



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

Full Based User Manual IV Dispensing

Version	: 7th Edition
Document ID	: FB_U. MANUAL_IV DISPENSING



PhIS & CPS Project
User Manual – IV Dispensing



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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:

- Acknowledgement
- Screening & Verification
- Preparation
- Dispensing
- Release/Discard Medication

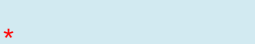
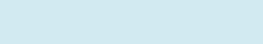
1.3 Organised Sections

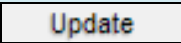
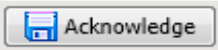
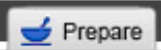
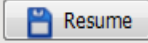
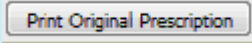
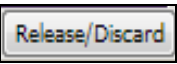
These are the sections within this document:

- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Order Management-IV Admixture
- Section 4 : Acronyms
- Section 5 : Links to Clinical Modules

2.0 Application Standard Features

2.1 PhIS Legend

Standard Legend			
	Login to PhIS		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 Report From PDF file to Excel file		OK Button
	Yes Button		No Button
	Radio Button		Checkbox
	System Automatic Generate Record No.		Automatically Display/Retrieve Box
	Reset Login Screen		Show Help
	Display Home Tab		Search Record
	Cancel		Dropdown Box
	Search Icon		Mandatory Field
	Edit Record		Empty Text Box
	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 IV dispensing module includes implementing safe, organized, and efficient drug-dispensing systems is essential for controlling costs and assuring that the medical prescription is safely followed as requested within the appropriate deadline. An appropriate dispensing system is an important all for the prevention or reduction of medication errors by helping to minimize dispensing error opportunities in a pharmacy. At present there are various types of dispensing systems for medical prescriptions within a hospital

User Group

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

Functional Diagram

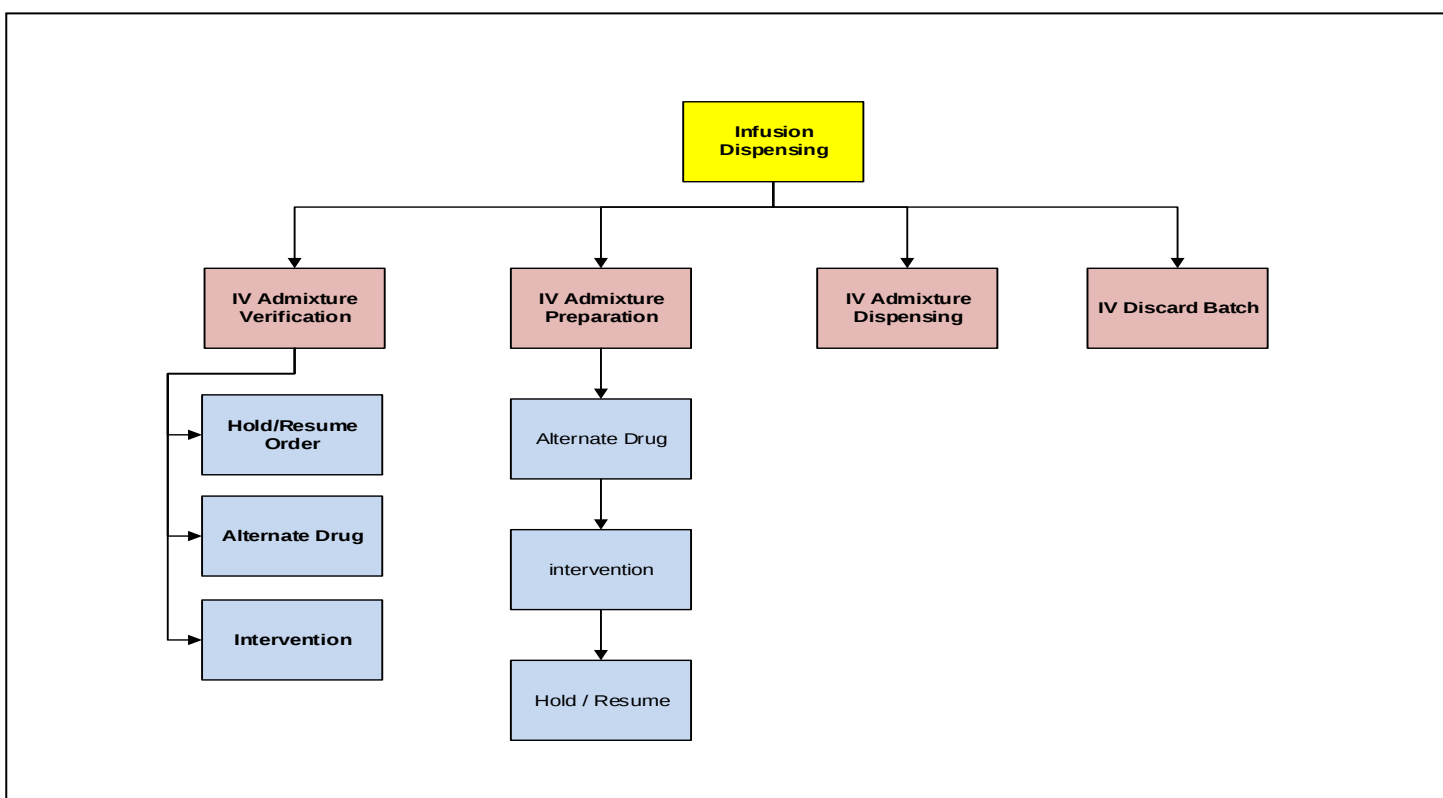


Figure 3.0-1

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. Pharmacist access the system data directly with no need to send files or manual drug labeling

- **Dispensing**

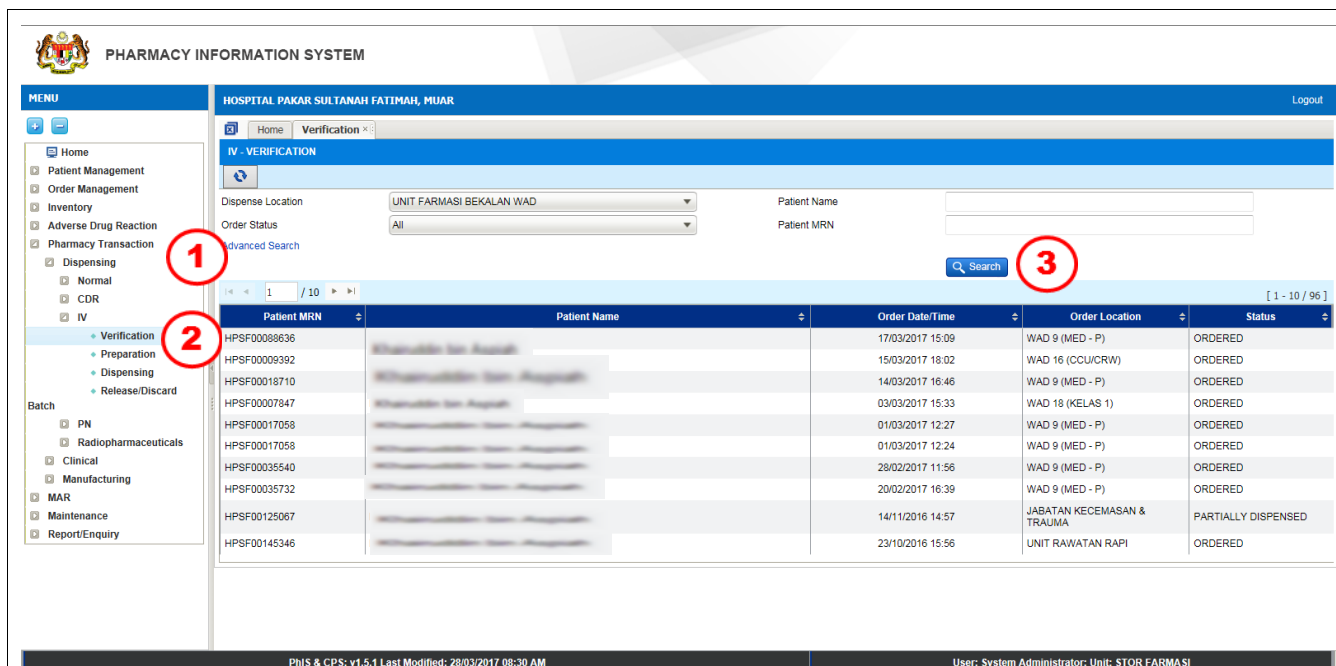
The prescription and the dispensing report are made in the system which is integrate with the inventory system.

- **IV Release / Discard Batch**

The function allows the user to release or discard the drug reserved for the patient from inventory. User able to release or discard the prepared drug when unable to dispense to patient due to several reasons and pharmacist to perform the preparation again after release or discard.

3.1 IV Admixture Verification

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



PHARMACY INFORMATION SYSTEM

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

IV - VERIFICATION

Dispense Location: UNIT FARMASI BEKALAN WAD Patient Name:

Order Status: All Patient MRN:

Search

Patient MRN	Patient Name	Order Date/Time	Order Location	Status
HPSF00088636	[REDACTED]	17/03/2017 15:09	WAD 9 (MED - P)	ORDERED
HPSF0009392	[REDACTED]	15/03/2017 18:02	WAD 16 (CCU/CRW)	ORDERED
HPSF00018710	[REDACTED]	14/03/2017 16:46	WAD 9 (MED - P)	ORDERED
HPSF0007847	[REDACTED]	03/03/2017 15:33	WAD 18 (KELAS 1)	ORDERED
HPSF00017058	[REDACTED]	01/03/2017 12:27	WAD 9 (MED - P)	ORDERED
HPSF00017058	[REDACTED]	01/03/2017 12:24	WAD 9 (MED - P)	ORDERED
HPSF00035540	[REDACTED]	28/02/2017 11:56	WAD 9 (MED - P)	ORDERED
HPSF00035732	[REDACTED]	20/02/2017 16:39	WAD 9 (MED - P)	ORDERED
HPSF00125067	[REDACTED]	14/11/2016 14:57	JABATAN KECEMASAN & TRAUMA	PARTIALLY DISPENSED
HPSF00145346	[REDACTED]	23/10/2016 15:56	UNIT RAWATAN RAPI	ORDERED

PhIS & CPS: v1.5.1 Last Modified: 28/03/2017 08:30 AM User: System Administrator; Unit: STOR FARMASI

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

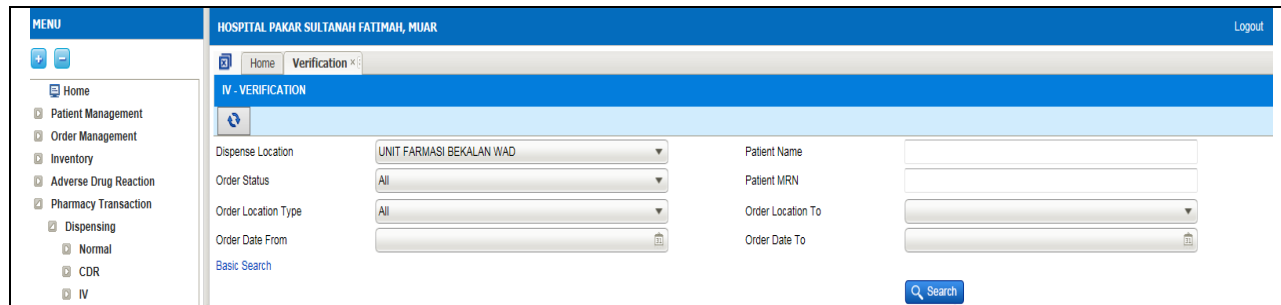
STEP 3

Click on the  button to search for patient

Note

Various search criteria are provided as below:

- Basic search
- Advance search



The screenshot shows the 'IV - VERIFICATION' screen in the PhIS system. On the left is a 'MENU' sidebar with options: Home, Patient Management, Order Management, Inventory, Adverse Drug Reaction, Pharmacy Transaction, Dispensing (selected), Normal, CDR, and IV. The main header is 'HOSPITAL PAKAR SULTANAH FATIMAH, MUAR' with a 'Logout' link. Below the header, there's a 'Home' button and a 'Verification' tab. The 'IV - VERIFICATION' section contains several search filters: 'Dispense Location' (UNIT FARMASI BEKALAN WAD), 'Order Status' (All), 'Order Location Type' (All), 'Order Date From' (calendar icon), 'Patient Name' (text input), 'Patient MRN' (text input), 'Order Location To' (dropdown), and 'Order Date To' (calendar icon). A 'Basic Search' link is below the filters, and a 'Search' button is at the bottom right.

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 - 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: <i>Example : HPSF00001234 or "1234"</i>
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

Patient MRN	Patient Name	Order Date/Time	Order Location	Status
HPSF00088636	[REDACTED]	17/03/2017 15:09	WAD 9 (MED - P)	ORDERED
HPSF00009392	[REDACTED]	15/03/2017 18:02	WAD 16 (CCU/CRW)	ORDERED
HPSF00018710	[REDACTED]	14/03/2017 16:46	WAD 9 (MED - P)	ORDERED
HPSF00007847	[REDACTED]	03/03/2017 15:33	WAD 18 (KELAS 1)	ORDERED
HPSF00017058	[REDACTED]	01/03/2017 12:27	WAD 9 (MED - P)	ORDERED
HPSF00017058	[REDACTED]	01/03/2017 12:24	WAD 9 (MED - P)	ORDERED
HPSF00035540	[REDACTED]	28/02/2017 11:56	WAD 9 (MED - P)	ORDERED
HPSF00035732	[REDACTED]	20/02/2017 16:39	WAD 9 (MED - P)	ORDERED
HPSF00125067	[REDACTED]	14/11/2016 14:57	JABATAN KECEMASAN & TRAUMA	PARTIALLY DISPENSED
HPSF00145346	[REDACTED]	23/10/2016 15:56	UNIT RAWATAN RAPI	ORDERED

Figure 3.1-3 Verification Listing Screen

STEP 4

Double click on the selected patient



Passport

Age 43 Years 02 Months 28 Days

Gender Male

MRN HPSF00018710

Address

Phone And Email

Diagnosis

No known Allergies

Height cm Weight kg BMI/BSA 0/0 m²

Update (Last Updated :) Nationality : Bukan Warganegara

Lab Parameter | Counseling History | Demographic | Pharmacist Notes | Medication Profile | Other Appointment

Encounter No: 0014 Admission Date: 14/03/2017 Attending Practitioner: Visit Location: WAD 9 (MED - P) Order By: Dr Priya Naraynen

PRESCRIPTION

Verify

Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	Remarks	Status	Drug Info
Drug Interaction	Acyclovir 250mg/10ml Injection Sodium Chloride 0.9% 500mL IV soln	250 mg	10 ml 500 ml	0.5 mg/ml, Q8H, 1 Days	3 vial 3 bott	Remarks	ORDERED (PA)	Drug Info

Figure 3.1-4 Verification Listing Screen

STEP 5

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

Note

- User have the option to .
- Double click on the selected drug to view order details.

CONFIRMATION



CONF0062: This order has been successfully updated. Do you want to proceed with the verification?

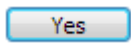
Cancel

Yes

No

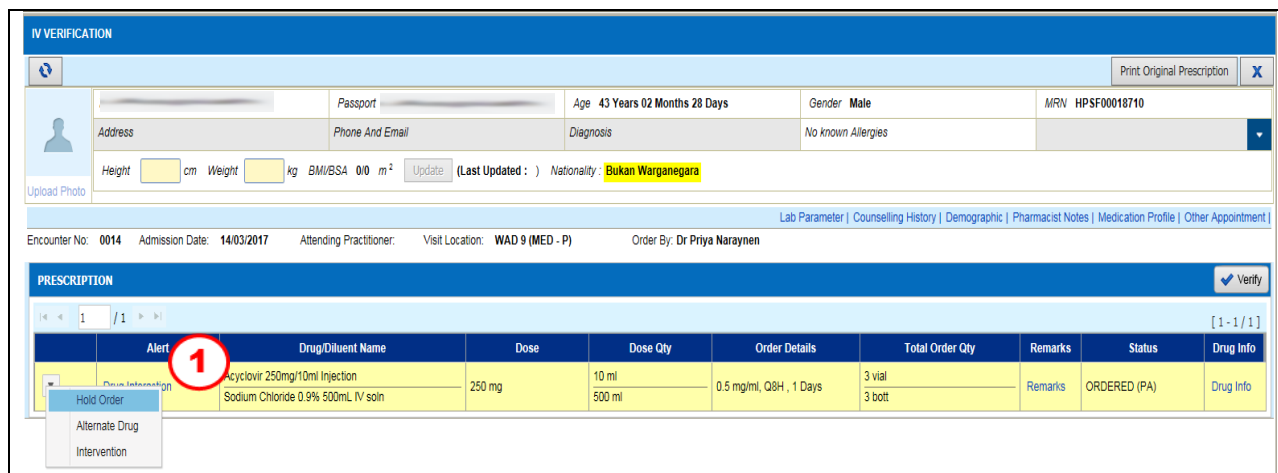
Figure 3.1-5 Verification Alert Message

STEP 6

Click on the  button to proceed with verification

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.



Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	Remarks	Status	Drug Info
Hold Order	Acyclovir 250mg/10ml Injection	250 mg	10 ml	0.5 mg/ml, Q8H, 1 Days	3 vial	Remarks	ORDERED (PA)	Drug Info
	Sodium Chloride 0.9% 500mL IV soln		500 ml		3 bott			

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**

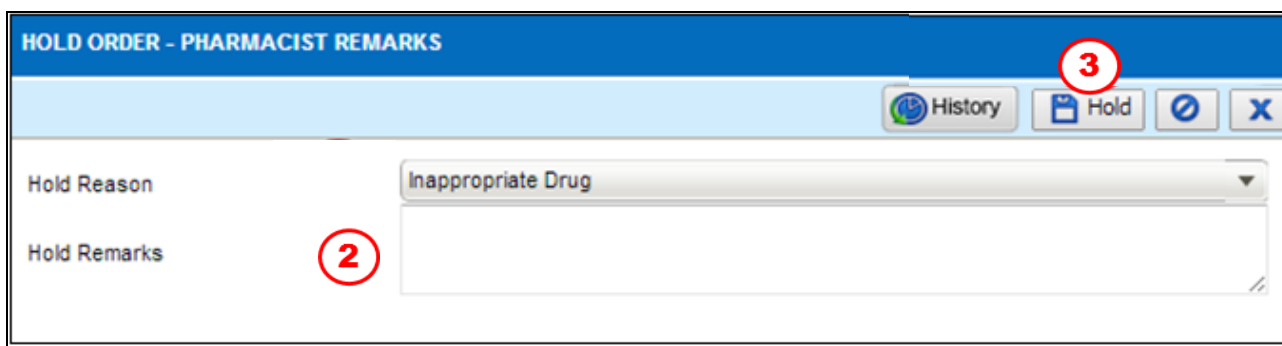


Figure 3.1.1-2 Hold Order Screen

STEP 2

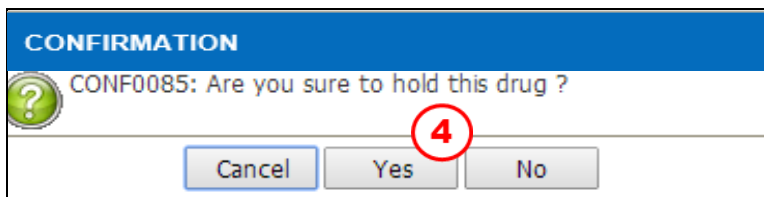
Select **Hold Reason** from drop down box:

- 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  button to proceed with hold transaction



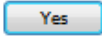
CONFIRMATION

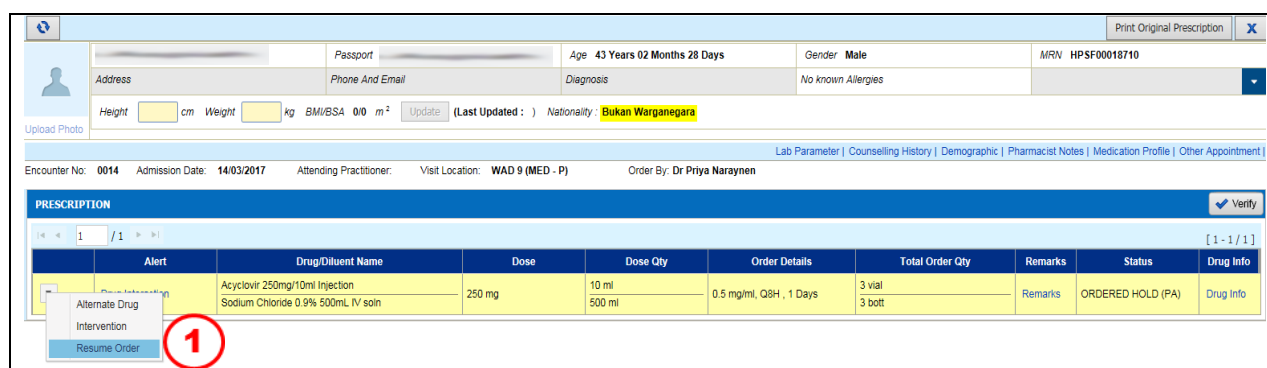
CONF0085: Are you sure to hold this drug ?

Buttons: Cancel, Yes (circled with red 4), No

Figure 3.1.1-3 Hold Order Screen

STEP 4

Click on the  button to confirm the hold order



Encounter No: 0014 Admission Date: 14/03/2017 Attending Practitioner: Visit Location: WAD 9 (MED - P) Order By: Dr Priya Naraynen

Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	Remarks	Status	Drug Info
Alternate Drug Intervention (circled with red 1)	Acyclovir 250mg/10ml Injection	250 mg	10 ml	0.5 mg/ml, Q8H, 1 Days	3 vial	Remarks	ORDERED HOLD (PA)	Drug Info
	Sodium Chloride 0.9% 500mL IV soln		500 ml		3 bott			

Figure 3.1.1-4 Prescription Listing Screen

Resume Order

STEP 1

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

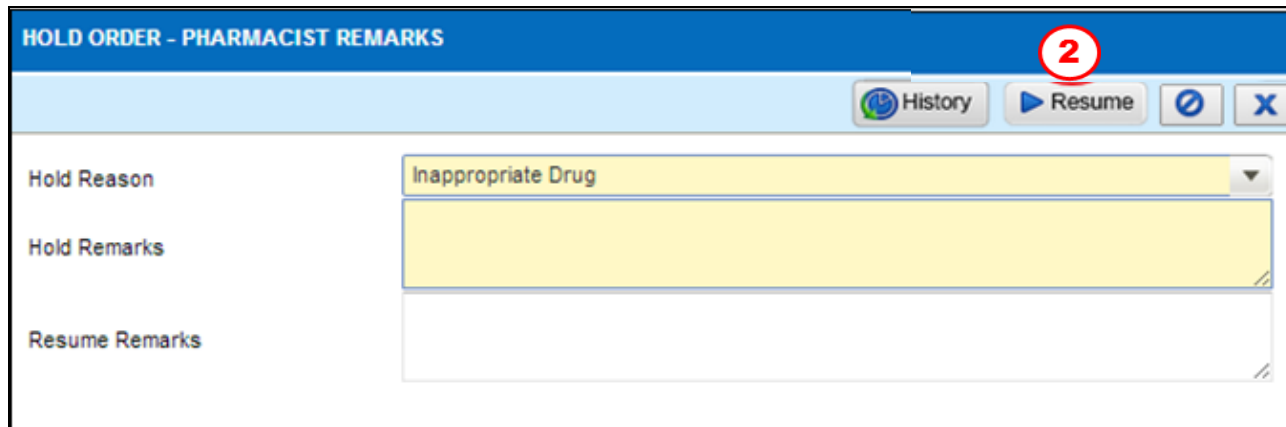
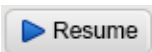


Figure 3.1.1-5 Hold Order Screen

STEP 2

Click on the  button to resume hold order

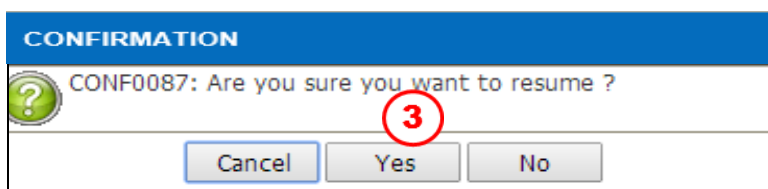


Figure 3.1.1-6 Hold Order Screen

STEP 3

Click on the  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.

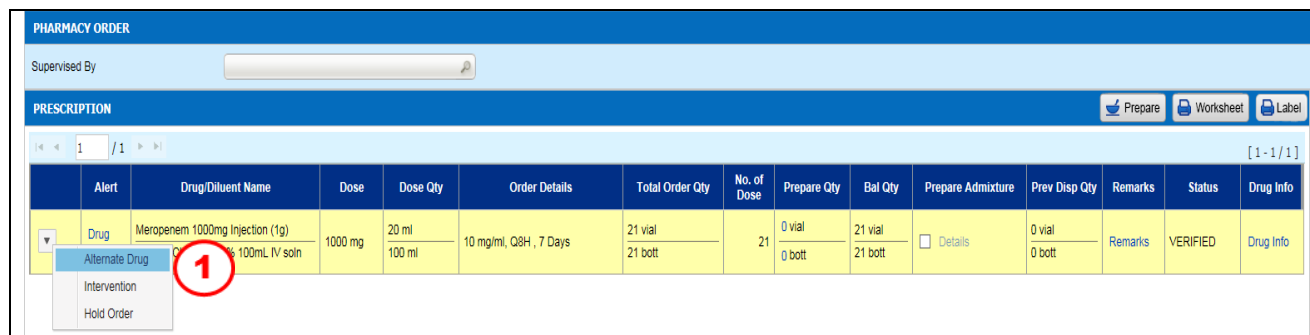


Figure 3.1.2-1 Prescription Listing Screen

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.

ALTERNATE DRUG DETAILS

Location

UNIT FARMASI PENGELUARAN FARMASEUTIKAL

Dosage Form

Parenteral Solution

Route

IV

Order Details

500 mg, Single Dose , 1 Days

Ordered Drug Code

J01GB06183P3002XX

Ordered Drug Description

Amikacin 500mg/2ml Injection

Alternate Drug Name

Amikacin 250mg/2ml Injection

Alternate Drug Order Qty (Total Order Qty: 2 vial)

0 vial

BATCH DETAIL

No	Drug Name	Dosage Form	Route	Batch	Expiry Date	Available Qty	Units	Qty to Dispense
1	Amikacin 250mg/2ml Injection	Parenteral Solution	IV	12	23/11/2017	11110	vial	0

DILUENT BATCH DETAIL

Diluent

Sodium Chloride 0.9% 500mL IV soln

Diluent Order Qty (Total Order Qty: 1 bott)

0 bottle

No	Drug Name	Dosage Form	Route	Batch	Expiry Date	Available Qty	Units	Qty to Dispense
1	Sodium Chloride 0.9% 500mL IV soln	Parenteral Solution	IV	11THSC2016	12/07/2020	0	bottle	0
				P3105166	12/07/2020	0	bottle	0
				P3106105	04/05/2021	70	bottle	0

Reason

Remark

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.

ALTERNATE DRUG DETAILS

Location

UNIT FARMASI PENGELUARAN FARMASEUTIKAL

Dosage Form

Parenteral Solution

Route

IV

Order Details

500 mg, Single Dose , 1 Days

Ordered Drug Code

J01GB06183P3002XX

Ordered Drug Description

Amikacin 500mg/2ml Injection

Alternate Drug Name

Amikacin 250mg/2ml Injection

Alternate Drug Order Qty (Total Order Qty: 2 vial)

1 vial

BATCH DETAIL

1 / 1

No	Drug Name	Dosage Form	Route	Batch	Expiry Date	Available Qty	Units	Qty to Dispense
1	Amikacin 250mg/2ml Injection	Parenteral Solution	IV	12	23/11/2017	11110	vial	1

DILUENT BATCH DETAIL

Diluent

Sodium Chloride 0.9% 500mL IV soln

Diluent Order Qty (Total Order Qty: 1 bott)

1 bottle

1 - 5 / 5

No	Drug Name	Dosage Form	Route	Batch	Expiry Date	Available Qty	Units	Qty to Dispense
1	Sodium Chloride 0.9% 500mL IV soln	Parenteral Solution	IV	11THSC2016	12/07/2020	0	bottle	0
				P3105166	12/07/2020	0	bottle	0
				P3106105	04/05/2021	70	bottle	1

Reason

Remark

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

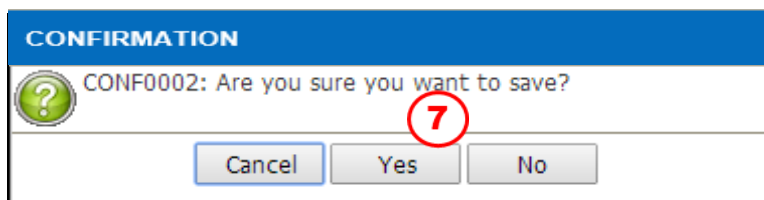


Figure 3.1.2-4 Prescription Listing Screen After Done Alternate

STEP 7

Click on the  button to save record

Note

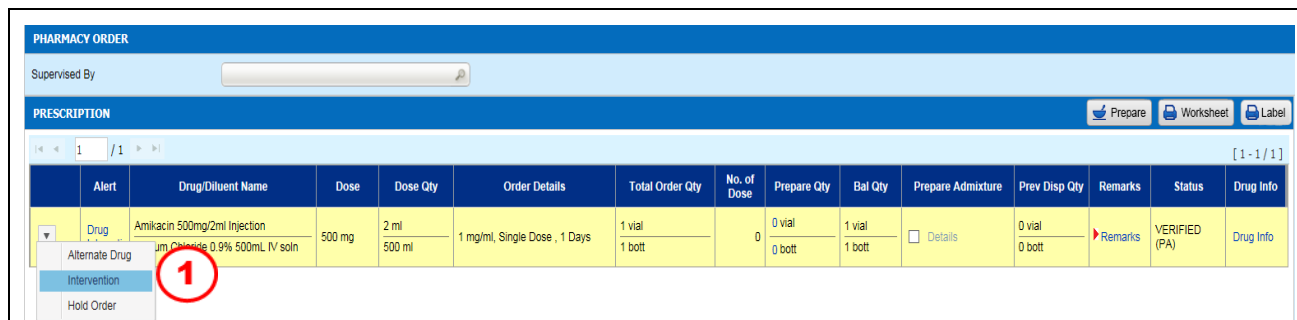
- Value of **Alternate Drug Name** and **Diluent** from dropdown menu will be defined in drug master setup.
- Batch Detail will display the earliest expiration date.
- After completing the alternate drug selected, the drug will change to green colour as shown in figure 3.1.2-5.

PRESCRIPTION														 Prepare  Worksheet  Label	
1 / 1 [1 - 2 / 2]															
Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info		
▼ Drug Interactx	Amikacin 500mg/2ml Injection	500 mg		1 mg/ml, Single Dose, 1 Days	0 vial	0	0 vial	1 vial		0 vial	Remarks	VERIFIED (PA)	Drug Info		
	Sodium Chloride 0.9% 500mL IV soln				0 bott		0 bott	1 bott		0 bott					
	Amikacin 250mg/2ml Injection	4 ml	500 ml		2 vial		1 vial								
	Sodium Chloride 0.9% 500mL IV soln				1 bott		1 bott								

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.



Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info
Drug	Amikacin 500mg/2ml Injection	500 mg	2 ml	1 mg/ml, Single Dose, 1 Days	1 vial	0	0 vial	1 vial	Details	0 vial	Remarks	VERIFIED (PA)	Drug Info

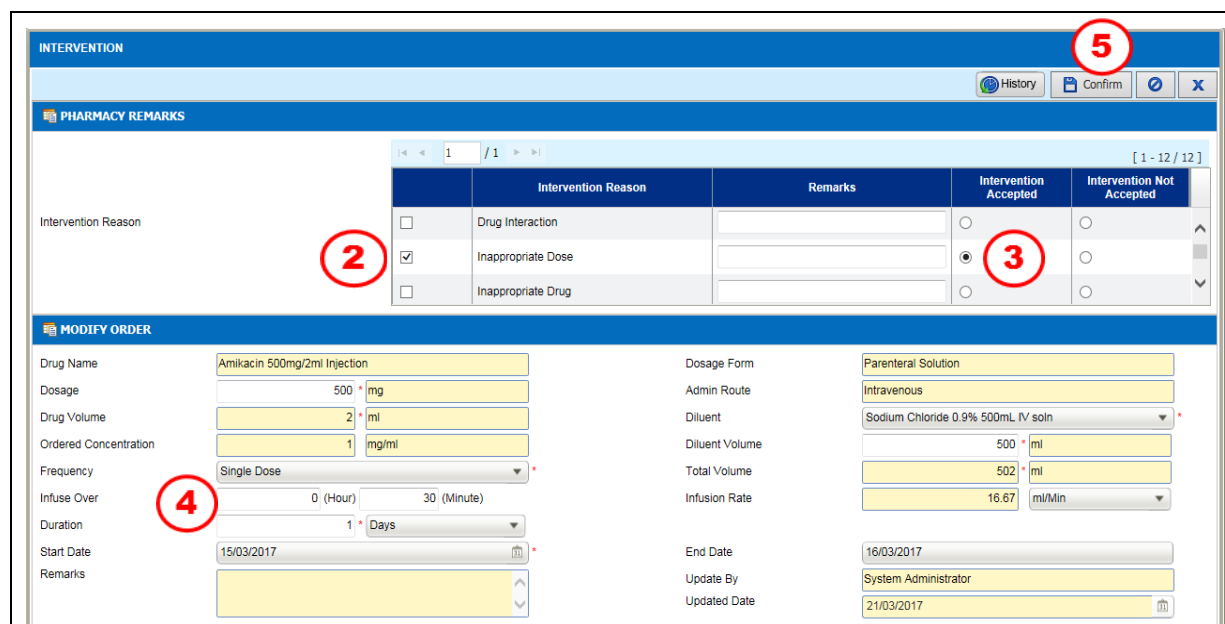
Figure 3.1.3-1 Prescription Listing Screen

Note

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

STEP 1

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



Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐ Drug Interaction		☐	☐
☒ Inappropriate Dose		☒	☐
☐ Inappropriate Drug		☐	☐

MODIFY ORDER

Drug Name: Amikacin 500mg/2ml Injection

Dosage: 500 mg

Drug Volume: 2 ml

Ordered Concentration: 1 mg/ml

Frequency: Single Dose

Infuse Over: 0 (Hour) 30 (Minute)

Duration: 1 Days

Start Date: 15/03/2017

End Date: 16/03/2017

Update By: System Administrator

Updated Date: 21/03/2017

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  button to save the changes

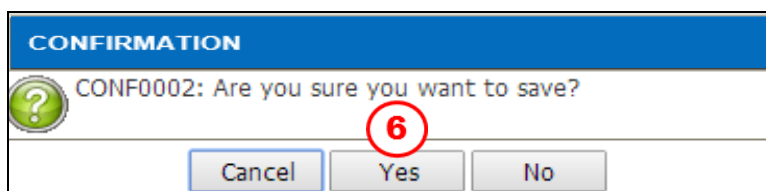


Figure 3.1.3-3 Alert Message

Step 6

Click on the  button to confirm the intervention

PRESCRIPTION														Prepare	Worksheet	Label
1 / 1														[1 - 1 / 1]		
	Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info		
	Drug Interact	Gentamicin 80mg/2ml Injection Sodium Chloride 0.9% 100mL IV soln	100 mg	2.5 ml 100 ml	1 mg/ml, OD (once daily) , 1 Days	2 amp 1 bott	1	0 amp 0 bott	2 amp 1 bott	 Details	0 amp 0 bott	Remarks	VERIFIED	Drug Info		

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

ORIGINAL RX
X

Drug Code: J01GB03183P3003XX

Default SKU: amp

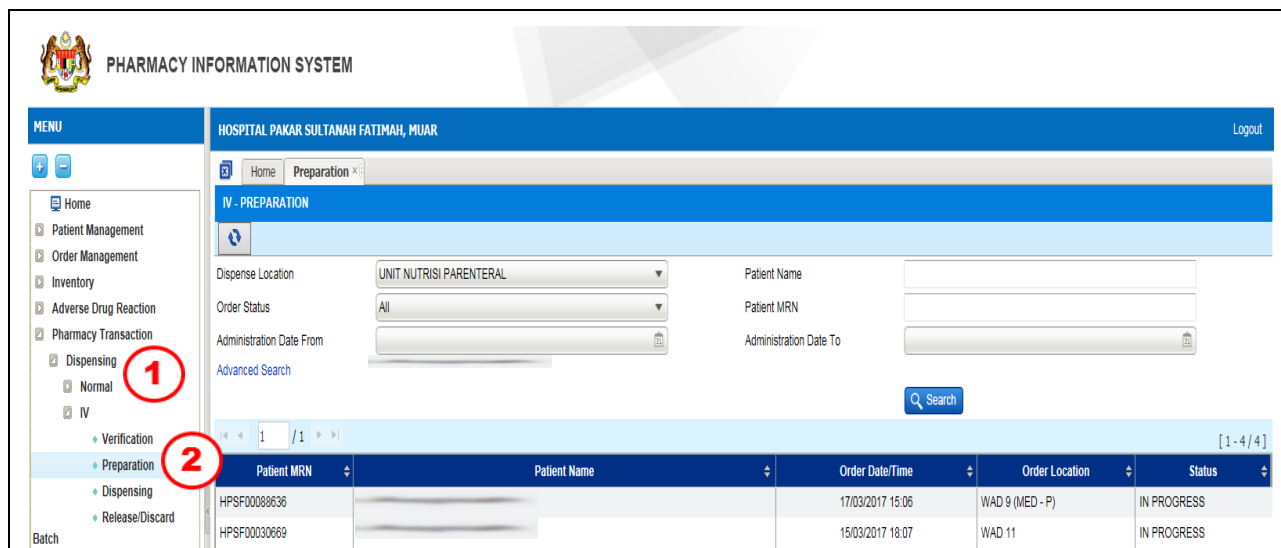
Drug Name: Gentamicin 80mg/2ml Injection

Dose	Frequency	Duration	Start Date	End Date	Intervention Reason	Other Reason	Infuse Over	Diluent	Diluent Volume	Infusion Rate
80 mg	OD	1 Days	17/03/2017	18/03/2017	Contraindication		30 Minutes	Sodium Chloride 0.9% 100mL IV soln	100 ml	3.33 ml/Min
Dose	Frequency	Duration	Start Date	End Date	Infuse Over	Diluent	Diluent Volume	Infusion Rate		
100 mg	OD	1 Days	17/03/2017	18/03/2017	30 Minutes	Sodium Chloride 0.9% 100mL IV soln	100 ml	3.33 ml/Min		

Figure 3.1.3-5 Original Rx Screen

3.2 IV Admixture Preparation

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



PHARMACY INFORMATION SYSTEM

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Logout

Home Preparation

IV - PREPARATION

Dispense Location: UNIT NUTRISI PARENTERAL

Order Status: All

Administration Date From:

Administration Date To:

Advanced Search

Search

Patient MRN	Patient Name	Order Date/Time	Order Location	Status
HPSF00088636		17/03/2017 15:06	WAD 9 (MED - P)	IN PROGRESS
HPSF00030669		15/03/2017 18:07	WAD 11	IN PROGRESS

Figure 3.2-1 Preparation Listing Screen

STEP 1

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

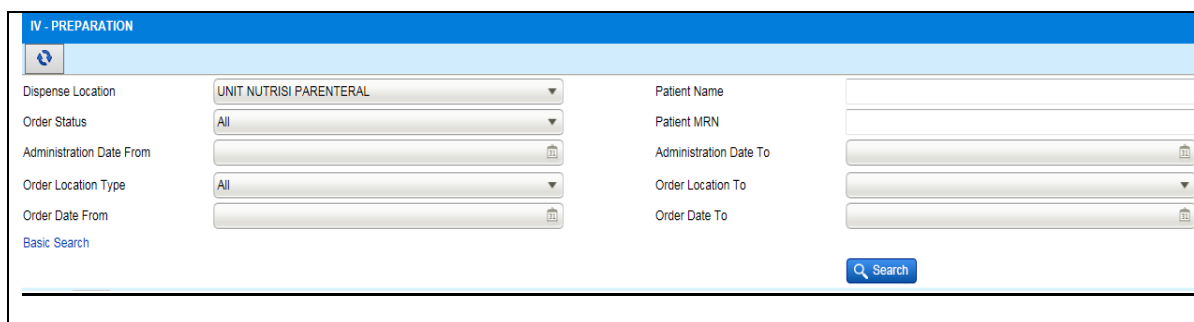
STEP 2

Click on 'Preparation' sub-menu

Note

Various search criteria are provided as below:

- Basic search
- Advance search



IV - PREPARATION

Dispense Location: UNIT NUTRISI PARENTERAL

Order Status: All

Administration Date From:

Administration Date To:

Order Location Type: All

Order Date From:

Order Date To:

Basic Search

Search

Figure 3.2-2 Advance search

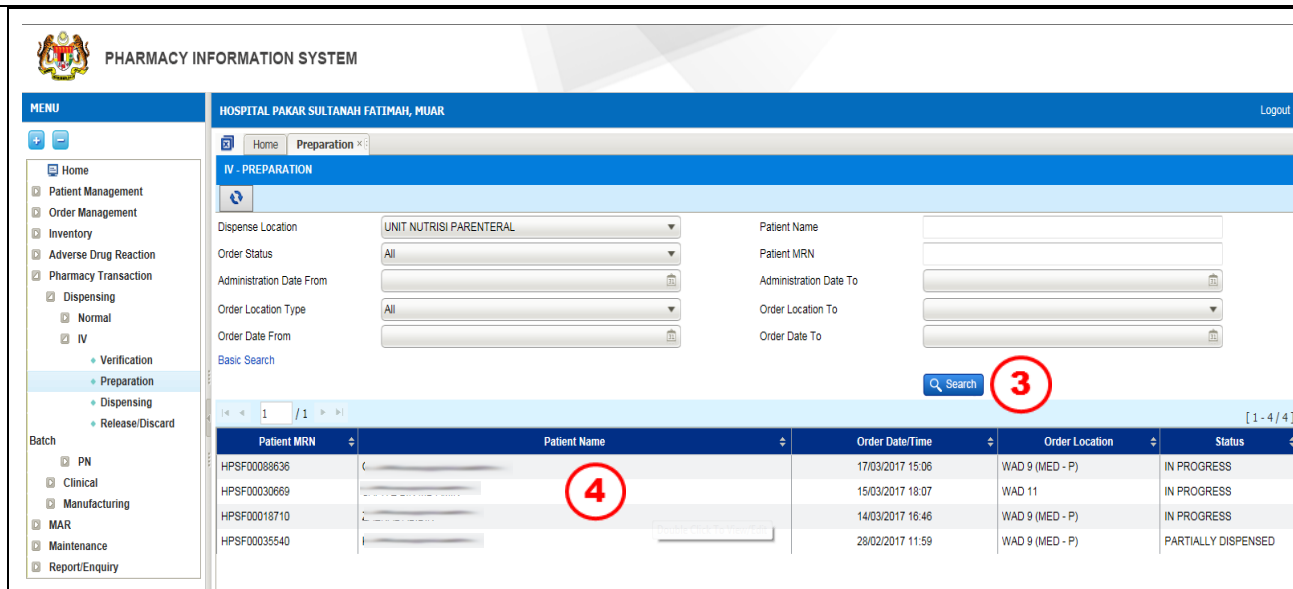
Advance Search			
No	Field	Description	Remark
a)	Dispense Location	Dispensing location. (It will list down all active locations)	Able to filter and search patient name by dispensing location
b)	Order Status	All New Orders Outsourced Orders	Able to filter status prescription by order status
c)	Patient 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: <i>Example : HPSF00001234 or "1234"</i>
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



Patient MRN	Patient Name	Order Date/Time	Order Location	Status
HPSF00088636	[Redacted]	17/03/2017 15:06	WAD 9 (MED - P)	IN PROGRESS
HPSF00030669	[Redacted]	15/03/2017 18:07	WAD 11	IN PROGRESS
HPSF00018710	[Redacted]	14/03/2017 16:46	WAD 9 (MED - P)	IN PROGRESS
HPSF00035540	[Redacted]	28/02/2017 11:59	WAD 9 (MED - P)	PARTIALLY DISPENSED

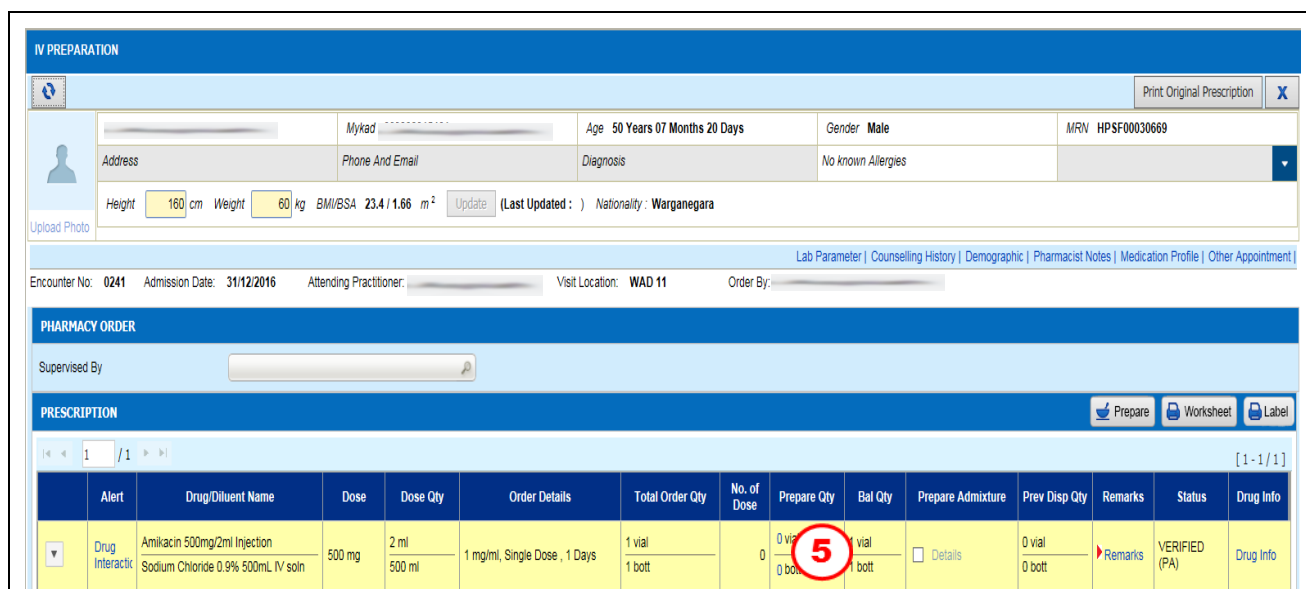
Figure 3.2-3 Preparation Listing Screen

STEP 3

Click on the  button to search for patient

STEP 4

Double click on the selected patient



Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info
Drug Interact	Amikacin 500mg/2ml Injection	500 mg	2 ml	1 mg/ml, Single Dose, 1 Days	1 vial 1 bott	0	0 vial 0 bott	1 vial 1 bott	Details	0 vial 0 bott	Remarks	VERIFIED (PA)	Drug Info

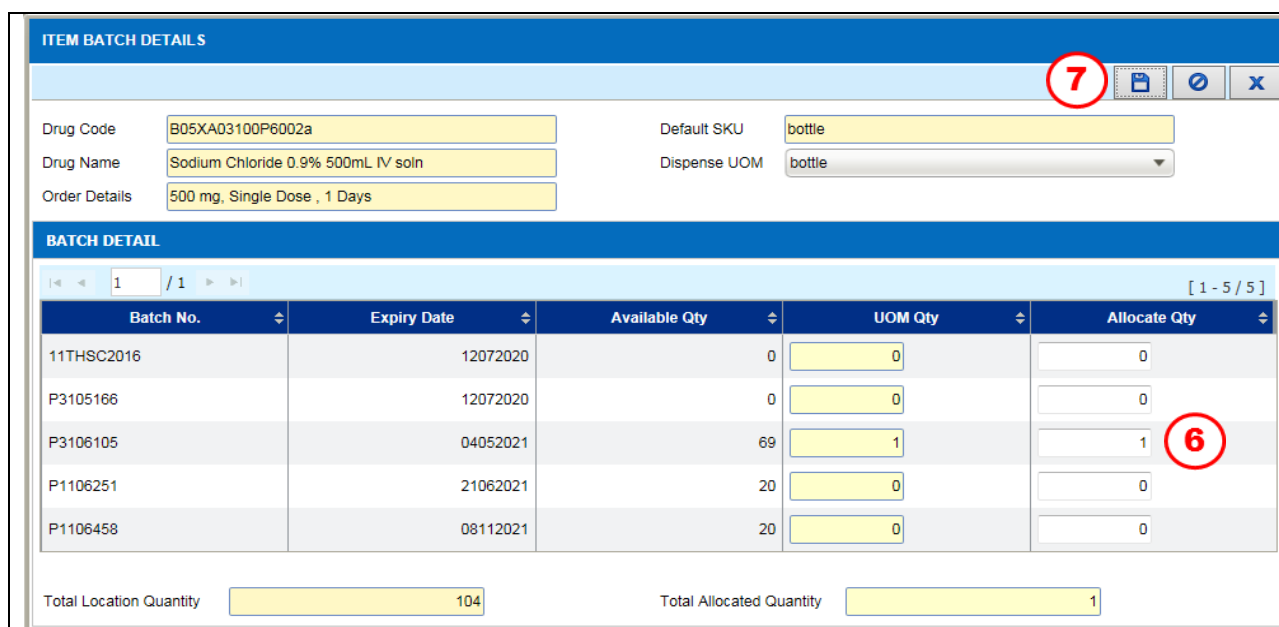
Figure 3.2-4 Prescription Listing Screen

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



The screenshot shows the 'ITEM BATCH DETAILS' window. At the top right, a red circle with the number 7 highlights the save icon. The form contains the following fields:

- Drug Code: B05XA03100P6002a
- Default SKU: bottle
- Drug Name: Sodium Chloride 0.9% 500mL IV soln
- Dispense UOM: bottle
- Order Details: 500 mg, Single Dose , 1 Days

Below these is the 'BATCH DETAIL' section with a table. A red circle with the number 6 highlights the 'Allocate Qty' column for the third batch (P3106105).

Batch No.	Expiry Date	Available Qty	UOM Qty	Allocate Qty
11THSC2016	12072020	0	0	0
P3105166	12072020	0	0	0
P3106105	04052021	69	1	1
P1106251	21062021	20	0	0
P1106458	08112021	20	0	0

At the bottom, there are two summary fields:

- Total Location Quantity: 104
- Total Allocated Quantity: 1

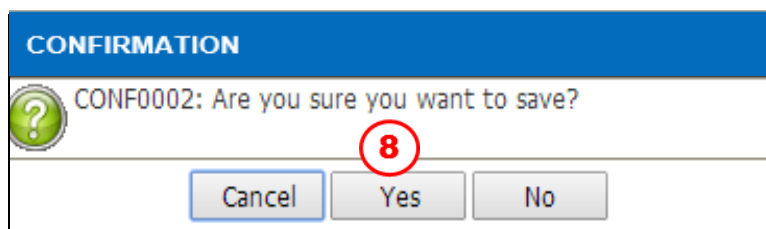
Figure 3.2-5 Allocation Screen

STEP 6

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

STEP 7

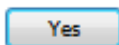
Click on the  button to proceed with allocation



The screenshot shows a 'CONFIRMATION' dialog box with the message: 'CONF0002: Are you sure you want to save?'. A red circle with the number 8 highlights the 'Yes' button.

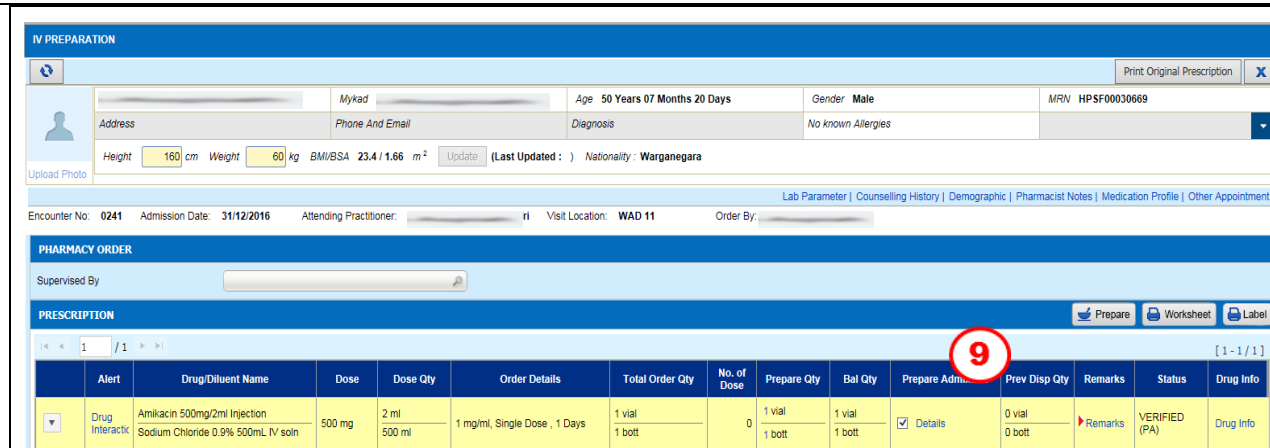
Figure 3.2-6 Preparation Screen

STEP 8

Click on the  button to save and close the window

STEP 9

Select on the  **Details** checkbox on **Prepare Admixture** column



IV PREPARATION

Print Original Prescription [X]

Mykad: [Redacted] Age: 50 Years 07 Months 20 Days Gender: Male MRN: HPSF00030669

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 160 cm Weight: 60 kg BMI/BSA: 23.4 / 1.66 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

Lab Parameter | Counseling History | Demographic | Pharmacist Notes | Medication Profile | Other Appointment

Encounter No: 0241 Admission Date: 31/12/2016 Attending Practitioner: [Redacted] ri Visit Location: WAD 11 Order By: [Redacted]

PHARMACY ORDER

Supervised By: [Redacted]

PRESCRIPTION

Prepare Worksheet Label

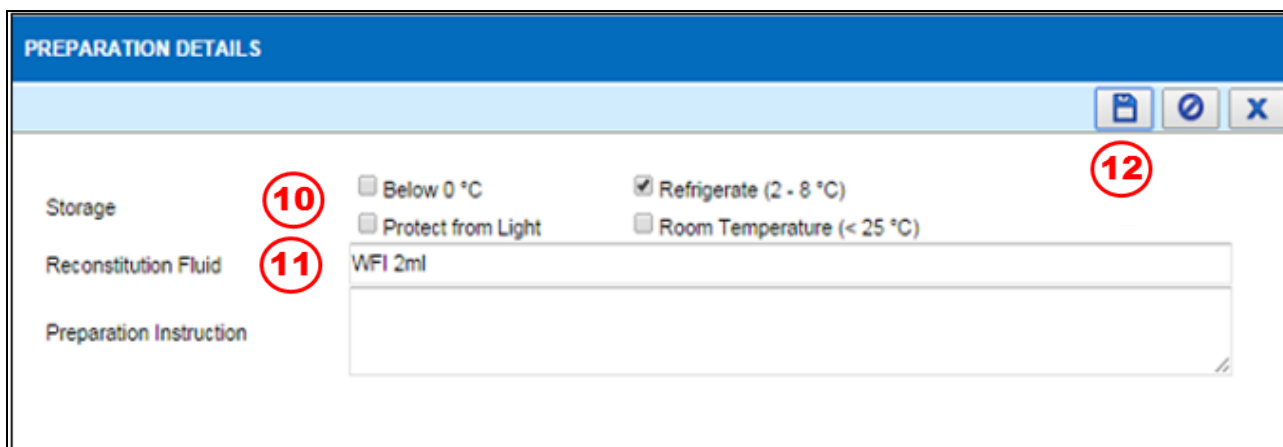
[1-1/1]

Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admin	Prev Disp Qty	Remarks	Status	Drug Info
Drug Interactx	Amikacin 500mg/2ml Injection	500 mg	2 ml	1 mg/ml, Single Dose, 1 Days	1 vial	0	1 vial	1 vial	☒ Details	0 vial	Remarks	VERIFIED (PA)	Drug Info
	Sodium Chloride 0.9% 500mL IV soln	500 mg	500 ml		1 bott		1 bott	1 bott		0 bott			

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.



PREPARATION DETAILS

Storage **10** ☐ Below 0 °C ☒ Refrigerate (2 - 8 °C) **12**

☐ Protect from Light ☐ Room Temperature (< 25 °C)

Reconstitution Fluid **11** WFI 2ml

Preparation Instruction

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, reconstitution fluid and preparation instruction will default value as setup in Drug Master (if any).

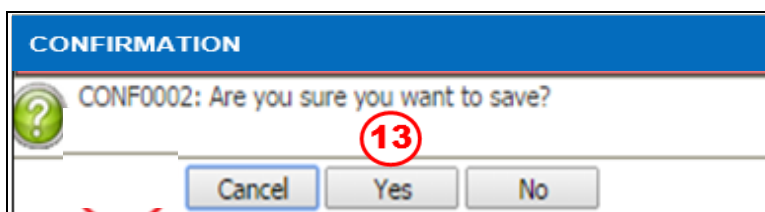
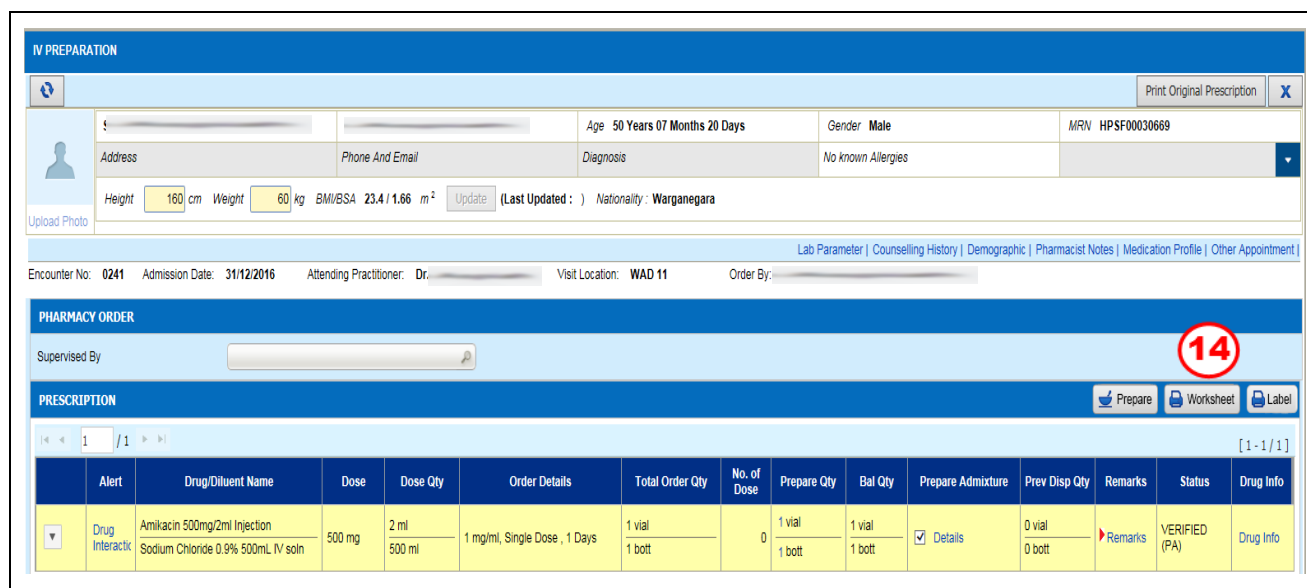


Figure 3.2-9 Preparation Details Screen

STEP 13

Click on  button to confirm saving of preparation details

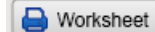


The screenshot shows the 'IV PREPARATION' screen. At the top, there's a header bar with 'IV PREPARATION' and a 'Print Original Prescription' button. Below this is a patient information section with fields for Address, Phone And Email, Age (50 Years 07 Months 20 Days), Gender (Male), and MRN (HPSF00030669). There are also fields for Height (160 cm), Weight (60 kg), BMI/BSA (23.4 / 1.66 m²), and Nationality (Warganegara). A 'Supervised By' dropdown menu is present. Below the patient information is a 'PHARMACY ORDER' section with a 'Supervised By' dropdown. The 'PRESCRIPTION' section shows a table of prescriptions. The table has columns: Alert, Drug/Diluent Name, Dose, Dose Qty, Order Details, Total Order Qty, No. of Dose, Prepare Qty, Bal Qty, Prepare Admixture, Prev Disp Qty, Remarks, Status, and Drug Info. The first row shows 'Amikacin 500mg/2ml Injection' with a dose of 500 mg and a quantity of 2 ml. The status is 'VERIFIED (PA)'. A red circle with the number '14' is placed over the 'Worksheet' button in the top right corner of the prescription table.

Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info
Drug Interactk	Amikacin 500mg/2ml Injection	500 mg	2 ml	1 mg/ml, Single Dose , 1 Days	1 vial 1 bott	0	1 vial 1 bott	1 vial 1 bott	☒ Details	0 vial 0 bott	Remarks	VERIFIED (PA)	Drug Info

Figure 3.2-10 Preparation Listing Screen

STEP 14

Click on the  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 KUZANI 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	Ingredient Name	Dose	Dose Volume	No of Dose	Total Qty	Preparation Qty	Batch No	Expiry Date	Storage
1	IV	Amikacin 5 mg/ml	Amikacin 500mg/2ml Inj	500 mg	2 ml	4	8 ml	4 vial	FA812607 4	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			
Date: 24/09/2014		Date:		Date:		Date:		Date: 24/09/2014			

Figure 3.2-11 Worksheet

IV PREPARATION

Print Original Prescription



Mykad

Address

Height cm Weight kg BMI/BSA m² (Last Updated :) Nationality : Warganegara

Age 50 Years 07 Months 20 Days

Gender Male

Diagnosis

No known Allergies

MRN HPSF00030669

Encounter No: 0241 Admission Date: 31/12/2016 Attending Practitioner: Dr. Visit Location: WAD 11 Order By:

PHARMACY ORDER

Supervised By

PRESCRIPTION

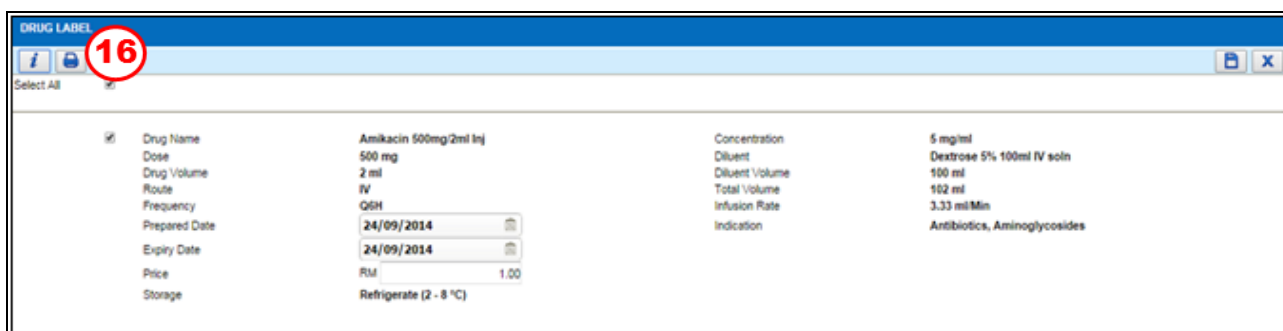
1 / 1

	Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info
v	Drug Interact	Amikacin 500mg/2ml Injection	500 mg	2 ml	1 mg/ml, Single Dose, 1 Days	1 vial	0	1 vial	1 vial	☒ Details	0 vial	Remarks	VERIFIED (PA)	Drug Info
		Sodium Chloride 0.9% 500mL IV soln	500 ml	500 ml		1 bott		1 bott	1 bott		0 bott			

Figure 3.2-12 Preparation Listing Screen

STEP 15

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



DRUG LABEL

Select All 

☒	Drug Name	Amikacin 500mg/2ml inj	Concentration	5 mg/ml
	Dose	500 mg	Diluent	Dextrose 5% 100ml IV soln
	Drug Volume	2 ml	Diluent Volume	100 ml
	Route	IV	Total Volume	102 ml
	Frequency	Q8H	Infusion Rate	3.33 ml/Min
	Prepared Date	24/09/2014	Indication	Antibiotics, Aminoglycosides
	Expiry Date	24/09/2014		
	Price	RM 1.00		
	Storage	Refrigerate (2 - 8 °C)		

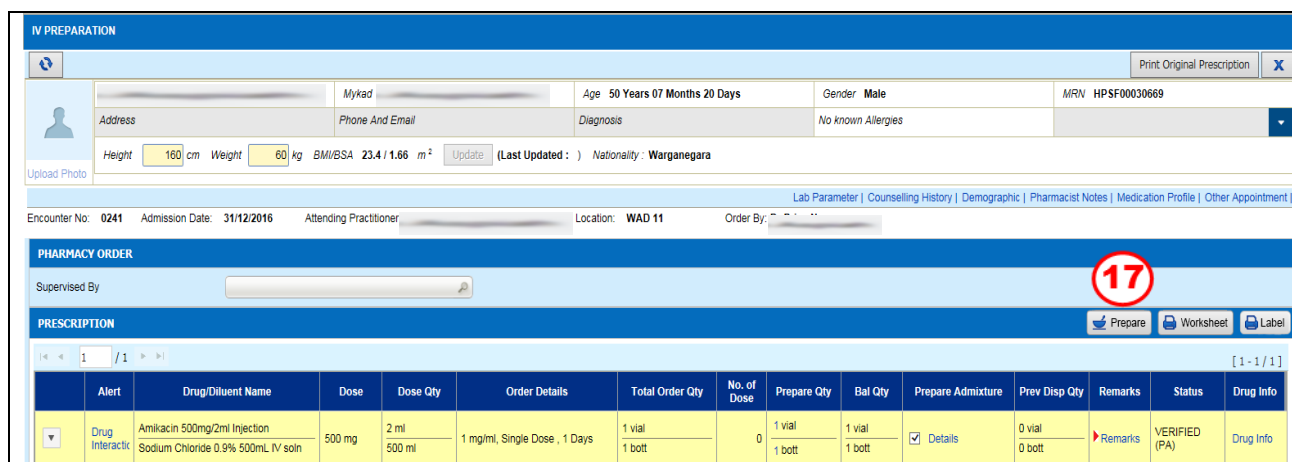
Figure 3.2-13 Drug label

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.



IV PREPARATION

  Print Original Prescription

 Mykad: [Name] Age: 50 Years 07 Months 20 Days Gender: Male MRN: HPSF00030669

Address: [Address] Phone And Email: [Phone] Diagnosis: [Diagnosis] No known Allergies

Height: 160 cm Weight: 60 kg BMI/BSA: 23.4 / 1.66 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

Encounter No: 0241 Admission Date: 31/12/2016 Attending Practitioner: [Name] Location: WAD 11 Order By: [Name]

Lab Parameter | Counselling History | Demographic | Pharmacist Notes | Medication Profile | Other Appointment

PHARMACY ORDER

Supervised By: [Name]

PRESCRIPTION  Prepare  Worksheet  Label

[1-1/1]

	Alert	Drug/Diluent Name	Dose	Dose Qty	Order Details	Total Order Qty	No. of Dose	Prepare Qty	Bal Qty	Prepare Admixture	Prev Disp Qty	Remarks	Status	Drug Info
	Drug Interactio	Amikacin 500mg/2ml Injection	500 mg	2 ml	1 mg/ml, Single Dose, 1 Days	1 vial	0	1 vial	1 vial	☒ Details	0 vial	Remarks	VERIFIED (PA)	Drug Info
		Sodium Chloride 0.9% 500mL IV soln	500 ml	500 ml		1 bott		1 bott	1 bott		0 bott			

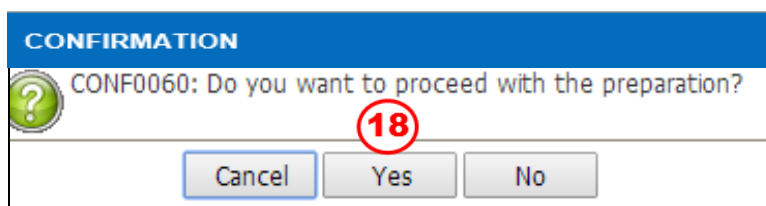
Figure 3.2-14 Preparation Screen

STEP 17

Click on the  button to proceed with preparation

Note

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

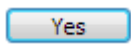


CONFIRMATION

 CONF0060: Do you want to proceed with the preparation?

Figure 3.2-15 Preparation Screen

STEP 18

Click on the  button to proceed with dispensing

3.3 IV Admixture Dispensing

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

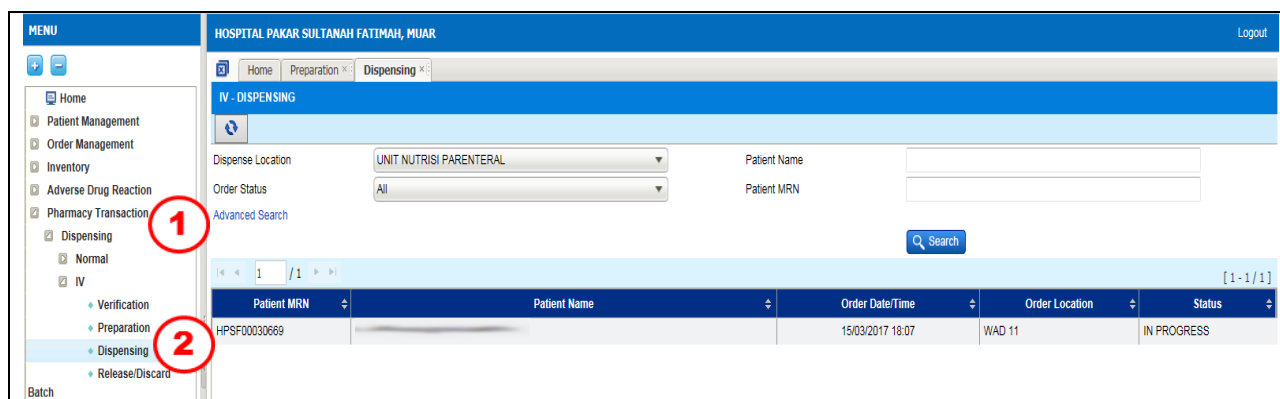


Figure 3.3-1 Dispensing Listing Screen

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 :

- Basic search
- Advance search

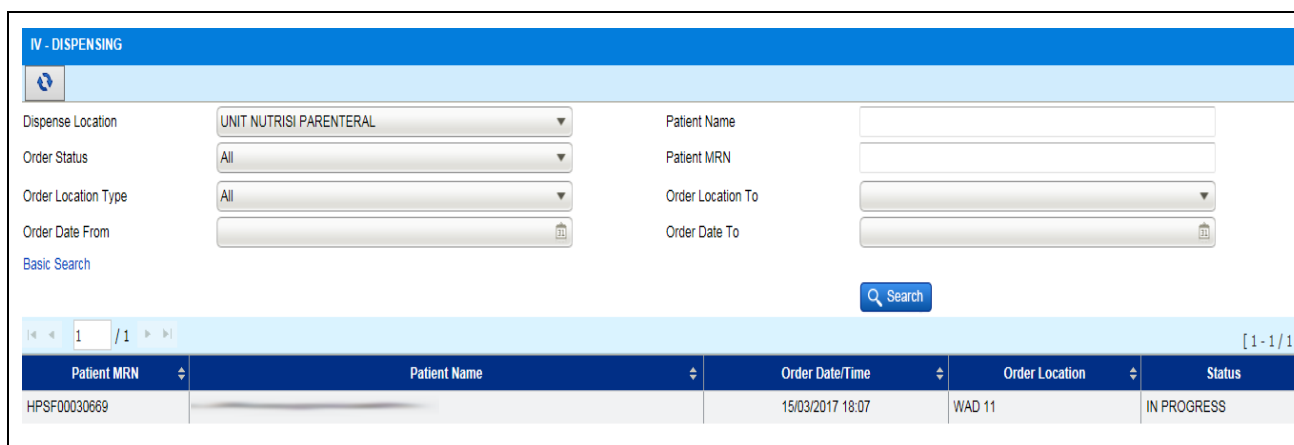


Figure 3.3-2 Dispensing Listing Screen

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 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: <i>Example : HPSF00001234 or "1234"</i>
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

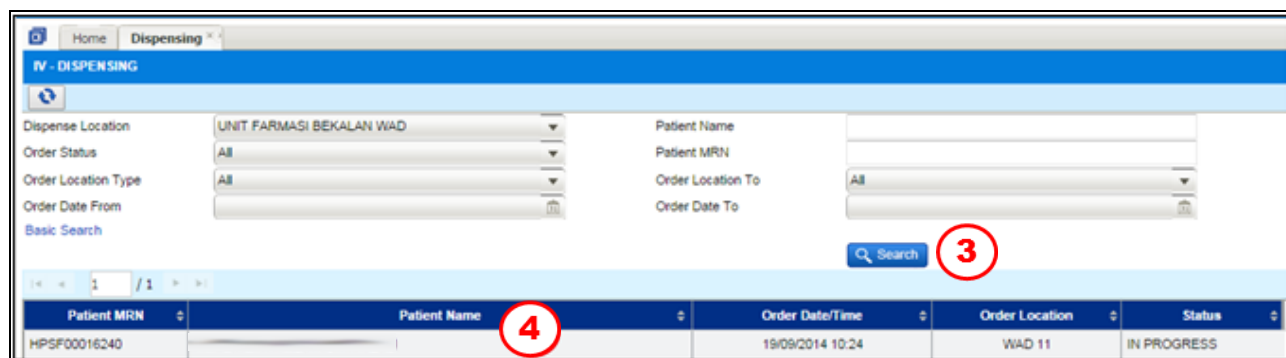


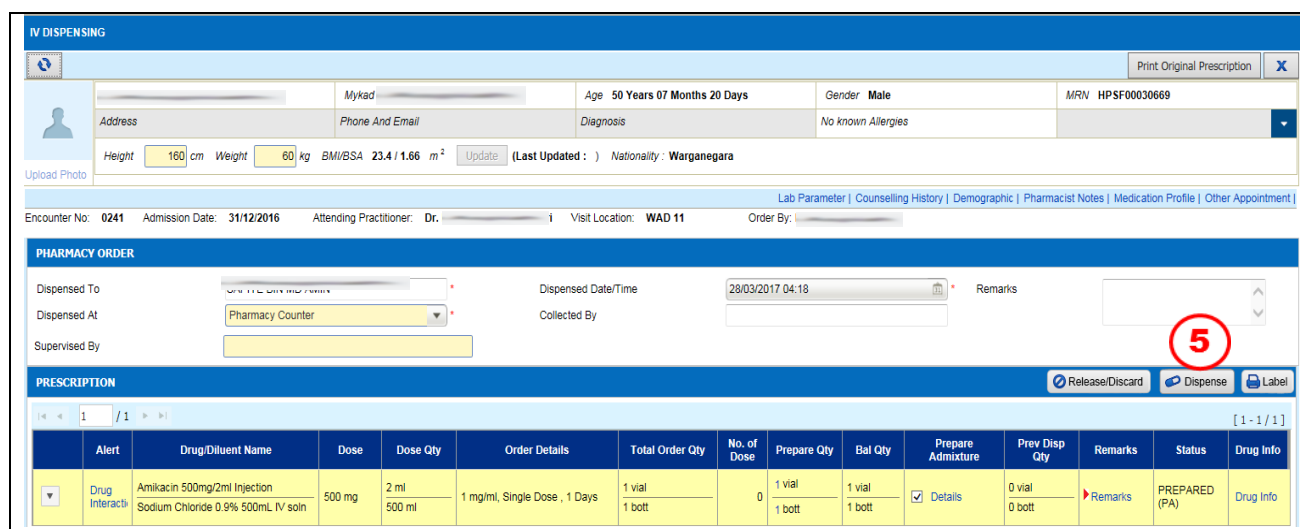
Figure 3.3-3 Dispensing Listing Screen

STEP 3

Click on the  button to search for patient

STEP 4

Double click on the selected patient

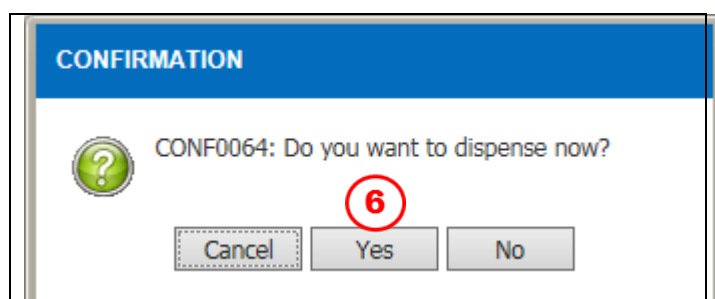


The screenshot shows the 'IV DISPENSING' interface. At the top, there's a header with a 'Print Original Prescription' button. Below this is a patient information section with fields for Mykad, Age (50 Years 07 Months 20 Days), Gender (Male), MRN (HPSF00030669), Address, Phone And Email, Diagnosis, and No known Allergies. There's also a section for Height (160 cm), Weight (60 kg), BMI/BSA (23.4 / 1.66 m²), and Nationality (Warganegara). A 'PHARMACY ORDER' section includes 'Dispensed To', 'Dispensed Date/Time' (28/03/2017 04:18), 'Dispensed At' (Pharmacy Counter), and 'Collected By'. A 'PRESCRIPTION' table is shown below, listing drugs like Amikacin and Sodium Chloride. A red circle with the number '5' highlights the 'Dispense' button in the top right corner of the prescription table.

Figure 3.3-4 Dispensing Screen

STEP 5

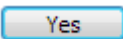
Click on the  button and system will open a new window as show in Figure 3.3-5



The screenshot shows a 'CONFIRMATION' dialog box. It contains a question mark icon and the text 'CONF0064: Do you want to dispense now?'. Below the question are three buttons: 'Cancel', 'Yes', and 'No'. A red circle with the number '6' highlights the 'Yes' button.

Figure 3.3-5 Conformation Screen

STEP 6

Click on the  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.

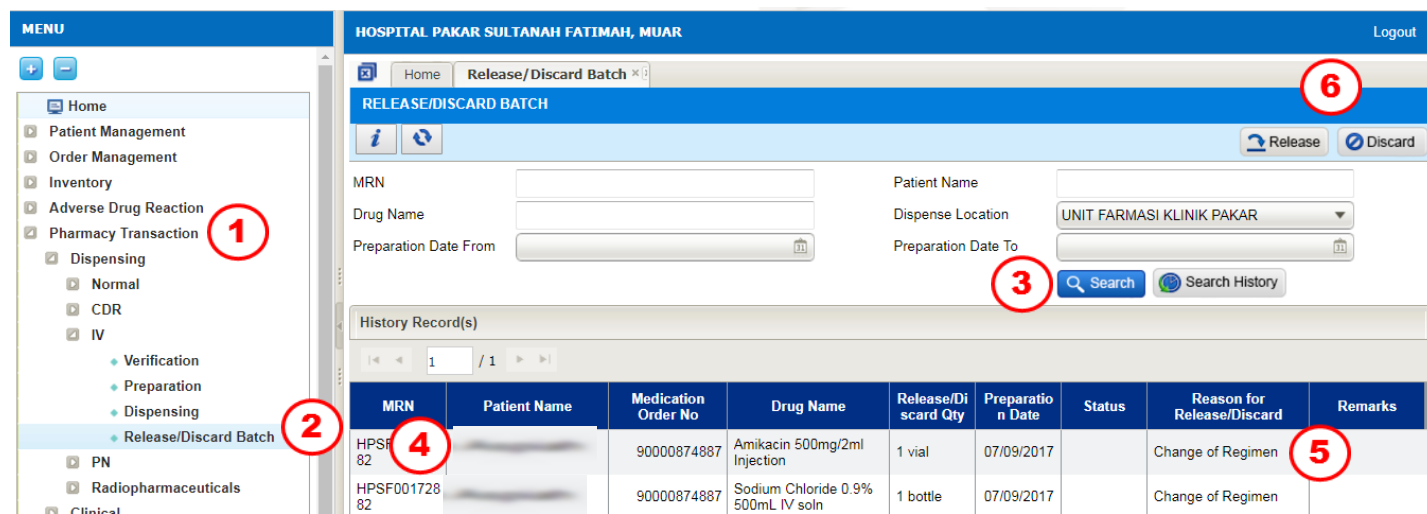


Figure 3.4-1 Discard Batch screen

STEP 1

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

STEP 2

Click on 'Release and Discard Batch' sub-menu

Note

Various search criteria 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 Release/discard from the listed drug

STEP 5

Select Reason for Release/Discard from the dropdown box options:

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

STEP 6

Click on the Release or Discard button to proceed with release/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	Radiopharmaceuticals	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		