop-down list will navigate to show any matching medications.

The Plum A+ Medication Rule Set

The Rule Set window shown here is used to configure a medication entry for the Plum A+ drug library.

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

Rule Set Fields

The following table lists the fields, a brief description and allowed value range for the infuser.

Each medication entry must have a generic name and a displayed name; you cannot save a medication entry without a name in these fields. The number of characters in the displayed name is determined by how it is displayed on the infuser's screen. Depending on character width, the maximum number of characters allowed in a displayed name can vary from 17 to 29.

To avoid potential confusion when creating medication entries, use only the medication name in the **Displayed Name** field and ensure that the external ID is identical to the external ID used in your institution's formulary. Do not include the diluent as part of the medication name.

Parameter	Description	Allowable Range
Generic Name	This is the medication name from your Medication List. It is selected from the drop-down list and displays the External ID (the hospital's identifier for a medication). Strength/Volume and Dosage Form display only if part of your Medication List.	Not editable in the Rule Set
Displayed Name	This is the name that will be displayed on the infuser.	• Varies depending on the character width • Cannot be blank ⚠ Caution: You cannot use the following characters in the displayed name: comma (,), less than (<), greater than (>), single quotation marks ('), inverted commas ("), and ampersand (&.) **Note:** The display font changes on the Plum A+ infuser for lengthy displayed names.
Therapeutic Class	The therapeutic class assigned to the medication entries.	Not editable in the Rule Set
Class ID	The ID number for the therapeutic class assigned to the medication entry.	Not editable in the Rule Set
Medication Amount	Allows you to enter the medication amount in the units selected. The combination of medication amount, medication unit, and diluent amount creates the medication's concentration.	For medication amounts in mcg, mg, grams, mEq, million units, or mmol: • 0.1–9999 and "Blank" For medication amounts in units: • 0.1–99999999 and "Blank"
Medication Unit	Allows you to select the unit of measure for your medication amount.	mcg, mg, grams, mEq, million units, mmol and units

Parameter	Description	Allowable Range
Diluent Amount	Allows you to set the diluent amount associated with the medication entry. The diluent amount will vary depending on the container size, overfill, and volume of added solution.	• 0.1–9999 and "Blank"
Dosing Unit	Allows you to set the standard dosing unit for the medication. This will be the default value displayed on the infuser. Once dosing unit and concentration are set in Hospira MedNet Meds, they cannot be changed on the infuser by the clinician programming the device.	mL/hr, mcg/kg/min, mcg/kg/hr, mcg/min, mcg/hr, mg/kg/hr, mg/min, mg/hr, grams/hr, ng/kg/min, mmol/min, mmol/hr, mEq/hr, Million units/hr, units/kg/min, units/kg/hr, units/min, units/hr, or mUn/min
LHL, LSL, USL, UHL	Lower hard limit, lower soft limit, upper soft limit, upper hard limit. Allows you to set the upper and/or lower dose rate limits for the selected medication.	The units for the soft and hard limits are the same as the dosing units selected in the medication rule set. For ng/kg/min, mcg/kg/min, mcg/kg/hr, mcg/min, mcg/hr, mg/min, mg/hr, mg/kg/hr, grams/hr, Million Units/hr, mEq/hr, mmol/min, mmol/hr: • 0.001–999* For mL/hr, mUn/min, units/min, units/hr, units/kg/hr, units/kg/min: • 0.1–999
* Some infusers support a range of 100-9999. Refer to your infuser's System Operating Manual for complete details and allowable range.		

Step-by-step Procedures

The following section provides step-by-step procedures that will enable you to create and manage medication entries. In this section you will learn how to do the following:

- Add a medication entry with a Full rule set in a CCA
- Add a medication entry with a Limited rule set in a CCA
- Add a medication entry with a Label Only rule set in a CCA
- Edit a medication entry in a CCA
- View a medication entry in a CCA
- Remove a medication entry from a CCA
- Add a medication entry with a Full rule set the Master Drug Formulary
- Add a medication entry with a Limited rule set to the Master Drug Formulary
- Add a Label Only medication entry to the Master Drug Formulary
- Edit a medication entry in the Master Drug Formulary
- View a medication entry in the Master Drug Formulary
- Delete a medication entry from the Master Drug Formulary
- Copy a medication entry from the Master Drug Formulary to a Target CCA

Working with CCA Medication Entries

Note: When adding medication entries to the Target List, both the selected CCA and the Master Drug Formulary are updated. When adding to the Source List, only the Master Drug Formulary is updated.

The maximum number of medication entries allowed in a CCA is 150.

To add a medication entry with a Full rule set in a CCA:

1. Select the desired CCA as the Target List from the drop-down list.

2. From the Target List, click **Add**.

3. Select the **Generic Name** for the medication entry.

Note: Selecting a generic name from the drop-down list automatically populates the **Displayed Name**, **External ID**, **Therapeutic Class**, and **Class ID** fields.

Note: The **Displayed Name** can be altered as desired, for example, to accommodate Tall Man lettering. The maximum number of characters in a **Displayed Name** is determined by how it is displayed on the infuser screen. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

Note: If the desired generic name is not in the **Generic Name** drop-down list (or if no generic names appear in the list), you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

---

4. The **Displayed Name** can now be changed as desired. For example, to accommodate Tall Man lettering or another unique name.

5. Select **Full** (if not selected) from the **Rule Sets** drop-down list.

6. Select the medication unit and enter a Medication Amount and Diluent Amount (if desired).

7. Select the dosing unit and enter the values for soft and hard limits. (You must specify at least one limit.)

8. Click **Save & Add Another** or **Save & Close** to add the medication entry to the CCA.

To add a medication entry with a Limited rule set in a CCA:

1. Select the desired CCA as the Target List.

2. From the Target List, click **Add**.

3. Select the Generic Name for the medication entry.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID, Therapeutic Class**, and **Class ID** fields.

Note: The **Displayed Name** can be altered as desired, for example, to accommodate Tall Man lettering. The maximum number of characters in a **Displayed Name** is determined by how it is displayed on the infuser screen. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.


Note: If the desired generic name is not in the **Generic Name** drop-down list (or if no generic names appear in the list), you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

---

4. The **Displayed Name** can now be changed as desired. For example, to accommodate Tall Man lettering or another unique name.

5. Select **Limited** from the **Rule Sets** drop-down list.

6. Enter the container volume amount (optional).

7. Select mL/hr and enter the values for soft and hard limits. (You must specify at least one limit.)

8. Click **Save & Add Another** or **Save & Close** to add the medication entry to the CCA.

To add a Label Only rule set medication entry in a CCA:

1. Select the desired CCA as the Target List.

2. From the Target List, click **Add**.
3. Select the generic name for the medication entry from the drop-down list.

Note:	Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID, Therapeutic Class**, and **Class ID** fields.

Note:	The **Displayed Name** can be altered as desired, for example, to accommodate Tall Man lettering. The maximum number of characters in a **Displayed Name** is determined by how it is displayed on the infuser screen. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

| **Note:**	If the desired generic name is not in the **Generic Name** drop-down list (or if no generic names appear in the list), you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

4. The **Displayed Name** can now be changed as desired, for example, to accommodate Tall Man lettering or another unique name.

5. Select **Label Only** from the **Rule Sets** drop-down list.

6. Click **Save & Add Another** or **Save & Close** to add the medication entry to the CCA.

To edit a medication entry in a CCA:

1. Select the CCA containing the medication entry you want to edit from the drop-down list.
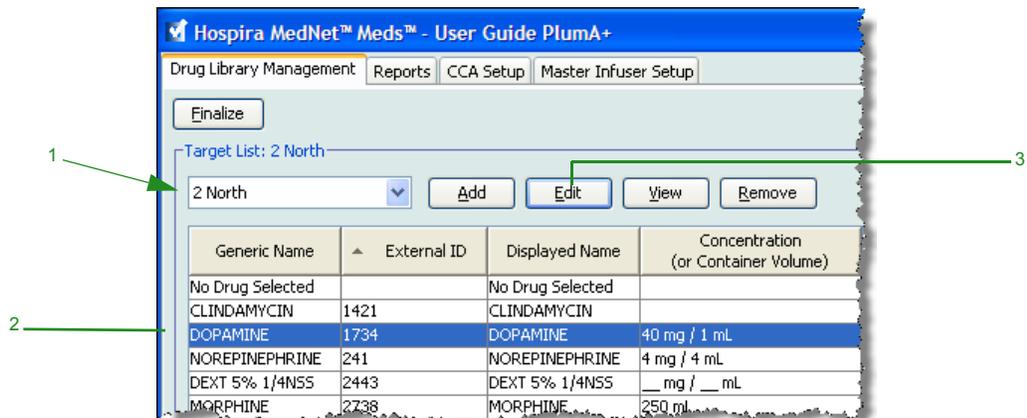
2. From the Target List, select the medication entry you want to edit.

3. Click **Edit**.

Helpful Hint: *You can also double-click a medication entry to display the **Rule Set** dialogue box.*

4. Make changes as desired.

Note: You cannot change the **Therapeutic Class** or **Class ID** when editing a medication entry in a CCA.
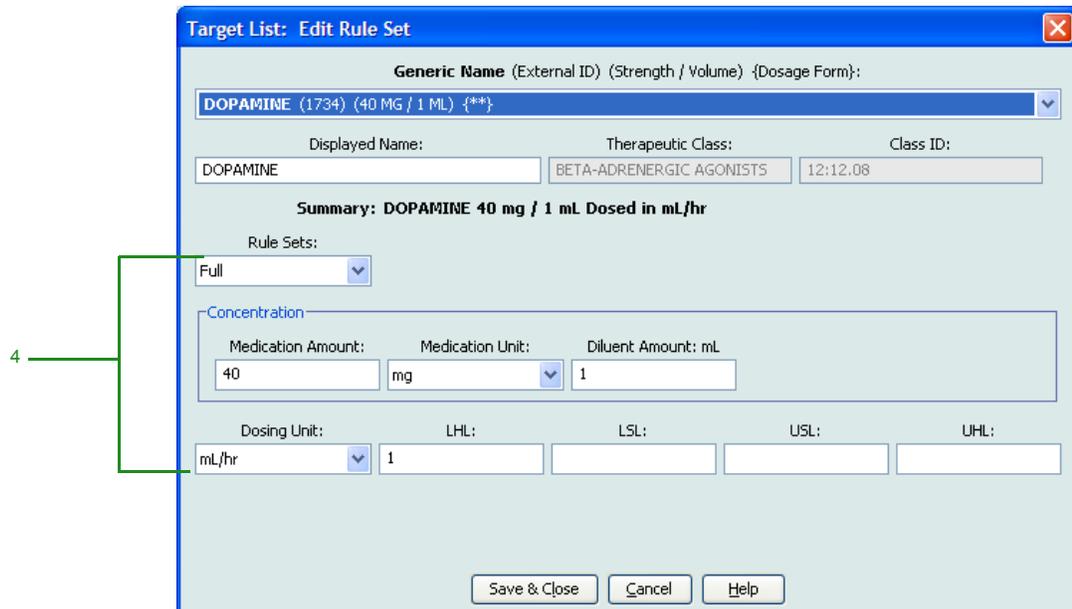
5. Click **Save & Close** to save changes.

Note: If the medication that is edited is assigned to only one CCA, the medication will also be edited in the Master Drug Formulary. If the medication that is edited is assigned to more than one CCA, a new medication will be created in the Master Drug Formulary.

To view a medication entry in a CCA:

1. Select the CCA containing the medication entry you want to view from the Target List drop-down list.
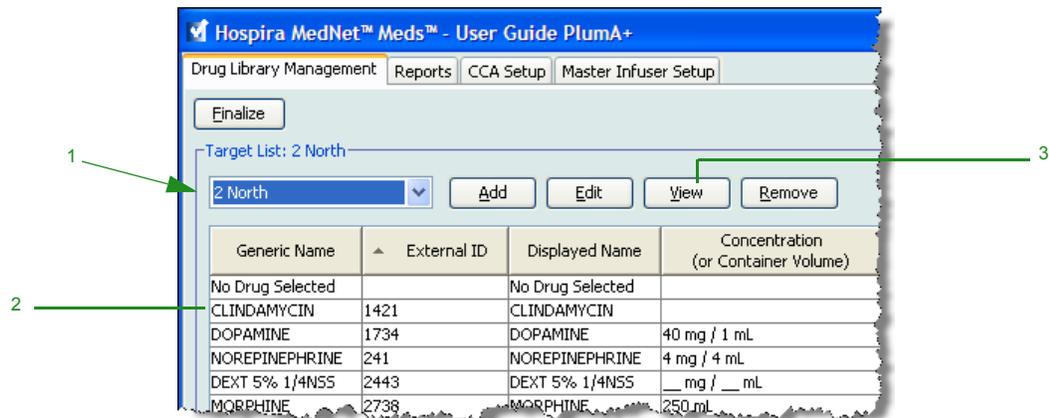
2. From the Target List, select the medication entry you want to view.

3. Click **View**.

To remove a medication entry from a CCA:

1. Select the CCA containing the medication entry you want to remove from the Target List drop-down list.

2. Select the medication entry you want to remove.

3. Click **Remove**.

Hospira MedNet Meds Software User Guide

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

4. At the confirmation to remove from the CCA, click **Remove**.

Working with the Master Drug Formulary

The Master Drug Formulary can contain medication entries not assigned to a CCA, to facilitate later use. The total number of medication entries in the Master Drug Formulary for the Plum A+ infuser cannot exceed 3510.

To add a medication entry with a Full rule set to the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, click **Add**.

3. Select the Generic Name for the medication entry from the drop-down list.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID, Therapeutic Class**, and **Class ID** fields.

Note: The **Displayed Name** field cannot be left blank. The maximum number of characters in a medication name is determined by how it is displayed on the infuser screen after it is downloaded. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

**Note:** If the desired generic name is not in the **Generic Name** drop-down list, you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

---

4. Select **Full** (if not already selected) from the **Rule Sets** drop-down list.

5. Select the **Medication Unit** and enter a **Medication Amount** (optional) and **Diluent Amount** (optional).

6. Select the dosing unit and type the values for soft and hard limits. (You must specify at least one limit.)

7. Click **Save & Add Another** or **Save & Close** to add the medication entry to the Master Drug Formulary.

Note: When a medication entry is added to the Master Drug Formulary, it is not assigned to a CCA.

To add a Limited rule set medication entry to the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, click **Add**.
3. Select the Generic Name for the medication entry from the drop-down list.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID, Therapeutic Class**, and **Class ID** fields.

Note: The **Displayed Name** field cannot be left blank. The maximum number of characters in a displayed name is determined by how it is displayed on the infuser screen after it is downloaded. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

Note: If the desired generic name is not in the **Generic Name** drop-down list (or if no generic names appear in the list), you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.

4. Select **Limited** from the **Rule Sets** drop-down list.

5. Type the **Container Volume** amount (optional).

6. Select mL/hr and enter the values for soft and hard limits. (You must specify at least one limit.)

7. Click **Save & Add Another** or **Save & Close** to add the medication entry to the Master Drug Formulary.

Note: When a medication entry is added to the Master Drug Formulary, it is not assigned to a CCA.

To add a Label Only medication entry to the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, click **Add**.

3. Select the Generic Name for the medication entry from the drop-down list.

Note: Selecting a **Generic Name** from the drop-down list automatically populates the **Displayed Name**, **External ID, Therapeutic Class**, and **Class ID** fields.

Note: The **Displayed Name** field cannot be left blank. The maximum number of characters in a displayed name is determined by how it is displayed on the infuser screen after it is downloaded. Depending on character width, the maximum number of characters allowed in a medication name can vary from 17 to 29.

Note: If the desired generic name is not in the **Generic Name** drop-down list (or if no generic names appear in the list), you may add a medication to the Medication List. Alternatively, you can add the generic name by importing a new **Medication List** via the **Medication Import** function of the Hospira MedNet software.


4. Select **Label Only** from the **Rule Sets** drop-down list.
5. Click **Save & Add Another** or **Save & Close** to add the medication entry to the Master Drug Formulary.

Note: When a medication entry is added to the Master Drug Formulary, it is not assigned to any CCA.

To edit a medication entry in the Master Drug Formulary:

1. Select **Master Drug Formulary** as the Source List.

2. From the Source List, select the medication entry you want to edit.

3. Click **Edit**.

Helpful Hint: *You can also double-click a medication entry to display the* ***Rule Set*** *dialogue box.*

4. Make changes as desired.

5. Click **Save & Close** to save changes.

Important: Changing the dosing unit or medication unit will erase all previously entered limits.

Note: When a medication entry is edited, the changes are reflected in the Master Drug Formulary and in all CCAs in which the medication is listed.

To view a medication entry in the Master Drug Formulary:

1. Select **Master Drug Formulary** from the Source List.

2. From the Source List, select the medication entry you want to view

3. Click **View**.

4. Click **Close** to exit the screen.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.
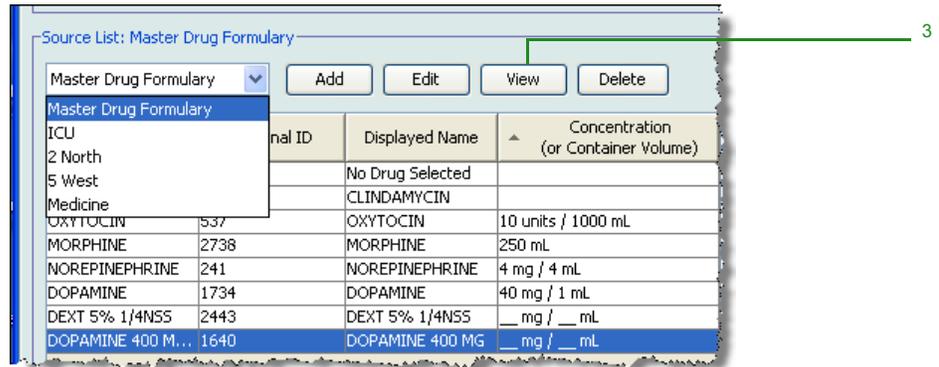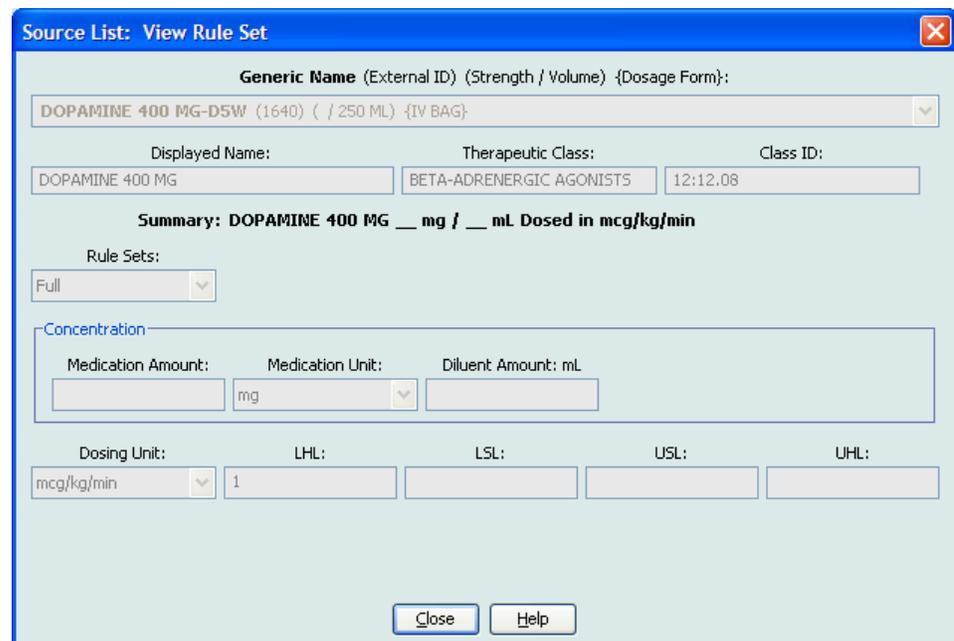
To delete a medication in the Master Drug Formulary:

1. Select **Master Drug Formulary** from the Source List.
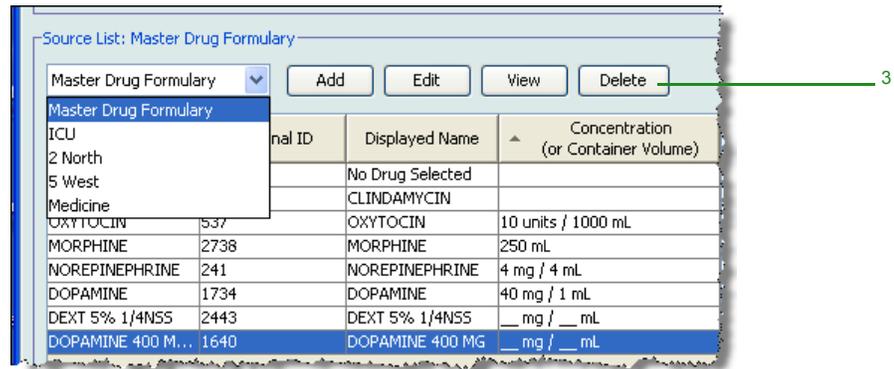
2. From the Source List, select the medication entry you want to delete.
3. Click **Delete**.
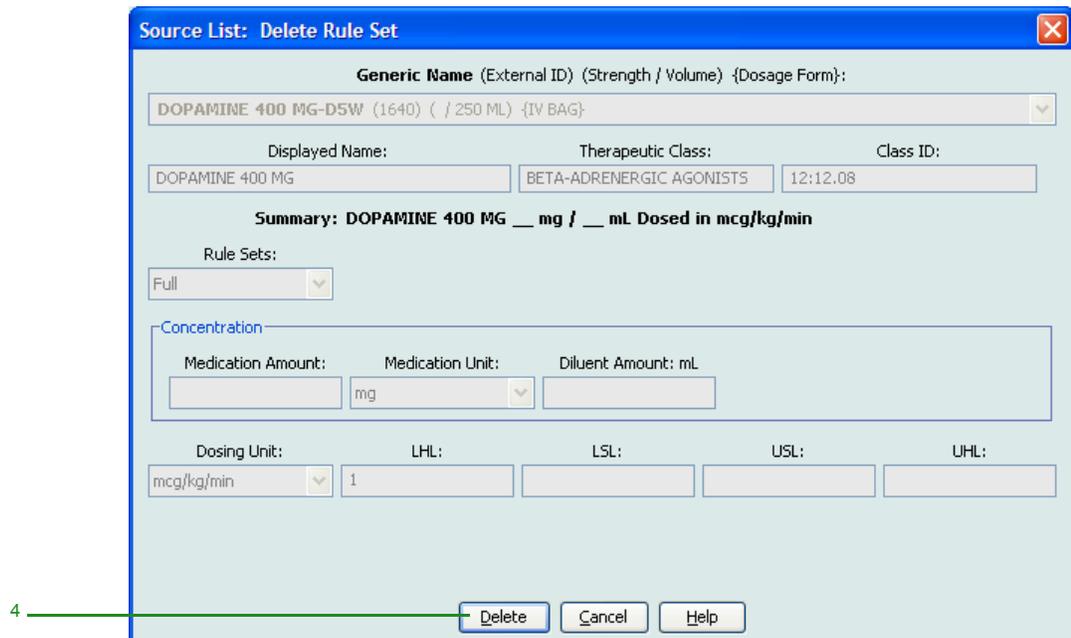
4. Click **Delete**.

The following pop-up will display only if the medication entry is assigned to one or more CCA.

5. Click **OK**.

To copy to Target CCA:

1. Select a medication entry from the Master Drug Formulary.

Note: A Target List CCA must be selected before you can copy a medication entry to a Target CCA from the Master Drug Formulary.

2. Click **Copy to Target CCA**.

3. Click **Copy** on the **Confirm Copy to CCA** pop-up.

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

Notes:

Chapter 10: Master Infuser Set-Up

Plum 360 Master Infuser Settings

The Plum A+® Master Infuser Settings view allows you to select the following infuser settings:

- Continue Rate
- Callback Notification
- Deliver Together
- Force Pump to Accept Drug Library During Power Down
- Auto-programme Rejection Reason Timeout (seconds)
- Maximum Standby Time (hours)
- Default Clinical Use

To display the **Master Infuser Settings** view, open a Worksheet and click the **Master Infuser Set-Up** tab. (For instructions on opening a Worksheet, see).

Continue Rate

The *Continue Rate* setting allows you to select the default rate the infuser switches to after a therapy has completed. The Continue Rate options are *KVO* and *Rate*. KVO (Keep Vein Open) is a very low rate (1 mL/hr) that reduces the potential for clotting at the infusion site. Rate is the same delivery rate as the completed therapy. The Continue Rate setting can be changed when programming the infuser:

- Select **KVO** to make the default continue rate KVO.
- Select **Rate** to make the default continue rate the same as the completed therapy's rate.

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

Callback Notification

The *Callback Notification* setting, when enabled, causes the infuser to emit an audible nurse callback alarm and display a notification between steps of a multi-step infusion, a piggyback infusion, or after a loading dose. The default Callback Notification setting is **No** (disabled). This setting can be changed when manually programming the infuser. For more information on nurse callback alarms, refer to the infuser's system operating manual.

Deliver Together

The *Deliver Together* setting allows you to choose the default two-line delivery method. This functionality defines the default relationship between Line A and Line B on the infuser. The Deliver Together options are **Piggyback** and **Concurrent**. When Piggyback is selected, Line A delivery stops while Line B infuses. Line A delivery resumes when Line B delivery is complete. When Concurrent is selected, both lines infuse at the same time. The Deliver Together setting can be changed when programming the infuser.

- Select **Piggyback** to make the default deliver together setting piggyback
- Select **Concurrent** to make the default deliver together setting concurrent

Force Pump to Accept Drug Library During Power Down

This setting determines if the infuser will automatically install a new Medication Library upon infuser turn off. If setting is **Yes**, the infuser will install library without prompting user during power down. The default setting is **No**.

Auto-programme Rejection Reason Timeout (seconds)

When an auto-programme is rejected by Hospira MedNet, a rejection reason appears on the infuser to notify the nurse that the auto-programme has been rejected prior to sending to the infuser. The timeout setting allows you to set the length of time the message will remain on the infuser's screen. The range is 10-30 seconds and the default is 15 seconds.

Maximum Standby Time (hours)

The *Maximum Standby* setting allows you to select the period of time the infuser can wait before beginning a therapy. The Standby setting *cannot* be overridden when programming the infuser.

> **Note:** This setting affects both delayed start and standby. If enabled, both will be available at the infuser. If disabled, neither will be available at the infuser.

The range is 24 to 72 hours in one hour increments. The default is 72 hours.

Default Clinical Use

The *Default Clinical Use* setting allows you to change the "NOT SPECIFIED" value entered in a CCA to the Default Clinical Use you enter.

> **Note:** The value entered as Default will be attributed to ALL entries marked "NOT SPECIFIED" in all CCAs and in the Master Drug Formulary.

To configure the master infuser settings:

    1. Click the **Master Infuser Set-Up** tab.

    2. Select the desired option for each setting.

    3. When finished making selections, click **Save**.

Note:	To save changes to the master infuser settings, you must click **Save** before navigating away from the **Master Infuser Settings** view.
	The selections made in the Master Infuser Settings view apply to all CCAs in the library.

Plum A+ Master Infuser Settings

The Plum A+® Master Infuser Settings view allows you to select the following infuser settings:

- Continue Rate
- Callback Notification
- Deliver Together
- Enable Delay/Standby

To display the **Master Infuser Settings** view, open a Worksheet and click the **Master Infuser Set-Up** tab. (For instructions on opening a Worksheet, see Chapter 5: The Library Directory on page 27).

Continue Rate

The *Continue Rate* setting allows you to select the default rate the infuser switches to after a therapy has completed. The Continue Rate options are *KVO* and *Rate*. KVO (Keep Vein Open) is a very low rate (1 mL/hr) that reduces the potential for clotting at the infusion site. Rate is the same delivery rate as the completed therapy. The Continue Rate setting can be changed when programming the infuser:

- Select **KVO** to make the default continue rate KVO.
- Select **Rate** to make the default continue rate the same as the completed therapy's rate.

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

Callback Notification

The *Callback Notification* setting, when enabled, causes the infuser to emit an audible nurse callback alarm and display a notification between steps of a multi-step infusion, a piggyback infusion, or after a loading dose. The default Callback Notification setting is **No** (disabled). This setting can be changed when manually programming the infuser. For more information on nurse callback alarms, refer to the Hospira Plum A+®/A+ 3 System Operating Manual.

Deliver Together

The *Deliver Together* setting allows you to choose the default two-line delivery method. This functionality defines the default relationship between Line A and Line B on the infuser. The Deliver Together options are **Piggyback** and **Concurrent**. When Piggyback is selected, Line A delivery stops while Line B infuses. Line A delivery resumes when Line B delivery is complete. When Concurrent is selected, both lines infuse at the same time. The Deliver Together setting can be changed when programming the infuser.

- Select **Piggyback** to make the default deliver together setting piggyback
- Select **Concurrent** to make the default deliver together setting concurrent

Enable Delay/Standby

The *Enable Delay/Standby* setting allows you to select the standby setting, **Yes** (enabled) or **No** (disabled.) When enabled, the infuser can be programmed to wait for a period of time before beginning a therapy. When disabled, the option to programme a waiting period before a therapy begins is not available. The Standby setting *cannot* be overridden when programming the infuser.

> **Note:** This setting affects both delayed start and standby. If enabled, both will be available at the infuser. If disabled, neither will be available at the infuser.

- Select **Yes** to enable Delay/Standby
- Select **No** to disable Delay/Standby
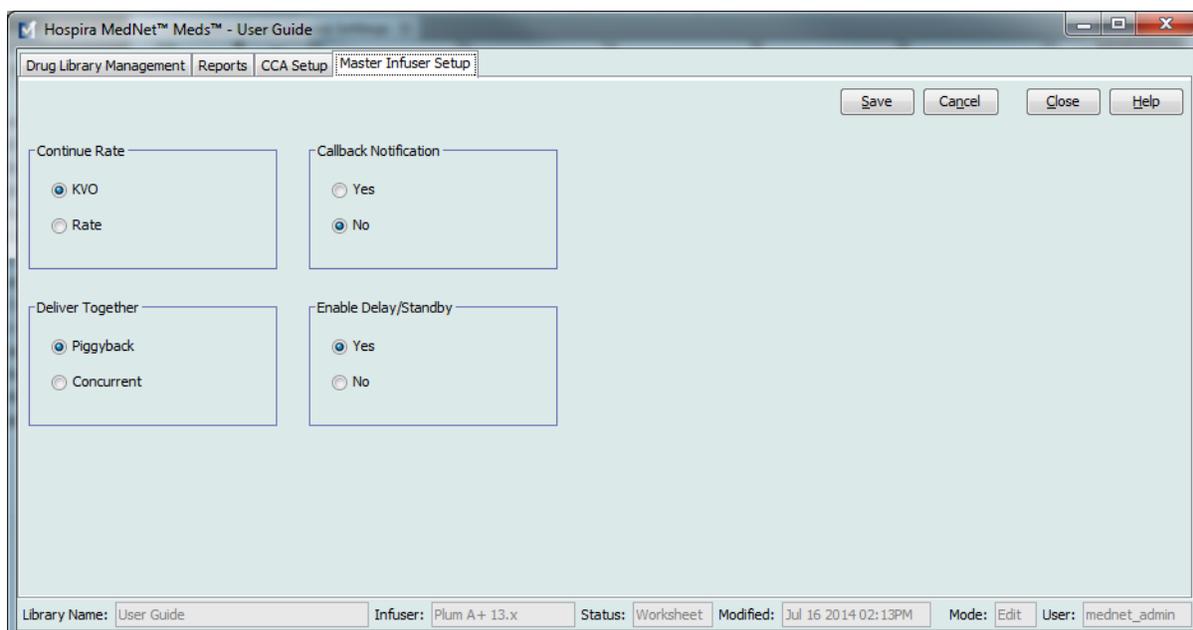
Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibility Matrix available through your Hospira Support Centre.

To configure the master infuser settings:

1. Click the **Master Infuser Set-Up** tab.

2. Select the desired option for each setting.

3. When finished making selections, click **Save**.
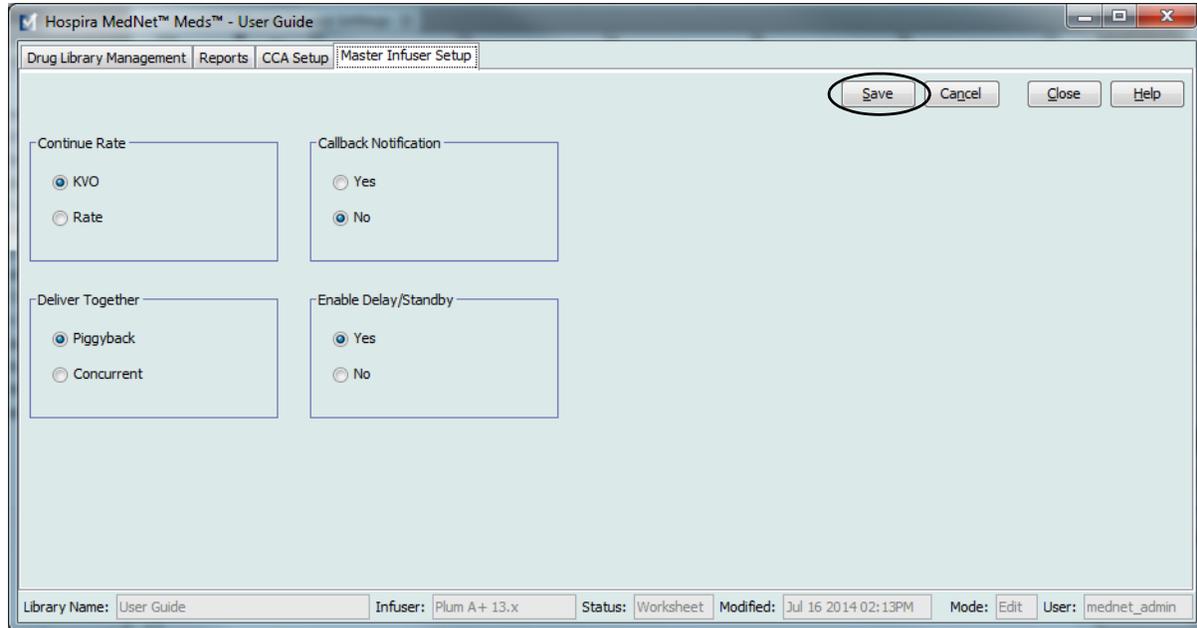
Note: To save changes to the master infuser settings, you must click **Save** before navigating away from the **Master Infuser Settings** view.

The selections made in the Master Infuser Settings view apply to all CCAs in the library.

Appendix A: Hospira MedNet Integrator

Overview

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

When interfaced to a BCMA system, Hospira 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.

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
- Programme the infuser based on the physician's order
- Confirm the programming and start the infusion

> **Note:** Depending on the BCMA system, scanning of the patient, medication, and pump may also occur after the infusion has been started.

Once the infusion has started, Hospira MedNet sends the programme values (medication/concentration, dose, rate, volume to be infused, and duration) back to the BCMA system for review by the clinician, verification, and electronic charting.

When interfaced to a pharmacy system, the Hospira MedNet Integrator Formulary Interface provides a mechanism for the pharmacist to assure that medication entries in the drug library are in synch with the hospital formulary. (See Appendix B: Hospira MedNet Meds Formulary Interface).

> **Note:** The specific functionality available to you will depend on your institution's Hospira MedNet software licence.

Setting up Hospira MedNet Integrator for BCMA integration

- 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 that information is sent to the Bar Code Medication Administration (BCMA) system from the correct infuser, Hospira strongly recommends that before using Hospira MedNet Integrator you verify that the bar code label affixed to each infuser corresponds to the correct channel.

Important: Please compare the infuser data on the infuser with the data received from the BCMA. In the event of a discrepancy, please chart the infuser data manually.

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

Notes:

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

Appendix B: Hospira MedNet Meds Formulary Interface

Overview

The Hospira MedNet Meds Formulary Interface provides the capability to synchronise the Medication List with your hospital formulary. The formulary information in the Medication List is automatically updated via a Health Level 7 (HL7) interface engine when you make a change to one of the corresponding fields in the pharmacy system. This simplifies the process of ensuring that the medications in your drug library are consistent with your formulary.

The Formulary Interface includes configurations that make it easy to filter the Medication List to include only IV medications appropriate for the drug library. Changes that are a result of pricing or packaging changes that do not impact the Medication List are also restricted. All changes are displayed in a "pending" state until you review them. Pending medications can result from additions, updates, or deletions to your hospital formulary.

The Formulary Interface provides the ability to configure each dosage form or medication ID so that medications with these dosage forms or IDs can be either included or excluded from the Medication List. Each added, changed, or deleted medication can be reviewed before it is accepted into the Medication List.

An External ID is a required field for each item in the Medication List.

For general instructions on Adding, Editing and Deleting Medications, see **"Chapter 4: Medication List"** on page 11.

Formulary Interface Functionality

The Formulary Interface performs the following functions when an HL7 MFN (Master File Maintenance) transaction is received from the pharmacy system:

Validate Message
Validates message type, format, and presence of required fields

Inactive Med Check
If Active Flag = "I" (inactive) then set Formulary code to "D" (delete). Message will process only if the medication's External ID is found in the Medication List and the medication is not obsolete and it passes the External ID Check and Dosage Form Check described below.

External ID Check
Messages with an External ID specifically marked to be "included" or "excluded" are processed accordingly

Dosage Form Check
Messages with "excluded" Dosage Forms are not processed unless they have an External ID which is "included"

Character Replacement
- Commas are removed
- Inverted commas are replaced with single quotation marks
- Left or right angle brackets are replaced with left or right square brackets

Duplicate transactions and transactions which contain changes to data fields that are not stored in the Medication List are ignored.

Medication Updates

The following fields are considered primary significant fields:

- Generic Name
- Brand Name
- External ID
- Strength Amount
- Strength Units
- Volume Amount
- Volume Units
- Dosage Form Code
- Dosage Form Description

A change to one or more primary significant fields will create a pending update.

The following fields are considered secondary significant fields:

- NDC
- Therapeutic Class Code
- Therapeutic Class Description

Changes to secondary fields will update the Medication List automatically. A pending update is not created, and you will not be required to accept these changes.

Considerations for using the Medication List with the Formulary Interface:

Dosage Form and Therapeutic Class Tables
The contents of the Dosage Form and Therapeutic Class tables (visible in the Medication List in the Add, Edit, and Delete Medication views and the Pending Addition, Update, and Deletion views) are determined by the information in the Medication List import file. With the Hospira MedNet Formulary Interface, these tables will be updated as new Dosage Forms and Therapeutic Classes are processed.

Medication List Import and Export
The Medication List import function deletes any pending medications when a new medication list is imported.

The Medication List export function does not include any pending medications.

Managing Medications
The Medication List's functionality for Adding, Editing, and Deleting medications works independently of the Formulary Interface. You may Add, Edit, and Delete medications in the Medication List even if the change did not originate in the pharmacy system.

Medication List View:

With the Formulary Interface, the Medication List view displays either:

- pending medications
- active medications
- pending and active medications (combined)

with:

- any Generic Name or External ID
- Generic Names beginning with (any character)
- External IDs beginning with (any character)

The Medication List view displays

- Generic Name
- Brand Name
- External ID
- Strength
- Volume
- Dosage Form
- Received/Updated
- Status

Active medications display in black, pending additions display in green, pending updates display in blue, and pending deletions display in red.

Helpful Hint: *Use the **Refresh** button to refresh the contents of the pending (or active and pending) view if any new formulary update transactions have occurred since you opened the Medication List.*

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

Review a Pending Medication

Medications in the "pending medications" view can be reviewed for inclusion in the Medication List. Each pending medication can be accepted as is, edited or rejected.

Reviewing a Pending Addition

1. From the Medication List, select **pending medications** from the **Show** drop-down list.

2. Select a medication entry with a **pending addition** status (green).
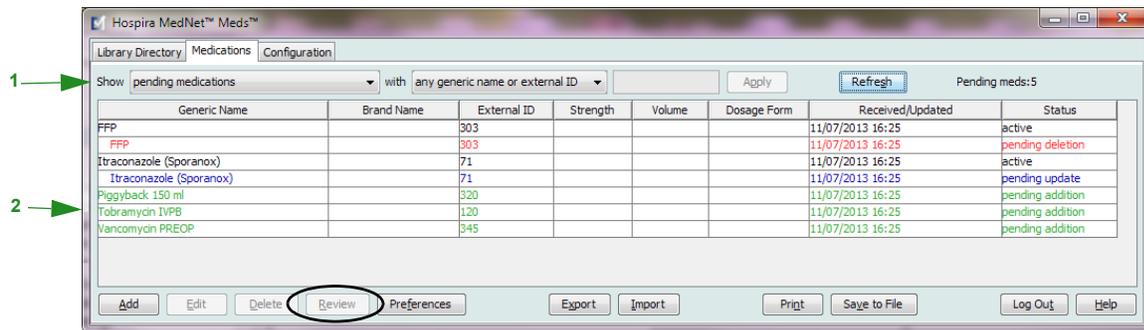
3. Click **Review**.

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

4. You may add, make changes, or reject the medication. If you click **Add**, the medication's status will be changed to active. See the table below for a description of what happens when **Reject** is selected.

Rejecting a Pending Medication	
State	**Result**
Pending addition	The medication will not be added to the Medication List
Pending update	Changes are not applied to the existing medication
Pending delete	The medication remains in the Medication List

Note: Whenever you use the **Reject** button, a pop-up displays asking for confirmation of the action rejected.

5. Click **Close** to exit the screen.

Note: The up and down arrow keys (bottom left of the screen) allow you to navigate through each entry without having to go back to the main view.

Reviewing a Pending Update

1. From the Medication List, select **pending medications** from the **Show** drop-down list.
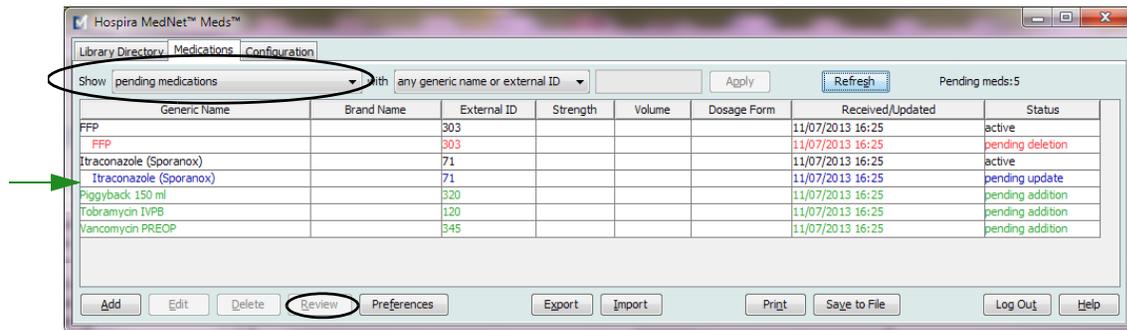
2. Select a medication entry with a **pending update** status (blue.)

3. Click **Review**.

Note: Updated information is highlighted in pink (if the field is enabled) or dark pink (if it is not.)

4. You may accept the update as is, make changes to it in any of the editable fields, or reject the update entirely. The medication's status will be changed to active if the medication is accepted or changed. If rejected, the pending update status disappears but the medication remains in the active directory.

5. Click **Close** to exit the screen or use the up and down arrow keys to display either the previous or the next entry.

Reviewing a Pending Deletion

1. From the Medication List, select **pending medications** from the **Show** drop-down list.

2. Select a medication entry with a **pending deletion** status (red.)
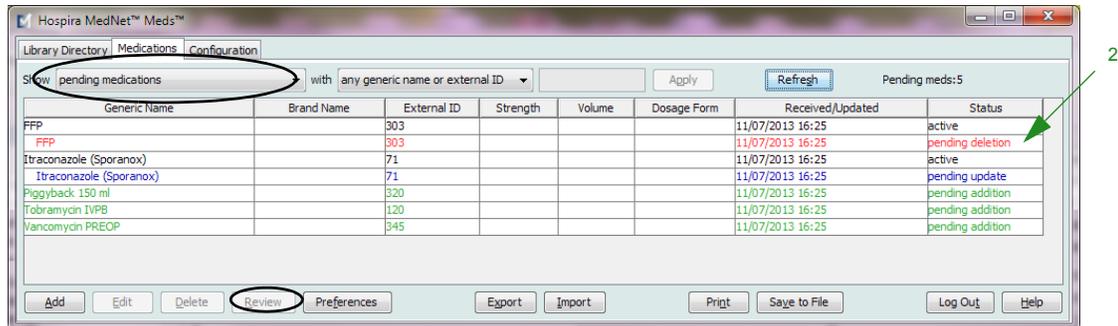
3. Click **Review.**

4. Click **Delete** to delete the medication entry entirely or **Reject** to cancel the pending deletion and keep the medication active.

5. Click **Close** to exit the screen or use the up and down arrow keys to display the previous or next entry.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

Setting Preferences

Important: You will need to have permissions to access this functionality.

The Configure Medication Interface Filter allows you to:

   a.   set filters to include or exclude individual dosage forms or medication IDs (External IDs) in the interface.

   b.   automatically print a receipt, if you wish.

When the Formulary Interface is installed, a list of all medications in your pharmacy formulary including their dosage forms and descriptions will be imported.

   1.   Select the Preferences button on the Medication List view to open the **Configure Medication Interface Filter** settings.
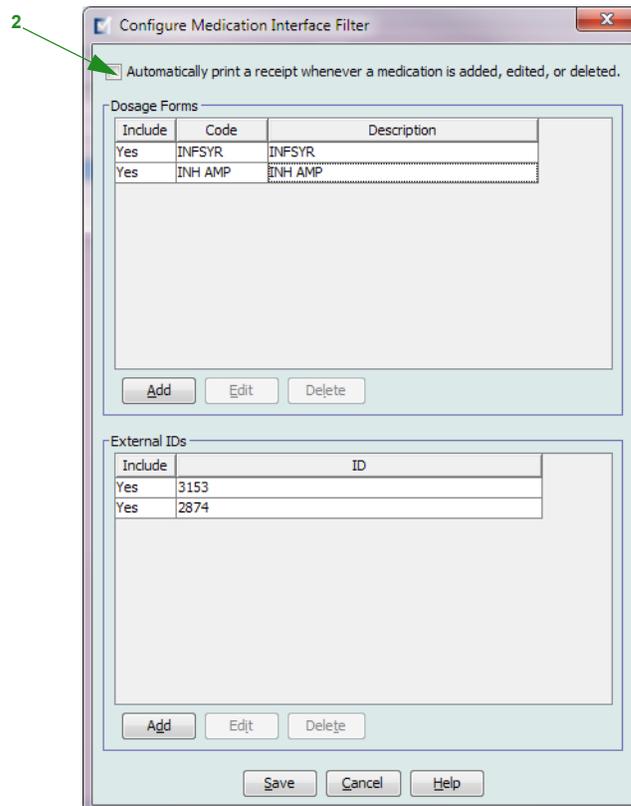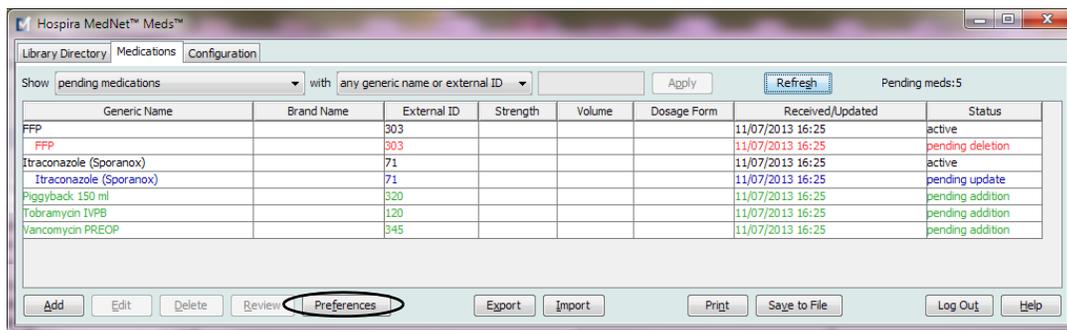
   2.   Place a tick mark in the box next to **Automatically print a receipt whenever a medication is added, edited, or deleted** to print a receipt on the default printer.

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

Verify your computer is connected to the default printer. A sample receipt is shown below.

```
HOSPIRA MEDNET(R) MEDS(TM)


Action: UPDATED a PENDING medication

Received On: 04/11/2014   13:59
Updated On: 05/18/201    08:43
Updated By: patrick1
Source: interface

Original Definition:
     Generic Name: CEFEPIME
     Brand Name: MAXIPIME
     External ID: 2388
     NDC: 51479-0055-10
     Strength: 2 GM
     Volume: 1 ADV
     Therapeutic Class:
          Code: 08:12.06
          Description: CEPHALOSPORINS
     Dosage Form:
          Code: ADV
          Description: ADV

Final Definition:
     Generic Name: CEFEPIME
     Brand Name: MAXIPIME
     External ID: 2388
     NDC: 51479-0055-20
     Strength: 2 GM
     Volume: 100 ML
     Therapeutic Class:
          Code: 08:12.06
          Description: CEPHALOSPORINS
     Dosage Form:
          Code: BAG
          Description: BAG
```

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

Managing Dosage Form Preferences

The Dosage Form list is populated when you import a Medication List for the first time, and is updated when new medications are received via the Formulary Interface. Therefore, you would only need to add, edit, or delete a Dosage Form infrequently.

Add a Dosage Form

1. From the **Configure Medication Interface Filter**, in the Dosage Forms portion of the screen, upper half, select **Add**.

2. Enter the Dosage Form Code.

3. Enter the Dosage Form Code Description (optional).

4. Select Yes to include medications with this dosage form in the interface or No to exclude them.
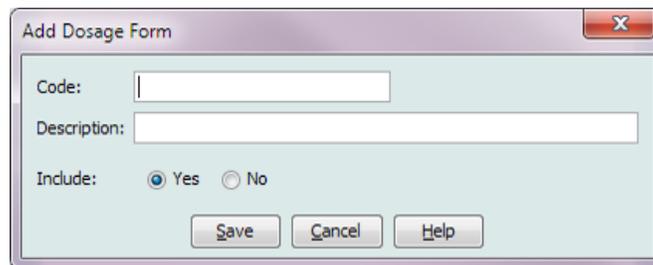
5. Click **Save** to exit the screen.

Edit a Dosage Form

1. From the **Configure Medication Interface Filter**, in the Dosage Forms portion of the screen, highlight the entry you wish to edit.

2. Click **Edit**.
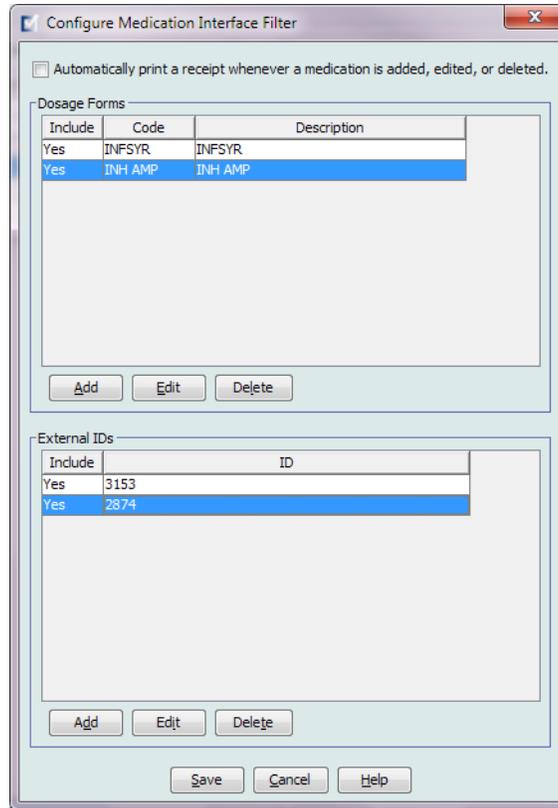
3. Make your changes to Code, Description, or Include in the **Edit Dosage Form** pop-up.
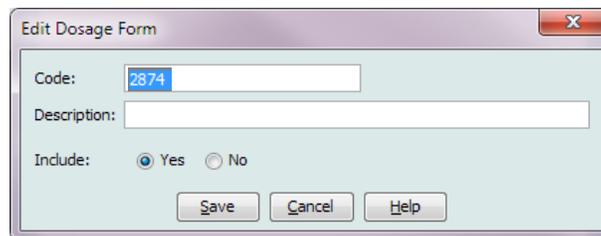
4. Click **Save**.

Delete a Dosage Form

1. From the **Configure Medication Interface Filter**, in the Dosage Forms portion of the screen, highlight the entry you wish to delete.

2. Click **Delete**.
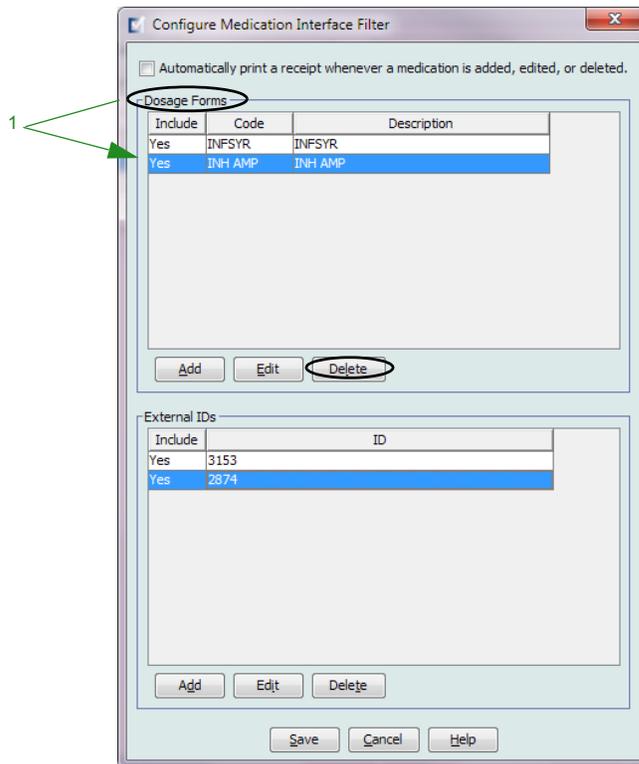
The Dosage Form selected is deleted.

Note: If the Dosage Form you are deleting is used by one or more medications, you will get a **Dosage Form in Use** message asking if you are sure you want to delete the dosage form.

Managing External ID Preferences

1. From the **Configure Medication Interface Filter**, in the External IDs portion of the screen in the lower half, select **Add.**

2. Type in the External ID in the pop-up window.
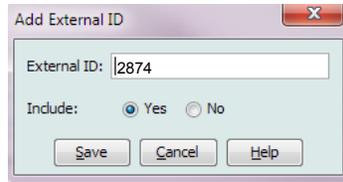
3. Select Yes to include this External ID in the Interface or No to exclude it.

4. Click **Save**. The External ID then displays in the External ID section of the Configure Medication Interface Filter window.
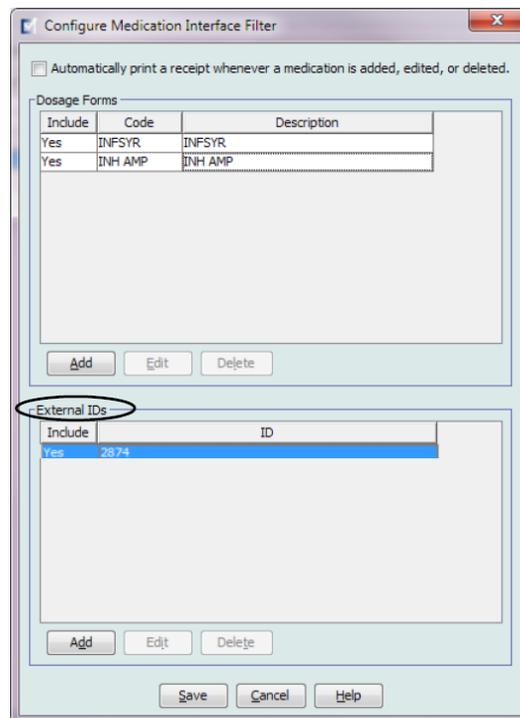
5. Click **Save** to save and exit the screen.

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

Edit an External ID

1. From the **Configure Medication Interface Filter**, in the External IDs portion of the screen, highlight the entry you wish to edit.

2. Click **Edit**.
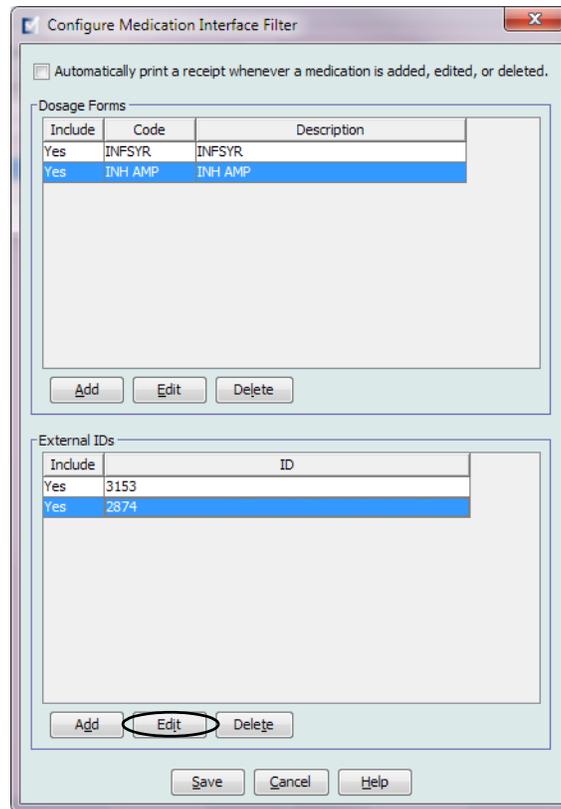
3. Make the changes to External ID or Include in the **Edit External ID** pop-up
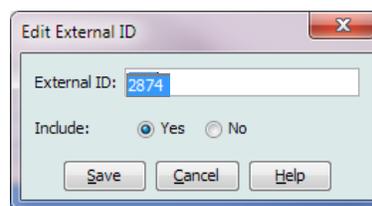
4. Click **Save** to save changes and exit the screen.

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

Delete an External ID

1. From the **Configure Medication Interface Filter**, in the External IDs portion of the screen, highlight the entry you wish to delete.

2. Click **Delete**.
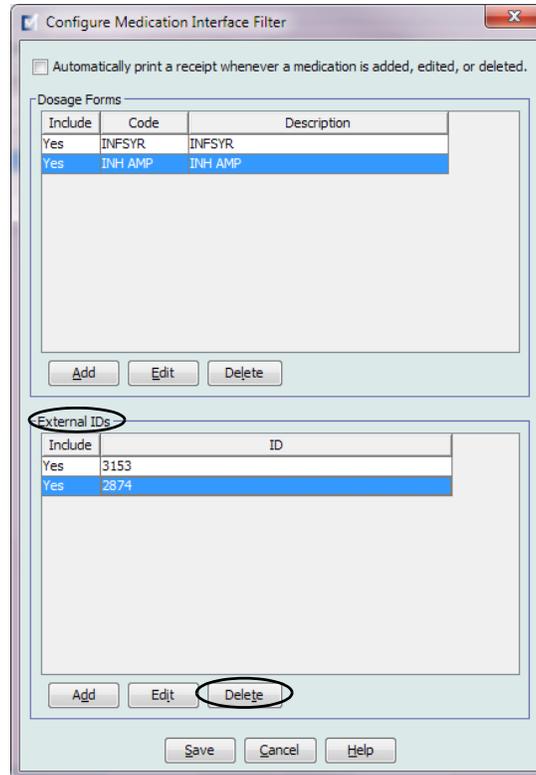
The selected External ID is deleted.

3. You can delete other External IDs if you so wish.

4. Click **Save** when finished.

Additional Technical Information

Formulary Maintenance Transaction (MFN)

This message is sent by the clinical pharmacy system to Hospira when a medication is added, updated or deleted from the pharmacy formulary.

Message Structure
MSH...MFI...MFE...ZFM

| MSH - Message Header				
#	Segment MSH HL7 Description	Mapping	R/O	Max length
	MSH	MSH	R	3
1	Field Separator			R	1
2	Encoding characters	^~\&	R	4
3	Sending Application	Host application	R	15
	Field 4 not used			
5	Receiving application	HOSPIRARX	R	15
	Field 6 not used			
7	Date/Time of message	EFA/EFD timestamp	O	26
	Field 8 not used			
9	Message type	MFN	R	7
	Field 10 not used			
11	Processing ID	P	R	1
12	Version ID	2.3	R	8
13	Sequence number	Sequence number	O	15

MFI - Master File Identification Segment				
#	Segment MFI HL7 Description	Mapping	R/O	Max length
	MFI	MFI	R	3
1	Master File Identifier	Site Specific	R	12

MFE - Master File Entry Segment				
#	Segment MFIE HL7 Description	Mapping	R/O	Max length
	MFE	MFE	R	3
1	Record level event code	MAD-Formulary add/update MDL- Formulary delete	R	12
2	Active Indicator	A – Active I – Inactive	R	1
3	Site Indicator	Bit string	R	10

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

#	Segment ZFM HL7 Description	Mapping	R/O	Max length
	ZFM	ZFM	R	3
1	Formulary code	A,C or D (add, change or delete)	R	1
2	Medication ID	CDM Number	R	15
3	Generic name	Generic name of medication	R	30
4	Medication class	Medication class (DEA)	R	1
5	Alternate Med ID	RX Drug Code No.	R	15
6	Not Used	Not used	R/O	15
7	Brand Name	Medication Brand Name	O	30
8	Dosage Form	i.e. tablet, capsule	R	10
9	Strength	Numeric strength of item	O	12
10	Strength units	i.e. mg, G, mcg	O	10
11	Volume	Numeric volume of item	O	8
12	Volume units	i.e. ml, L	O	5
13	Alternate med ID2	NDC No.	O	15
14	Therapeutic class	Therapeutic class Description	O	50
15	Not Used	Not Used	O	8
16	GCN Sequence Number	GCN Sequence Number	O	8
17	Manufacturer	Manufacturer	O	15
18	Not Used	Not Used	O	15
19	Order from supplier	Numeric value of order	O	15
20	Units of order from supplier	i.e. ml, L	O	1
21	Package form from supplier	i.e. tablet, capsule	O	10

Table title (spanning header): ZFM - Formulary Maintenance Segment

Sample Message

HL7 Formulary Maintenance Transaction message framed with an SOB (011) and EOB (028), <CR> (TCP/IP protocol)

```
<SOB>

MSH|^~\&|SMS| |HSPRX| |200703130854| |MFN| |P|2.3|<CR>
MFI|PDM<CR>
MFE|MAD|A|0001<CR>
ZFM|A|11223344|CIMETIDINE|0|2211||TAGAMET|TAB|300|MG|1|TAB|12345-6789-
01|56:40^INSULINS||30100|SLK||3|MG|TAB<CR>

<EOB>
<CR>
```

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

DATABASE PROCESSING LOGIC

Status of Most Recent Record in Database*	Incoming Message "FormularyCode Code"	Primary "Significant Field" Evaluation Result	Secondary "Significant Field" Evaluation Result	Message Action
None or obsolete	A	Not needed	Not needed	
None or obsolete	C	Not needed	Not needed	Pending addition
None or obsolete	D	Not needed	Not needed	Rejected
Pending addition	A	Identical	Identical	Rejected
Pending addition	C	Identical	Identical	Rejected
Pending addition	D	Identical	Identical	Pending deletion
Pending change	A	Identical	Identical	Rejected
Pending change	C	Identical	Identical	Rejected
Pending change	D	Identical	Identical	Pending deletion
Pending delete	A	Identical	Identical	Pending change
Pending delete	C	Identical	Identical	Rejected
Pending delete	D	Identical	Identical	Rejected
Pending addition	A	Identical	Different	Update most recent record
Pending addition	C	Identical	Different	Update most recent record
Pending addition	D	Identical	Different	Update most recent record
Pending change	A	Identical	Different	Update most recent record
Pending change	C	Identical	Different	Update most recent record
Pending change	D	Identical	Different	Update most recent record
Pending delete	A	Identical	Different	Update most recent record
Pending delete	C	Identical	Different	Update most recent record
Pending delete	D	Identical	Different	Update most recent record
Pending addition	A	Different	Not needed	Pending change
Pending addition	C	Different	Not needed	Pending change
Pending addition	D	Different	Not needed	Pending deletion
Pending change	A	Different	Not needed	Pending change
Pending change	C	Different	Not needed	Pending change
Pending change	D	Different	Not needed	Pending deletion
Pending delete	A	Different	Not needed	Pending change
Pending delete	C	Different	Not needed	Pending change
Pending delete	D	Different	Not needed	Pending deletion
Active	A	Identical	Identical	Rejected
Active	C	Identical	Identical	Rejected
Active	D	Identical	Identical	Pending deletion
Active	A	Identical	Different	Update most recent record
Active	C	Identical	Different	Update most recent record
Active	D	Identical	Different	Pending deletion
Active	A	Different	Not needed	Pending change
Active	C	Different	Not needed	Pending change
Active	D	Different	Not needed	Pending deletion

*Records explicitly rejected by the Hospira MedNet Meds user are not evaluated

Primary Significant Fields:	Generic Name, Brand Name, External ID, Strength Amount, Strength Units, Volume Amount, Volume Units, Dosage Form Code, Dosage Form Description
Secondary Significant Fields:	NDC, Therapeutic Class Code, Therapeutic Class Description

HOSPIRA MEDNET MEDS LOGIC

User Action	Result
Reject a pending addition	The rejected record and all children are deleted
Accept a pending deletion	The accepted record and all children are deleted

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

Notes:

Note: For a list of Hospira MedNet compatible devices approved by country, refer to the Hospira MedNet Device Compatibilithy Matrix available through your Hospira Support Centre.

Glossary

Active Drug Library	Worksheet that has been finalised and is available to send to infusers
Archived Drug Library	Previously Active library
BCMA	Acronym for Bar Code Medication Administration
Callback Notification	Setting that configures the infuser to emit an audible tone For Plum A+, callback notification can occur after a loading dose completes and between doses in a multistep therapy
CCA (Clinical Care Area)	Patient group in 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, Endoscopy, etc.
CE	Acronym for Connectivity Engine that allows the infuser to communicate with a wired or wireless network
Clinical Use	The clinical use attributed to a medication entry
Concurrent Delivery (Plum A+)	Setting for Line B mode
Container Volume	Volume of the bag, bottle, 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	Bar coded sterile empty vial that is custom-filled by a pharmacy
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 Similar to standby
Deliver Together	Setting for the Plum A+ 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
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 finalised
Edit	The user responded to an alert by changing the value entered

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

Enable Delay/Standby	Infuser setting for Plum A+ that allows the infuser to be programmed for a waiting period before a therapy begins
External ID	An identifier for a Medication. Each Medication in the Medication List must have a unique External ID
Finalised Drug Library	Drug library that has been approved for use on infusers and can no longer be changed
Finalisation	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 (Plum A+) Hard limits are not required to be defined for a medication 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: for Plum A+, the user must edit the value entered so that it does not exceed the hard limit.
HIS	Acronym for Hospital Information System
Infusion	Single medication and concentration infused on a patient An infusion may be associated with one or more programmes
KVO (Keep Vein Open)	Very low delivery rate that may reduce the potential for clot formation at the catheter tip
Label Only Rule Set (Plum A+)	Type of rule set that allows medication entries to be configured with a medication name, complete or partial concentration, and specific dosing unit Dose rate limits cannot be assigned to a "Label Only" medication entry The "No Rule Set" icon is displayed on the infuser when this type of rule set is used
LDAP	Acronym for 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 Hospira MedNet Software
Limited Rule Set (Plum A+)	Type of rule set that allows medication entries to be configured with a medication name, optional diluent volume, and rate limits Dosing units for a Limited rule set includes mL/hour
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
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

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

Multistep	Programming option that allows delivery in steps or phases with different 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 twisted or plugged tubing
Override	The user responded to an alert by acknowledging it and accepting the value entered
Piggyback Mode (Plum A+)	Programming option that allows the delivery of a secondary container while delivery from the primary is suspended. When the secondary container has completed delivery of the volume to be infused, the primary resumes delivery
Prime	Clear out or purge air from the tubing. Same as Purge
Programme	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:
	• For the Plum A+, changing a bag, bottle, or syringe is not considered a new programme if no other setting was changed
	One or more programmes may be associated with an infusion
	Differences between infusers:
	• Plum A+ - Loading Dose and Multistep are each considered to be a single programme
Proximal Occlusion	Blockage between the infuser and the fluid container
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. The Plum A+ has a single rule set
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
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
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 Dose - Limit Violated) / Limit Violated*, expressed as a percentage, shown as a negative number for Lower Limit violations and a positive number for Upper Limit violations
VTBI	Acronym for Volume To Be Infused
Worksheet	Draft drug library that has not yet been finalised