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

System Design Document (SDD)

Patient Management Module

Version	: 1.0
Document ID	: PhIS_CPS/SDD/PM

REVISION HISTORY

Version No	Date of Release	Prepared by	Reviewed by	List of changes from Previous Version
1.0	29/6/2018	Sitinor Megawati Saurani	Zainura Said	Baseline for Patient Management version 1.7

Table of Content

1. Introduction

Pharmaniaga Logistics Sdn. Bhd. executes software development, enhancement and maintenance projects for its clients. The term "project" is used to describe the full set of activities from the time the proposal is accepted and project initiation note or contract is signed to the time all the software and services are delivered according to the acceptance of the proposal/contract.

This process is to ensure both user requirements and software requirements of the projects developments are gathered appropriately from stakeholders and are documented in User Requirements Specification (URS) and System Design Documentation (SDD) specifically.

2. Purpose

The purpose of the document is to describe the purpose and functionality of the software product requested by client. This document outlines the project's details, requirements, interface, design issues, and components to ensure that each requirement has been met.

3. Detailed System Design

3.1 Patient Management Overview

Patient Management allows the authorized users of the system to create, view and manage the unique identification and related information of the Patients visiting the hospital or clinic.
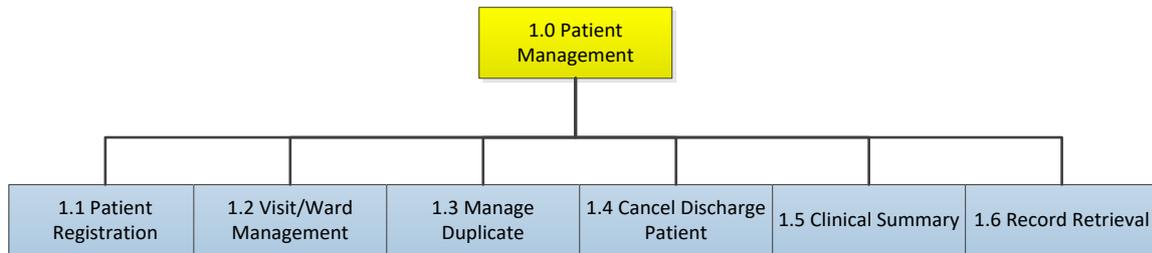
PM.OV1: Patient Management Overview

3.2 Patient Registration
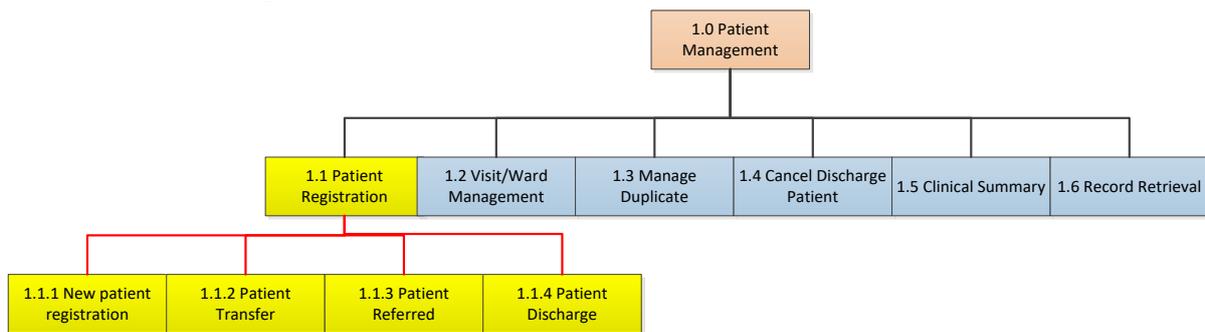
PR.OV1: Patient Registration Overview

3.2.1 Block Diagram
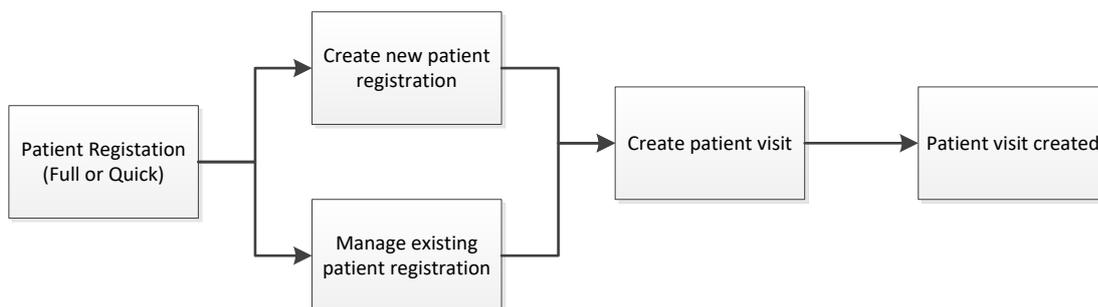
PR.BD1: Patient Registration block diagram

3.2.2 Purpose

Patient Registration module allows user to edit patient information, transfer patient, discharge patient, create new patient visit and create new registration of new patient. It will be in two types of registration, which is full registration for full based and quick registration for pharmacy based.

3.2.3 Screen Navigation Diagram
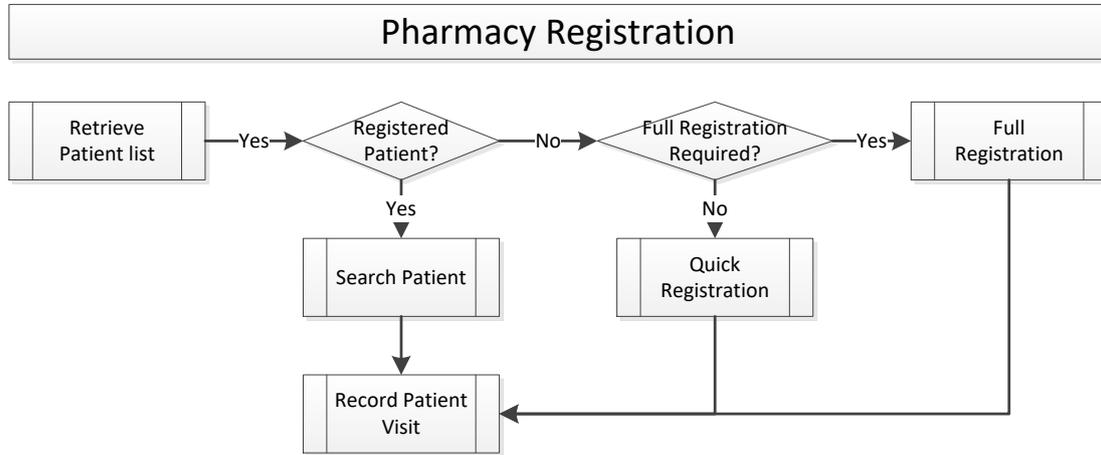
PR.SND1: Patient Registration Visit
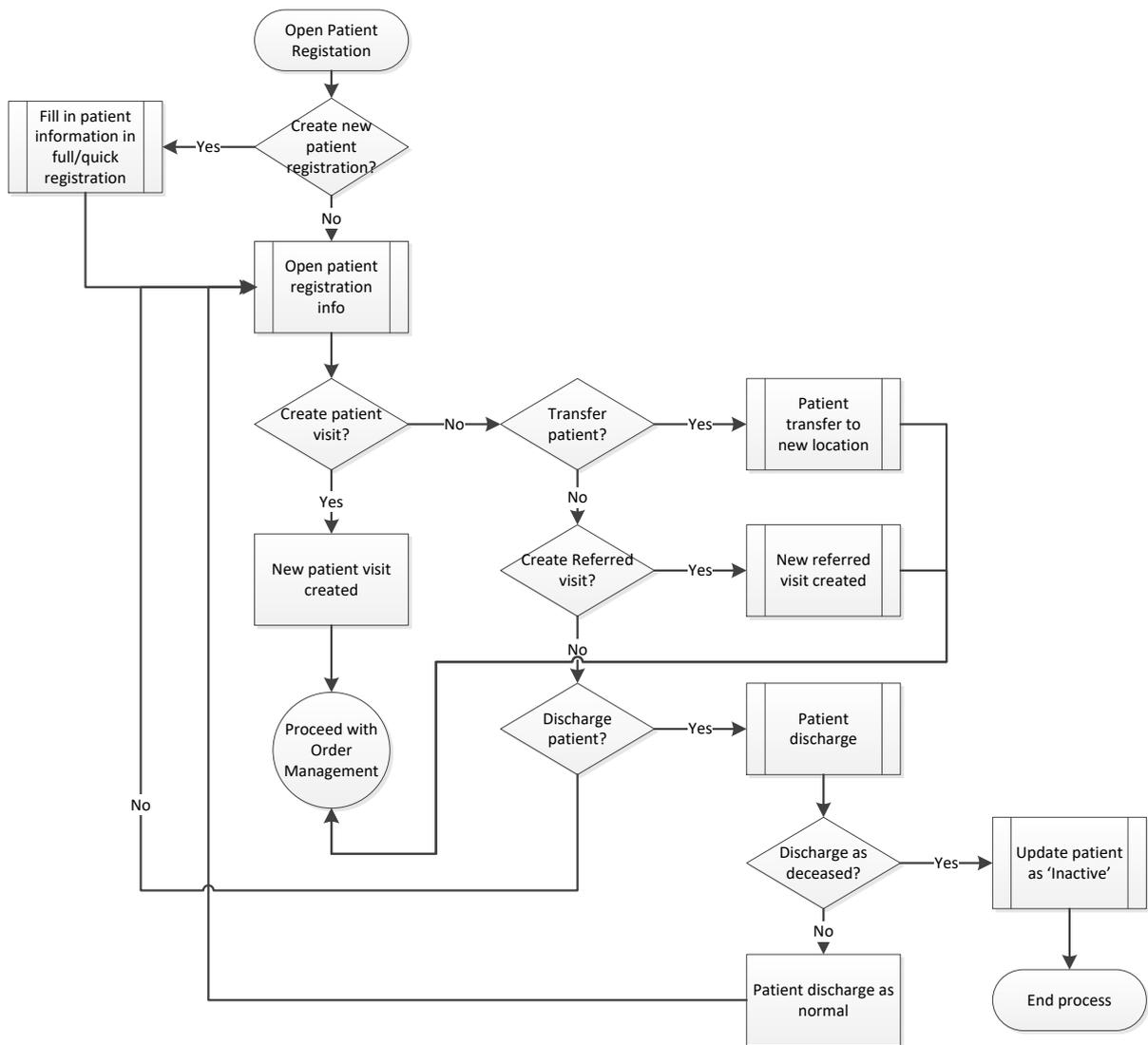
PR.SND2: Patient Registration Flow

3.2.4 Detail Functionality and Screen

3.2.4.1 Patient Registration Listing

3.2.4.1.1 Screen Design

ID	PM.SD1
Description	Patient Registration Listing
Diagram	
i. Patient Registration Listing	

PATIENT REGISTRATION LIST

MRN		Patient Name	
IC No/Other Identification		Status	Active
Visit Location	-Select-		Q Search

1 / 22190 ► ►| [1 - 10 / 221899]

MRN	Patient Name	IC No/Other Identification	Registration Date	Actual Visit Date	Visit Location	Payment Category	Status
HPSF00229039			05/06/2018				ACTIVE
HPSF00229038			05/06/2018				ACTIVE
HPSF00229037			01/06/2018				ACTIVE
HPSF00229036			01/06/2018			Paying	ACTIVE
HPSF00229035			31/05/2018			Paying	ACTIVE
HPSF00229034			30/05/2018			Paying	ACTIVE
HPSF00229033			30/05/2018			Non Paying	ACTIVE
HPSF00229032			29/05/2018			Non Paying	ACTIVE
HPSF00229031			29/05/2018				ACTIVE
HPSF00229030			29/05/2018			Non Paying	ACTIVE

ii.   Patient Quick Registration Listing

PATIENT REGISTRATION LIST

Pharmacy Acknowledgement   New Patient Registration

Patient Name		Registration Date From	
MRN		Registration Date To	
IC No/Other Identification			Q Search

1 / 10009 ► ►| [1 - 10 / 100081]

MRN	Patient Name	IC No/Other Identification	Date of Birth	Gender	Registration Date
KKE01003200100351			09/03/1980	Female	22/02/2018
KKE01003200100350			20/07/1986	Male	22/02/2018
KKE01003200100349			05/04/2017	Female	22/02/2018
KKE01003200100348			30/06/2013	Female	22/02/2018
KKE01003200100347			15/04/1991	Male	22/02/2018
KKE01003200100346			27/03/1973	Female	22/02/2018
KKE01003200100345			10/07/1998	Female	22/02/2018
KKE01003200100344			23/05/2001	Male	22/02/2018
KKE01003200100343			21/08/1988	Female	22/02/2018
KKE01003200100342			14/01/1995	Female	22/02/2018

Notes	• Click on search button to search for the patient.
	• Double click on patient record to open Patient Registration screen.
	• Click on add button (+) to create new patient registration.
	• Click on 'Pharmacy Acknowledgment' to open Acknowledgment screen.
	• Click on 'New Patient Registration/ to create new record.
Cross References	PM.SD2 – New Patient Registration

3.2.4.1.2   Application Business Rules

No.	Name	Description

1.	Search Patient	Patient Registration listing screen is displayed for user to select patient based on user's granted location. Mostly user at front desk or a clerk will be able to see the list. Listing is sorted in ascending order based on registration date.
		
		Enter the search criteria and click on search button. By default, this screen will allow user to search by the following criteria:
		
		  i. MRN - Patient listing shall be retrieved from the database for all registered patients based on matching MRN.
		
		  ii. Patient Name – Patient listing shall be retrieved from the database for all registered patients based on matching Patient Name.
		
		  iii. IC Number/Other Identification No. – Patient listing shall be retrieved from the database for all registered patients based on matching ID No.
		
		  iv. Registration Date range - Patient listing shall be retrieved from the database for all registered patients where registration date within the selected range.
		
		After required information is entered; user can click on the 'Search' button to search the information. If user enters multiple criteria; System will return the value based on AND criteria.

2.	Patient List	Results of the search will listed below the search criteria section. The patient list will contain the following information:
		
		  i. MRN
		  ii. Patient Name
		  iii. ID Number
		  iv. DOB
		  v. Gender
		  vi. Registration Date
		
		User shall be able to add new patient by clicks on add button [+] in Patient Registration page or click on [New Patient Registration] button in Patient Quick Registration page.
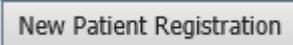
3.	Patient details	Click on patient record to open patient details screen. User shall be able to edit on patient information when click on Patient Demographic button.

3.2.4.1.3   Input Validation Rules

No.	Name	Description	Manda tory	Format
1.	MRN	Patient listing shall be retrieved from the database for all registered patients with visit based on matching MRN.	No	Text field (searching field)
2.	Patient Name	Patient listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (searching field)

No.	Name	Description	Manda tory	Format
3.	IC No/Other Identification	Patient listing shall be retrieved from the database for all registered patients with visit on matching IC No/Other Identification number.	No	Text field (searching field)
4.	Registration Date To	Patient listing shall be retrieved from the database for all registered patients based on date range (to).	No	Calendar in format dd/mm/yyyy (searching field)
5.	Registration Date From	Patient listing shall be retrieved from the database for all registered patients based on date range (from).	No	Calendar in format dd/mm/yyyy (searching field)

3.2.4.2   Patient Registration

3.2.4.2.1   Screen Design

ID	PM.SD2
Description	Patient Registration screen
Diagram	
i. New Patient Registration (Full)	

PATIENT REGISTRATION

REGISTRATION INFORMATION			
MRN		Merged History	
Title	▼	Gender	-SELECT- ▼ *
Patient Name	*	Date of Birth	🛗 *
Identification Card Number	MYKAD ▼ * Check Duplicate	Age	
Other Identification Number	-SELECT- ▼	Approximate Age	
VIP	☐	Race	-SELECT- ▼
Government	☐	Religion	▼ *
Payment Category	▼ eGL Verification	Nationality	MALAYSIA ▼ *
Government Relationship	▼ *	Pensioner	☐ ▼
		Remarks	

PATIENT DETAILS			
Address 1	*	Email	
Address 2		Contact Number(Mobile)	* Please enter at least one contact number
Address 3		Contact Number(House)	
Postcode		Contact Number(Office)	
State	▼ *	Marital Status	▼
City	🔍	Organization Name	
Country	MALAYSIA ▼ *	Education Level	▼
Occupation	🔍		

NEXT OF KIN			
	Copy Address from Patient Details		
Name		Occupation	🔍
ID Number	▼	Organization Name	
Relationship	▼	Gender	▼
Date of Birth	🛗	Age	
Address 1		Email	
Address 2		Contact Number(Mobile)	
Address 3		Contact Number(House)	
Postcode		Contact Number(Office)	
State	▼		
City	🔍		
Country	▼		

ii.   New Patient Registration (Quick)

Notes	• Click on 'Save' button to save the patient registration record.
	• Click on 'Scan My Kad' to directly scan MyKad using MyKad reader.
	• Click on 'Patient Label' button to directly print patient label.
	• Click on 'Patient Label' with search icon button to preview the patient label before print.
	• Click on '+ Create Visit' button to open Admission/Visit screen and create new visit.
	• Click on 'Save' icon to save the new registration.
	• Click on 'Cancel' icon to cancel the operation.
	• Click on (X) icon to close the screen.
	• Click on 'Full Registration' button to open full registration screen.
	• Click on 'Visit Management' button to open visit and display new visit in Ward Management screen. This button is applicable for existing patient.
Cross References	PM.SD1 – Patient Registration Listing

3.2.4.2.2   Application Business Rules

No.	Name	Description
1.	Create new patient	• User able to register new patient using full registration or quick registration screen. If use full registration screen, more information needs to be filled in. If using quick registration, user only need to enter the required fields only.
		• If user choose 'Other Identification Number=Others', the ID

No.	Name	Description
		number will become not mandatory.
2.	Unknown patient	• If user wants to create patient as Unknown, choose the 'Unknown Patient' selection from 'Other Identification Number' drop down. Once user create patient as unknown, ID number is not mandatory and patient name will be automatically default as 'UNKNOWN PATIENT'. • If ID = "Unknown", user need to enter the following information only: o Gender o Approximate age Name. System will auto generate the Patient Name if this field not entered by user. Refer to PR.SFM5 Patient name.
3.	Full registration	Full registration allows user to create more information when generate the patient record. For full registration, below are the mandatory fill to key-in: • Patient Name • Identification Card Number if choose MyKad/MyKid or Other Identification Number if choose 'Others' • Government Relationship • Gender • Date of Birth • Religion • Nationality • Address1 • State • Country • Contact Number (mobile)
4.	Quick registration	Quick registration allows user to create express registration. It is usually being used in Pharmacy Based facility. By using Quick Registration screen, user shall be able to create a patient visit at the same time. There were only few fields that will be mandatory such as: • Patient Name • Identification Card Number if choose MyKad/MyKid or Other Identification Number if choose 'Others' • DOB • Visit Type • Department • Location
5.	Status	By default patient status will be ACTIVE, user is allow to change the status to INACTIVE. Inactive patient information is viewable for history purpose but user is not allowed to create new transaction for this patient.

No.	Name	Description
6.	Save patient information	Click on 'Save' button to save the registration information and MRN number will be generated. Refer to PR.SFM4 MRN.
		Display the visit/admission section.

3.2.4.2.3 Input Validation Rules

No.	Name	Description	Mandatory	Format
Patient Registration Information				
1.	Title	Title given to the patient, consist from: • Cik • Encik • Haji • Hajjah • Tuan • Puan	No	Drop down list
2.	Patient Name	Name of a person as in NRIC / Passport or other identification documents. This field is free text with a capacity of 50 characters. This field is mandatory.	Yes	Text field
3.	Identification Card No	Identification Card No – MyKad or MyKid number. Dropdown will be populated from lookup table where domain = 'ID_TYPE_MAIN'. This field is number only with a capacity of 12 characters. IC No Or Other Identification is a mandatory field.	Yes	Text field
4.	Other Identifications	Unique identification number for police, army and others holding special ID.Dropdown will be populated from lookup table where domain = 'ID_TYPE'. Other identifying types are as follows: • Birth Certificate • Driving License • Military Card Number • Father IC • Mother IC • Old IC No • Passport • Others • Pension Card • Police Card Number • Work Permit • UNHCR • Unknown Patient	Yes	Text field
5.	VIP	Ticked on this checkbox if the patient is VIP patient.	No	Checkbox

No.	Name	Description	Mandatory	Format
6.	Government	Ticked on this checkbox if the patient is government servant patient.	No	Checkbox
7.	Payment Category	A drop down selection for payment category. User able to choose payment category as 'Paying' or 'Non Paying'. Non-paying usually applicable for government servant. User shall be able to do the checking of non-paying status by clicks on eGL Verification.	No	Drop down list
8.	Government Relationship	A drop down selection for government relationship and also can be used as a relationship for the patient itself. Choose the relationship from this value below: • Child • Father • Foster Child • Grandchild • Handicapped Dependent • Mother • Natural Child • Other • Parent • Self • Spouse • Stepchild	Yes	Drop down list
9.	Gender	Biological sex of the patient. Gender is to be selected from the drop down list. Dropdown will be populated from lookup table where domain = 'Gender'.	Yes	Drop down
10.	Date of Birth	Date of birth to be selected from Calendar. This field is mandatory. If user enters MyKad or MyKid value, date of birth will be auto displayed. Refer to PR.SFM1 DOB.	Yes	Calendar format in dd/mm/yyyy
11.	Age	Age of the patient. Value of age will be auto calculate if user fill in the date of birth. If not, user has to enter the approximate age below.	No	Text field
12.	Approximate Age	The approximate age of the patient. This is usually used when register unknown patient where date of birth and age is empty.	No	Text field
13.	Race	Race of patient (for Malaysian only). This field will show ethnic type in a combo box based on the 'Ethnicity' values configured in the lookup table. If user choose Race=Others, the race need to be entered in the subsequent textbox. This field is free text with a capacity of 20 characters.	No	Drop down list
14.	Religion	Religion as per NRIC and relevant documents or as stated by the individual. This field will show	Yes	Drop down list

No.	Name	Description	Mand atory	Format
		type of religion in a combo box based on the 'Religion' values configured in the lookup table. If user choose Religion=Others, the religion need to be entered in the subsequent textbox. This field is free text with a capacity of 20 characters.		
15.	Nationality	Nationality of the patient. User shall be able to choose from a drop down list the list of country. If user chooses country other than Malaysia, patient status will be updated to 'Bukan Warganegara'. In patient banner, this value will be displayed with highlight yellow color.	Yes	Drop down list
16.	Pensioner	User shall be able to enter the pensioner card number if patient is a pensioner. Ticked first on the checkbox and a drop down value of pensioner category will be enable. Choose a pensioner category from the value below: • Balu/Duda Persekutuan/Kesihatan Persekutuan • Balu/Duda Polis • Balu/Duda Tentera • Pesara Persekutuan • Pesara Polis • Pesara Kesihatan Persekutuan • Pesara Kesihatan Tentera • Pesara Tentera	No	Drop down value and text field for pensioner card number
17.	Remarks	User shall be able to key in any remarks related to the patient. It is a free text field.	No	Text field
Patient Details				
18.	Address1	Address 1 - To capture the patient address. This field is free text with a capacity of 50 characters.	Yes	Text field
19.	Address2	Address 2 - To capture the remainder of the patient address if Address 1 does not suffice. This field is free text with a capacity of 50 characters.	No	Text field
20.	Address3	Address 3 - To capture the remainder of the patient address if Address 1 and Address 2 do not suffice. This field is free text with a capacity of 50 characters.	No	Text field
21.	Postcode	Post code - This field is number only with a capacity of 5 characters.	No	Text field
22.	City	City will - This field is free text with a capacity of 30 characters. User shall be able to search the city from a search window.	No	Text field

No.	Name	Description	Mand atory	Format
23.	State	State - This field will show list of Malaysian state in a combo box based on the 'State' values configured in the lookup table.	Yes	Text field
24.	Country	Country - This field is defaulted to 'Malaysia'. It will show list of country in a combo box based on the 'Country' values configured in the system parameter table.	Yes	Drop down list
25.	Occupation	The occupation of the patient. User shall be able to search from the search menu and select the occupation.	No	Text field
26.	Email	This field is free text with a capacity of 50 characters.	No	Text field
27.	Contact Number (mobile)	This field is number only with a capacity of 20 characters.	Yes	Text field
28.	Contact Number (office)	This field is number only with a capacity of 20 characters.	No	Text field
29.	Contact Number (house)	This field is number only with a capacity of 20 characters.	No	Text field
30.	Marital Status	The marital status of the patient. User shall be able to choose from a drop down value as below: • Divorced • Married • Separated • Single • Widowed	No	Drop down list
31.	Organization Name	User shall be able to enter the organization name of the patient works on.	No	Text field
32.	Education Level	The education level of the patient. User shall be able to choose from a drop down value as below: • Nil • Primary • Secondary • Tertiary	No	Drop down list
Next of Kin				
33.	Patient Name	Name of a person as in NRIC / Passport or other identification documents. This field is free text with a capacity of 50 characters. This field is mandatory.	No	Text field
34.	ID Number	ID number of next of kin. User shall be able to select the type of ID number from a drop down list as below before enter the ID number: • Driving License	No	Text field

No.	Name	Description	Mandatory	Format
		• Military Card Number • MyKad • Old IC • Passport • Pension Card • Police Card Number • UNHCR		
35.	Relationship	A drop down selection for relationship and also can be used as a relationship for the patient itself. Choose the relationship from this value below: • Child • Extended Family • Father • Foster Child • Friend • Grandparent • Guardian • Mother • Others • Patient • Sibling • Spouse • Stepchild • Unknown	No	Drop down list
36.	Date of Birth	Date of birth to be selected from Calendar.	No	Calendar format in dd/mm/yyyy
37.	Address1	Address 1 - To capture the patient address. This field is free text with a capacity of 50 characters.	No	Text field
38.	Address2	Address 2 - To capture the remainder of the patient address if Address 1 does not suffice. This field is free text with a capacity of 50 characters.	No	Text field
39.	Address3	Address 3 - To capture the remainder of the patient address if Address 1 and Address 2 do not suffice. This field is free text with a capacity of 50 characters.	No	Text field
40.	Postcode	Post code - This field is number only with a capacity of 5 characters.	No	Text field
41.	City	City will - This field is free text with a capacity of 30 characters. User shall be able to search the city from a search window.	No	Text field
42.	State	State - This field will show list of Malaysian state in a combo box based on the 'State' values configured in the lookup table.	Yes	Text field

No.	Name	Description	Mandatory	Format
43.	Country	Country - This field is defaulted to 'Malaysia'. It will show list of country in a combo box based on the 'Country' values configured in the system parameter table.	Yes	Drop down list
44.	Occupation	The occupation of the patient. User shall be able to search from the search menu and select the occupation.	No	Text field
45.	Organization Name	User shall be able to enter the organization name of the patient works on.	No	Text field
46.	Gender	Biological sex of the patient. Gender is to be selected from the drop down list. Dropdown will be populated from lookup table where domain = 'Gender'.	Yes	Drop down
47.	Age	Age of the patient. Value of age will be auto calculate if user fill in the date of birth. If not, user has to enter the approximate age below.	No	Text field
48.	Email	This field is free text with a capacity of 50 characters.	No	Text field
49.	Contact Number (mobile)	This field is number only with a capacity of 20 characters.	Yes	Text field
50.	Contact Number (office)	This field is number only with a capacity of 20 characters.	No	Text field
51.	Contact Number (house)	This field is number only with a capacity of 20 characters.	No	Text field

*Formula always corresponding to the field name on screen.

ID	Name	Formula
PR.SFM1	DOB	Upon Identification Card Number is entered, auto displayed the DOB: First 6 character of MyKad or MyKid (YYMMDD). Convert this value to (DD/MM/YYYY) format. (E.g. 801204092212 → DOB: 04/12/1980)
PR.SFM2	Age	Age will be auto calculated based on DOB *Age = Current date - DOB* Age format 999Y 99M 99D (E.g. 24Y 11M 25D, 02M 13D)
PR.SFM3	Gender	Upon Identification Card Number(MyKad or MyKid) is entered, auto displayed the gender as below: • Female if the ID end with even number. • Male if the ID end with odd number.
PR.SFM4	MRN	MRN is auto generated. It will contain facility prefix and then an 8 digit running sequence no. E.g. HPSFHPSF00000001, KKE08004500000001

ID	Name	Formula
PR.SFM5	Patient name	If ID = "Unknown Patient", upon save, system will auto generate the Patient Name if this field not entered by user. Format: *UNKNOWN.<Gender>.<Approximate Age>* (E.g.: UNKNOWN.MALE.25 Years)

3.2.4.3 Admission/Visit screen

3.2.4.3.1 Screen Design

ID	PM.SD3
Description	Admission/Visit screen

Diagram

    i.   Admission/Visit screen

    ii.   Patient Demographic

PATIENT REGISTRATION

i		Scan MyKad	Patient Label	Patient Label	+ Create Visit	💾	⊘	X

REGISTRATION INFORMATION

MRN	HPSF00229039		Merged History	
Title	[▼]	Gender	FEMALE ▼	*
Patient Name	[ ] *	Date of Birth	16/04/1985 📅	*
Identification Card Number	MYKAD ▼ [ ] * Check Duplicate	Age	33Y 01M 19D	
Other Identification Number	-SELECT- ▼ [ ]	Approximate Age	[ ]	
VIP	☐	Race	[▼]	
Government	☐	Religion	[▼] *	
Payment Category	[▼] eGL Verification	Nationality	[▼] *	
Government Relationship	[▼] *	Pensioner	☐ -SELECT- ▼ [ ]	
Status	ACTIVE ▼	Remarks	[ ]	

PATIENT DETAILS

Address 1	[ ] *	Email	[ ]	
Address 2	[ ]	Contact Number(Mobile)	[ ]	* Please enter at least one contact number
Address 3	[ ]	Contact Number(House)	[ ]	
Postcode	[ ]	Contact Number(Office)	[ ]	
State	[▼] *	Marital Status	[▼]	
City	[🔍]	Organization Name	[ ]	
Country	[▼] *	Education Level	[▼]	
Occupation	[🔍]			

NEXT OF KIN

	Copy Address from Patient Details			
Name	[ ]	Occupation	[🔍]	
ID Number	-SELECT- ▼ [ ]	Organization Name	[ ]	
Relationship	-SELECT- ▼	Gender	-SELECT- ▼	
Date of Birth	[📅]	Age	[ ]	
Address 1	[ ]	Email	[ ]	
Address 2	[ ]	Contact Number(Mobile)	[ ]	
Address 3	[ ]	Contact Number(House)	[ ]	
Postcode	[ ]	Contact Number(Office)	[ ]	
State	-SELECT- ▼			
City	[🔍]			
Country	-SELECT- ▼			

iii.　Visit Activity

VISIT ACTIVITY

						X
➕						
◄ ◄ 1 / 1 ► ►|						

Arrival Time ↕	Registration Time ↕	Appointment Time ↕	Meeting Doctor Time ↕	Total Waiting Time ↕	Doctor/ Specialist Name ↕	Remarks ↕
05/06/2018 03:44 PM	05/06/2018 03:44 PM	05/06/2018 03:44 PM	05/06/2018 03:44 PM	0:00		

iv.　Add/Edit Visit Activity

VISIT ACTIVITY

Arrival Date/Time	05/06/2018 03:44 PM *	Total Waiting Time 0:00
Registration Date/Time	05/06/2018 03:44 PM *	Doctor/ Specialist Name *
Appointment Date/Time	05/06/2018 03:44 PM *	Remarks
Meeting Doctor Date/Time	05/06/2018 03:44 PM *	

v.   Transfer visit

TRANSFER

Transfer From	W2	Ward 2-Paediatric	Transfer To	*
Transfer Date	08/06/2018 10:46:14 AM		Department	*
Bed No.From			Bed No.To	

Notes	• Click on 'Patient Demographic' button to open patient demographic screen.
	• Click on 'Patient Label' button to directly print patient label.
	• Click on 'Patient Label' with search icon button to preview the patient label before print.
	• Click on 'Visit Label' button to directly print visit label.
	• Click on 'Visit Label' with search icon button to preview the visit label before print.
	• Click on 'Sample Label' button to directly print sample label.
	• Click on 'Sample Label' with search icon button to preview the sample label before print.
	• Click on 'Edit' icon in Admission/Visit screen to edit on existing visit or enable the transfer function.
	• Click on 'Visit Activity' button to open visit activity screen.
	• Click on 'Save' button to save the allergy record.
	• Click on '+' icon to add new visit in Visit Activity list.
	• Click on 'Edit' icon to in Visit Activity screen to edit the visit.
	• Click on 'Delete' icon in Visit Activity screen to delete the existing visit.
	• Click on eGL Verification to check on eGL status for government patient.
	• Click on 'New Patient Transfer' button to open the transfer visit screen.
Cross References	PM.SD1 – Patient Registration Listing
	PM.SD3 – Visit Management / Ward Management screen

3.2.4.3.2 Application Business Rules

No.	Name	Description
1.	New patient visit	After double click on the patient name from Patient Registration listing page, Admission/Visit screen will be opened. User shall be able to create new patient visit using 2 ways: • Double click on previous visit at "Renew Visit" link • Manually create new visit by entering the visit type, visit location and department
2.	Visit Type	There are several visit type that user able to create such as below: • Outpatient visit – this visit valid for same day the visit is created. By midnight, outpatient visit which created on current date will be ended or visit status will be inactive. However, user still able to end the outpatient visit created on the same day by using edit function. • Inpatient visit – this visit will be active as long as user has not discharge/end the visit. • SPUB visit – this visit is for SPUB order. It will be consider as outpatient visit • Walk-In visit – this visit is for a patient that walk-in to clinic/hospital without an appointment. It will be consider as outpatient visit • Emergency visit – create this visit when patient admitted to emergency zone. It will be consider as inpatient visit. • Outsource visit – this visit is for patient admit • Daycare visit
3.	Referred Visit	If user has existing inpatient visit and user create another inpatient visit, it will be consider as a referred visit. The Referred checkbox will be auto checked. However if user has existing inpatient visit and wants to create outpatient visit, the Referred checkbox is editable. User able to untick and visit will be outpatient visit and not referred visit. If the checkbox remain as ticked, referred visit will be created.
4.	Transfer Visit	User shall be able to transfer the patient visit to another location. • When transfer the patient, system will check if there are existing referral visit exist based on the condition below: o **If user try to transfer the patient to a new location but there are current referral visit with department which do not exist at the transfer location, alert user to close the referral visit first before proceed to transfer**. Example: current main visit WAD A (Gen. Med), referral visit WAD A (Orthopedik) and patient wants to transfer to WAD B (Pead). WAD B does not have Orthopedik department, system should alert user.

No.	Name	Description
		o **However, if user transfer the patient to a new location but the new location has same department as referral visit, allow for transfer**. Example: current main visit WAD A (Gen. Med), referral visit WAD A (Orthopedik) and patient wants to transfer to WAD B (Pead). WAD B has Orthopedik department. System should allo user to transfer the patient without alert message.
5.	Discharge patient	User shall be able to discharge the patient either as normal discharge or deceased discharge. For normal discharge, user just needs to tick on Discharge checkbox and then select the discharge type. However, for a discharge as deceased, user have to tick on Discharge checkbox and Deceased checkbox together.
6.	End visit	User shall be able to end the visit by tick on End Visit checkbox. Once the visit is end, user cannot create new prescription unless user create new visit again for the patient.
7.	Save visit information	On click of save, after visit successfully created, alert message will be displayed "Proceed to medication order" with OK and Cancel button. On click of OK button, medication order screen will be displayed. On click of Cancel button, remain in visit screen. This is applicable for Pharmacy Based facility. For Full Based facility, once user save the visit information, screen will be closed.

3.2.4.3.3 Input Validation Rules

No.	Name	Description	Mand atory	Format
Admission Visit				
1.	Visit Type	Consists a several visit type. User shall be able to select for new visit, such as below: • Daycare • Emergency • Inpatient • Outpatient • Outsource • SPUB • Walk-in	Yes	Drop down list
2.	Encounter Number	System will auto generate the encounter number once visit is created. It is non editable field	Yes	Read only
3.	Main Encounter	Display the main encounter number if any. Value will be displayed if patient has existing visit.	No	Read only
4.	Department/Di scipline	User shall be able to select the Department/Discipline for the patient when	Yes	Drop down list

No.	Name	Description	Mand atory	Format
		create new visit. The value are depends on the selected location choose by user.		
5.	Location	User shall be able to select the location available in the facility. The value are depends on the selected department/discipline choose by user.	Yes	Drop down list
6.	Admitting Doctor	User shall be able to choose on the admitting doctor's name. User able to search on the doctor's name from the search window. For inpatient visit such as daycare or inpatient, the admitting doctor is mandatory to fill in. Other than these visit, it will become not mandatory.	No	Text field
7.	Date/Time	By default it will display the current date and time and this field is non-editable field.	Yes	Read only
8.	Room No	User shall be able to enter the room number if patient visit is inpatient. Maximum character for this field set to 50 characters.	No	Text field
9.	Specialist	User shall be able to enter the specialist name.	No	Drop down
10.	Referred By	User shall be able to enter the place patient is referred from. This drop down value consists of: • Ambulance Call • Day care centre • Emergency Department • General Practitioner • Government Health Clinic • Government Specialist • Non-MOH Hospital • Other Government Hospital • Others • Outpatient Department • Police • Preliminary Assessment Centre • Private Hospital • Self	No	Drop down
11.	Facility Encounter No	User shall be able to enter the facility encounter number. This is a free text field with max 20 characters.	No	Text field
12.	Bed No	User shall be able to enter the bed number for inpatient and daycare visit. This column will appear if user choose visit type=inpatient or daycare.	No	Text field
13.	Facility (External)	User shall be able to enter the facility external number for walk-in visit. User can search the external facility number from the search window. This column will appear if user choose visit type=Walk-in.	No	Text field

| No.	Name	Description	Mandatory	Format
14.	Zone	User shall be able to choose the emergency zone. It consists of: • Red zone – for high priority case (critical) • Yellow zone – for medium case • Green zone – for low priority case (not critical)	No	Drop down
15.	Attending Doctor	User shall be able to select the name of attending doctor. The list of prescriber is depends on the selected department. Name can be search from the search list.	No	Drop down
16.	Visit Case	User shall be able to tick either the newly created visit is a New Case or Follow Up case.	No	Checkbox
Admission Visit : Visit/Admission Add New Visit				
17.	Renew Visit	User shall be able to create new visit by click on '*Renew Visit'* link available at the Renew column. System will automatically create new visit same with previous visit, which ever selected by user.	No	Other - link
Admission Visit : Visit Activity Add New Visit/Edit Visit				
18.	Arrival Date/Time	By default it will display the arrival date and time when user add new visit/edit existing visit after click on Visit Activity button.	Yes	Calendar format in dd/mm/yyyy
19.	Registration Date/Time	By default it will display the registration date and time when user add new visit/edit existing visit after click on Visit Activity button.	Yes	Calendar format in dd/mm/yyyy
20.	Appointment Date/Time	By default it will display the appointment date and time when user add new visit/edit existing visit after click on Visit Activity button.	Yes	Calendar format in dd/mm/yyyy
21.	Meeting Date/Time	By default it will display the meeting date and time when user add new visit/edit existing visit after click on Visit Activity button.	Yes	Calendar format in dd/mm/yyyy
22.	Total Waiting Time	For new visit, total waiting time will be default to 0.00. It is non editable field.	No	Read only
23.	Doctor/Specialist Name	User shall be able to select the doctor/specialist from the search window.	Yes	Text field
24.	Remarks	User shall be able to enter any remarks regarding the visit. It is a free text field.	No	Text field
Admission Visit: New Patient Transfer				
25.	Transfer From	By default it will display the current location of the patient. It is non editable field.	Yes	Read only
26.	Transfer Date	By default, it will takes the current date and time.	Yes	Calendar format in dd/mm/yyyy hh:mm:ss AM/PM
27.	Bed No. From	By default it will display the current bed number of the patient when warded. It is non editable field	No	Read only

No.	Name	Description	Mandatory	Format
28.	Transfer To	User shall be able to select on new visit location from drop down list.	Yes	Drop down list
29.	Department	User shall be able to select on department from the drop down list.	Yes	Drop down list
30.	Bed No. To	User shall be able to enter the new bed number when transfer the patient.	No	Text field
Admission Visit: Discharge				
31.	Discharge	User will be able to tick on the discharge checkbox for inpatient visit. This checkbox is not enable for outpatient visit.	Yes	Checkbox
32.	Deceased/Death	If patient discharge as deceased or death, user need to tick on this checkbox after tick on discharge checkbox.	No	Checkbox
33.	Discharge Date	By default it will display the current date and time after user tick on discharge checkbox.	Yes	Date format in dd/mm/yyyy hh:mm:ss AM/PM
34.	Discharge Type	User shall be able to select on discharge type from the drop down list consists of: • Absconded • Deceased/Death • Discharge Home • At Own Risk • Referral • Discharge to Ward	Yes	Drop down list
35.	Discharge By	By default it will display the user login id. It is non editable field.	Yes	Read only
36.	Billing Amount	User shall be able to enter the billing amount for the patient. It is a free text field.	No	Text field
37.	End Visit	User shall be able to end the outpatient visit by tick on this checkbox. It will be disable if patient has active inpatient visit.	No	Check box
38.	Doctor	User shall be able to select the prescriber from the search list.	Yes	Text field
39.	Deceased Date/Time	By default it will display the current date and time if user choose patient is discharge as a deceased.	Yes	Date format in dd/mm/yyyy hh:mm:ss AM/PM
40.	Receipt Number	Manually enter the receipt number if applicable. It is a free text field.	No	Text field
Admission Visit: Patient Demographic (Refer to section *3.2.4.2.3*)				

3.2.5   Integration

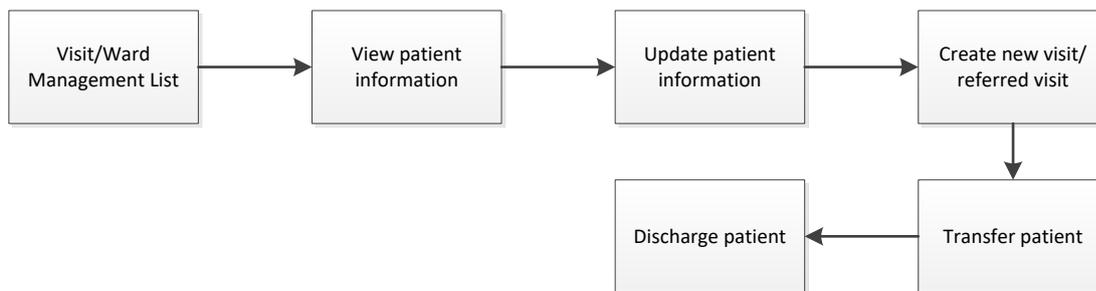| No.	Name	Description
1.	eGL Integration	1. To check the status of patient which has a status of non-paying government servant.
		2. This will allow the hospital or clinic to cross check on the patient eligibility of the bill payment.

3.3 Visit/Ward Management

3.3.1 Overview
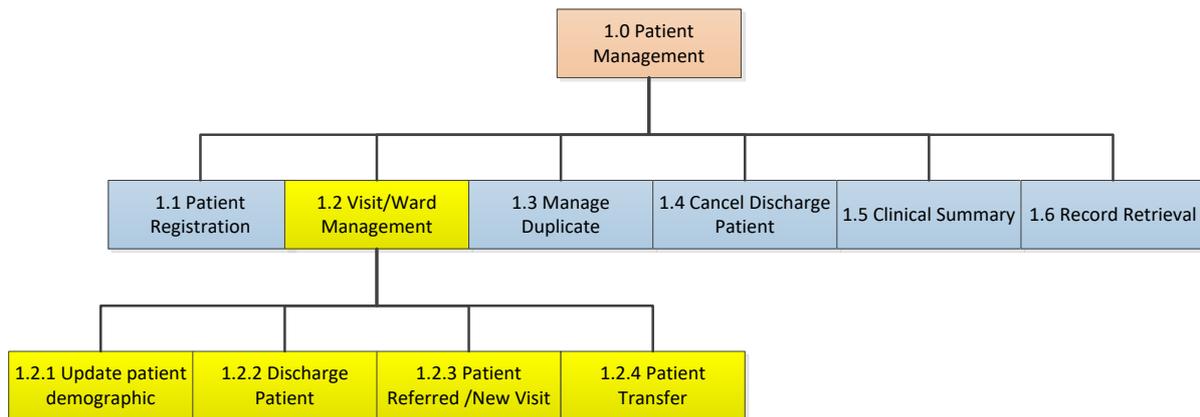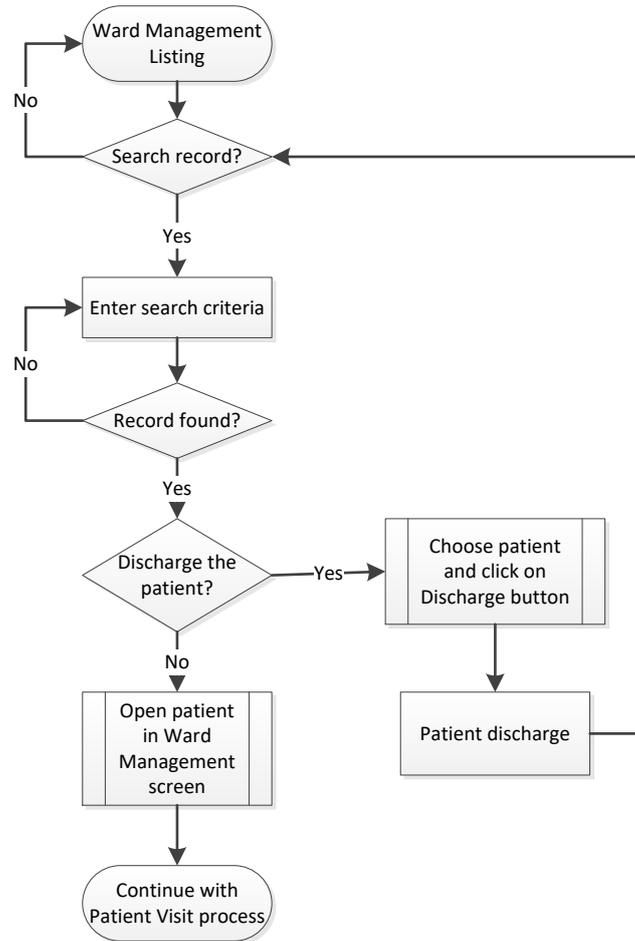

VM.OV1: Visit Management
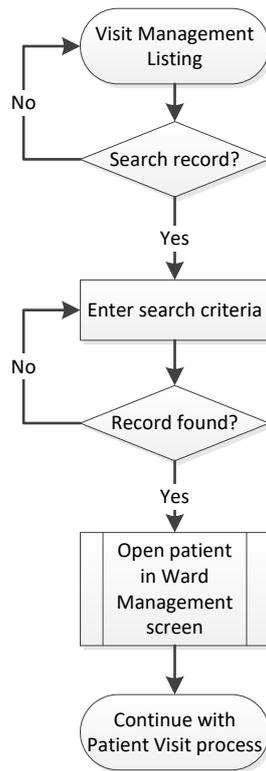
3.3.2 Block Diagram

VM.BD1: Visit Management flow

3.3.3 Purpose

Visit Management and Ward Management screen will allow authorized users to modify patient visit information. Authorize user will also be able to change the patient details, create new visit, create referred visit, transfer the patient to different location and discharge the patient.

3.3.4   Screen Navigation Diagram

```
                    ┌──────────────────┐
         ┌─────────►│ Ward Management  │
         │          │     Listing      │
         │          └────────┬─────────┘
         │                   │
         │              ◆────▼────◆
    No ──┘          Search record?  ◄──────────────────┐
                        ◆─────────◆                     │
                             │Yes                       │
                             ▼                          │
         ┌──────►┌──────────────────┐                   │
         │       │Enter search      │                   │
         │       │criteria          │                   │
         │       └────────┬─────────┘                   │
         │                │                             │
    No ──┘           ◆────▼────◆                         │
                   Record found?                        │
                    ◆─────────◆                         │
                         │Yes                           │
                         ▼                              │
                  ◆──────────◆        ┌──────────────┐  │
               Discharge the ─── Yes ─►│Choose patient│  │
                  patient?             │and click on  │  │
                  ◆──────────◆         │Discharge     │  │
                      │No              │button        │  │
                      ▼                └──────┬───────┘  │
              ┌──────────────┐                ▼          │
              │Open patient  │         ┌──────────────┐  │
              │in Ward       │         │Patient       │──┘
              │Management    │         │discharge     │
              │screen        │         └──────────────┘
              └──────┬───────┘
                     ▼
              ┌──────────────┐
              │Continue with │
              │Patient Visit │
              │process       │
              └──────────────┘
```

VM.SND1: Flow of Ward Management

VM.SND2: Flow of Visit Management

3.3.5 Detail Functionality and Screen

3.3.5.1 Visit/Ward Management Listing

3.3.5.1.1 Screen Design

ID	VM.SD1
Description	Visit/Ward Management Listing
Diagram	
i. Visit Management Listing (Full Based)	

VISIT MANAGEMENT LIST

MRN		Patient Name	
IC No/Other Identification		Visit Date	
Visit Location	WAD 6	Encounter No	
Discharge Medication	All	Bed No	

Q Search

| | /3 ▶ ▶| | | | | | | | [1 - 10 / 28] |

MRN	Patient Name	IC No/Other Identification	Actual Visit Date	Encounter No	Visit Type	Visit Location	Bed No	Department	Discharge Medication
HPSF00228989			26/04/2018	0854	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00146530			26/04/2018	0771	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00007731			26/04/2018	0768	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00050754			26/04/2018	0518	Inpatient	WAD 6		Dental (Oral Surgery)	No
HPSF00224078			25/04/2018	1286	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00050754			25/04/2018	1276	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00195317			25/04/2018	1168	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00197016			24/04/2018	0889	Inpatient	WAD 6		Psychiatric and Mental Health	No

ii.   Visit Management Listing (Pharmacy Based)

VISIT MANAGEMENT LIST

MRN		Patient Name	
IC No/Other Identification		Visit Date	
Visit Location	Farmasi Bekalan Wad - Rx Filling	Encounter No	
Discharge Medication	No	Bed No	

Q Search   Discharge

| « ‹ | 2 | /3 › » | | | | | | | | [11 - 20 / 28] |

MRN	Patient Name	IC No/Other Identification	Actual Visit Date	Encounter No	Visit Type	Visit Location	Bed No	Department	Discharge Medication	☑ Discharge
HKLM00153092			22/06/2017	0245	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	No	☑
HKLM00071606			02/05/2017	0409	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	No	☑
HKLM00152704			26/04/2017	0305	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	No	☑
HKLM00152113			20/04/2017	0205	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	No	☑
HKLM00148814			22/03/2017	0238	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	No	☑
HKLM00082266			12/03/2017	0251	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	Yes	☑
HKLM00071101			06/03/2017	0289	Inpatient	Farmasi Bekalan Wad - Rx Filling		Anaesthesia and Intensive Care	No	☑

iii.   Ward Management Listing

WARD MANAGEMENT LIST

MRN		Patient Name	
IC No/Other Identification		Visit Date	
Visit Location	WAD 6	Encounter No	
Discharge Medication	All	Bed No	

Search

[1 - 10 / 28]

MRN	Patient Name	IC No/Other Identification	Actual Visit Date	Encounter No	Visit Type	Visit Location	Bed No	Department	Discharge Medication
HPSF00228989			26/04/2018	0854	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00146530			26/04/2018	0771	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00007731			26/04/2018	0768	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00050754			26/04/2018	0518	Inpatient	WAD 6		Dental (Oral Surgery)	No
HPSF00224078			25/04/2018	1286	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00050754			25/04/2018	1276	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00195317			25/04/2018	1168	Inpatient	WAD 6		Orthopaedic and Traumatology	No
HPSF00197016			24/04/2018	0889	Inpatient	WAD 6		Psychiatric and Mental Health	No

iv.   Ward Management Listing (Pharmacy Based)

WARD MANAGEMENT LIST

MRN		Patient Name	
IC No/Other Identification		Visit Date	
Visit Location	Farmasi Klinik Pakar - Rx Filling	Encounter No	
Discharge Medication	All	Bed No	

Search   Discharge

[1 - 9 / 9]

MRN	Patient Name	IC No/Other Identification	Actual Visit Date	Encounter No	Visit Type	Visit Location	Bed No	Department	Discharge Medication	☑ Discharge
HKLM00160289			08/07/2017	0936	Inpatient	Farmasi Klinik Pakar - Rx Filling		Emergency and Trauma	No	☑
HKLM00151054			11/04/2017	0160	Inpatient	Farmasi Klinik Pakar - Rx Filling		Pharmacy	No	☑
HKLM00137399			15/12/2016	0108	Inpatient	Farmasi Klinik Pakar - Rx Filling		Emergency and Trauma	Yes	☑
HKLM00126959			26/09/2016	0398	Inpatient	Farmasi Klinik Pakar - Rx Filling		Emergency and Trauma	No	☑
HKLM00126591			23/09/2016	0083	Inpatient	Farmasi Klinik Pakar - Rx Filling		Emergency and Trauma	No	☑
HKLM00124454			08/09/2016	0061	Inpatient	Farmasi Klinik Pakar - Rx Filling		Emergency and Trauma	No	☑
HKLM00124443			08/09/2016	0041	Inpatient	Farmasi Klinik Pakar - Rx Filling		Emergency and Trauma	No	☑

Notes	• Click on Search to search patient name based on filter criteria. • Click on 'Discharge' button to discharge the selected patient (pharmacy based). • Click on Discharge checkbox to select patient for discharge. • Click on 'Refresh' icon to refresh the listing.
Cross References	PM.SD2 – Admission/Visit screen.

3.3.5.1.2   Application Business Rules

No.	Name	Description
1.	Patient List	The listing of the patient will display for all patients with current active visit. It will be sorted in ascending order, from old visit date to latest visit date. Old visit date will be displayed on top.
2.	Refresh List	Click on the Refresh button to reset all searched records and searching criteria to default value.
3.	Discharge patient by Discharge button	User shall be able to discharge patient from this listing by selecting patient name using checkbox available at the end of the table. User able to choose certain patient or all patients for discharge. To select patients for discharge from the list, tick on the checkbox on top of the Discharge column. Once discharge, record will be updated as discharge normal, discharge doctor's name will took a value from discharge prescriber set in the system and discharge type will be set to 'Discharge Home'.

3.3.5.1.3   Input Validation Rules

No.	Name	Description	Mandatory	Format
1.	MRN	Visit/Ward Management listing shall be retrieved from the database for all registered patients with visit based on matching MRN and related to original prescriber/pharmacist name that create the order.	No	Text field (search field)
2.	IC Number/ Other Identification Number	Visit/Ward Management listing shall be retrieved from the database for all registered patients with visit based on matching IC number or other identification number and related to original prescriber/pharmacist name that create the order.	No	Text field (search field)
3.	Patient Name	Visit/Ward Management listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (search field)
4.	Visit Date	Record shall be retrieved from the database for all visit date that matched the input.	No	Calendar format in dd/mm/yyyy
5.	Visit Location	Record shall be retrieved from the database for visit Location input by user.	No	Drop down (search field)
6.	Encounter No	Record shall be retrieve from the database for encounter number entered by user.	No	Text field (search field)
7.	Discharge Medication	User shall be able to search record where discharge medication is Yes or No.	No	Drop down (search field)
8.	Bed No	User shall be able to search record where bed number matched with the value entered.	No	Text field (search field)

3.3.6 Integration

None.

3.4 Manage Duplicate

3.4.1 Overview
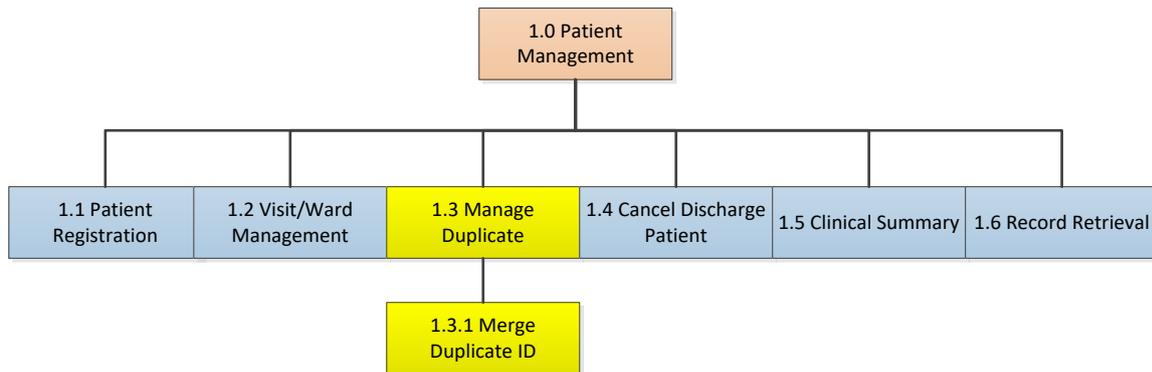
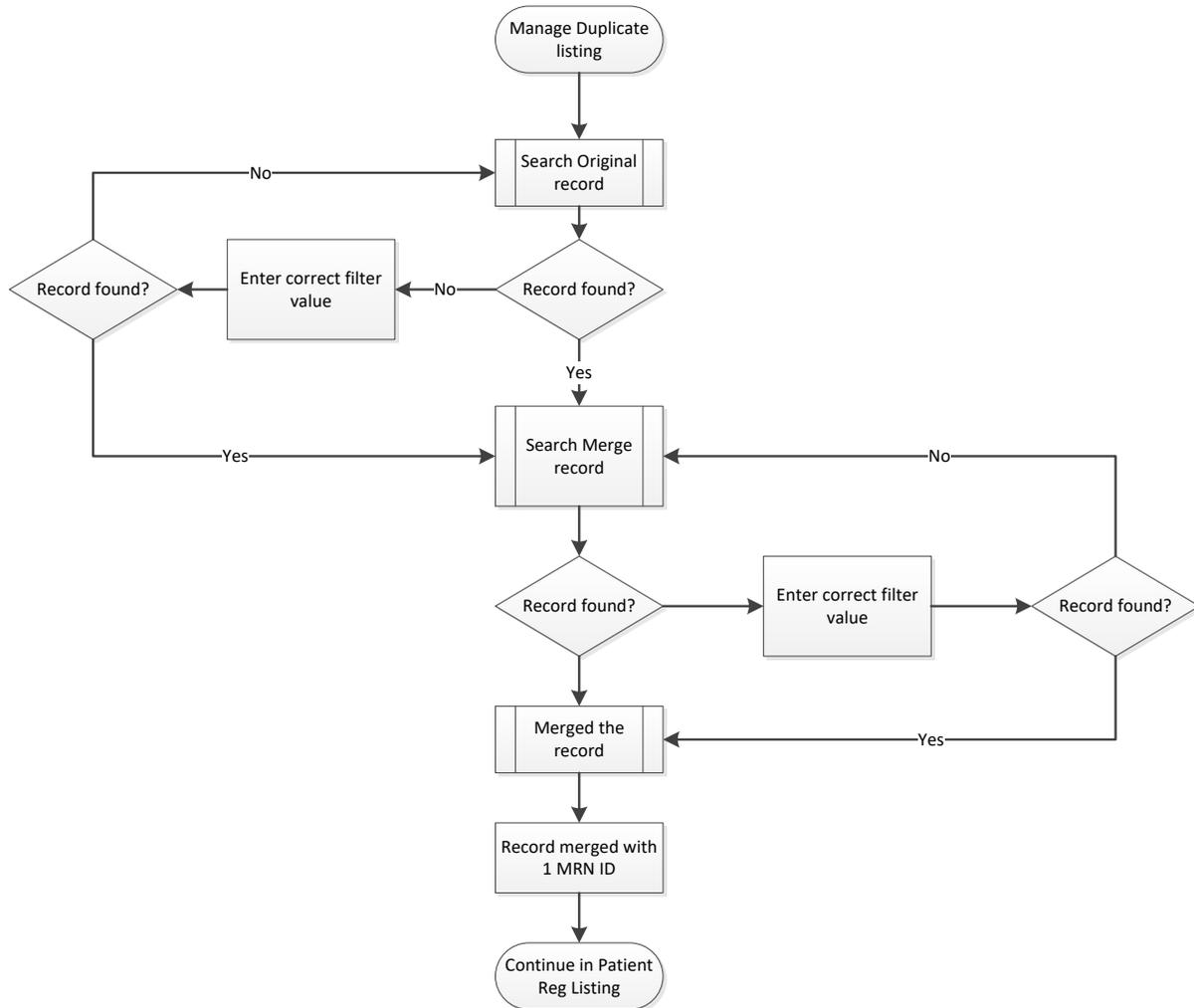MD.OV1: Manage Duplicate

3.4.2 Block Diagram
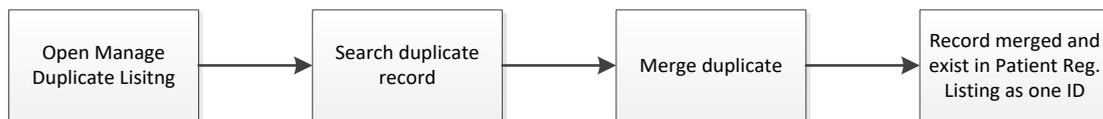
MD.BD1: Manage Duplicate

3.4.3 Purpose

Manage Duplicate screen used by authorize user to merge the duplicate record. Once merged, user cannot unmerge back the record. However, the unused merged duplicate ID still can be used to create for a new patient ID.

3.4.4 Screen Navigation Diagram

MD.SND1: Manage Duplicate flow

3.4.5 Detail Functionality and Screen

3.4.5.1 Manage Duplicate

3.4.5.1.1 Screen Design

ID	MD.SD1
Description	Manage Duplicate
Diagram	

MANAGE DUPLICATE RECORD

Merge

ORIGINAL RECORD

MRN		Patient Name	patient
IC No/Other Identification	850201715031	Registration Date	

Search

[1 - 1 / 1]

Original	MRN	Patient Name	IC No/Other Identification	Registration Date	Payment Category
○	HKLM00085063	PATIENT	850201715031	28/09/2015	

DUPLICATE RECORD

MRN		Patient Name	test
IC No/Other Identification	650213355698	Registration Date	

Search

[1 - 1 / 1]

Duplicate	MRN	Patient Name	IC No/Other Identification	Registration Date	Payment Category
☐	HKLM00067194	TESTING	650213355698	24/03/2015	

Notes	• Click on 'Search' button to search the pending authorisation order.
	• Click on 'Merge' button to merge the duplicate record.
	• Tick on 'Original' radio button to select the original record for merging.
	• Tick on 'Duplicate' checkbox to select the duplicate record for merging.
Cross References	PM.SD1 – Patient Registration Listing

3.4.5.1.2   Application Business Rules

No.	Name	Description
1.	Original Record	User shall be able to search on original record for the merging. Search on this record first before do the merging activity. Original record will show the MRN, Patient Name, IC No/Other Identification, Registered Date and payment category if any. Ticked on the radio button to select the record for merging.
2.	Duplicate Record	User shall be able to search on the duplicate record for the merging. Search on this record after search original record before do the merging activity. Duplicate record will also show the MRN, Patient Name, IC No/Other Identification, Registered Date and payment category if any. Ticked on the checkbox to select the record for merging.
3.	Merged Record	This process will merge the original record with duplicate record. Once merged, system will remain the original record as the correct patient record and remove the duplicate patient record from patient list. However, users still able to use back this duplicate ID to create on new patient records that carry the correct ID.

3.4.5.1.3   Input Validation Rules

No.	Name	Description	Mand atory	Format
1.	MRN	Patient listing shall be retrieved from the database for all registered patients with visit based on matching MRN.	No	Text field (searching field)
2.	Patient Name	Patient listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (searching field)
3.	IC No/Other Identification Number	Patient listing shall be retrieved from the database for all registered patients with visit on matching IC No/Other Identification number.	No	Text field (searching field)
4.	Registration Date	Patient listing shall be retrieved from the database for all registered patients based on the registered date.	No	Calendar in format dd/mm/yyyy (searching field)

3.4.6   Integration

None.

3.5   Cancel Discharge

3.5.1   Overview
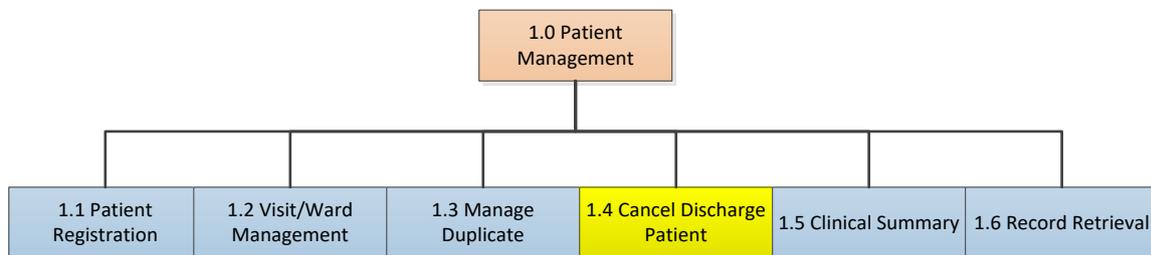
CD.OV1: Cancel Discharge

3.5.2   Block Diagram
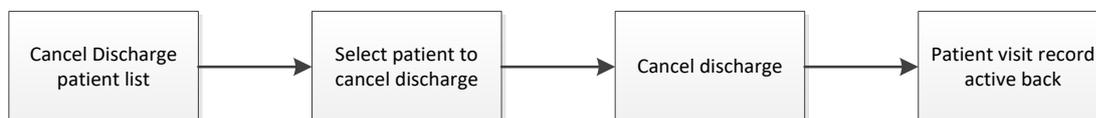
CD.BD1: Cancel Discharge block diagram

3.5.3   Purpose

Cancel Discharge listing used for authorized user to cancel the discharge patient. It can be done on the same day when patient is discharge. User cannot cancel the discharge once record on the following days. Once users cancel the discharge, record will be available back in the MAR and dispensing screens.

3.5.4 Screen Navigation Diagram
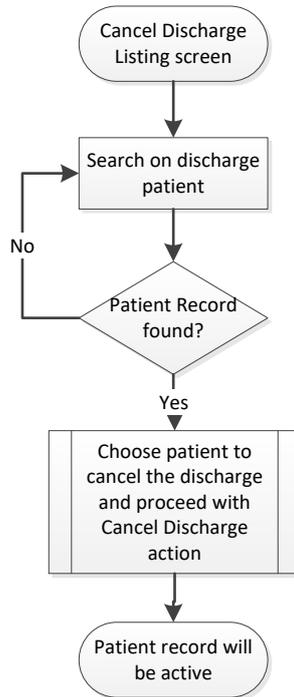
CD.SND1: Cancel Discharge flow

3.5.5 Detail Functionality and Screen

3.5.5.1 Cancel Discharge

3.5.5.1.1 Screen Design

ID	CD.SD1
Description	Cancel Discharge

Diagram
  i.   Cancel Discharge Listing

  ii.   Cancel Discharge

Notes	• Click on 'Search' button to search the discharge patient list.
	• Click on 'Cancel Discharge' button to cancel the discharge record.
	• Double click on the patient record to open patient details in Cancel Discharge Patient screen.
Cross Reference	PM.SD1 – Patient Registration Listing
	PM.SD3 – Admission Visit screen

3.5.5.1.2   Application Business Rules

No.	Name	Description
1.	Cancel Discharge listing	By default it will show record of discharge on current date. The discharge information in listing page displays few information such as below:
		• Discharge Date – the date when the discharge was made which should be same as current date
		• Actual Visit Date – the actual visit date
		• Visit Type – type of patient visit whether inpatient, emergency or daycare
		• Visit Location – the location of the visit
		• MRN – patient MRN number
		• Patient Name
		• IC No/Other Identification
		• Discharge By – the person's name that discharge the patient
2.	Cancel Discharge	User shall be able to cancel the discharge patient on the same patient is being discharge. User shall not be able to see the discharge patient from yesterday's record. Once the discharge is cancel, patient record will become active again and appear back inside the dispensing screens.
3.	Refresh List	Click on the Refresh button to reset all searched records and searching criteria's to default value.

3.5.5.1.3   Input Validation Rules

No.	Name	Description	Mandatory	Format
Cancel Discharge Listing				
1.	Discharge Date	By default the discharge date will be set to the current date in format of dd/mm/yyyy and non editable.	Yes	Read only

No.	Name	Description	Mand atory	Format
2.	Encounter Number	Patient listing shall be retrieved from the database for all registered patients with discharge list matching on encounter number.	No	Text field (search)
3.	IC No/Other Identification	Patient listing shall be retrieved from the database for all registered patients with visit on matching IC No/Other Identification number.	No	Text field (search)
4.	MRN	Patient listing shall be retrieved from the database for all registered patients with visit based on matching MRN.	No	Text field (search)
5.	Patient Name	Patient listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (search)
Cancel Discharge				
6.	Discharge Date	User shall be able to view the discharge date and it is non editable field.	No	Read only
7.	Encounter Number	User shall be able to view the encounter number and it is non editable field.	No	Read only
8.	Patient Name	User shall be able to view the patient name and it is non editable field.	No	Read only
9.	Visit Type	User shall be able to view the visit type and it is non editable field.	No	Read only
10.	Admission Date	User shall be able to view the admission date and it is non editable field.	No	Read only
11.	Location	User shall be able to view the location and it is non editable field.	No	Read only
12.	Discharge By	User shall be able to view the person's name that do the discharge and it is non editable field.	No	Read only
13.	Cancel Discharge By	By default it will display the login name and it is also the name of a person that will do the cancel discharge record. It is non editable field.	No	Read only
14.	Reason	User shall be able to enter reason in a free text field.	Yes	Text field

3.5.6   Integration

None.

3.6 Clinical Summary

3.6.1 Overview
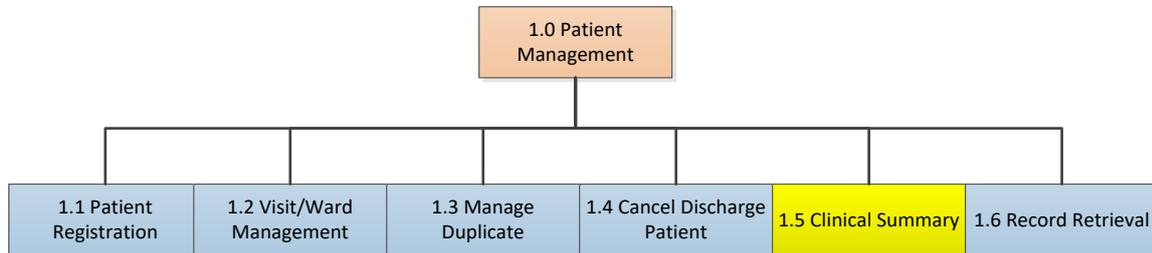
CS.OV1: Clinical Summary

3.6.2 Block Diagram

CS.BD1: Clinical Summary

3.6.3 Purpose

User shall be able to view the medication order from Clinical Summary screen. This screen is for viewing purpose only. It will show any history medication record and others.

3.6.4 Screen Navigation Diagram
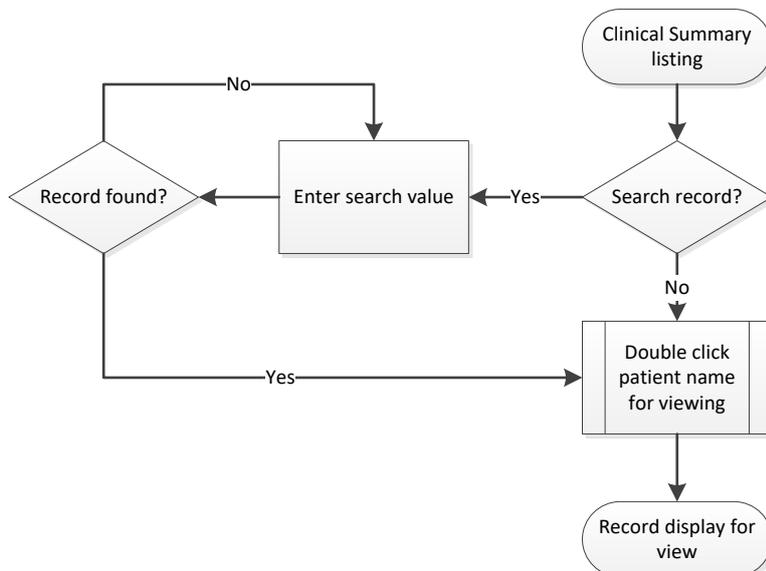
CS.SND1: Clinical Summary flow

3.6.5 Detail Functionality and Screen

3.6.5.1 Clinical Summary Listing

3.6.5.1.1 Screen Design

ID	CS.SD1
Description	Clinical Summary Listing
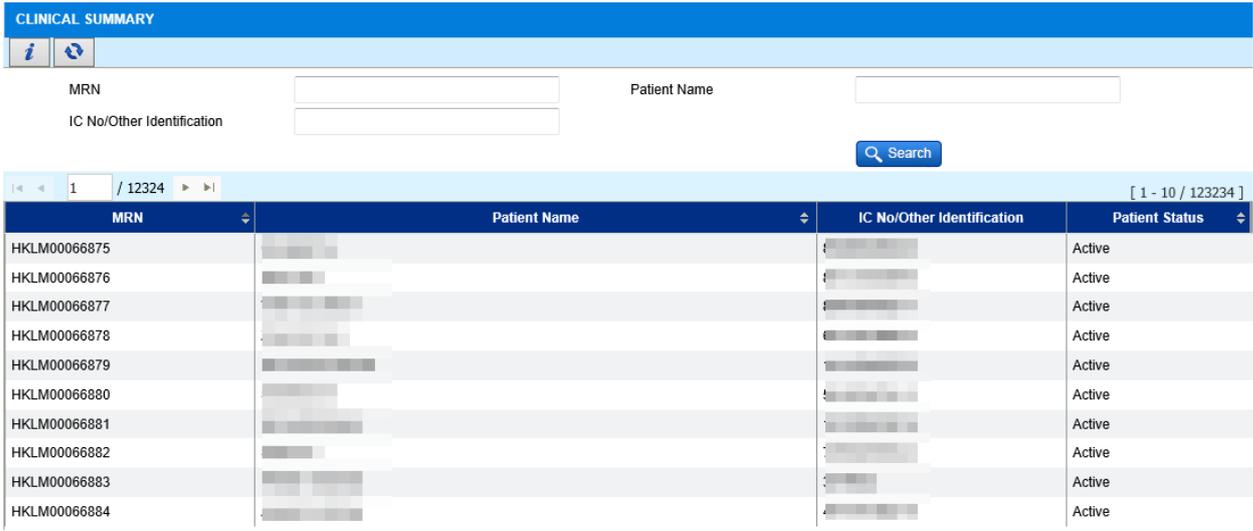
Diagram	
Diagram i. Clinical Summary Listing 	
Notes	• Click on 'Search' button to search the drug record. • Double click on patient name to open patient details for viewing.
Cross References	None

3.6.5.1.2 Application Business Rules

No.	Name	Description
1.	Clinical Summary listing	By default record will be listed based on MRN number in ascending order, earlier MRN number will be displayed on top. The listing will show active and inactive patients in the facility that has active visit or inactive visit. Active status refer to patient that still have discharge as a deceased and inactive status refer to a patient with discharge status as a deceased. Patient with inactive status will not be able to search in Patient Registration screen but only available in Clinical Summary screen. The display shows patient information such as: • MRN – patient MRN and earlier MRN will be displayed first • Patient Name – patient name as registered in the system • IC No/Other Identification – patient IC/ID's number as registered in the system • Patient Status – consists of active and inactive status.
2.	Refresh List	Click on the Refresh button to reset all searched records and searching criteria's to default value.

3.6.5.1.3   Input Validation Rules

No.	Name	Description	Mand atory	Format
1.	MRN	Patient listing shall be retrieved from the database for all registered patients with visit based on matching MRN.	No	Text field (searching field)
2.	Patient Name	Patient listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (searching field)
3.	IC No/Other Identification Number	Patient listing shall be retrieved from the database for all registered patients with visit on matching IC No/Other Identification number.	No	Text field (searching field)

3.6.5.2   Clinical Summary View

3.6.5.2.1   Screen Design

ID	CS.SD2
Description	Clinical Summary View

Diagram

   i.   Clinical Summary View
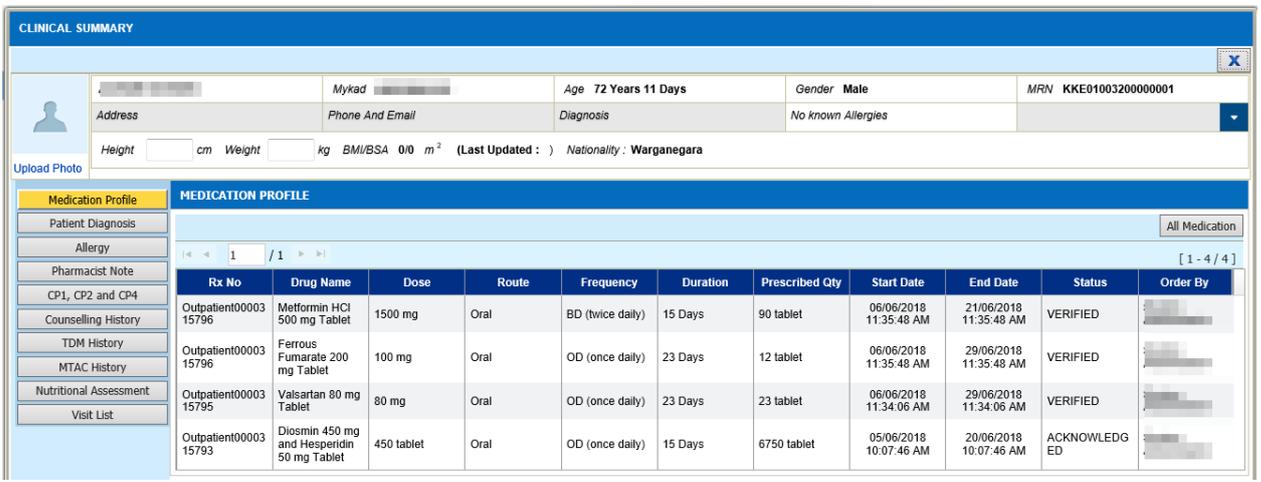
   ii.   All Medication view

MEDICATION PROFILE

Administration Dispensing

	Mykad	Age **72 Years 11 Days**	Gender **Male**	MRN **KKE01003200000001**

Address | Phone And Email | Diagnosis | No known Allergies

Height ___ cm Weight ___ kg BMI/BSA **0/0** m² (Last Updated :) Nationality : **Warganegara**

Upload Photo

Drug Name		Visit Type	All
Prescription Date From		Prescription Date To	
Prescription Status	All	Location	All
Order Type	Normal		Search

Current Medication

Rx No.	Discharge Medication	Drug Name	Dose	Route	Frequency	Duration	Start Date	End Date	Statu
Outpatient0000315796	No	Metformin HCl 500 mg Tablet	1500 mg	Oral	BD (twice daily)	15 Days	06/06/2018 11:35:48 AM	21/06/2018 11:35:48 AM	VERIFI
Outpatient0000315796	No	Ferrous Fumarate 200 mg Tablet	100 mg	Oral	OD (once daily)	23 Days	06/06/2018 11:35:48 AM	29/06/2018 11:35:48 AM	VERIFI
Outpatient0000315795	No	Valsartan 80 mg Tablet	80 mg	Oral	OD (once daily)	23 Days	06/06/2018 11:34:06 AM	29/06/2018 11:34:06 AM	VERIFI
Outpatient0000315793	No	Diosmin 450 mg and Hesperidin 50 mg Tablet	450 tablet	Oral	OD (once daily)	15 Days	05/06/2018 10:07:46 AM	20/06/2018 10:07:46 AM	ACKNOWL

Previous Medication

Rx No.	Discharge Medication	Drug Name	Dose	Route	Frequency	Duration	Start Date	End Date	Statu

iii.   Patient Diagnosis

DIAGNOSIS

Description	Date	Status
test diagnos	06/06/2018 2:31:02 PM	Confirmed

iv.   Allergy

ALLERGY

Allergen	Allergen Type	Severity	Status	Identification Date
Simvastatin	Drug	Moderate	To be confirmed	06/06/2018

v.   Pharmacist Notes

PHARMACIST NOTE

More

| 1 | / 1 | | [1 - 1 / 1] |

Date/Time	Visit Location	Type Of Service	Pharmacist Notes
16/08/2016 06:05:31 PM	Klinik Pakar 3 (Medical & Dermatology & Paediatric	MC	-reassessed patients inhaler technique, dose, frequency, indication, correct inhalation steps, dose indicator/empty canister, cleaning method, gargle mouth after use ICS, storage. Stressed on importance of adherence. Findings: patient managed to demonstrate in haler tech well and understood the importance of adherence.

vi.   CP1,CP2,CP4

CP1, CP2, CP4

More

Date/Time	Visit Location	CP1 History	CP2 History	CP4 History
06/06/2018 11:17:41 AM	Outpatient Clinic	CP1	CP2	CP4
05/06/2018 9:55:33 AM	Outpatient Clinic	CP1	CP2	CP4
12/04/2018 10:27:14 AM	Outpatient Clinic	CP1	CP2	CP4
10/04/2018 5:14:31 PM	Outpatient Clinic	CP1	CP2	CP4
06/03/2017 8:03:10 AM	Outpatient Clinic	CP1	CP2	CP4

vii. Counselling History

MEDICATION COUNSELLING REPORTING (INDIVIDUAL)

More

Appointment Date/Time	Counselling Location	Medication Counselling Reporting (individual)	Status
06/04/2015 5:50:01 PM	Bedside	Medication Counselling	Confirmed

viii. TDM History

TDM HISTORY

1 / 1   [1 - 1 / 1]

TDM Order No	TDM Drug	Ordered Date	Acknowledged By	Verified By	Status	Report Details	Sample Details
TDM0000005311	Amikacin 500mg/2ml Injection	04/04/2018 11:01:41 AM		System Administrator	TDM Completed	RPT0000003863	Amikacin random

ix. MTAC History

MTAC REPORTING HISTORY

More

Date/Time	Visit Location	MTAC Reporting History	Status
24/06/2015 2:38:49 PM	Outpatient Clinic	MTAC	Completed
26/06/2016 11:31:49 AM	Outpatient Clinic	MTAC	In Progress
09/01/2017 12:33:19 PM	Outpatient Clinic	MTAC	In Progress
04/06/2017 3:46:46 PM	Outpatient Clinic	MTAC	In Progress

x. Nutrional Assessment

NUTRITIONAL ASSESSMENT

More

NA No.	Date	Recorded By	Details
NA18-06-0001	06/06/2018	System Administrator	NRS Total Score: 1, SGA Score: - Severe malnourished

xi. Visit List

VISIT/ADMISSION

1 / 7   [1 - 5 / 34]

Encounter No	Visit/Admission Date	Visit Type	Location	Department	Main/Referral	Discharge Date
0001	19/04/2018	Outpatient	Klinik Pakar 3 (Medical & Dermatology & Paediatric	General Medicine	MAIN	
0001	06/04/2018	Outpatient	Klinik Pakar 3 (Medical & Dermatology & Paediatric	General Medicine	MAIN	
0001	04/04/2018	Outpatient	Klinik Pakar 3 (Medical & Dermatology & Paediatric	General Medicine	MAIN	
0001	28/03/2018	Outpatient	Jabatan Kecemasan dan Trauma	Emergency and Trauma	MAIN	
0213	04/02/2018	Outpatient	Jabatan Kecemasan dan Trauma	Emergency and Trauma	MAIN	

Notes	• Click on 'All Medication' button to view Medication Profile screen.
	• Click on 'Patient Diagnosis' button to view patient diagnosis.
	• Click on 'Allergy' button to view the allergy record.
	• Click on 'Pharmacist Note' button to view pharmacist note record.
	• Click on 'CP1, CP2 and CP4' button to open CP1,CP2,CP4 screen.
	• Click on 'Counselling History' button to open and view counselling history.
	• Click on 'TDM History' button to view TDM history.
	• Click on 'MTAC History' button to view MTAC history.

	• Click on 'Nutritional Assessment' button to view the nutritional assessment record. • Click on 'Visit List' button to view the visit list history record.
Cross References	CS.SD1 – Clinical Summary listing page PhIS_CPS_SDD_Clinical_v1.0 – specification document for Clinical module

3.6.5.2.2   Application Business Rules

No.	Name	Description
1.	Clinical Summary view	By default it will display all active medication in the screen. If patient has active visit and active medication order, the details will be displayed. Information display as below: • Rx No – prescription number of the medication • Drug Name – listing of drug names from the existing visit • Dose – dose of every drugs order • Route – route of every drugs order • Frequency – frequency of every drugs order • Duration – duration for every drugs order • Prescribe Qty – display the total amount of prescribe quantity of the order • Start Date – start date of the drugs order • End Date – end date of the drugs order • Status – display the current status of the drugs order and this status will be changed from time to time, depends on the record flow in which stage • Order By – display the original prescriber name
2.	Patient Diagnosis	User shall be able to view the patient diagnosis record. No modification is allowed.
3.	Patient Allergy	User shall be able to view the patient allergy. No modification is allowed. However, user will be able to add in new allergy from the patient banner Allergy link. Once user add on allergy record and then close the allergy screen, no medication can be done from this screen.
4.	Clinical button	User shall be able to access to some of the clinical screen such as: • Pharmacist Note • CP1,CP2 and CP4 • Counselling History • TDM History • MTAC History • Nutritional Assessment
5.	Visit List	User shall be able to view the previous and current active visit record. It is for viewing purpose only.

3.6.5.2.3 Input Validation Rules

No.	Name	Description	Mandatory	Format
Patient Banner				
1.	Height	User shall be able to enter the height of the patient. It is not mandatory field.	No	Text field
2.	Weight	User shall be able to enter the weight of the patient. It is not mandatory field.	No	Text field
3.	Allergy	User shall be able to add allergy record for the patient		
Medication Profile				
1.	Drug Name	User shall be able to search the record in Medication Profile by entering value of drug name. It is a search screen where user able to search the drug by drug name and drug code.	No	Text field (search screen)
2.	Visit Type	User shall be able to search the record in Medication Profile by choosing type of visit. It is a drop down list and consists of value: • All • Daycare • Emergency • Inpatient • Outpatient • Outsource • SPUB • Walk-in	No	Drop down list (search field)
3.	Prescription Date From	User shall be able to search the record in Medication Profile by entering the start date of prescription.	No	Calendar format in dd/mm/yyyy (search field)
4.	Prescription Date To	User shall be able to search the record in Medication Profile by entering the end date of prescription.	No	Calendar format in dd/mm/yyyy (search field)
5.	Prescription Status	User shall be able to search the record in Medication Profile by drug status of: • All • Acknowledged • Dispensed • Expired • In Progress • Order is on hold • Order was cancel • Order was discontinue • Ordered	No	Drop down list (search field)

No.	Name	Description	Mand atory	Format
		• Partially Dispensed • Prepare Hold • Prepared • Uncollected • Verified		
6.	Order Type	User shall be able to search the record in Medication Profile by choosing the order type of: • CDR • IV • Normal • PN • Radiopharmaceuticals • TDM	No	Drop down list (search field)
7.	Location	User shall be able to search the record in Medication Profile by choosing the patient visit location.	No	Drop down list (search field)

Screen which related to Clinical module (Pharmacist Notes, CP1,CP2 and CP4, Counselling History, TDM History, MTAC History, Nutritional Assessment), refer to clinical specification document in PhIS_CPS_SDD_Clinical_v1.0.

3.6.6 Integration

None.

3.7 Record Retrieval

3.7.1 Overview
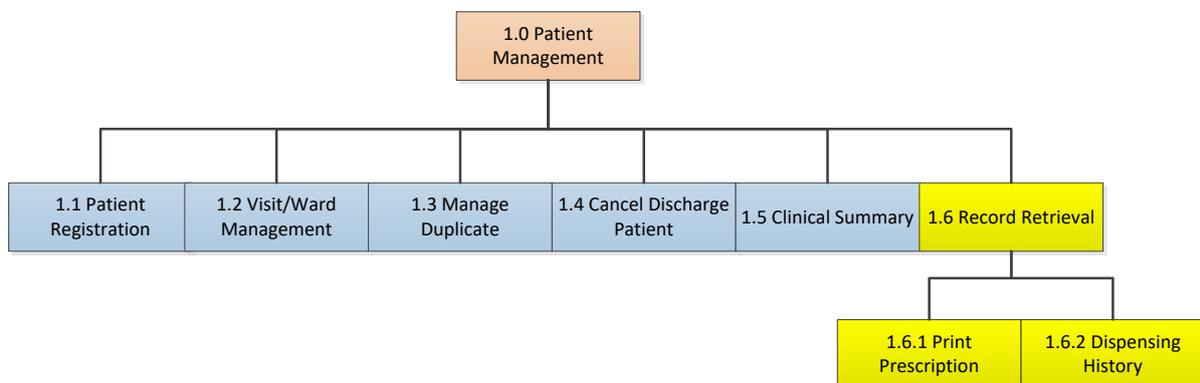
RR.OV1: Record Retrieval

3.7.2 Block Diagram
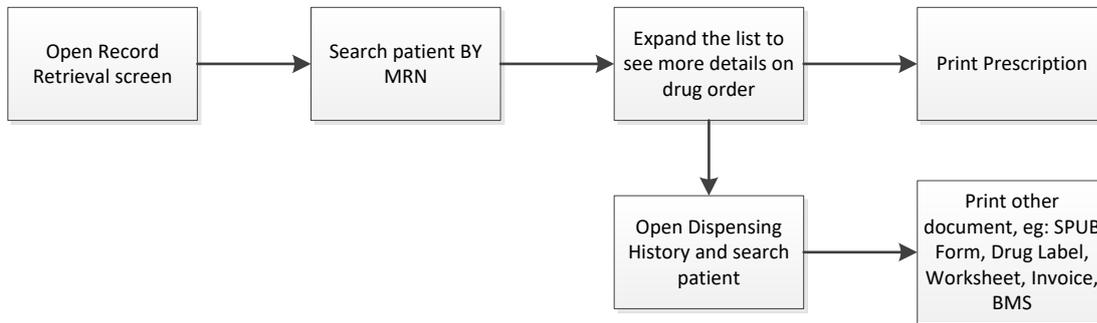
RR.BD1: Record Retrieval

3.7.3 Purpose

User can retrieve back the patient record and keep track on where is the dispensing location of the patient record. User shall be able to print document such as original prescription, BMS, Worksheet, Invoice and drug label.

3.7.4 Screen Navigation Diagram
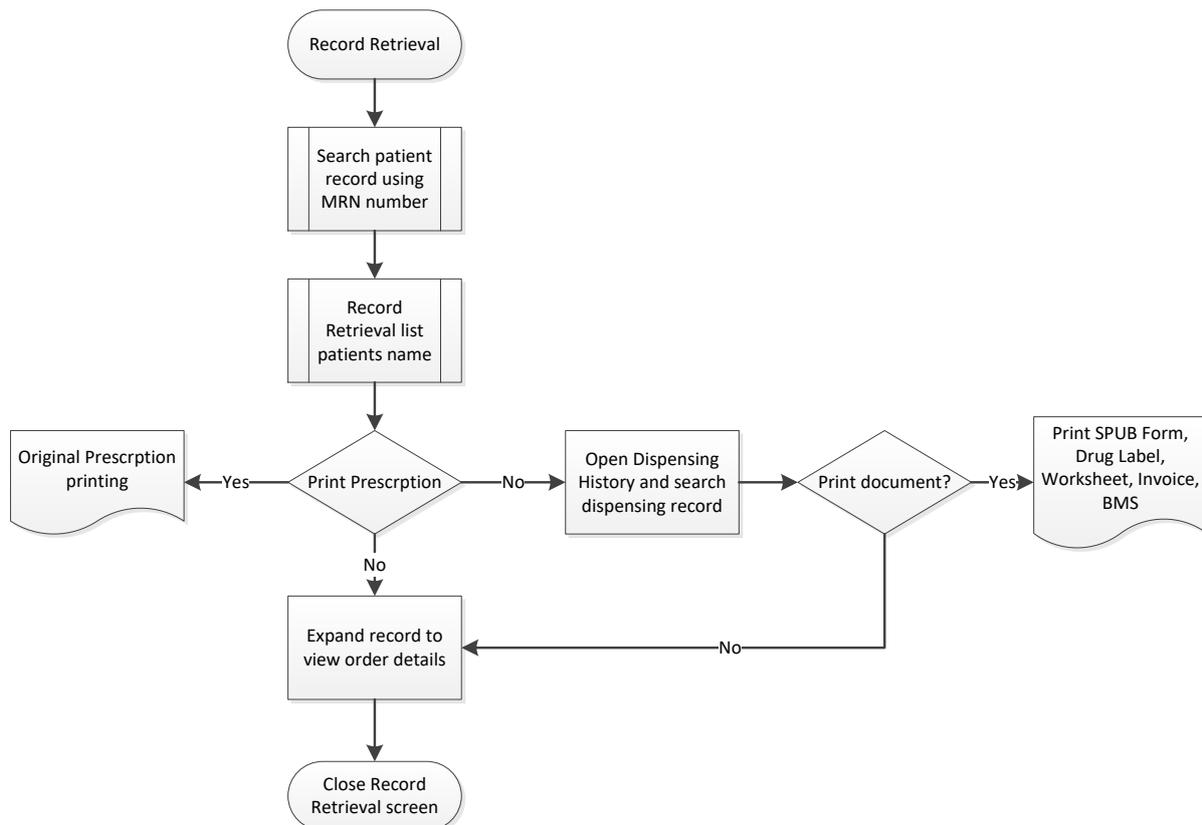
RR.SND1: Record Retrieval flow

3.7.5   Detail Functionality and Screen

3.7.5.1   Record Retrieval Listing

3.7.5.1.1   Screen Design

ID	RR.SD1
Description	Record Retrieval

Diagram

    i.   Record Retrieval Listing

    ii.   Patient Search

    iii.   Dispensing History Search

iv.   Dispensing Location hyperlink

Notes	• Click on 'Search' button to search the drug record.
	• Click on 'Prescription' button to view and print the original prescription.
	• Click on 'Dispensing History' button to open dispensing history screen.
	• Click on dispensing location hyperlink to open Change Dispensing Location and reroute patient to new location.
Cross References	None

3.7.5.1.2   Application Business Rules

No.	Name	Description
1.	Record Retrieval Listing	By default the listing page will be blank. User has to search on specific patient name through Patient Search screen. MRN number is mandatory when user wants to search on patient record. Once found the MRN number of the selected patient from Patient Search screen, user will have to click on Search again to display the record. Patient record will display the drug order as long as it is not expired or stopped.
2.	Change dispensing location	User shall be able to change the current dispensing location to a new location. Once change to new location, order will be reroute to new location.
3.	Original Prescription printing	User shall be able to print the original prescription by clicks on Prescription button.

No.	Name	Description
4.	Dispensing History	This button will only enable if user already has a dispensed record. Once clicks a Dispensing History search screen will appear. Enter the filter value and then clicks on Search again to list the dispensing history record. If patient record has been dispensed for few times, a multiple dispensing history record will be display. Choose one by double clicks on record to open the Dispensing History screen.
5.	Refresh list	Click on the Refresh button to reset all searched records and searching criteria's to default value.

3.7.5.1.3   Input Validation Rules

No.	Name	Description	Mand atory	Format
Record Retrieval Listing				
1.	MRN	Patient listing shall be retrieved from the database for all registered patients with visit based on matching MRN.	Yes	Text field (searching field)
2.	Patient Name	Patient listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (searching field)
3.	IC No/Other Identification Number	Patient listing shall be retrieved from the database for all registered patients with visit on matching IC No/Other Identification number.	No	Text field (searching field)
4.	Order Date From	Patient listing shall be retrieved from the database for all registered patients with visit matching the order start date.	No	Calendar format in dd/mm/yyyy
5.	Order Date To	Patient listing shall be retrieved from the database for all registered patients with visit matching the order end date.	No	Calendar format in dd/mm/yyyy
6.	Order Status	Patient listing shall be retrieved from the database for all registered patients with visit based on selected order status below: • New Order • Partial Supply	No	Drop down list (searching field)
7.	Order Location	Patient listing shall be retrieved from the database for all registered patients with visit based on selected order location from drop down list.	No	Drop down list (searching field)
8.	Order Type	Patient listing shall be retrieved from the database for all registered patients with visit based on selected order type below: • CDR • IV • Normal • PN • Radiopharmaceuticals	No	Drop down list (searching field)

No.	Name	Description	Mand atory	Format
9.	Prescription Number	Patient listing shall be retrieved from the database for all registered patients with visit based on matching prescription number.	No	Text field (searching field)
10.	Prescription Status	Patient listing shall be retrieved from the database for all registered patients with visit based on selected prescription status below: • All • Active • Inactive	No	Drop down list (searching field)
Change Dispense Location				
1.	Current Dispensing Location	By default it will display the current dispensing location of the patient record. It is non editable field.	Yes	Read only
2.	New Dispensing Location	User shall be able to choose on new dispensing location from a drop down list.	Yes	Drop down list
Patient Search				
1.	MRN	Patient listing shall be retrieved from the database for all registered patients with visit based on matching MRN.	Yes	Text field (searching field)
2.	Patient Name	Patient listing shall be retrieved from the database for all registered patients with visit based on matching Patient Name.	No	Text field (searching field)
3.	IC No/Other Identification Number	Patient listing shall be retrieved from the database for all registered patients with visit on matching IC No/Other Identification number.	No	Text field (searching field)
Dispensing Search				
1.	Prescription No	User shall be able to search on dispensing history record based on prescription number. The history listing shall be retrieved from the database for all dispense history record that matches with the number entered.	No	Text field (searching field)
2.	Dispensed No	User shall be able to search on dispensing history record based on dispensed number. The history listing shall be retrieved from the database for all dispense history record that matches with the number entered.	No	Text field (searching field)
3.	Dispensed Date From	User shall be able to search on dispensing history record based on the dispensed date from. The history listing shall be retrieved from the database for all dispense history record that matches with the date entered.	No	Calendar format in dd/mm/yyyy
4.	Dispensed Date To	User shall be able to search on dispensing history record based on the dispensed date to. The history listing shall be retrieved from the database for all dispense history record that matches with the date entered.	No	Calendar format in dd/mm/yyyy

3.7.5.2 Dispensing History

3.7.5.2.1 Screen Design

ID	RR.SD2
Description	Dispensing History
Diagram	

Notes	• Click on 'Invoice' button to preview and print the invoice.
	• Click on 'Worksheet' button to preview the worksheet.
	• Click on 'Worksheet' button with print icon to print the worksheet.
	• Click on 'Balance Medication Sheet' button to preview the BMS.
	• Click on 'Balance Medication Sheet' button with print icon to print the BMS.
	• Click on 'Label' button to preview the drug label.
	• Click on 'Label' button with print icon to print the drug label.
Cross References	RR.SD1 – Record Retrieval listing screen

3.7.5.2.2 Application Business Rules

No.	Name	Description
1.	Dispensing History	This screen can be opened if the medication order has been dispensed. If the drug order still in ORDERED, ACKNOWLEDGED, PREPARED or VERIFIED, user not able to clicks on Dispensing History button and open this screen. The listing of medication display for active order only.
2.	Printing document	User shall be able to print few document from this screen such as below: • Invoice – user able to direct print only • Worksheet – user able to preview and direct print the worksheet • Balance Medication Sheet (BMS) - user able to preview and direct print the BMS • Drug Label - user able to preview and direct print the drug label. Before print, user needs to select which drug to view and print. If drug record display only 1 drug, no need to do the drug selection.

3.7.5.2.3 Input Validation Rules

No.	Name	Description	Mandatory	Format
1.	Selection checkbox	This checkbox shall be used to select on the drug name before print the drug label.	No	Checkbox

3.7.6   Integration

None.

4.   References

Document	Description/ Expansion
PhIS_CPS_SDD_OPIP_v1.0	System Design Document (SDD) for Outpatient Inpatient Pharmacy Module
PhIS_CPS_SDD_OM_v1.0	System Design Document (SDD) for Medication Order module
PhIS_CPS_SDD_Clinical_v1.0	System Design Document (SDD) for Clinical module

5.   Acronyms

Item	Description
URS	User Requirement Specification
SDD	System Design Documentation
SPUB	*Sistem Pendispensan Ubat-Ubatan Bersepadu* (Integrated Drug Dispensing System)
IWP	Integration Web Portal
KPK	*Ketua Penolong Pengarah*
IV	Intravenous
CDR	Cytotoxic Drug Reconstitution
MTAC	Medication Therapy Adherence Clinic
PN	Parenteral Nutrition
TDM	Therapeutic Drug Monitoring
MAR	Medication Administration Record

6. Appendix