

# Appendix I - User Guide

In this appendix, we will review the snapshots of the UI representing the flow of the screens describing how single, group or medication plan drug orders are created, viewed, revised, discontinued and renewed. The chapter will guide module Administrators, Physicians and Pharmacists on how to use the Drug Order and Pharmacy module to perform e-prescription.

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# 1. Administrator User Guide

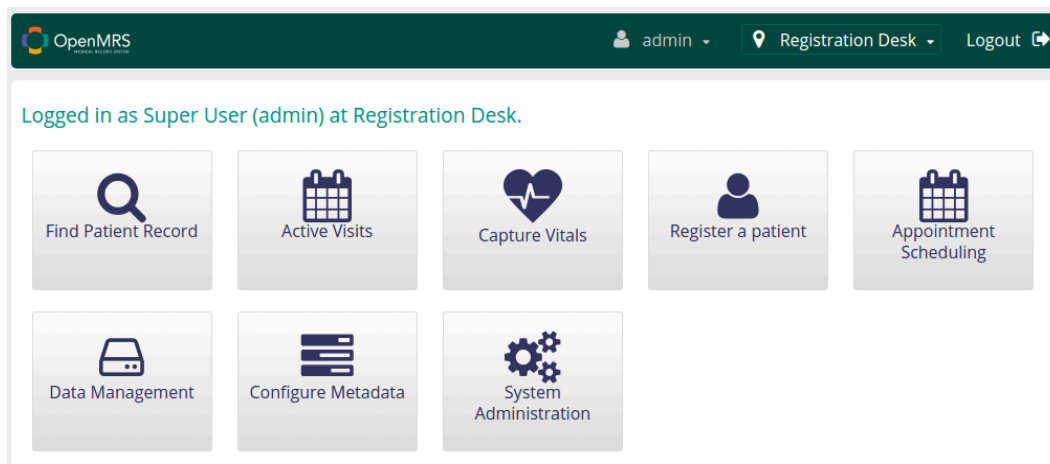
The following chapters present the user interface pertaining to the module administrator as the user of the Drug Order and Pharmacy module. The chapters include instructions on creating concepts for drugs and diseases, managing medication plans by defining, updating, revising and discarding the plans or regimen meant to treat a specific illness or disease. The availability of a plan or regimen will allow the Physicians to order a predefined set of drugs by selecting a plan.



## 1.1 Create Drug Concept

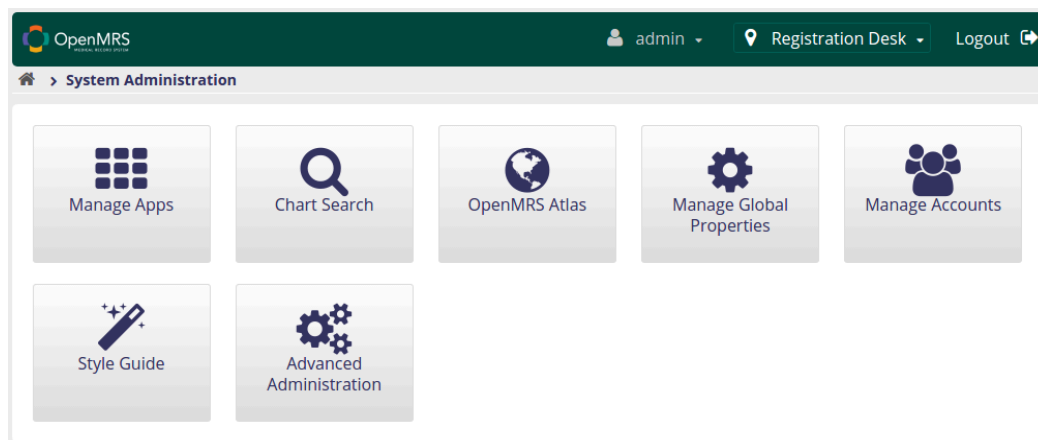
In this chapter, we will study the UI relevant to the Administrator in the process of creating a concept for a drug. This step is a prerequisite to define medication plans involving drugs as well as to place an order for a specific drug. A drug name can only be referred to if it has a concept defined in the concept dictionary. This drug will be a part of the drug class and will appear in the list of available drug options when the Administrator prepares a medication plan or when the Physician tries to place an order for the given drug.

1. Login to OpenMRS homepage using the Admin account. Click 'System Administration' icon.



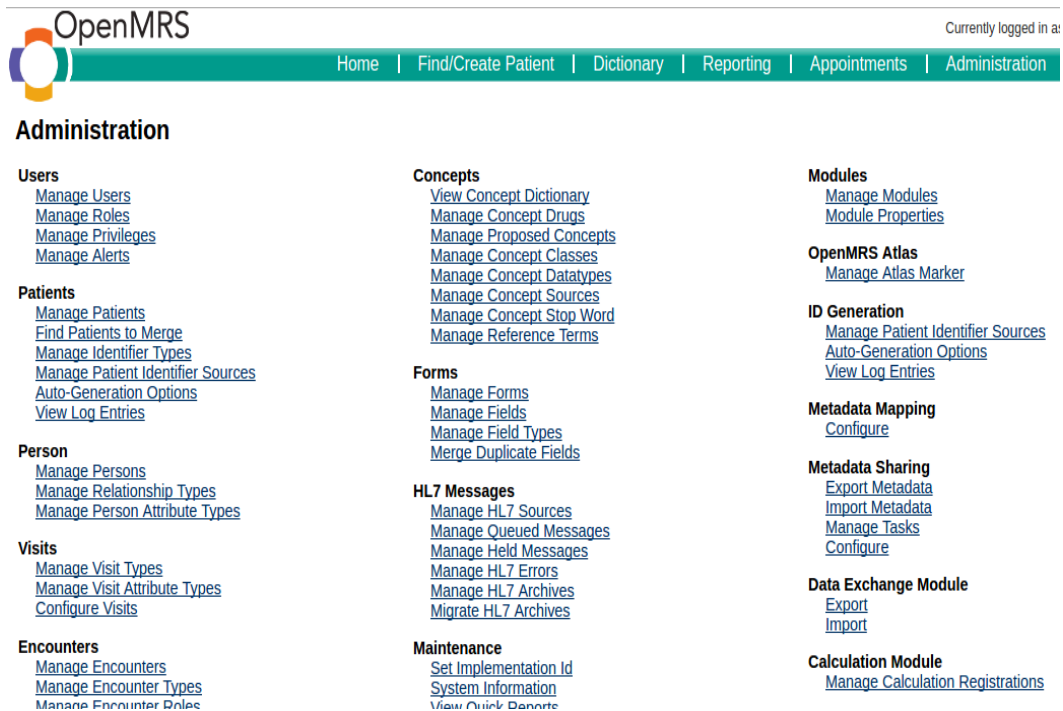
**Fig. 1.1.1** Drug Order and Pharmacy Module: OpenMRS Homepage

2. Click 'Advanced Administration' icon.



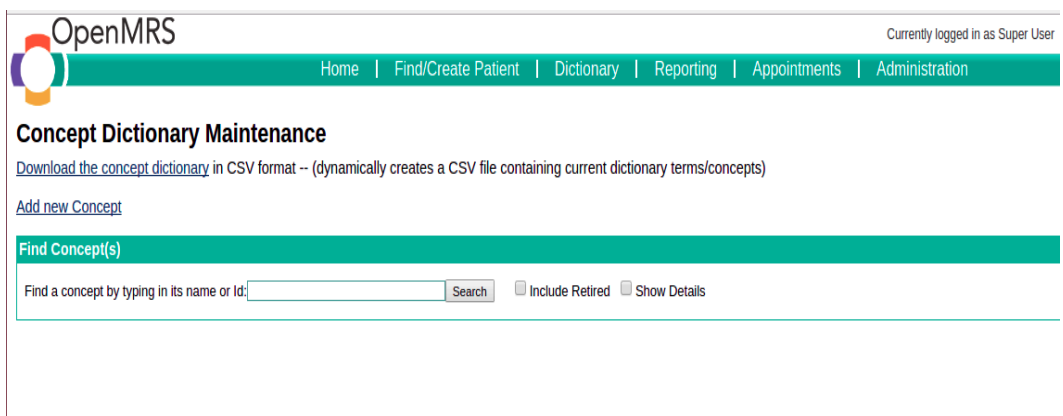
**Fig. 1.1.2** Drug Order and Pharmacy Module: Administration Icons

3. Get redirected to the 'Administration' page.



**Fig. 1.1.3** Drug Order and Pharmacy Module: Administration Page

4. Click 'Dictionary' on the menu bar. Click the link 'Add New Concept'.



**Fig. 1.1.4** Drug Order and Pharmacy Module: Concept Dictionary Page

5. Get redirected to the page to create a new concept.

**OpenMRS**

Home | Find/Create Patient | Dictionary | Reporting |

### Creating New Concept

[New](#)

**Id**

**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuguese](#)

**Fully Specified Name\***

**Synonyms**

**Search Terms**

**Short Name**

**Description**

**Class**

**Is Set** ☐

**Datatype**

**Numeric**

<b>Absolute High</b>	<input type="text"/>
<b>Critical High</b>	<input type="text"/>
<b>Normal High</b>	<input type="text"/>
<b>Normal Low</b>	<input type="text"/>
<b>Critical Low</b>	<input type="text"/>
<b>Absolute Low</b>	<input type="text"/>

*(range values are inclusive)*

**Units**

**Allow Decimal?** ☐

**Display Precision**

Fig. 1.1.5 Drug Order and Pharmacy Module: Create New Concept

6. Specify the name of the drug in the field 'Fully Specified Name' and select the option 'Drug' in the select field for 'Class'. Select 'N/A' as Datatype option.

**Creating New Concept**

[New](#)

**Id**

**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuguese](#)

**Fully Specified Name\***

**Synonyms**

**Search Terms**

**Short Name**

**Description**

**Class**    
Test  
Procedure  
**Drug**  
Diagnosis  
Finding  
Anatomy  
Question  
LabSet  
MedSet  
ConvSet  
Misc  
Symptom  
Symptom/Finding  
Specimen  
Misc Order  
Frequency  
Pharmacologic Drug Class  
Units of Measure  
Discontinue Order Reasons  
Order Priority

**Is Set**

**Datatype**

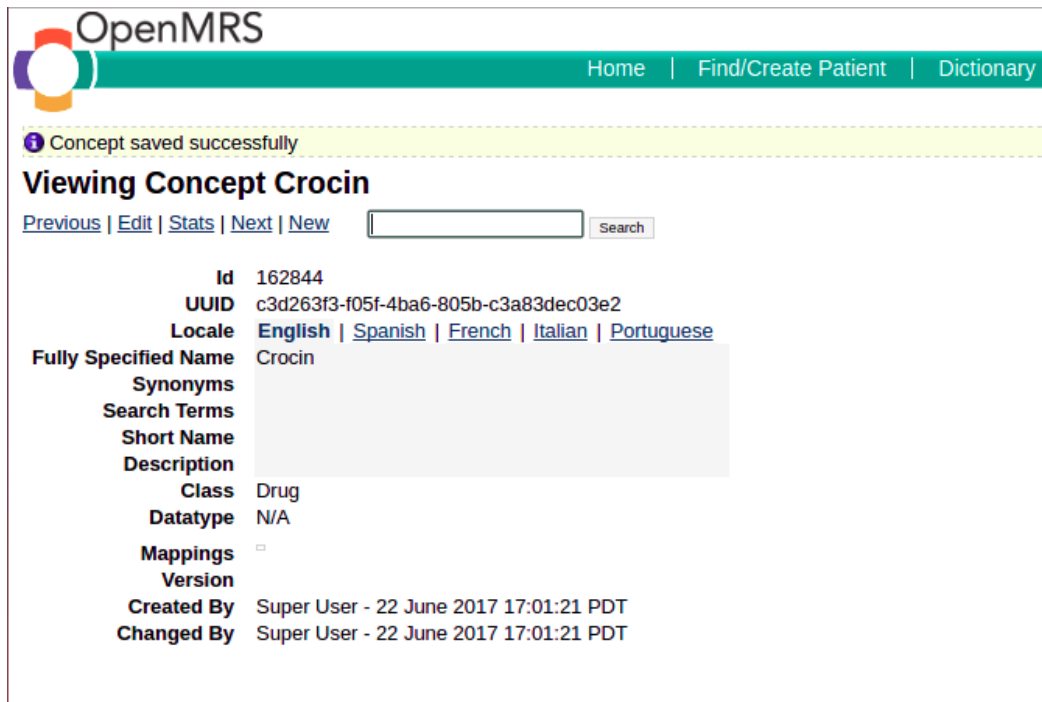
**Numeric**

**Mappings**

**Version**

**Fig. 1.1.6** Drug Order and Pharmacy Module: Specify Concept Name and Class

7. Click the 'Save Concept' button to save the drug concept.



OpenMRS

Home | Find/Create Patient | Dictionary

Concept saved successfully

### Viewing Concept Crocin

[Previous](#) | [Edit](#) | [Stats](#) | [Next](#) | [New](#)

<b>Id</b>	162844
<b>UUID</b>	c3d263f3-f05f-4ba6-805b-c3a83dec03e2
<b>Locale</b>	<a href="#">English</a>   <a href="#">Spanish</a>   <a href="#">French</a>   <a href="#">Italian</a>   <a href="#">Portuguese</a>
<b>Fully Specified Name</b>	Crocin
<b>Synonyms</b>	
<b>Search Terms</b>	
<b>Short Name</b>	
<b>Description</b>	
<b>Class</b>	Drug
<b>Datatype</b>	N/A
<b>Mappings</b>	
<b>Version</b>	
<b>Created By</b>	Super User - 22 June 2017 17:01:21 PDT
<b>Changed By</b>	Super User - 22 June 2017 17:01:21 PDT

Fig. 1.1.7 Drug Order and Pharmacy Module: Save Drug Concept

## 1.2 Create Diagnosis Concept

In this chapter, we will study how the module Administrator can create a disease concept. This step is a prerequisite in order to define medication plans or to place an order a drug. A disease name can only be referred to if it has a concept defined in the concept dictionary. This disease will be a part of the diagnosis class and will appear in the list of available diagnosis options when the Administrator prepares a medication plan or when the Physician tries to place an order for a drug and has to specify the diagnosis made. To create a concept, first follow the steps 1 - 5 from Section 1.1.

1. Specify the name of the disease in the field 'Fully Specified Name' and select the option 'Diagnosis' in the select field for 'Class'. Select 'N/A' as Datatype option.

**Creating New Concept**

[New](#)

**Id**

**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuguese](#)

**Fully Specified Name**

**Synonyms**

**Search Terms**

**Short Name**

**Description**

**Class**

**Is Set**

**Datatype**

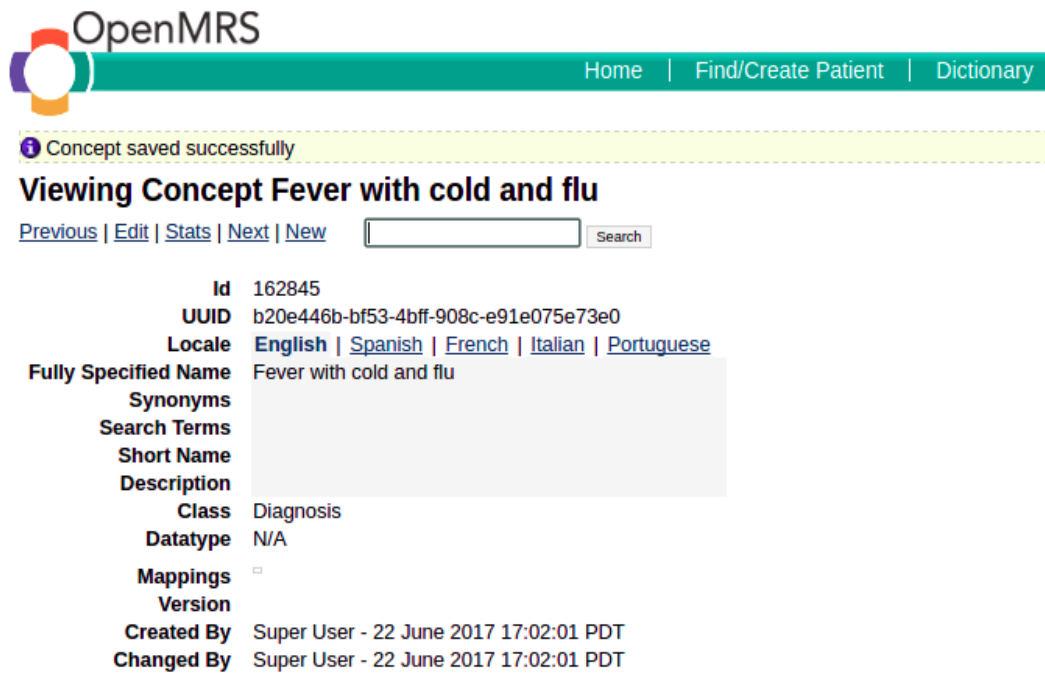
**Numeric**

**Mappings**

**Version**

**Fig. 1.2.1** Drug Order and Pharmacy Module: Specify Concept Name and Class

2. Click the 'Save Concept' button to save the diagnosis (disease) concept.



**OpenMRS** Home | Find/Create Patient | Dictionary

**Concept saved successfully**

### Viewing Concept Fever with cold and flu

[Previous](#) | [Edit](#) | [Stats](#) | [Next](#) | [New](#)

<b>Id</b>	162845
<b>UUID</b>	b20e446b-bf53-4bff-908c-e91e075e73e0
<b>Locale</b>	<a href="#">English</a>   <a href="#">Spanish</a>   <a href="#">French</a>   <a href="#">Italian</a>   <a href="#">Portuguese</a>
<b>Fully Specified Name</b>	Fever with cold and flu
<b>Synonyms</b>	
<b>Search Terms</b>	
<b>Short Name</b>	
<b>Description</b>	
<b>Class</b>	Diagnosis
<b>Datatype</b>	N/A
<b>Mappings</b>	
<b>Version</b>	
<b>Created By</b>	Super User - 22 June 2017 17:02:01 PDT
<b>Changed By</b>	Super User - 22 June 2017 17:02:01 PDT

**Fig. 1.2.2** Drug Order and Pharmacy Module: Save Diagnosis Concept

## 1.3 Manage Medication Plan or Regimen

In this chapter, we will study, the steps followed by an Administrator to define a medication plan or regimen, add a drug to an existing medication plan, view the formulations defined for a drug in the plan, edit the drug formulations in the plan as well as the steps to discard some or all of the standard plan drugs defined in the medication plan.

1. Login to to the 'Administration' page.

OpenMRS

Currently logged in as:

Home | Find/Create Patient | Dictionary | Reporting | Appointments | Administration

### Administration

- Users**
  - [Manage Users](#)
  - [Manage Roles](#)
  - [Manage Privileges](#)
  - [Manage Alerts](#)
- Patients**
  - [Manage Patients](#)
  - [Find Patients to Merge](#)
  - [Manage Identifier Types](#)
  - [Manage Patient Identifier Sources](#)
  - [Auto-Generation Options](#)
  - [View Log Entries](#)
- Person**
  - [Manage Persons](#)
  - [Manage Relationship Types](#)
  - [Manage Person Attribute Types](#)
- Visits**
  - [Manage Visit Types](#)
  - [Manage Visit Attribute Types](#)
  - [Configure Visits](#)
- Encounters**
  - [Manage Encounters](#)
  - [Manage Encounter Types](#)
  - [Manage Encounter Roles](#)
- Concepts**
  - [View Concept Dictionary](#)
  - [Manage Concept Drugs](#)
  - [Manage Proposed Concepts](#)
  - [Manage Concept Classes](#)
  - [Manage Concept Datatypes](#)
  - [Manage Concept Sources](#)
  - [Manage Concept Stop Word](#)
  - [Manage Reference Terms](#)
- Forms**
  - [Manage Forms](#)
  - [Manage Fields](#)
  - [Manage Field Types](#)
  - [Merge Duplicate Fields](#)
- HL7 Messages**
  - [Manage HL7 Sources](#)
  - [Manage Queued Messages](#)
  - [Manage Held Messages](#)
  - [Manage HL7 Errors](#)
  - [Manage HL7 Archives](#)
  - [Migrate HL7 Archives](#)
- Maintenance**
  - [Set Implementation Id](#)
  - [System Information](#)
  - [View Quick Reports](#)
- Modules**
  - [Manage Modules](#)
  - [Module Properties](#)
- OpenMRS Atlas**
  - [Manage Atlas Marker](#)
- ID Generation**
  - [Manage Patient Identifier Sources](#)
  - [Auto-Generation Options](#)
  - [View Log Entries](#)
- Metadata Mapping**
  - [Configure](#)
- Metadata Sharing**
  - [Export Metadata](#)
  - [Import Metadata](#)
  - [Manage Tasks](#)
  - [Configure](#)
- Data Exchange Module**
  - [Export](#)
  - [Import](#)
- Calculation Module**
  - [Manage Calculation Registrations](#)

**Fig. 1.3.1** Drug Order and Pharmacy Module: Administration Page - Part A



2. Scroll down the page to find a label called 'Drug Orders module' and click the link called 'Administration' under it.

**Scheduler**

[Manage Scheduler](#)

**Programs**

[Manage Programs](#)

[Manage Triggered State Conversions](#)

[Report Designs](#)

[Report Processors](#)

**REST Web Services**

[Settings](#)

[Test](#)

[Help](#)

**Appointment Module**

[Appointment Types](#)

[Provider Scheduling](#)

[Create Appointment](#)

[Manage Appointments](#)

[Appointments Statistics](#)

[Settings](#)

**HTML Form Entry**

[Manage HTML Forms](#)

[Preview HTML Form from File](#)

**Provider Management Module**

[Manage Provider Roles](#)

[Manage Suggestions](#)

[Manage Other Settings](#)

[Provider Search](#)

**Allergy API Module**

[Manage module](#)

**Allergy UI Module**

[Manage module](#)

**Drug Orders module**

[Administration](#)

**Drug Orders module**

[Administration](#)

**Fig. 1.3.2** Drug Order and Pharmacy Module: Administration Page - Part B

3. Get redirected to the Administration homepage. This page displays the 'Active Medication Plans' table that lists the active plans that are defined in the system.

OpenMRS

admin

Registration Desk

[Home](#) > [Administration](#) > [Drug Orders Administration](#)

**AVAILABLE MEDICATION PLANS**

Plan Name	Action
No Plans Found	

**Fig. 1.3.3** Drug Order and Pharmacy Module: Administrator Homepage

### 1.3.1 Define Medication Plan or Regimen

In this section, we will study the process of defining a medication plan or a regimen that identifies a medication plan to treat a specific disease.

1. Create a concept (as described in Sections 1.1 and 1.2) for the plan that needs to be defined.

The screenshot shows the 'Creating New Concept' interface in OpenMRS. At the top, there's a navigation bar with 'Home', 'Find/Create Patient', and 'Dictionary'. The main heading is 'Creating New Concept'. Below it, there's a 'New' link and a search box. The form fields are organized into a table-like structure with labels and input areas. The 'Fully Specified Name' field contains 'Asthm'. The 'Suggestions' field shows 'Asthma with status asthmaticus' and 'Asthma'. The 'Class' dropdown is set to 'Diagnosis'. The 'Datatype' dropdown is set to 'N/A'. At the bottom, there are three buttons: 'Save Concept', 'Save and Continue', and 'Cancel'.

**Fig. 1.3.1.1** Drug Order and Pharmacy Module: Create Plan Concept

Note that unless concepts are defined for the plan name (diagnosis) as well as the drugs that are ordered as a part of the plan, the plan cannot be defined. These concepts must be recorded in the Concept Dictionary in order to proceed with the subsequent steps. Any attempt to define a medication plan without defining concepts for the diagnosis/drugs being specified will immediately display a pop-up alert informing the user that the plan cannot be defined without defining concepts for the concerned plan and drug names.

2. Click the icon '+' next to the 'Available Medication Plans' label to load a form that provides fields to enter specifications – Name and Description of the plan. Both the fields are mandatory to be specified to create the plan.

OpenMRS  
admin | Registration Desk | Logout

Administration > Drug Orders Administration

**AVAILABLE MEDICATION PLANS** +

Plan Name	Action
No Plans Found	

**DEFINE MEDICATION PLAN**

**Enter Plan Name**

Enter Diagnosis Name

**Enter Description**

Enter a description of the plan

Cancel Confirm

**Fig. 1.3.1.2** Drug Order and Pharmacy Module: Create New Plan

3. Type the first few characters of the name of the plan (disease). This will provide a list of autocomplete options for plan name (concepts), consisting of the characters typed, to choose from. If the user types characters that does not match any concept, an alert is displayed warning the user that the plan cannot be defined without a matching diagnosis concept.

OpenMRS  
admin | Registration Desk | Logout

Administration > Drug Orders Administration

**AVAILABLE MEDICATION PLANS** +

Plan Name	Action
No Plans Found	

**DEFINE MEDICATION PLAN**

**Enter Plan Name**

As

- ASCARIASIS
- ASTHMA
- ASTHMA WITH STATUS ASTHMATICUS

**Enter Description**

Cancel Confirm

**Fig. 1.3.1.3** Drug Order and Pharmacy Module: Enter Plan Name

4. Next, provide a description of what the plan does or cures.

OpenMRS

admin Registration Desk Logout

Administration > Drug Orders Administration

### AVAILABLE MEDICATION PLANS

Plan Name	Action
No Plans Found	

### DEFINE MEDICATION PLAN

**Enter Plan Name**

ASTHMA

**Enter Description**

Helps to treat respiratory problems.

Cancel Confirm

**Fig. 1.3.1.4** Drug Order and Pharmacy Module: Enter Plan Description

5. The plan is now created and is listed in the Available Medication Plans table. However, if it is empty, i.e. it does not have any drugs defined in it and will not be displayed in the (medication plan) search results provided to the Physician.

OpenMRS

admin Registration Desk Logout

Administration > Drug Orders Administration

### AVAILABLE MEDICATION PLANS

Search: Show 10 entries

Plan Name	Action
ASTHMA Helps to treat respiratory problems.	🗑️ ✎️ ➕

Showing 1 to 1 of 1 entries First Previous 1 Next Last

Plan Saved!

**Fig. 1.3.1.5** Drug Order and Pharmacy Module: Plan Defined

### 1.3.2 Add a Drug to a Plan or Regimen

In this section, we will study the next steps of preparing a medication plan that describes the process of adding a drug to a plan. The drug is included in a plan with standard composition details and consumption instructions. The Administrator must specify the standard parameters like route, dose, duration, quantity and frequency associated with consuming the drug in general and is not allowed to add multiple records for the same drug in a given medication plan.

1. Create a concept for the drug as described in Section 1.1.

The screenshot shows the OpenMRS web interface. At the top is a green navigation bar with the OpenMRS logo and links for Home, Find/Create Patient, and Dictionary. Below the bar is the title 'Creating New Concept' and a link to 'New' with an empty text box and a 'Search' button. The main form is titled 'Id' and 'Locale' with links for English, Spanish, French, Italian, and Portuguese. The 'Fully Specified Name' field contains 'Aspiri'. Below it, the 'Suggestions' field shows 'Aspirin'. The 'Synonyms' field has an 'Add Synonym' button. The 'Search Terms' field has an 'Add Search Term' button. The 'Short Name' field is empty. The 'Description' field is a large empty text area. The 'Class' dropdown is set to 'Drug'. The 'Is Set' checkbox is unchecked. The 'Datatype' dropdown is set to 'N/A'. The 'Mappings' field has an 'Add Mapping' button. The 'Version' field is empty. At the bottom are three buttons: 'Save Concept', 'Save and Continue', and 'Cancel'.

**Fig. 1.3.2.1** Drug Order and Pharmacy Module: Create Drug Concept

Note that unless a concept is defined for the drug name, the drug cannot be ordered or added to a standard medication plan. If the Administrator attempts to specify a drug for which no concept is created, an alert is displayed informing that the plan cannot be defined without defining a drug concept associated with it.

2. Click on the '+' icon corresponding to the plan name to specify the standard drug formulations. The fields that need to be mandatorily specified are highlighted.

The screenshot shows two side-by-side panels. The left panel, titled 'AVAILABLE MEDICATION PLANS', features a search bar, a 'Show 10 entries' dropdown, and a table with columns 'Plan Name' and 'Action'. A single entry for 'ASTHMA' is listed with the description 'Helps to treat respiratory problems.' and an action icon. The right panel, titled 'ADD DRUG TO PLAN', contains a form for adding a drug to the 'ASTHMA' plan. The 'Enter Plan Name' field is pre-filled with 'ASTHMA'. The 'Specify Standard Formulation' section includes fields for 'Drug Name', 'Route', 'Dose', 'Dose Units', 'Quantity', 'Qty Units', 'Duration', 'Durn Units', and 'Frequency'. The 'Drug Name' field is highlighted with a red border. A black tooltip with the text 'Add Drug To Plan' is positioned over the '+' icon in the 'AVAILABLE MEDICATION PLANS' table. At the bottom of the right panel are 'Cancel' and 'Confirm' buttons.

**Fig. 1.3.2.2** Drug Order and Pharmacy Module: Add Drug to Plan

3. Type the first few characters of the name of the drug. This will provide autocomplete options for the name of the drug consisting of the characters typed.

This screenshot is similar to the previous one, but the 'Drug Name' field in the 'ADD DRUG TO PLAN' panel now contains the text 'As'. The 'Route' field is pre-filled with 'ASPIRIN'. The 'Drug Name' field is highlighted with a blue border. The 'AVAILABLE MEDICATION PLANS' panel remains unchanged. The 'Cancel' and 'Confirm' buttons are still at the bottom of the right panel.

**Fig. 1.3.2.3** Drug Order and Pharmacy Module: Enter Drug Name

4. Next, the other mandatory Order parameters are filled/selected. Drop-down options are provided for units of dose, quantity, duration and frequency.

**AVAILABLE MEDICATION PLANS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b> Helps to treat respiratory problems.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**ADD DRUG TO PLAN**

**Enter Plan Name**

**Specify Standard Formulation**

**Drug Name**

**Route**

**Dose**

**Dose Units**

**Quantity**

**Qty Units**

**Duration**

**Durn Units**

**Frequency**

**Fig. 1.3.2.4** Drug Order and Pharmacy Module: Enter Details

5. Once all the fields are specified, the 'Confirm' button is clicked to save the plan.

**AVAILABLE MEDICATION PLANS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b> Helps to treat respiratory problems.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**ADD DRUG TO PLAN**

**Enter Plan Name**

**Specify Standard Formulation**

**Drug Name**

**Route**

**Dose**

**Dose Units**

**Quantity**

**Qty Units**

**Duration**

**Durn Units**

**Frequency**

**Fig. 1.3.2.5** Drug Order and Pharmacy Module: Confirm Plan

6. The plan is now saved and displayed in the list of 'Available Medication Plans'.

The screenshot shows the OpenMRS interface with the user 'admin' logged in at the 'Registration Desk'. A notification in the top right corner says 'Plan Updated!'. The breadcrumb trail is 'Administration > Drug Orders Administration'. The main section is titled 'AVAILABLE MEDICATION PLANS' with a plus icon. Below this is a search bar and a table with columns 'Plan Name' and 'Action'. One plan is listed: 'ASTHMA' with the description 'Helps to treat respiratory problems.' and a sub-entry 'ASPIRIN'. The 'Action' column for the plan contains icons for delete, edit, and add. At the bottom, it says 'Showing 1 to 1 of 1 entries' with pagination links 'First Previous 1 Next Last'.

Fig. 1.3.2.6 Drug Order and Pharmacy Module: Plan Updated

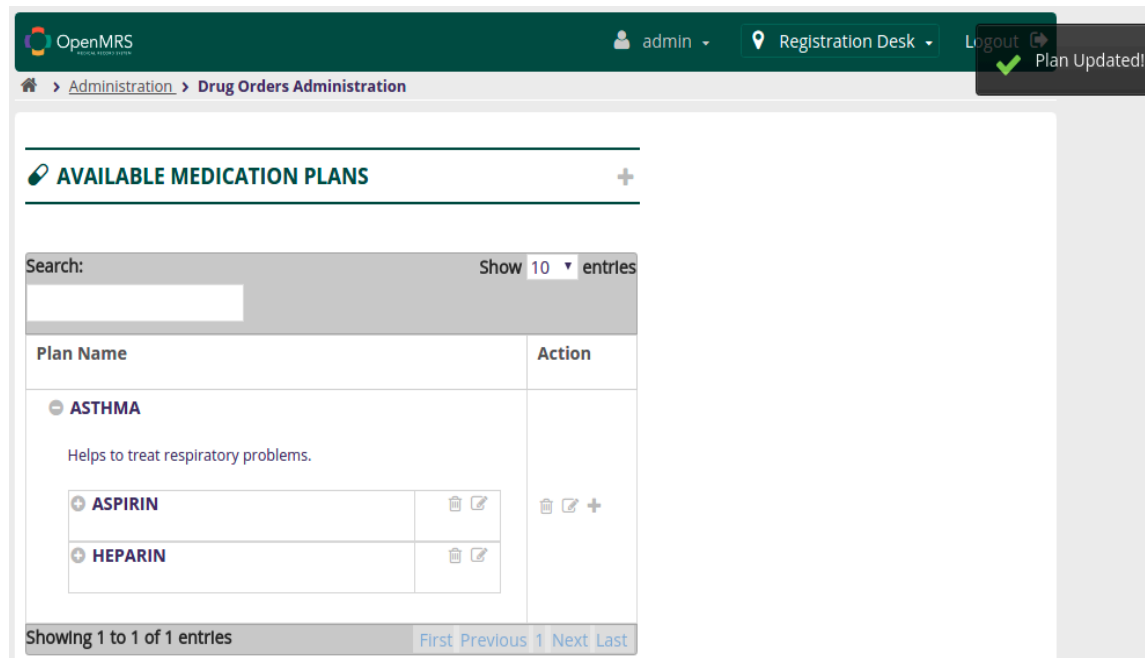
7. Similarly, the Administrator can add more drugs to the plan.

This screenshot shows the same 'AVAILABLE MEDICATION PLANS' interface as Figure 1.3.2.6, but with a modal window titled 'ADD DRUG TO PLAN' open on the right. The modal has two sections: 'Enter Plan Name' with a text field containing 'ASTHMA', and 'Specify Standard Formulation' with several fields: 'Drug Name' (HEPARIN), 'Route' (In both ears), 'Dose' (1), 'Dose Units' (Fluid ounce), 'Quantity' (1), 'Qty Units' (Capsule), 'Duration' (1), 'Durn Units' (Days), and 'Frequency' (As required). At the bottom of the modal are 'Cancel' and 'Confirm' buttons.

Fig. 1.3.2.7 Drug Order and Pharmacy Module: Add Drugs to Plan

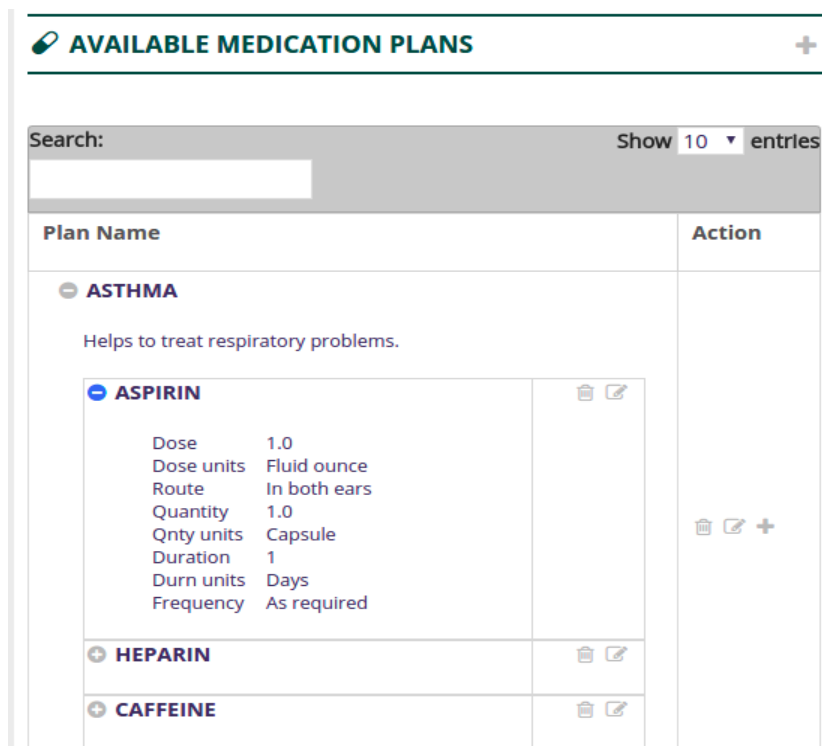


8. Save the standard plan drug formulations to update the plan.



**Fig. 1.3.2.8** Drug Order and Pharmacy Module: Plan Updated

9. The details of the plan and the Drug formulations can be viewed by clicking the +/- icons



**Fig. 1.3.2.9** Drug Order and Pharmacy Module: View Plan

### 1.3.3 Edit a Medication Plan or Regimen

In this section, we will study the process of modifying the standard drug formulations defined in a medication plan after it is defined.

1. Once a medication plan is defined, the formulations of the drugs specified in the plan can still be edited. Click the 'Edit' icon corresponding to a drug defined in the plan to display the 'Edit plan' form with all the entries populated. One or more of these fields can be modified and saved. However, the plan name and the drug name cannot be modified.

**AVAILABLE MEDICATION PLANS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b> Helps to treat respiratory problems. <b>ASPIRIN</b> Dose: 1.0 Dose units: Fluid ounce Route: In both ears Quantity: 1.0 Qnty units: Capsule Duration: 1 Durn units: Days Frequency: As required <b>HEPARIN</b> <b>CAFFEINE</b>	<div>Edit</div>

Showing 1 to 1 of 1 entries First Previous 1 Next Last

**EDIT PLAN**

Enter Plan Name  
ASTHMA

Specify Standard Formulation

Drug Name: ASPIRIN

Route: In both ears

Dose: 1.0

Dose Units: Fluid ounce

Quantity: 1.0

Qnty Units: Capsule

Duration: 1

Durn Units: Days



Frequency: As required

Cancel Confirm
































**Fig. 1.3.3.1** Drug Order and Pharmacy Module: Edit Plan

When a plan is modified, subsequent new orders for the plan will comprise of the modified set of standard formulary drugs, in other words, only the standard drugs that are currently a part of the plan can be ordered as a plan order. However, previous orders placed for the drugs comprising the regimen or medication plan (prior to the plan being modified) will remain unchanged.

2. Make changes to the standard formulations and specifications (if and where required) and click 'Confirm' in **Fig. 1.3.3.1**. This will create a new record for the drug in the plan.


**AVAILABLE MEDICATION PLANS**


Search: 
Show **10** entries

Plan Name	Action																						
<div>  <b>ASTHMA</b> </div> <div>Helps to treat respiratory problems.</div> <table> <tr> <td> <div>  <b>HEPARIN</b> </div> </td> <td>   </td> </tr> <tr> <td> <div>  <b>CAFFEINE</b> </div> </td> <td>   </td> </tr> <tr> <td> <div>  <b>ASPIRIN</b> </div> <table> <tr><td>Dose</td><td>1.2</td></tr> <tr><td>Dose units</td><td>Fluid ounce</td></tr> <tr><td>Route</td><td>In both ears</td></tr> <tr><td>Quantity</td><td>1.2</td></tr> <tr><td>Qty units</td><td>Capsule</td></tr> <tr><td>Duration</td><td>2</td></tr> <tr><td>Durn units</td><td>Days</td></tr> <tr><td>Frequency</td><td>As required</td></tr> </table> </td> <td>   </td> </tr> </table> <div>    </div>	<div>  <b>HEPARIN</b> </div>	 	<div>  <b>CAFFEINE</b> </div>	 	<div>  <b>ASPIRIN</b> </div> <table> <tr><td>Dose</td><td>1.2</td></tr> <tr><td>Dose units</td><td>Fluid ounce</td></tr> <tr><td>Route</td><td>In both ears</td></tr> <tr><td>Quantity</td><td>1.2</td></tr> <tr><td>Qty units</td><td>Capsule</td></tr> <tr><td>Duration</td><td>2</td></tr> <tr><td>Durn units</td><td>Days</td></tr> <tr><td>Frequency</td><td>As required</td></tr> </table>	Dose	1.2	Dose units	Fluid ounce	Route	In both ears	Quantity	1.2	Qty units	Capsule	Duration	2	Durn units	Days	Frequency	As required	 	
<div>  <b>HEPARIN</b> </div>	 																						
<div>  <b>CAFFEINE</b> </div>	 																						
<div>  <b>ASPIRIN</b> </div> <table> <tr><td>Dose</td><td>1.2</td></tr> <tr><td>Dose units</td><td>Fluid ounce</td></tr> <tr><td>Route</td><td>In both ears</td></tr> <tr><td>Quantity</td><td>1.2</td></tr> <tr><td>Qty units</td><td>Capsule</td></tr> <tr><td>Duration</td><td>2</td></tr> <tr><td>Durn units</td><td>Days</td></tr> <tr><td>Frequency</td><td>As required</td></tr> </table>	Dose	1.2	Dose units	Fluid ounce	Route	In both ears	Quantity	1.2	Qty units	Capsule	Duration	2	Durn units	Days	Frequency	As required	 						
Dose	1.2																						
Dose units	Fluid ounce																						
Route	In both ears																						
Quantity	1.2																						
Qty units	Capsule																						
Duration	2																						
Durn units	Days																						
Frequency	As required																						

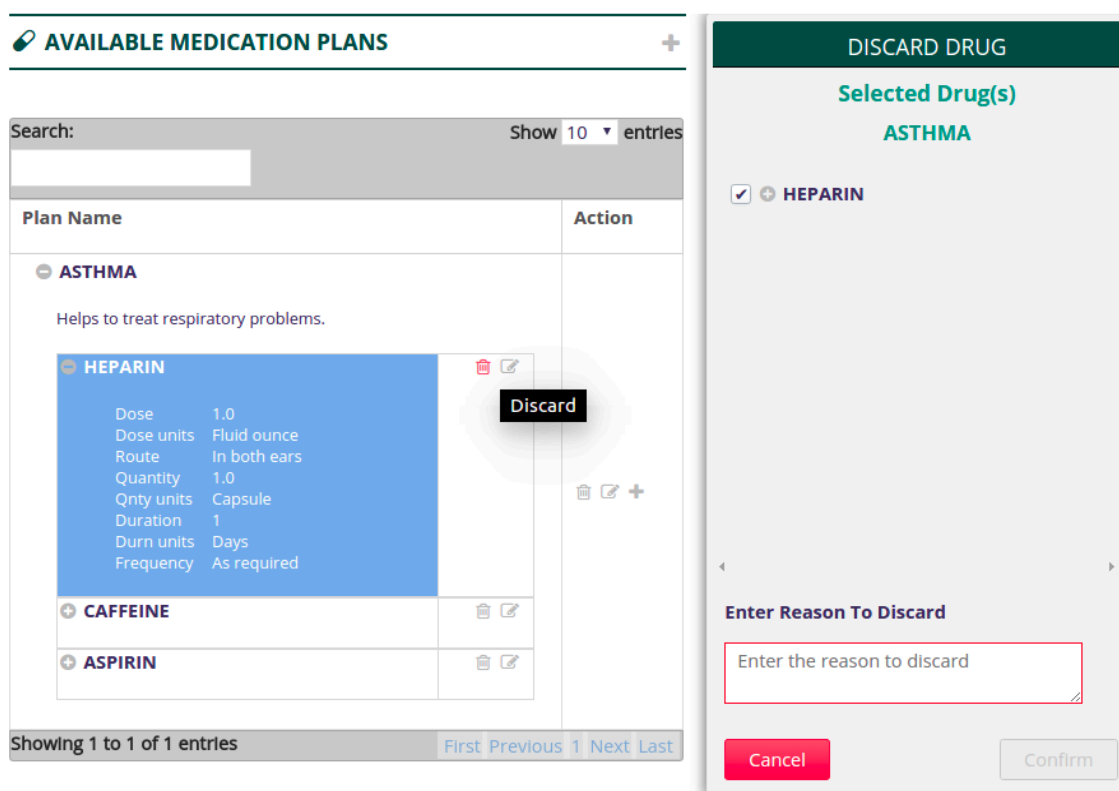
Showing 1 to 1 of 1 entries
First Previous 1 Next Last

**Fig. 1.3.3.2** Drug Order and Pharmacy Module: Plan Edited

### 1.3.4 Discard a Drug from a Medication Plan or Regimen

In this section, we will study the process of removing a standard drug formulation from a plan after it is defined.

1. Active medication plans or standard drug entries in a plan may be discarded if it is no longer useful. Discard a drug from a plan by clicking the 'Discard' icon corresponding to a drug. This loads a fragment displaying the name of the drug with the standard parameters that can be viewed or hidden by clicking the 'Show/Hide' icon. The parameters are hidden by default.



**Fig. 1.3.4.1** Drug Order and Pharmacy Module: Discard Plan Drug

When a plan is modified by discarding one or more drugs from the plan, subsequent new orders for the plan will only place orders for the currently active set of drugs defined in the plan. However, prior orders (placed prior to the plan being modified) will remain as it is. Editing a medication plan will not impact the previous uses of the plan and the associated medication.

2. Enter the reasons (mandatory) for discarding this drug from the medication plan / regimen.

**AVAILABLE MEDICATION PLANS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b> Helps to treat respiratory problems. <b>HEPARIN</b> Dose 1.0 Dose units Fluid ounce Route In both ears Quantity 1.0 Qty units Capsule Duration 1 Durn units Days Frequency As required <b>CAFFEINE</b> <b>ASPIRIN</b>	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**DISCARD DRUG**

**Selected Drug(s)**  
**ASTHMA**

☒ **HEPARIN**

**Enter Reason To Discard**

**Cancel** **Confirm**

**Fig. 1.3.4.2** Drug Order and Pharmacy Module: Enter Discard Reason

3. Click 'Submit' button to confirm the action to remove the drug from the plan.

**AVAILABLE MEDICATION PLANS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b> Helps to treat respiratory problems. <b>CAFFEINE</b> <b>ASPIRIN</b>	

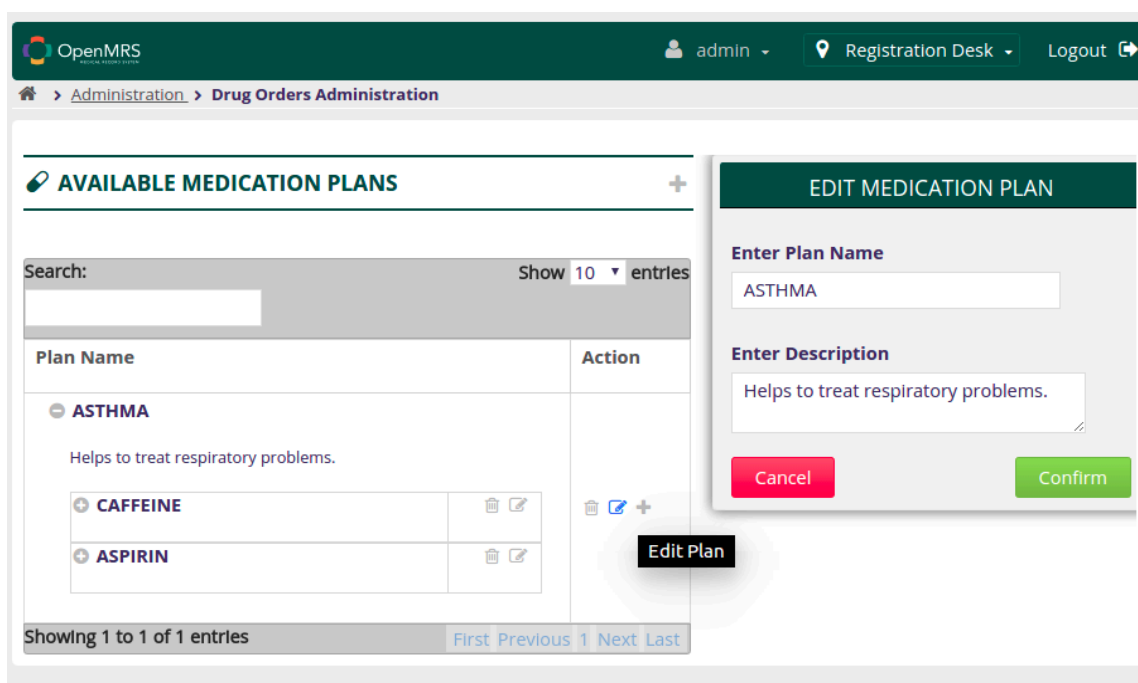
Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Fig. 1.3.4.3** Drug Order and Pharmacy Module: Drug Discarded

### 1.3.5 Edit Medication Plan or Regimen

In this section, we will study the process of editing a medication plan. The module Administrator can rename the plan and/or change the plan description. Note that, a concept must already be created for the new plan name if the plan is being renamed.

1. To edit a plan, click the 'Edit' icon corresponding to the plan in the 'Available Medication Plans' table.



**Fig. 1.3.5.1** Drug Order and Pharmacy Module: Edit Plan

When a plan is renamed, subsequent new plan order options will only display the renamed plan in the list of plans to choose from. The previous name of the plan will not show up in the available plan list. However, prior orders (placed prior to the plan being modified) will remain as it is. Editing a medication plan will not impact the previous uses of the plan and the associated medication.

2. Overwrite and/or select the new plan name and submit the form to rename the plan.  
Alternatively, only the description field may be modified and click 'Confirm'.

The screenshot shows the OpenMRS 'AVAILABLE MEDICATION PLANS' interface. The main table lists one plan: 'ASTHMA' with the description 'Helps to treat respiratory problems.' and associated drugs 'CAFFEINE' and 'ASPIRIN'. An 'EDIT MEDICATION PLAN' modal is open on the right, showing the 'Enter Plan Name' field with 'ASTHMA' entered. Below the input field, a dropdown menu is visible with options: 'ASTHMA' and 'ASTHMA WITH STATUS ASTHMATICUS'. The modal also includes a description field with 'Helps to treat respiratory problems.' and 'Cancel' and 'Confirm' buttons.

**Fig. 1.3.5.2** Drug Order and Pharmacy Module: Enter/Select New Name

3. The plan is now edited and updated in the Available Medication Plans table. The drugs associated with the plan before it was renamed or its description being modified will remain unaffected.

The screenshot shows the OpenMRS 'AVAILABLE MEDICATION PLANS' interface after the plan has been edited. The main table now lists one plan: 'ASTHMA WITH STATUS ASTHMATICUS' with the description 'Helps to treat respiratory problems.' and associated drugs 'CAFFEINE' and 'ASPIRIN'. The 'EDIT MEDICATION PLAN' modal is no longer visible.

**Fig. 1.3.5.3** Drug Order and Pharmacy Module: Plan Edited

### 1.3.6 Discard Medication Plan or Regimen

In this section, we will study, the process of discarding a medication plan or regimen from the list of active medication plans.

1. Medication plans may be discarded if they are no longer useful. Click the 'Discard' icon corresponding to a plan to discard the plan. This loads a form with the details of the drugs defined in the plan with a check-box corresponding to each drug that is checked by default. The 'Show/Hide' icon corresponding to each drug can be clicked to display or hide the parameters of the standard drug order. Note that if one or more of the drugs defined in the plan are unchecked at the time of discarding the plan, the plan will not be discarded. Instead only the drugs that are checked will be removed from the plan.

The screenshot displays the 'AVAILABLE MEDICATION PLANS' interface. On the left, a search bar and a table of plans are visible. The plan 'ASTHMA WITH STATUS ASTHMATICUS' is selected, showing its details and a list of drugs: CAFFEINE and ASPIRIN. A 'Discard Plan' button is highlighted. On the right, the 'DISCARD PLAN' modal is open, showing the selected drug(s) and checkboxes for CAFFEINE and ASPIRIN. Below this, there is a text input field for 'Enter Reason To Discard' and 'Cancel' and 'Confirm' buttons.

Plan Name	Action
<b>ASTHMA WITH STATUS ASTHMATICUS</b> Helps to treat respiratory problems.	
<b>CAFFEINE</b> Dose: 1.0 Dose units: Fluid ounce Route: In both ears Quantity: 1.0 Qty units: Capsule Duration: 1 Durn units: Days Frequency: As required	
<b>ASPIRIN</b> Dose: 1.2 Dose units: Fluid ounce Route: In both ears Quantity: 1.2 Qty units: Capsule Duration: 2 Durn units: Days Frequency: As required	

**DISCARD PLAN**

**Selected Drug(s)**

**ASTHMA WITH STATUS ASTHMATICUS**

☒ **CAFFEINE**

☒ **ASPIRIN**

**Discard Plan** **Enter Reason To Discard**

Enter the reason to discard

**Cancel** **Confirm**

**Fig. 1.3.6.1** Drug Order and Pharmacy Module: Select Plan To Discard



When a plan is discarded, the standard drug orders defined in the plan will no longer be available for selection from the list of available medication plans. However, orders placed prior to the plan being discarded will remain active until dispatched/discontinued. Discarding a medication plan will not impact the previous uses of the plan and the associated medication.

2. Enter the reason to discard the medication plan (mandatory).

The screenshot shows the 'AVAILABLE MEDICATION PLANS' interface on the left and a 'DISCARD PLAN' modal on the right.

**AVAILABLE MEDICATION PLANS:**

- Search: [ ] Show 10 entries
- Plan Name: **ASTHMA WITH STATUS ASTHMATICUS**
- Action: [ ] [ ] [ ]
- Helps to treat respiratory problems.
- CAFFEINE**
  - Dose: 1.0
  - Dose units: Fluid ounce
  - Route: In both ears
  - Quantity: 1.0
  - Qty units: Capsule
  - Duration: 1
  - Durn units: Days
  - Frequency: As required
- ASPIRIN**
  - Dose: 1.2
  - Dose units: Fluid ounce
  - Route: In both ears
  - Quantity: 1.2
  - Qty units: Capsule
  - Duration: 2
  - Durn units: Days
  - Frequency: As required

**DISCARD PLAN:**

- Selected Drug(s)**
- ASTHMA WITH STATUS ASTHMATICUS**
- ☒ **CAFFEINE**
- ☒ **ASPIRIN**
- Enter Reason To Discard**
- Drugs contain harmful substances.
- Cancel** **Confirm**

**Fig. 1.3.6.2** Drug Order and Pharmacy Module: Enter Discard Reason

3. Click 'Confirm' to discard the plan and remove it from the list of available medication plans.

The screenshot shows the 'AVAILABLE MEDICATION PLANS' interface after a plan has been discarded. A notification banner at the top right reads 'Medication Plan Discarded!' with a green checkmark.

**AVAILABLE MEDICATION PLANS:**

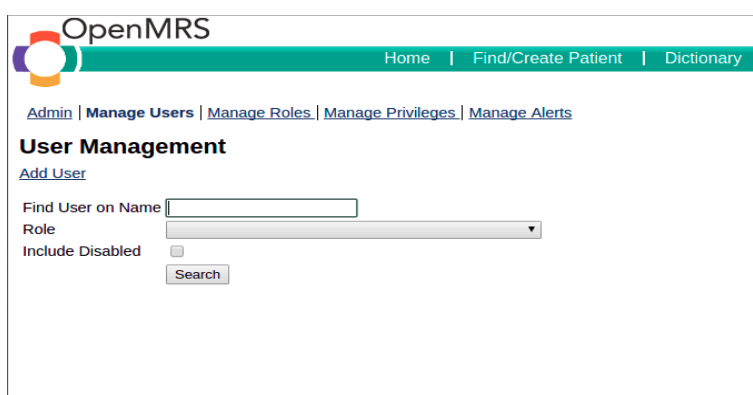
- Plan Name: [ ] Action: [ ]
- No Plans Found

**Fig. 1.3.6.3** Drug Order and Pharmacy Module: Plan Discarded

## 1.4 Create user privileges for Pharmacist

For the Pharmacist to login, the Administrator must create a Pharmacist user. Create a user with the privilege to perform the duties of the Pharmacist. This will provide the Pharmacist access to the Pharmacy icon and perform the required functions. The privileges required for the user are created automatically when the module is uploaded to the system.

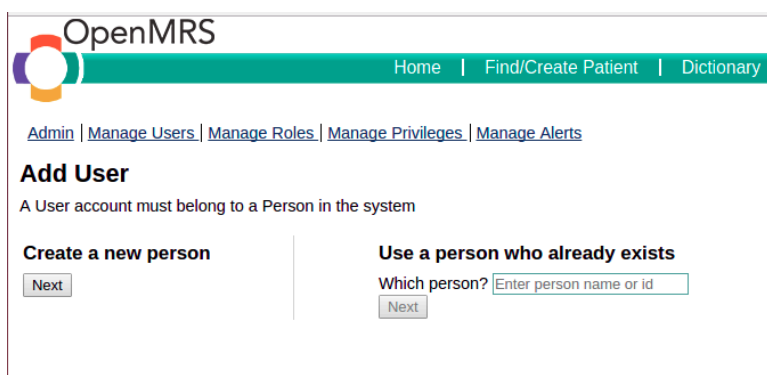
1. On the Administration page (**Fig. 1.3.1**), under the User label, click on the 'Manage Users' link. Then click 'Add User'.



The screenshot shows the OpenMRS web interface. At the top is a green navigation bar with the OpenMRS logo and links for Home, Find/Create Patient, and Dictionary. Below this is a breadcrumb trail: Admin | Manage Users | Manage Roles | Manage Privileges | Manage Alerts. The main heading is 'User Management' with a sub-link 'Add User'. The form contains a 'Find User on Name' text input, a 'Role' dropdown menu, an 'Include Disabled' checkbox, and a 'Search' button.

**Fig. 1.4.1** Drug Order and Pharmacy Module: Add User

2. Click the 'Next' button under 'Create a new person' label.



This screenshot shows the 'Add User' form with the 'Create a new person' section selected. It displays a 'Next' button. The 'Use a person who already exists' section is also visible, featuring a 'Which person?' label, a text input for 'Enter person name or id', and another 'Next' button. A message at the top states: 'A User account must belong to a Person in the system'.

**Fig. 1.4.2** Drug Order and Pharmacy Module: Create a New Person

3. Provide a first name, last name, gender specification, username and password for the person.

OpenMRS

Home | Find/Create Patient | Dictionary

[Admin](#) | [Manage Users](#) | [Manage Roles](#) | [Manage Privileges](#) | [Manage Alerts](#)

### Add/Edit User

Demographic Info

Given \* Josh

Middle

Family Name \* Smith

Gender\* ☒ Male ☐ Female

Login Info

System Id (System Id will be generated after saving)

Username pharmacist User can log in with either Username or System Id

User's Password\* Password should be 8 characters long and should contain at least one uppercase letter, one lowercase letter, one digit, and one special character

Confirm Password\* Retype the password (for accuracy)

Force Password Change ☐ Optionally require that this user change their password on next login

**Fig. 1.4.3** Drug Order and Pharmacy Module: Provide Person Details

4. Scroll down and under the 'Roles' label, check the checkboxes corresponding to 'Pharmacist' and 'Privilege Level: Full'.

☐ Organizational: Registration Clerk

☐ Organizational: System Administrator

☒ Pharmacist

☒ Privilege Level: Full

☐ Provider

☐ System Developer

[Show Advanced Options](#)

Save User

**Fig. 1.4.4** Drug Order and Pharmacy Module: Specify Person Roles

5. Now click 'Save User'. This will create a new 'Pharmacist' user with the access to pharmacy specific icons and perform the required actions. Note that this user will not be given the privileges to perform any other actions or view any other information.

## 2. Physician User Guide

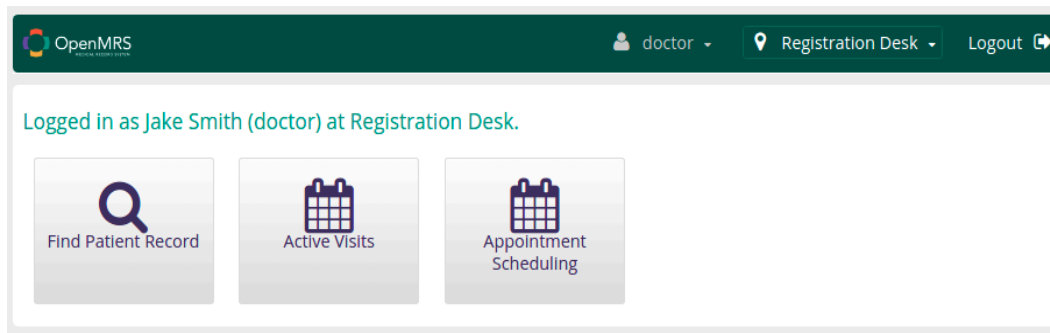
The following set of chapters present the user interfaces pertaining to the Physician as the user of the Drug Order and Pharmacy module. The chapters include instructions for placing, tracking, revising, discontinuing and renewing individual, group and medication plan drug orders. In this context, 'Active Orders' refer to drug orders that are not yet dispensed to the Patient; as well as, already dispatched drug orders for which Patients can procure refills. In short, the active drug orders for a particular Patient refer to drugs that are currently allowed to be given or sold to the Patient. A 'Non-Active Order' refers to a drug order that has already been fulfilled (medicines - including allowed number of refills dispensed to the Patient) or discontinued in the past.

## 2.1 Individual Drug Orders

In this section, we will view the snapshots of the user interface relevant to individual drug orders. This describes the steps followed by the Physician to create an order, view the order details, edit the order parameters, discontinue the order and renew an old non-active drug order. We will see the list of predefined select options available to the Physician to place an order or discontinue it by providing a specific reason. Also included are the snapshots that describe how the Physician is notified upon selecting an allergic drug to order or while creating, modifying or discontinuing an order.

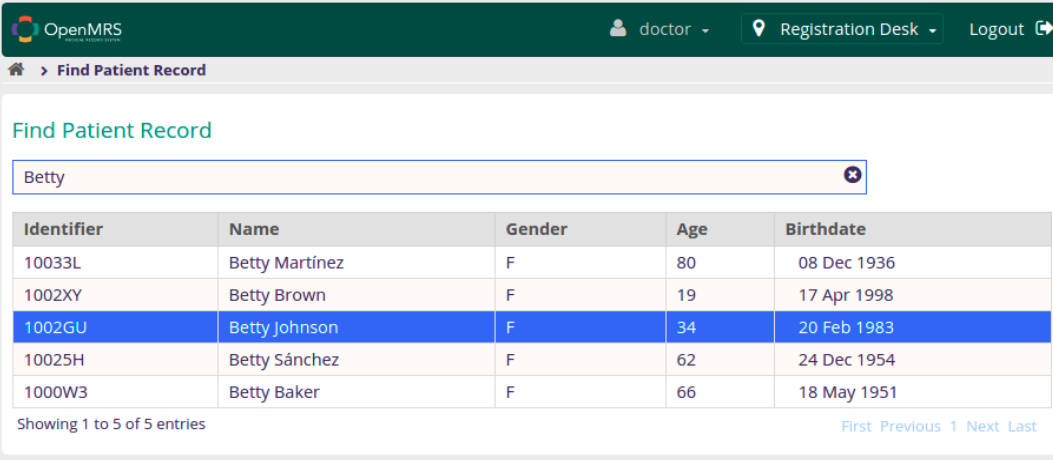
### Preliminary Steps

1. To login as a Physician, use the credentials doctor/Doctor123.
2. Login to the OpenMRS homepage available to the Physician. Click 'Find Patient Record'.



**Fig. 2.1.1** Drug Order and Pharmacy Module: OpenMRS Homepage

3. Search for the Patient by her/his name. The search field gives autocomplete options upon typing a few characters.



OpenMRS

doctor Registration Desk Logout

Find Patient Record

Find Patient Record

Betty

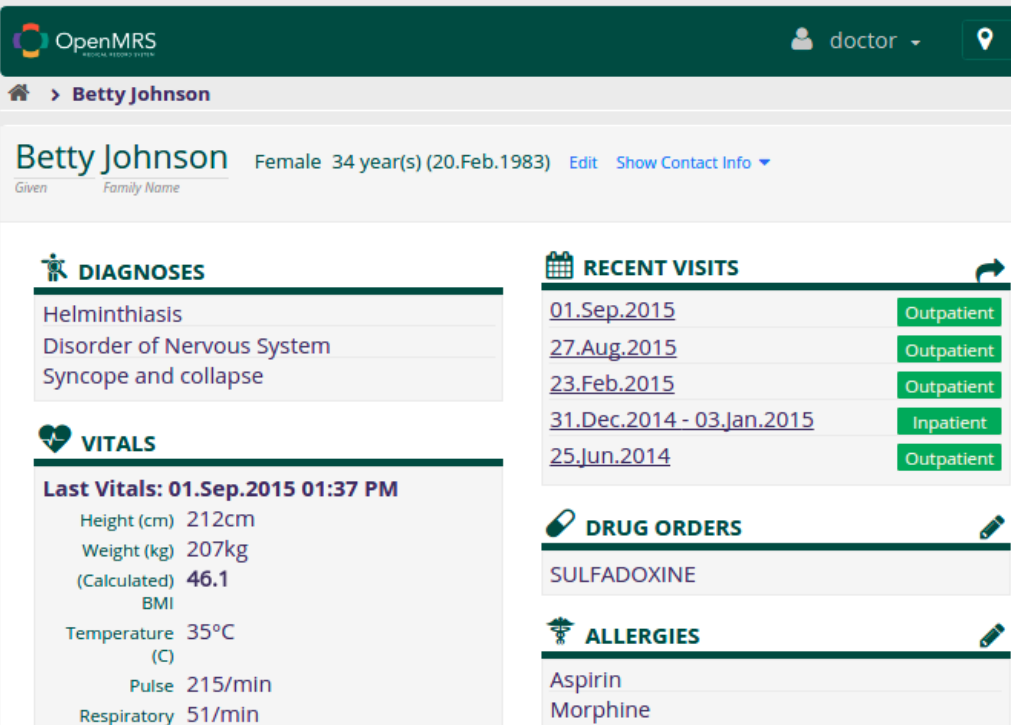
Identifier	Name	Gender	Age	Birthdate
10033L	Betty Martínez	F	80	08 Dec 1936
1002XY	Betty Brown	F	19	17 Apr 1998
1002GU	Betty Johnson	F	34	20 Feb 1983
10025H	Betty Sánchez	F	62	24 Dec 1954
1000W3	Betty Baker	F	66	18 May 1951

Showing 1 to 5 of 5 entries

First Previous 1 Next Last

**Fig. 2.1.2** Drug Order and Pharmacy Module: Patient Search

4. Log into the Patient's dashboard. This dashboard includes a segment for Drug Orders that displays the list of currently active drug orders placed for the Patient. Click on the edit icon on this segment to navigate to the drug order homepage.



OpenMRS

doctor

Betty Johnson

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info

Given Family Name

**DIAGNOSES**

- Helminthiasis
- Disorder of Nervous System
- Syncope and collapse

**VITALS**

Last Vitals: 01.Sep.2015 01:37 PM

- Height (cm) 212cm
- Weight (kg) 207kg
- (Calculated) 46.1 BMI
- Temperature 35°C (C)
- Pulse 215/min
- Respiratory 51/min

**RECENT VISITS**

- 01.Sep.2015 Outpatient
- 27.Aug.2015 Outpatient
- 23.Feb.2015 Outpatient
- 31.Dec.2014 - 03.Jan.2015 Inpatient
- 25.Jun.2014 Outpatient

**DRUG ORDERS**

- SULFADOXINE

**ALLERGIES**

- Aspirin
- Morphine

**Fig. 2.1.3** Drug Order and Pharmacy Module: Patient Dashboard

## 2.1.1 Create an Individual Drug Order

In this section, we will study the steps to create a single individual drug order by specifying the name of the drug, its composition, the diagnosis made, quantity and frequency of consumption, refills permitted and additional specific instructions to the Patient and the Pharmacist. Each of these parameters are mandatory to be specified in order to place the drug order. The priority of the drug is set to 'Normal' by default and can be modified by the Physician.

1. Log into the drug order homepage. This page displays Patient information, list of drugs the Patient is allergic to and a table called 'Active Individual Drug Orders' that lists the currently active drug orders.

The screenshot shows the OpenMRS interface for a doctor's profile. The header includes the OpenMRS logo, a user dropdown set to 'doctor', and a location dropdown set to 'Registration Desk'. The breadcrumb trail shows the path: Home > Johnson, Betty > Drug Orders. The patient information section displays 'Betty Johnson' (Female, 34 years old, born 20.Feb.1983) with links to 'Edit' and 'Show Contact Info'. Below this, it lists 'Drug Allergies: ASPIRIN MORPHINE'. The main section is titled 'ACTIVE INDIVIDUAL DRUG ORDERS' with a plus icon. It features a search bar and a table with one entry for 'SULFADOXINE' started on '2017-08-06'. The table has columns for Group, ID, Drug Name, Start Date, and Action. Below the table, it says 'Showing 1 to 1 of 1 entries' with pagination links. A 'Group Selected' button is present. At the bottom, there is a section for 'Discontinued/Canceled/Fulfilled Orders' and another section titled 'ACTIVE MEDICATION PLAN ORDERS' with a plus icon.

OpenMRS

doctor

Registration Desk

Home > Johnson, Betty > Drug Orders

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info

Given Family Name

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE INDIVIDUAL DRUG ORDERS** +

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	1	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 1 of 1 entries First Previous 1 Next Last

Group Selected

+ Discontinued/Canceled/Fulfilled Orders

**ACTIVE MEDICATION PLAN ORDERS** +

Fig. 2.1.1.1 Drug Order and Pharmacy Module: Drug Order Homepage

2. To create a new drug order, click the '+' icon corresponding to the 'Active Individual Drug Orders' label. This loads a form to enter the details of the order that needs to be placed.

The screenshot shows two side-by-side forms. The left form, titled 'ACTIVE INDIVIDUAL DRUG ORDERS', has a search bar, a table with one entry for 'SULFADOXINE' (ID 1, Start Date 2017-08-06), and a '+ CREATE DRUG ORDER' button. The right form, titled 'CREATE DRUG ORDER', contains fields for Drug name, Start Date (06 Aug 2017), Route, Dose, Dose units, Quantity, Qnty units, Duration, Durn units, Frequency, Diagnosis, and Priority (Normal).

Fig. 2.1.1.2 Drug Order and Pharmacy Module: Create a Drug Order

3. Start typing the name of the drug and select from the list of autocomplete drug name options.

This screenshot is similar to the previous one, but the 'Drug name' field in the 'CREATE DRUG ORDER' form now contains the text 'As' and a dropdown menu is open, showing 'ASPIRIN' as a suggestion. The rest of the forms remain the same.



**Fig. 2.1.1.3** Drug Order and Pharmacy Module: Autocomplete Drug Name

4. The order selected is Aspirin. Note that the Patient is identified to be allergic to Aspirin (as indicated in the top section of the homepage, **Fig. 2.1.1.1**). This will display a field asking the user to enter the reasons (mandatory) for ordering the allergic drug.

The screenshot displays two main sections. On the left, the 'ACTIVE INDIVIDUAL DRUG ORDERS' table shows a single entry for SULFADOXINE. On the right, the 'CREATE DRUG ORDER' form is shown with the drug name set to ASPIRIN and the start date to 06 Aug 2017. A note indicates the patient is allergic to this drug, and a text field is provided for the reason to order.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	1	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

[Discontinued/Canceled/Fulfilled Orders](#)

**CREATE DRUG ORDER**

Drug name \* ASPIRIN

Start Date \* 06 Aug 2017

Note: The patient is allergic to this drug.  
Enter the reasons for ordering this drug:

Enter the reason to order

Route \* Choose option

Dose \* Enter Dose

**Fig. 2.1.1.4** Drug Order and Pharmacy Module: Allergic Order Reason

5. Next, enter the values for dose, duration and quantity and select the appropriate unit for each of these parameters from the list of options provided in the **select** widget.

The screenshot displays three main sections. On the left, the 'ACTIVE INDIVIDUAL DRUG ORDERS' table shows a single entry for SULFADOXINE. Below it, the 'ACTIVE MEDICATION PLAN ORDERS' table is empty. On the right, the 'CREATE DRUG ORDER' form is shown with the drug name set to ASPIRIN and the start date to 06 Aug 2017. A note indicates the patient is allergic to this drug, and a text field is provided for the reason to order. The form also includes fields for Route, Dose, Dose units, Quantity, Qnty units, Duration, Durn units, Frequency, and Diagnosis.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	1	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

[Discontinued/Canceled/Fulfilled Orders](#)

**ACTIVE MEDICATION PLAN ORDERS**

Search: Show 10 entries

Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**CREATE DRUG ORDER**

Drug name \* ASPIRIN

Start Date \* 06 Aug 2017

Note: The patient is allergic to this drug.  
Enter the reasons for ordering this drug:

Good for health

Route \* In both ears

Dose \* 1.2

Dose units \* Choose option

Quantity \* Choose option

Qnty units \* Fluid ounce  
Gram  
Liter  
Microgram  
Milligram  
Milliliter

Duration \* Enter disease name

Durn units \*

Frequency \*

Diagnosis \*

**Fig. 2.1.1.5** Drug Order and Pharmacy Module: Specify Measurement Units

6. Specify the diagnosis. The diagnosis field also works on autocomplete and lists options.

Search:  Show 10 entries

Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

+ Discontinued/Canceled/Fulfilled Orders

Qty units\*

Duration\*

Durn units\*

Frequency\*

Diagnosis\*   
ANAEMIA  
ANAPHYLAXIS

Priority\*

Refills

Interval (days)

Instructions for Patient

Instructions for Pharmacist

**Fig. 2.1.1.6** Drug Order and Pharmacy Module: Specify Diagnosis

7. Select the priority which is set to 'Normal' by default. Specify the number of refills that are allowed on the order and the interval (number of days) between refills as well as additional instructions. If the form is attempted to be submitted prior to all the fields being specified, an alert is displayed.

Plan Name  Action

No Orders Found

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

+ Discontinued/Canceled/Fulfilled Orders

Durn units\*

Frequency\*

Diagnosis\*

Priority\*

Refills

Interval (days)

Instructions for Patient

Instructions for Pharmacist

Please fill out this field.

**Fig. 2.1.1.7 Drug Order and Pharmacy Module: Additional Instructions - A**

8. Provide instructions for the Patient and for the Pharmacist with regard to consumption and dispensing of the drug respectively.

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Discontinued/Canceled/Fulfilled Orders

Quantity \* 1.2

Qnty units \* Capsule

Duration \* 2

Durn units \* Days

Frequency \* As required

Diagnosis \* ANAEMIA

Priority \* Normal

Refills 2

Interval (days) 2

Instructions for Patient  
After dinner with water.

Instructions for Pharmacist  
Replace with Crocin if not available.

[Cancel](#) [Save](#)

**Fig. 2.1.1.8 Drug Order and Pharmacy Module: Additional Instructions - B**

9. Click the 'Save' button to create the order. An alert is displayed confirming that the order is placed. The newly created order is displayed in the Active Drug Orders table.

OpenMRS doctor Registration Desk Logout **Order Created!**

Johnson, Betty > Drug Orders

**Betty Johnson** Female 34 year(s) (20.Feb.1983) [Edit](#) [Show Contact Info](#) Patient ID 1002GU

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE INDIVIDUAL DRUG ORDERS**

Search:  Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	1	<b>SULFADOXINE</b> <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	2	<b>ASPIRIN</b> <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig. 2.1.1.9** Drug Order and Pharmacy Module: Order Created

10. The active order is also listed in the Patient dashboard in the drug order fragment. The Drug Orders fragment displayed on the Patient dashboard will display the list of currently active drug orders (with one drug name in each line).

The screenshot shows the OpenMRS Patient Dashboard for Betty Johnson. The dashboard includes sections for Diagnoses, Vitals, Recent Visits, Allergies, and Drug Orders. The Drug Orders section lists Sulfadoxine and Aspirin.

**OpenMRS** Medical Record System

doctor | Registration Desk

Betty Johnson

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info

Given Family Name

**DIAGNOSES**

- Helminthiasis
- Disorder of Nervous System
- Syncope and collapse

**VITALS**

Last Vitals: 01.Sep.2015 01:37 PM

- Height (cm) 212cm
- Weight (kg) 207kg
- (Calculated) BMI 46.1
- Temperature 35°C
- Pulse 215/min
- Respiratory rate 51/min
- Blood Pressure 162 / 137
- Blood oxygen saturation 54%

**RECENT VISITS**

- 01.Sep.2015 Outpatient
- 27.Aug.2015 Outpatient
- 23.Feb.2015 Outpatient
- 31.Dec.2014 - 03.Jan.2015 Inpatient
- 25.Jun.2014 Outpatient

**ALLERGIES**

- Aspirin
- Morphine

**DRUG ORDERS**

- SULFADOXINE
- ASPIRIN

**General Actions**

- Start Visit
- Add Past Visit
- Merge Visits
- Request Appointment

**Fig. 2.1.1.10** Drug Order and Pharmacy Module: Dashboard Updated

An example of how a long list of drugs that currently have orders placed is shown here. As this list grows, the Physician will have to scroll down the fragment to view the entire list of drugs.

The close-up screenshot shows the Drug Orders list, which is a scrollable fragment. The list contains the following drugs:

- SULFADOXINE
- MORPHINE
- HEPARINOIDS
- CAFFEINE
- CODEINE
- ASPIRIN
- HEPARIN
- PYRIMETHAMINE / SULFADOXINE
- HEPARINOIDS / SALICYLIC ACID

**Fig. 2.1.1.11** Drug Order and Pharmacy Module: Drug Order Fragment

## 2.1.2 View an Individual Drug Order

In this section, we will see how we can view the details of an individual drug order. The Drug Order table displays the order ID, drug name and the start date. Upon clicking a row (representing an order), a fragment containing all the information pertaining to the order is displayed. The selected order is highlighted in the table. The View Order fragment can be scrolled in both X and Y axis to view the lengthy texts for Patient and Pharmacist instructions.

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' section. It features a search bar, a table with columns for Group, ID, Drug Name, Start Date, and Action, and a 'Group Selected' button. Below the table is a link for 'Discontinued/Canceled/Fulfilled Orders'. The 'ACTIVE MEDICATION PLAN ORDERS' section is also visible. On the right, the 'VIEW ORDER DETAILS' fragment shows the 'Selected Order' for Aspirin, including dose, route, quantity, start date, duration, diagnosis, priority, refills, interval, and an allergic drug order note. A 'Close' button is at the bottom right.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	1	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	2	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

[+ Discontinued/Canceled/Fulfilled Orders](#)

**VIEW ORDER DETAILS**

**Selected Order**

**Drug** Aspirin  
Dose: 1.2 Fluid ounce  
Route: In both ears  
Quantity: 1.2 Capsule

**Start Date** 2017-08-06

**Duration** 2 Days, As required

**Diagnosis** Anaemia

**Priority** Normal

**Refills** 2

**Interval** 2 day(s)

**Allergic Drug Order Note**

Close

**Fig. 2.1.2.1** Drug Order and Pharmacy Module: View Order

### 2.1.3 Edit an Individual Drug Order

In this section, we will study how we can edit the formulations of a drug order. Drug orders can be edited as long as they are active, i.e. unless they have not already been fulfilled by dispensing all the allowed refills or discontinued. Orders can also be edited during renewal of an old drug order. Here we see how to modify the formulations of an active drug order.

1. To modify an order, click on the 'Edit' icon corresponding to the order.

The screenshot displays two side-by-side panels from a medical software interface. The left panel, titled 'ACTIVE INDIVIDUAL DRUG ORDERS', features a search bar, a table with two entries (SULFADOXINE and ASPIRIN), and a list of 'ACTIVE MEDICATION PLAN ORDERS' which is currently empty. The right panel, titled 'EDIT DRUG ORDER', shows a form for editing the Sulfadoxine order, with fields for drug name, start date, route, dose, units, quantity, duration, frequency, diagnosis, priority, refills, and interval.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	1	SULFADOXINE <i>Click to view details</i>	2017-08-06	
<input type="checkbox"/>	2	ASPIRIN <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

Discontinued/Canceled/Fulfilled Orders

Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

EDIT DRUG ORDER	
Drug name *	SULFADOXINE
Start Date *	06 Aug 2017
Route *	In both ears
Dose *	1.0
Dose units *	Fluid ounce
Quantity *	1.0
Qty units *	Capsule
Duration *	1
Durn units *	Days
Frequency *	As required
Diagnosis *	AMOEBIASIS
Priority *	Normal
Refills	2
Interval (days)	2
Instructions for Patient	

**Fig. 2.1.3.1** Drug Order and Pharmacy Module: Edit Order

2. The Physician can revise and modify the values in one or more of the entries and click the 'Save' button. This will void the previous order and create a new order with the updated formulations or instructions. The Pharmacist will only be able to see the updated drug order.

The screenshot displays the OpenMRS interface for a doctor viewing drug orders for a patient named Betty Johnson. The patient's details include her name, gender (Female), age (34 years), and date of birth (20 Feb 1983). The patient ID is 1002GU. The interface shows a list of active individual drug orders. The first order is for Aspirin, and the second is for Sulfadoxine. Both orders have a start date of 2017-08-06. The interface also includes a search bar, a table of drug orders, and a notification at the top right indicating that the order changes have been saved.

OpenMRS doctor Registration Desk Logout Order Changes Saved!

Johnson, Betty Drug Orders

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE INDIVIDUAL DRUG ORDERS

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	2	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	3	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 entries First Previous 1 Next Last

Group Selected



**Fig. 2.1.3.2** Drug Order and Pharmacy Module: Save Edited Order

## 2.1.4 Discontinue an Individual Drug Order

After an order is placed, the Physician (alone) can discontinue the drug order (only if required) as long as the drug is currently active, i.e. if it has not been dispensed to the Patient or if it allows refills to be provided. It is mandatory that the Physician select the drug order to be discontinued and provide reasons for taking this action. In this section, we will study, how to discontinue an active drug order.

1. To discontinue an Order, click on the 'Discontinue' icon corresponding to the order.

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' section of a medical software interface. It features a search bar, a table of active orders, and a side panel for discontinuing orders.

Group	ID	Drug Name	Start Date	Action
	2	ASPIRIN <i>Click to view details</i>	2017-08-06	
	3	SULFADOXINE <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

+ Discontinued/Canceled/Fulfilled Orders

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

**DISCONTINUE ORDER**

**Selected Order(s)**

☒ + **ASPIRIN**  
1.2 Fluid ounce, 1.2 Capsule

**Select the reason to discontinue**

Choose option

**Cancel** **Confirm**

**Fig. 2.1.4.1** Drug Order and Pharmacy Module: Discontinue Order



2. Choose from one of the options from the select field that lists a set of pre-defined reasons for discontinuing the order.

The screenshot shows the 'DISCONTINUE ORDER' modal with the 'Selected Order(s)' section displaying 'ASPIRIN 1.2 Fluid ounce, 1.2 Capsule'. A dropdown menu titled 'Choose option' is open, showing the following pre-defined reasons: Allergic, Alternative, Ineffective, Not for Sale, Other, Recuperated, Unavailable, and Wrong Diagnosis. The 'Confirm' button is visible at the bottom right of the modal.

**Fig. 2.1.4.2** Drug Order and Pharmacy Module: Select Discontinue Reason

3. Alternately, select the 'Other' option to manually enter a reason for discontinuing the selected Order. Once the reason for discontinuation is selected/entered, click 'Confirm' button.

The screenshot shows the 'DISCONTINUE ORDER' modal with the 'Selected Order(s)' section displaying 'ASPIRIN 1.2 Fluid ounce, 1.2 Capsule'. The 'Select the reason to discontinue' dropdown menu is set to 'Other'. Below it, the 'Enter the reason to discontinue' text field contains the text 'Drug is harmful.'. The 'Confirm' button is visible at the bottom right of the modal.

**Fig. 2.1.4.3** Drug Order and Pharmacy Module: Enter Discontinue Reason

4. Once the order is discontinued, an alert will be displayed informing that the order has been discontinued. The order will no longer be visible in the Active Drug Orders table. The Pharmacist will no longer be able to view the order record.

The screenshot shows the OpenMRS interface for a patient named Betty Johnson. The top navigation bar includes the OpenMRS logo, a user dropdown for 'doctor', a location dropdown for 'Registration Desk', and a 'Logout' button. A dark notification banner at the top right displays a green checkmark and the text 'Order Discontinued!'. The breadcrumb trail indicates the path: Home > Johnson, Betty > Drug Orders. The patient's details are shown as 'Betty Johnson', Female, 34 years old (DOB: 20.Feb.1983), with a Patient ID of 1002GU. Under 'Drug Allergies', 'ASPIRIN MORPHINE' is listed. The 'ACTIVE INDIVIDUAL DRUG ORDERS' section features a search bar and a table with one entry. The table has columns for Group, ID, Drug Name, Start Date, and Action. The entry shows a checkbox, ID 3, the drug 'SULFADOXINE' with a link to view details, and a start date of 2017-08-06. Below the table, it states 'Showing 1 to 1 of 1 entries' with pagination links. A 'Group Selected' button is present, and a link for 'Discontinued/Canceled/Fulfilled Orders' is at the bottom.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	<b>SULFADOXINE</b> <a href="#">Click to view details</a>	2017-08-06	<a href="#">✎</a> <a href="#">🗑</a>

**Fig. 2.1.4.4** Drug Order and Pharmacy Module: Order Discontinued

Let us now consider a situation where the Patient comes back to the clinic after a few months with the same illness. The Physician decides to place an order for the same drug that was prescribed earlier. Instead of creating a new drug order all over again, we can simply renew the old non-active order and make changes wherever necessary by renewing the existing drug order. The existing or previously placed order will be listed in the non-active order list. Let us see how we can view the list of non-active drug orders and renew them.

## 2.1.5 Renew an Individual Drug Order

In this section, we will study the steps to renew an inactive (previously fulfilled or discontinued) drug order. The steps show us how to get the order entries populated without manual effort each time the drug order is placed. However, an order can only be renewed if no order for the given drug already exists.

1. Click 'Discontinued/Canceled/Fulfilled Orders' link below the Active Drug Orders table to view the list of past drug orders. This will display the list of drug orders that are already fulfilled or discontinued.

**Drug Allergies: ASPIRIN MORPHINE**

**ACTIVE INDIVIDUAL DRUG ORDERS** +

Search:

Show 10 ▼ entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Group Selected

**Discontinued/Canceled/Fulfilled Orders**

Search:

Show 10 ▼ entries

ID	Drug Name	Action
1	<b>SULFADOXINE</b> <i>Click to view details</i>	
2	<b>ASPIRIN</b> <i>Click to view details</i>	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig. 2.1.5.1** Drug Order and Pharmacy Module: Non-Active Orders List

2. Click the 'Renew' button corresponding to the order that needs to be renewed. This will load a form similar to the 'Create Drug Order' form with all the fields (drug name, dose, duration, frequency etc.) populated from the selected order's record.

If the drug that is being ordered through renewal is included in the list of allergic drugs, the Physician is (again) notified and asked to specify a reason to order the drug. This is important since the drug may have been identified to cause allergy after it was last ordered for the Patient.

**ACTIVE INDIVIDUAL DRUG ORDERS**

Search:  Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Group Selected

Discontinued/Canceled/Fulfilled Orders

Search:  Show 10 entries

ID	Drug Name	Action
1	<b>SULFADOXINE</b> <i>Click to view details</i>	
2	<b>ASPIRIN</b> <i>Click to view details</i>	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) 1 [Next](#) [Last](#) **Renew**

**RENEW DRUG ORDER**

Drug name \*

Start Date \*

Note: The patient is allergic to this drug.  
Enter the reasons for ordering this drug:

Route \*

Dose \*

Dose units \*

Quantity \*

Qty units \*

Duration \*

Durn units \*

Frequency \*

**Fig. 2.1.5.2** Drug Order and Pharmacy Module: Renew Drug Order

Fields to provide special text instructions to the Patient and to the Pharmacist are left blank since specific instructions may vary depending on the Patient current situation.

3. Revise the drug formulation and other fields to make changes (if required) and click 'Save' button to create a new order. An alert is displayed notifying that the renewed order is created and the order is listed in the Active Drug Orders table.

The screenshot displays the OpenMRS interface for a patient named Betty Johnson. The top navigation bar includes the OpenMRS logo, a user profile for 'doctor', and a 'Registration Desk' dropdown. A notification banner at the top right shows a green checkmark and the text 'Order Renewed!'. The patient's profile section shows 'Betty Johnson' with details: Female, 34 year(s) (20.Feb.1983), and Patient ID 1002GU. Below this, the 'Drug Allergies' section lists 'ASPIRIN MORPHINE'. The 'ACTIVE INDIVIDUAL DRUG ORDERS' section features a search bar and a table with 2 entries. The table columns are Group, ID, Drug Name, Start Date, and Action. The entries are for SULFADOXINE and ASPIRIN, both starting on 2017-08-06. A 'Group Selected' button is located at the bottom left of the interface.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	
<input type="checkbox"/>	4	<b>ASPIRIN</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Fig. 2.1.5.3** Drug Order and Pharmacy Module: Order Renewed

## 2.2 Group Drug Orders

In this chapter, we will study the snapshots displaying the user interface relevant to a drug order group. This includes the steps followed by a Physician to group two or more orders, add an order to an order group, remove an order from an order group, view the order details, edit the order components, discontinue some or all of the order group and renew some or all of an old non-active group order. We will see the list of predefined options available to the Physician in the process of creating and discontinuing the orders.

### 2.2.1 Group Drug Orders

In this section, we will study how to group two or more drug orders. Grouping informs the medical personnel including the Physician and the Pharmacist that the drugs are meant to be dispensed and/or consumed together.

1. To group two or more orders, check mark the check-box corresponding to each drug order in the list that needs to be grouped. Then click the 'Group Selected' button.

Home > Johnson, Betty > Drug Orders

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info ▼

Given Family Name

**Drug Allergies:** ASPIRIN MORPHINE

---

**ACTIVE INDIVIDUAL DRUG ORDERS**

---

Search:  Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input checked="" type="checkbox"/>	3	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	
<input checked="" type="checkbox"/>	4	<b>ASPIRIN</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig. 2.2.1.1** Drug Order and Pharmacy Module: Group Orders

2. This will group the orders into a single unit.

The screenshot displays the OpenMRS interface for a patient named Betty Johnson. The top navigation bar includes the OpenMRS logo, user roles (doctor, Outpatient Clinic), and a Logout button. A notification banner at the top right states "Orders Saved!". The patient's details are shown: Betty Johnson, Female, 34 years old (born 20 Feb 1983), with Patient ID 1002GU. Below this, the "Drug Allergies" section lists ASPIRIN and MORPHINE. The main section is titled "ACTIVE INDIVIDUAL DRUG ORDERS" and contains a search bar and a table of orders. The table has columns for Group, ID, Drug Name, Start Date, and Action. It lists two orders: Sulfadoxine (ID 3) and Aspirin (ID 4), both dated 2017-08-06. Each order has a checkbox, a link to view details, and icons for edit, delete, and add. A "Group Selected" button is located at the bottom of the table.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	<b>SULFADOXINE</b> <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Add</a>
<input type="checkbox"/>	4	<b>ASPIRIN</b> <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Add</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

[Group Selected](#)

**Fig. 2.2.1.2** Drug Order and Pharmacy Module: Orders Grouped

Grouping orders informs the users (Pharmacist and Physician) that the orders are meant to be dispatched together. In other words, the drugs are meant to be consumed together. The Physician can also group an existing group order with a single individual order or two or more group of orders together.

## 2.2.2 Add Order To Group

In this section, we will study, how to create a drug order to an existing group of active orders instead of following a 2 step process to create a drug order and then club it with another.

1. After a group is created, we can create new drug orders to the group by clicking the '+' icon in the 'Action' column corresponding to the group. This will create a new drug order and add it to the given group.

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' section of a software interface. It features a search bar, a table with columns for Group, ID, Drug Name, Start Date, and Action, and a 'CREATE DRUG ORDER' modal form. The table shows two entries: Sulfadoxine and Aspirin, both dated 2017-08-06. The modal form includes fields for Drug name, Start Date, Route, Dose, Dose units, Quantity, Duration, Durn units, Frequency, Diagnosis, Priority, Refills, and Interval (days). A black box with the text 'ADD DRUG ORDER' is overlaid on the table's action column.

Group	ID	Drug Name	Start Date	Action
	3	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">+</a> <a href="#">x</a> <a href="#">-</a>
	4	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">+</a> <a href="#">x</a> <a href="#">-</a>

Showing 1 to 1 of 1 entries

Group Selected

Discontinued/Canceled/Fulfilled Orders

ACTIVE MEDICATION PLAN ORDERS

Search: Show 10 entries

Plan Name	Action
No Orders Found	

CREATE DRUG ORDER

Drug name \* Enter Drug Name

Start Date \* 06 Aug 2017

Route \* Choose option

Dose \* Enter Dose

Dose units \* Choose option

Quantity \* Enter Quantity

Quantity units \* Choose option

Duration \* Enter Duration

Durn units \* Choose option

Frequency \* Choose option

Diagnosis \* Enter disease name

Priority \* Normal

Refills 0

Interval (days) 0

Instructions for Patient

**Fig. 2.2.2.1** Drug Order and Pharmacy Module: Add Order to Group



2. Enter the details of the drug formulations and order parameters and save the drug order.

The screenshot displays the 'CREATE DRUG ORDER' form on the right and the 'ACTIVE INDIVIDUAL DRUG ORDERS' list on the left.

**CREATE DRUG ORDER Form:**

- Drug name: CODEINE
- Start Date: 06 Aug 2017
- Route: In both ears
- Dose: 1.2
- Dose units: Fluid ounce
- Quantity: 1.2
- Qty units: Capsule
- Duration: 2
- Durn units: Days
- Frequency: As required
- Diagnosis: ANAEMIA

**ACTIVE INDIVIDUAL DRUG ORDERS Table:**

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Cancel</a>
	4	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Cancel</a>
	5	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Cancel</a>

Showing 1 to 1 of 1 entries | [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

Discontinued/Canceled/Fulfilled Orders

Fig. 2.2.2.2 Drug Order and Pharmacy Module: Create Order to Group

3. Now the group has another order included in it.

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' list for a patient named Betty Johnson. The patient's details are shown at the top: Betty Johnson, Female, 34 year(s) (20.Feb.1983), Patient ID 1002GU.

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE INDIVIDUAL DRUG ORDERS Table:**

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Cancel</a>
	4	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Cancel</a>
	5	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Cancel</a>

Showing 1 to 1 of 1 entries | [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

Order Created!

Fig. 2.2.2.3 Drug Order and Pharmacy Module: Order Group

### 2.2.3 View an Order in a Group

In this section, we will see how to view the details of a drug order in a group including information about the instructions provided to the Patient and the Pharmacist, order priority, diagnosis made, refills allowed and interval between order refills.

1. The drug order table displays the order ID, drug name and the start date. Upon clicking a row (representing an order), a fragment containing all the information pertaining to the order is displayed. The selected order is highlighted in the table.

Drug Allergies: ASPIRIN MORPHINE

ACTIVE INDIVIDUAL DRUG ORDERS

Search:

Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">📄</a> <a href="#">✕</a> <a href="#">🗑️</a>
	4	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">📄</a> <a href="#">✕</a> <a href="#">🗑️</a>
	5	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">📄</a> <a href="#">✕</a> <a href="#">🗑️</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

[+ Discontinued/Canceled/Fulfilled Orders](#)

ACTIVE MEDICATION PLAN ORDERS

VIEW ORDER DETAILS

Selected Order

Drug

Codeine  
Dose: 1.2 Fluid ounce  
Route: In both ears  
Quantity: 1.2 Capsule

Start Date

2017-08-06

Duration

2 Days, As required

Diagnosis

Anaemia

Priority

Normal

Refills

2

Interval

2 day(s)

Instructions for the Patient

Close

Fig. 2.2.3.1 Drug Order and Pharmacy Module: View Order

## 2.2.4 Edit an Order in a Group

In this section, we will study the steps to edit the formulations of a drug order that is a part of an order group. Drug orders can be edited as long as they are active (i.e. unless they have not already been fulfilled or discontinued). If the drug has already been dispensed, as long as the order continues to be active in terms of refill allowed, individual order parameters can be modified.

1. Click the 'Edit' icon corresponding to an order. This will load the form with all the order entries populated.

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' section of a software interface. It features a search bar, a table of active orders, and an 'EDIT DRUG ORDER' form on the right.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	SULFADOXINE <i>Click to view details</i>	2017-08-06	
	4	ASPIRIN <i>Click to view details</i>	2017-08-06	
	5	CODEINE <i>Click to view details</i>	2017-08-06	<b>Edit</b>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

+ Discontinued/Canceled/Fulfilled Orders

### ACTIVE MEDICATION PLAN ORDERS

Search:  Show 10 entries

Plan Name	Action
-----------	--------

### EDIT DRUG ORDER

Drug name \*

Start Date \*

Route \*

Dose \*

Dose units \*

Quantity \*

Qty units \*

Duration \*

Durn units \*

Frequency \*

Diagnosis \*

Priority \*

Refills

Interval (days)

Instructions for Patient

**Fig. 2.2.4.1** Drug Order and Pharmacy Module: Edit Order

2. Revise one or more of the entries and click the 'Save' button. This will void the previous order and create a new order within the group with new formulations in it's place.

OpenMRS

doctor Outpatient Clinic Logout Order Changes Saved!

Johnson, Betty > Drug Orders

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE INDIVIDUAL DRUG ORDERS

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	3	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	<a href="#">✎</a> <a href="#">✕</a> <a href="#">🗑</a>
	4	<b>ASPIRIN</b> <i>Click to view details</i>	2017-08-06	<a href="#">✎</a> <a href="#">✕</a> <a href="#">🗑</a>
	6	<b>CODEINE</b> <i>Click to view details</i>	2017-08-06	<a href="#">✎</a> <a href="#">✕</a> <a href="#">🗑</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

**Fig. 2.2.4.2** Drug Order and Pharmacy Module: Saved edited Order

## 2.2.5 Ungroup an Order from a Group

In this section, we will study how to remove a drug order from an order group. This can only be done if the orders in the group are not already fulfilled or discontinued.

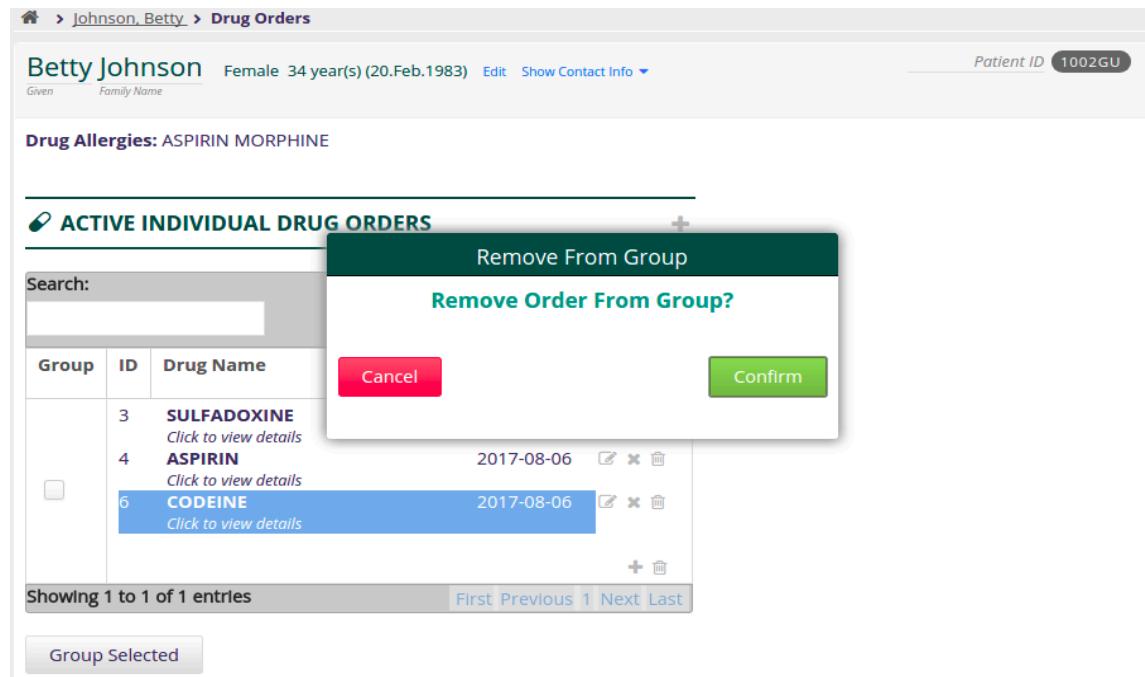
1. Click the cross icon corresponding to an order to remove the order from the group.

The screenshot shows the OpenMRS interface for a patient named Betty Johnson. The page title is 'Drug Orders'. Below the patient information, there is a section for 'ACTIVE INDIVIDUAL DRUG ORDERS'. A search bar is present with the text 'Show 10 entries'. Below the search bar is a table with columns: Group, ID, Drug Name, Start Date, and Action. The table contains three rows of drug orders. The third row, for 'CODEINE', is highlighted in blue. A tooltip with the text 'Ungroup' is visible over the cross icon in the Action column of the CODEINE row. At the bottom of the table, there is a pagination bar showing 'Showing 1 to 1 of 1 entries' and navigation links: 'First Previous 1 Next Last'. Below the table, there is a button labeled 'Group Selected'.

Group	ID	Drug Name	Start Date	Action
	3	SULFADOXINE <i>Click to view details</i>	2017-08-06	
	4	ASPIRIN <i>Click to view details</i>	2017-08-06	
	6	CODEINE <i>Click to view details</i>	2017-08-06	

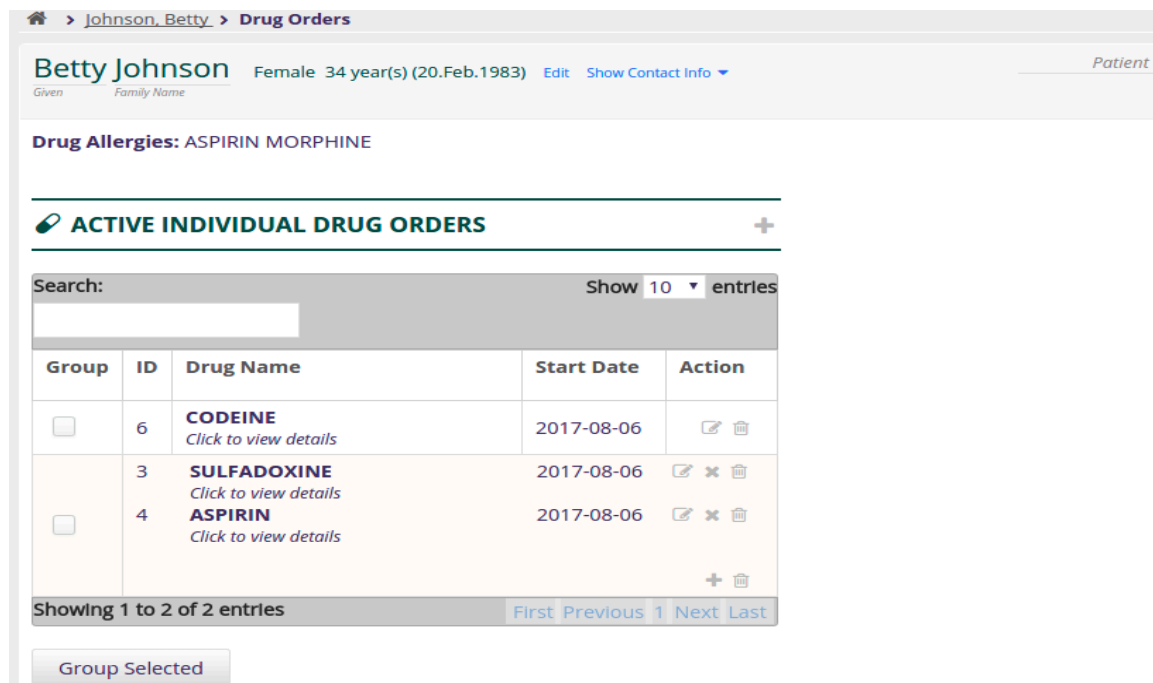
**Fig. 2.2.5.1** Drug Order and Pharmacy Module: Select Order to Ungroup

2. A dialog box opens up asking to confirm this action. Click 'Confirm' to remove the order from the group.



**Fig. 2.2.5.2** Drug Order and Pharmacy Module: Ungroup Order

3. The order is now active but not a part of the group.



**Fig. 2.2.5.3** Drug Order and Pharmacy Module: Order Ungrouped

## 2.2.6 Discontinue Order Group

In this section, we will study how to discontinue all the orders that are a part of a group. Similar to the process of discontinuing an individual drug order, the orders in an active drug order group are selected to be discontinued with a reason and removed from active drug order list.

1. To discontinue a group of orders together, click the 'Discontinue' icon corresponding to a group. This will load a fragment displaying a select field with a set of pre-defined reasons for discontinuing the order(s).

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' section of a software interface. It features a search bar, a table of drug orders, and a 'DISCARD ORDER GROUP' modal.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	CODEINE <i>Click to view details</i>	2017-08-06	
<input type="checkbox"/>	3	SULFADOXINE <i>Click to view details</i>	2017-08-06	
	4	ASPIRIN <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries | First Previous 1 Next Last

Group Selected

+ Discontinued/Canceled/Fulfilled Orders

ACTIVE MEDICATION PLAN ORDERS

**DISCARD ORDER GROUP**

**Selected Order(s)**

- ☒ + SULFADOXINE  
1.0 Fluid ounce, 1.0 Capsule
- ☒ + ASPIRIN  
1.2 Fluid ounce, 1.2 Capsule

Select the reason to discontinue

Choose option

Cancel Confirm

**Fig. 2.2.6.1** Drug Order and Pharmacy Module: Discontinue Group

By default the checkbox corresponding to each drug in the group is checked. If some of the orders in the group need not be discontinued, uncheck the corresponding checkbox before proceeding. Select an option for discontinuing the selected order(s). Once the reason for the Order Group discontinuation is selected/entered, the 'Confirm' button is enabled. Click the 'Confirm' button to discontinue the selected drug orders.

2. This will display an alert informing the user that the Order Group has been discontinued. The orders in the group will no longer be visible in the Active Drug Orders table.

OpenMRS

doctor Outpatient Clinic Logout

Orders Discontinued!

Johnson, Betty > Drug Orders

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE INDIVIDUAL DRUG ORDERS

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

**Fig. 2.2.6.2** Drug Order and Pharmacy Module: Group Discontinued

Next, let us consider a situation where the Physician wants to place an order for the same group of drugs that she/he prescribed earlier. Instead of creating a new drug orders, the Physician will simply renew the old non-active Order Group and make changes wherever necessary. Proceed to the next section to see how to renew a group of drug orders.



## 2.2.7 Renew Order Group

In this section, we will study how to renew a group of fulfilled or discontinued drug orders without having to again create each order manually. An order can only be renewed if no active order for the given drug already exists.

1. Upon clicking 'Discontinued/Canceled/Fulfilled Orders' link, a table containing the list of drug orders that are no longer active is displayed. This table is not kept displayed by default on the page. Click the 'Renew' button corresponding to the Order Group that is to be renewed.

The screenshot displays the 'Discontinued/Canceled/Fulfilled Orders' section of the Drug Order and Pharmacy Module. It features a table with columns for Group, ID, Drug Name, Start Date, and Action. A single entry for CODEINE is shown. Below this, a 'Group Selected' button is visible. The main section is titled 'Discontinued/Canceled/Fulfilled Orders' and includes a search bar and a 'Show 10 entries' dropdown. A table lists four discontinued orders: SULFADOXINE (ID 3), ASPIRIN (ID 4), SULFADOXINE (ID 1), and ASPIRIN (ID 2). A 'Renew' button is highlighted over the ASPIRIN (ID 4) row. The bottom of the table shows 'Showing 1 to 4 of 4 entries' and pagination links.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	<b>CODEINE</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Group Selected**

⊖ Discontinued/Canceled/Fulfilled Orders

Search:  Show 10 ▾ entries

ID	Drug Name	Action
3	<b>SULFADOXINE</b> <i>Click to view details</i>	
4	<b>ASPIRIN</b> <i>Click to view details</i>	
1	<b>SULFADOXINE</b> <i>Click to view details</i>	
2	<b>ASPIRIN</b> <i>Click to view details</i>	
5	<b>CODEINE</b> <i>Click to view details</i>	

Showing 1 to 4 of 4 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig. 2.2.7.1** Drug Order and Pharmacy Module: Renew Orders

2. This will load a fragment displaying the details of the selected orders. By default, the checkbox corresponding to each drug is checked. Uncheck them if the all of the orders need not be renewed.

The screenshot displays the 'Drug Orders' interface for a patient named Betty Johnson. The patient's details include 'Female 34 year(s) (20.Feb.1983)' and 'Patient ID 1002GU'. Under 'Drug Allergies', 'ASPIRIN MORPHINE' is listed. The 'ACTIVE INDIVIDUAL DRUG ORDERS' section shows a table with one entry: CODEINE (ID 6, Start Date 2017-08-06). A 'RENEW ORDER GROUP' modal is open, showing 'Selected Order(s)' with checkboxes for SULFADOXINE and ASPIRIN. A note indicates an allergy to ASPIRIN, requiring a reason for ordering. The modal has 'Cancel' and 'Confirm' buttons.

**ACTIVE INDIVIDUAL DRUG ORDERS**

Search:  Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	<b>CODEINE</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Group Selected

+ Discontinued/Canceled/Fulfilled Orders

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

**RENEW ORDER GROUP**

**Selected Order(s)**

- ☒ **SULFADOXINE**  
1.0 Fluid ounce, 1.0 Capsule
- ☒ **ASPIRIN**  
1.2 Fluid ounce, 1.2 Capsule

NOTE: Patient is allergic to this drug  
Enter reasons to order this drug

Cancel Confirm

**Fig. 2.2.7.2** Drug Order and Pharmacy Module: Renew Order Group

The fragment displays notes if the Patient happens to be allergic to one or more drugs specified in the group or active orders for the drugs already exist. If the Patient happens to be allergic to one or more of the drugs in the group, before renewing the orders, the Physician is required to provide a reason to place the group order.

3. Once the Order Group is renewed (new active orders are created for the drugs in the group), we can edit the formulations of the individual orders in the new group as described in Section 2.1.3.

The screenshot displays the OpenMRS interface for a doctor at an Outpatient Clinic. The patient is Betty Johnson, a 34-year-old female. The page shows 'Drug Orders' for this patient. A notification at the top right indicates 'Orders Renewed!'. Below the patient information, the 'Drug Allergies' are listed as ASPIRIN and MORPHINE. The main section is titled 'ACTIVE INDIVIDUAL DRUG ORDERS'. It includes a search bar and a table of active orders. The table has columns for Group, ID, Drug Name, Start Date, and Action. There are two entries: one for CODEINE (ID 6) and one for a group containing Sulfadoxine (ID 7) and Aspirin (ID 8). All orders have a start date of 2017-08-06. A 'Group Selected' button is located at the bottom of the interface.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	<b>CODEINE</b> <i>Click to view details</i>	2017-08-06	
<input type="checkbox"/>	7	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	
	8	<b>ASPIRIN</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [Next](#) [Last](#)

Group Selected

**Fig. 2.2.7.3** Drug Order and Pharmacy Module: Order Group Renewed

## 2.2.8 Discontinue some Orders from Group

In this section, we will study, how the Physician can discontinue some drug orders from an active group of drug orders.

1. A drug order can be discontinued as long as it is still active. To discontinue just one order in the group, click the 'Discontinue' icon corresponding to the order. This loads a fragment displaying the details. Specify the reason for discontinuing the order and click the 'Confirm' button. To discontinue more than one but not all orders in the group, click the 'Discontinue' icon corresponding to the group (as described in section 2.2.6) and uncheck the checkboxes corresponding to drug orders that need not be discontinued. The 'Confirm' button to submit the action will only be activated once the discontinue reason is provided.

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' interface. It features a search bar, a table of orders, and a 'DISCONTINUE ORDER' modal.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	<b>CODEINE</b> <i>Click to view details</i>	2017-08-06	
<input checked="" type="checkbox"/>	7	<b>SULFADOXINE</b> <i>Click to view details</i>	2017-08-06	
<input type="checkbox"/>	8	<b>ASPIRIN</b> <i>Click to view details</i>	2017-08-06	

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Group Selected

Discontinued/Canceled/Fulfilled Orders

**DISCONTINUE ORDER**

**Selected Order(s)**

☒ **SULFADOXINE**  
1.0 Fluid ounce, 1.0 Capsule

**Select the reason to discontinue**

Choose option

**Cancel** **Confirm**

**Fig. 2.2.8.1** Drug Order and Pharmacy Module: Discontinue Order

2. Once the order is discontinued, an alert will be displayed informing the user that the order has been discontinued. The order will no longer be visible in the 'Active Drug Orders' table.

OpenMRS

doctor Outpatient Clinic Logout

Order Discontinued!

Johnson, Betty > Drug Orders

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE INDIVIDUAL DRUG ORDERS

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	8	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [Next](#) [Last](#)

Group Selected

**Fig. 2.2.8.2** Drug Order and Pharmacy Module: Order Discontinued

## 2.2.9 Renew some Orders from Group

In this section, we will study, how to renew some drug orders from an inactive, fulfilled or discontinued group of drug orders. An order can only be renewed, if the drug does not already have an active drug order placed.

1. Renewal of an order group can be done without selecting all the orders in that group. The Physician can uncheck the drugs from the list that need not be renewed (by default, each drug in the list is selected to be renewed unless an active order for the drug exists).

The screenshot displays the 'ACTIVE INDIVIDUAL DRUG ORDERS' section of a medical software interface. At the top, patient information for Betty Johnson (Female, 34 years old, born 20.Feb.1983) is shown, along with a Patient ID of 1002GU. Below this, drug allergies for ASPIRIN and MORPHINE are listed. The main section is a table of active individual drug orders. The table has columns for Group, ID, Drug Name, Start Date, and Action. Two entries are visible: CODEINE (ID 6, Start Date 2017-08-06) and ASPIRIN (ID 8, Start Date 2017-08-06). Both have checkboxes in the Group column, which are currently unchecked. Below the table, there is a 'Group Selected' button and a link to 'Discontinued/Canceled/Fulfilled Orders'. A modal titled 'RENEW ORDER GROUP' is open on the right, showing a list of 'Selected Order(s)'. The modal lists SULFADOXINE (1.0 Fluid ounce, 1.0 Capsule) and ASPIRIN (1.2 Fluid ounce, 1.2 Capsule). The ASPIRIN entry has a note: 'Note: Drug is currently prescribed to this patient. Cannot place multiple orders for the same drug.' At the bottom of the modal are 'Cancel' and 'Confirm' buttons.

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	8	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

[Group Selected](#)

[Discontinued/Canceled/Fulfilled Orders](#)

### RENEW ORDER GROUP

#### Selected Order(s)

- ☒ **SULFADOXINE**  
1.0 Fluid ounce, 1.0 Capsule
- ☐ **ASPIRIN**  
1.2 Fluid ounce, 1.2 Capsule  
Note: Drug is currently prescribed to this patient.  
Cannot place multiple orders for the same drug.

[Cancel](#) [Confirm](#)

**Fig. 2.2.9.1** Drug Order and Pharmacy Module: Order Renewal

2. The renewed orders are now listed in the 'Active Drug Order' table.

OpenMRS

doctor Outpatient Clinic Logout Orders Renewed!

Johnson, Betty > Drug Orders

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE INDIVIDUAL DRUG ORDERS

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
<input type="checkbox"/>	6	CODEINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a>
<input type="checkbox"/>	8	ASPIRIN <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Add</a>
<input type="checkbox"/>	9	SULFADOXINE <a href="#">Click to view details</a>	2017-08-06	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Add</a>

Showing 1 to 3 of 3 entries [First](#) [Previous](#) [Next](#) [Last](#)

Group Selected

Fig. 2.2.9.2 Drug Order and Pharmacy Module: Order Renewed

## 2.3. Medication Plan or Regimen Drug Orders

In this chapter, we will view the snapshots displaying the screens relevant to ordering a medication plan / regimen. This includes the steps followed by a Physician to search and select a medication plan or regimen, selectively choose drugs to order from the given plan, edit the formulations of the drug orders, save and activate the selected plan, discard some or all orders from a plan, renew some or all orders from a plan.

### 2.3.1 Select Medication Plan

In this section, we will study, how to select an existing active medication plan to place an order for the drugs that are currently defined in the plan. Note that, if the Patient is currently prescribed some or all of the drugs that are defined in the plan, the Physician is not allowed to place an order for the drugs.

1. Log into the Drug Order homepage. Click on the '+' icon next to the label 'Active Medication Plan Orders' to search for available medication plans.

The screenshot displays the OpenMRS interface for a physician. The top navigation bar includes the OpenMRS logo, a user profile dropdown for 'doctor', a location dropdown for 'Outpatient Clinic', and a 'Logout' button. The breadcrumb trail shows the path: Home > Johnson, Betty > Drug Orders. The patient information section identifies the patient as Betty Johnson, Female, 34 years old (born 20 Feb 1983), with a Patient ID of 1002GU. Below this, the 'Drug Allergies' are listed as ASPIRIN and MORPHINE. The main section is titled 'ACTIVE MEDICATION PLAN ORDERS' with a '+' icon to the right. It features a search bar, a 'Show 10 entries' dropdown, and a table with columns 'Plan Name' and 'Action'. The table currently displays 'No Orders Found'. A modal window titled 'SELECT MEDICATION PLAN' is open, containing a text input field labeled 'Enter Plan Name' and a 'Cancel' button. At the bottom of the main interface, there is a link for 'Discontinued/Canceled/Fulfilled Orders'.

**Fig. 2.3.1.1** Drug Order and Pharmacy Module: Search Plan



2. Start typing the name of the plan. The field gives autocomplete options based on created plans that are currently active in the system. Select a plan from the list.

The screenshot shows a patient profile for Betty Johnson, Female, 34 years old, born 20.Feb.1983. The patient ID is 1002GU. Under 'Drug Allergies', ASPIRIN and MORPHINE are listed. The 'ACTIVE MEDICATION PLAN ORDERS' section shows a search bar and a table with columns 'Plan Name' and 'Action'. A message 'No Orders Found' is displayed. A modal titled 'SELECT MEDICATION PLAN' is open, showing 'Enter Plan Name' with a text input field containing 'As' and a dropdown menu showing 'ASTHMA'. A 'Cancel' button is at the bottom right of the modal.

**Fig. 2.3.1.2** Drug Order and Pharmacy Module: Autocomplete Plan Name

3. Upon selecting the plan, the page reloads to display the list of recommended drugs with standard compositions defined for the selected plan. If the Patient is allergic to the drugs defined in the plan, a note and a field to enter the reasons to order each of those drugs are displayed.

The screenshot shows the same patient profile. The 'ACTIVE MEDICATION PLAN ORDERS' section remains the same. A modal titled 'STANDARD MEDICATION PLAN' is open, showing 'Selected Plan Drug(s)' as 'ASTHMA'. Below this, a list of recommended drugs is shown: MORPHINE (1.0 Fluid ounce, 1.0 Capsule), HEPARIN (1.0 Fluid ounce, 1.0 Capsule), and CAFFEINE (1.0 Fluid ounce, 1.0 Capsule). A note states: 'NOTE: Patient is allergic to this drug. Enter reasons to order this drug'. A text input field is provided for 'Enter the reason to order'. 'Cancel' and 'Select' buttons are at the bottom of the modal.

**Fig. 2.3.1.3** Drug Order and Pharmacy Module: Selected Plan Drugs

4. Enter the reason to order the allergic drugs (if applicable). By default, all the drugs in the list are selected to be ordered. The user can uncheck one or more drugs if it need not be ordered.

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Discontinued/Canceled/Fulfilled Orders

**STANDARD MEDICATION PLAN**

**Selected Plan Drug(s)**  
ASTHMA

☒ **MORPHINE**  
1.0 Fluid ounce, 1.0 Capsule

NOTE: Patient is allergic to this drug  
Enter reasons to order this drug

☒ **HEPARIN**  
1.0 Fluid ounce, 1.0 Capsule

☒ **CAFFEINE**  
1.0 Fluid ounce, 1.0 Capsule

[Cancel](#) [Select](#)

**Fig. 2.3.1.4** Drug Order and Pharmacy Module: Select Drugs

5. A flash message appears notifying that the plan is saved. Draft orders are created for the medication plan drugs. Draft orders are not active and will not be forwarded to the Pharmacist.

OpenMRS doctor Outpatient Clinic Logout Plan Saved!

Johnson, Betty > Drug Orders

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info

Patient ID 1002GU

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b>	
10 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a> <a href="#">Delete</a>
11 <b>HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a> <a href="#">Delete</a>
12 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Fig. 2.3.1.5** Drug Order and Pharmacy Module: Draft Orders Saved

## 2.3.2 Edit Plan Drug Order

In this section, we will study the process of editing the draft medication plan orders to provide information on allowed refills, time interval between refills and text instructions for the Patient/Pharmacist with respect to each order in the medication plan. This data must be specified prior to activating the drug orders. Note that, drug orders associated with medication plans are placed with a 'High' priority by default.

1. Before submitting the order, modify the formulations (if required).

The screenshot displays two side-by-side panels from a medical software interface. The left panel, titled 'ACTIVE MEDICATION PLAN ORDERS', features a search bar and a table of medication orders. The table has columns for 'Plan Name' and 'Action'. Under the 'ASTHMA' plan, three orders are listed: MORPHINE (ID 10), HEPARIN (ID 11), and CAFFEINE (ID 12), all with a start date of 2017-08-07. Each order has a 'Click to view details' link and icons for editing and deleting. The right panel, titled 'EDIT DRUG ORDER', contains a form for editing a specific order. It includes fields for 'Drug name' (MORPHINE), 'Start Date' (07 Aug 2017), a note about allergies, a text area for reasons for ordering ('Good for health'), and various dropdown menus for 'Route' (In both ears), 'Dose' (1.0), 'Dose units' (Fluid ounce), 'Quantity' (1.0), 'Qty units' (Capsule), 'Duration' (1), 'Durn units' (Days), 'Frequency' (As required), 'Diagnosis' (ASTHMA), 'Priority' (High), and 'Refills'.

Plan Name	Action
<b>ASTHMA</b>	
10 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
11 <b>HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
12 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Discontinued/Canceled/Fulfilled Orders

**EDIT DRUG ORDER**

Drug name \* MORPHINE

Start Date \* 07 Aug 2017

Note: The patient is allergic to this drug.  
Enter the reasons for ordering this drug:  
Good for health

Route \* In both ears

Dose \* 1.0

Dose units \* Fluid ounce

Quantity \* 1.0

Qty units \* Capsule

Duration \* 1

Durn units \* Days

Frequency \* As required

Diagnosis \* ASTHMA



Priority \* High

Refills \*

**Fig. 2.3.2.1** Drug Order and Pharmacy Module: Edit Formulations

2. Specify the allowed number of refills and instructions for the Patient and the Pharmacist.

Click to view details

12	<b>CAFFEINE</b>	 
Start Date: 2017-08-07 <a href="#">Click to view details</a>		

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

+ Discontinued/Canceled/Fulfilled Orders

Dose \* 1.0

Dose units \* Fluid ounce ▼

Quantity \* 1.0

Qty units \* Capsule ▼

Duration \* 1

Durn units \* Days ▼

Frequency \* As required ▼

Diagnosis \* ASTHMA

Priority \* High ▼

Refills 0

Interval (days) 0

Instructions for Patient

After dinner with water.

Instructions for Pharmacist

Enter Instructions for Pharmacist

Cancel Save

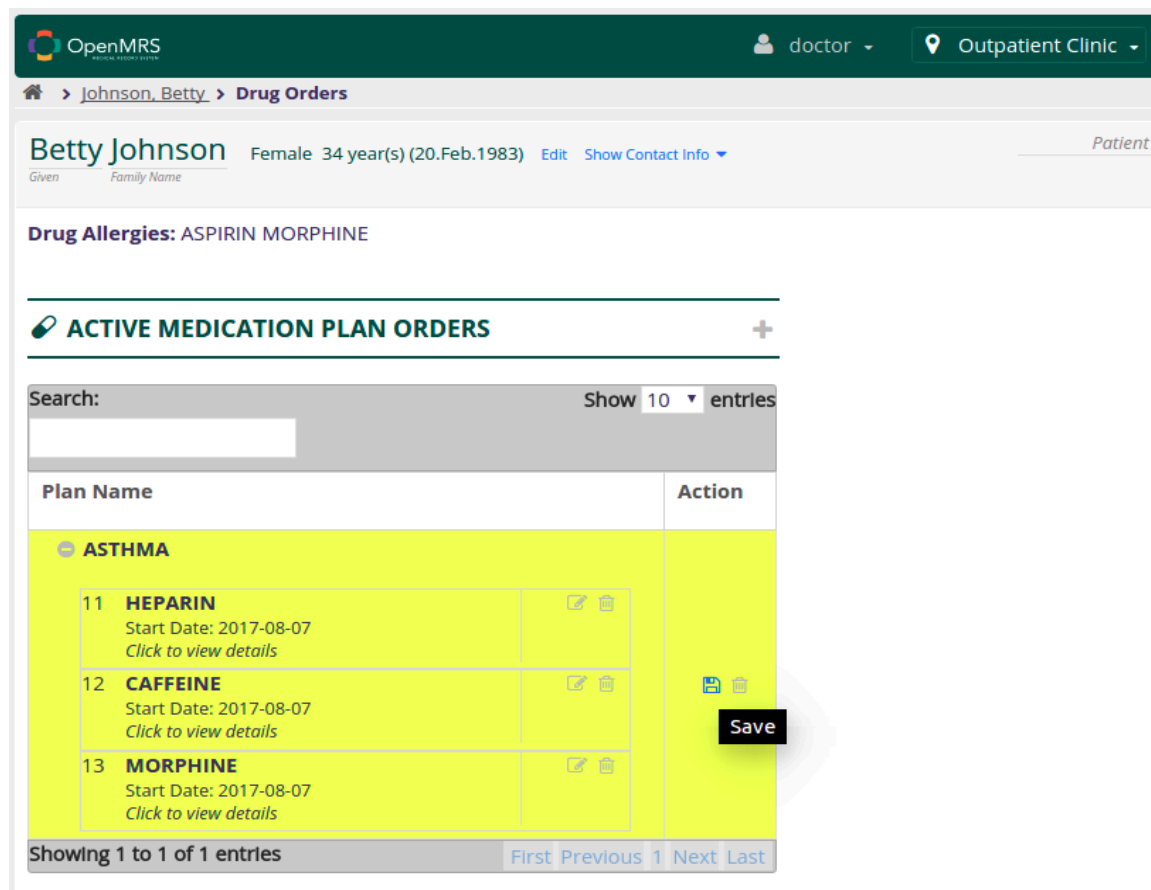
**Fig. 2.3.2.2** Drug Order and Pharmacy Module: Edit Order

Similarly, edit the formulations of all the drugs in the medication plan and provide text instructions for the Patient and the Pharmacist.




### 2.3.3 Save Plan Order(s)

In this section, we will study the process of saving or activating the draft medication plan orders. At this point, the drug orders are displayed and available to be recorded at the Pharmacist's user interface.

1. The drug orders in draft status are not visible to the Pharmacist. The drug orders must be pushed to active status. The 'Save' icon corresponding to the draft plan order must be clicked to activate the plan.



The screenshot displays the OpenMRS interface for a Pharmacist. The top navigation bar shows the user is logged in as 'doctor' and is viewing the 'Outpatient Clinic'. The breadcrumb trail indicates the user is viewing 'Drug Orders' for 'Betty Johnson'. The patient's details are shown as 'Betty Johnson', Female, 34 years old (born 20.Feb.1983). The 'Drug Allergies' section lists 'ASPIRIN' and 'MORPHINE'. The 'ACTIVE MEDICATION PLAN ORDERS' section is highlighted, showing a list of three medications: HEPARIN, CAFFEINE, and MORPHINE. Each medication entry includes a 'Save' icon. A 'Save' button is also visible on the right side of the list. The bottom of the screen shows pagination information: 'Showing 1 to 1 of 1 entries' and navigation links for 'First', 'Previous', '1', 'Next', and 'Last'.

Plan Name	Action
<b>ASTHMA</b>	
11 <b>HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
12 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
13 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	

**Fig. 2.3.3.1** Drug Order and Pharmacy Module: Save Order

2. The user is not allowed to navigate away from the page until the medication plan orders in draft status are saved. If the user accidentally clicks elsewhere on the page loads a dialog box asking to save the draft plan order.

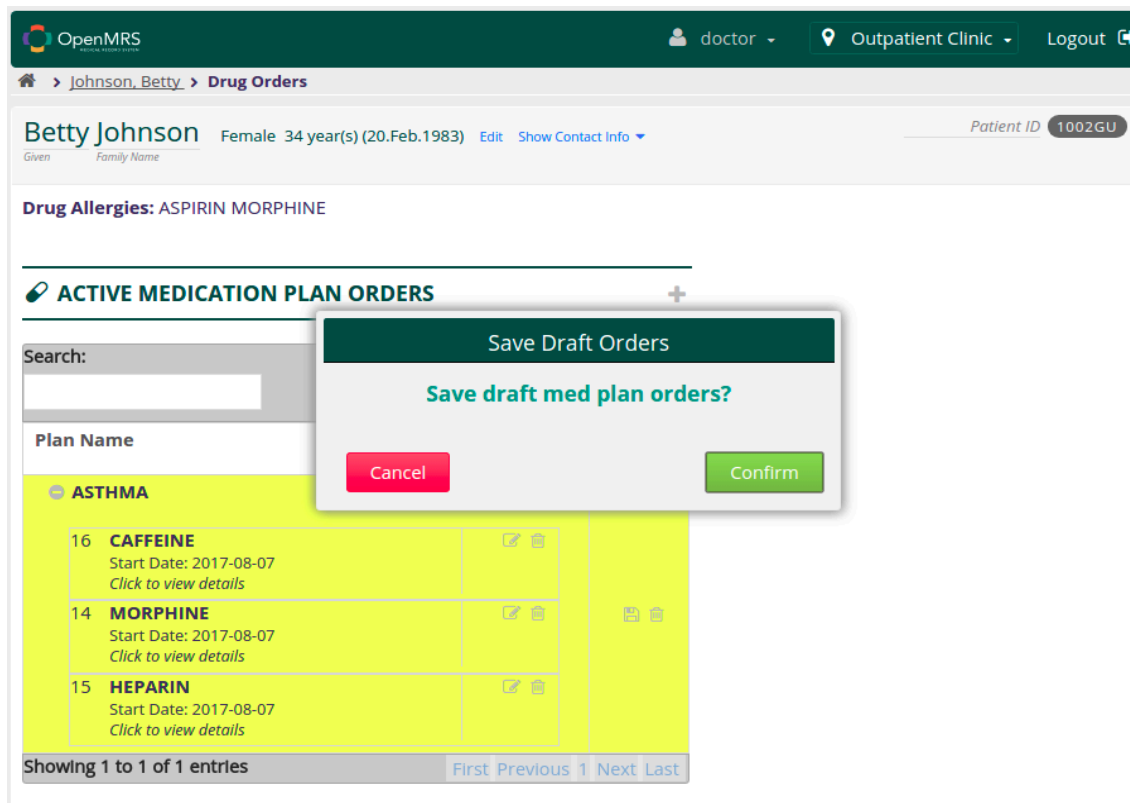


Fig. 2.3.3.2 Drug Order and Pharmacy Module: Confirm Save

3. On saving, the draft medication plan orders become active. Only now, the Pharmacist will be able to view these orders in the list of drug orders placed for the Patient.

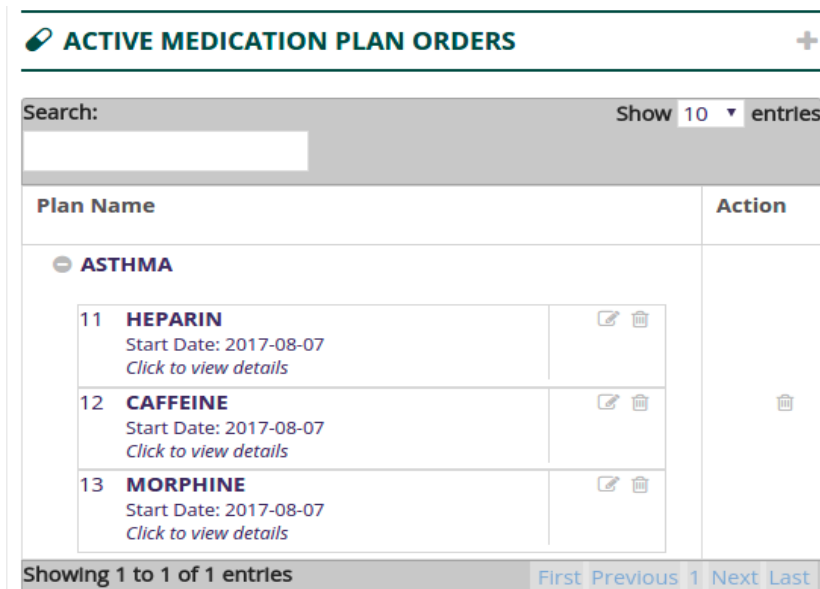


Fig. 2.3.3.3 Drug Order and Pharmacy Module: Plan Saved

## 2.3.4 View Plan Drug Order

In this section, we will see how to view the details of an individual drug order placed as a part of a medication plan order.

1. Click on an order (row) to view the details of the order.

The screenshot shows a patient profile for Betty Johnson (Female, 34 years old, born 20.Feb.1983) with Patient ID 1002GU. Under 'Drug Allergies', ASPIRIN and MORPHINE are listed. The 'ACTIVE MEDICATION PLAN ORDERS' section shows a search bar and a table of orders. The first order, HEPARIN (ID 11), is selected. A modal titled 'VIEW ORDER DETAILS' is open, displaying the following information:

VIEW ORDER DETAILS	
<b>Selected Order</b>	
<b>Drug</b>	Heparin Dose: 1.0 Fluid ounce Route: In both ears Quantity: 1.0 Capsule
<b>Start Date</b>	2017-08-07
<b>Duration</b>	1 Days, As required
<b>Diagnosis</b>	Asthma
<b>Priority</b>	High
<b>Refills</b>	0
<b>Interval</b>	0 day(s)
<b>Instructions for the Patient -</b>	

The modal also includes a 'Close' button at the bottom right.

**Fig. 2.3.4.1** Drug Order and Pharmacy Module: View Order

### 2.3.5 Discontinue Order in Plan

In this section, we will study, how to discontinue a single active drug order placed as a part of a medication plan. An active drug orders can be discontinued anytime by providing specific reasons for discontinuing the drug order.

1. An order from the set of medication plan orders can be discontinued by clicking the 'discontinue' icon corresponding to the order.

The screenshot shows a web application interface for managing medication orders. At the top, it displays 'Drug Allergies: ASPIRIN MORPHINE'. Below this is a section titled 'ACTIVE MEDICATION PLAN ORDERS' with a search bar and a 'Show 10 entries' dropdown. A table lists three orders under the 'ASTHMA' plan:

Plan Name	Action
<b>11 HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
<b>12 CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
<b>13 MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	

A 'Discontinue' tooltip is visible over the discontinue icon for the HEPARIN order. To the right, a modal titled 'DISCONTINUE ORDER' is open, showing 'Selected Order(s)' with a checked box for 'HEPARIN 1.0 Fluid ounce, 1.0 Capsule'. Below this is a section 'Select the reason to discontinue' with a dropdown menu labeled 'Choose option'. At the bottom of the modal are 'Cancel' and 'Confirm' buttons.

**Fig. 2.3.5.1** Drug Order and Pharmacy Module: Discontinue Order



2. Select/Enter a reason for discontinuing the order and click 'Confirm'.

The screenshot shows the 'ACTIVE MEDICATION PLAN ORDERS' interface. On the left, a table lists medication orders under the 'ASTHMA' plan. The 'HEPARIN' order (ID 11) is selected. On the right, a 'DISCONTINUE ORDER' modal is open, showing the selected order 'HEPARIN' with details '1.0 Fluid ounce, 1.0 Capsule'. Below this, a dropdown menu labeled 'Select the reason to discontinue' has 'Recuperated' selected. At the bottom of the modal are 'Cancel' and 'Confirm' buttons.

Plan Name	Action
<b>ASTHMA</b>	
11 <b>HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
12 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
13 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

[+ Discontinued/Canceled/Fulfilled Orders](#)

**DISCONTINUE ORDER**

**Selected Order(s)**

☒ **HEPARIN**  
1.0 Fluid ounce, 1.0 Capsule

Select the reason to discontinue

Recuperated

Cancel Confirm

Fig. 2.3.5.2 Drug Order and Pharmacy Module: Enter/Select Reason

3. A flash message appears informing that the order is discontinued. The active order list no longer displays the discontinued drug from the plan.

The screenshot shows the 'ACTIVE MEDICATION PLAN ORDERS' interface after the 'HEPARIN' order has been discontinued. The table now only displays the 'CAFFEINE' (ID 12) and 'MORPHINE' (ID 13) orders. The 'HEPARIN' order is no longer visible.

Plan Name	Action
<b>ASTHMA</b>	
12 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	
13 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Fig. 2.3.5.3 Drug Order and Pharmacy Module: Order Discontinued

## 2.3.6 Discontinue Plan Order(s)

In this section, we will study, how to discontinue a medication plan order. Discontinuing a medication plan will discontinue all the active drug orders placed a part of the plan order.

1. Drug orders can be discontinued if they are currently active, i.e. if they are not already dispatched. To discontinue all the orders in a plan, click the 'discontinue' icon corresponding to the plan.

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info ▼ Patient ID 1002GU

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE MEDICATION PLAN ORDERS** +

Search: Show 10 entries

Plan Name	Action
<b>ASTHMA</b>	
12 <b>CAFFEINE</b> Start Date: 2017-08-07 Click to view details	
13 <b>MORPHINE</b> Start Date: 2017-08-07 Click to view details	

Showing 1 to 1 of 1 entries First Previous 1 Next Last

+ Discontinued/Canceled/Fulfilled Orders

**DISCARD MED PLAN**

**Selected Order(s)**

- ☒ **CAFFEINE**  
1.0 Fluid ounce, 1.0 Capsule
- ☒ **MORPHINE**  
1.0 Fluid ounce, 1.0 Capsule

**Discontinue**

Select the reason to discontinue

**Fig. 2.3.6.1** Drug Order and Pharmacy Module: Discontinue Plan

2. Select/Enter the reason to discontinue and click 'Confirm'.

The screenshot shows the 'ACTIVE MEDICATION PLAN ORDERS' interface. On the left, a table lists medication orders under the 'ASTHMA' category. The table has columns for 'Plan Name' and 'Action'. Two orders are listed: '12 CAFFEINE' and '13 MORPHINE', both with a start date of '2017-08-07'. Each order has a 'Click to view details' link and a trash icon. Below the table, it says 'Showing 1 to 1 of 1 entries' with pagination links 'First', 'Previous', '1', 'Next', and 'Last'. A link for 'Discontinued/Canceled/Fulfilled Orders' is also present.

On the right, a modal titled 'DISCARD MED PLAN' is open. It shows 'Selected Order(s)' with a list of checked items: 'CAFFEINE' (1.0 Fluid ounce, 1.0 Capsule) and 'MORPHINE' (1.0 Fluid ounce, 1.0 Capsule). Below this, there is a section 'Select the reason to discontinue' with a dropdown menu showing 'Recuperated'. At the bottom of the modal are 'Cancel' and 'Confirm' buttons.

Fig. 2.3.6.2 Drug Order and Pharmacy Module: Enter/Select Reason

3. The orders of the selected medication plan order are discontinued.

The screenshot shows the 'ACTIVE MEDICATION PLAN ORDERS' interface after discontinuing orders. The top part shows a list of orders: '8 ASPIRIN' and '9 SULFADOXINE', both with a start date of '2017-08-06'. Each order has a 'Click to view details' link and a trash icon. Below the table, it says 'Showing 1 to 3 of 3 entries' with pagination links 'First', 'Previous', '1', 'Next', and 'Last'. A button labeled 'Group Selected' is visible.

Below the list, there is a section for 'Discontinued/Canceled/Fulfilled Orders' which is currently empty. Below that, the 'ACTIVE MEDICATION PLAN ORDERS' section is shown again, but it displays 'No Orders Found' and 'Showing 1 to 1 of 1 entries'.



On the right, a dark gray notification box with a green checkmark icon contains the text 'Orders Discontinued!'.

Fig. 2.3.6.3 Drug Order and Pharmacy Module: Order(s) Discontinued


### 2.3.7 Renew Plan Order(s)

In this section, we will study, how to renew the drug orders placed as a part of an inactive or fulfilled or discontinued medication plan order. The Physician can renew some or all drug orders that were placed as a part of the plan as long as there are no current active drug orders already present for the drugs.

1. Click the 'Discontinued/Canceled/Fulfilled Orders' link to view the list of old non-active orders.


 **ACTIVE MEDICATION PLAN ORDERS** 

Search:


Show 10  entries





Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

 **Discontinued/Canceled/Fulfilled Orders**

Search:



Show 10  entries

Plan Name	Action
 <b>ASTHMA</b>	
 <b>ASTHMA</b>	


Showing 1 to 2 of 2 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig. 2.3.7.1** Drug Order and Pharmacy Module: Non-Active Plans


2. To renew a medication plan order, click the 'edit' icon corresponding to the plan.

 **ACTIVE MEDICATION PLAN ORDERS** 


Search:






Show 10  entries

Plan Name	Action
No Orders Found	
Showing 1 to 1 of 1 entries	
<a href="#">First</a> <a href="#">Previous</a> 1 <a href="#">Next</a> <a href="#">Last</a>	

 Discontinued/Canceled/Fulfilled Orders

Search:

Show 10  entries

Plan Name	Action
 <b>ASTHMA</b>	
 <b>ASTHMA</b>	
16 <b>CAFFEINE</b> <i>Click to view details</i>	 
14 <b>MORPHINE</b> <i>Click to view details</i>	
15 <b>HEPARIN</b> <i>Click to view details</i>	
Showing 1 to 2 of 2 entries	
<a href="#">First</a> <a href="#">Previous</a> 1 <a href="#">Next</a> <a href="#">Last</a>	

**Fig. 2.3.7.2** Drug Order and Pharmacy Module: Renew Plan

3. The page reloads to display the details of the drug orders from the selected list. By default, each drug is check marked to be ordered. Uncheck any checkbox corresponding to the drug it need not be ordered and click 'Confirm' to renew the plan orders.

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

Plan Name	Action
No Orders Found	

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

+ Discontinued/Canceled/Fulfilled Orders

**RENEW MED PLAN**

**Selected Order(s)**

- ☒ **CAFFEINE**  
1.0 Fluid ounce, 1.0 Capsule
- ☒ **MORPHINE**  
1.0 Fluid ounce, 1.0 Capsule  
NOTE: Patient is allergic to this drug  
Enter reasons to order this drug
- ☒ **HEPARIN**  
1.0 Fluid ounce, 1.0 Capsule

[Cancel](#) [Confirm](#)

**Fig. 2.3.7.3** Drug Order and Pharmacy Module: Selected Plan

4. A draft order for the medication plan is created. Edit and submit as described in Sections 2.3.2 - Edit Plan Drug Order and 2.3.3 - Save Plan Orders.

OpenMRS

doctor Outpatient Clinic Logout

Johnson, Betty > Drug Orders

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info

Patient ID 1002GU

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b>	
17 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a> <a href="#">Delete</a>
19 <b>HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a> <a href="#">Delete</a>
18 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a> <a href="#">Delete</a>

**Plan Renewed!**

**Fig. 2.3.7.4** Drug Order and Pharmacy Module: Drugs Renewed

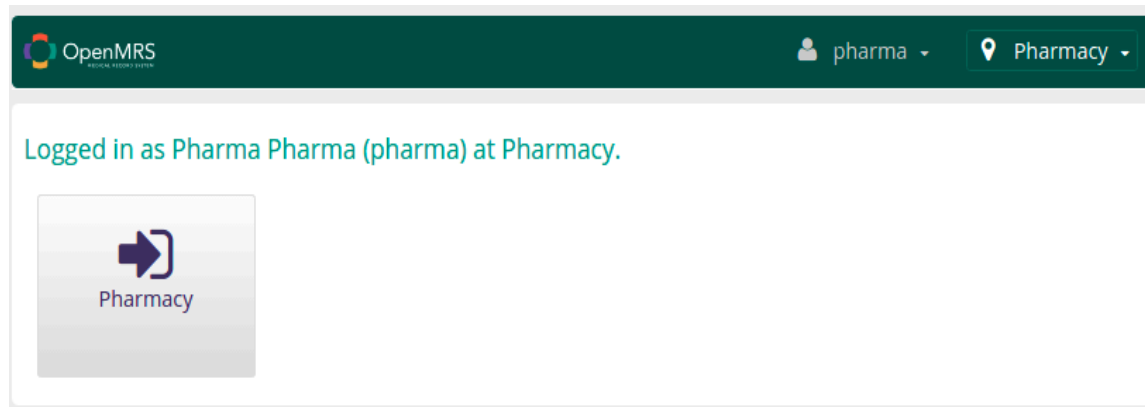
### 3. Pharmacist User Guide

The following chapters present the user interfaces pertaining to the Pharmacist as the user of the Drug Order and Pharmacy module. The chapters include instructions on viewing the currently active drug orders placed for the Patients, recording the dispatch of the orders, placing the drug orders on hold or removing the hold on the orders as well as snapshots showing how the drug orders can be requested to be discontinued. The chapters also describe how the Pharmacist can view the Physician's info and contact the ordering Physician via mail if required.

## 3.1 Dispatch Drug Orders

In this chapter, we will study the snapshots describing the step-by-step action taken in the process of dispatching an individual order for a single drug, a group of drugs that were placed together or all of the drug orders from an ordered regimen or medication plan. We will see the process in which the Pharmacist can mark the orders that are being dispatched, set an expiry date for each drug that is being dispatched, provide instructions to the patient and take a print-out the prescription.

1. Login to the OpenMRS system using the Pharmacist's credentials. On the homepage, click the 'Pharmacy Icon'.



**Fig. 3.1.1** Drug Order and Pharmacy Module: OpenMRS homepage



2. Get redirected to the Pharmacy homepage.

OpenMRS

pharma Pharmacy Logout

Pharmacy

**FIND PATIENT**

Enter Patient Name [Clear Filters](#)

Show 10 entries

Name	Birth Date	Age	Gender	Address
No data available in table				

Showing 0 to 0 of 0 entries [First](#) [Previous](#) [Next](#) [Last](#)

**ORDERS Hold/Discard**

Show 10 entries

Select	Patient	Drug(s)	Start Date	Status	Provider
No data available in table					

Showing 0 to 0 of 0 entries [First](#) [Previous](#) [Next](#) [Last](#)

[Remove Hold](#)

**Fig. 3.1.2** Drug Order and Pharmacy Module: Pharmacy homepage

3. Start typing the name of the Patient. The field will provide autocomplete options as typed.

OpenMRS

pharma Pharmacy Logout

Pharmacy

**FIND PATIENT**

betty [Clear Filters](#)

Show 10 entries

Betty Baker
Betty Sánchez
Betty Johnson
Betty Brown
Betty Martínez

Showing 0 to 0 of 0 entries [First](#) [Previous](#) [Next](#) [Last](#)

**Fig. 3.1.3** Drug Order and Pharmacy Module: Enter Patient Name

4. When an option is selected, the page reloads to display the Patient's personal information in the table. This information includes the Patient's name, age, gender and other demographic data. This is useful to determine the correct record for a Patient since there might be many Patients having the same name, age and gender.

The screenshot shows the OpenMRS Pharmacy module interface. At the top, there is a header bar with the OpenMRS logo, a user profile icon labeled 'pharma', a location icon labeled 'Pharmacy', and a 'Logout' button. Below the header, a breadcrumb trail shows 'Home > Pharmacy'. The main content area is divided into two sections. The first section, titled 'FIND PATIENT', contains a search input field labeled 'Enter Patient Name' and a 'Clear Filters' link. Below this is a table with the following data:

Name	Birth Date	Age	Gender	Address
Betty Johnson	1983-02-20	34	F	Address18113 City8113 State8113 - 28113 Country8113

Below the table, it says 'Showing 1 to 1 of 1 entries' and provides navigation links: 'First Previous 1 Next Last'. The second section, titled 'ORDERS Hold/Discard', contains a table with the following headers:

Select	Patient	Drug(s)	Start Date	Status	Provider
--------	---------	---------	------------	--------	----------

Below the table, it says 'No data available in table' and 'Showing 0 to 0 of 0 entries'. At the bottom right, there is a 'Remove Hold' button.

**Fig. 3.1.4** Drug Order and Pharmacy Module: Select Patient

### 3.1.1 Dispatch Individual Order

In this section, we will view the snapshots of the screens where the Pharmacist requests for a single individual order to be dispatched. In screen representing **Fig. 3.1.4**, click the row representing the given Patient.

1. The Patient's drug page displays the list of active drug orders placed for the Patient. The information displayed in the table includes the name of the drug, start date of consumption, number of refills allowed, the date on which the drug was last dispatched to the Patient and the name of the Orderer (or Physician) who ordered the drug.

The screenshot shows the OpenMRS interface for the Pharmacy module. The user is logged in as 'pharma' and is viewing the 'Pharmacy' section for patient 'Johnson, Betty'. The patient's details are: Betty Johnson, Female, 34 years old (born 20.Feb.1983). Below the patient information, it lists 'Drug Allergies: ASPIRIN MORPHINE'. The main section is titled 'ACTIVE DRUG ORDERS'. It features a search bar and a table of active orders. The table has columns for Plan Name, Drug(s), Start Date, Refills, Last Dispatch, and Orderer. There are two entries: one for ASPIRIN and another for a combination of CAFFEINE, MORPHINE, and HEPARIN, all ordered by Jake Smith on 2017-08-07 with 2 refills. The interface also shows pagination controls at the bottom of the table.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

**Fig. 3.1.1.1** Drug Order and Pharmacy Module: Drug Order page

2. Select a row representing a single individual order. This will load the details of each drug order. Verify the number of allowed refills, the last dispatch date and the refill interval (number of days between refills) for each order.

**Search:**  Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Record Action**

**Selected Order(s)**

☒ **ASPIRIN**  
Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

[Dispatch](#) [On Hold](#) [Discard](#) [Cancel](#)

**Fig. 3.1.1.2** Drug Order and Pharmacy Module: Order Select

3. The Pharmacist can view the details of the order by clicking the '+' show details button.

**Search:**  Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Record Action**

**Selected Order(s)**

Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Route: In both ears  
Duration: 2 Days  
Frequency: As required  
Diagnosis: Anaemia  
Refills: 2  
Interval: 2 (days)  
Last Refill: NA

Allergic Drug Order Note:  
Good for health.

[Dispatch](#) [On Hold](#) [Discard](#) [Cancel](#)

**Fig. 3.1.1.3** Drug Order and Pharmacy Module: Show/Hide Order Details

- Click the 'Dispatch' button to record the transactions on the drug orders being dispatched.

Search:

Show
10
▼
entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries

First
Previous
1
Next
Last

Record Action

Selected Order(s)

☒
ASPIRIN

Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Note\*

Enter notes for Patient

Expiry\*

MM/DD/YYYY

Order Status: Dispatch

Back
Confirm

**Fig. 3.1.1.4** Drug Order and Pharmacy Module: Order Record

- Specify the expiry date of the drug and a note for the Patient.

Search:

Show
10
▼
entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries

First
Previous
1
Next
Last

Record Action

Selected Order(s)

☒
ASPIRIN

Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Note\*

Store in dry place.

Expiry\*

08/10/2017

Order Status: Dispatch

Back
Confirm

**Fig. 3.1.1.5** Drug Order and Pharmacy Module: Specify Note

6. Once the details are entered for the drugs being dispatched, scroll down to find a link to print the prescription.

Record Action

**Selected Order(s)**

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Note\*

Store in dry place.

Expiry\* 08/10/2017

[Print Label](#)

Order Status: **Dispatch**

[Back](#) [Confirm](#)

**Fig. 3.1.1.6** Drug Order and Pharmacy Module: Print Label

7. Click the link 'Print Label'. A prescription printout is generated with the details of the drugs being dispatched with information about the instructions.

**Order:** Drug name, Dose, Duration units  
Frequency, Route  
Instructions from Physician  
**Start Date:** mm-dd-yyyy  
**Expiry Date:** mm-dd-yyyy  
Refill: #  
Refill Interval (days): #  
Allergy Order Note (if any):  
Instructions from Pharmacist

**Fig. 3.1.1.7** Drug Order and Pharmacy Module: Prescription Label

8. Click 'Confirm' to record the transaction. The order is recorded as dispatched. The 'Number of allowed refills' and 'Last Dispatch Date' fields associated with this order are updated accordingly. The drug order will continue to remain active if there are refills allowed on the order. For instance, if the drug order was placed confirming that two refills allowed, the Pharmacist can dispense the drug to the Patient three times (original order plus two time refills).

The screenshot shows the OpenMRS interface for the Pharmacy module. The top navigation bar includes the OpenMRS logo, a user profile for 'pharma', a location dropdown for 'Pharmacy', and a 'Logout' button. A dark green banner at the top right displays a green checkmark and the text 'Order Status - Dispatch'. The main content area shows the patient profile for 'Betty Johnson', a 34-year-old female, with a patient ID of '1002GU'. Below the profile, it lists 'Drug Allergies: ASPIRIN MORPHINE'. The 'ACTIVE DRUG ORDERS' section features a search bar and a table with 10 entries. The table has columns for Plan Name, Drug(s), Start Date, Refills, Last Dispatch, and Orderer. The first entry shows 'ASPIRIN' with 1 refill, last dispatched on 2017-08-07 by Jake Smith. The second entry shows 'Asthma' with three drugs: CAFFEINE, MORPHINE, and HEPARIN, each with 2 refills, last dispatched on 2017-08-07 by Jake Smith. The table footer indicates 'Showing 1 to 2 of 2 entries' and provides navigation links: 'First Previous 1 Next Last'.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	1	2017-08-07	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

**Fig. 3.1.1.8** Drug Order and Pharmacy Module: Transaction Recorded

### 3.1.2 Dispatch Medication Plan or Group Orders

In this section, we will review the process and the snapshots of the screens where the Pharmacist requests for the order(s) in a regimen/medication plan or order group to be dispatched. When the Pharmacist is provided a set of drug orders (medication plan, order group), it is required that all the orders are dispatched together unless the Physician has confirmed otherwise.

1. Select a row to view the details of each drug order placed as a part of the plan order. Verify the number of allowed refills, the last dispatch date and the refill interval (minimum number of #days between refills).

Search:

Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	1	2017-08-07	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries

First Previous 1 Next Last

Record Action

Selected Order(s)

☒ HEPARIN

Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule

Instructions for the Pharmacist:  
Replace with Crocin if not available.

Instructions for the Patient:  
After dinner with water.

☒ CAFFEINE

Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule

Instructions for the Pharmacist:  
Replace with Crocin if not available.

Cancel

Dispatch

On Hold

Discard

**Fig. 3.1.2.1** Drug Order and Pharmacy Module: Order Select



2. Click the 'Dispatch' button. This will load the fragment with additional fields.

Search:

Show
10
▼
entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-08	1	2017-08-08	Jake Smith
Asthma	MORPHINE	2017-08-08	2	NA	Jake Smith
	HEPARIN	2017-08-08	2	NA	Jake Smith
	CAFFEINE	2017-08-08	2	NA	Jake Smith

Showing 1 to 2 of 2 entries

First
Previous
1
Next
Last

Record Action

Selected Order(s)

☒
CAFFEINE

Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Note\*

Enter notes for Patient

Expiry\*

MM/DD/YYYY

Order Status: Dispatch

Back

Confirm

**Fig. 3.1.2.2** Drug Order and Pharmacy Module: Order Record

3. Specify the expiry date and a note about the consumption of each drug in the list.

Search:

Show
10
▼
entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-08	1	2017-08-08	Jake Smith
Asthma	MORPHINE	2017-08-08	2	NA	Jake Smith
	HEPARIN	2017-08-08	2	NA	Jake Smith
	CAFFEINE	2017-08-08	2	NA	Jake Smith

Showing 1 to 2 of 2 entries

First
Previous
1
Next
Last

Record Action

Selected Order(s)

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Note\*

Enter notes for Patient

Expiry\*

MM/DD/YYYY

Please fill out this field.

Print Label

Order Status: Dispatch

Back

Confirm

**Fig. 3.1.2.3** Drug Order and Pharmacy Module: Specify Details

4. Once the details are entered, click the link 'Print Label' underneath each order to print the prescription. A prescription printout is generated for each drug order record being dispatched with the details of the drugs as well as information about the instructions.

**Order:** Drug name, Dose, Duration units  
 Frequency, Route  
 Instructions from Physician  
**Start Date:** mm-dd-yyyy  
**Expiry Date:** mm-dd-yyyy  
 Refill: #  
 Refill Interval (days): #  
 Allergy Order Note (if any):  
 Instructions from Pharmacist

**Fig. 3.1.2.4** Drug Order and Pharmacy Module: Print Prescription

5. Click 'Confirm' to record the transaction. The order(s) are recorded as dispatched. The 'Number of allowed refills' and 'Last Dispatch Date' fields are updated accordingly. The drug orders will continue to remain active if there are refills allowed on the order.

OpenMRS
pharma
Pharmacy
Logout
Order Status - Dispatch

Pharmacy > Johnson, Betty

Betty Johnson
Female 34 year(s) (20.Feb.1983)
Edit Show Contact Info

Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE DRUG ORDERS

Search:
Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-08	1	2017-08-08	Jake Smith
Asthma	MORPHINE	2017-08-08	1	2017-08-08	Jake Smith
	HEPARIN	2017-08-08	1	2017-08-08	Jake Smith
	CAFFEINE	2017-08-08	1	2017-08-08	Jake Smith

Showing 1 to 2 of 2 entries
First Previous 1 Next Last

**Fig. 3.1.2.5** Drug Order and Pharmacy Module: Transaction Recorded

## 3.2 Put Drug Orders On-Hold

In this section, we will study the snapshots describing the process of putting on hold - an individual order, some or all orders from an order group and some or all of the drug orders from an ordered regimen/medication plan. We will see the process by which the Pharmacist can mark an order, one or more orders from a regimen order or from an order group and put them on hold due to unavailability or other reasons and (if required) send out an email to the ordering Physician providing the reason for placing the order(s) on hold. We will see, how the order(s) which are put on hold are highlighted. Also described are the steps that show what happens when the Physician subsequently modifies and removes the hold on the order(s) as well as the steps that show how the Pharmacist can remove the hold on order(s).

### 3.2.1 Put Individual Order On-Hold

In this section, we will view the process and the snapshots of the screens where the Pharmacist puts on hold a single individual order.

1. Login to the Patient's drug page. View the list of active drug orders placed for the Patient.

The screenshot displays the OpenMRS interface for the Pharmacy module. The top navigation bar shows the user 'pharma' and the location 'Pharmacy'. The breadcrumb trail indicates the path: Home > Pharmacy > Johnson, Betty. The patient's name 'Betty Johnson' is prominently displayed, along with her gender 'Female' and age '34 year(s) (20.Feb.1983)'. Below this, the 'Drug Allergies' are listed as 'ASPIRIN MORPHINE'. The main section is titled 'ACTIVE DRUG ORDERS'. It features a search bar and a 'Show 10 entries' dropdown. A table lists the active drug orders:

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

At the bottom, it shows 'Showing 1 to 2 of 2 entries' and navigation links: First, Previous, 1, Next, Last.

**Fig.3.2.1.1** Drug Order and Pharmacy Module: Drug Order Page

2. Select a row representing an order. This will load the details of the drug order. Verify the number of allowed refills, the last dispatch date and the refill interval (number of days between refills) for the order. Click the button named 'On Hold'.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Selected Order(s)**

☒ **ASPIRIN**  
Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Route: In both ears  
Duration: 2 Days  
Frequency: As required  
Diagnosis: Anaemia  
Refills: 2  
Interval: 2 (days)  
Last Refill: NA

[Dispatch](#)  
[On Hold](#)  
[Cancel](#)  
[Discard](#)

Fig.3.2.1.2 Drug Order and Pharmacy Module: Select Order

3. Enter the reason for placing the order on hold. This step is mandatory.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Selected Order(s)**

☒ **ASPIRIN**  
Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Route: In both ears  
Duration: 2 Days  
Frequency: As required  
Diagnosis: Anaemia  
Refills: 2  
Interval: 2 (days)  
Last Refill: NA

Order Status: **On Hold**

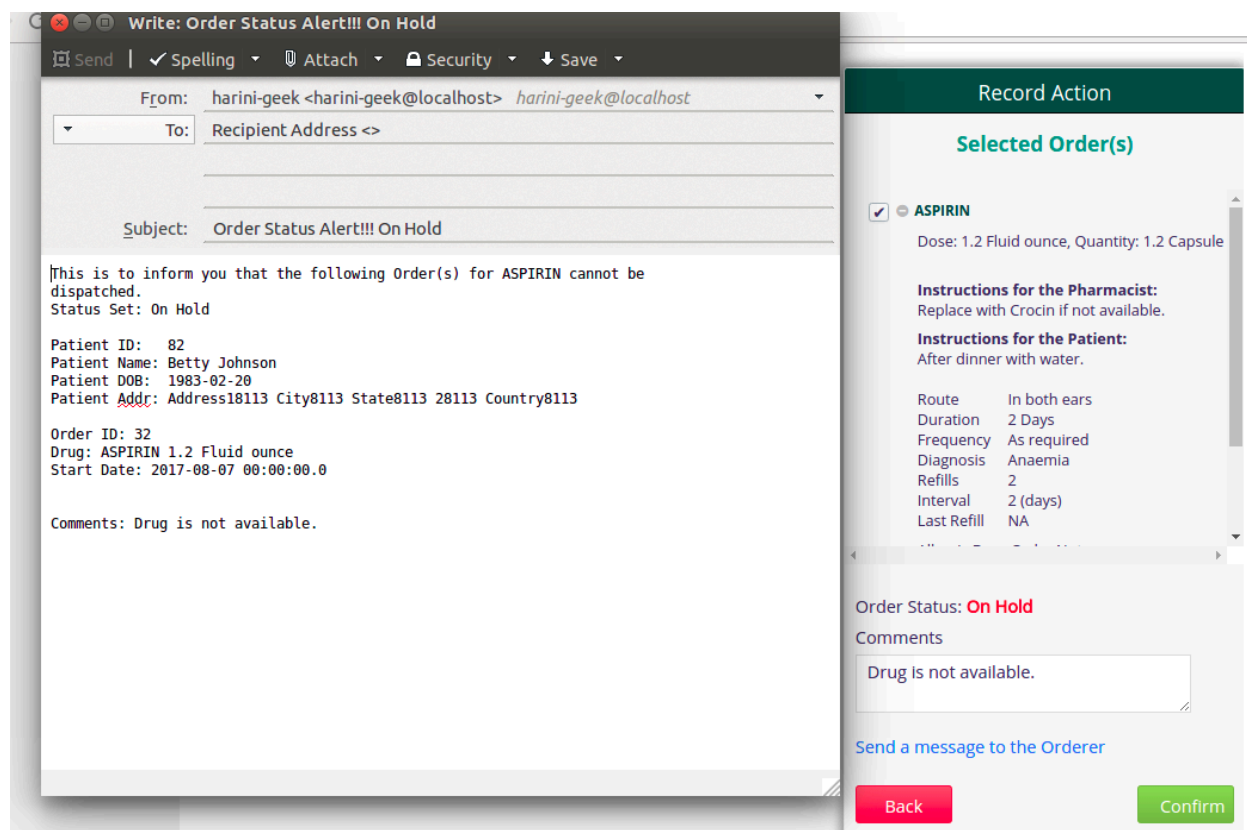
Comments

[Send a message to the Orderer](#)

[Back](#) [Confirm](#)

Fig.3.2.1.3 Drug Order and Pharmacy Module: Enter Hold Reason

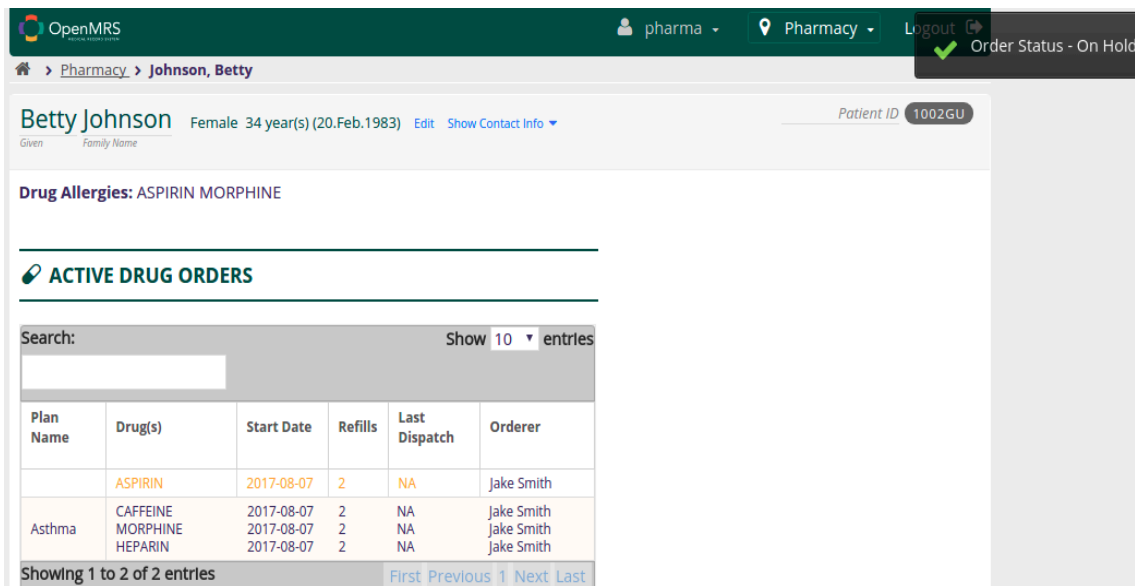
4. If the Pharmacist wants or needs to send out an email notification to the Orderer, she/he will click the link provided to send a message. This will load the default mail application informing the recipient that the order is being put on hold for the given reason. The Pharmacist can also add additional comments here.



**Fig.3.2.1.4** Drug Order and Pharmacy Module: Record On-Hold Action

The Pharmacist will send this mail to the Physician if the former has been instructed to notify the latter if the order is put on hold or if the Pharmacist requires specific information.

5. Click 'Confirm' to record the status of the drug order. The drug order page shows the order put on hold, highlighted with a different color.



OpenMRS

pharma Pharmacy Logout

Order Status - On Hold

Pharmacy > Johnson, Betty

Betty Johnson Female 34 year(s) (20.Feb.1983) Edit Show Contact Info

Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE DRUG ORDERS

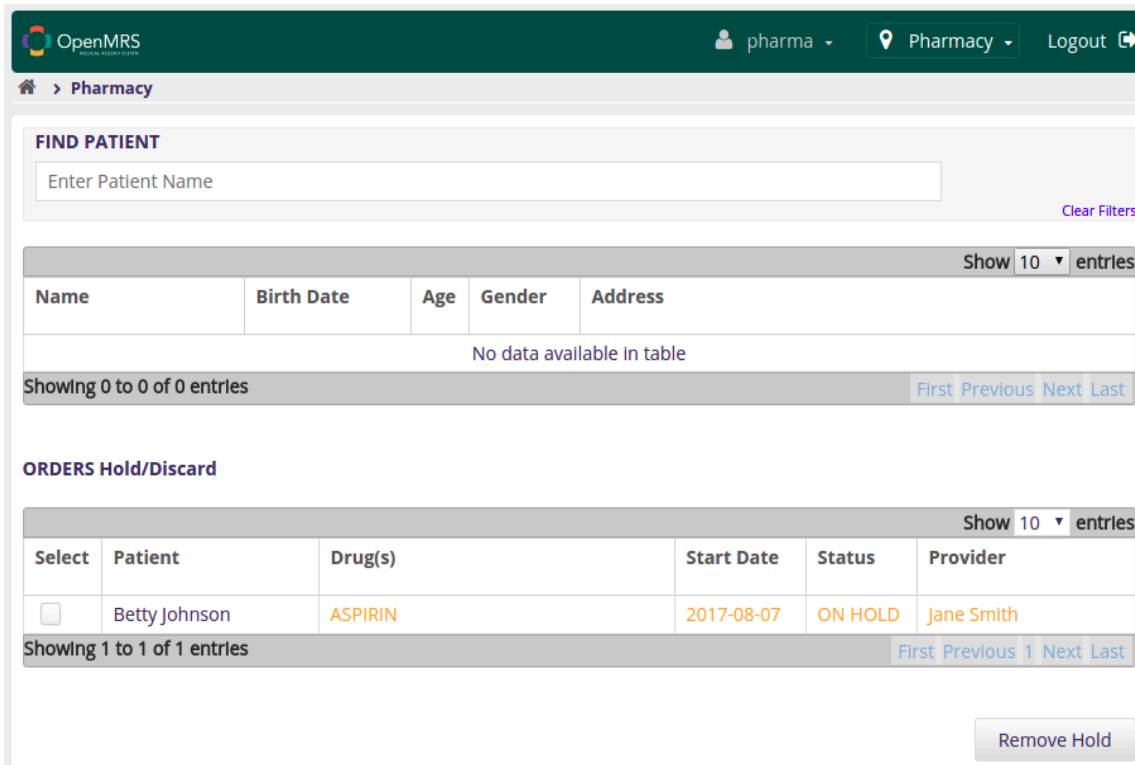
Search: Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries First Previous 1 Next Last

Fig.3.2.1.5 Drug Order and Pharmacy Module: Order Highlighted

6. The pharmacy homepage shows the list of orders put on hold including this order.



OpenMRS

pharma Pharmacy Logout

Pharmacy

FIND PATIENT

Enter Patient Name

Clear Filters

Show 10 entries

Name	Birth Date	Age	Gender	Address
No data available in table				

Showing 0 to 0 of 0 entries First Previous Next Last

ORDERS Hold/Discard

Show 10 entries

Select	Patient	Drug(s)	Start Date	Status	Provider
<input type="checkbox"/>	Betty Johnson	ASPIRIN	2017-08-07	ON HOLD	Jane Smith

Showing 1 to 1 of 1 entries First Previous 1 Next Last

Remove Hold

Fig.3.2.1.6 Drug Order and Pharmacy Module: Orders Highlighted

Let us consider three different scenarios as the possible next course of action:

7. If the drug is available to be dispatched at the pharmacy after the order is put on hold, the Pharmacist can remove the hold on the order. On the Pharmacy homepage, check the checkbox corresponding to the order (that was put on hold) that needs to be removed from hold and click 'Remove Hold' button. This will display a 'Remove Hold' fragment. Click 'Confirm' to remove the hold on the order.

The screenshot shows the Pharmacy module interface. At the top, there's a 'FIND PATIENT' section with a search bar and a 'Clear Filters' link. Below this is a table with columns: Name, Birth Date, Age, Gender, Address. The table is currently empty, showing 'Showing 0 to 0 of 0 entries'. A modal dialog box titled 'Remove Order Hold' is centered on the screen. It contains the text 'Remove hold on selected Order(s)?' and two buttons: 'Cancel' (red) and 'Confirm' (green). In the background, there's another table titled 'ORDERS Hold/Discard' with columns: Select, Patient, Drug(s), Start Date, Status, Provider. One row is visible for Betty Johnson, ASPIRIN, 2017-08-07, ON HOLD, Jane Smith. The 'Select' checkbox is checked. At the bottom right, there's a 'Remove Hold' button.

**Fig.3.2.1.7** Drug Order and Pharmacy Module: Remove Hold

8. The order is now removed from hold.

The screenshot shows the 'ACTIVE DRUG ORDERS' section. It has a search bar and a 'Show 10 entries' dropdown. Below is a table with columns: Plan Name, Drug(s), Start Date, Refills, Last Dispatch, Orderer. The table contains two entries. The first entry is for ASPIRIN, dated 2017-08-07, with 2 refills and NA for last dispatch, ordered by Jake Smith. The second entry is for a combination of CAFFEINE, MORPHINE, and HEPARIN, dated 2017-08-07, with 2 refills and NA for last dispatch, ordered by Jake Smith. At the bottom, it says 'Showing 1 to 2 of 2 entries' and has navigation links: First, Previous, 1, Next, Last.

**Fig.3.2.1.8** Drug Order and Pharmacy Module: Hold Removed

9. If the drug was put on hold since a particular formulation of the drug is not available for a few days and the Patient cannot wait until the drug becomes available at the pharmacy, the Physician may choose to modify the drug formulary to prescribe a drug that is presently available at the pharmacy. After receiving the request via mail, the Physician or Orderer will login to the Patient's drug order homepage to modify the order that is put on hold. The following are the snapshots of the drug order page showing the order is highlighted.

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info Patient

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE INDIVIDUAL DRUG ORDERS**

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
	32	<b>ASPIRIN</b> <a href="#">Click to view details</a>	2017-08-07	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 entries First Previous 1 Next Last

**Fig.3.2.1.9** Drug Order and Pharmacy Module: Order On-Hold

10. The Physician will edit the drug order formulations. This will replace the drug order with a new order with updated formulations or instructions, thereby clearing the hold.

**ACTIVE INDIVIDUAL DRUG ORDERS**

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
	32	<b>ASPIRIN</b> <a href="#">Click to view details</a>	2017-08-07	<a href="#">Edit</a> <a href="#">Delete</a>

Showing 1 to 1 of 1 entries First Previous 1 Next **Edit**

Group Selected

Discontinued/Canceled/Fulfilled Orders

**ACTIVE MEDICATION PLAN ORDERS**

Search: Show 10 entries

**EDIT DRUG ORDER**

Drug name \* ASPIRIN

Start Date \* 07 Aug 2017

Note: The patient is allergic to this drug.  
Enter the reasons for ordering this drug:  
Good for health.

Route \* In both ears

Dose \* 1.2

Dose units \* Fluid ounce

Quantity \* 1.2

Qty units \* Capsule

**Fig.3.2.1.10** Drug Order and Pharmacy Module: Edit Order



11. When the Pharmacist logs into the drug order page, she/he finds the hold cleared. Clicking the row representing the order will display the updated details of the new drug order.

Pharmacy > Johnson, Betty

**Betty Johnson** Female 34 year(s) (20.Feb.1983) Edit Show Contact Info ▼ Patient

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE DRUG ORDERS**

Search: Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries First Previous 1 Next Last

Fig.3.2.1.11 Drug Order and Pharmacy Module: Modified Drug Order

12. Alternately, if the Patient cannot be asked to wait until the drug becomes available, the Physician will discontinue the drug order (and perhaps replace it with a new drug order).

**ACTIVE INDIVIDUAL DRUG ORDERS**

Search: Show 10 entries

Group	ID	Drug Name	Start Date	Action
	32	ASPIRIN <a href="#">Click to view details</a>	2017-08-07	<a href="#">Discontinue</a>

Showing 1 to 1 of 1 entries First Previous 1 Next Last

Group Selected

Discontinued/Canceled/Fulfilled Orders

**ACTIVE MEDICATION PLAN ORDERS**

Search: Show 10 entries

Plan Name	Action

**DISCONTINUE ORDER**

**Selected Order(s)**

☒ ASPIRIN  
1.2 Fluid ounce, 1.2 Capsule

Select the reason to discontinue

Choose option

Cancel Confirm

Fig.3.2.1.12 Drug Order and Pharmacy Module: Discard Order

13. This will remove the drug order from the current or active order list and thereby not be visible to the Pharmacist.


[Home](#) > [Pharmacy](#) > [Johnson, Betty](#)

**Betty Johnson**  
Given Family Name

Female 34 year(s) (20.Feb.1983) [Edit](#) [Show Contact Info](#) ▼

Patient

**Drug Allergies:** ASPIRIN MORPHINE

 **ACTIVE DRUG ORDERS**

Search:  Show **10** ▼ entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig.3.2.1.13** Drug Order and Pharmacy Module: Updated Order List

14. Another scenario to consider is that the Physician approves the action of putting the drug order on hold until it becomes available. In that case, the Physician can edit the drug order (similar to **Fig.3.2.1.10**) to provide comments to the Pharmacist about the order continuing to be on hold.

### 3.2.2 Put Order(s) in a Medication Plan or Group Orders On-Hold

In this section, we will view the snapshots of the screens where the Pharmacist puts on hold some or all orders from a medication plan or group order.

1. Select a row representing a set of orders from a regimen / medication plan or an order group. This will load the details of each drug order placed as a part of the set. Verify the number of allowed refills, the last dispatch date and the refill interval (number of days between refills) for each order.

The screenshot displays the 'Record Action' interface. On the left, a table lists drug orders for 'Asthma'. The table has columns: Plan Name, Drug(s), Start Date, Refills, Last Dispatch, and Orderer. The data rows show three orders: CAFFEINE, MORPHINE, and HEPARIN, all with a start date of 2017-08-07, 2 refills, and last dispatch of NA, ordered by Jake Smith. Below the table, it says 'Showing 1 to 1 of 1 entries' with navigation links 'First Previous 1 Next Last'. On the right, the 'Record Action' panel shows 'Selected Order(s)'. It lists 'CAFFEINE' and 'MORPHINE', both checked. For each, it shows 'Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule' and 'Instructions for the Pharmacist: Replace with Crocin if not available.' and 'Instructions for the Patient: After dinner with water.' At the bottom of the panel are buttons: 'Cancel', 'Dispatch', 'On Hold', and 'Discard'.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

#### Record Action

##### Selected Order(s)

☒ **CAFFEINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.  
**Instructions for the Patient:**  
After dinner with water.

☒ **MORPHINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

[Cancel](#) [Dispatch](#) [On Hold](#) [Discard](#)

**Fig.3.2.2.1** Drug Order and Pharmacy Module: Select Orders

2. By default, the checkboxes corresponding to the drugs (orders) are checked, uncheck the checkboxes which correspond to the drug orders that need not be put on hold. Ensuring that the checkboxes corresponding to the drugs (orders) that are to be put on hold is checked, click the 'On-Hold' button.

Search:

Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries

[First](#)
[Previous](#)
[1](#)
[Next](#)
[Last](#)

Record Action

Selected Order(s)

☒ **CAFFEINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.  
**Instructions for the Patient:**  
After dinner with water.

☐ **MORPHINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

Dispatch

On Hold

Cancel

Discard

**Fig.3.2.2.2** Drug Order and Pharmacy Module: Check Orders

3. Enter the reason for placing the orders on hold.

Search:

Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries

[First](#)
[Previous](#)
[1](#)
[Next](#)
[Last](#)

Record Action

Selected Order(s)

☒ **CAFFEINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.  
**Instructions for the Patient:**  
After dinner with water.

☐ **MORPHINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

Order Status: **On Hold**  
Comments  

Drugs are not available for a few days.

Send a message to the Orderer

Back

Confirm

**Fig.3.2.2.3** Drug Order and Pharmacy Module: Enter Reason

4. If the Pharmacist wants or needs to send out an email notification to the Orderer, she/he will click the link provided to send a message. This will load the default mail application informing the recipient that the orders are being put on hold for the given reason. The mail will also indicate if some of the orders in the set are currently available to be dispatched, seeking permission to dispense them to the Patient. Finally, the Pharmacist can also add additional comments.

The screenshot displays a web application interface for sending an email. The main window is titled "Write: Order Status Alert!!! On Hold" and includes a toolbar with "Send", "Spelling", "Attach", "Security", and "Save" options. The email fields are as follows:

- From:** harini-geek <harini-geek@localhost> harini-geek@localhost
- To:** Recipient Address <>
- Subject:** Order Status Alert!!! On Hold

The email body contains the following text:

[This is to inform you that the following Order(s) for CAFFEINE, HEPARIN cannot be dispatched.  
Status Set: On Hold

Patient ID: 82  
Patient Name: Betty Johnson  
Patient DOB: 1983-02-20  
Patient Addr: Address18113 City8113 State8113 28113 Country8113

Order ID: 34  
Drug Order: CAFFEINE 1.0 Fluid ounce  
Start Date: 2017-08-07 00:00:00.0

Order ID: 35  
Drug Order: MORPHINE 1.0 Fluid ounce  
Start Date: 2017-08-07 00:00:00.0

Order ID: 33  
Drug Order: HEPARIN 1.0 Fluid ounce  
Start Date: 2017-08-07 00:00:00.0

Comments: Drugs are not available for a few days.

Please note that the remaining Order(s) for MORPHINE are available for sale. Please confirm if these can be dispensed.

The sidebar on the right, titled "Record Action", shows the "Selected Order(s)" section with the following details:

- Replace with Crocin if not available.
- Instructions for the Patient:** After dinner with water.
- ☒ **HEPARIN**
- Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule
- Instructions for the Pharmacist:** Replace with Crocin if not available.
- Instructions for the Patient:** After dinner with water.

Below this, the "Order Status" is "On Hold" and the "Comments" field contains "Drugs are not available for a few days." A link "Send a message to the Orderer" is present. At the bottom, there are "Back" and "Confirm" buttons.

**Fig.3.2.2.4** Drug Order and Pharmacy Module: Send Mail To Orderer

The Pharmacist will send this mail to the Physician if the former has been instructed to notify the latter if the orders are put on hold or if the Pharmacist requires specific information. Click 'Cancel' if no mail requires to be sent.

5. Upon sending the mail is forwarded to the Orderer and confirming the hold status by clicking the 'Confirm' button, the drug order page shows the orders put on hold, highlighted.

The screenshot shows the OpenMRS interface for the Pharmacy module. The patient profile for Betty Johnson (Female, 34 years old, born 20.Feb.1983) is displayed. Under the 'ACTIVE DRUG ORDERS' section, a table lists three orders for Asthma, all of which are highlighted in yellow to indicate they are on hold. The orders are for CAFFEINE, MORPHINE, and HEPARIN, all started on 2017-08-07 with 2 refills and ordered by Jake Smith.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

**Fig.3.2.2.5** Drug Order and Pharmacy Module: Orders Highlighted

6. The pharmacy homepage also shows the list of orders put on hold.

The screenshot shows the OpenMRS Pharmacy module homepage. It includes a 'FIND PATIENT' search bar and a table for 'ORDERS Hold/Discard'. The table lists one order for Betty Johnson, which is on hold for CAFFEINE, MORPHINE, and HEPARIN. The status is 'ON HOLD' and the provider is Jane Smith. A 'Remove Hold' button is visible at the bottom right.

Select	Patient	Drug(s)	Start Date	Status	Provider
<input type="checkbox"/>	Betty Johnson	CAFFEINE MORPHINE HEPARIN	2017-08-07 2017-08-07 2017-08-07	ON HOLD ACTIVE ON HOLD	Jane Smith Jane Smith Jane Smith

**Fig.3.2.2.6** Drug Order and Pharmacy Module: Pharmacy Homepage

Let us consider the possible situations from here:

7. If the drug becomes available to be dispatched at the pharmacy, the Pharmacist can remove the hold on the drug orders. To do this, the Pharmacist has to checkmark the checkbox (in the Hold/Discard table on the pharmacy homepage) corresponding to each set of orders that are put on hold and then click the 'Remove Hold' button.

The screenshot shows the 'Pharmacy' module interface. At the top, there is a 'FIND PATIENT' section with a search bar and a 'Clear Filters' link. Below this is a table with columns: Name, Birth Date, Age, Gender, Address. The table is currently empty, showing 'Showing 0 to 0 of 0 entries'. A modal dialog box titled 'Remove Order Hold' is open, asking 'Remove hold on selected Order(s)?' with 'Cancel' and 'Confirm' buttons. In the background, there is an 'ORDERS Hold/Discard' table with columns: Select, Patient, Drug(s), Start Date, Status, Provider. The table shows one entry for Betty Johnson with three rows of drugs: CAFFEINE, MORPHINE, and HEPARIN, all with a start date of 2017-08-07 and status of ON HOLD. The status for MORPHINE is also listed as ACTIVE. The table shows 'Showing 1 to 1 of 1 entries'. A 'Remove Hold' button is located at the bottom right of the interface.

**Fig.3.2.2.7** Drug Order and Pharmacy Module: Remove Hold

8. This will remove the hold on the drug orders, making them active again. The Pharmacist can now dispense these drug orders when the Patient comes to the pharmacy.

The screenshot shows the 'ACTIVE DRUG ORDERS' section of the Pharmacy module. It features a search bar and a 'Show 10 entries' dropdown. Below the search bar is a table with columns: Plan Name, Drug(s), Start Date, Refills, Last Dispatch, and Orderer. The table shows one entry for Asthma with three rows of drugs: CAFFEINE, MORPHINE, and HEPARIN, all with a start date of 2017-08-07 and 2 refills. The 'Last Dispatch' column shows 'NA' for all three rows. The 'Orderer' column shows 'Jake Smith' for all three rows. The table shows 'Showing 1 to 1 of 1 entries'. Navigation links 'First Previous 1 Next Last' are at the bottom.

**Fig.3.2.2.8** Drug Order and Pharmacy Module: Hold Removed

9. If the drug is put on hold since a particular formulation of the drug is not available for a few days and the Patient cannot be asked to wait, the Physician will edit the order components to prescribe a drug that is currently available at the Pharmacy. Upon receiving an update on the hold, the Physician will login to the Patient drug order page to find the order highlighted. The Physician will then edit the formulations of each drug order.

**ACTIVE MEDICATION PLAN ORDERS**

Search:  Show 10 entries

Plan Name	Action
<b>ASTHMA</b>	
34 <b>CAFFEINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a>
35 <b>MORPHINE</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a>
33 <b>HEPARIN</b> Start Date: 2017-08-07 <a href="#">Click to view details</a>	<a href="#">Edit</a>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**EDIT DRUG ORDER**

Drug name \*

Start Date \*

Route \*

Dose \*

Dose units \*

Quantity \*

Qnty units \*

Duration \*

Durn units \*

Frequency \*

**Fig.3.2.2.9** Drug Order and Pharmacy Module: Modify Orders

10. This will replace the drug order with a new order with updated formulations or instructions, thereby clearing the hold.

**ACTIVE DRUG ORDERS**

Search:  Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

**Fig.3.2.2.10** Drug Order and Pharmacy Module: Hold Removed



11. Alternatively, the Physician may choose to discontinue the orders that are put on hold and (if required) place new orders instead.

The screenshot shows the 'ACTIVE MEDICATION PLAN ORDERS' interface. On the left, a search bar and a table of orders are visible. The table has columns for 'Plan Name' and 'Action'. Under the 'ASTHMA' plan, there are three orders: 34 CAFFEINE (1.0 Fluid ounce, 1.0 Capsule), 35 MORPHINE (1.0 Fluid ounce, 1.0 Capsule), and 33 HEPARIN (1.0 Fluid ounce, 1.0 Capsule). Each order has a 'Discontinue' button. On the right, a 'DISCARD MED PLAN' modal is open, showing the 'Selected Order(s)' list with checkboxes for CAFFEINE, MORPHINE, and HEPARIN. Below the list is a 'Select the reason to discontinue' dropdown menu and 'Cancel' and 'Confirm' buttons.


**Fig.3.2.2.11** Drug Order and Pharmacy Module: Discontinue Orders

12. When the Pharmacist logs into the drug order page, she/he finds the hold cleared. The order list will only display the order(s) that was not removed.

The screenshot shows the 'ACTIVE DRUG ORDERS' interface for a patient named Betty Johnson. The patient's information is displayed at the top: Betty Johnson, Female, 34 year(s) (20.Feb.1983). Below this, the 'Drug Allergies' are listed as ASPIRIN and MORPHINE. The 'ACTIVE DRUG ORDERS' section shows a search bar and a table of orders. The table has columns for 'Plan Name', 'Drug(s)', 'Start Date', 'Refills', 'Last Dispatch', and 'Orderer'. There is one entry in the table: Asthma, MORPHINE, 2017-08-07, 2, NA, Jake Smith. Below the table, there are 'Showing 1 to 1 of 1 entries' and navigation links: First, Previous, 1, Next, Last.

**Fig.3.2.2.12** Drug Order and Pharmacy Module: Hold Removed

13. The other option will be that the Physician can edit the drug order to provide specific instructions to the Pharmacist to dispatch the remaining in a set if a particular drug from the set is not available immediately. This confirmation can be provided in the 'Instructions to Pharmacist' field and will be provided or displayed to the Pharmacist along with other details.

 **ACTIVE DRUG ORDERS**

Search:

Show **10** entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries

[First](#) [Previous](#) [1](#) [Next](#) [Last](#)

Record Action

**Selected Order(s)**

☒ **CAFFEINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.  
  
**Instructions for the Patient:**  
After dinner with water.

☒ **MORPHINE**  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Renlace with Crocin if not available.

Dispatch

On Hold

Discard

Cancel

**Fig.3.2.2.13** Drug Order and Pharmacy Module: Modify Orders

## 3.3 Request To Discard Drug Orders

In this section, we will study the snapshots describing the process of discontinuing an order for a single drug, some or all orders from a group of drug orders placed together and some or all of the drug orders from an ordered regimen/medication plan. Let us assume that the drugs that are ordered are not allowed to be sold in a country and hence not available at the pharmacy. We will see the process by which the Pharmacist can mark and request for the order(s) to be discontinued by providing reasons and sending out an email to the ordering Physician. This includes snapshots showing how the order(s) which are requested to be discarded are highlighted and how the Physician is notified about the same. Also described are the steps showing the snapshots when the Physician subsequently discontinues the order(s).

### 3.3.1 Request Individual Order Discard

In this section, we will see how an individual drug order is requested to be discarded by the Pharmacist by sending out an email to the Orderer or Physician.

1. Login to the Patient's drug order page displaying the list of active drug orders placed.

The screenshot displays the patient's drug order page for Betty Johnson. The patient's name is Betty Johnson, Female, 34 year(s) (20.Feb.1983). The drug allergies listed are ASPIRIN and MORPHINE. The active drug orders table shows the following data:

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

The page also includes a search bar, a 'Show 10 entries' dropdown, and pagination controls at the bottom: 'Showing 1 to 2 of 2 entries' and 'First Previous 1 Next Last'.

Fig. 3.3.1.1 Drug Order and Pharmacy Module: Drug Order Page

2. Select the row representing the order. This will display the details of the drug order. Ensure that the check-box corresponding the order is checked and click the 'Discard' button.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Selected Order(s)**

☒ **ASPIRIN**

Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace if Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Route: In both ears  
Duration: 2 Days  
Frequency: As required  
Diagnosis: Anaemia  
Refills: 2  
Interval: 2 (days)  
Last Refill: NA

[Dispatch](#)  
[On Hold](#)  
[Cancel](#)  
[Discard](#)

**Fig. 3.3.1.2** Drug Order and Pharmacy Module: Select Order

3. Enter the reason for requesting for the drug order to be discarded.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

**Selected Order(s)**

☒ **ASPIRIN**

Dose: 1.2 Fluid ounce, Quantity: 1.2 Capsule

**Instructions for the Pharmacist:**  
Replace if Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

Route: In both ears  
Duration: 2 Days  
Frequency: As required  
Diagnosis: Anaemia  
Refills: 2  
Interval: 2 (days)  
Last Refill: NA

Order Status: **Discard**

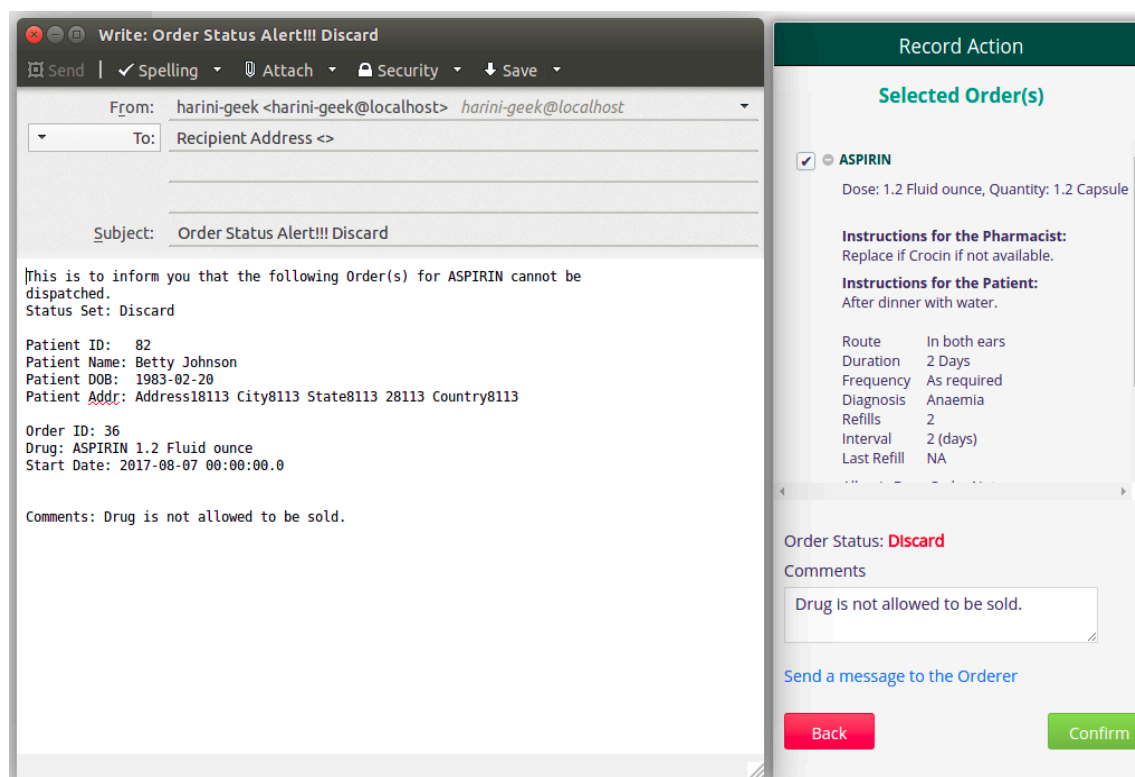
Comments

[Send a message to the Orderer](#)

[Back](#) [Confirm](#)

**Fig. 3.3.1.3** Drug Order and Pharmacy Module: Enter Discard Reason

4. Next, the ordering Physician must be informed about the orders not being able to be fulfilled. The Pharmacist is not authorized to discontinue a drug order. In order to inform the Orderer about the orders required to be discarded, an email notification is sent by the Pharmacist. This can be done by clicking the link provided near the bottom of the fragment. This will load the default mail application informing the recipient (Orderer) that the orders are being requested to be discarded due to the given reason. The Pharmacist can also add additional comments.



**Fig. 3.3.1.4** Drug Order and Pharmacy Module: Send Mail To Orderer

5. The mail is now forwarded to the Orderer, i.e. the Physician who placed the order. Click 'Confirm' to record the drug order being requested to be discontinued. The drug order page shows the order requested to be discarded, highlighted with a strikethrough line.

OpenMRS pharma Outpatient Clinic Logout Order Status - Discard

[Home](#) > [Pharmacy](#) > **Johnson, Betty**

**Betty Johnson** Female 34 year(s) (20.Feb.1983) [Edit](#) [Show Contact Info](#) Patient ID 1002GU

**Drug Allergies:** ASPIRIN MORPHINE

**ACTIVE DRUG ORDERS**

Search:  Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
	ASPIRIN	2017-08-07	2	NA	Jake Smith
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 2 of 2 entries [First](#) [Previous](#) [Next](#) [Last](#)

**Fig. 3.3.1.5** Drug Order and Pharmacy Module: Orders Highlighted

6. The pharmacy homepage shows the list of orders requested to be discarded.

OpenMRS pharma Outpatient Clinic Logout

[Home](#) > [Pharmacy](#)

**FIND PATIENT**

[Clear Filters](#)

Show 10 entries

Name	Birth Date	Age	Gender	Address
No data available in table				

Showing 0 to 0 of 0 entries [First](#) [Previous](#) [Next](#) [Last](#)

**ORDERS Hold/Discard**

Show 10 entries

Select	Patient	Drug(s)	Start Date	Status	Provider
<input type="checkbox"/>	Betty Johnson	ASPIRIN	2017-08-07	DISCARD	Jane Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [Next](#) [Last](#)

[Remove Hold](#)

**Fig. 3.3.1.6** Drug Order and Pharmacy Module: Pharmacy Homepage

7. After receiving the request via mail, the Physician or Orderer will login to the Patient's drug order homepage to discontinue the order that requested to be discarded.

The screenshot shows the 'ACTIVE INDIVIDUAL DRUG ORDERS' section of a medical software interface. A table lists one active order for ASPIRIN, with a 'Discontinue' button in the 'Action' column. A modal window titled 'DISCONTINUE ORDER' is open, showing the selected order (ASPIRIN, 1.2 Fluid ounce, 1.2 Capsule) and a dropdown menu to 'Select the reason to discontinue'. The modal also has 'Cancel' and 'Confirm' buttons.

Group	ID	Drug Name	Start Date	Action
	36	ASPIRIN <a href="#">Click to view details</a>	2017-08-07	<b>Discontinue</b>

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Group Selected

Discontinued/Canceled/Fulfilled Orders

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Fig. 3.3.1.7 Drug Order and Pharmacy Module: Discontinue Order

8. The order is now removed from the list of active order list.

The screenshot shows the 'ACTIVE DRUG ORDERS' section of the medical software interface. The table now lists three active orders for the Asthma plan: CAFFEINE, MORPHINE, and HEPARIN. The Aspirin order has been removed from the list.

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) 1 [Next](#) [Last](#)

Fig. 3.3.1.8 Drug Order and Pharmacy Module: Order Discontinued

### 3.3.2 Request Medication Plan or Group Orders Discard

In this section, we will view the snapshots of the screens where the Pharmacist requests for some or all orders in a medication plan or order group to be discarded.

1. Select the row representing the medication plan or group order. This will display the details of the drug orders. By default the checkbox corresponding to each drug in the list is checked. Uncheck any checkbox corresponding to an order that need not be discontinued. All the orders corresponding to checkboxes that are currently checked will be marked as discontinued.

The screenshot displays two main components of a software interface. On the left is a table with columns: Plan Name, Drug(s), Start Date, Refills, Last Dispatch, and Orderer. The table contains one entry for 'Asthma' with three rows of drugs: CAFFEINE, MORPHINE, and HEPARIN, all with a start date of 2017-08-07, 2 refills, and ordered by Jake Smith. Below the table, it says 'Showing 1 to 1 of 1 entries' and provides navigation links: 'First', 'Previous 1', 'Next', and 'Last'. On the right is a 'Record Action' panel. It has a title bar 'Record Action' and a section 'Selected Order(s)'. This section lists two items: 'MORPHINE' (checked) and 'CAFFEINE' (unchecked). Each item shows a dose of '1.0 Fluid ounce, Quantity: 1.0 Capsule'. Below the list, there are instructions for the pharmacist and patient. At the bottom of the panel are four buttons: 'Cancel' (red), 'Dispatch' (green), 'On Hold' (green), and 'Discard' (green).

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries    [First](#) [Previous 1](#) [Next](#) [Last](#)

#### Record Action

##### Selected Order(s)

- ☒ MORPHINE  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.  
**Instructions for the Patient:**  
After dinner with water.
- ☐ CAFFEINE  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
**Instructions for the Pharmacist:**

CancelDispatchOn HoldDiscard

**Fig. 3.3.2.1** Drug Order and Pharmacy Module: Select Order



2. Enter the reason for requesting for the drug orders to be discontinued (mandatory).

The screenshot displays the 'Drug Order and Pharmacy Module' interface. On the left, a table lists drug orders for a patient named 'Asthma'. The table has columns for Plan Name, Drug(s), Start Date, Refills, Last Dispatch, and Orderer. The data shows three entries for CAFFEINE, MORPHINE, and HEPARIN, all with a start date of 2017-08-07, 2 refills, and ordered by Jake Smith. Below the table, it indicates 'Showing 1 to 1 of 1 entries' and provides navigation links: First, Previous, 1, Next, Last.

On the right, the 'Record Action' panel is shown. It has a dark green header with the text 'Record Action'. Below the header, the section is titled 'Selected Order(s)'. It lists two orders: MORPHINE (checked) and CAFFEINE (unchecked). For MORPHINE, the dose is '1.0 Fluid ounce, Quantity: 1.0 Capsule'. Below the list, there are instructions for the pharmacist and patient. For MORPHINE, the pharmacist instruction is 'Replace with Crocin if not available.' and the patient instruction is 'After dinner with water.' For CAFFEINE, the pharmacist instruction is 'After dinner with water.' Below the instructions, the 'Order Status' is set to 'Discard' in red text. A 'Comments' section contains a text box with the text 'Drug is not allowed to be sold.' Below the comments, there is a link 'Send a message to the Orderer'. At the bottom of the panel, there are two buttons: 'Back' (red) and 'Confirm' (green).

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	MORPHINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries

First Previous 1 Next Last

**Record Action**

**Selected Order(s)**

☒ MORPHINE  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule

**Instructions for the Pharmacist:**  
Replace with Crocin if not available.

**Instructions for the Patient:**  
After dinner with water.

☐ CAFFEINE  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule

**Instructions for the Pharmacist:**  
After dinner with water.

Order Status: **Discard**

Comments  
Drug is not allowed to be sold.

[Send a message to the Orderer](#)

**Back** **Confirm**

**Fig. 3.3.2.2** Drug Order and Pharmacy Module: Enter Discard Reason

3. The Pharmacist will now have to send out an email notification to the Orderer by clicking the link provided to send a message. This will load the default mail application informing the recipient that the orders are being requested to be discarded due to the given reason. The Pharmacist can also add additional comments. The mail will also indicate if some of the orders in the set are currently available to be dispatched, seeking permission to dispense them to the Patient since the Pharmacist is not authorized to dispense a part of the medication plan without a confirmation from the Physician.

Write: Order Status Alert!!! Discard

Send

Spelling

Attach

Security

Save

From: harini-geek <harini-geek@localhost> harini-geek@localhost

To: Recipient Address <>

Subject: Order Status Alert!!! Discard

This is to inform you that the following Order(s) for MORPHINE cannot be dispatched.  
Status Set: Discard

Patient ID: 82  
Patient Name: Betty Johnson  
Patient DOB: 1983-02-20  
Patient Addr: Address18113 City8113 State8113 28113 Country8113

Order ID: 41  
Drug Order: CAFFEINE 1.0 Fluid ounce  
Start Date: 2017-08-07 00:00:00.0

Order ID: 40  
Drug Order: MORPHINE 1.0 Fluid ounce  
Start Date: 2017-08-07 00:00:00.0

Order ID: 42  
Drug Order: HEPARIN 1.0 Fluid ounce  
Start Date: 2017-08-07 00:00:00.0

Comments: Drug is not allowed to be sold.

Please note that the remaining Order(s) for HEPARIN, CAFFEINE are available for sale. Please confirm if these can be dispensed.

Record Action

Selected Order(s)

☒ MORPHINE  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**  
Replace with Crocin if not available.  
**Instructions for the Patient:**  
After dinner with water.

☐ CAFFEINE  
Dose: 1.0 Fluid ounce, Quantity: 1.0 Capsule  
  
**Instructions for the Pharmacist:**

Order Status: **Discard**

Comments

Drug is not allowed to be sold.

Send a message to the Orderer

Back

Confirm

**Fig. 3.3.2.3** Drug Order and Pharmacy Module: Send Mail To Orderer

- Click 'Confirm' to record the orders being requested to be discarded. The drug order page shows the orders requested to be discarded, highlighted with a strikethrough line.

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Logout

Order Status - Discard

Pharmacy > Johnson, Betty

Betty Johnson

Female 34 year(s) (20.Feb.1983)

Edit Show Contact Info

Patient ID 1002GU

Drug Allergies: ASPIRIN MORPHINE

ACTIVE DRUG ORDERS

Search: Show 10 entries

Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	<del>MORPHINE</del>	<del>2017-08-07</del>	<del>2</del>	<del>NA</del>	<del>Jake Smith</del>
	HEPARIN	2017-08-07	2	NA	Jake Smith

Showing 1 to 1 of 1 entries First Previous 1 Next Last

**Fig. 3.3.2.4** Drug Order and Pharmacy Module: Orders Highlighted

5. The pharmacy homepage also shows the list of orders requested to be discarded.

**OpenMRS** pharma Outpatient Clinic Logout

**Pharmacy**

**FIND PATIENT**

Enter Patient Name [Clear Filters](#)

Show 10 entries

Name	Birth Date	Age	Gender	Address
No data available in table				

Showing 0 to 0 of 0 entries [First](#) [Previous](#) [Next](#) [Last](#)

**ORDERS Hold/Discard**

Show 10 entries

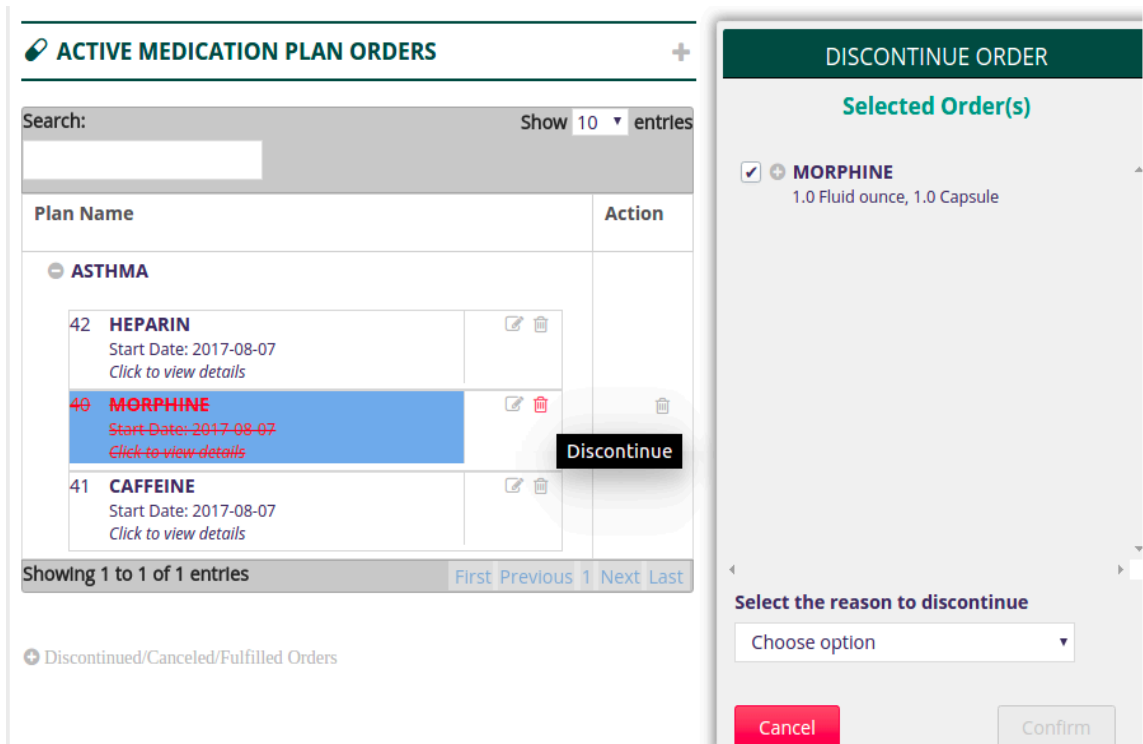
Select	Patient	Drug(s)	Start Date	Status	Provider
<input type="checkbox"/>	Betty Johnson	CAFFEINE	2017-08-07	ACTIVE	Jane Smith
		<del>MORPHINE</del>	<del>2017-08-07</del>	<del>DISCARD</del>	<del>Jane Smith</del>
		HEPARIN	2017-08-07	ACTIVE	Jane Smith

Showing 1 to 1 of 1 entries [First](#) [Previous](#) [Next](#) [Last](#)

[Remove Hold](#)

**Fig. 3.3.2.5** Drug Order and Pharmacy Module: Orders On-Hold/For-Discard

6. After receiving the request via mail, the Physician or Orderer will login to the Patient's drug order homepage to discontinue the orders that requested to be discarded. This page will also show the drug orders that are requested to be discontinued, highlighted with a strikethrough line. This will help the Physician identify the order immediately. She/He will discontinue the existing drug order(s) and perhaps place new drug orders in its place.



**Fig. 3.3.2.6** Drug Order and Pharmacy Module: Discontinue Orders

7. When the Pharmacist logs into the Patient drug order page, the 'Active Drug Orders' table only displays the currently active drug orders. The discontinued drug orders are no longer displayed.

ACTIVE DRUG ORDERS					
Search: <input type="text"/>					
Show 10 entries					
Plan Name	Drug(s)	Start Date	Refills	Last Dispatch	Orderer
Asthma	CAFFEINE	2017-08-07	2	NA	Jake Smith
	HEPARIN	2017-08-07	2	NA	Jake Smith
Showing 1 to 1 of 1 entries					
<a href="#">First</a> <a href="#">Previous 1</a> <a href="#">Next</a> <a href="#">Last</a>					

**Fig. 3.3.2.7** Drug Order and Pharmacy Module: Updated Orders