Pharmacy Information System (PhIS)
and
Clinic Pharmacy System (CPS)

User Manual
IV Dispensing

Version	**: 4th Edition**
Document ID	**: U. MANUAL_IV DISPENSING**

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Table of Contents

1.0 Introduction 1
1.1 Overview of PhIS 1
1.2 Purpose and Objectives 1
1.3 Organised Sections 1
2.0 Application Standard Features 2
2.1 PhIS Legend 2
3.0 Order Management-IV Admixture 4
Overview 4
User Group 4
Functional Diagram 4
Functional Description 5
3.1 IV Admixture Verification 6
3.1.1 Hold/Resume Order 9
3.1.2 Alternate Drug 12
3.1.3 Intervention 16
3.2 IV Admixture Preparation 19
3.3 IV Admixture Dispensing 27
3.4 IV Discard Batch 30
4.0 Acronyms 32
5.0 Links to Clinical Modules 32

1.0 Introduction

1.1 Overview of PhIS

Pharmacy Information System or better known as PhIS, is a complete and comprehensive system that integrates pharmacy related services geared towards pharmacy excellence. PhIS implementation would transform most of current manual process to electronic system to benefit facility end user in the health care sector.

There are 12 modules to assist services delivery by the health care sector which comprises of:

1. Order Management
2. Inpatient Pharmacy
3. Outpatient Pharmacy
4. Medication Counselling
5. Ward Pharmacy
6. Pharmacy Inventory
7. Manufacturing of Cytotoxic Drug Reconstitution, Parenteral Nutrition, IV Admixture & Eye Drop, Radiopharmaceuticals and Extemporaneous
8. Adverse Drug Reaction & Drug Allergic (ADR & DAC)
9. Clinical Pharmacokinetics Services (TDM)
10. Drug Information & Consumer Education (DICE)
11. Medication Therapy Adherence Clinic (MTAC)
12. Data Mining (PhARM)

1.2 Purpose and Objectives

This user manual outlines the IV Dispensing sub-module and its key features and functionalities. The primary objective is to guide user through the process of completing PhIS application process.

User will understand the following activities in details:

- Patient Registration
- Visit Management
- Manage Duplicate Record
- Cancel Discharge Patient
- Clinical Summary

1.3 Organised Sections

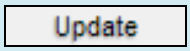
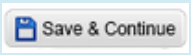
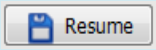
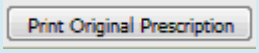
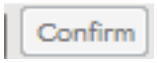
These are the sections within this document:

- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Order Management-IV Admixture
- Section 4 : Acronyms

2.0 Application Standard Features

2.1 PhIS Legend

Standard Legend			
LOGIN	Login to PhIS	Logout	Logout from PhIS
	Close All Open Tabs		Refresh Screen
	Expand Menu		Collapse Menu
	Expand Module		Collapse Module
	Add/Create New Record		Save
	Close Window		Calendar Icon
	Save Transaction		Delete Record
Export to Excel	Export Report From PDF file to Excel file	OK	OK Button
Yes	Yes Button	No	No Button
	Radio Button		Checkbox
	System Automatic Generate Record No.		Automatically Display/Retrieve Box
	Reset Login Screen		Show Help
Home	Display Home Tab	Search	Search Record
	Cancel		Dropdown Box
	Search Icon	*	Mandatory Field
	Edit Record		Empty Text Box
Cancel	Cancel Button		

IV Dispensing Module Legend			
	Update Patient's Height and Weight		Print
	Acknowledge Prescription		Calendar
	Preparation		Save and Continue
	Edit Label		Dispense
	Resume		Print Original Prescription
	Hold		Verification
	Confirm		Release/Discard
	Re-Dispense		Delete

Note

- To learn more about Login Information, kindly click Login Information module for descriptive steps.

3.0 Order Management-IV Admixture

Overview

The Order Management-Infusion Order module handles all the information to specify the ordered items as per local drug formulary, MOH and non-MOH including registered and non-registered drugs. This function is to enable data mining. All medication orders must be prescribed by authorised personnel only and be in compliance with guidelines on prescribing in the drug formulary (drug category, discipline / specialty) as defined by MOH.

User Group

This module is intended for pharmacist and assistant pharmacist (subject to user assign by the facility)

Functional Diagram

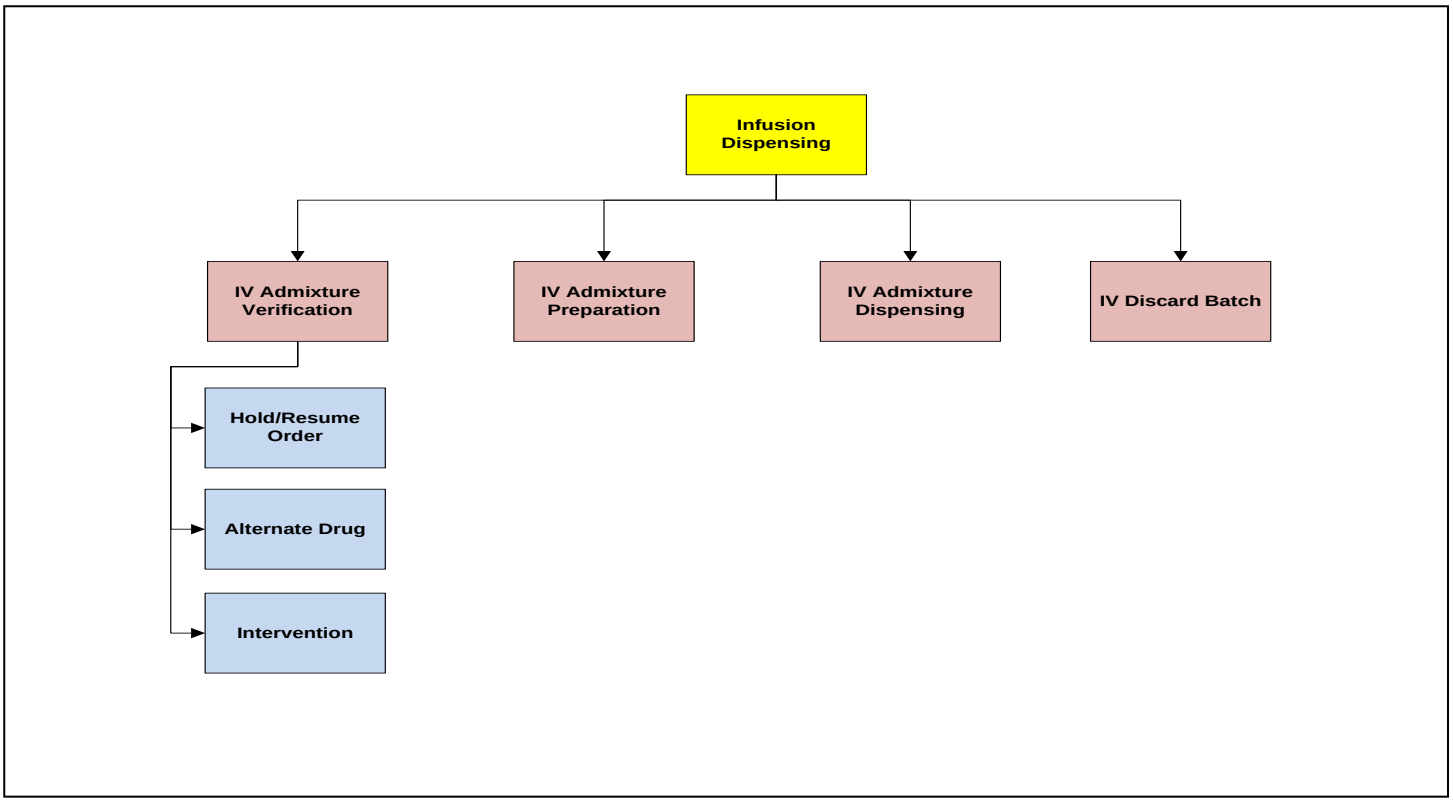


Figure 3.0-1

Functional Description

Admixture comprises of four (4) main functions:

- **Verification**
  Verification is for the pharmacist to verify the prescriptions received from order management. This process is mandatory for all prescriptions receive before the user can proceed with dispensing and preparation. There are also safety systems that warn against toxic doses, allergic and cross-reactions, drug interactions, duplication of therapeutic classes, contraindications, and adverse effects.

- **Preparation**
  The prescription and the drug preparation are made in the system which is integrated with the inventory system. Professionals access the system data directly with no need to send files or manual drug labeling

- **Dispensing**
  The prescription and the dispensing report are made in the system which is integrate with the inventory system.

- **IV Discard Batch**

  The function allows the user to discard the drug reserved for the patient from inventory.
  User needs to discard this drug when the preparation is not applicable for dispensing and pharmacist needs to perform the preparation again.

3.1 IV Admixture Verification

This function is used to verify the prescription before preparation and dispensing stage.

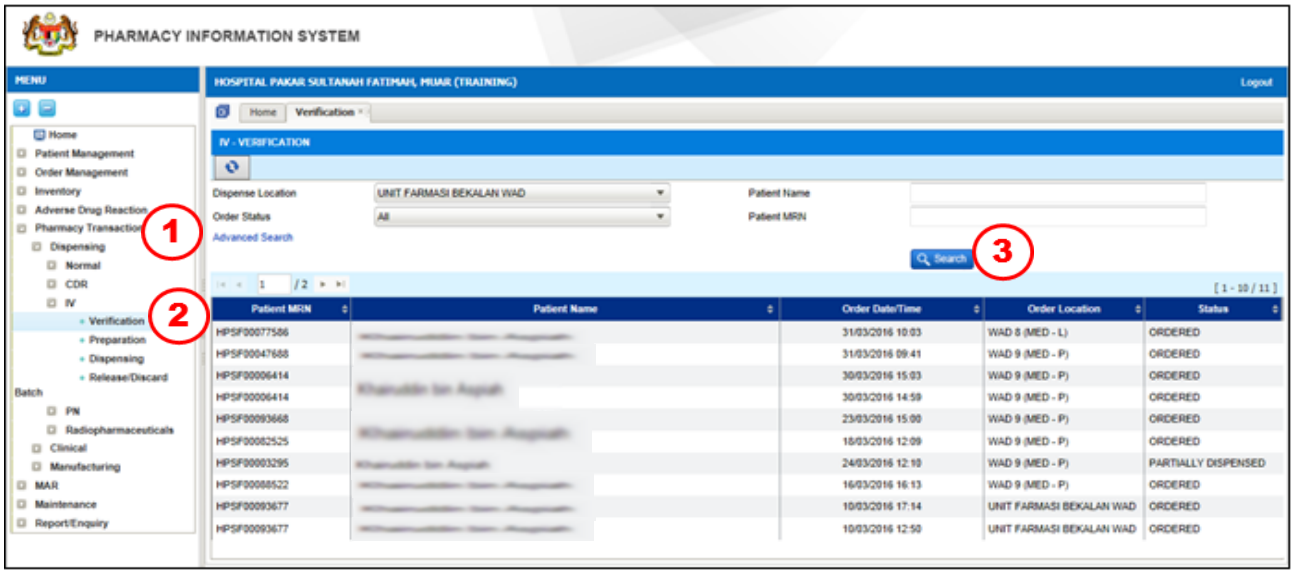


Figure 3.1-1 Verification Listing Screen

STEP 1
Click on the 'Pharmacy Transaction' menu followed by 'Dispensing' and select 'IV' sub-menu

STEP 2
Click on 'Verification' sub-menu

STEP 3

Click on the Search button to search for patient

Note
Various search criteria are provided as below:

a) Basic search
b) Advance search

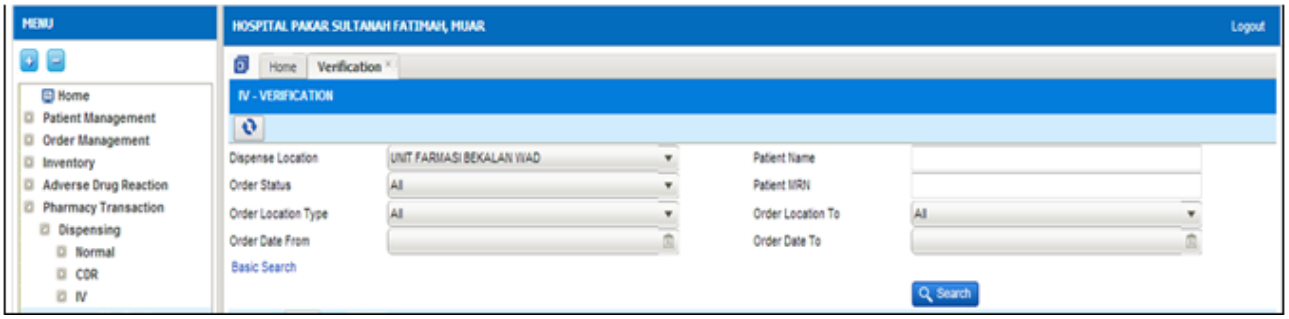


Figure 3.1-2 Advance Search

Basic Search			
No	**Field**	**Description**	**Remark**
a)	Dispense Location	Dispensing location. (It will list down all active locations)	Able to filter and search patient name by dispensing location
b)	Order Status	- All - Discharge Medications - New Orders - Outsourced Orders	
c)	Patient Name	Patient Name	Allow to search by full or partial patient name
d)	Patient MRN	Patient Medical Record Number	Search option: • Type the MRN either in full or partially: *Example : HPSF00001234 or "1234"*
Advance Search			
e)	Order Location Type	- Order location type (It will list down all active location types)	Able to filter and search patient name by order location type
f)	Order Date from	Order confirmed date	Allow to search by start date of order created
g)	Order Location To	It will list down all active locations	Able to filter and search patient name by order location
h)	Order Date To	It will list down all active location	Able to filter and search patient name by order location.

Table 3.1-1

Note

Search results of patient record list will display:

- *Patient MRN*
- *Patient Name*
- *Order Date*
- *Status*

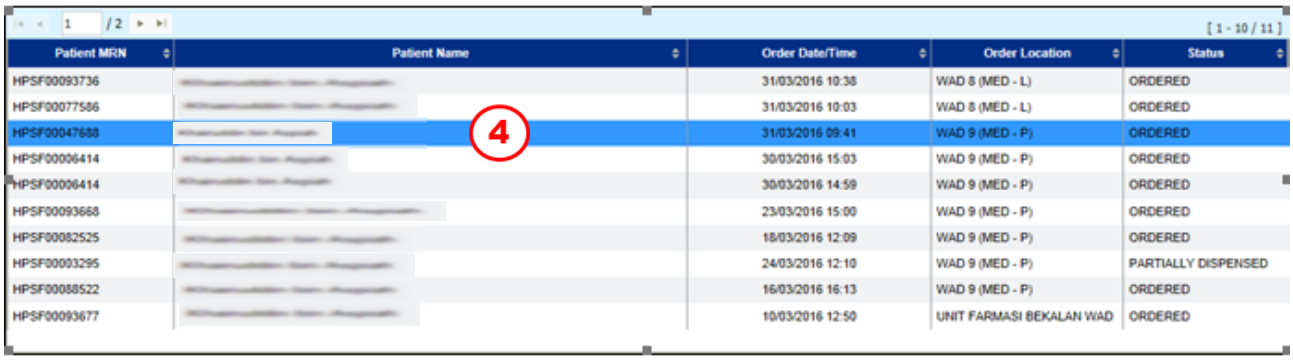


Figure 3.1-3 Verification Listing Screen

STEP 4

Double click on the selected patient

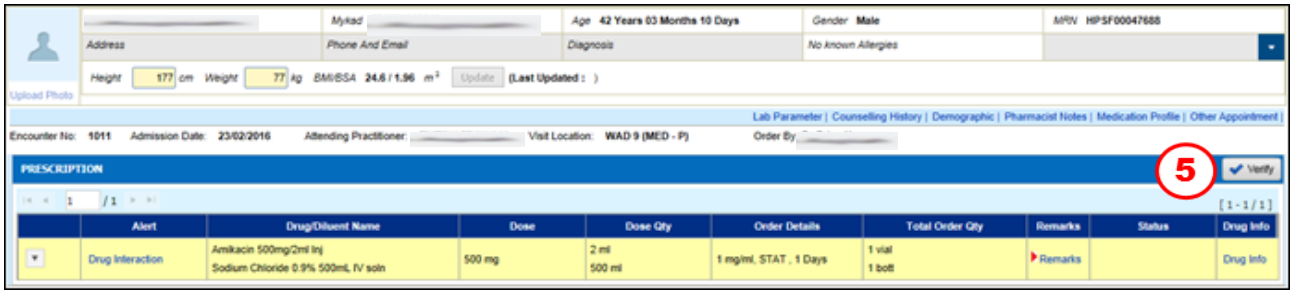


Figure 3.1-4 Verification Listing Screen

STEP 5

Click on the Verify button and system will display alert message as show in per Figure 3.1-5

Note

- *User have the option to* Print Original Prescription.
- *Double click on the selected drug to view order details.*

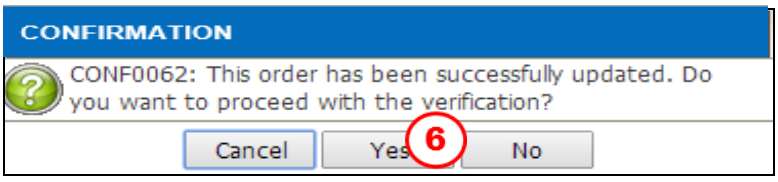


Figure 3.1-5 Verification Alert Message

STEP 6

Click on the Yes button to proceed with verfication

3.1.1 Hold/Resume Order

This function allows Pharmacist to hold medication from being prepared or dispense; the user may resume the medication order to continue dispensing.

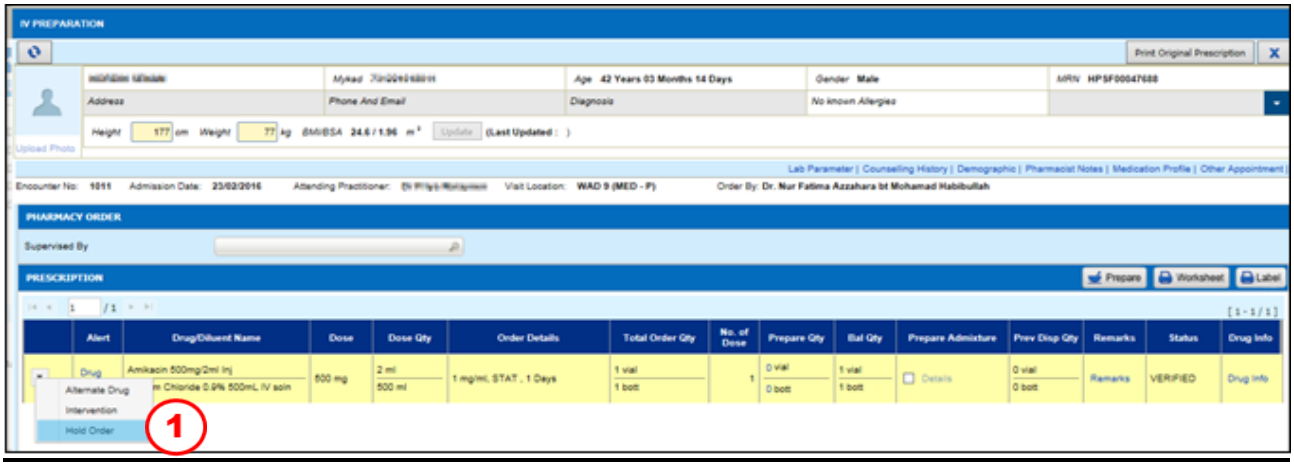


Figure 3.1.1-1 Prescription Listing Screen

Note
*To Hold/Resume order, repeat as in Verification process from **Step 1** to **4.***

Hold Order

STEP 1
Right click on the ▼ button and select ***Hold Order***

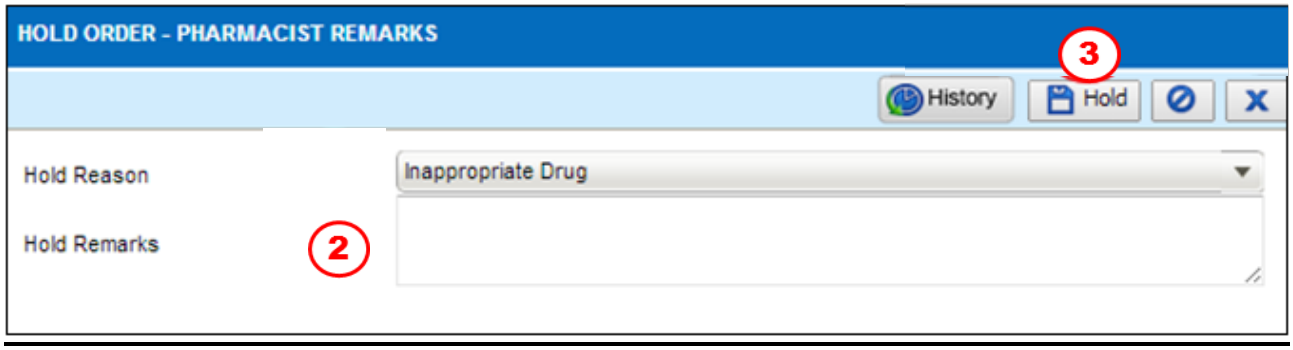


Figure 3.1.1-2 Hold Order Screen

STEP 2
Select *Hold Reason* from drop down box:

- Authenticity
- Contraindication
- Drug Interaction
- Inappropriate Dose
- Inappropriate Drug
- Inappropriate Duration
- Inappropriate Frequency
- Incompatibility
- Others
- Polypharmacy
- Suggest to Monitor Vital Signs/Lab Result

- Wrong Patient

STEP 3

Click on the Hold button to proceed with hold transaction

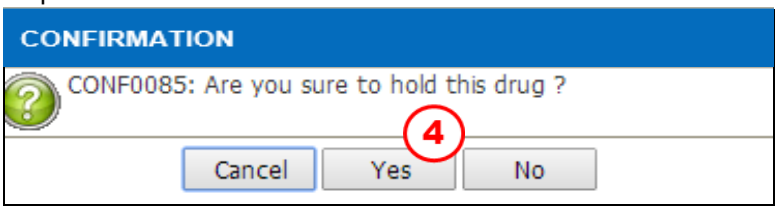


Figure 3.1.1-3 Hold Order Screen

STEP 4

Click on the Yes button to confirm the hold order

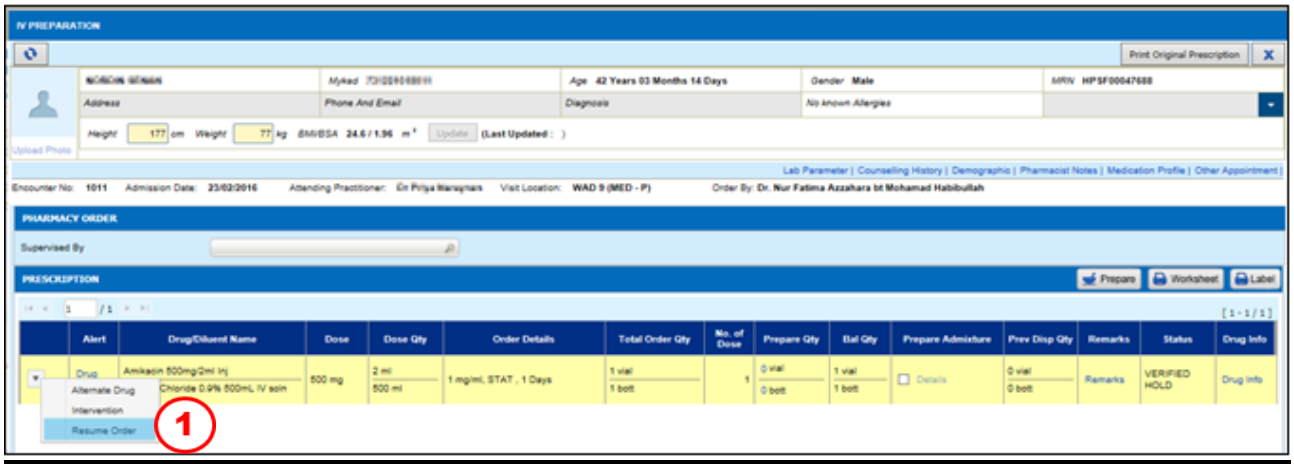


Figure 3.1.1-4 Prescription Listing Screen

Resume Order

STEP 1

Click on the button and select ***Resume Order***

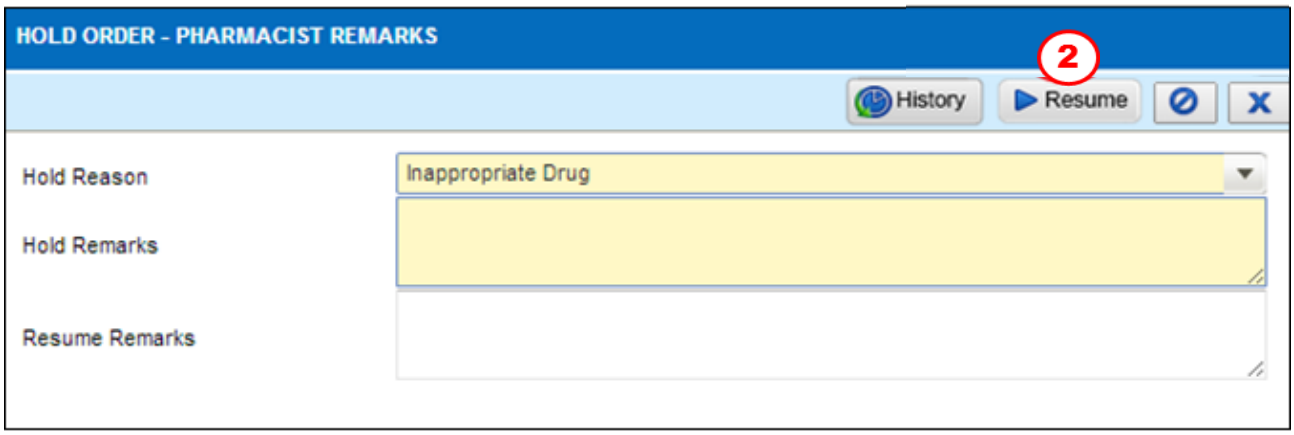


Figure 3.1.1-5 Hold Order Screen

STEP 2

Click on the Resume button to resume hold order

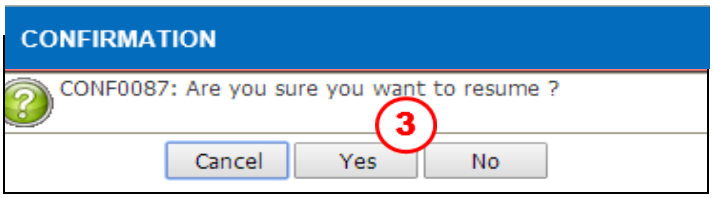


Figure 3.1.1-6 Hold Order Screen

STEP 3

Click on the Yes button to release drug from hold

3.1.2 Alternate Drug

This function allow user to select different drugs with the same active ingredient and same administration route.

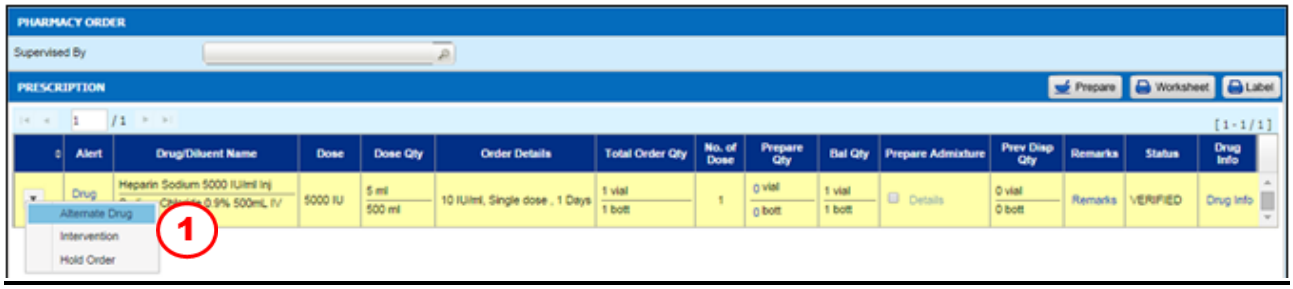


Figure 3.1.2-1 Prescription Listing Screen

Note

*To create Alternate drug record repeat as Verification process from **Step 1** to **4**.*

STEP 1

Right click on the button and select Alternate Drug

Note

Alternate drug screen consist of three (3) sections:

a) Alternate Drug Detail

- ***Location, Dosage Form, Route, ordered drug Code, Ordered Drug Description, Alternate Drug Name*** will be retrieved from *medication order and drug master setup.*

b) Batch Details

- *Selected drug name will be listed based on drug master setup.*

c) Diluent Batch Detail

- *Selected drug name will be listed based on drug master setup.*

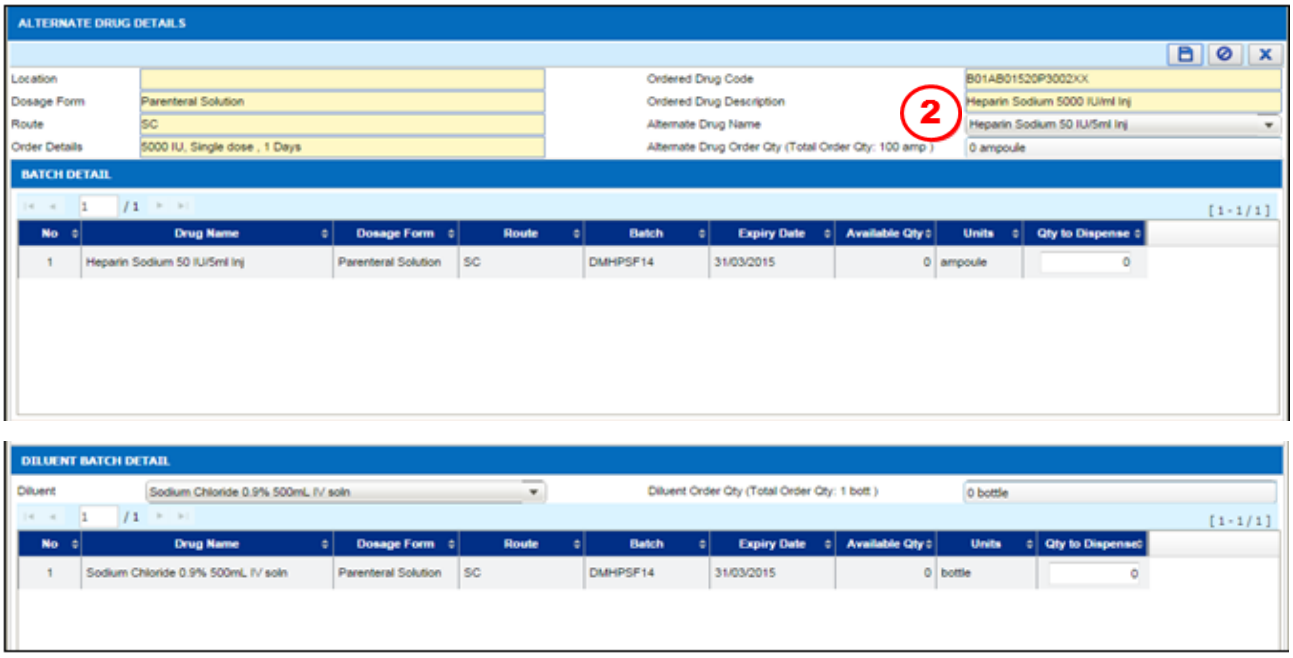


Figure 3.1.2-2 Alternate screen

STEP 2
Select ***Alternate Drug Name*** from dropdown box

Note

Alternate drug screen consists of three (3) sections:

a) Alternate Drug Detail

- ***Location, Dosage Form, Route, Ordered Drug Code, Ordered Drug Description, Alternate Drug Name*** will be retrieved from *medication order and drug master setup.*

b) Batch Details

- *Selected drug name will be listed based on drug master setup.*

c) Diluent Batch Detail

Selected drug name will be listed based on drug master setup.

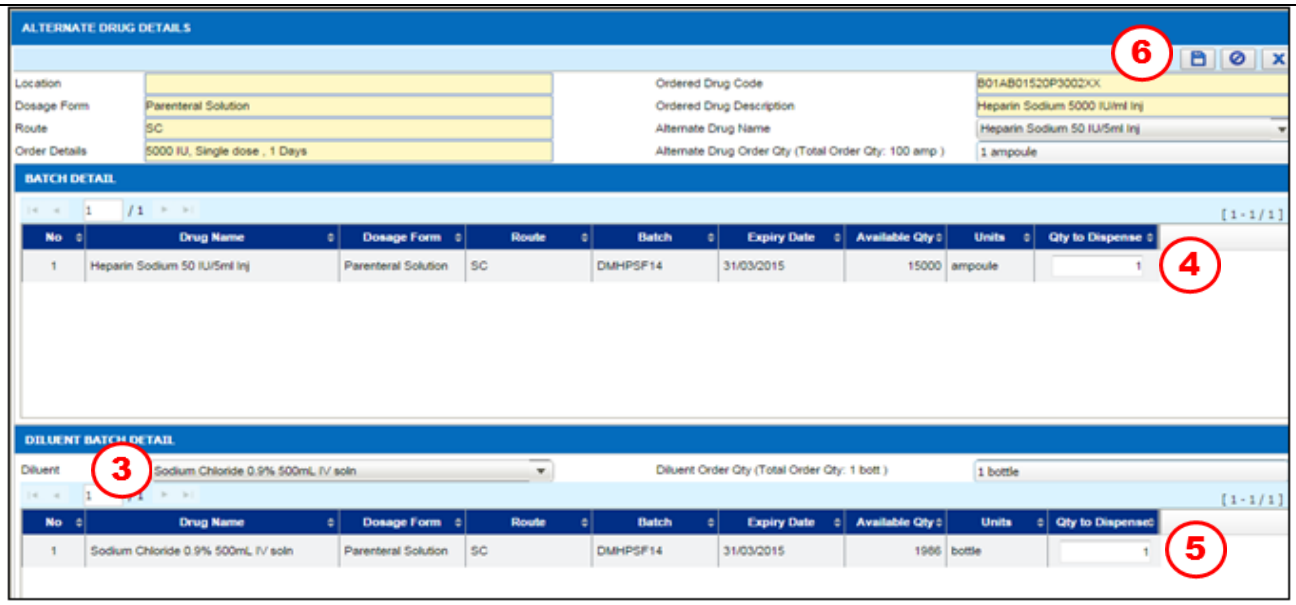


Figure 3.1.2-3 Alternate screen

STEP 3
Select ***Diluent*** from dropdown box

STEP 4
Select the item list checkbox under ***Batch Detail*** section

STEP 5
Select the item list checkbox under ***Diluent Batch Detail*** section

STEP 6
Click on the button to confirm alternate drug

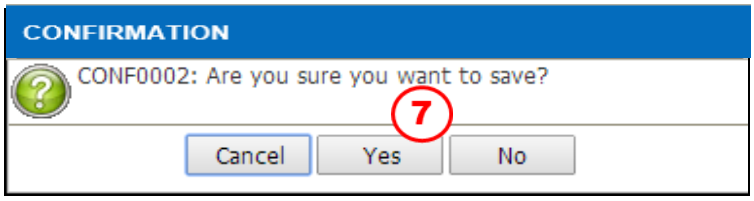


Figure 3.1.2-4 Prescription Listing Screen After Done Alternate

STEP 7

Click on the Yes button to save record

Note

- *Value of **Alternate Drug Name** and **Diluent** from dropdown menu will be defined in drug master setup.*
- *Batch Detail will display the earliest expiration date.*
- *After completing the alternate drug selected, the drug will change to green colour as shown in figure 3.1.2-5.*

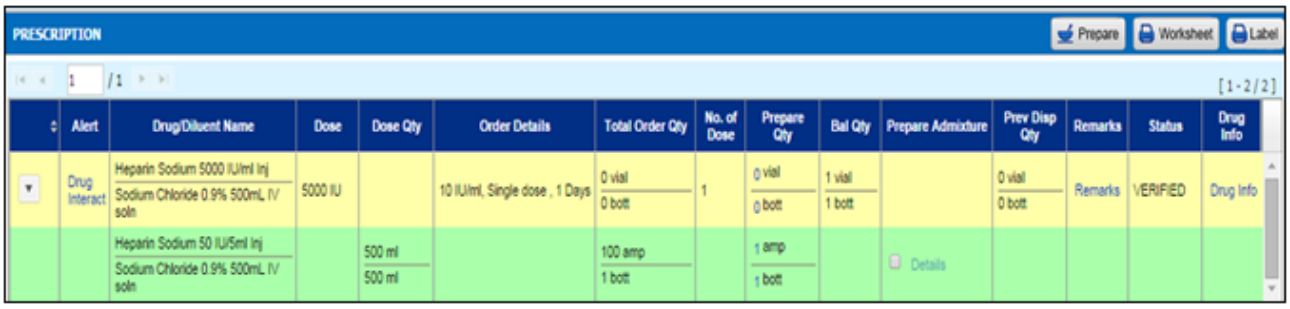


Figure 3.1.2-5 Prescription Listing Screen After Done Alternate

3.1.3 Intervention

This function allow user to modify drugs details frequency, duration and form. This function is available in verification screen and preparation screen.

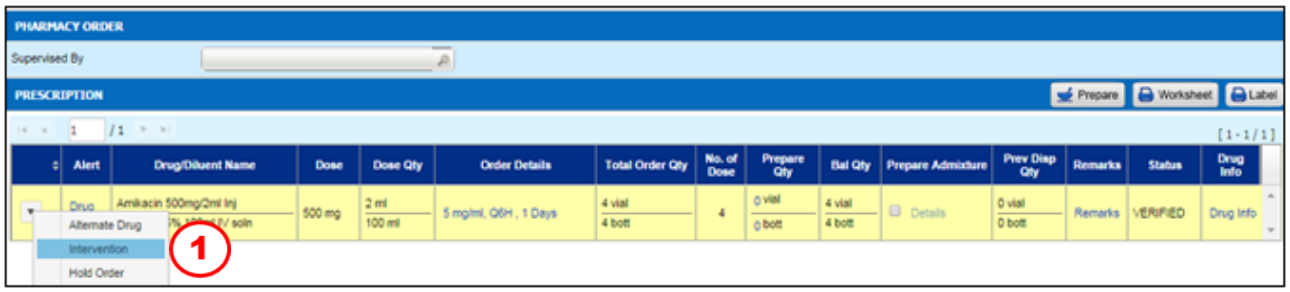


Figure 3.1.3-1 Prescription Listing Screen

Note

*To perform Intervention repeat as in Verification process from **Step 1** to **4**.*

STEP 1

Right click on the ▼ button and select ***Intervention***

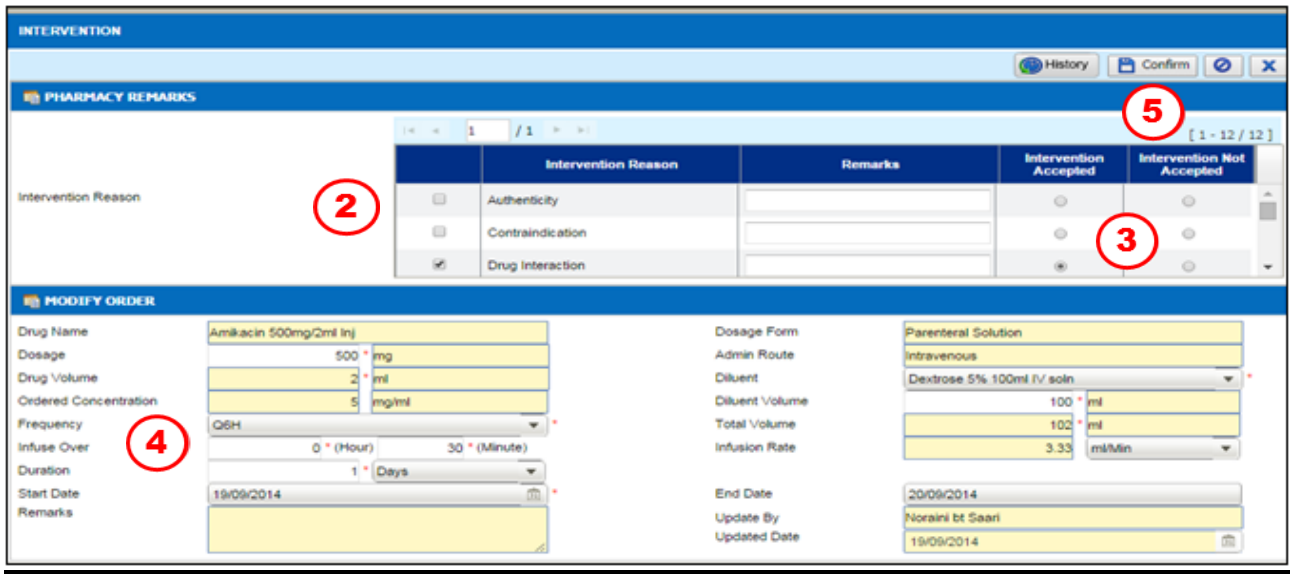


Figure 3.1.3-2 Intervention Screen

STEP 2

Select ***Intervention Reason*** from drop down box

- Authenticity
- Contraindication
- Drug Interaction
- Inappropriate Dose
- Inappropriate Drug
- Inappropriate Duration
- Inappropriate Frequency
- Incompatibility
- Others

- Polypharmacy
- Suggest to Monitor Vital Signs/Lab Result
- Wrong Patient

STEP 3
Select on ***Accepted*** radio button under Intervention Status

Note
*Pharmacist will select the **Intervention Status** radio button after confirming the intervention status with prescriber.*

STEP 4
Change Modify Order details as required

STEP 5
Click on the Confirm button to save the changes

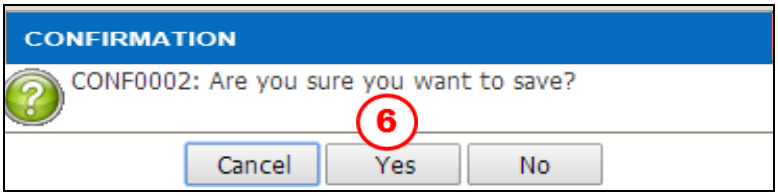


Figure 3.1.3-3 Alert Message

Step 6
Click on the Yes button to confirm the intervention

Figure 3.1.3-4 Prescription Listing Screen After Done Intervention

Note

- *After intervention is made, Order Details column will changed to blue hyperlink. User may click to view the original order details.*
- *Order details will displayed as show in per Figure 3.1.3-5*

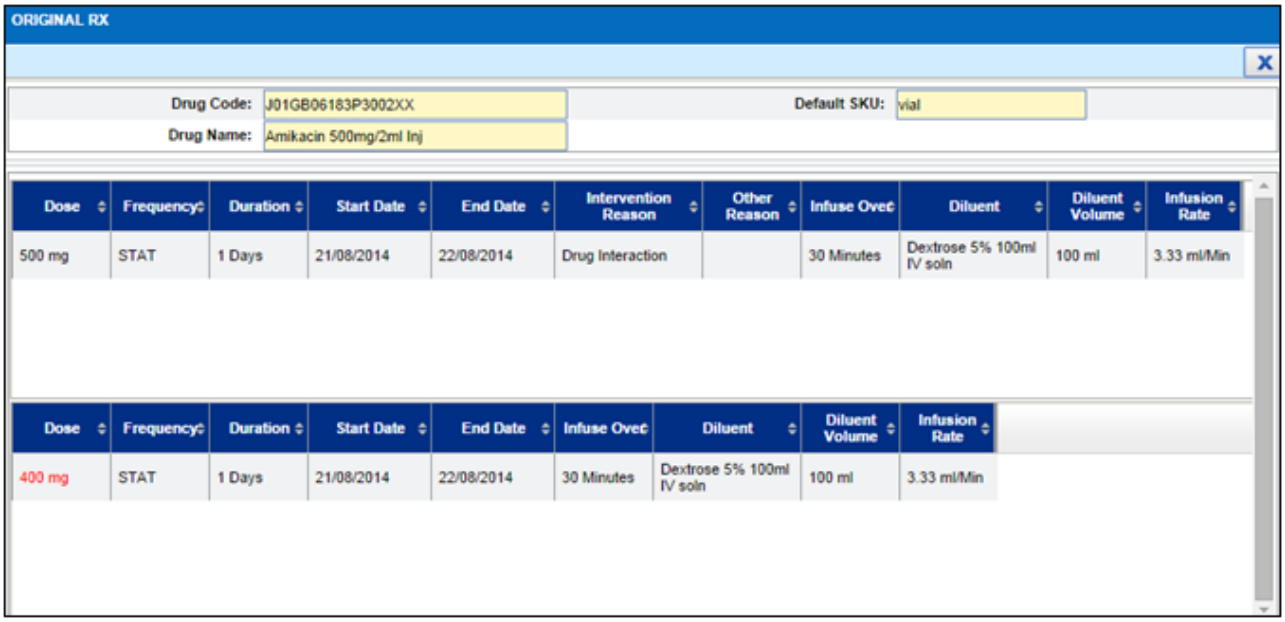


Figure 3.1.3-5 Original Rx Screen

3.2 IV Admixture Preparation

This function is used to record preparation os IV before the dispensing stage.

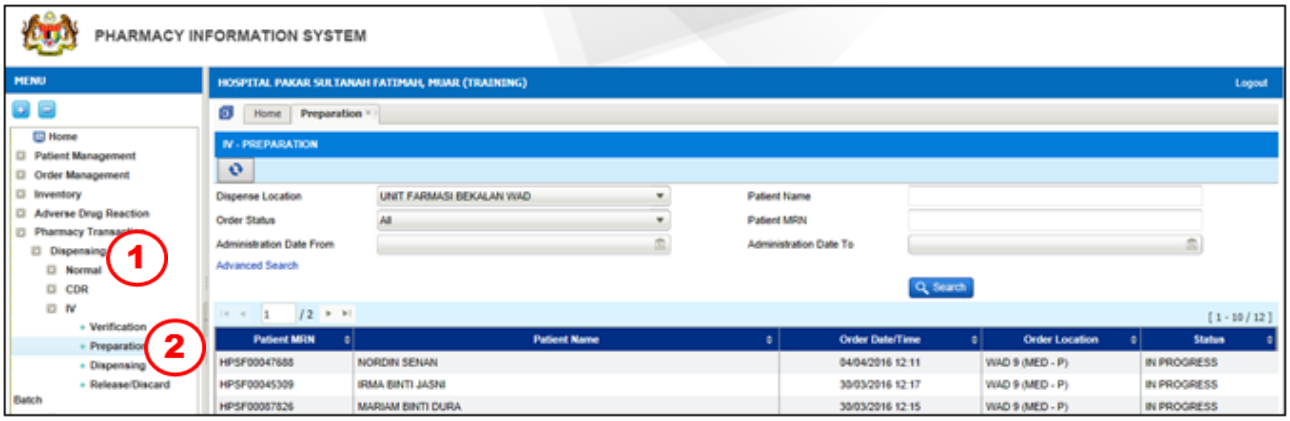


Figure 3.2-1 Preparation Listing Screen

STEP 1
Click on 'Pharmacy Transaction' menu followed by ' Dispensing' and select 'IV' sub-menu

STEP 2
Click on 'Preparation' sub-menu

Note
Various search criteria are is provided as below:

a) Basic search
b) Advance search

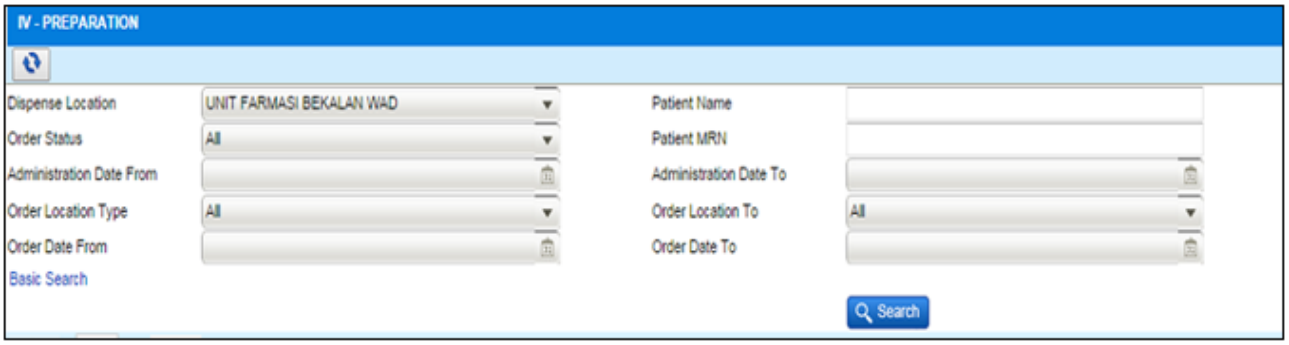


Figure 3.2-2 Advance search

Advance Search			
No	**Field**	**Description**	**Remark**
a)	Dispense Location	Dispensing location. (It will list down all active locations)	Able to filter and search patient name by dispensing location
b)	Order Status	All Discharge Medications New Orders Outsourced Orders	Able to filter status prescription by order status
c)	Patient Name	Patient Name	Allow to search by full or partial patient name
d)	Patient MRN	Patient Medical Record Number	Search option: • Type the MRN either in full or partially: *Example : HPSF00001234 or "1234"*
Advance Search			
e)	Order Location Type	- Order location type (It will list down all active location types)	Able to filter and search patient name by order location type
f)	Order Date from	Order confirmed date	Allow to search by start date of order created
g)	Order Location To	It will list down all active location	Able to filter and search patient name by order location
h)	Order Date To	Order confirmed date	Allow to search by selected duration of order created

Table 3.2-1

Note

Search result of patients record list will display:

- *Patient MRN*
- *Patient Name*
- *Order Date*
- *Order Location*
- *Status*

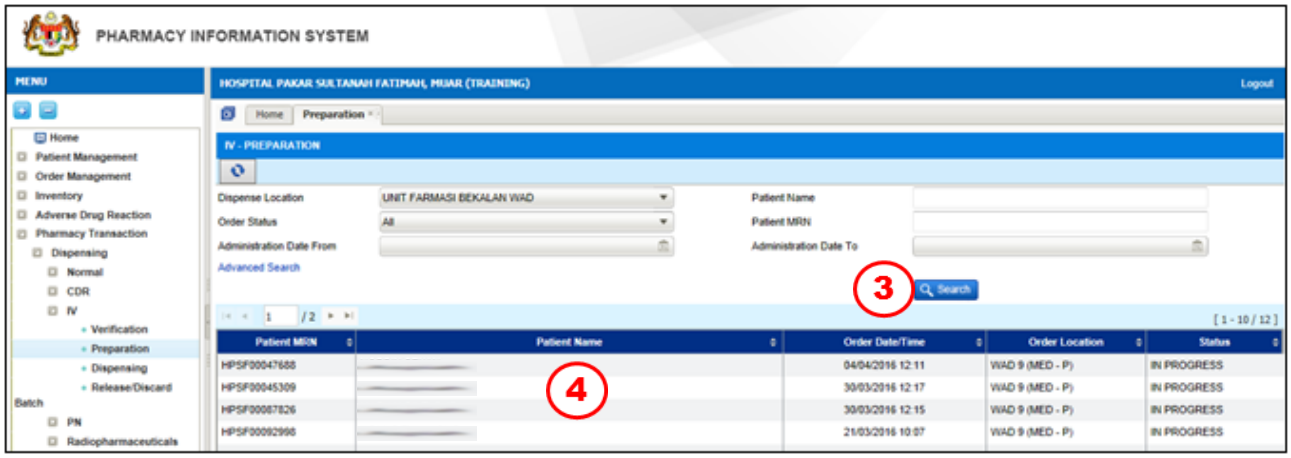


Figure 3.2-3 Preparation Listing Screen

STEP 3

Click on the Search button to search for patient

STEP 4

Double click on the selected patient

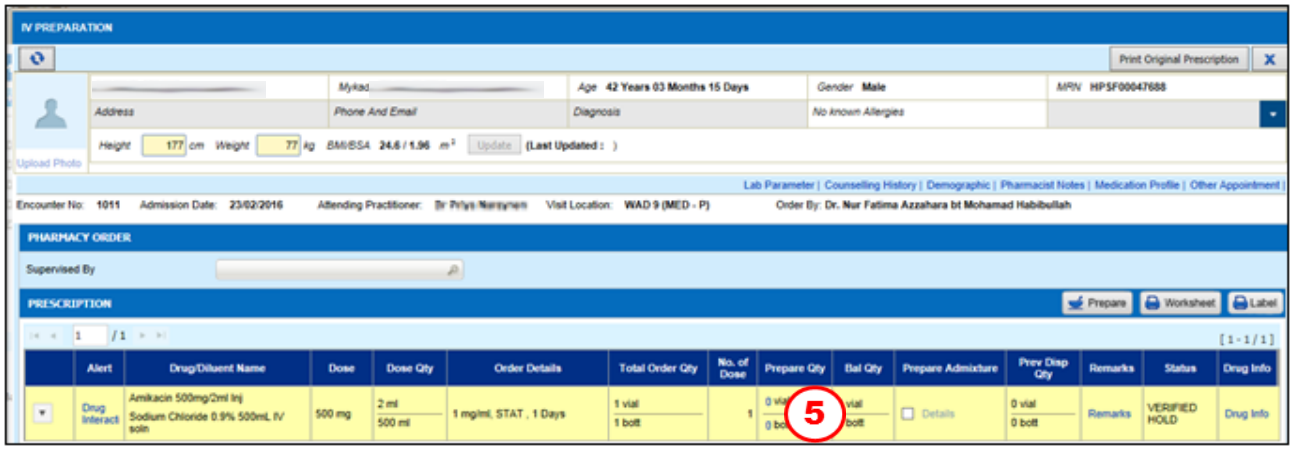


Figure 3.2-4 Prescription Listing Screen

Note

- ***Dose Qty*** *column will be automatically calculated based on drug and diluent volume.*
- ***Total Order Qty*** *is the total no. of drugs needed for preparation.*
- ***No of Dose*** *is no of dose(s) to be prepared.*

STEP 5

Click on ***Prepare Qty*** "0" hyperlink to perform the allocation from displayed window as show in Figure 3.2-5

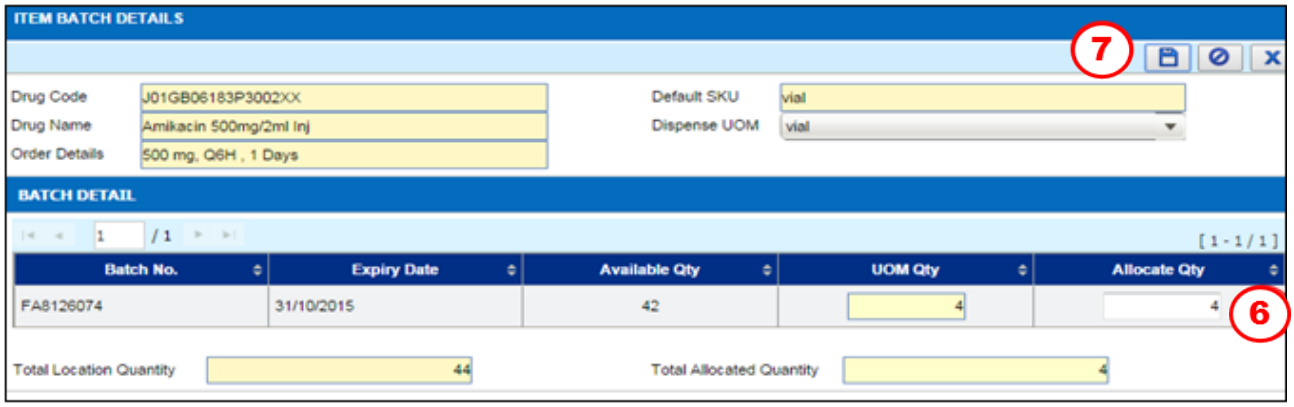


Figure 3.2-5 Allocation Screen

STEP 6
Click on selected Batch and enter ***Allocate Qty***

STEP 7

Click on the button to proceed with allocation

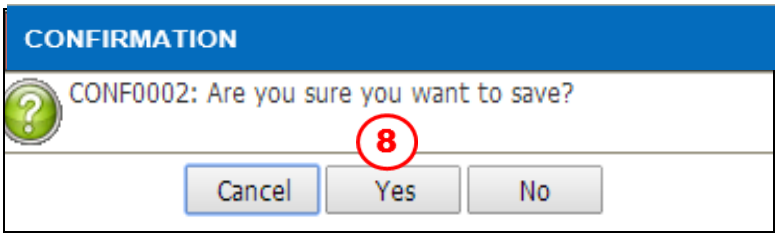
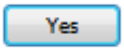


Figure 3.2-6 Preparation Screen

STEP 8

Click on the  button to save and close the window

STEP 9
Select on the ☑ ***Details*** checkbox on ***Prepare Admixture*** column

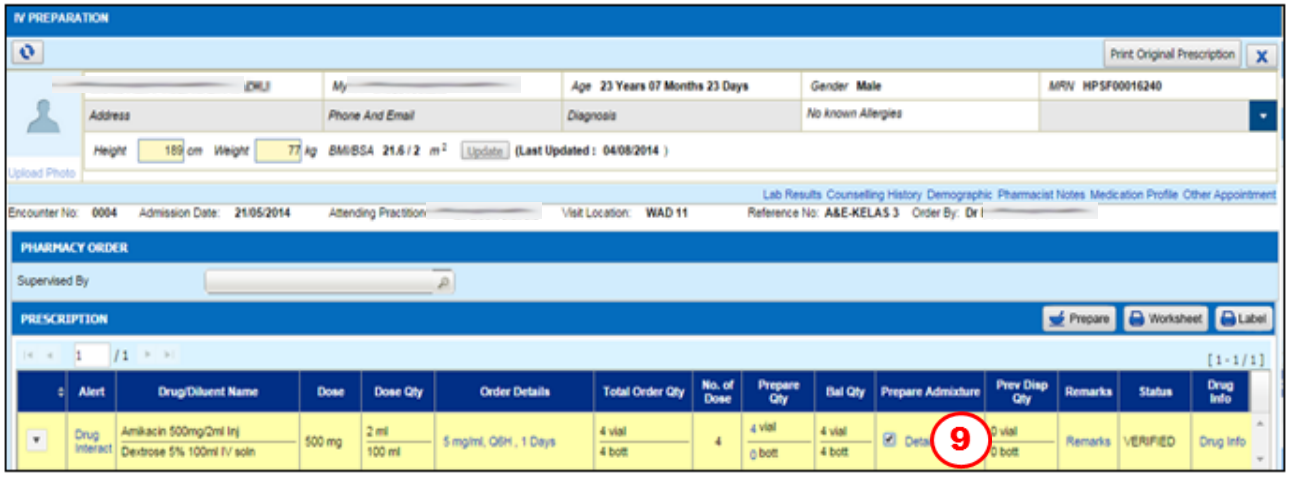


Figure 3.2-7 Preparation Listing Screen

Note
After selecting the ☑ ***Details*** *checkbox a pop-up window will appear as show in Figure 3.2.8.*

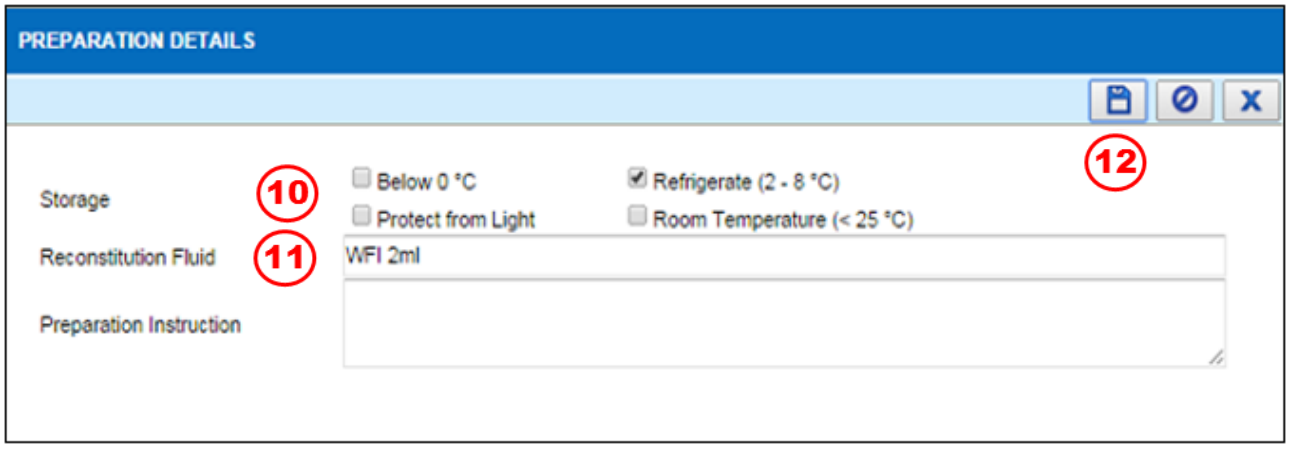


Figure 3.2-8 Preparation Details Screen

STEP 10
Select the applicable ☑ ***Storage*** checkboxes
BELOW/REFRIGERATE/PROTECTED FROM LIGHT **OR** ROOM TEMPERATURE

STEP 11
Enter ***Reconstitution Fluid*** & ***Preparation Instruction*** if applicable

STEP 12
Click on the 💾 button to save record

Note

- *Storage condition and reconstitution fluid value will be defaulted as setup in Drug Master (if any).*
- *Preparation Instruction also can default in Drug Master*

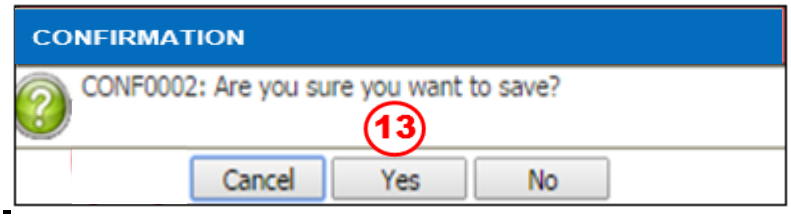


Figure 3.2-9 Preparation Details Screen

STEP 13

Click on Yes button to confirm saving of preparation details

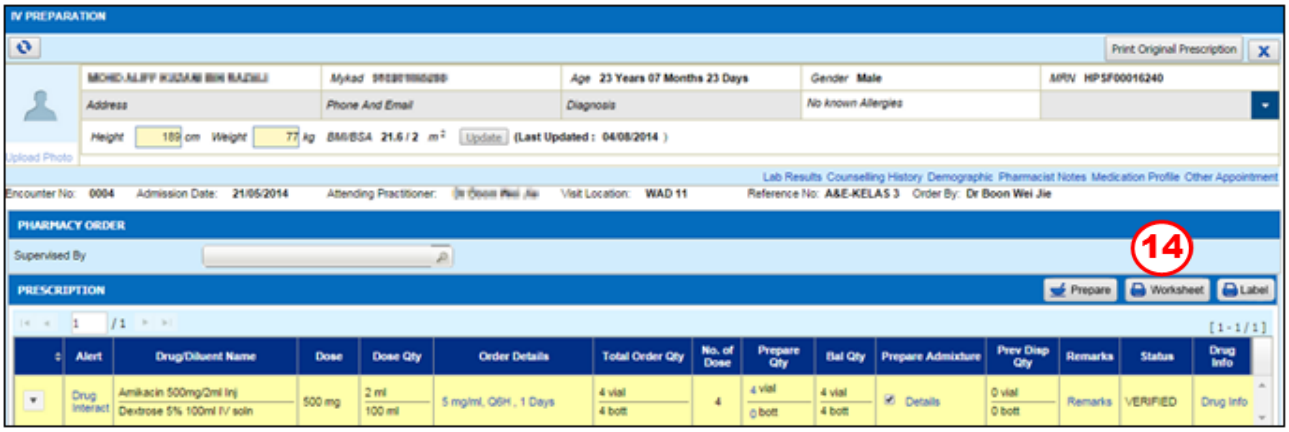


Figure 3.2-10 Preparation Listing Screen

STEP 14

Click on the Worksheet button to view and print

IV WORKSHEET

MINISTRY OF HEALTH

Hospital Pakar Sultanah Fatimah, Muar

Date of preparation : 24/09/2014 **Worksheet Id:** 14-09-0003

MRN	HPSF00016240	**Name**	MOHD ALIFF KUZAMI BIN RAZALI
ID No	910201065269	**Rx. No.**	WAD 30000015985
Order Location	WAD 11	**Ordered By**	Dr Boon Wei Jie
Order Date	19/09/2014		

No	ROA	Preparation Name	Material Used							Storage
			Ingredient Name	Dose	Dose Volume	No of Dose	Total Qty	Preparation Qty	Batch No	Expiry Date	
1	IV	Amikacin 5 mg/ml	Amikacin 500mg/2ml Inj	500 mg	2 ml	4	8 ml	4 vial	FA8126074	31/10/2015	Refrigerate (2 - 8 °C)
			WFI 2ml								
			Dextrose 5% 100ml IV soln		100 ml		400 ml				

Instruction: Please Refer to SOP

Reference:

Worksheet generated by	Worksheet & label checked	Prepared by	Final Product Checked by	Supervised by
Noraini bt Saari				
Date: 24/09/2014	Date:	Date:	Date:	Date: 24/09/2014

Figure 3.2-11 Worksheet

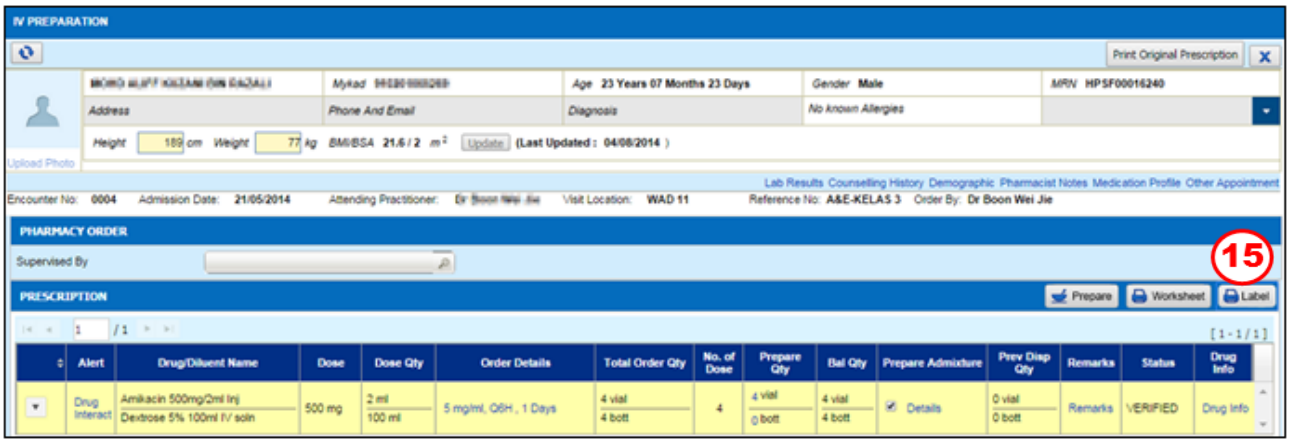


Figure 3.2-12 Preparation Listing Screen

STEP 15

Click on Label button and a window will display as show in Figure 3.2-13

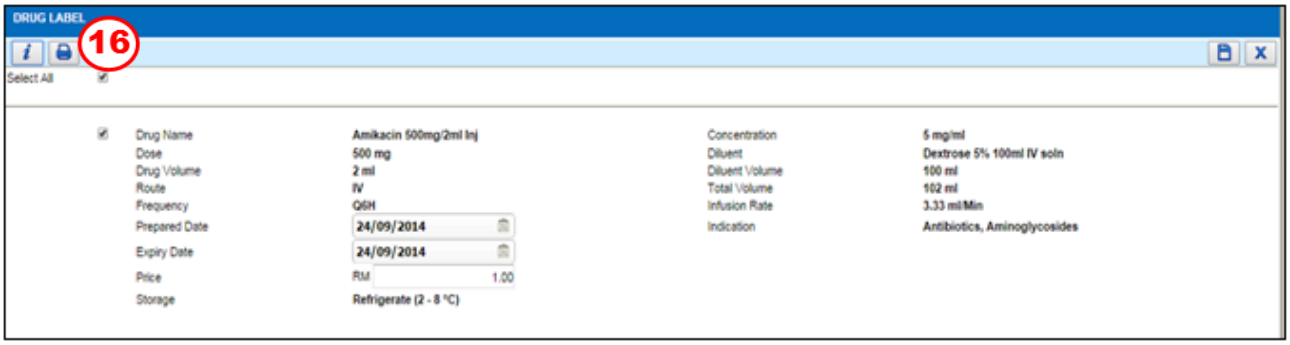


Figure 3.2-13 Drug label

STEP 16

Click on the button to print drug label

Note

Select All *checkbox allow users to print all drug labels in the selected prescription.*

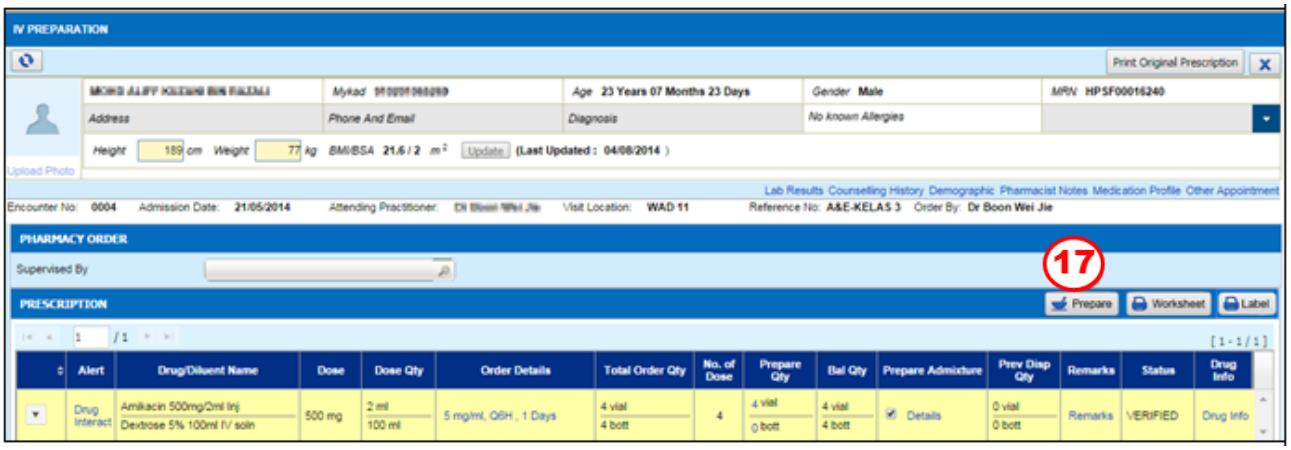


Figure 3.2-14 Preparation Screen

STEP 17

Click on the Prepare button to proceed with preparation

Note

After allocating the quantity, ***Prepare Qty*** *column will retrieve the reserved quantity from item batch.*

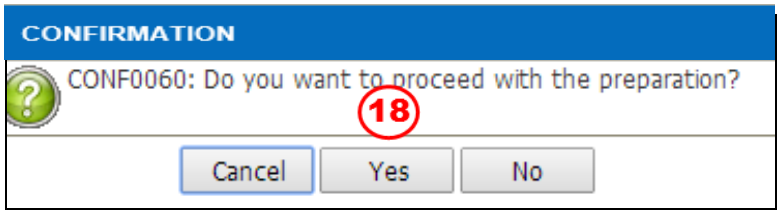


Figure 3.2-15 Preparation Screen

STEP 18

Click on the Yes button to proceed with dispensing

3.3 IV Admixture Dispensing

This function allows user to record dispensing, to hold, resume and reprint drug label

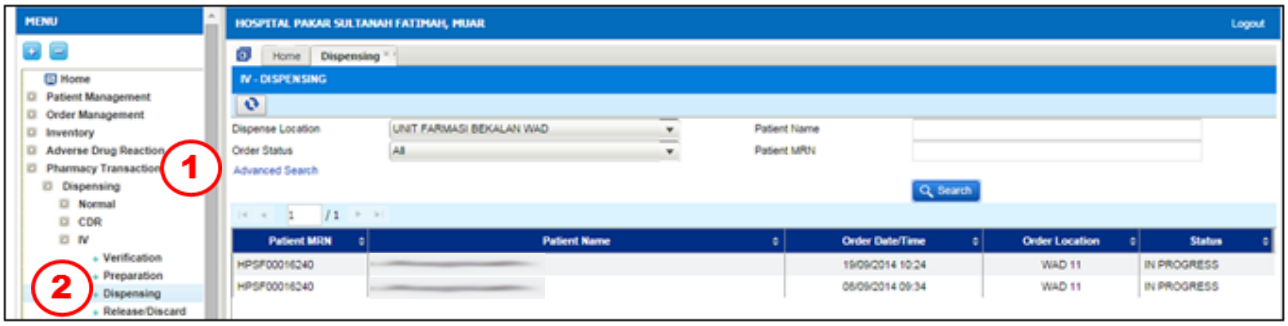


Figure 3.3-1 Dispensing Listing Screen

STEP 1
Click on ‘Pharmacy Transaction’ menu followed by ‘ Dispensing’ and select ‘IV’ sub-menu

STEP 2
Click on ‘Dispensing’ sub-menu

Note
Various search criteria are provided as below :

a) Basic search
b) Advance search

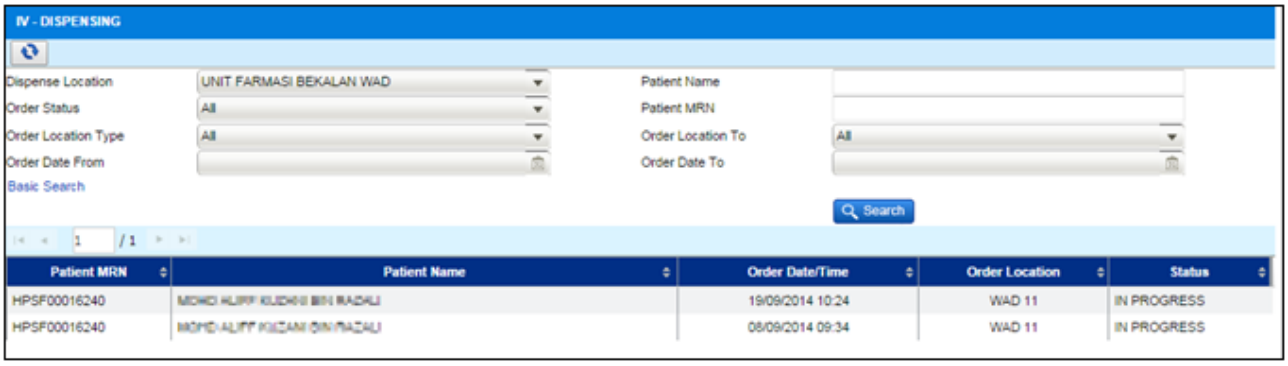


Figure 3.3-2 Dispensing Listing Screen

Basic Search			
No	**Field**	**Description**	**Remark**
a)	Dispense Location	Dispensing location. (It will list down all active locations)	Able to filter and search patient name by dispensing location
b)	Order Status	All Discharge Medications New Orders	

		Outsourced Orders	
c)	Patient Name	Patient Name	Allow to search by full or partial patient name
d)	Patient MRN	Patient Medical Record Number	Search option: • Type the MRN either in full or partially: *Example : HPSF00001234 or "1234"*
Advance Search			
e)	Order Location Type	- Order location type (It will list down all active location types)	Able to filter and search patient name by order location type
f)	Order Date from	Order confirmed date	Allow to search by start date of order created
g)	Order Location To	It will list down all active location	Able to filter and search patient name by order location
h)	Order Date To	Order confirmed date	Allow to search by selected duration of order created

Table 3.3-1

Note
Search results of patient record list will display:

- *Patient MRN*
- *Patient Name*
- *Order Date*
- *Order Location*
- *Status*

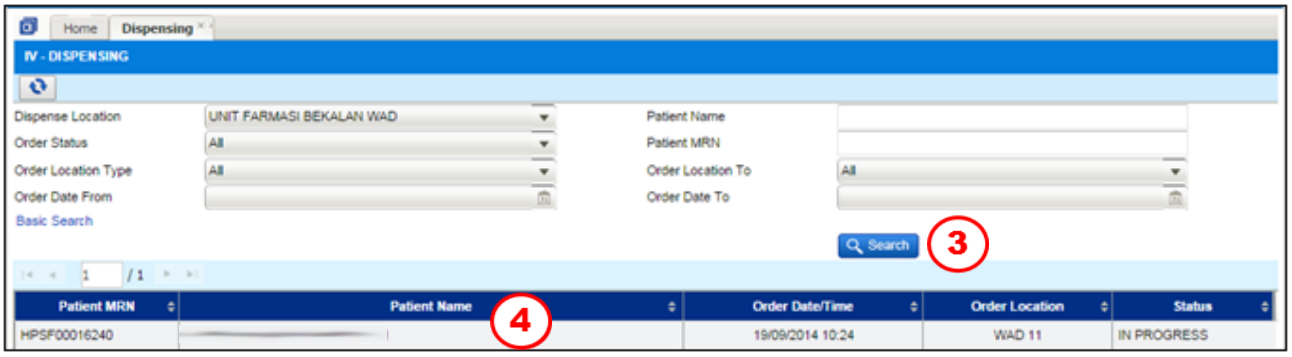


Figure 3.3-3 Dispensing Listing Screen

STEP 3

Click on the Search button to search for patient

STEP 4

Double click on the selected patient

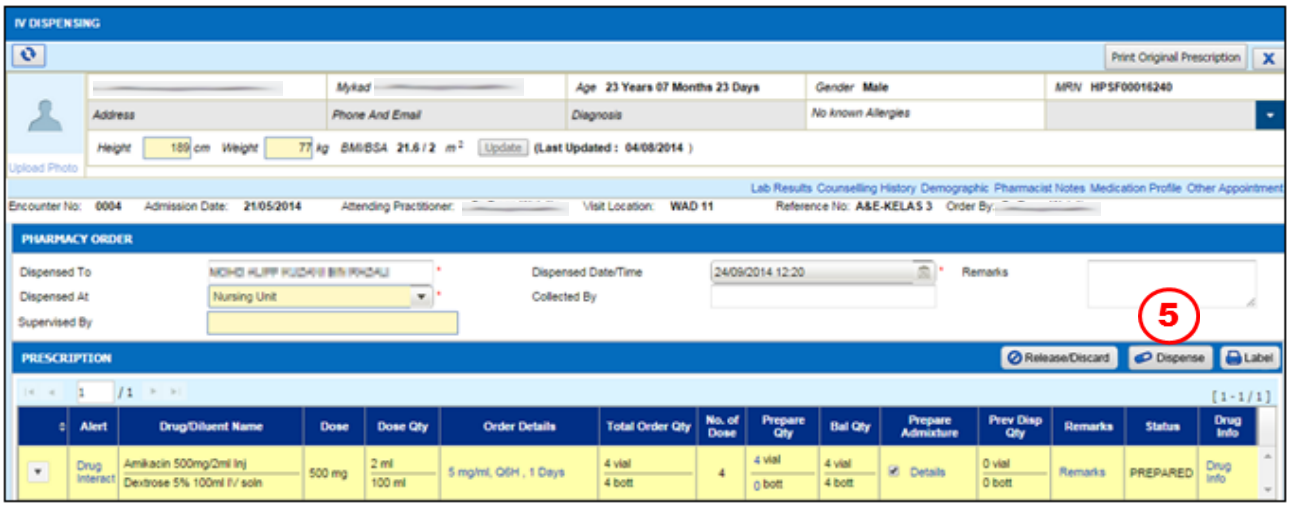


Figure 3.3-4 Dispensing Screen

STEP 5

Click on the Dispense button and system will open a new window as show in Figure 3.3-5

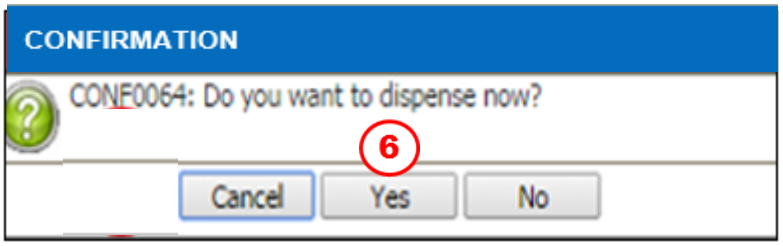


Figure 3.3-5 CONFIRMATION SCREEN

STEP 6

Click on the Yes button to dispense as Figure 3.3-5

Note

User may record the collectors name. Example the nurse in charge on the day.

3.4 IV Discard Batch

This function is used by the pharmacist to discard the IV admixture that has been prepared at the preparation stage. The drug and diluents quantity will be deducted from the inventory.

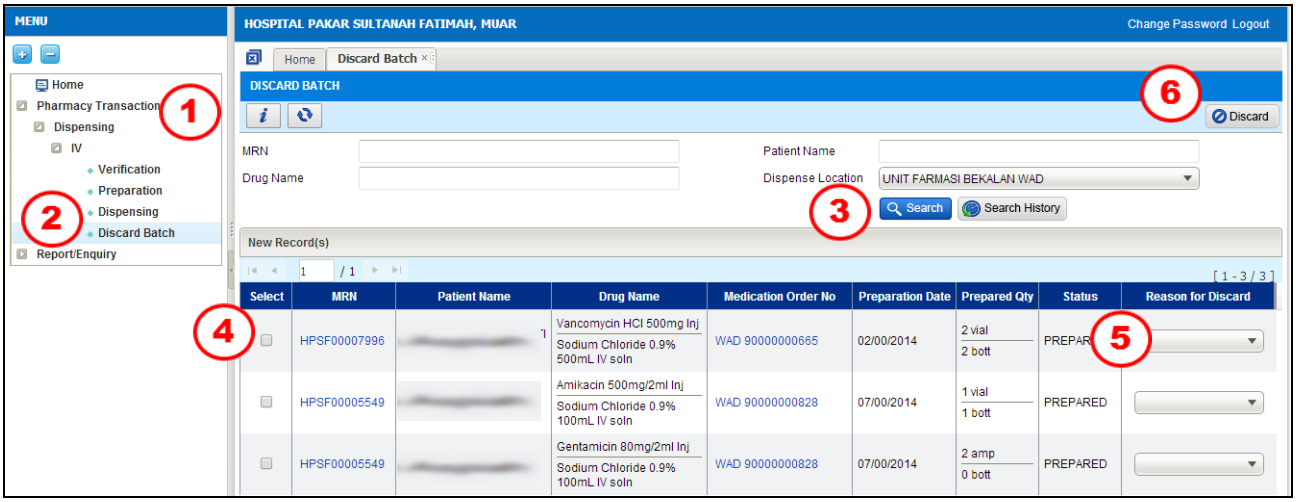


Figure 3.4-1 Discard Batch screen

STEP 1
Click on 'Pharmacy Transaction' menu followed by ' Dispensing' and select 'IV' sub-menu

STEP 2
Click on 'Discard Batch' sub-menu

Note
Various search criteriaare is provided as below

No	Field	Description	Remark
a	MRN	Patient Medical Record Number	Search option: • Type the MRN either in full or partially: *Example : HPSF00001234 or "1234"*
b	Patient Name	Patient Name	Allow to search by t full or partial patient name
c	Drug Name	Drug Name	Generic name
d	Dispense Location	Dispensing location. (It will list down all active locations)	Able to filter and search patient name by dispensing location

Table 3.4-1

Note
Search results of patient record list will display:

- *Select*
- *MRN*
- *Patient Name*
- *Drug Name*
- *Medication Order No*
- *Preparation Date*
- *Prepared Qty*
- *Status*
- *Reason For Discard*

STEP 3

Click on the

button

STEP 4

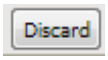
Select checkbox to discard from the listed drug

STEP 5

Select Reason for Discard from the dropdown box options :- Uncollected

- Wrong Allocation
- Change of Regimen
- Patient Refused
- Intervention
- Faulty Product

STEP 6

Click on the 

button to proceed with discard

Note
Once the drug is already discard, it will display back in the Preparation screen for re-allocation of a new batch quantity.

4.0 Acronyms

Abbreviation	Definition
MOH	Ministry Of Health
PhIS	Pharmacy Information System
CPS	Clinical Pharmacy System
MRN	Medical Record Number
IV	Intravenous
HQ	Headquarters
INJ	Injection
QTY	Quantity
LAB	Laboratory

5.0 Links to Clinical Modules

No	*Module*	*PDF Links*	*No*	*Module*	*PDF Links*
1	*Inpatient*	*Click Here*	*12*	*CDR Dispensing*	*Click Here*
2	*CDR Order*	*Click Here*	*13*	*Methadone Dispensing*	*Click Here*
3	*TDM Order*	*Click Here*	*14*	*PN Dispensing*	*Click Here*
4	*PN Order*	*Click Here*	*15*	*Order Management*	*Click Here*
5	*IV Order*	*Click Here*	*16*	*Patient Management*	*Click Here*
6	*Prepacking*	*Click Here*	*17*	*Radiopharma*	*Click Here*
7	*Galenical*	*Click Here*	*18*	*Outpatient*	*Click Here*
8	*MTAC*	*Click Here*	*19*	*Special Drug Request*	*Click Here*
9	*ADR & DAC*	*Click Here*	*20*	*MAR*	*Click Here*
10	*Medication Counselling*	*Click Here*	*21*	*DICE*	*Click Here*
11	*Ward Pharmacy*	*Click Here*	*22*		